

EAST CLAYDON BATTERY ENERGY STORAGE

ACCESS TECHNICAL NOTE

1 Introduction

- 1.1 It is proposed that agricultural land to the southeast of the existing East Claydon Substation in Buckinghamshire be developed to create a Battery Energy Storage System (BESS). The proposed BESS will be connected to the National Grid via East Claydon Substation and will enable electricity generated from renewables (solar and wind) to be stored during periods of peak generation and then released back to the National Grid during periods of peak customer demand.
- 1.2 Miles White Transport Ltd (MWT) has been appointed by Statera Energy Ltd to consider the highway and access issues associated with the development proposals.
- 1.3 The layout of the proposed development is shown on the plan attached as **Appendix A**.

2 Site Location

- 2.1 The location of the site in a local context is shown in **Figure 1** below.

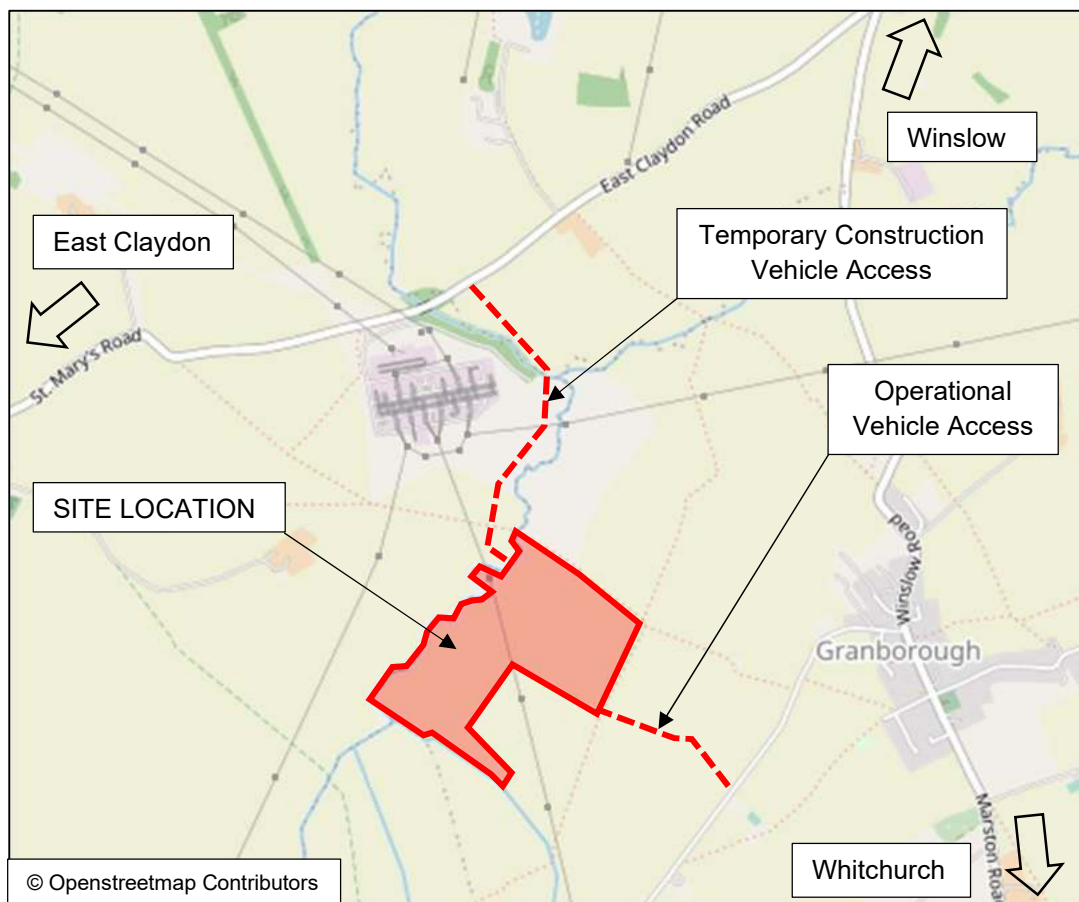


FIGURE 1: Site Location

3 Local Highway Network

- 3.1 Vehicular access to the site is proposed to be taken from both Hogshaw Road to the southeast and East Claydon Road to the north. The Hogshaw Road access will serve the site once it is operational with the East Claydon Road access being a temporary provision to enable use by vehicles during the construction period.

Hogshaw Road

- 3.2 The road has a carriageway width of approximately 5m at the access location, has no street lighting and is subject to the national 60mph speed limit. There are no footways beside the carriageway although there are generous grass verges on either side. The horizontal alignment of Hogshaw Road as it passes the proposed access is straight with the vertical alignment sloping gradually from northeast to southwest.
- 3.3 Approximately 550m to the northeast of the access location, Hogshaw Road enters the village of Granborough and its 30mph speed limit. The road widens to approximately 6m with street lighting and a footway on one side before forming the side arm of a simple priority junction with Winslow Road in the village centre.
- 3.4 Winslow Road leads north to Winslow and the A413 to Buckingham and beyond. It also leads south (becoming Marston Road) to Whitchurch and a further junction with the A413 to Aylesbury and beyond.
- 3.5 To the southwest of the proposed site access location, Hogshaw Road continues straight before turning to head broadly west and eventually forming the side arm of a priority junction with Clayton Road. This latter road serves various local villages and links south towards the A41 corridor and north towards Buckingham.
- 3.6 An Automatic traffic Counter (ATC) was installed on Hogshaw Road in the vicinity of the proposed site access between Wednesday 19th and Tuesday 25th April 2023. The results of this survey are attached as part of **Appendix B** of this report and are summarised in **Table 1** below.

	To Northeast	To Southwest	Two-way
AM Peak (weekday average)	14	16	31
PM Peak (weekday average)	25	19	44
Daily (weekday average)	198	195	393
Average Speed	41.2 mph	42.3 mph	41.8 mph
85 th percentile speed	50.7 mph	51.7 mph	51.3 mph

TABLE 1: Results of ATC Survey on Hogshaw Road

- 3.7 The above identifies peak hour two-way traffic flows of up to approximately 45 vehicles which is considered low for the highway standard of Hogshaw Road. There is evidence of a small degree of tidality in the highway peak hours with more traffic toward the southwest in the morning peak and more traffic toward the northeast in the evening peak. Daily traffic flows are less than 400 two-way vehicles.

- 3.8 Average traffic speeds are identified as being approximately 42 mph which is well below the 60mph speed limit. The 85th percentile speeds used for design purposes are higher at up to approximately 52 mph which is a function of the straight alignment and good forward visibility.

East Claydon Road

- 3.9 The road has a carriageway width of approximately 6m at the proposed access location, has no street lighting and is subject to the national 60mph speed limit. There are no footways beside the carriageway with narrow grass verges before hedgerows on either side. The alignment of East Claydon Road as it passes the proposed access is broadly straight with a gentle gradient from east to west.
- 3.10 Approximately 1.5km to the east of the access location, East Claydon Road forms the side arm of a priority junction with Granborough Road. Visibility to and from the junction is good. Granborough Road is a northern extension of the Winslow Road discussed previously and therefore also connects with the A413 north to Buckingham and the A413 south to Aylesbury.
- 3.11 To the west of the access location, the road passes through East Claydon village before serving various other local villages beyond. It also links to Clayton Road and the southwest end of Hogshaw Road, again as discussed previously.
- 3.12 An Automatic traffic Counter (ATC) was installed on East Claydon Road in the vicinity of the proposed site access between Tuesday 19th and Monday 25th September 2023. The results of this survey are also attached as part of Appendix B and are summarised in **Table 2** below.

	Eastbound	Westbound	Two-way
AM Peak (weekday average)	130	116	246
PM Peak (weekday average)	141	100	240
Daily (weekday average)	1,226	1,232	2,458
Average Speed	47.2 mph	48.9 mph	48.1 mph
85 th percentile speed	55.3 mph	56.9 mph	56.1 mph

TABLE 2: Results of ATC Survey on East Claydon Road

- 3.13 The above identifies peak hour two-way traffic flows of up to approximately 250 vehicles which is considered moderate for the highway standard of East Claydon Road. There is evidence of bias towards eastbound traffic in both peak hours but this balances itself out over the day as a whole. Daily traffic flows are less than 2,500 two-way vehicles.
- 3.14 Average traffic speeds are identified as being approximately 48 mph with the 85th percentile speeds being up to approximately 56 mph. Both are below the 60 mph speed limit although the broadly straight and level alignment does seem to encourage higher speeds than may be considered desirable.

Wider Highway Network

- 3.15 Winslow Road / Granborough Road has a predominantly 6m width between the two settlements and again has no footways or street lighting and is subject to a 60 mph speed limit. There is a narrow hump backed bridge over Claydon Brook between the East Claydon Road junction and Granborough plus tight bends on entry to the village itself. Construction vehicle access via East Claydon Road primarily allows larger vehicles to avoid these potential constraints.
- 3.16 No traffic surveys have been undertaken on Winslow Road / Granborough Road however the Department for Transport road traffic statistics website identifies a count point (No. 806187) on Winslow Road just south of the Hogshaw Road junction. A manual survey undertaken in 2018 identified an Annual Average Daily Flow of 1,871 motorised vehicles (two-way) which is considered a low flow and well within the link capacity of the carriageway width.
- 3.17 The 'crashmap' website has been interrogated to identify personal injury collision records for Hogshaw Road and East Claydon Road in the vicinity of the proposed site accesses. There have been no recorded collisions over the full length of Hogshaw Road over the last 10 years for which data is available. No collisions have been recorded at the junction of Hogshaw Road and Winslow Road over the same period although one collision classified as 'slight' has been recorded at the junction of Hogshaw Road and Clayton Road.
- 3.18 Similarly, there have been no recorded collisions over the length of East Claydon Road between the access location and the junction with Granborough Road over the 10 year period. There has however been one 'serious' collision at the East Claydon Road / Granborough Road junction although it is noted that this only involved one vehicle.
- 3.19 In general, it is considered that the local highway network is of a reasonable standard and provides good links via the A413 to the strategic highway network serving the local area. Hogshaw Road, East Claydon Road and Winslow Road / Granborough Road also appear to operate safely under existing traffic flow conditions.

4 Proposed Access Arrangements

Operational Access – Hogshaw Road

- 4.1 Once operational, vehicle access to the BESS is proposed to be taken via an existing private agricultural field gate and access track that leads from Hogshaw Road.
- 4.2 The existing access track has drop kerbs to the edge of Hogshaw Road with consolidated stone surfacing behind. The field gate is approximately 3.6m in width and set approximately 5m back from the edge of carriageway. Beyond the gate, the access track follows the margins of the fields through which it passes with no surfacing provided.
- 4.3 It is proposed to significantly upgrade the current agricultural access junction with Hogshaw Road and the access track alignment to the BESS such that both can accommodate the size and turning requirements of Heavy Goods Vehicles (HGVs).

-
- 4.4 Primary construction access is proposed via East Claydon Road (see below) however that access route could occasionally be affected by flooding therefore requiring Hogshaw Road to act as construction access for a short period until the flooding has cleared. Abnormal Indivisible Loads (AILs) during the construction process will also need to access the site via Hogshaw Road as the temporary bridges required on the haul route from East Claydon Road will not have sufficient strength to carry the abnormal AIL loads.
- 4.5 The plan attached as **Appendix C** identifies the proposed Hogshaw Road access arrangements. It identifies a simple priority junction comprising a bell mouth with a 15m radius to the northeast and a 6m radius to the southwest. The different radii will help ensure that larger vehicles only access the site to and from the Granborough direction.
- 4.6 The bell mouth will lead to a 6m wide access gate located 17m back from the edge of the Hogshaw Road carriageway. This offset distance will allow a full size articulated delivery vehicle to wait clear of the carriageway should it need to do so while the gate is opened (into the site).
- 4.7 The 17m distance between the edge of carriageway and the gate will have a sealed tarmac or concrete surface with full details to be agreed with Buckinghamshire Council Highways during the detailed design process. Once within the site, the access track will be a consolidated stone construction with the 17m length of sealed surface ensuring no migration of loose materials on to the public highway.
- 4.8 Table 1 has identified the maximum directional 85th percentile speeds as being 50.7 mph when heading northeast and 51.7 mph when heading southwest. Through use of the formula given in paragraph 10.1.5 of Manual for Streets 2, and taking account of the 2% gradient on Hogshaw Road, these speeds equate to a desirable minimum stopping sight distance of 167m to the left on egress and 145m to the right on egress from the access junction. The derivation of these distances is shown on the spreadsheets attached as **Appendix D** and are shown on the proposed access plan (Appendix C).
- 4.9 The required visibility can be provided in both directions. This is ensured by the straight alignment of Hogshaw Road and the wide verge on the nearside which varies in width between approximately 3m and 4.5m along its full length.
- 4.10 A swept path analysis of a 16.5m articulated lorry entering and leaving the site via the proposed access has been undertaken and is also shown on the access plan. This identifies the vehicle using the full width of Hogshaw Road when making the turns with this considered acceptable given the low existing traffic flows and the good forward visibility available for approaching drivers. Such movements will be temporary during the construction period only and can be appropriately controlled and managed through advanced warning signage and provision of a Banksman at the access. Further details are provided within the Construction Traffic Management Plan (CTMP) which also forms part of the planning application documentation.

- 4.11 It is considered that the proposed access can be implemented through a Section 184 or Minor Works Agreement with Buckinghamshire Highways. The access crosses a shallow ditch that will be appropriately culverted and subject to separate Land Drainage Consent should this be required.

Temporary Access – East Claydon Road

- 4.12 A new access junction is proposed on East Claydon Road with this acting as the primary day to day vehicle access during the construction period.
- 4.13 The plan attached as **Appendix E** identifies the proposed layout of the East Claydon Road access junction. For completeness, the full alignment of the temporary haul road connecting the proposed access to the BESS site is also attached as part of Appendix E.
- 4.14 The access takes the form of a simple priority junction comprising a bell mouth with a 15m radius to the east and a 6m radius to the west. The different radii will help ensure that larger vehicles only access the site to and from the Winslow direction. The bell mouth leads to a 6m wide access gate located 17m back from the edge of the East Claydon Road carriageway. This offset distance will allow a full size articulated delivery vehicle to wait clear of the carriageway should it need to do so while the gate is opened (into the site).
- 4.15 The 17m distance between the edge of carriageway and the gate will have a sealed surface with full details to be agreed with Buckinghamshire Council Highways during the detailed design process. Once within the site, the temporary haul road will be a consolidated stone construction with the 17m length of sealed surface ensuring no migration of loose materials on to the public highway.
- 4.16 Table 2 has identified the maximum directional 85th percentile speeds as being 55.3 mph when heading east and 56.9 mph when heading west. These speeds equate to a desirable minimum stopping site distance of 176m to the left on egress and 185m to the right on egress from the access junction. The derivation of these distances is shown on the spreadsheets attached as **Appendix F** and are shown on the proposed access plan (Appendix E). The required visibility can be provided in both directions although there is a requirement for a minor cutting back of the existing hedgerows on either side of the access.
- 4.17 A swept path analysis of a 16.5m articulated lorry entering and leaving the site via the proposed access has been undertaken and is also shown on the access plan. The movements can be appropriately accommodated within the available carriageway width and can also be appropriately signed and controlled as detailed in the CTMP.
- 4.18 The access will be temporary in nature and removed once the construction activities are complete.

5 Likely Traffic Flows

- 5.1 Once the BESS is operational there will be a very low level of vehicular use of the Hogshaw Road access as the site will be remotely operated and controlled. For the most part vehicular access will be limited to occasional visits for routine maintenance and security activities and is unlikely to involve more than 3 or 4 arrivals / departures over a typical week. This level of additional traffic generation does not warrant further consideration particularly in the context of the existing traffic flows recorded through the ATC (Table 1).
- 5.2 Construction traffic will need to access the site during the construction period both in terms of preparing the site (access, groundworks, fencing etc) and the importation and installation of the battery units and associated electrical equipment. This is a temporary, short term traffic impact that can be managed through the CTMP which itself can be secured by a suitably worded planning condition.
- 5.3 Both accesses have been designed such that all HGV construction traffic will be required to access the site to and from the northeast only. This will ensure construction vehicles will only access the site via Winslow and the A413 which is considered the most appropriate route for the larger vehicles likely to be involved. This is discussed further within the CTMP which also identifies the number of construction vehicle movements that are likely to be required.

6 Public Rights of Way

- 6.1 Two Public Footpaths run adjacent to the proposed BESS site as shown in **Figure 2** overleaf which is an annotated extract from the Buckinghamshire Council online Public Rights of Way map.
- 6.2 Public Footpath GRA/1/2 runs broadly north-south along the eastern boundary of the site while Public Footpath GRA/2/1 (becoming ECL/4/2) runs broadly east-west along the northern boundary of the site. Both these Footpaths will be outside of the site boundary with their routes available for public use at all times during the construction and future operation of the BESS facility.
- 6.3 The only potential impact will be where the proposed operational vehicle access track from Hogshaw Road crosses GRA/1/2 and where the proposed temporary construction haul road crosses ECL/4/2. During construction, these crossing points can be safely managed via gates, signage, a 10mph speed limit for vehicles using the access track and haul road, and a banksman (if considered necessary). Full details and appropriate measures can be secured through the CTMP.
- 6.4 As previously mentioned, post construction traffic flows on the access track from Hogshaw Road will be very low with no permanent measures other than warning signage considered necessary at the crossing point of GRA/1/2. The open nature of the land will ensure good levels of visibility between drivers on the access track and walkers on the Public Footpath (and vice versa) thereby further reducing the risk of conflict.

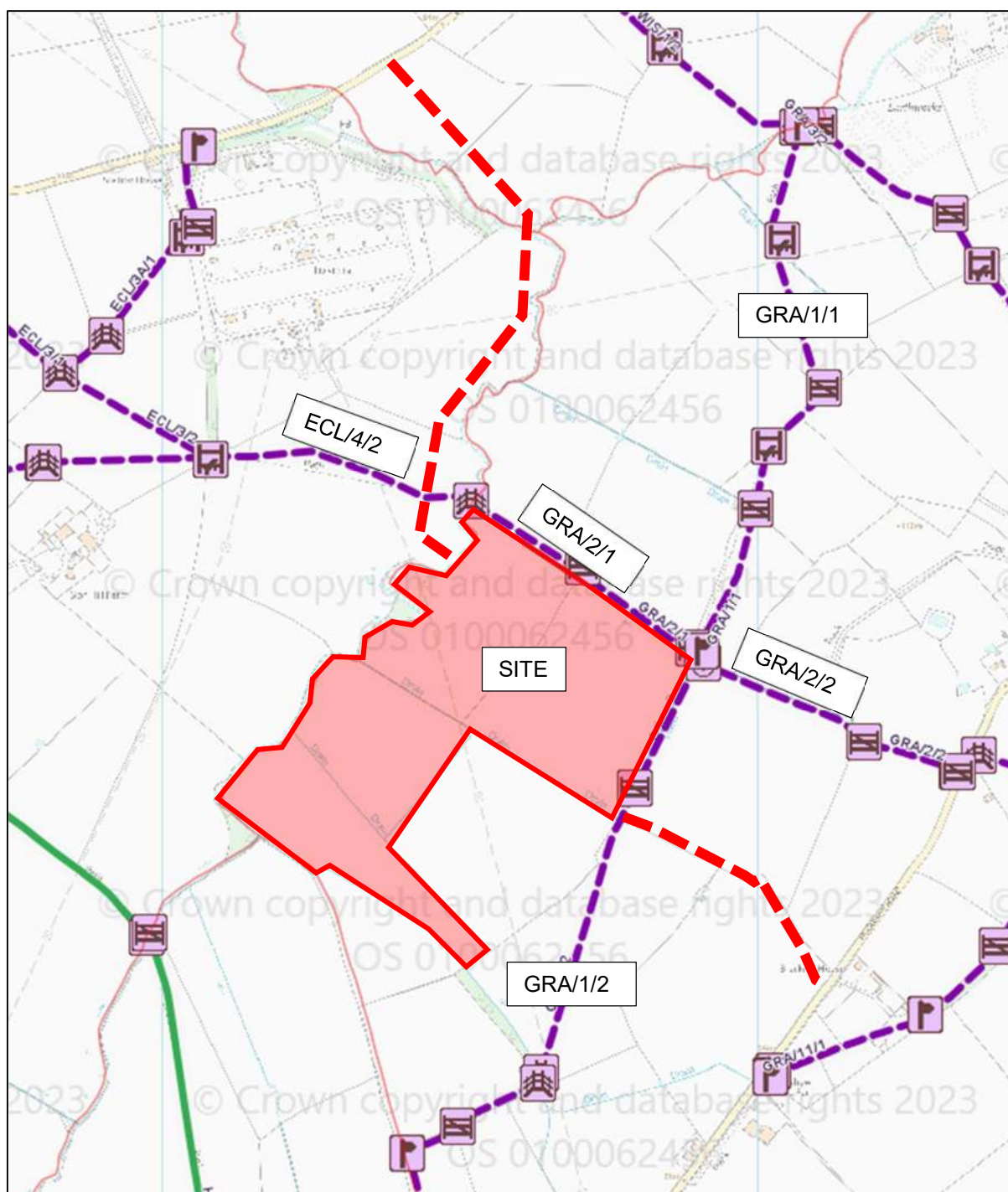


FIGURE 2: Public Rights of Way Adjacent the Site

7 Summary and Conclusions

- 7.1 It is proposed to construct a Battery Energy Storage System (BESS) on land to the south of the East Claydon Substation and north of Hogshaw Road, near Granborough, Buckinghamshire.

-
- 7.2 An existing agricultural field access on Hogshaw Road will be upgraded to a standard suitable to accommodate occasional short term use by large delivery vehicles associated with the construction process, and to facilitate long term use for routine maintenance purposes.
 - 7.3 A temporary haul road will also connect the site to East Claydon Road with this being the primary access for construction related vehicles during the construction period.
 - 7.4 Both accesses will provide visibility on egress that accords with the recorded 85th percentile traffic speeds on Hogshaw Road and East Claydon Road.
 - 7.5 Additional traffic flows associated with the proposed BESS once operational will be very low. Traffic movements during the construction process will be temporary and can be appropriately managed through the submitted Construction Traffic Management Plan.
 - 7.6 Overall, it is considered that the development proposal and its site access arrangements will have no significant road safety or traffic capacity impacts. As such, there are no adverse transport issues that can be held against the planning application.

APPENDIX A

Proposed Site Layout



Legend

- | | | | | |
|---------------------------|---|-------------------------------------|----------------------------|-------------------------------|
| Site boundary | New substation compound | Attenuation pond | Flood zone boundary | Inverter building (total 37) |
| Existing trees | 2.5m high weld-mesh security palisade fencing | Loose permeable gravel | Proposed hedgerow planting | Transformer |
| Existing hedgerows | Crushed stone access track | Wildflower grass | Public Right of Way | Battery container (total 888) |
| New woodland planting | 5.5 wide crushed stone access track | Overhead electricity clearance zone | Proposed trees | Storage container |
| New native shrub planting | Existing hedgerow removed | | | Control room (total 7) |

Revision Date Comment

- - -

ON BEHALF
STATERA

DATE 15 February 2023
SCALE 1 : 2,000 @ A1
DWG No SL261_L_X_GA_1
APPROVED CMcD

PROJECT
EAST CLAYDON BESS

TITLE
MASTERPLAN

APPENDIX B

Automatic Traffic Counter Results

Granborough ATC, Hogshaw Road



Direction: Northeastbound

Hour Beginning	Wed 19/04/2023	Thu 20/04/2023	Fri 21/04/2023	Sat 22/04/2023	Sun 23/04/2023	Mon 24/04/2023	Tue 25/04/2023	5-Day Ave.	7-Day Ave.
00:00	0	1	0	0	0	1	0	0	0
01:00	0	0	0	1	0	0	0	0	0
02:00	1	0	0	0	0	0	0	0	0
03:00	1	0	0	0	0	0	0	0	0
04:00	0	1	0	0	1	1	0	0	0
05:00	3	4	4	0	0	3	4	4	3
06:00	6	4	6	1	1	5	3	5	4
07:00	11	14	12	5	1	10	10	11	9
08:00	12	14	11	4	4	13	22	14	11
09:00	11	11	17	10	4	12	8	12	10
10:00	12	16	5	9	10	9	10	10	10
11:00	6	11	8	17	11	9	11	9	10
12:00	16	11	20	17	12	10	24	16	16
13:00	9	10	7	18	8	17	6	10	11
14:00	7	12	15	10	13	17	16	13	13
15:00	15	17	14	11	11	23	14	17	15
16:00	20	20	22	13	20	21	16	20	19
17:00	23	36	26	14	13	17	23	25	22
18:00	15	12	14	7	9	16	12	14	12
19:00	9	7	5	8	4	9	11	8	8
20:00	5	5	2	4	4	2	0	3	3
21:00	1	4	4	2	1	0	1	2	2
22:00	1	4	1	2	1	3	4	3	2
23:00	2	3	0	3	4	2	1	2	2
Total 12H(7-19)	157	184	171	135	116	174	172	172	158
16H(6-22)	178	204	188	150	126	190	187	189	175
18H(6-24)	181	211	189	155	131	195	192	194	179
24H(0-24)	186	217	193	156	132	200	196	198	183
AM Peak	08:00 12	10:00 16	09:00 17	11:00 17	11:00 11	08:00 13	08:00 22	08:00 14	08:00 11
PM Peak	17:00 23	17:00 36	17:00 26	13:00 18	16:00 20	15:00 23	12:00 24	17:00 25	17:00 22

Paul Castle Associates

Direction: Southwestbound

Hour Beginning	Wed 19/04/2023	Thu 20/04/2023	Fri 21/04/2023	Sat 22/04/2023	Sun 23/04/2023	Mon 24/04/2023	Tue 25/04/2023	5-Day Ave.	7-Day Ave.
00:00	3	0	1	3	2	0	0	1	1
01:00	0	0	0	0	2	1	0	0	0
02:00	0	1	1	2	0	0	3	1	1
03:00	1	0	0	0	0	0	0	0	0
04:00	0	0	0	2	0	2	0	0	1
05:00	2	3	1	0	0	2	0	2	1
06:00	13	13	15	5	3	6	9	11	9
07:00	14	17	10	6	6	11	11	13	11
08:00	17	13	17	10	5	20	15	16	14
09:00	8	13	7	15	10	8	10	9	10
10:00	12	16	9	14	7	13	11	12	12
11:00	11	14	9	18	12	17	8	12	13
12:00	12	7	14	18	11	10	7	10	11
13:00	14	10	9	12	14	12	18	13	13
14:00	11	12	15	10	9	12	9	12	11
15:00	15	16	14	10	15	10	13	14	13
16:00	15	18	14	17	5	10	22	16	14
17:00	18	23	12	6	10	18	23	19	16
18:00	8	10	9	4	8	11	8	9	8
19:00	5	13	11	5	4	9	10	10	8
20:00	7	6	7	8	5	3	0	5	5
21:00	5	6	4	5	3	9	2	5	5
22:00	2	6	3	7	4	5	6	4	5
23:00	0	2	3	1	1	1	1	1	1
Total 12H(7-19)	155	169	139	140	112	152	155	154	146
16H(6-22)	185	207	176	163	127	179	176	185	173
18H(6-24)	187	215	182	171	132	185	183	190	179
24H(0-24)	193	219	185	178	136	190	186	195	184
AM Peak	08:00 17	07:00 17	08:00 17	11:00 18	11:00 12	08:00 20	08:00 15	08:00 16	08:00 14
PM Peak	17:00 18	17:00 23	14:00 15	12:00 18	15:00 15	17:00 18	17:00 23	17:00 19	17:00 16

Paul Castle Associates

Direction: Total Flow

Hour Beginning	Wed 19/04/2023	Thu 20/04/2023	Fri 21/04/2023	Sat 22/04/2023	Sun 23/04/2023	Mon 24/04/2023	Tue 25/04/2023	5-Day Ave.	7-Day Ave.
00:00	3	1	1	3	2	1	0	1	2
01:00	0	0	0	1	2	1	0	0	1
02:00	1	1	1	2	0	0	3	1	1
03:00	2	0	0	0	0	0	0	0	0
04:00	0	1	0	2	1	3	0	1	1
05:00	5	7	5	0	0	5	4	5	4
06:00	19	17	21	6	4	11	12	16	13
07:00	25	31	22	11	7	21	21	24	20
08:00	29	27	28	14	9	33	37	31	25
09:00	19	24	24	25	14	20	18	21	21
10:00	24	32	14	23	17	22	21	23	22
11:00	17	25	17	35	23	26	19	21	23
12:00	28	18	34	35	23	20	31	26	27
13:00	23	20	16	30	22	29	24	22	23
14:00	18	24	30	20	22	29	25	25	24
15:00	30	33	28	21	26	33	27	30	28
16:00	35	38	36	30	25	31	38	36	33
17:00	41	59	38	20	23	35	46	44	37
18:00	23	22	23	11	17	27	20	23	20
19:00	14	20	16	13	8	18	21	18	16
20:00	12	11	9	12	9	5	0	7	8
21:00	6	10	8	7	4	9	3	7	7
22:00	3	10	4	9	5	8	10	7	7
23:00	2	5	3	4	5	3	2	3	3
Total 12H(7-19)	312	353	310	275	228	326	327	326	304
16H(6-22)	363	411	364	313	253	369	363	374	348
18H(6-24)	368	426	371	326	263	380	375	384	358
24H(0-24)	379	436	378	334	268	390	382	393	367
AM Peak	08:00 29	10:00 32	08:00 28	11:00 35	11:00 23	08:00 33	08:00 37	08:00 31	08:00 25
PM Peak	17:00 41	17:00 59	17:00 38	12:00 35	15:00 26	17:00 35	17:00 46	17:00 44	17:00 37

Paul Castle Associates

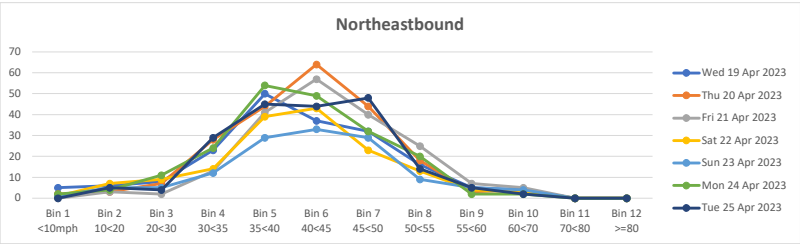


Granborough ATC, Hogshaw Road

Direction: Northeastbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<20	Bin 3 20<30	Bin 4 30<35	Bin 5 35<40	Bin 6 40<45	Bin 7 45<50	Bin 8 50<55	Bin 9 55<60	Bin 10 60<70	Bin 11 70<80	Bin 12 >=80
Wed 19 Apr 2023	186	51.0	40.0	10.6	5	6	8	23	50	37	32	16	5	4	0	0
Thu 20 Apr 2023	217	50.3	41.4	8.6	2	3	7	28	44	64	44	18	3	4	0	0
Fri 21 Apr 2023	193	52.0	43.6	8.1	0	3	2	13	41	57	40	25	7	5	0	0
Sat 22 Apr 2023	156	50.5	40.3	9.9	1	7	9	14	39	43	23	13	4	3	0	0
Sun 23 Apr 2023	132	51.9	41.6	10.0	1	5	5	12	29	33	29	9	5	4	0	0
Mon 24 Apr 2023	200	49.5	40.3	8.9	2	4	11	24	54	49	32	20	2	2	0	0
Tue 25 Apr 2023	196	50.0	41.4	8.3	0	5	4	29	45	44	48	14	5	2	0	0
5 Day Ave.	198	50.6	41.3	8.9	2	4	6	23	47	50	39	19	4	3	0	0
7 Day Ave.	183	50.7	41.2	9.2	2	5	7	20	43	47	35	16	4	3	0	0

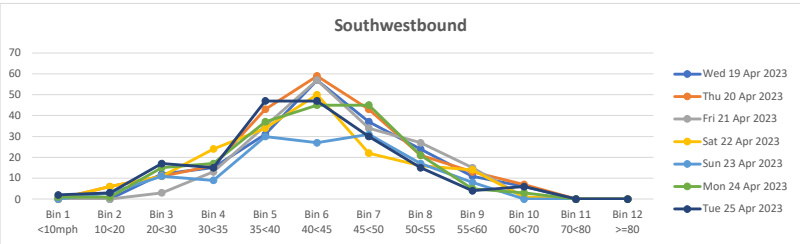
Paul Castle Associates



Direction: Southwestbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<20	Bin 3 20<30	Bin 4 30<35	Bin 5 35<40	Bin 6 40<45	Bin 7 45<50	Bin 8 50<55	Bin 9 55<60	Bin 10 60<70	Bin 11 70<80	Bin 12 >=80
Wed 19 Apr 2023	193	52.6	43.6	8.7	0	0	12	15	31	57	37	24	11	6	0	0
Thu 20 Apr 2023	219	52.7	42.7	9.6	0	6	11	16	43	59	43	21	13	7	0	0
Fri 21 Apr 2023	185	51.9	44.3	7.3	0	0	3	13	35	57	34	27	15	1	0	0
Sat 22 Apr 2023	178	51.0	41.0	9.7	0	6	11	24	34	50	22	16	14	1	0	0
Sun 23 Apr 2023	136	51.6	42.0	9.2	0	3	11	9	30	27	31	17	8	0	0	0
Mon 24 Apr 2023	190	51.2	42.0	8.9	1	1	15	17	37	45	45	21	5	3	0	0
Tue 25 Apr 2023	186	50.9	40.7	9.9	2	3	17	15	47	47	30	15	4	6	0	0
5 Day Ave.	195	51.9	42.6	8.9	1	2	12	15	39	53	38	22	10	5	0	0
7 Day Ave.	184	51.7	42.3	9.1	0	3	11	16	37	49	35	20	10	3	0	0

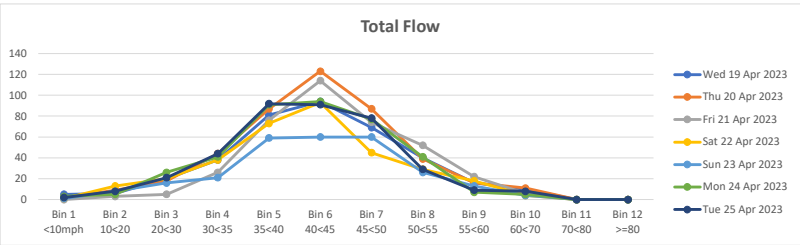
Paul Castle Associates



Direction: Total Flow

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<20	Bin 3 20<30	Bin 4 30<35	Bin 5 35<40	Bin 6 40<45	Bin 7 45<50	Bin 8 50<55	Bin 9 55<60	Bin 10 60<70	Bin 11 70<80	Bin 12 >=80
Wed 19 Apr 2023	379	52.0	41.8	9.8	5	6	20	38	81	94	69	40	16	10	0	0
Thu 20 Apr 2023	436	51.5	42.1	9.2	2	9	18	44	87	123	87	39	16	11	0	0
Fri 21 Apr 2023	378	52.0	43.9	7.7	0	3	5	26	76	114	74	52	22	6	0	0
Sat 22 Apr 2023	334	50.8	40.7	9.8	1	13	20	38	73	93	45	29	18	4	0	0
Sun 23 Apr 2023	268	51.7	41.8	9.6	1	8	16	21	59	60	60	26	13	4	0	0
Mon 24 Apr 2023	390	50.4	41.1	8.9	3	5	26	41	91	94	77	41	7	5	0	0
Tue 25 Apr 2023	382	50.5	41.0	9.1	2	8	21	44	92	91	78	29	9	8	0	0
5 Day Ave.	393	51.3	42.0	9.0	2	6	18	39	85	103	77	40	14	8	0	0
7 Day Ave.	367	51.3	41.8	9.2	2	7	18	36	80	96	70	37	14	7	0	0

Paul Castle Associates



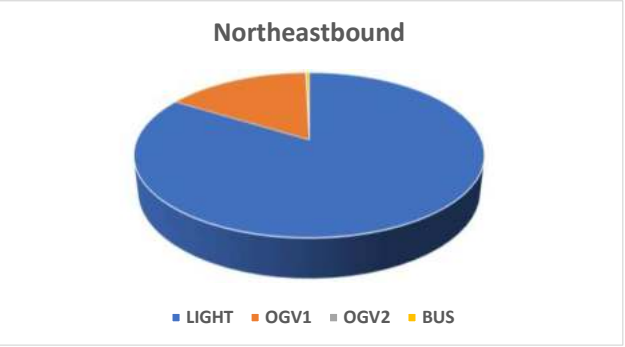
Granborough ATC, Hogshaw Road

Direction: Northeastbound

	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 19 Apr 2023	186	158	27	1	0
Thu 20 Apr 2023	217	174	41	0	2
Fri 21 Apr 2023	193	155	37	0	1
Sat 22 Apr 2023	156	139	17	0	0
Sun 23 Apr 2023	132	123	8	0	1
Mon 24 Apr 2023	200	163	37	0	0
Tue 25 Apr 2023	196	160	36	0	0
5 Day Ave.	198	162	36	0	1
7 Day Ave.	183	153	29	0	1

	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 19 Apr 2023	100.0%	84.9%	14.5%	0.5%	0.0%
Thu 20 Apr 2023	100.0%	80.2%	18.9%	0.0%	0.9%
Fri 21 Apr 2023	100.0%	80.3%	19.2%	0.0%	0.5%
Sat 22 Apr 2023	100.0%	89.1%	10.9%	0.0%	0.0%
Sun 23 Apr 2023	100.0%	93.2%	6.1%	0.0%	0.8%
Mon 24 Apr 2023	100.0%	81.5%	18.5%	0.0%	0.0%
Tue 25 Apr 2023	100.0%	81.6%	18.4%	0.0%	0.0%
5 Day Ave.	100.0%	81.7%	17.9%	0.1%	0.3%
7 Day Ave.	100.0%	83.8%	15.9%	0.1%	0.3%

Paul Castle Associates

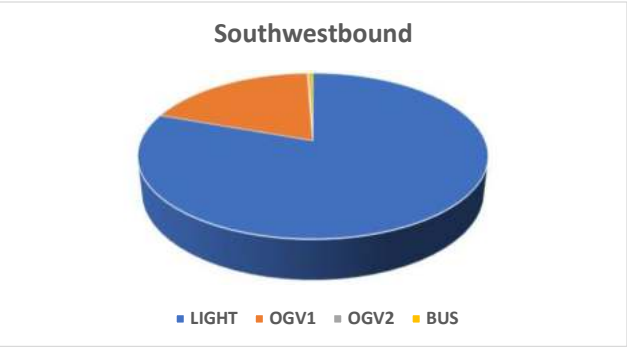


Direction: Southwestbound

	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 19 Apr 2023	193	150	43	0	0
Thu 20 Apr 2023	219	170	48	0	1
Fri 21 Apr 2023	185	144	38	1	2
Sat 22 Apr 2023	178	154	21	0	3
Sun 23 Apr 2023	136	126	10	0	0
Mon 24 Apr 2023	190	141	49	0	0
Tue 25 Apr 2023	186	150	35	1	0
5 Day Ave.	195	151	43	0	1
7 Day Ave.	184	148	35	0	1

	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 19 Apr 2023	100.0%	77.7%	22.3%	0.0%	0.0%
Thu 20 Apr 2023	100.0%	77.6%	21.9%	0.0%	0.5%
Fri 21 Apr 2023	100.0%	77.8%	20.5%	0.5%	1.1%
Sat 22 Apr 2023	100.0%	86.5%	11.8%	0.0%	1.7%
Sun 23 Apr 2023	100.0%	92.6%	7.4%	0.0%	0.0%
Mon 24 Apr 2023	100.0%	74.2%	25.8%	0.0%	0.0%
Tue 25 Apr 2023	100.0%	80.6%	18.8%	0.5%	0.0%
5 Day Ave.	100.0%	77.6%	21.9%	0.2%	0.3%
7 Day Ave.	100.0%	80.4%	19.0%	0.2%	0.5%

Paul Castle Associates

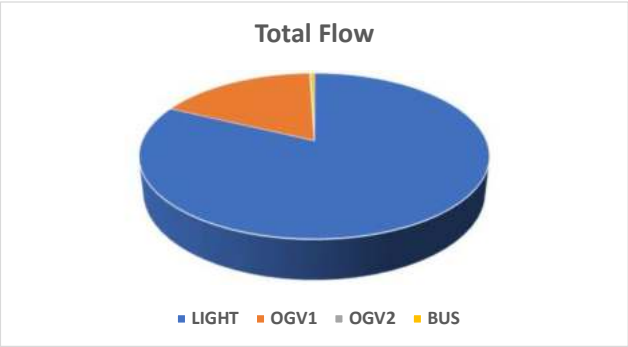


Direction: Total Flow

	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 19 Apr 2023	379	308	70	1	0
Thu 20 Apr 2023	436	344	89	0	3
Fri 21 Apr 2023	378	299	75	1	3
Sat 22 Apr 2023	334	293	38	0	3
Sun 23 Apr 2023	268	249	18	0	1
Mon 24 Apr 2023	390	304	86	0	0
Tue 25 Apr 2023	382	310	71	1	0
5 Day Ave.	393	313	78	1	1
7 Day Ave.	367	301	64	0	1

	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 19 Apr 2023	100.0%	81.3%	18.5%	0.3%	0.0%
Thu 20 Apr 2023	100.0%	78.9%	20.4%	0.0%	0.7%
Fri 21 Apr 2023	100.0%	79.1%	19.8%	0.3%	0.8%
Sat 22 Apr 2023	100.0%	87.7%	11.4%	0.0%	0.9%
Sun 23 Apr 2023	100.0%	92.9%	6.7%	0.0%	0.4%
Mon 24 Apr 2023	100.0%	77.9%	22.1%	0.0%	0.0%
Tue 25 Apr 2023	100.0%	81.2%	18.6%	0.3%	0.0%
5 Day Ave.	100.0%	79.6%	19.9%	0.2%	0.3%
7 Day Ave.	100.0%	82.1%	17.4%	0.1%	0.4%

Paul Castle Associates



Winslow ATC, East Claydon Road



Direction: Eastbound

Hour Beginning	Tue 19/09/2023	Wed 20/09/2023	Thu 21/09/2023	Fri 22/09/2023	Sat 23/09/2023	Sun 24/09/2023	Mon 25/09/2023	5-Day Ave.	7-Day Ave.
00:00	2	0	0	7	4	5	0	2	3
01:00	1	1	2	0	3	8	4	2	3
02:00	2	1	1	1	0	4	0	1	1
03:00	4	5	1	2	0	1	0	2	2
04:00	2	0	0	3	2	0	5	2	2
05:00	14	9	12	9	5	4	14	12	10
06:00	47	42	35	28	10	10	35	37	30
07:00	90	87	97	82	18	15	81	87	67
08:00	124	147	126	119	55	19	135	130	104
09:00	71	77	69	57	65	56	57	66	65
10:00	72	74	61	70	67	43	63	68	64
11:00	70	83	53	89	59	75	61	71	70
12:00	66	61	75	75	62	55	64	68	65
13:00	65	59	79	70	84	55	75	70	70
14:00	84	83	81	78	98	53	83	82	80
15:00	74	99	101	118	81	49	92	97	88
16:00	123	105	124	126	71	73	129	121	107
17:00	155	130	157	122	65	47	139	141	116
18:00	79	78	80	75	45	42	77	78	68
19:00	38	40	41	36	33	22	43	40	36
20:00	20	17	23	29	22	23	29	24	23
21:00	8	14	11	18	25	12	13	13	14
22:00	12	4	7	18	16	2	6	9	9
23:00	2	4	3	8	12	1	0	3	4
Total	1073	1083	1103	1081	770	582	1056	1079	964
12H(7-19)	1186	1196	1213	1192	860	649	1176	1193	1067
16H(6-22)	1200	1204	1223	1218	888	652	1182	1205	1081
24H(0-24)	1225	1220	1239	1240	902	674	1205	1226	1101
AM Peak	08:00 124	08:00 147	08:00 126	08:00 119	10:00 67	11:00 75	08:00 135	08:00 130	08:00 104
PM Peak	17:00 155	17:00 130	17:00 157	16:00 126	14:00 98	16:00 73	17:00 139	17:00 141	17:00 116

Paul Castle Associates

Direction: Westbound

Hour Beginning	Tue 19/09/2023	Wed 20/09/2023	Thu 21/09/2023	Fri 22/09/2023	Sat 23/09/2023	Sun 24/09/2023	Mon 25/09/2023	5-Day Ave.	7-Day Ave.
00:00	1	5	2	6	7	8	1	3	4
01:00	3	2	3	2	5	2	2	2	3
02:00	1	0	0	1	1	1	0	0	1
03:00	0	1	1	0	0	1	2	1	1
04:00	0	0	2	1	1	1	6	2	2
05:00	12	14	20	14	3	6	13	15	12
06:00	98	88	90	100	31	9	94	94	73
07:00	150	141	162	107	32	23	131	138	107
08:00	115	105	135	114	37	24	112	116	92
09:00	80	89	89	79	54	40	88	85	74
10:00	53	54	68	59	72	69	65	60	63
11:00	52	63	64	56	98	60	70	61	66
12:00	59	49	70	73	92	47	58	62	64
13:00	70	63	67	65	65	72	46	62	64
14:00	60	67	81	61	66	49	84	71	67
15:00	87	79	89	107	61	36	82	89	77
16:00	85	91	90	96	49	50	79	88	77
17:00	115	96	108	83	52	51	97	100	86
18:00	79	69	75	74	61	40	82	76	69
19:00	38	40	43	44	46	25	44	42	40
20:00	29	16	23	30	15	24	28	25	24
21:00	14	20	18	27	14	14	18	19	18
22:00	13	18	16	15	18	8	10	14	14
23:00	2	9	8	11	13	6	6	7	8
Total	1005	966	1098	974	739	561	994	1007	905
12H(7-19)	1184	1130	1272	1175	845	633	1178	1188	1060
16H(6-22)	1199	1157	1296	1201	876	647	1194	1209	1081
24H(0-24)	1216	1179	1324	1225	893	666	1218	1232	1103
AM Peak	07:00 150	07:00 141	07:00 162	08:00 114	11:00 98	10:00 69	07:00 131	07:00 138	07:00 107
PM Peak	17:00 115	17:00 96	17:00 108	15:00 107	12:00 92	13:00 72	17:00 97	17:00 100	17:00 86

Paul Castle Associates

Direction: Total Flow

Hour Beginning	Tue 19/09/2023	Wed 20/09/2023	Thu 21/09/2023	Fri 22/09/2023	Sat 23/09/2023	Sun 24/09/2023	Mon 25/09/2023	5-Day Ave.	7-Day Ave.
00:00	3	5	2	13	11	13	1	5	7
01:00	4	3	5	2	8	10	6	4	5
02:00	3	1	1	2	1	5	0	1	2
03:00	4	6	2	2	0	2	2	3	3
04:00	2	0	2	4	3	1	11	4	3
05:00	26	23	32	23	8	10	27	26	21
06:00	145	130	125	128	41	19	129	131	102
07:00	240	228	259	189	50	38	212	226	174
08:00	239	252	261	233	92	43	247	246	195
09:00	151	166	158	136	119	96	145	151	139
10:00	125	128	129	129	139	112	128	128	127
11:00	122	146	117	145	157	135	131	132	136
12:00	125	110	145	148	154	102	122	130	129
13:00	135	122	146	135	149	127	121	132	134
14:00	144	150	162	139	164	102	167	152	147
15:00	161	178	190	225	142	85	174	186	165
16:00	208	196	214	222	120	123	208	210	184
17:00	270	226	265	205	117	98	236	240	202
18:00	158	147	155	149	106	82	159	154	137
19:00	76	80	84	80	79	47	87	81	76
20:00	49	33	46	59	37	47	57	49	47
21:00	22	34	29	45	39	26	31	32	32
22:00	25	22	23	33	34	10	16	24	23
23:00	4	13	11	19	25	7	6	11	12
Total	2078	2049	2201	2055	1509	1143	2050	2087	1869
12H(7-19)	2370	2326	2485	2367	1705	1282	2354	2380	2127
16H(6-22)	2399	2361	2519	2419	1764	1299	2376	2415	2162
24H(0-24)	2441	2399	2563	2465	1795	1340	2423	2458	2204
AM Peak	07:00 240	08:00 252	08:00 261	08:00 233	11:00 157	11:00 135	08:00 247	08:00 246	08:00 195
PM Peak	17:00 270	17:00 226	17:00 265	15:00 225	14:00 164	13:00 127	17:00 236	17:00 240	17:00 202

Paul Castle Associates



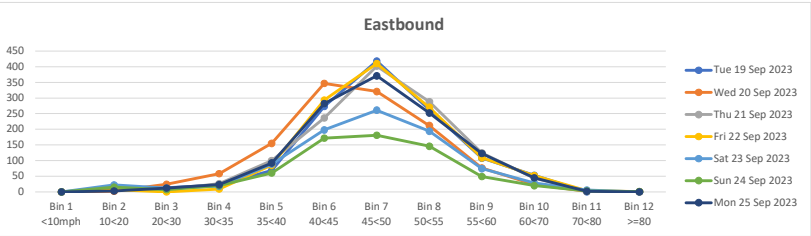
Network 18 Sensor ID: 18-38-19 BST
+51.929437, -0.905838 +12.00m
East Claydon Road, Winslow
Buckingham
England
MK18
United Kingdom

Winslow ATC, East Claydon Road

Direction: Eastbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<20	Bin 3 20<30	Bin 4 30<35	Bin 5 35<40	Bin 6 40<45	Bin 7 45<50	Bin 8 50<55	Bin 9 55<60	Bin 10 60<70	Bin 11 70<80	Bin 12 >=80
Tue 19 Sep 2023	1225	55.5	47.9	7.4	0	6	13	22	68	273	418	263	108	53	0	1
Wed 20 Sep 2023	1220	53.2	45.5	7.5	0	2	24	58	155	347	321	212	76	23	2	0
Thu 21 Sep 2023	1239	55.7	48.0	7.5	0	8	7	26	100	236	402	288	125	44	2	1
Fri 22 Sep 2023	1240	55.5	48.2	7.1	0	7	0	9	85	293	410	270	109	52	4	1
Sat 23 Sep 2023	902	55.9	46.6	8.9	0	22	12	18	89	198	261	194	74	28	6	0
Sun 24 Sep 2023	674	55.5	46.4	8.8	0	15	7	20	60	172	181	146	49	20	3	1
Mon 25 Sep 2023	1205	55.3	47.7	7.3	0	3	12	23	92	282	371	252	123	45	2	0
5 Day Ave.	1226	55.1	47.4	7.4	0	5	11	28	100	286	384	257	108	43	2	1
7 Day Ave.	1101	55.3	47.2	7.8	0	9	11	25	93	257	338	232	95	38	3	1

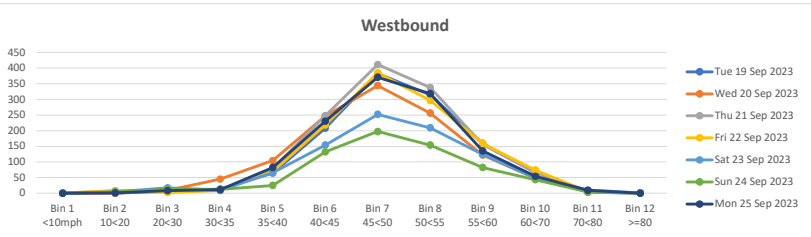
Paul Castle Associates



Direction: Westbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<20	Bin 3 20<30	Bin 4 30<35	Bin 5 35<40	Bin 6 40<45	Bin 7 45<50	Bin 8 50<55	Bin 9 55<60	Bin 10 60<70	Bin 11 70<80	Bin 12 >=80
Tue 19 Sep 2023	1216	56.7	49.5	7.0	0	0	6	13	64	208	382	314	159	67	3	0
Wed 20 Sep 2023	1179	55.7	47.8	7.6	0	0	9	45	104	246	344	256	122	48	4	1
Thu 21 Sep 2023	1324	56.7	49.0	7.4	0	8	7	8	79	247	411	337	156	65	6	0
Fri 22 Sep 2023	1225	57.3	49.4	7.6	1	7	2	9	69	218	384	296	159	74	5	1
Sat 23 Sep 2023	893	57.8	49.0	8.5	0	4	17	9	65	154	252	209	124	48	10	1
Sun 24 Sep 2023	666	57.6	48.9	8.3	0	4	13	12	25	132	197	154	82	43	4	0
Mon 25 Sep 2023	1218	56.5	49.0	7.2	0	1	8	11	82	230	370	318	135	54	9	0
5 Day Ave.	1232	56.6	48.9	7.4	0	3	6	17	80	230	378	304	146	62	5	0
7 Day Ave.	1103	56.9	48.9	7.7	0	3	9	15	70	205	334	269	134	57	6	0

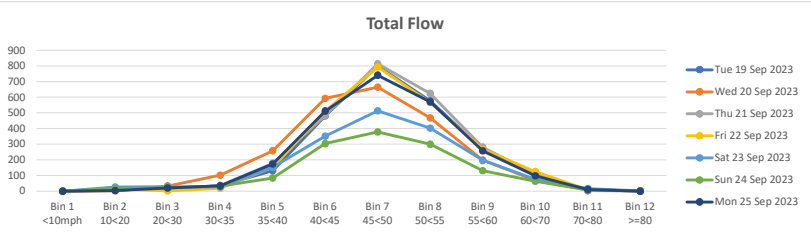
Paul Castle Associates



Direction: Total Flow

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<20	Bin 3 20<30	Bin 4 30<35	Bin 5 35<40	Bin 6 40<45	Bin 7 45<50	Bin 8 50<55	Bin 9 55<60	Bin 10 60<70	Bin 11 70<80	Bin 12 >=80
Tue 19 Sep 2023	2441	56.2	48.7	7.2	0	6	19	35	132	481	800	577	267	120	3	1
Wed 20 Sep 2023	2399	54.5	46.6	7.6	0	2	33	103	259	593	665	468	198	71	6	1
Thu 21 Sep 2023	2563	56.3	48.5	7.5	0	16	14	34	179	483	813	625	281	109	8	1
Fri 22 Sep 2023	2465	56.4	48.8	7.4	1	14	2	18	154	511	794	566	268	126	9	2
Sat 23 Sep 2023	1795	57.0	47.8	8.8	0	26	29	27	154	352	513	403	198	76	16	1
Sun 24 Sep 2023	1340	56.6	47.7	8.6	0	19	20	32	85	304	378	300	131	63	7	1
Mon 25 Sep 2023	2423	55.9	48.4	7.3	0	4	20	34	174	512	741	570	258	99	11	0
5 Day Ave.	2458	55.9	48.2	7.4	0	8	18	45	180	516	763	561	254	105	7	1
7 Day Ave.	2204	56.1	48.1	7.8	0	12	20	40	162	462	672	501	229	95	9	1

Paul Castle Associates



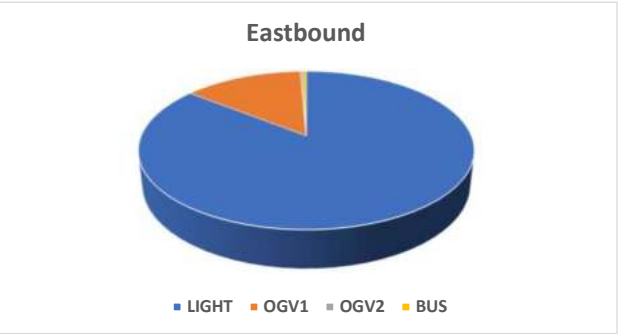
Winslow ATC, East Claydon Road

Direction: Eastbound

	Total Volume	LIGHT	OGV1	OGV2	BUS
Tue 19 Sep 2023	1225	1045	169	6	5
Wed 20 Sep 2023	1220	1026	184	3	7
Thu 21 Sep 2023	1239	1044	184	5	6
Fri 22 Sep 2023	1240	1058	175	1	6
Sat 23 Sep 2023	902	815	85	1	1
Sun 24 Sep 2023	674	614	58	1	1
Mon 25 Sep 2023	1205	996	198	3	8
5 Day Ave.	1226	1034	182	4	6
7 Day Ave.	1101	943	150	3	5

	Total Volume	LIGHT	OGV1	OGV2	BUS
Tue 19 Sep 2023	100.0%	85.3%	13.8%	0.5%	0.4%
Wed 20 Sep 2023	100.0%	84.1%	15.1%	0.2%	0.6%
Thu 21 Sep 2023	100.0%	84.3%	14.9%	0.4%	0.5%
Fri 22 Sep 2023	100.0%	85.3%	14.1%	0.1%	0.5%
Sat 23 Sep 2023	100.0%	90.4%	9.4%	0.1%	0.1%
Sun 24 Sep 2023	100.0%	91.1%	8.6%	0.1%	0.1%
Mon 25 Sep 2023	100.0%	82.7%	16.4%	0.2%	0.7%
5 Day Ave.	100.0%	84.3%	14.8%	0.3%	0.5%
7 Day Ave.	100.0%	85.6%	13.7%	0.3%	0.4%

Paul Castle Associates

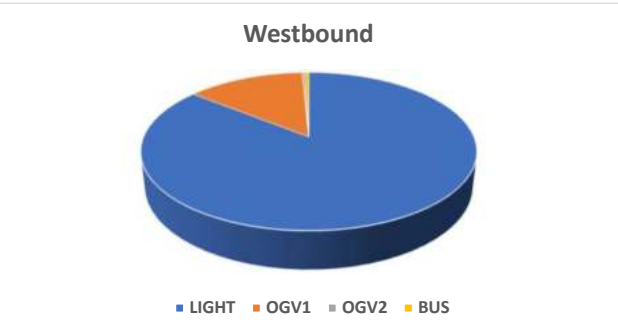


Direction: Westbound

	Total Volume	LIGHT	OGV1	OGV2	BUS
Tue 19 Sep 2023	1216	1035	169	7	5
Wed 20 Sep 2023	1179	1001	169	4	5
Thu 21 Sep 2023	1324	1118	193	4	9
Fri 22 Sep 2023	1225	1048	170	0	7
Sat 23 Sep 2023	893	806	83	2	2
Sun 24 Sep 2023	666	596	65	3	2
Mon 25 Sep 2023	1218	1015	194	3	6
5 Day Ave.	1232	1043	179	4	6
7 Day Ave.	1103	946	149	3	5

	Total Volume	LIGHT	OGV1	OGV2	BUS
Tue 19 Sep 2023	100.0%	85.1%	13.9%	0.6%	0.4%
Wed 20 Sep 2023	100.0%	84.9%	14.3%	0.3%	0.4%
Thu 21 Sep 2023	100.0%	84.4%	14.6%	0.3%	0.7%
Fri 22 Sep 2023	100.0%	85.6%	13.9%	0.0%	0.6%
Sat 23 Sep 2023	100.0%	90.3%	9.3%	0.2%	0.2%
Sun 24 Sep 2023	100.0%	89.5%	9.8%	0.5%	0.3%
Mon 25 Sep 2023	100.0%	83.3%	15.9%	0.2%	0.5%
5 Day Ave.	100.0%	84.7%	14.5%	0.3%	0.5%
7 Day Ave.	100.0%	85.7%	13.5%	0.3%	0.5%

Paul Castle Associates

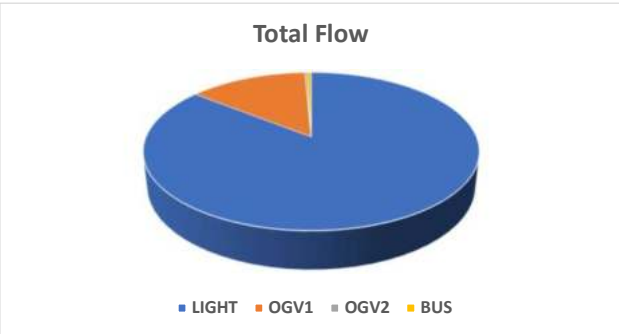


Direction: Total Flow

	Total Volume	LIGHT	OGV1	OGV2	BUS
Tue 19 Sep 2023	2441	2080	338	13	10
Wed 20 Sep 2023	2399	2027	353	7	12
Thu 21 Sep 2023	2563	2162	377	9	15
Fri 22 Sep 2023	2465	2106	345	1	13
Sat 23 Sep 2023	1795	1621	168	3	3
Sun 24 Sep 2023	1340	1210	123	4	3
Mon 25 Sep 2023	2423	2011	392	6	14
5 Day Ave.	2458	2077	361	7	13
7 Day Ave.	2204	1888	299	6	10

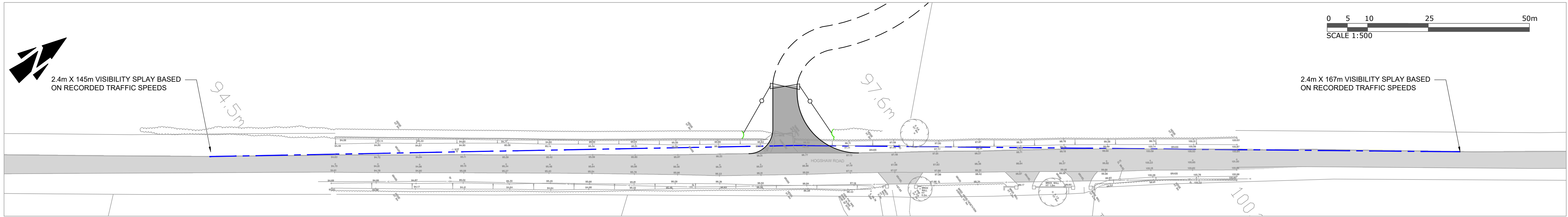
	Total Volume	LIGHT	OGV1	OGV2	BUS
Tue 19 Sep 2023	100.0%	85.2%	13.8%	0.5%	0.4%
Wed 20 Sep 2023	100.0%	84.5%	14.7%	0.3%	0.5%
Thu 21 Sep 2023	100.0%	84.4%	14.7%	0.4%	0.6%
Fri 22 Sep 2023	100.0%	85.4%	14.0%	0.0%	0.5%
Sat 23 Sep 2023	100.0%	90.3%	9.4%	0.2%	0.2%
Sun 24 Sep 2023	100.0%	90.3%	9.2%	0.3%	0.2%
Mon 25 Sep 2023	100.0%	83.0%	16.2%	0.2%	0.6%
5 Day Ave.	100.0%	84.5%	14.7%	0.3%	0.5%
7 Day Ave.	100.0%	85.7%	13.6%	0.3%	0.5%

Paul Castle Associates

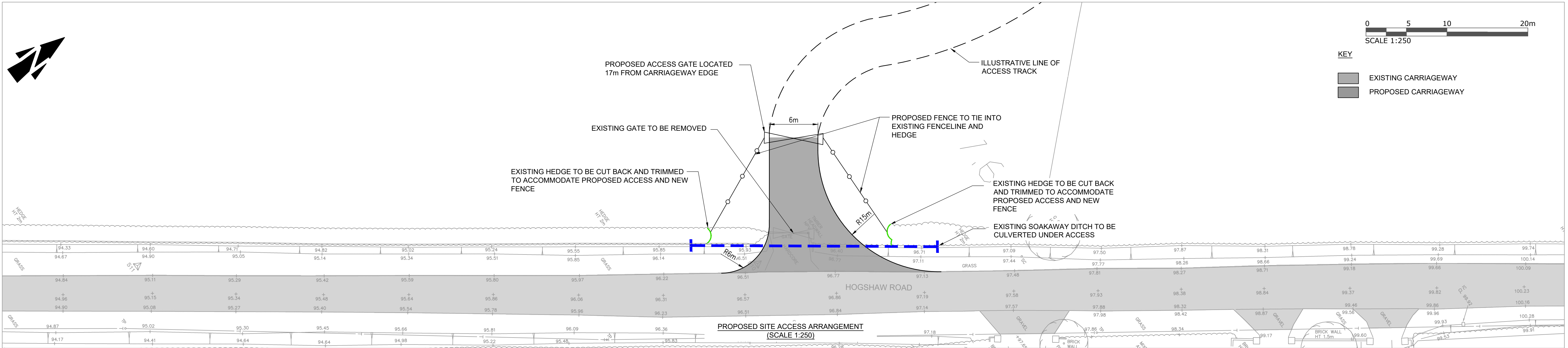


APPENDIX C

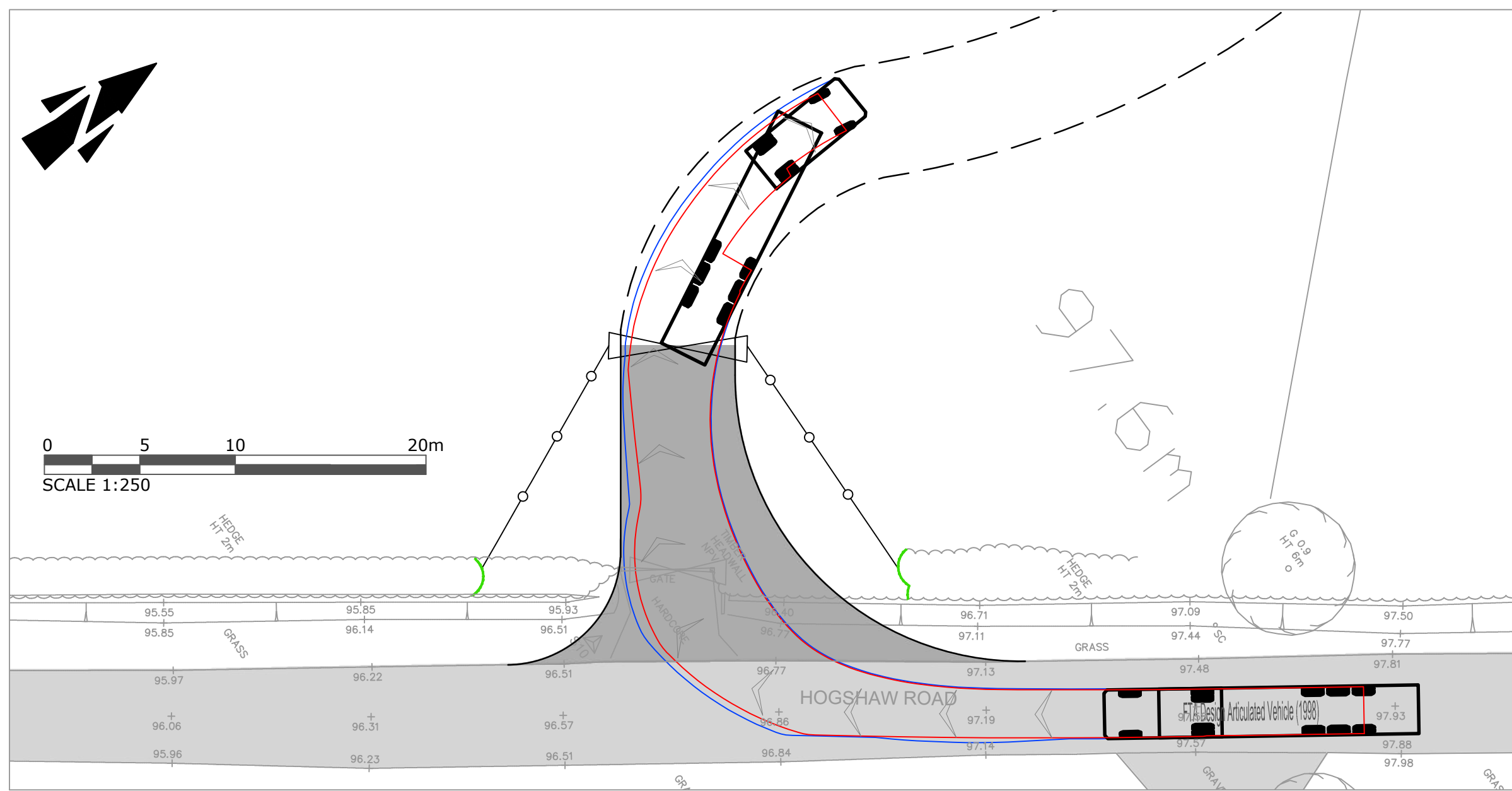
Hogshaw Road – Proposed Site Access Arrangement



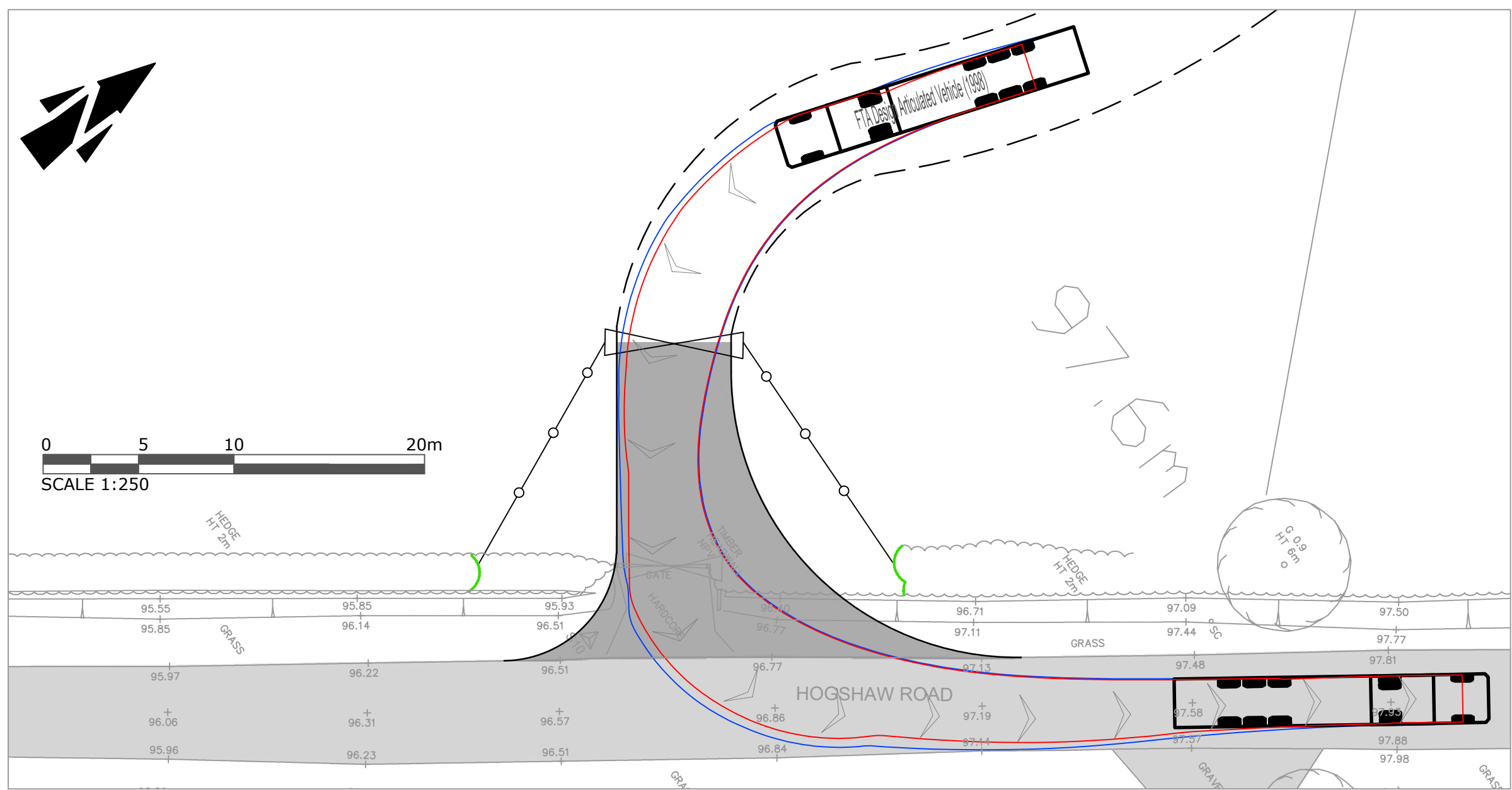
PROPOSED ACCESS VISIBILITY SPLAYS
(SCALE 1:500)



PROPOSED SITE ACCESS ARRANGEMENT
(SCALE 1:250)



16.5m ARTICULATED VEHICLE RIGHT TURN INTO SITE MANOEUVRE
(SCALE 1:250)

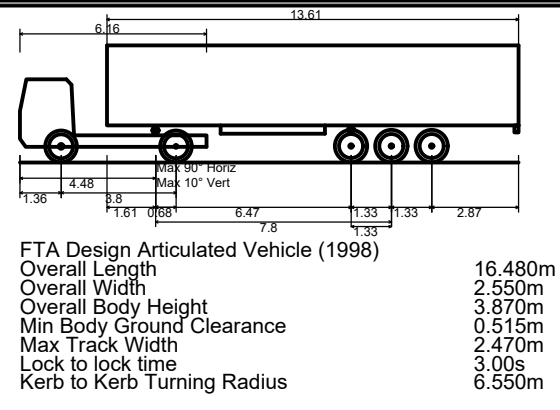


16.5m ARTICULATED VEHICLE LEFT TURN OUT OF SITE MANOEUVRE
(SCALE 1:250)

REV	DETAILS	DRAWN	CHECKED	DATE
A	TOPOGRAPHICAL SURVEY ADDED PLAN ADJUSTED TO SUIT.	SLW	CDM	25.05.2023

- NOTES:
1. This drawing is for illustrative purposes only and not for construction.
 2. This drawing is to be read and printed in colour.

16.5m ARTICULATED VEHICLE PROFILE
(SCALE 1:250)



PROJECT	EAST CLAYDON BATTERY ENERGY STORAGE
DRAWING TITLE:	SITE ACCESS FROM HOGSHAW ROAD
DRAWN	SLW
CHECKED	CDM
DATE	05.05.2023
SCALES	As Shown
SHEET SIZE	A1

CLIENT	STATERA ENERGY LTD
MILES WHITE TRANSPORT	
DRAWING NUMBER	23030-GA01
REVISION	A

APPENDIX D

Hogshaw Road – Visibility Calculations

Stopping Sight Distance Calculator

Formula for calculating SSD (from Manual for Streets 2): $SSD = vt + v^2/2(d+0.1a)$

v = Speed of vehicle (m/s)

t = driver perception-reaction time (seconds)

d = deceleration rate (m/s)

a = longitudinal gradient (%)

Fill in the white boxes only

Enter the vehicle 85%ile speed below (see also the note)

51.7 mph 23.112 m/s

v = 23.112 m/s

t = 2 taken from MfS2 table 10.1

d = 2.453 Vehicle type All vehicles 2

a = -2 +ve for upgrades and -ve for downgrades

SSD = 165 m

SSD adjusted for bonnet length (MfS only) = 167 m (SSD + 2.4m)

Conversions

mph 51.7 to kph 83.2

kph to mph 0.0

Table 10.1 MfS2

Design speed	Vehicle Type	Reaction Time t (s)	Deceleration rate d (m/s) (ie factor x 9.81)	Standard
60kph and below	Light vehicles	1.5	0.450 g	MfS2
	HGV's	1.5	0.375 g	MfS2
	Buses	1.5	0.375 g	MfS2
Above 60kph	All vehicles 1	2	0.375 g (Absolute minimum)	TD9/93
	All vehicles 2	2	0.250 g (Desirable minimum)	TD9/93

NOTE: To convert dry weather spot speed to the wet weather journey speed deduct 4kph for single carriageways, 8kph for dual carriageways.

Stopping Sight Distance Calculator

Formula for calculating SSD (from Manual for Streets 2): $SSD = vt + v^2/2(d+0.1a)$

v = Speed of vehicle (m/s)

t = driver perception-reaction time (seconds)

d = deceleration rate (m/s)

a = longitudinal gradient (%)

Fill in the white boxes only

Enter the vehicle 85%ile speed below (see also the note)

50.7 mph 22.665 m/s

v = 22.665 m/s

t = 2 taken from MfS2 table 10.1

d = 2.453 Vehicle type All vehicles 2

a = 2 +ve for upgrades and -ve for downgrades

SSD = 142 m

SSD adjusted for bonnet length (MfS only) = 145 m (SSD + 2.4m)

Conversions

mph 50.7 to kph 81.6

kph to mph 0.0

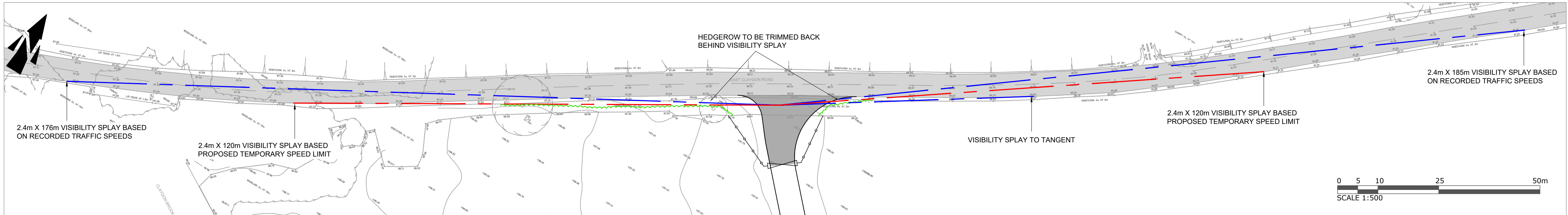
Table 10.1 MfS2

Design speed	Vehicle Type	Reaction Time t (s)	Deceleration rate d (m/s) (ie factor x 9.81)	Standard
60kph and below	Light vehicles	1.5	0.450 g	MfS2
	HGV's	1.5	0.375 g	MfS2
	Buses	1.5	0.375 g	MfS2
Above 60kph	All vehicles 1	2	0.375 g (Absolute minimum)	TD9/93
	All vehicles 2	2	0.250 g (Desirable minimum)	TD9/93

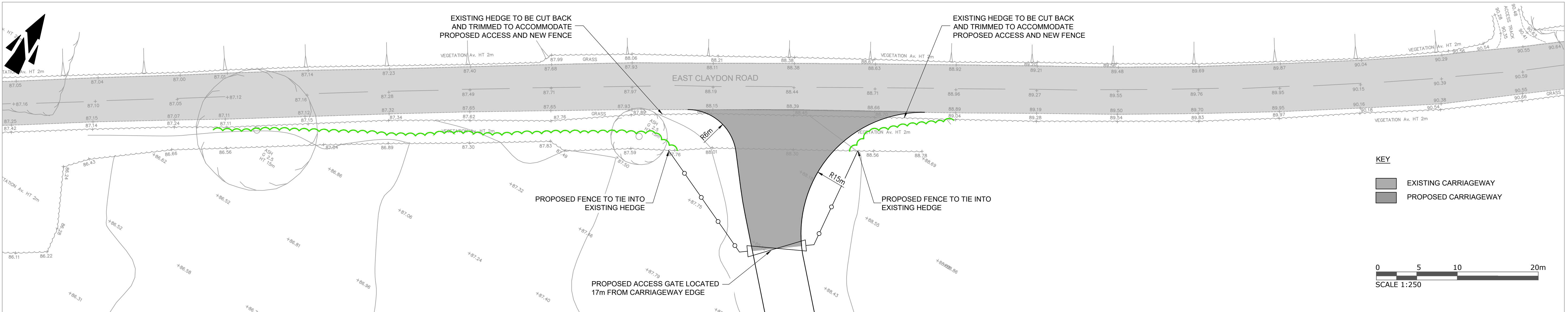
NOTE: To convert dry weather spot speed to the wet weather journey speed deduct 4kph for single carriageways, 8kph for dual carriageways.

APPENDIX E

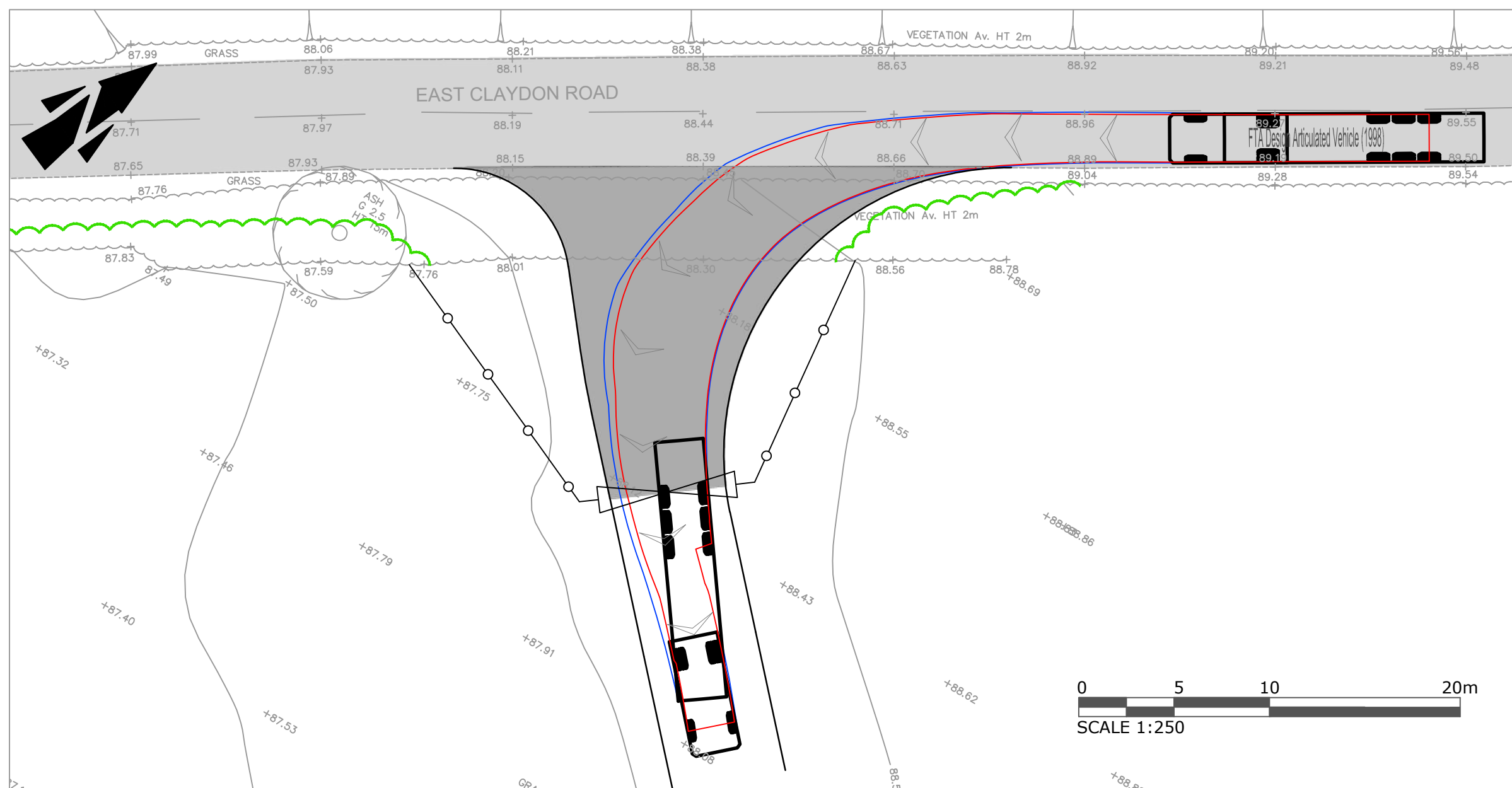
East Claydon Road – Proposed Site Access Arrangement



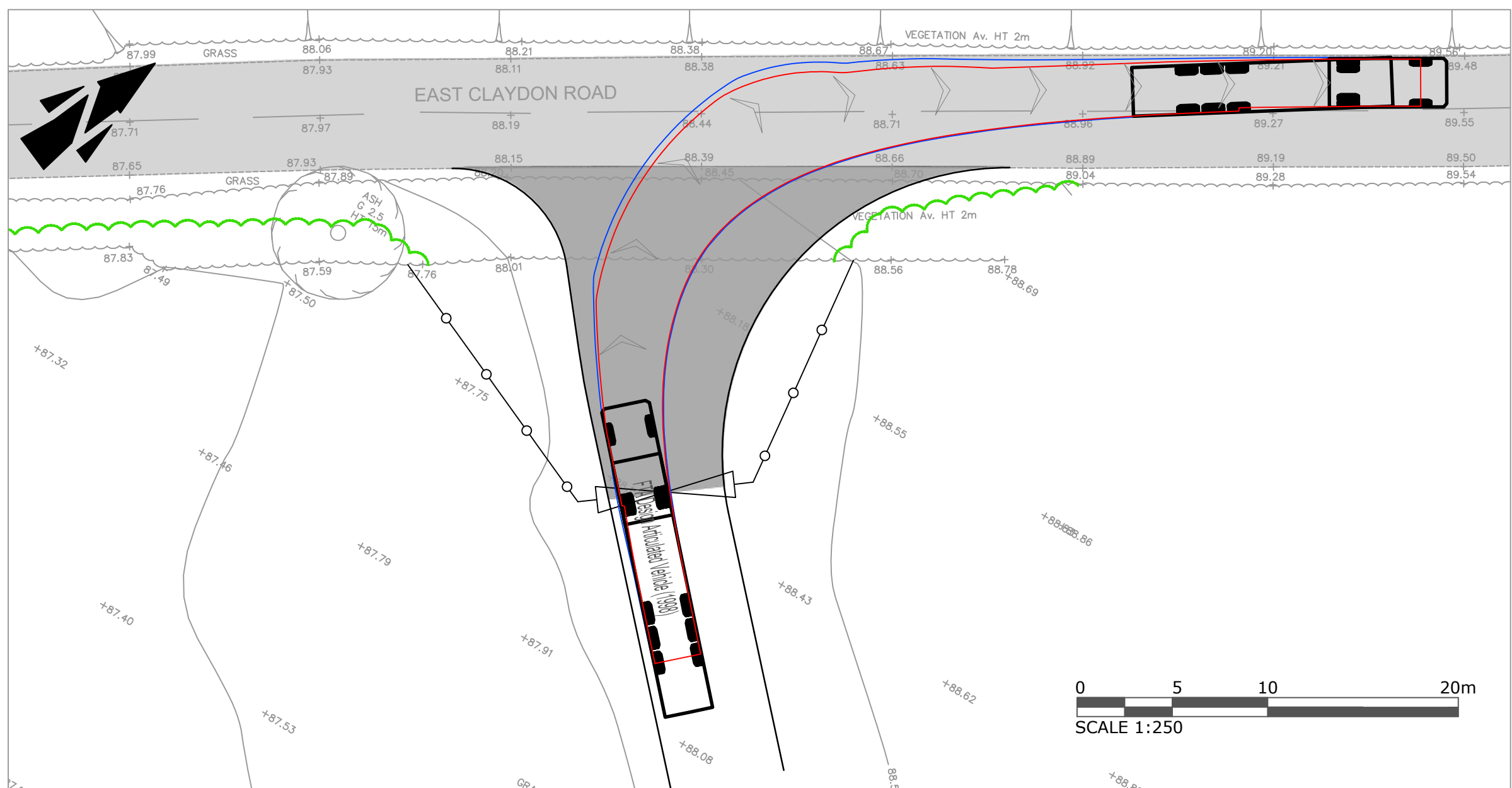
PROPOSED ACCESS VISIBILITY SPLAYS
(SCALE 1:500)



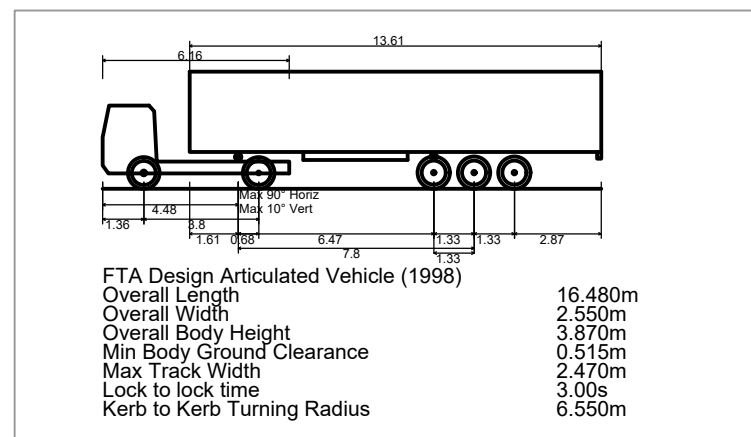
PROPOSED SITE ACCESS ARRANGEMENT
(SCALE 1:250)



16.5m ARTICULATED VEHICLE LEFT TURN INTO SITE MANOEUVRE
(SCALE 1:250)



16.5m ARTICULATED VEHICLE RIGHT TURN OUT OF SITE MANOEUVRE
(SCALE 1:250)



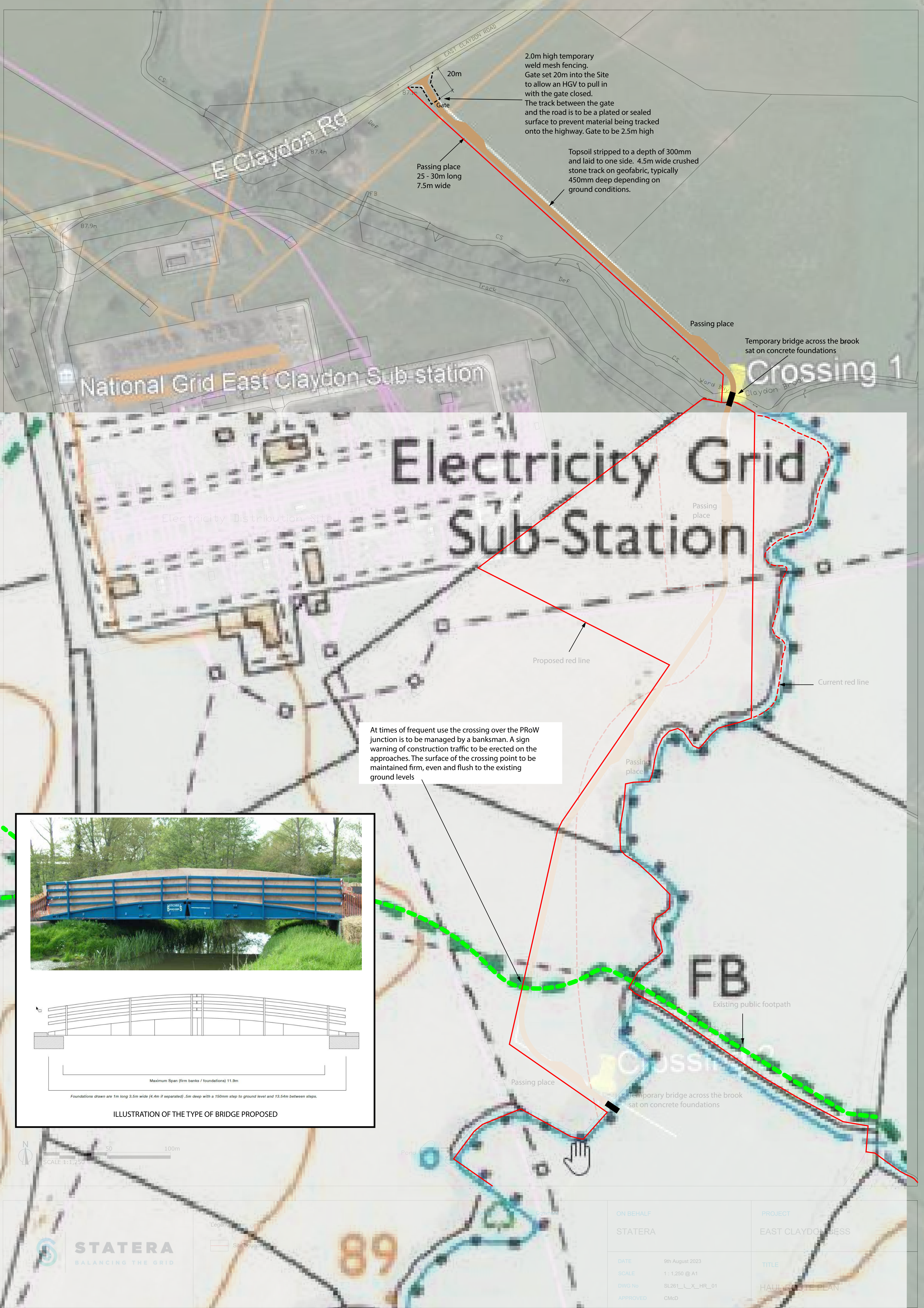
16.5m ARTICULATED VEHICLE PROFILE
(SCALE 1:250)

REV	DETAILS	DRAWN	CHECKED	DATE

- NOTES:
- This drawing is for illustrative purposes only and not for construction.
 - This drawing is to be read and printed in colour.

PROJECT	EAST CLAYDON BATTERY ENERGY STORAGE
DRAWING TITLE	CONSTRUCTION ACCESS FROM EAST CLAYDON ROAD
DRAWN	SLW
CHECKED	CDM
DATE	13.10.2023
SCALES	As Shown
SHEET SIZE	A1

CLIENT	STATERA ENERGY LTD
MILES WHITE TRANSPORT	
DRAWING NUMBER	23030-GA02
REVISION	-



2.0m high temporary weld mesh fencing. Gate set 20m into the Site to allow an HGV to pull in with the gate closed. The track between the gate and the road is to be a plated or sealed surface to prevent material being tracked onto the highway. Gate to be 2.5m high

Passing place 25 - 30m long 7.5m wide

Topsoil stripped to a depth of 300mm and laid to one side. 4.5m wide crushed stone track on geofabric, typically 450mm deep depending on ground conditions.

Passing place

Temporary bridge across the brook sat on concrete foundations

Crossing 1

Electricity Grid Sub-Station

Electricity Distribution Site

Proposed red line

Current red line

At times of frequent use the crossing over the ProW junction is to be managed by a banksman. A sign warning of construction traffic to be erected on the approaches. The surface of the crossing point to be maintained firm, even and flush to the existing ground levels

Passing place

FB

Existing public footpath

Crossing 2

Passing place

Temporary bridge across the brook sat on concrete foundations

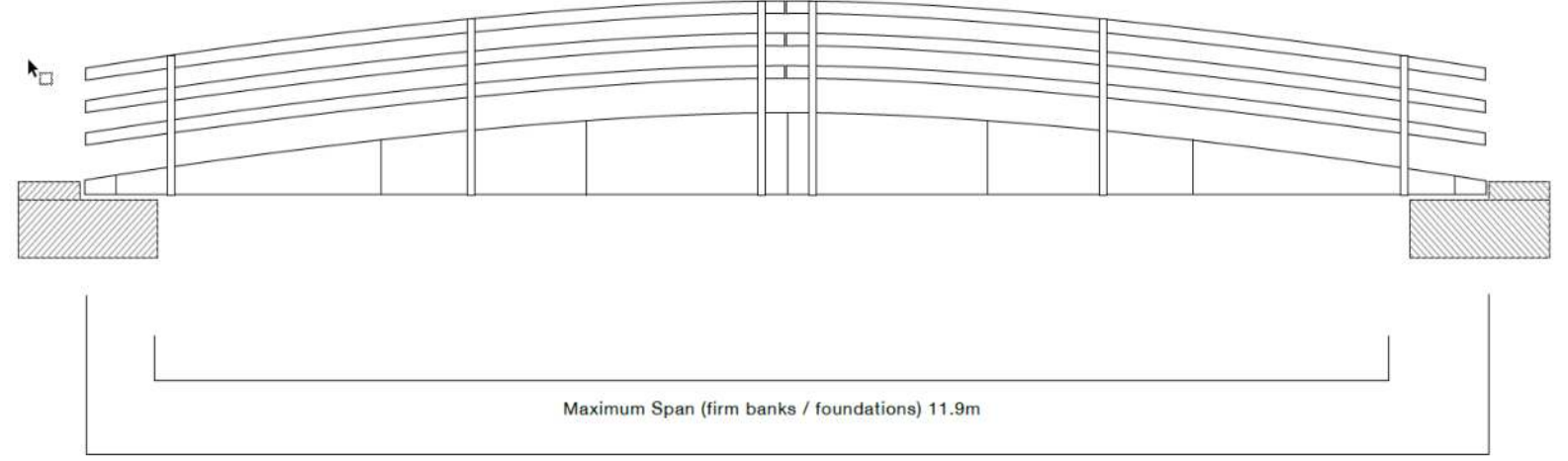
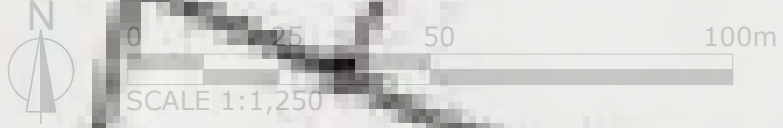


ILLUSTRATION OF THE TYPE OF BRIDGE PROPOSED



Legend

Site boundary

ON BEHALF

STATERA

PROJECT

EAST CLAYDON DESS

DATE

9th August 2023

SCALE

1 : 1,250 @ A1

DWG No

SL261_L_X_HR_01

APPROVED

CMcD

TITLE

HAUL ROUTE PLAN

APPENDIX F

East Claydon Road – Visibility Calculations

Stopping Sight Distance Calculator

Formula for calculating SSD (from Manual for Streets 2): $SSD = vt + v^2/2(d+0.1a)$

v = Speed of vehicle (m/s)

t = driver perception-reaction time (seconds)

d = deceleration rate (m/s)

a = longitudinal gradient (%)

Fill in the white boxes only

Enter the vehicle 85%ile speed below (see also the note)

55.3 mph 24.721 m/s

v = 24.721 m/s

t = 2 taken from MfS2 table 10.1

d = 2.453 Vehicle type All vehicles 2

a = 0 +ve for upgrades and -ve for downgrades

SSD = 174 m

SSD adjusted for bonnet length (MfS only) = 176 m (SSD + 2.4m)

Conversions

mph 55.3 to kph 89.0

kph to mph 0.0

Table 10.1 MfS2

Design speed	Vehicle Type	Reaction Time t (s)	Deceleration rate d (m/s) (ie factor x 9.81)	Standard
60kph and below	Light vehicles	1.5	0.450 g	MfS2
	HGV's	1.5	0.375 g	MfS2
	Buses	1.5	0.375 g	MfS2
Above 60kph	All vehicles 1	2	0.375 g (Absolute minimum)	TD9/93
	All vehicles 2	2	0.250 g (Desirable minimum)	TD9/93

NOTE: To convert dry weather spot speed to the wet weather journey speed deduct 4kph for single carriageways, 8kph for dual carriageways.

Stopping Sight Distance Calculator

Formula for calculating SSD (from Manual for Streets 2): $SSD = vt + v^2/2(d+0.1a)$

v = Speed of vehicle (m/s)

t = driver perception-reaction time (seconds)

d = deceleration rate (m/s)

a = longitudinal gradient (%)

Fill in the white boxes only

Enter the vehicle 85%ile speed below (see also the note)

56.9 mph 25.437 m/s

v = 25.437 m/s

t = 2 taken from MfS2 table 10.1

d = 2.453 Vehicle type All vehicles 2

a = 0 +ve for upgrades and -ve for downgrades

SSD = 183 m

SSD adjusted for bonnet length (MfS only) = 185 m (SSD + 2.4m)

Conversions

mph 56.9 to kph 91.6

kph to mph 0.0

Table 10.1 MfS2

Design speed	Vehicle Type	Reaction Time t (s)	Deceleration rate d (m/s) (ie factor x 9.81)	Standard
60kph and below	Light vehicles	1.5	0.450 g	MfS2
	HGV's	1.5	0.375 g	MfS2
	Buses	1.5	0.375 g	MfS2
Above 60kph	All vehicles 1	2	0.375 g (Absolute minimum)	TD9/93
	All vehicles 2	2	0.250 g (Desirable minimum)	TD9/93

NOTE: To convert dry weather spot speed to the wet weather journey speed deduct 4kph for single carriageways, 8kph for dual carriageways.