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Bramford to Twinstead Reinforcement

Volume 8: Examination Submissions

**Document 8.9.5 (C): Temporary and Permanent Access Technical Note
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Version History

Date	Issue	Status	Description / Changes
January 2024	A	Draft	First version entered into Examination at Deadline 7
February 2024	B	Draft	Incorporate outcome from speed survey at AB-AP5 and accesses to cable sealing end compounds at Deadline 8.
<u>February 2024</u>	<u>C</u>	<u>Draft</u>	<u>Incorporate results of the arboricultural survey at AB-AP5</u>

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Executive Summary

National Grid Electricity Transmission plc (the Applicant) is promoting an application for development consent to reinforce the transmission network between Bramford Substation in Suffolk, and Twinstead Tee in Essex. The Bramford to Twinstead Reinforcement ('the project') would be achieved by the construction and operation of a new electricity transmission line over a distance of approximately 29km (18 miles), the majority of which would follow the general alignment of the existing overhead line network.

In order to construct and operate the infrastructure, 126 accesses are required, of which 121 are temporary (although a right of access would be retained at temporary accesses in other locations in case maintenance is required). The locations of the accesses are largely dictated by the location of existing infrastructure (i.e. the 132kV line to be removed) and the proposed infrastructure (i.e. the proposed 400kV line, cable sealing end (CSE) compounds and the grid supply point substation).

All access points and the Order Limits are shown in the Access Rights of Way and Public Rights of Navigation Plans [APP-012]. The Applicant considers that the level of design information provided in the application is proportionate to the effects of those aspects of the works and similar to that provided in other transmission DCO applications (see Yorkshire Green [EN020024] and Richborough Connection [EN020017] as examples).

Requirement 11 of the draft DCO (**document 3.1 (G)(H)**) requires the Applicant to submit written details of the design, layout and reinstatement of accesses to the relevant highway authority for approval prior to construction or alteration of accesses; providing a mechanism for designs to be approved following consent.

The LHAs for the project are Suffolk County Council (SCC) and Essex County Council (ECC). The LHAs have queried the level of design information provided with the DCO application and requested additional information to provide reassurance that accesses can be developed that are deliverable and would not result in excessive vegetation removal.

The Applicant's position is that it is not necessary, proportionate or possible during the timescales to draw up detailed designs for all accesses during the Examination; particularly given that the detailed designs for the project as a whole have not been completed. However, it has been agreed that a selection of accesses of particular concern could be examined in more detail, to provide reassurance to the LHAs that solutions could be found even at the most problematic locations.

Following agreement on the overall approach, the Applicant reviewed all accesses and identified those that may be most problematic due to the Order Limits being tight at that location, the location of the access on the highway (e.g. on a bend), traffic numbers or overall concerns. This was then combined with lists provided by SCC, particularly in Table F4 of Annex F of the SCC Local Impact Report [REP1-044] to develop a list of priority accesses for further investigation in Suffolk. Access AB-AP5 has been looked at in particular detail, given that it was considered potentially one of the most problematic accesses and had been the focus of discussions at Issue Specific Hearing 3. The list of accesses for further investigation was then discussed with SCC in the meeting on 5 December 2023 and issued for comment in the post-meeting minutes issued on 7 December 2023. Information on priority accesses in Essex has also been provided at Deadline 8.

This Technical Note provides the results of analysis of the twelve priority accesses reviewed in Suffolk. Solutions have been described to deliver access at all the priority locations, demonstrating that detailed designs required under Requirement 11 of the draft DCO ([document 3.1 (G)(H)]) can be developed for approval with the LHAs.

There are a large number of tools at the Applicant's disposal to deliver appropriate accesses and different solutions would be sought at different accesses; these include:

- Improving the physical design of the access and/ or creating a new access with improved bellmouths and visibility;
- Speed restrictions to temporarily reduce the speed of vehicles along the road;
- Traffic management including road closures and temporary traffic signals;
- Temporary traffic regulation orders, a number of which have been listed in the draft DCO, and additional orders which could be sought if required;
- Management of construction vehicles (type, number, arrival times);
- Additional vegetation removal on highways or private land;
- Banksman operation, whereby a works employee assists the driver of a works vehicle entering or leaving the site; and
- Use of alternative accesses and/or of a temporary access route along the Order limits where the above measures cannot result in a suitable access at the point depicted in the plans.

The analysis in this Technical Note shows that a combination of these measures can resolve issues at the accesses examined. The Applicant is therefore content that the provisions within the draft DCO ([document 3.1 (G)(H)]) would allow all temporary and permanent accesses to be constructed and operated safely.

1 Introduction

1.1 Introduction to Access Requirements

- 1.1.1 National Grid Electricity Transmission plc (the Applicant) is promoting an application for development consent to reinforce the transmission network between Bramford Substation in Suffolk, and Twinstead Tee in Essex. The Bramford to Twinstead Reinforcement ('the project') would be achieved by the construction and operation of a new electricity transmission line over a distance of approximately 29km (18 miles), the majority of which would follow the general alignment of the existing overhead line network.
- 1.1.2 Development of the project requires 126 access points to remove existing overhead lines, install new underground cables and overhead lines and develop ancillary infrastructure including four CSE compounds and a new grid supply point (GSP) substation and also to deliver associated environmental mitigation. Five of the accesses (the ones to the CSE compounds and the GSP substation) are permanent, of which three are in Suffolk and two are in Essex.
- 1.1.3 The locations of the accesses are largely dictated by the location of existing infrastructure (i.e. the 132kV line to be removed) and the proposed infrastructure (i.e. the proposed 400kV line, CSE compounds and GSP). The reinforcement project is located in a relatively rural area characterised by narrow lanes and with existing accesses with poor visibility. There are therefore limited options. The Applicant's proposals are guided by principles that aim to develop accesses that operate efficiently and are safe but also limit the impact of the project. Therefore, it is the Applicant's view that developing large bellmouths and undertaking major road improvements for temporary accesses would be disproportionate and would adversely affect the character of the rural road network. Access proposals should be considered in this context.
- 1.1.4 Following the construction period, traffic using permanent accesses and rights of access would be very limited. Traffic generated during the construction period would be spread out over a long linear project, with traffic at many access points being limited to the periods when a particular part of the line is being constructed. Over half of the accesses being used are existing field accesses that would be used for a short period of time, in some cases with minor improvements, and then reinstated. Temporary access routes have been incorporated into the project to remove construction traffic from the local road network and enable vehicles to travel along the route of the new and existing lines, reducing the amount of traffic at many of the proposed access points once the temporary access routes are constructed. The project would therefore not generate the amount of traffic or permanent levels of traffic associate with other types of major infrastructure projects.

1.2 Design Information Provided in the DCO Application

- 1.2.1 All temporary and permanent Access Points and the Order Limits are shown in the Access Rights of Way and Public Rights of Navigation Plans **[APP-012]**. Within this document, reference is made to the 30 sheets comprising those plans for ease of identification of the locations. 'Sheet x of 30' indicates the relevant sheet of those plans where the specific access is shown.

- 1.2.2 To develop these accesses, advice was sought from a contractor experienced in the delivery of transmission projects on the vehicle numbers and location of access points for construction. Each access was then visited by the project team and the Order Limits shown in the Access Rights of Way and Public Rights of Navigation Plans developed from analysis of speed limits, survey information and the intention to limit land take to that which is absolutely necessary (to ensure compulsory acquisition tests can be met) and avoid excessive vegetation clearance. The Order limits were informed by a generic bellmouth design shown in Design and Layout Plans: Temporary Bellmouth for Access [REP3-005]. The Applicant considers that the level of design information provided in the application is proportionate to the effects of those aspects of the works and similar to that provided in other transmission DCO applications (see Yorkshire Green and Richborough Connection as examples).
- 1.2.3 The detailed design of the project and the accesses is anticipated to be completed over the next 6-18 months and is not required for the DCO application. Requirement 11 of the draft DCO ([document 3.1 (G)(H)]) requires the Applicant to submit written details of the design, layout and reinstatement of accesses to the local highway authority (LHA) for approval prior to construction or alteration of accesses. Therefore, these detailed designs would be discussed and approved by the LHA. Requirement 11 also requires completion of Road Safety Audits. Requirement 11 provides reassurance to LHAs that detailed designs would be developed, audits carried out to confirm safety and that LHAs would ultimately have the power to approve those designs (or not if they are not deemed to be acceptable). The Applicant is confident that designs can be developed to discharge Requirement 11 within the powers provided by the draft DCO ([document 3.1 (G)(H)]).

1.3 Purpose of this Technical Note

- 1.3.1 The LHAs for the project are Suffolk County Council (SCC) and Essex County Council (ECC). The LHAs have queried the level of design information provided with the DCO application and requested additional information to provide reassurance that accesses can be developed that are deliverable and would not result in excessive vegetation removal. The Applicant's position is that it is not necessary, proportionate or possible during the timescales to draw up detailed designs for all accesses during the Examination but agreed that a selection of accesses of particular concern could be examined in more detail to provide reassurance to the LHAs that solutions could be found even at the most problematic locations. This approach was agreed with the LHAs, although the LHAs have still expressed a preference for detailed designs at all accesses to be developed earlier in the programme.
- 1.3.2 Following agreement on the overall approach, the Applicant reviewed all accesses and identified those that may be most problematic due to the Order limits being tight at that location, the location of the access on the highway (e.g. on a bend), traffic numbers or overall concerns. This was then combined with lists provided by SCC, particularly in Table F4 of Annex F of the SCC Local Impact Report [REP1-044] to develop a list of priority accesses for further investigation in Suffolk. Access AB-AP5 has been looked at in particular detail given that it was considered potentially one of the most problematic accesses and had been the focus of discussions at Issue Specific Hearing 3. The list of accesses for further investigation was then discussed with SCC in the meeting on 5 December 2023 and issued for comment in the post-meeting minutes issued on 7 December 2023. Information on priority accesses in Essex has been provided at Deadline 8 ([REP8-030]document 8.9.7).

- 1.3.3 This Technical Note provides the results of analysis of the twelve priority accesses reviewed in Suffolk. Solutions have been described to deliver access at all the priority locations, demonstrating that detailed designs required under Requirement 11 can be developed for approval with the LHAs.
- 1.3.4 At Deadline 8, three additional accesses, which provide access to the three cable CSE compounds, have been added to this report. The data collected as part of the speed survey carried out at AB-AP5 has been added to this note.
- 1.3.5 The Applicant is confident that the draft DCO and the Order Limits defined in it include sufficient rights and powers to deliver all accesses safely and operate efficiently. The designs reflect the nature of the proposed accesses and current and proposed usage, as many of these are existing access points to private residential, commercial property including agricultural access. What constitutes a 'safe' access is not simple; as in some cases accesses in more problematic locations (e.g. with poor visibility) can be safer in reality because vehicle speeds are lower. Similarly, in some cases it is not proportional to clear large amounts of vegetation to achieve large visibility splays for a short-term use of an access. Discussions would therefore be required to agree the best approach at each access to discharge Requirement 11.
- 1.3.6 There are a large number of tools at the Applicant's disposal to deliver appropriate accesses and different solutions would be sought at different accesses; these include:
- Improving the physical design of the access and/ or creating a new access with improved bellmouths and visibility;
 - Speed restrictions to temporarily reduce the speed of vehicles along the road;
 - Traffic management including road closures and temporary traffic signals;
 - Temporary traffic regulation orders, a number of which have been listed in the draft DCO, and additional orders which could be sought if required;
 - Management of construction vehicles (type, number, arrival times);
 - Additional vegetation removal on highways or private land;
 - Banksman operation, whereby a works employee assists the driver of a works vehicle entering or leaving the site; and
 - Use of alternative accesses and/or of a temporary access route along the order limits where the above measures cannot result in a suitable access at the point depicted in the plans.
- 1.3.7 The analysis in this Technical Note shows that a combination of these measures can resolve issues at the accesses examined.
- 1.3.8 The nine temporary accesses explored in more detail in this Technical Note are:
- AB-AP5: Church Hill, north of Burstall;
 - AB-DAP6: Duke Street, Hintlesham;
 - AB-AP9: Pond Hall Road, west of Clay Hill;
 - AB-AP17: Pond Hall Road, south of Pond Hall Farm;
 - AB-EAP1: A1071 College Farm;
 - D-AP1: Overbury Hall Road, Layham;

- D-DAP1: Rands Road, Layham;
- F-AP10: The Street, Assington (field access);
- F-DAP4: The Street, Assington (Assington Mill access road);
- D-DAP2: Millwood Road, Polstead (Access to Dedham Vale East CSE compound);
- F-AP4 Stoke Road, Leavenheath (Access to Dedham Vale West CSE compound);
and
- G-AP3: B1508 Bures Road, Sudbury (Access to Stour Valley East CSE compound).

1.3.9

Information that has informed the assessments in this Technical Note includes the Transport Assessment Construction Vehicle Profile Data [REP4-006] and the Transport Assessment Traffic Survey Data [REP7-024]. The designs and the associated management proposals presented in this Technical Note would be developed further during detailed design stage and would be subject to approval including Road Safety Audit in accordance with Requirement 11 (3) of the draft DCO ([document 3.1 (G)(H)]). ~~SCC has visited a number of the access points and has planned a site visit to certain additional locations.~~—The access information provided in this Technical Note has been discussed with SCC and ECC in the highways meetings and the information presented here has been informed by those discussions.

2 Assessment of Access Points

2.1 AB-AP5 Church Hill, north of Burstall

- 2.1.1 AB-AP5 (Church Hill, north of Burstall) is shown on sheet 2 of 30 on the Access Rights of Way and Public Rights of Navigation Plans [APP-012] and in Appendix A of this Technical Note. It provides temporary access to proposed pylon RB4, although a permanent right of access is sought in case access is required for maintenance purposes in the future. This access proposes to use the existing farm track north of Rose Cottage, Church Hill.
- 2.1.2 Should development of the detailed design of AB-AP5 suggest that use of access AB-AP5 is not acceptable, due to either safety considerations or a requirement for excessive vegetation removal, an alternative access (AB-AP4) can be used. AB-AP4 is located north of the proposed 400kV overhead line route but would require the construction of a new access point and temporary access track across the field. This would bisect the field, affecting a larger area of agricultural land and require additional materials for construction. The additional materials would also involve additional vehicle trips and additional cost. Therefore, if AB-AP5 can be designed to the satisfaction of the LHA, it would be the preferred access.
- 2.1.3 AB-AP5 is located north of a bend in the road, which is considered likely to reduce vehicle speeds at the access point and means that visibility to the south of the access point is limited primarily by the curvature in the road rather than by vegetation. The Applicant has drawn a visibility splay based on nearby traffic survey data, indicating that 70kph is the expected upper limit of the 85th percentile design speed, yielding a y-value, or distance along the major route of 90m (one step below the desirable minimum stopping sight distance). The Applicant has also considered the National Highways Design Manual for Roads and Bridges (DMRB) CD 123 – Geometric design of at-grade priority and signal-controlled junctions cl. 3.8, and proposes a x-distance of 2m which is appropriate for direct accesses. The x-distance is the distance away from the carriageway edge where the viewpoint of a driver of an emerging vehicle is positioned.
- ~~2.1.4 The Applicant has carried out a topographic survey in this location, which has determined that Church Hill widens in the vicinity of the existing private access. However, by maintaining the existing carriageway width of approximately 4.8m south and north of the junction by way of an edge-marking solution, the driver's eye position can be brought further down the access track towards Church Hill itself. This will essentially formalise the existing situation, where the carriageway extends towards the access track but the delineation point between Church Hill and the access track is the extension line of the edge of carriageway either side of the access.~~
- ~~2.1.5 The visibility splay shown in Appendix A requires the coppicing and pruning of vegetation within the functional highway to achieve the dimensions set out above, but the topographic survey has shown that the visibility splay does not interact with any surveyed tree trunks. A Sspeed surveys was are being carried out in January 2024. The outcome of the speed survey is showed on the Speed Survey at AB-AP5 Church Hill, north of Burstall (January 2024) section of this document. to confirm that the 70kph 85th percentile assumption is appropriate. Assuming that the speed surveys confirm assumptions to date, the visibility splays shown in Appendix A are considered appropriate. If the speed surveys show greater speeds than expected, the visibility splay shown would be revisited~~

~~to determine whether a greater splay would be required or an alternative mechanism introduced to deliver an appropriate access.~~

~~2.1.6 The Applicant has also commissioned a detailed arboricultural survey of the trees to confirm the impact on the trees of the proposed pruning and improvements to the access. The arboricultural survey was carried out in February 2024 and the outcome is showed on the Arboricultural Survey at AB-AP5 Church Hill, north of Burstall (February 2024) section of this document. The Applicant considers it likely that the arboricultural survey will corroborate assumptions made to date, but given the discussion with the landowner on the trees, the survey is being completed to provide certainty. Information on the speed survey, arboricultural survey and any revisions to the sketch in Appendix A (if required) will be submitted into Examination at Deadline 9.~~

~~2.1.72.1.3 Any vegetation removal would be part of the submitted package of approvals for LHA approval before the project progressed to construction in accordance with Article 48 of the draft DCO [document 3.1 (G)(H)]. In addition, Requirement 8 of the draft DCO requires the approval of all vegetation to be agreed by the relevant planning authority prior to construction work commencing.~~

Speed Survey at AB-AP5 Church Hill, north of Burstall (January 2024)

~~2.1.82.1.4~~ A speed survey was commissioned in January 2024 at this location to confirm the 85th percentile design speed assumption was appropriate. The speed survey was carried out at this location because the data collected previously was not sufficiently close to the access and as a result of concerns raised about this access in particular during Examination of the application. Speed survey data obtained for the project prior to submission of the application is provided in document 8.9.2 Transport Assessment Traffic Survey Data [REP7-024]. The survey was undertaken at Church Hill, in the vicinity of the access point, for a seven-day 24-hour data collection starting 10 January 2024. Table 2.1 shows the outcome of the speed survey.

Table 2.1 – Speed Survey Results (AB-AP5)

Direction	Speed Limit (mph)	85 th ile Speed (mph)	Design Speed (kph)
Northbound	60	36.8	60
Southbound	60	37.5	60
Two way	60	37.1	60

~~2.1.92.1.5~~ The design at application was based on a design speed of 70kph based on the 85th percentile design speed from the previous traffic survey, and a 90m stopping sight distance, which is one step below the desirable minimum. The recent speed survey revealed that the design speed based on the 85th percentile is 60kph, which is lower than the design speed assumed for the sketch in Appendix A. For a design speed of 60kph, 90m is considered the desirable minimum stopping sight distance. Therefore, the survey confirmed that the approach taken in Appendix A is appropriate and no modifications are necessary to the visibility splay in the concept design.

~~2.1.6~~ The design developed shows that AB-AP5 is an appropriate access and safety requirements can be achieved at this location.

Topographical and Arboricultural Survey at AB-AP5, north of Burstall (February 2024)

- 2.1.7 The Applicant has carried out a topographic survey in this location, which has determined that Church Hill widens in the vicinity of the existing private access. However, by maintaining the existing carriageway width of approximately 4.8m south and north of the junction by way of an edge-marking solution, the driver's eye position can be brought further down the access track towards Church Hill itself. This will essentially formalise the existing situation, where the carriageway extends towards the access track but the delineation point between Church Hill and the access track is the extension line of the edge of carriageway either side of the access.
- 2.1.8 The Applicant has also undertaken a detailed arboricultural survey of the trees at AB-AP5 Church Hill, to inform the vegetation loss assumptions. This identified seven trees and one group. Six of these are mature oak trees of moderate value, the majority of which contain deadwood (over 75mm diameter) and prolific ivy on the main stems and into the mid canopies. Located in close proximity to the proposed bellmouth is a semi-mature ash tree categorised as being low in value. The tree group is also categorised as low in value and contains a mixture of broadleaf tree species previously managed as a hedge. Species include hazel, field maple, elm, hawthorn and oak, the group contains standing dead elm stems. The outcome of the arboricultural survey is shown in the Arboricultural Impact Assessment (**document 5.10 (C)**) at Deadline 9.
- 2.1.9 The visibility splay shown in Appendix A requires the coppicing and pruning of vegetation within the functional highway to achieve the dimensions set out above. It is anticipated that the ash tree (low value) would need to be removed from the entrance and the tree group (low value) would need coppicing to achieve the required visibility splays. The oak trees would not need to be removed, although the removal of ivy from the main stems would further improve visibility. It would also be prudent to remove deadwood from the oak trees where this overhangs the road for health and safety reasons.
- 2.1.10 The design developed shows that AB-AP5 is an appropriate access which would not require excessive vegetation removal. The AB-AP5 sketch on Appendix 1 has been updated to incorporate the position of the seven trees identified.
- 2.1.11 Any vegetation removal would be part of the submitted package of approvals for LHA approval before the project progressed to construction in accordance with Article 48 of the draft DCO (**document 3.1 (H)**). In addition, Requirement 8 of the draft DCO requires the approval of all vegetation to be agreed by the relevant planning authority prior to construction work commencing.

2.1.10

2.2 AB-DAP6 Duke Street

- 2.2.1 AB-DAP6 (Duke Street, Hintlesham) is shown on sheet 7 of 30 on the Access Rights of Way and Public Rights of Navigation Plans [**APP-012**] and in Appendix A of this Technical Note. This provides access to pylons PCB 13, PCB 14 and PCB 15 for their removal. Access would be provided via the existing private access off Duke Street.
- 2.2.2 The Applicant has drawn a visibility splay based on nearby traffic survey data, indicating that 60kph is the expected upper limit of the 85th percentile design speed, yielding a y-value, or distance along the major route of 70m (one step below the desirable minimum stopping sight distance). The Applicant has also considered DMRB CD 123 – Geometric

design of at-grade priority and signal-controlled junctions cl. 3.8 (proposes a x-distance of 2m which is appropriate for direct accesses).

- 2.2.3 The generated visibility splay requires that no fixed objects which present an obstruction to visibility shall obstruct the footway within the vicinity of the existing junction. To the north, there is a developed residential hedge which may require trimming to maintain the existing footway width and residential grass between the footway and houses south of the access must remain short. The Applicant does not see either of these as an impediment to the safe provision of access at this location.
- 2.2.4 The Applicant and SCC have discussed that the access is single width and at the detailed design stage information would be provided on how the Applicant would manage vehicles arriving and leaving to avoid them waiting in the residential area causing nuisance and/or a safety hazard due to obstruction. This information would be provided in the detailed proposals submitted to the LHA for approval to discharge Requirement 11.

2.3 AB-AP9 Pond Hall Road, West of Clay Hill

- 2.3.1 AB-AP9 (Pond Hall Road, West of Clay Hill) is shown on sheet 8 of 30 on the Access Rights of Way and Public Rights of Navigation Plans [APP-012] and in Appendix A of this Technical Note. This provides access to the proposed pylon RB13. Access would be provided via a new temporary junction along Pond Hall Road, adjacent to Bungalow Farm and footpath W-318 (Hintlesham) 046/0.
- 2.3.2 The Applicant has drawn a visibility splay based on nearby traffic survey data, indicating that 70kph is the expected upper limit of the 85th percentile design speed, yielding a y-value, or distance along the major route of 90m (one step below the desirable minimum stopping sight distance). The Applicant has also considered DMRB CD 123 – Geometric design of at-grade priority and signal-controlled junctions cl. 3.8 and proposes an x-distance of 2m which is appropriate for direct accesses.
- 2.3.3 The generated visibility splay requires that no fixed objects which present an obstruction to visibility shall, essentially, obstruct extant highway verge to the west of the access.
- 2.3.4 SCC had raised concerns regarding the existing utility pole and traffic signs. From the Applicant's perspective, these are not an impediment to the visibility splays shown, and the Applicant does not consider either of these as an impediment to the safe provision of access at this location. During thematic traffic and transport meetings it was noted that the access is adjacent to the existing access and a telegraph pole between the two might constrain turning vehicles. Swept path information would be included in detailed design to show that there is sufficient space to manoeuvre vehicles in the package to discharge Requirement 11.

2.4 AB-AP17 Pond Hall Road, south of Pond Hall Farm

- 2.4.1 AB-AP17 (Pond Hall Road, south of Pond Hall Farm) is shown on sheet 9 of 30 on the Access Rights of Way and Public Rights of Navigation Plans [APP-012] and in Appendix A of this Technical Note. This provides access to a number of pylons between the watercourse running north-east south-west, and the Hadleigh Railway Walk. Access would be provided via the site entrance to Pond Hall Farm.
- 2.4.2 The Applicant has drawn a visibility splay based on nearby traffic survey data, indicating that 50kph is the expected upper limit of the 85th percentile design speed, yielding a y-value, or distance along the major route of 70m (the desirable minimum stopping sight

distance). The Applicant has also considered DMRB CD 123 – Geometric design of at-grade priority and signal-controlled junctions cl. 3.8 and proposes a x-distance of 2m which is appropriate for direct accesses.

2.4.3 The generated visibility splay requires that no fixed objects which present an obstruction to visibility shall, essentially, obstruct the functional highway verge within the vicinity of the existing junction. To the east there is dense foliage overhanging the highway verge which originates from the farm itself and to the west there is hedge which has grown to the carriageway edge. Both areas would require pruning to achieve the required sightlines. The Applicant does not see either of these as an impediment to the safe provision of access at this location. The Applicant is content to provide speed enforcement measures at this location to ensure that the 85th percentile speed matches the visibility splay provided in Appendix A.

2.4.4 To achieve the proposed visibility splays it may be necessary to remove vegetation outside the Order Limits. Article 48 of the draft DCO (**[document 3.1 (G)(H)]**) provides the power to the Applicant to remove or manage vegetation ‘*under or within or overhanging or near any part of the authorised development*’ subject to certain provisions. Within the highway, this provision can only be exercised with the consent of the LHA. Therefore, the Applicant has the power to manage this vegetation should it be agreed with the LHA that this is the best approach. An alternative solution would be to use traffic management measures to reduce speed and therefore reduce the required visibility splays. These options would both be considered, potentially alongside others, and a preferred solution agreed with the LHA in the discharge of Requirement 11. However, the work completed to date shows that there are options available to develop a safe access in this location, it is only the detail of which option would be pursued that is not finalised at present.

2.4.5 Any vegetation removal would be part of the submitted package of approvals for LHA approval before the project progressed to construction in accordance with Article 48 of the draft DCO (**[document 3.1 (G)(H)]**). In addition, Requirement 8 of the draft DCO requires the approval of all vegetation to be agreed by the relevant planning authority prior to construction work commencing.

2.5 AB-EAP1 A1071 College Farm

2.5.1 AB-EAP1 (A1071 College Farm) is shown on sheet 3 of 30 on the Access Rights of Way and Public Rights of Navigation Plans **[APP-012]** and in Appendix A of this Technical Note. This provides access to an environmental area west of the A1071. Access will be provided via the Hintlesham Barns Access.

2.5.2 The Applicant has drawn a visibility splay based on nearby traffic survey data, indicating that 70kph is the expected upper limit of the 85th percentile design speed, yielding a y-value, or distance along the major route of 90m (one step below the desirable minimum stopping sight distance). The Applicant has also considered DMRB CD 123 – Geometric design of at-grade priority and signal-controlled junctions cl. 3.8 and proposes a x-distance of 2m which is appropriate for direct accesses.

2.5.3 The generated visibility splay requires that no fixed objects which present an obstruction to visibility shall, essentially, obstruct the functional highway verge within the vicinity of the existing junction. To the north there are hedges which have grown to the carriageway edge which would require pruning to achieve the required sightlines. The Applicant does not see this as an impediment to the safe provision of access at this location.

2.5.4 Any vegetation removal would be part of the submitted package of approvals for LHA approval before the project progressed to construction in accordance with Article 48 of the draft DCO ([document 3.1 (G)(H)]). In addition, Requirement 8 of the draft DCO requires the approval of all vegetation to be agreed by the relevant planning authority prior to construction work commencing.

In initial discussion with SCC, the LHA noted the proposals and did not raise any additional issues for this location.

2.6 D-AP1 Overbury Hall Road, Layham

2.6.1 D-AP1 (Overbury Hall Road, Layham) is shown on sheet 11 of 30 on the Access Rights of Way and Public Rights of Navigation Plans [APP-012] and in Appendix A of this Technical Note. This provides access to a number of pylons between Overbury Hall Road and Rands Road. Access would be provided via an existing field access west of Overbury Hall Road As shown on the Construction Routes contained within Appendix A of the Construction Traffic Management Plan [REP6-025], access via D-AP1 would solely be from the south.

2.6.2 The Applicant has drawn a visibility splay based on nearby traffic survey data, indicating that 50kph is the expected upper limit of the 85th percentile design speed, yielding a y-value, or distance along the major route of 50m (one step below the desirable minimum stopping sight distance). The Applicant has also considered *Design Manual for Roads and Bridges (DMRB) CD 123 – Geometric design of at-grade priority and signal-controlled junctions* cl. 3.8 and proposes a x-distance of 2m which is appropriate for direct accesses.

2.6.3 The generated visibility splay requires that no fixed objects which present an obstruction to visibility shall, essentially, obstruct the functional highway verge within the vicinity of the existing junction. To the north there are hedges which have grown to the carriageway edge which would require pruning to achieve the required sightlines. The Applicant does not see this as an impediment to the safe provision of access at this location.

2.6.4 Any vegetation removal would be part of the submitted package of approvals for LHA approval before the scheme progressed to construction in accordance with Article 48 of the draft DCO ([document 3.1 (G)(H)]). In addition, Requirement 8 of the draft DCO requires the approval of all vegetation to be agreed by the relevant planning authority prior to construction work commencing.

2.6.5 In initial discussions with SCC, it was noted that:

- Overbury Hall Rd is in effect a single-track road, so any activity is likely to require a temporary closure. Temporary closures might be necessary to prevent a works vehicle or other large vehicle reversing long distances should they meet on the route; and
- This access is on the west side of Overbury Hall Rd and paired with access C-AP5 on the east side with likely travel across Overbury Hall Rd and on to the crossing of Layham Road to the east via access points C-AP4 and C-AP3. From that crossing the temporary access route continues to the east crossing a watercourse at temporary bridge W-C-1 and ending at access point C-AP2 on B1070.

2.6.6 The access (D-AP1) is not a difficult one to achieve, given the existing large paved bellmouth at that location. However, the nature of Overbury Hall Road itself and the visibility from the east side of was of greater concern for SCC, meaning that the pair of accesses on Overbury Hall Road should be considered together. As a temporary access route crossing of Overbury Hall Road without any vehicles entering or exiting the local

road, SCC consider that this is likely to be acceptable, on the assumption that the crossing would be managed and not rely solely on direct visibility for the drivers of works vehicles crossing the road. Traffic management would reflect forward visibility for traffic management layouts.

- 2.6.7 As for other accesses discussed, a solution has been discussed that would mean this access is deliverable and further detail would be provided with information to discharge Requirement 11.

2.7 D-DAP1 Rands Road, Layham

- 2.7.1 D-DAP1 (Rands Road Layham) is shown on sheet 11 of 30 on the Access Rights of Way and Public Rights of Navigation Plans [APP-012] and in Appendix A of this Technical Note. This provides access to pylon PCB 38 for its removal. Access would be provided using the existing private access off Rands Road. Although Rands Road itself is shown on the Construction Routes contained within Appendix A of the Construction Traffic Management Plan [REP6-025], access via D-DAP1 would solely be from the east due to the tight geometry.
- 2.7.2 The Applicant has drawn a visibility splay based on nearby traffic survey data, indicating that 50kph is the expected upper limit of the 85th percentile design speed, yielding a y-value, or distance along the major route of 50m (one step below the desirable minimum stopping sight distance). The Applicant has also considered *Design Manual for Roads and Bridges (DMRB) CD 123 – Geometric design of at-grade priority and signal-controlled junctions* cl. 3.8 and proposes a x-distance of 2m which is appropriate for direct accesses.
- 2.7.3 The generated visibility splay requires that no fixed objects which present an obstruction to visibility shall, essentially, obstruct the functional highway verge within the vicinity of the existing junction. There are hedges on both sides of the access which have grown to the carriageway edge which would require pruning to achieve the required sightlines. The Applicant does not see this as an impediment to the safe provision of access at this location given the powers provided in Article 48 of the draft DCO ~~(document 3.1 (G)(H))~~.
- 2.7.4 Any vegetation removal would be part of the submitted package of approvals for LHA approval before the project progressed to construction in accordance with Article 48 of the draft DCO ~~(document 3.1 (G)(H))~~. In addition, Requirement 8 of the draft DCO requires the approval of all vegetation to be agreed by the relevant planning authority prior to construction work commencing.
- 2.7.5 In initial discussion with SCC, it was noted that:
- Rands Road is in effect a single-track road, so any activity is likely to require a temporary closure. Closures might be necessary to prevent a works vehicle or other large vehicle reversing long distances should they meet on the route;
 - A mature tree seems likely to require removal to achieve the access bellmouth; and
 - A private means of access to the east provides a location where a works vehicle may turn if necessary, with a banksman.
- 2.7.6 The combination of these aspects means that this access, which is only required for removal of the 132kV line, could have excessive impact on vegetation. Therefore, given the single track width and small scale nature of the work (primarily unloading plant/materials and loading removed apparatus), it may be appropriate to use a short-duration closure to create a more modest area of vegetation removal on a road-field boundary as an access to the adjacent farmland. This would be explored during the

detailed design stage, but discussions confirmed that solutions were available. These noted that traffic management measures are likely to provide a more proportionate approach for this lightly-used access, to avoid excessive vegetation removal to provide the full visibility splay.

2.8 F-AP10 The Street, Assington

2.8.1 F-AP10 (The Street, Assington) is shown on sheet 16 of 30 on the Access Rights of Way and Public Rights of Navigation Plans [APP-012] and in Appendix A of this Technical Note. This provides access to proposed pylons RB41 and RB42 either side of the Assington Mill access road. Access would be provided via enlargement of this existing access road on the junction of The Street and Barracks Road, Assington.

2.8.2 The Applicant has drawn a visibility splay based on nearby traffic survey data, indicating that 50kph is the expected upper limit of the 85th percentile design speed, yielding a y-value, or distance along the major route of 70m (the desirable minimum stopping sight distance). The Applicant has also considered DMRB CD 123 – Geometric design of at-grade priority and signal-controlled junctions cl. 3.8 and proposes a x-distance of 2m which is appropriate for direct accesses.

2.8.3 The generated visibility splay requires that no fixed objects which present an obstruction to visibility shall, essentially, obstruct the functional highway verge within the vicinity of the existing junction. To the east of the existing access, there is an established hedge which overhangs the highway boundary, and which may obscure visibility unless vehicles drive to the give way line of Barracks Road to enter The Street. The Applicant intends to commission detailed topographical surveys to establish the exact position of these features at the detailed design stage.

2.8.4 Beyond this hedge, there is further vegetation along Barracks Road which has grown to the carriageway edge and would require pruning to achieve the required sightlines. The Applicant does not see this minor pruning as an impediment to the safe provision of access at this location given the powers available in Article 48 of the draft DCO (~~document 3.1 (G)(H)~~). In addition, Requirement 8 of the draft DCO requires the approval of all vegetation to be agreed by the relevant planning authority prior to construction work commencing.

2.8.5 In initial discussion with SCC, it was noted that:

- The side road of Barracks Road is approaching a give way line so design speed might reasonably be much lower than that assumed based on nearest free-flow survey locations; and
- Signs and salt bin locations are likely to be back of highway, which might mean highway boundary is not where it might have been assumed to be. Salt bins may be parish owned and not in public highway.

The combination of these aspects means that a lesser visibility splay on the east side may be appropriate, meaning that an appropriate visibility splay can be achieved with no activity outside the highway boundary and/or Order Limits. In addition, a banksman could stand in a position outside the field access where they can see along all three arms of the junction and direct a works driver when it is safe to exit. This type of managed access provides an additional level of provision should it be needed. The banksman would not direct any vehicles except works vehicles. Both options offer potential solutions to delivery of the access in this location.

2.9 F-DAP4 The Street, Assington

- 2.9.1 F-AP4 (The Street, Assington) is shown on sheet 16 of 30 on the Access Rights of Way and Public Rights of Navigation Plans [**APP-012**] and in Appendix A of this Technical Note. This provides access to existing pylon PCB67, east of the Assington Mill access road, for its removal. Access would be provided via the existing access road on the junction of The Street and Barracks Road, Assington.
- 2.9.2 The Applicant has drawn a visibility splay based on nearby traffic survey data, indicating that 50kph is the expected upper limit of the 85th percentile design speed, yielding a y-value, or distance along the major route of 70m (the desirable minimum stopping sight distance). The Applicant has also considered Design Manual for Roads and Bridges (DMRB) CD 123 – Geometric design of at-grade priority and signal-controlled junctions cl. 3.8 and proposes a x-distance of 2m which is appropriate for direct accesses.
- 2.9.3 The generated visibility splay requires that no fixed objects which present an obstruction to visibility shall, essentially, obstruct the functional highway verge within the vicinity of the existing junction. To the east of the existing access, there is an established hedge which overhangs the highway boundary, and which may obscure visibility unless vehicles drive to the give way line of Barracks Road to enter The Street. The Applicant intends to commission detailed topographical surveys to establish the exact position of these features at the detailed design stage.
- 2.9.4 Beyond this hedge there is further vegetation along Barracks Road, which grown to the carriageway edge which would require pruning to achieve the required sightlines. The Applicant does not see this minor pruning as an impediment to the safe provision of access at this location given the powers available in Article 48 of the draft DCO [**REP-003**]. In addition, Requirement 8 of the draft DCO requires the approval of all vegetation to be agreed by the relevant planning authority prior to construction work commencing.
- 2.9.5 In initial discussion with SCC, it was noted that, similar to the adjacent field access described for F-AP10 above:
- The access road boundary with public highway (formed from a bullnose dropped kerb across the access) is a little further forward than the OS data suggests;
 - The side road of Barracks Road (the road to the right for drivers leaving the access) is approaching a give way line so design speed might reasonably be much lower than that assumed; and
 - Signs and salt bin locations are likely to be positioned to be at the back of highway, which might mean highway boundary is not where it might have been assumed to be.
- 2.9.6 The combination of these aspects means that a lesser visibility splay on the east side may be appropriate, meaning that no activity outside the highway boundary.
- 2.9.7 The major road of this junction is subject to a 20mph limit and has a bend in the area of the junction with Barracks Road but is busy and with speeds that members of the team discussing the access considered likely to be above the posted limit. It would be possible for a banksman to stand in a position outside the access road and direct a works driver when it is safe to exit. This type of managed access provides an additional level of provision should it be needed. The Applicant is therefore of the view that solutions are available for the delivery of this access.

2.10 D-DAP2 Millwood Road, Polstead

- 2.10.1 D-DAP2 (Millwood Road, Polstead) is shown on sheet 12 of 30 on the Access Rights of Way and Public Rights of Navigation Plans [APP-012] and in Appendix A of this Technical Note. This provides permanent access to the Dedham Vale East CSE compound as well as temporary access to the existing pylon PCB44 for its removal.
- 2.10.2 The access D-DAP2 needs to be reviewed in conjunction with D-EAP1, as it is paired with it forming a junction arrangement. While D-DAP2 provides permanent access to the Dedham Vale East CSE compound, D-EAP1 is intended to only provide access for landscaping proposals, meaning the junction is not required for the main construction works, and the slight stagger between the junction and the access is the form intended.
- 2.10.3 Low numbers of vehicles are forecast during construction, expecting 24 light goods vehicles (LGVs) and 12 heavy goods vehicles (HGVs) in the peak month. The works are expected to last for three months.
- 2.10.4 In normal operation, only one vehicle a month is expected at the compound. During maintenance periods, up to four vehicles a day for three weeks per circuit every eight years are expected to use the access.
- 2.10.5 The Applicant has drawn a visibility splay based on nearby traffic survey data, indicating that 60kph is the expected upper limit of the 85th percentile design speed, yielding a y-value, or distance along the major route of 90m (the desirable minimum stopping sight distance). The Applicant has also considered DMRB CD 123 – Geometric design of at-grade priority and signal-controlled junctions cl. 3.8 and proposes an x-distance of 2m which is appropriate for direct accesses.
- 2.10.6 The generated visibility splay requires that no fixed objects which present an obstruction to visibility shall obstruct extant highway verge to the west of the access. To the north and south of the access, there is some vegetation and dense foliage which has grown to the edge of the carriageway, which would require pruning to achieve the required sightlines.
- 2.10.7 For a low speed location and low flow on both baseline and permanent works traffic, the Applicant does not see those as an impediment to the safe provision of access at this location.
- 2.10.8 Any vegetation removal would be part of the submitted package of approvals for LHA approval before the project progressed to construction in accordance with Article 48 of the draft DCO (~~document 3.1 (G)(H)~~). In addition, Requirement 8 of the draft DCO requires the approval of all vegetation to be agreed by the relevant planning authority prior to construction work commencing.

2.11 F-AP4 Stoke Road, Leavenheath

- 2.11.1 F-AP4 (Stoke Road, Leavenheath) is shown on sheet 15 of 30 on the Access Rights of Way and Public Rights of Navigation Plans [APP-012] and in Appendix A of this Technical Note. The access F-AP4 is intended to provide permanent access to the Dedham Vale West CSE compound and no construction traffic is expected.
- 2.11.2 In normal operation, only one vehicle a month is expected at the compound. During maintenance periods, up to four vehicles a day for three weeks per circuit every eight years are expected to use the access.

- 2.11.3 The Applicant has drawn a visibility splay based on nearby traffic survey data, indicating that 60kph is the expected upper limit of the 85th percentile design speed, yielding a y-value, or distance along the major route of 90m (the desirable minimum stopping sight distance). The Applicant has also considered DMRB CD 123 – Geometric design of at-grade priority and signal-controlled junctions cl. 3.8 and proposes an x-distance of 2m which is appropriate for direct accesses.
- 2.11.4 The generated visibility splay requires that no fixed objects which present an obstruction to visibility shall obstruct extant highway verge to the west of the access.
- 2.11.5 To the north of the access, there is some vegetation and hedges which would require pruning to achieve the require sightlines. To the south of the access, there is dense vegetation which would require pruning to achieve the require sightlines. The Applicant does not see this pruning as an impediment to the safe provision of access at this location.
- 2.11.6 Any vegetation removal would be part of the submitted package of approvals for LHA approval before the project progressed to construction in accordance with Article 48 of the draft DCO (~~document 3.1 (G)(H)~~). In addition, Requirement 8 of the draft DCO requires the approval of all vegetation to be agreed by the relevant planning authority prior to construction work commencing.

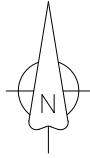
2.12 G-AP3 B1508 Bures Road, Sudbury

- 2.12.1 G-AP3 (B1508 Bures Road, Sudbury) is shown on sheet 20 of 30 on the Access Rights of Way and Public Rights of Navigation Plans [APP-012] and in Appendix A of this Technical Note. This access provides temporary access for the construction of the Stour Valley East CSE compound and cables. In the permanent stage, this provides access to the Stour Valley East CSE compound.
- 2.12.2 Moderate numbers of vehicles are forecast at this location during construction, and the duration of work is expected to be approximately three years. The predicted worst case levels vary through the time, with 450 LGVs and 600 HGVs in the peak month.
- 2.12.3 In normal operation, only one vehicle a month is expected at the compound. During maintenance periods, up to four vehicles a day for three weeks per circuit every eight years are expected to use the access.
- 2.12.4 The Applicant has drawn a visibility splay based on nearby traffic survey data, indicating that 85kph is the expected upper limit of the 85th percentile design speed, yielding a y-value, or distance along the major route of 120m (one step below the desirable minimum stopping sight distance). The Applicant has also considered DMRB CD 123 – Geometric design of at-grade priority and signal-controlled junctions cl. 3.8 and proposes an x-distance of 2m which is appropriate for direct accesses.
- 2.12.5 The generated visibility splay requires that no fixed objects which present an obstruction to visibility shall, essentially, obstruct extant highway verge to the west of the access. To the north and south of the access, there is some vegetation which has grown to the carriage edge and would require pruning to achieve the required sightlines. The Applicant does not see those as an impediment to the safe provision of access at this location.
- 2.12.6 Any vegetation removal would be part of the submitted package of approvals for LHA approval before the project progressed to construction in accordance with Article 48 of the draft DCO (~~document 3.1 (G)(H)~~). In addition, Requirement 8 of the draft DCO

requires the approval of all vegetation to be agreed by the relevant planning authority prior to construction work commencing.

Appendix A

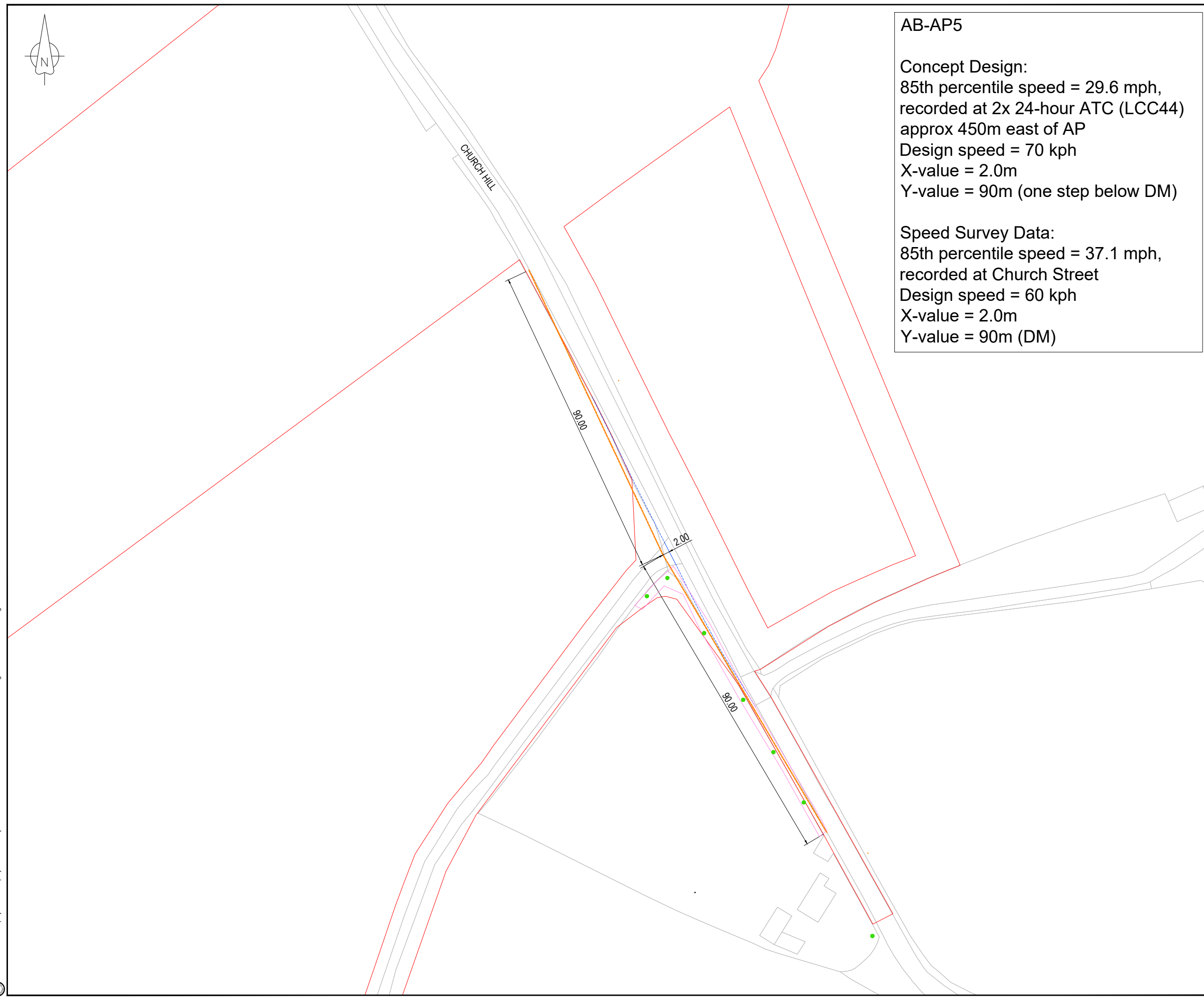
Sketches of Accesses Referenced in Technical Note



AB-AP5

Concept Design:
 85th percentile speed = 29.6 mph,
 recorded at 2x 24-hour ATC (LCC44)
 approx 450m east of AP
 Design speed = 70 kph
 X-value = 2.0m
 Y-value = 90m (one step below DM)

Speed Survey Data:
 85th percentile speed = 37.1 mph,
 recorded at Church Street
 Design speed = 60 kph
 X-value = 2.0m
 Y-value = 90m (DM)



NOTES

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9. VEGETATION REMOVAL IS SHOWN ON THE LANDSCAPE AND ECOLOGICAL MANAGEMENT PLAN APPENDIX A (DOCUMENT 7.8.1).

KEY

- PROPOSED ORDER LIMITS
- PROPOSED VISIBILITY SPLAY
- REQUIRED EDGE OF CARRIAGEWAY
- EXISTING HEDGEROW
- TREES

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Rev	Rev. Date	Purpose of revision	Orig	Check'd	Rev'd	Apprv'd
2	FEB 2024	Results from the arboricultural survey added to the drawing	MP	KC	UJ	RZ
1	FEB 2024	Design speed updated. No design changes	MP	KC	UJ	RZ
0	OCT 2023	First Issue	UG	AB	CG	RZ

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Project
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 Access Point Visibility Splays

Drawing title
**AB-AP5: Church Hill, north of Burstall
 Proposed Visibility Splay
 Concept Design
 Sheet 1 of 1**

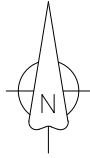
Drawing status: Suitability
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Drawing number
B2441B04-JAC-TE-B2T-APVS-ABAP5-001

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AB-DAP6
 85th percentile = 33.6 mph
 Design speed = 60 kph
 X-value = 2.0m
 Y-value = 70m (one step below SSD)

Ensure vegetation is maintained to prevent encroaching onto footway

Ensure vegetation is maintained to prevent encroaching onto footway

DUKE STREET

2.00

70.0

70.0

NOTES

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KEY

- PROPOSED ORDER LIMITS
- - - PROPOSED VISIBILITY SPLAY
- PROPOSED VEGETATION REMOVAL

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Rev	Rev. Date	Purpose of revision	Orig	Check'd	Rev'd	Apprv'd
0	OCT 2023	First Issue				

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Project: **Bramford to Twinstead Reinforcement
Access Point Visibility Splays**

Drawing title: **AB-DAP6
Proposed Visibility Splay
Concept Design
Sheet 1 of 1**

Drawing status: **DRAFT** Suitability

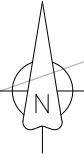
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Client No. Drawing number **B2441B04-JAC-TE-B2T-APVS-ABDAP6-001**

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AB-AP9
 85th percentile speed = 40.6 mph,
 recorded at 24-hour ATC west of Clay
 Hill junction
 Design speed = 70 kph
 X-value = 2.0m
 Y-value = 90m (one step below DM)

NOTES

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KEY

- PROPOSED ORDER LIMITS
- PROPOSED VISIBILITY SPLAY
- PROPOSED VEGETATION REMOVAL

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 Access Point Visibility Splays

Drawing title
**AB-AP9, West of Clay Hill
 Proposed Visibility Splay
 Concept Design
 Sheet 1 of 1**

Drawing status
Suitability
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Jacobs No. Rev
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Client No.
 Drawing number
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Line of sight from driver's position to intersection with nearside kerb crosses the carriageway due to curving alignment; driver's view of the full width of the carriageway up to intersection shall be clear of 'fixed' obstructions (i.e. not including vehicles on the road)

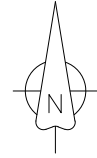
Vegetation pruning /
 coppicing required to achieve
 adequate visibility

POND HALL ROAD

90.00

2.00

90.00



AB-AP17
 85th percentile speed = 42.5 mph,
 recorded at 24-hour ATC shortly south
 east from the entrance to Pond Hall
 industrial estate
 Design speed = 50 kph
 X-value = 2.0m
 Y-value = 70m (Desirable Minimum)

- NOTES**
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 8. THE FEASIBILITY OF THIS DESIGN SOLUTION IS SUBJECT TO FURTHER WORK TO BE CONDUCTED DURING THE NEXT DESIGN STAGE.
 9. THE PROPOSALS ARE INDICATIVE AND SUBJECT TO ALTERATION FOLLOWING COMPLETION OF THE TOPOGRAPHICAL SURVEY

- KEY**
- PROPOSED ORDER LIMITS
 - PROPOSED VISIBILITY SPLAY
 - PROPOSED VEGETATION REMOVAL

Line of sight from driver's position to intersection with nearside kerb crosses the carriageway due to curving alignment; driver's view of the full width of the carriageway up to intersection shall be clear of 'fixed' obstructions (i.e. not including vehicles on the road)

Vegetation pruning / coppicing required to achieve adequate visibility

DRAFT
 FOR DISCUSSION ONLY

Rev	Rev. Date	Purpose of revision	Orig	Check'd	Rev'd	Apprv'd
0	OCT 2023	First Issue		UG	AB	CG RZ

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Client: **nationalgrid**

Project: **Bramford to Twinstead Reinforcement
 Access Point Visibility Splays**

Drawing title: **AB-AP17, Pond Hall Farm
 Proposed Visibility Splay
 Concept Design
 Sheet 1 of 1**

Drawing status: **DRAFT** Suitability

Scale: **1:1000 @ A3** DO NOT SCALE

Jacobs No. **B2441B04** Rev **P0**

Client No.

Drawing number **B2441B04-JAC-TE-B2T-APVS-ABAP17-001**

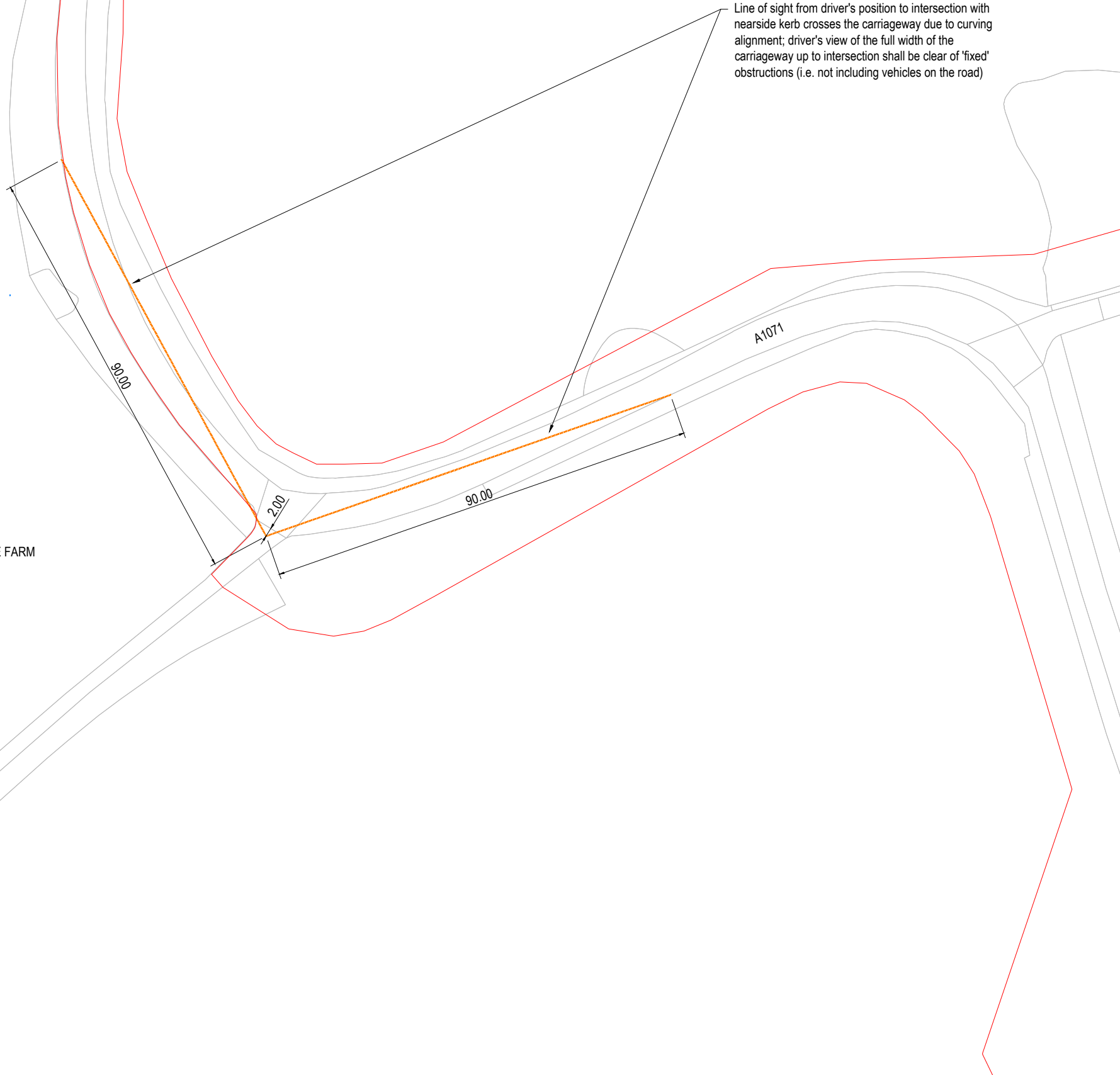
I:\GLON\7501_europe_jacobs.com\projects\UNIF\Projects\B2416601 - Bramford to Twinstead EIA TA Drawings\Accesses\2023-12-06.dwg - 13/12/2023 14:42:01 - AB-AP17 - GHAFFAUK

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AB-EAP1
 85th percentile speed = 38 mph,
 recorded at 2x 24-hour ATCs east of
 the junction with Priory Road
 Design speed = 70kph
 X-value = 2.0m
 Y-value = 90 (one step below DM)

Line of sight from driver's position to intersection with
 nearside kerb crosses the carriageway due to curving
 alignment; driver's view of the full width of the
 carriageway up to intersection shall be clear of 'fixed'
 obstructions (i.e. not including vehicles on the road)



- NOTES**
- DRAWING TO BE PRINTED IN COLOUR.**
 - LAYOUTS TO BE AGREED WITH RELEVANT LAND OWNERS / STAKEHOLDER
 - DO NOT SCALE FROM THIS DRAWING.
 - ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED
 - THE ACCURACY OF THIS PLAN IS LIMITED TO THE ACCURACY OF THE ORDNANCE SURVEY MAP. IF ANY CONFLICTING INFORMATION IS REPORTED ON SITE, THIS SHOULD BE REPORTED TO A REPRESENTATIVE OF THE OVERSEEING ORGANISATION.
 - EXISTING INFRASTRUCTURE SUCH AS DRAINAGE, STREET LIGHTING, TRAFFIC SIGNS AND SIGNAL DUCTS ARE SUBJECT TO ALTERATION AS REQUIRED.
 - ALL ROAD MARKINGS AND SIGNS ARE AS PER THE TRAFFIC SIGNS REGULATIONS AND GENERAL DIRECTIONS 2016 (TSRGD) AND TRAFFIC SIGNS MANUAL.
 - THE FEASIBILITY OF THIS DESIGN SOLUTION IS SUBJECT TO FURTHER WORK TO BE CONDUCTED DURING THE NEXT DESIGN STAGE.
 - THE PROPOSALS ARE INDICATIVE AND SUBJECT TO ALTERATION FOLLOWING COMPLETION OF THE TOPOGRAPHICAL SURVEY

- KEY**
- PROPOSED ORDER LIMITS
 - PROPOSED VISIBILITY SPYLA
 - PROPOSED VEGETATION REMOVAL
 - EDGE OF CARRIAGEWAY

DRAFT
 FOR DISCUSSION ONLY

Rev	Rev. Date	Purpose of revision	Orig	Check'd	Rev'd	Apprv'd
1	FEB 2024	Visibility splay adjusted to suit Carriageway alignment	UG	MP	KC	IJ
0	JAN 2024	First Issue	UG	KC	CG	RZ

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Client: **nationalgrid**

Project: **Bramford to Twinstead Reinforcement
 Access Point Visibility Splays**

Drawing title: **AB-EAP1: College Farm, A1071
 Proposed Visibility Splay
 Concept Design
 Sheet 1 of 1**

Drawing status: **DRAFT** Suitability

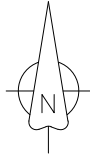
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Jacobs No. **B2441B04** Rev **P1**

Client No.

Drawing number: **B2441B04-JAC-TE-B2T-APVS-ABEAP1-001**

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D-AP1
 85th percentile speed = 20.4 mph,
 recorded at 24-hour ATC north of AP
 Design speed = 50 kph
 X-value = 2.0m
 Y-value = 50m (one step below SSD)

- NOTES**
1. DRAWING TO BE PRINTED IN COLOUR.
 2. LAYOUTS TO BE AGREED WITH RELEVANT LAND OWNERS / STAKEHOLDER
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- KEY**
- PROPOSED ORDER LIMITS
 - PROPOSED VISIBILITY SPLAY
 - PROPOSED VEGETATION REMOVAL

Vegetation pruning / coppicing required to achieve adequate visibility

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Rev	Rev. Date	Purpose of revision	Orig	Check'd	Rev'd	Apprv'd
0	OCT 2023	First Issue				

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Client
nationalgrid

Project
 Bramford to Twinstead Reinforcement
 Access Point Visibility Splays

Drawing title
**D-AP1: Layham
 Proposed Visibility Splay
 Concept Design
 Sheet 1 of 1**

Drawing status
DRAFT Suitability

Scale
 1:1000 @ A3 DO NOT SCALE

Jacobs No. B2441B04 Rev P0
 Client No.

Drawing number
B2441B04-JAC-TE-B2T-APVS-DAP1-001

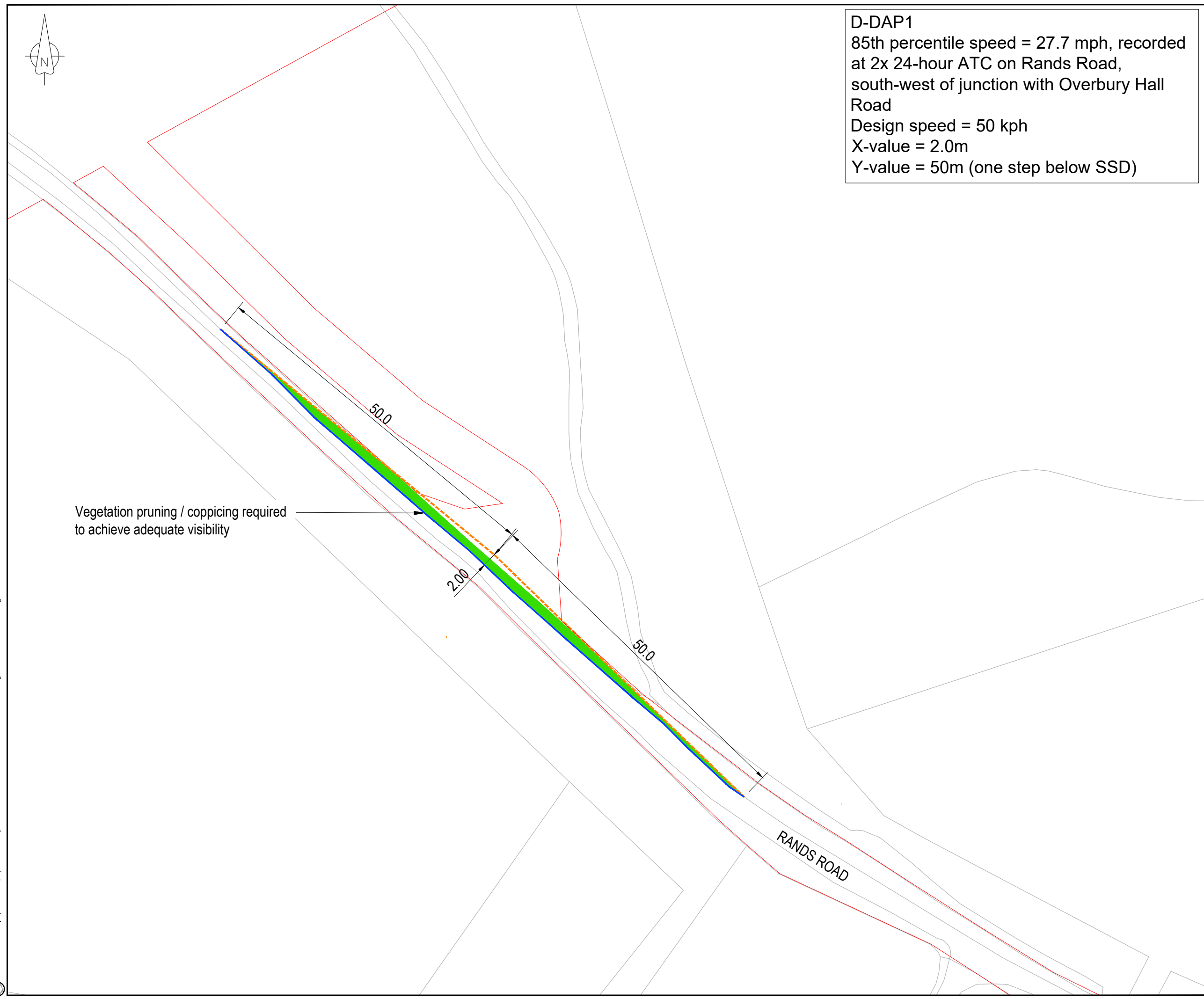
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D-DAP1
 85th percentile speed = 27.7 mph, recorded at 2x 24-hour ATC on Rands Road, south-west of junction with Overbury Hall Road
 Design speed = 50 kph
 X-value = 2.0m
 Y-value = 50m (one step below SSD)

- NOTES**
1. DRAWING TO BE PRINTED IN COLOUR.
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- KEY**
- PROPOSED ORDER LIMITS
 - PROPOSED VISIBILITY SPLAY
 - PROPOSED VEGETATION REMOVAL
 - EDGE OF CARRIAGEWAY



Vegetation pruning / coppicing required to achieve adequate visibility

DRAFT
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Rev	Rev. Date	Purpose of revision	Orig	Check'd	Rev'd	Apprv'd
0	FEB 2024	Carriageway edge turned blue for clarity	UG	MP	KC	IJ
0	OCT 2023	First Issue	UG	AB	CG	RZ

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Client: **nationalgrid**

Project: **Bramford to Twinstead Reinforcement Access Point Visibility Splays**

Drawing title: **D-DAP1: Rands Road, Layham Proposed Visibility Splay Concept Design Sheet 1 of 1**

Drawing status: **DRAFT** Suitability: **P1**

Scale: 1:1000 @ A3 DO NOT SCALE

Jacobs No. B2441B04 Rev P1

Client No. **B2441B04-JAC-TE-B2T-APVS-DDAP1-001**

IGBLON7V501_europe.jacobs.com/projects/UNIF/Projects/B2416601 - Bramford to Twinstead EIA TA Drawings/Accesses/2024_01_29.dwg - 21/02/2024 10:22:09 - D-DAP1 - P1e1e2M

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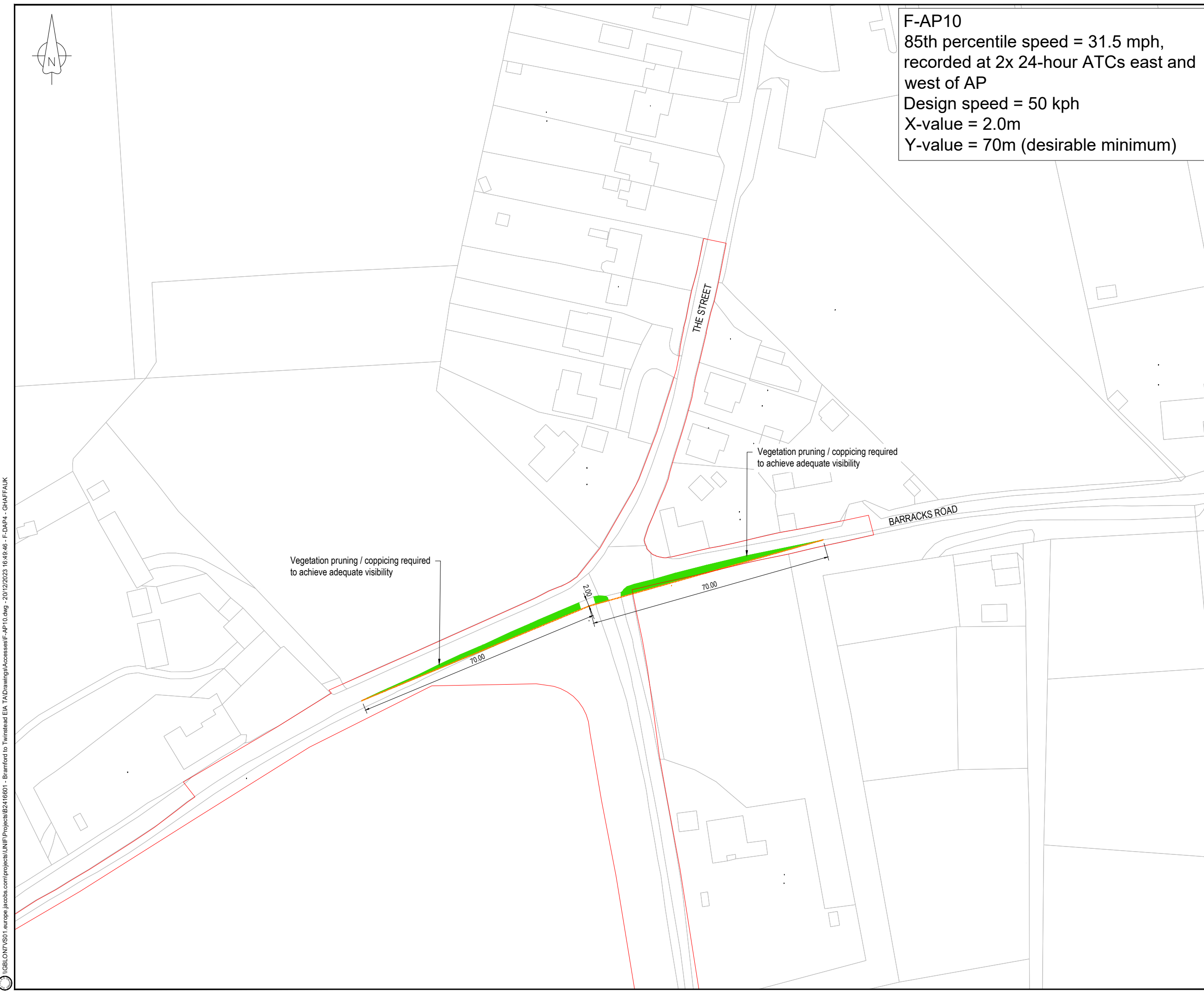


F-AP10
 85th percentile speed = 31.5 mph,
 recorded at 2x 24-hour ATCs east and
 west of AP
 Design speed = 50 kph
 X-value = 2.0m
 Y-value = 70m (desirable minimum)

- NOTES**
1. DRAWING TO BE PRINTED IN COLOUR.
 2. LAYOUTS TO BE AGREED WITH RELEVANT LAND OWNERS / STAKEHOLDER
 3. DO NOT SCALE FROM THIS DRAWING.
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- KEY**
- PROPOSED ORDER LIMITS
 - PROPOSED VISIBILITY SPLAY
 - PROPOSED VEGETATION REMOVAL

G:\BLO\7\501_europe_jacobs.com\projects\UNIF\Projects\B2416601 - Bramford to Twinstead EIA TA Drawings\Accesses\F-AP10.dwg - 20/12/2023 16:49:46 - F-DAP4 - GHAFPAUK



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Rev	Rev. Date	Purpose of revision	UG	AB	CG	RZ
0	OCT 2023	First Issue				

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Project: **Bramford to Twinstead Reinforcement
 Access Point Visibility Splays**

Drawing title: **F-AP10: The Street, Assington
 Proposed Visibility Splay
 Concept Design
 Sheet 1 of 1**

Drawing status: **DRAFT** Suitability: **P0**

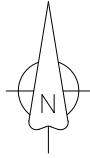
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Jacobs No. B2441B04 Rev P0

Client No. **B2441B04-JAC-TE-B2T-APVS-FAP10-001**

Drawing number: **B2441B04-JAC-TE-B2T-APVS-FAP10-001**

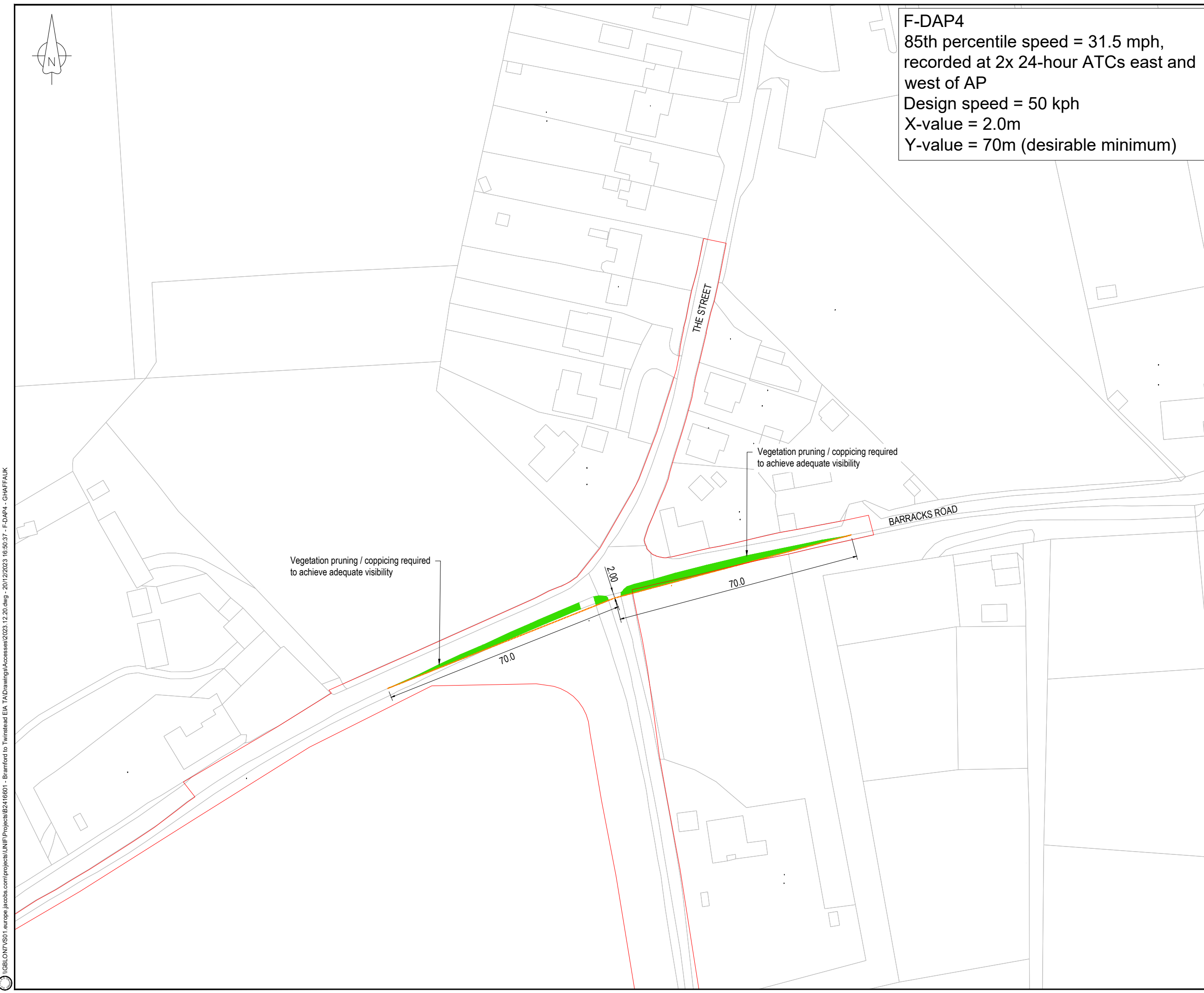
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F-DAP4
 85th percentile speed = 31.5 mph,
 recorded at 2x 24-hour ATCs east and
 west of AP
 Design speed = 50 kph
 X-value = 2.0m
 Y-value = 70m (desirable minimum)

- NOTES**
1. DRAWING TO BE PRINTED IN COLOUR.
 2. LAYOUTS TO BE AGREED WITH RELEVANT LAND OWNERS / STAKEHOLDER
 3. DO NOT SCALE FROM THIS DRAWING.
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 9. THE PROPOSALS ARE INDICATIVE AND SUBJECT TO ALTERATION FOLLOWING COMPLETION OF THE TOPOGRAPHICAL SURVEY

- KEY**
- PROPOSED ORDER LIMITS
 - PROPOSED VISIBILITY SPLAY
 - PROPOSED VEGETATION REMOVAL



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0	OCT 2023	First Issue				

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Client: **nationalgrid**

Project: **Bramford to Twinstead Reinforcement
 Access Point Visibility Splays**

Drawing title: **F-DAP4: The Street, Assington
 Proposed Visibility Splay
 Concept Design
 Sheet 1 of 1**

Drawing status: **DRAFT** Suitability: **P0**

Scale: 1:1000 @ A3 DO NOT SCALE

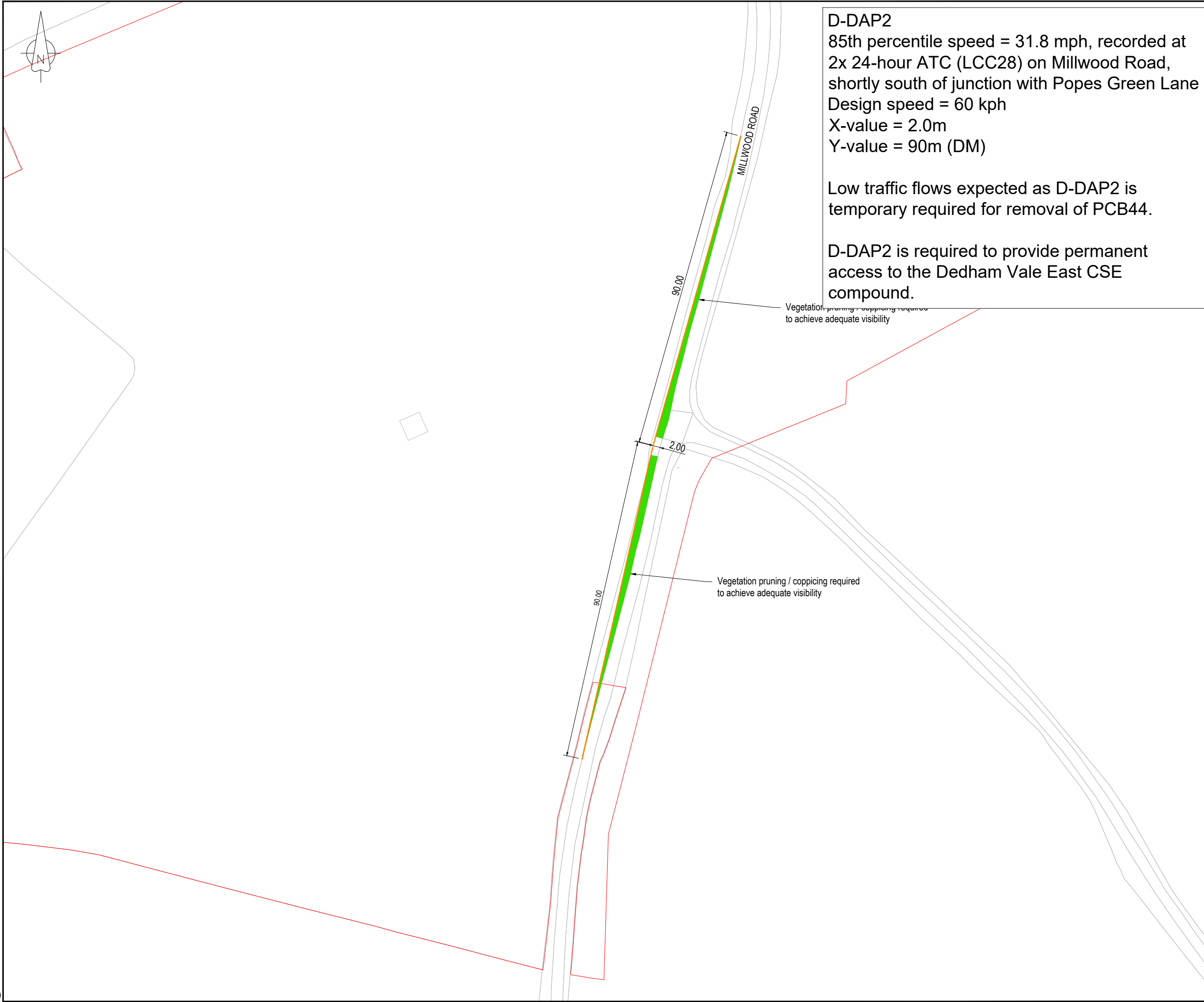
Jacobs No. B2441B04 Rev P0

Client No. **B2441B04-JAC-TE-B2T-APVS-FDAP4-001**

Drawing number: **B2441B04-JAC-TE-B2T-APVS-FDAP4-001**

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D-DAP2
 85th percentile speed = 31.8 mph, recorded at
 2x 24-hour ATC (LCC28) on Millwood Road,
 shortly south of junction with Popes Green Lane
 Design speed = 60 kph
 X-value = 2.0m
 Y-value = 90m (DM)

Low traffic flows expected as D-DAP2 is
 temporary required for removal of PCB44.

D-DAP2 is required to provide permanent
 access to the Dedham Vale East CSE
 compound.

- NOTES**
1. DRAWING TO BE PRINTED IN COLOUR.
 2. LAYOUTS TO BE AGREED WITH RELEVANT LAND OWNERS / STAKEHOLDER
 3. DO NOT SCALE FROM THIS DRAWING.
 4. ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED
 5. THE ACCURACY OF THIS PLAN IS LIMITED TO THE ACCURACY OF THE ORDANCE SURVEY MAP. IF ANY CONFLICTING INFORMATION IS REPORTED ON SITE, THIS SHOULD BE REPORTED TO A REPRESENTATIVE OF THE OVERSEEING ORGANISATION.
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 9. THE PROPOSALS ARE INDICATIVE AND SUBJECT TO ALTERATION FOLLOWING COMPLETION OF THE TOPOGRAPHICAL SURVEY

- KEY**
- PROPOSED ORDER LIMITS
 - PROPOSED VISIBILITY SPLAY
 - PROPOSED VEGETATION REMOVAL

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Rev	Rev. Date	Purpose of revision	Orig	Check'd	Rev'd	Apprv'd
0	FEB 2024	First Issue				

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Client: **nationalgrid**

Project: **Bramford to Twinstead Reinforcement
 Access Point Visibility Splays**

Drawing title: **D-DAP2: Millwood Road, Polstead
 Proposed Visibility Splay
 Concept Design
 Sheet 1 of 1**

Drawing status: **DRAFT** Suitability

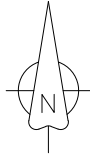
Scale: **1:1000 @ A3** DO NOT SCALE

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Client No.

Drawing number: **B2441B04-JAC-TE-B2T-APVS-DDAP2-001**

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F-AP4
 85th percentile speed = 32.6 mph, recorded at 2x 24-hour ATCs (LCC21) on Stoke Road, shortly east of junction with A134
 Design speed = 60 kph
 X-value = 2.0m
 Y-value = 90m (desirable minimum)

F-AP4 to provide permanent access to the Dedham Vales West CSE compound, no construction traffic is expected

- NOTES**
1. DRAWING TO BE PRINTED IN COLOUR.
 2. LAYOUTS TO BE AGREED WITH RELEVANT LAND OWNERS / STAKEHOLDER
 3. DO NOT SCALE FROM THIS DRAWING.
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- KEY**
- PROPOSED ORDER LIMITS
 - PROPOSED VISIBILITY SPLAY
 - PROPOSED VEGETATION REMOVAL

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Rev	Rev. Date	Purpose of revision	Orig	Check'd	Rev'd	Apprv'd
0	FEB 2024	First Issue				

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Client
nationalgrid

Project
 Bramford to Twinstead Reinforcement
 Access Point Visibility Splays

Drawing title
**F-AP4: B1068 Stoke Road, Leavenheat
 Proposed Visibility Splay
 Concept Design
 Sheet 1 of 1**

Drawing status
DRAFT

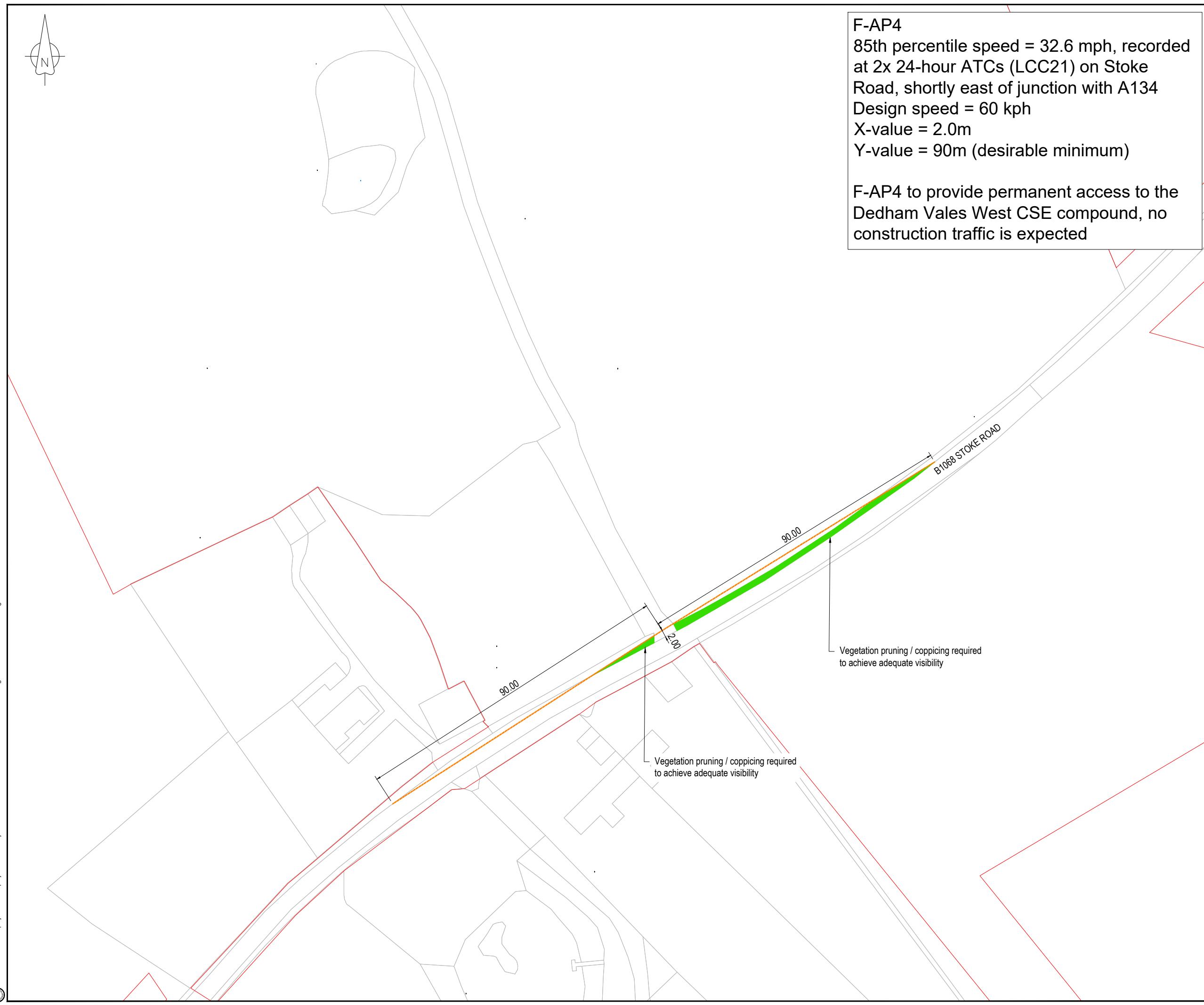
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Jacobs No. B2441B04 Rev
 Client No. P0

Drawing number
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G-AP3
 85th percentile speed = 44.9mph, recorded at 2x 24-hour ATCs (LCC15) opposite Fulibroch Dairy, B1508

Design speed = 85kph
 X-value = 2.0m
 Y-value = 120m (one step below DM)

Moderate traffic flows expected, duration of works expected to be approx 3 years as G-AP3 provides access to the Stour Valley East Cable Sealing End Compound

Vegetation pruning / coppicing required to achieve adequate visibility

Vegetation pruning / coppicing required to achieve adequate visibility

- NOTES**
1. DRAWING TO BE PRINTED IN COLOUR.
 2. LAYOUTS TO BE AGREED WITH RELEVANT LAND OWNERS / STAKEHOLDER
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- KEY**
- PROPOSED ORDER LIMITS
 - PROPOSED VISIBILITY SPLAY
 - PROPOSED VEGETATION REMOVAL

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0	FEB 2024	First Issue				

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Client: **nationalgrid**

Project: **Bramford to Twinstead Reinforcement Access Point Visibility Splays**

Drawing title: **G-AP3: B1508 Bures Road, Sudbury Proposed Visibility Splay Concept Design Sheet 1 of 1**

Drawing status: **DRAFT** Suitability: **P0**

Scale: 1:1000 @ A3 DO NOT SCALE

Jacobs No. B2441B04 Rev P0

Client No. **B2441B04-JAC-TE-B2T-APVS-GDAP3-001**

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