

**Appeal Under the Town and Country
Planning Act 1990 (as amended) against
Decision of Refusal by Wrexham County
Borough Council**

**ON BEHALF OF
Site Plan UK LLP**

**Land East of Bottom Road, Summerhill,
Wrexham**

PROOF OF EVIDENCE - HIGHWAYS

18.08.2017



Quality Management

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Signatures



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1. Introduction

1.1. QUALIFICATIONS AND EXPERIENCE

- 1.1.1. My name is Eric Appleton; I have an Honours Degree in Civil Engineering obtained at Liverpool University. I also hold a Diploma in Management Studies gained from the former Trent Polytechnic in Nottingham. I am a Chartered Civil Engineer and a Member of the Institution of Civil Engineers and Chartered Institution of Highways and Transportation. I have been employed for over 37 years in the Highways and Traffic Management field, mainly with various Local Authorities and consultancies.
- 1.1.2. During my time with Local Authorities I gained a wide experience in the assessment and design of solutions to a variety of highway, traffic management and road safety problems. Particular to this Appeal, my experience covers issues relating to the impact of development on existing highway infrastructure.
- 1.1.3. Since I moved in to the private sector my work has involved the assessment of the transport impact of large and small development proposals and reporting this to the Local Authority in support of planning applications, representing clients at planning appeals and the provision of general highway related advice. Via Solutions specialises in advising clients in both the public and private sectors on all matters relating to highways, traffic and transportation.
- 1.1.4. I have visited the site and surrounding areas on numerous occasions and the following sections detail my findings on the proposed development on the site (the Appeal Site) on land to the east of Bottom Road in Summerhill in the County Borough of Wrexham and its impact on the local highway network.

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- 1.1.5. The evidence which I have prepared and provide for this appeal in this proof of evidence is true and has been prepared and is given in accordance with the guidance of my professional institution and I confirm that the opinions expressed are my true and professional opinions.
- 1.1.6. I confirm that my evidence includes all facts that I regard as being relevant to the opinions that I have expressed and that attention has been drawn to any matter that would affect the validity of those opinions.
- 1.1.7. I confirm that in preparing my evidence I have assumed the same duty that would apply to me when giving expert opinions in a court of law under oath or affirmation. I confirm that this duty overrides any duty to those instructing or paying me, that I have understood this duty and complied with it in giving my opinions impartially and objectively, and that I will continue to comply with that duty as required.
- 1.1.8. I confirm that I am not instructed under any conditional fee arrangements and that I have no conflicts of interest other than any already disclosed in my evidence.

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1.2. SCOPE OF EVIDENCE

- 1.2.1. Via Solutions was appointed to prepare a transport statement and provide advice on transportation matters in support of a planning application for a residential development on land to the east of Bottom Road in Summerhill, north of Wrexham. Two further technical notes were also submitted during the course of the application process in response to comments made by Highways Officers. Following the decision of Wrexham County Borough Council to refuse planning permission for the development Via Solutions has been retained to provide highways evidence for this Appeal.

- 1.2.2. The proposals would provide for the construction of approximately 60 dwellings on the Appeal Site, together with associated car parking, open space and landscaping. In refusing the planning application the Council raised concerns on highways matters such that *"the roads giving access to the site are of inadequate width and of poor horizontal alignment."* Whilst improvements to the highways to the north of the Appeal Site were proposed in mitigation the Council response was that they did not consider *"that these alterations will overcome the concerns addressed above and in some instances could result in increased speeds on an already substandard network (i.e. where road widening is proposed) and congestion (i.e. where limited stacking occurs at the proposed traffic signals)."*
- 1.2.3. In considering how best to address the above concerns the traffic impact of the proposals has been reviewed following the carrying out of further recent traffic surveys at nearby junctions to ascertain the current preferred routes for residents. This, coupled with a review of journey to work information obtained from the 2011 census suggests that the level of increase in traffic to the north of the Appeal Site is likely to be significantly less than originally mooted in the transport assessment for the planning application.
- 1.2.4. As a consequence of the above review, aside from the works required to provide the main site access, the majority of the improvements to the local highway network that were proposed to the north of the Appeal Site are now considered not required to mitigate the impact.
- 1.2.5. Section 2 of my evidence describes the further work undertaken in more detail and contains an analysis of the data. Comments are then made on the revised proposals and the Council's first reason for refusal in Section 3 of my evidence. I draw my conclusions in Section 4.

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2. Further Work / Surveys

2.1. INTRODUCTION

2.1.1. In this section I will describe the further work that has been carried out in order to address the various matters by the Council in the first of four reasons of refusal, this being related to highways matters.

2.1.2. The first reason for refusal given by Wrexham County Borough Council is given below:

"The highway network surrounding and giving access to the site, being of limited width with poor horizontal alignment and sporadic pedestrian and cycle provision is considered to be substandard and insufficient to cope with the additional traffic movements associated with the development. The development is therefore considered to represent a detrimental impact upon the safety of motorists, cyclists and pedestrians and would be contrary to policy GDP1 of the Wrexham Unitary Development Plan."

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2.1.3. On examination of the first reason for refusal it is considered that it could be better worded and made clearer as to exactly where and how the highway authority considers the highway network to be "substandard and insufficient".

2.1.4. Pages 24 and 25 of the Planning Officer's report to the Committee that made the decision on the application offers some clarification on the above matters and are attached as Appendix A to my evidence for the benefit of the Inspector. In addition, the consultation responses dated 6th September and 14th December 2016 and our Technical Notes 1 and 2 in response to each of these respectively may also assist and can be found in Appendix B.

2.2. TRAFFIC SURVEY DETAILS

- 2.2.1. The traffic surveys undertaken in the preparation of the transport assessment took the form of two automated counts (tubes across the road) on Bottom Road north of the Appeal Site (referenced Site 2 by the survey company) and to the north east (between the rail bridge and the junction with the A541 Mold Road – referenced Site 1). These counts were carried out between 26th May and 1st June 2016 and the data is provided in full at Appendix C of my evidence (as only part of it seemed to have been included in the transport assessment in error).
- 2.2.2. Contrary to what is said in both consultation responses and the planning officer's report, whilst the period 28th May to 1st June was partly within the school holidays we acknowledged this and advised in both Technical Notes that the data used in our assessments was selected from the days within the school term (Thursday 26th and Friday 27th May). This appears to have been ignored (three times if the Committee report is included) by the Council.
- 2.2.3. In addition, out of the two school term days of data we took the busiest day (Friday) and determined the AM and PM peak hour two-way flows on Bottom Road were 37 and 44 vehicles respectively. Having due regard to the scale of the built up area of Summerhill it was our view that this level of traffic travelling to and from the north was very low.
- 2.2.4. This view is substantiated by a further traffic survey that we commissioned before the same school holidays (referred to at paragraph 5.4.3 in our transport assessment) at the junctions of the "Old" Mold Road with Wheatsheaf Lane and with the A541 Mold Road. This shows that the two-way movement between Wheatsheaf Lane and the A541 to the north amounts to 433 and 509 vehicles in the AM and PM peak hours respectively. A flow diagram showing this information can be found in Figure 11 in Appendix D.

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- 2.2.5. Therefore, out of a total of 470 (37 + 433) and 553 (44 + 509) vehicle movements generated in the northern Summerhill area in the AM and PM peak hours respectively which travel to / from the north, only 7.9% and 8.0% of drivers chose to use the route via Bottom Road and the unnamed road under the rail bridge to access the A541. This would suggest that contrary to our original thoughts that 60% of the proposed development traffic might chose to travel north to access the A541, the opposite (and more so) would be the case.
- 2.2.6. In order to further substantiate this point, a traffic survey was carried out at the junctions of Chestnut Avenue with Beech Street and Bottom Road in early July 2017 (during school term time). A flow diagram showing the AM and PM peak hourly turning flows can be found at Figure 12 in Appendix D of my evidence. This shows that of the 35 vehicles in the AM peak hour exiting the section of Chestnut Avenue east of Beech Street only 10 vehicles used the latter.
- 2.2.7. Where Chestnut Avenue joins Bottom Road the split in traffic in the AM peak is 40 (80%) to the south and 10 (20%) to the north. Some of the latter movement will be people who reside north of the Chestnut Avenue junction on Bottom Road and on Summer Hill Park (a total of 41 dwellings) perhaps returning from the school run (the schools being located off Beech Street).
- 2.2.8. Therefore, from the traffic data available to us now this appears to suggest that between 8.0% and as a worst case 20% of the proposed development traffic might chose to use the route to the north via Bottom Road north of the Appeal Site.

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2.3. TRAFFIC DISTRIBUTION FROM 2011 CENSUS

- 2.3.1. I have interrogated the Travel to Work data derived from the 2011 Census for the Wrexham Lower Super Output Layer 004A as this includes the newer residential areas of Summerhill to the south of the Appeal Site.
- 2.3.2. The local regions adjacent to the Appeal Site were selected as initial destination areas and any local authorities with nil trips were discounted as a first stage. The second stage was to consider the Middle Super Output Areas within each local authority closest to the Appeal Site and any with nil trips were discounted. The final stage was to identify which routes people on a journey to work might use from the Appeal Site to access the major road network. As a worst case 100% of any journeys which had a destination to the north (e.g. Flintshire) have been allocated to Bottom Road to the north.
- 2.3.3. The calculations are provided in Appendix E to my evidence and show that the potential split of journeys to work is 15.81% to the north and 84.19% to the south of the Appeal Site.

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2.4. SUMMARY OF REVIEW OF TRAFFIC DISTRIBUTION

- 2.4.1. In summary, we have reviewed the potential traffic distribution from the Appeal Site using three methods / sources of data, the first two being separate traffic surveys undertaken during school term time and the third being the 2011 Census. These showed a range of distribution between 8.0%, 20% and 15.81% respectively although it is noteworthy the 20% figure is likely to include an element of school traffic.
- 2.4.2. Therefore, for a robust assessment, my evidence has assumed a directional split for the development traffic of **16%** and **84%** to the **north** and **south** on Bottom Road.

2.5. REVISED TRAFFIC IMPACT

- 2.5.1. For the purpose of the revised assessment the same trip rates and traffic generations in our transport assessment, have been used. The latter taken from Table 3 in our transport assessment is given below:

TABLE 1. PREDICTED TRAFFIC FLOWS (TAKEN FROM TABLE 3 IN TRANSPORT ASSESSMENT)

	Morning Peak		Evening Peak	
	Arrivals	Departures	Arrivals	Departures
RESIDENTIAL	14	35	33	13

- 2.5.2. The predicted traffic generations show that the proposals will generate low levels of traffic with two-way peak hour flows of only 49 and 46 vehicles in the AM and PM periods respectively.

2.6. REVISED TRAFFIC IMPACT ASSESSMENT

- 2.6.1. Using the revised trip distribution derived in 2.2 to 2.4 above the proposed development would add 8 and 7 two-way movements in the respective AM and PM peak hours on to Bottom Road to the north of the site access. Similarly, the proposed development would add 41 and 39 two-way movements in the respective AM and PM peak hours on to Bottom Road to the south of the site access.
- 2.6.2. Using the Friday (during school term time) flow data on Bottom Road given at paragraph 2.2.3 of my evidence gives the following predicted flows on Bottom Road in the vicinity of the proposed site access.

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TABLE 2. PREDICTED TWO-WAY TRAFFIC FLOWS ON BOTTOM ROAD AT SITE ACCESS

	North of Access		South of Access	
	AM Peak	PM Peak	AM Peak	PM Peak
2016 SURVEY	37	44	37	44
PREDICTED INCREASE	8	7	41	39
POST DEVELOPMENT	45	51	78	83

2.6.3. The figures in Table 2 show that the two-way peak hourly flow on Bottom Road north of the proposed development is predicted to increase by between 7 and 8 vehicle movements giving a maximum flow of 51 vehicles or less than one vehicle every minute. Whilst in percentage terms the increase might be considered high, in quantum terms the present flows on Bottom Road are low and will remain low with the addition of traffic from the development.

2.6.4. The two-way peak hourly flow on Bottom Road south of the proposed development (on the improved section between the site access and the junction with Summer Hill Park) is predicted to increase by between 39 and 41 vehicle movements giving a maximum flow of 83 vehicles or about one vehicle every 45 seconds. Again, whilst in percentage terms the increase might be considered high, in quantum terms the present flows on Bottom Road are low and will remain low with the addition of traffic from the development.

2.6.5. The survey carried out in early July 2017 (see Figure 12 in Appendix D) showed that the two-way flows on Bottom Road just north of its junction with Chestnut Avenue were recorded as being 58 and 70 vehicles in the AM and PM peaks respectively. The addition of development traffic would increase these flows to 99 and 109 vehicles per hour respectively (see Figures 12 and 13 in Appendix D). At less than 2 vehicles per minute the traffic volumes on this section of Bottom Road will continue to remain low post development.

- 2.6.6. If the development traffic is distributed in the same proportions as exists at the Bottom Road junction with Chestnut Avenue then the two-way peak hour flows on Bottom Road just to the south of that junction would increase from 108 and 103 vehicles in the AM and PM peaks respectively to 134 vehicles in each peak. This increase is equivalent to going from a maximum of 1.8 vehicles per minute to 2.2 vehicles per minute. Therefore, the current low flows on the southern section of Bottom Road will continue to remain low post development.

2.7. BOTTOM ROAD SOUTH OF APPEAL SITE

- 2.7.1. So far in my evidence I have primarily considered the impact of the development on the highway network north of the Appeal Site. I have demonstrated that our revised estimation of increase in traffic to the north would amount to about 16% of the predicted traffic or 8 vehicles per hour two-way.
- 2.7.2. However, the consultation responses from the Council also suggest that *"to the south of the site, much of Bottom Road is of substandard width. There is very limited pedestrian provision resulting in pedestrians walking on the highway; the intermittent footways are generally of substandard width. Large numbers of cars parked on the street restricts through flow of traffic"*.

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PEDESTRIAN MOVEMENTS

- 2.7.3. I have used the rates from the approved Boozey Fields development (which we refer to in our transport assessment and can be found in Appendix F of my evidence) for pedestrian movements to determine the predicted pedestrian movements from the Appeal Site. This is shown in the table below:

TABLE 3. PEDESTRIAN TRIP GENERATIONS AND FLOWS (TWO-WAY)

	AM Peak	PM Peak	Daily
TRIP RATES	0.224	0.176	1.501
FLOW	14	11	90

- 2.7.4. The proposed development could generate 14 and 11 pedestrian movements in the AM and PM peak hours and 90 over the whole day.
- 2.7.5. This would create a maximum of one additional pedestrian movement every four minutes along the section of Bottom Road between the Appeal Site / Summer Hill Park and the junction with Chestnut Avenue. This has to then be measured against predicted maximum traffic volume of 109 vehicles per hour on the same section of road.
- 2.7.6. In terms of potential pedestrian movements from the proposed development these would be directed to use the improved link to Summer Hill Park. Once they reach the junction with Chestnut Avenue then most will have a destination along Beech Street such as the schools or shops. There are also bus stops on there and on New Road so "new pedestrians" would not tend to continue along Bottom Road to the south of Chestnut Avenue but will use the footways on the latter. The same comment can be applied to the existing residents of properties along and off Bottom Road to the north of Chestnut Avenue.
- 2.7.7. Chestnut Avenue and Beech Street are designed to normal estate road layouts and so have footways and street lighting to both sides of the roads. These provide a more commodious route to the schools, shops and bus stops along these routes. Heol Hyfryd also links Bottom Road to Beech Street (by then called First Avenue) and is of a similar design to these other roads. There is also a public footpath running between these two roads just north of Heol Hyfryd which is lit and observed to be used by local people.

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- 2.7.8. In preparing my evidence I have examined the actual level of footway provision along Bottom Road from the proposed site access south to its junction with Top Road. Whilst I would not anticipate new residents would walk in this direction or that far (unless visiting another dwelling) the additional traffic from the Appeal Site would use this route and observations show some limited pedestrian movement on this road.
- 2.7.9. The main destinations for people on foot will be the bus stops and the local amenities (shops, community facilities and schools) along Beech Street / First Avenue reached via public footpaths or Heol Hyfryd. This explains why the main pedestrian movements appear to be across Bottom Road rather than walking for any great distance along it.

CHARACTER OF BOTTOM ROAD

- 2.7.10. Bottom Road has the appearance of a highway passing through an older built up area with varying widths of carriageway and footway and in some locations, with footways on one or both sides or not at all. As such in the latter sections the carriageway is quite narrow with properties having direct pedestrian access on to the street. Over the years as the areas adjacent to Bottom Road have been developed (such as along Beech Street and First Avenue) then these roads have been constructed to the more modern design guidance.
- 2.7.11. A plan has been prepared (1709801) which is attached at Appendix G of my evidence. This shows where there is footway provision on one or both sides of Bottom Road or none at all. The plan also gives an indication of the "standard" of the carriageway and footway provision along the highway.
- 2.7.12. The plan in Appendix G also shows areas where hard surfacing / driveways are located and which provide opportunities where a pedestrian can wait safely for a gap in traffic to proceed.

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- 2.7.13. I have split the length of Bottom Road in to three sections being between the junctions of Summer Hill Park and Chestnut Avenue, Chestnut Avenue and Heol Hyfryd and Heol Hyfryd to Top Road.

Summer Hill Park to Chestnut Avenue

- 2.7.14. The plan shows on the section of Bottom Road between the Summer Hill Park and Chestnut Avenue junctions the carriageway narrows to 5.8m in width where there is a section with no footways of 41.7m. Two wider areas / driveways reduce the length shared between pedestrians and vehicles to two sections of 11.6m and 14.0m.

- 2.7.15. A speed hump is provided adjacent to the narrowed section and observed speeds were generally low.

Chestnut Avenue to Heol Hyfryd

- 2.7.16. From Chestnut Avenue to the junction with Heol Hyfryd there are two narrow sections at 4.5m and 4.9m in width which coincide with two sections of 26.5m and 30.8m in length where there are no footways adjacent to the carriageway. In the case of the former the presence of a parking area / drives on the east side of Bottom Road provides a continuing provision of an opportunity for pedestrians to walk adjacent to the carriageway. This parking area is shown on the photograph below.

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Photograph 1 View of parking area on Bottom Road

- 2.7.17. With regard to the latter southernmost section in the vicinity of the junction with Hill Street, there is driveway that provides an opportunity to allow a pedestrian to wait safely for a gap in traffic to proceed. This reduces the length shared between pedestrians and vehicles to two sections of 24.8m and 2.0m.
- 2.7.18. Whilst there are no speed humps on this section of Bottom Road, the width and character of the road is such that vehicle speeds are generally low.

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Heol Hyfryd to Top Road

- 2.7.19. The southernmost section of Bottom Road between Heol Hyfryd and the junction with Top Road has two sections where there are no footways adjacent to the carriageway. The northern section lies between the Heol Hyfryd and Vicarage Close junctions and amounts to a length of 72.8m with a minimum width of 3.8m.

- 2.7.20. However, there are five opportunities to allow a pedestrian to wait safely for a gap in traffic to proceed giving a reduced distance shared between pedestrians and vehicles of 35.2m with a maximum single length of 18.5m. The southern section lies between the Vicarage Close and Plas Alyn junctions and amounts to a length of only 3.0m and this is adjacent to a grassed area opposite a public footpath which people tend to cut across between the western and eastern parts of this right of way.
- 2.7.21. Again whilst there are no speed humps on this section of Bottom Road, the width and character of the road is such that vehicle speeds are generally low.
- 2.7.22. The above description of Bottom Road can be summarised in the table below:

TABLE 4. PEDESTRIAN FOOTWAY PROVISION, BOTTOM ROAD

	Length	Two Footways	One Footway	No Footways
Summer Hill Park to Chestnut Avenue	142m	49.0m	51.3m	41.7m (25.6m)
Chestnut Avenue to Heol Hyfryd	299.3m	116.6	125.4	57.3m (26.8m)
Heol Hyfryd to Top Road	422.8m	133.9m	213.1m	75.8m (35.2m)
Total	864.1m	299.5m	389.8m	174.8m (87.6m)

- 2.7.23. The figures in brackets in the above table give the net length of highway shared by pedestrians and vehicles taking account of opportunities for pedestrians to wait safely for a gap in traffic to proceed . The figures in the table show that of the total length of Bottom Road south of the Appeal Site being considered (864.1m) about 80% has a footway on one or both sides of the road and only 10% (87.6m) requires pedestrians to share the carriageway with vehicles.

ROAD SAFETY HISTORY ALONG BOTTOM ROAD

- 2.7.24. I do not consider it reasonable of the Council to apply current residential road standards for new build housing estates to existing infrastructure and say that the latter is substandard. Whilst there might be sections of Bottom Road with no or some footway provision the more reasonable approach would be to assess whether the current provision has resulted in a road safety problem of any significance particularly resulting in injury to pedestrians.
- 2.7.25. The Crashmap website has been used to produce the screen print in Appendix H of my evidence. This shows the injury accident record in the Summerhill area for the ten year period up to the end of 2016. As can be seen there has been **no injury accidents recorded at all on any part of the section of Bottom Road referred to above.**

ON STREET PARKING ALONG BOTTOM ROAD

- 2.7.26. In terms of the degree of on street parking that occurs along Bottom Road to the south of the Appeal Site this generally occurs outside those properties which have no off-road facilities. Generally, the carriageway is of sufficient width to allow this to occur without obstructing through traffic. In common with literally countless other locations, where a parked vehicle impedes the progress of a vehicle and another vehicle is travelling in the other direction, an element of give and take occurs whereby one driver allows the opposing one to pass.
- 2.7.27. There are four sections of Bottom Road where there is a carriageway in front of a terrace of houses with no footways where on street parking might obstruct through traffic. The widest section just south of the Summer Hill Park junction is 5.8m wide so a vehicle parked here would still allow another to pass.

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- 2.7.28. The two sections between the junctions of Chestnut Avenue and Heol Hyfryd are 4.5m and 4.9m wide which would still allow a vehicle to pass a parked vehicle according to Manual for Streets (see extract in Appendix J). Having said that no on street parking has been observed in any of these three sections on the occasion of our site visits.
- 2.7.29. The section of Bottom Road between the Heol Hyfryd and Vicarage Close junctions narrows to 3.8m and a parked vehicle here would obstruct through traffic. Observations taken on site show that residents are mindful of this and do not park in this location and tend to park on wider sections slightly further away.
- 2.7.30. In common with many similar locations the peak parking demand for the residential properties along Bottom Road occurs in the evening or at weekends. However, at such times the traffic volumes on the road network are considerably less than during the normal peak hours. Consequently, any restriction on the flow of traffic along Bottom Road by on street parking is likely to be minimal at such times.

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3. Response to Reason for Refusal No 1

3.1. INTRODUCTION

- 3.1.1. In this section, I set out the first reason for refusal and comment on that. The proposed changes to the highway improvements that were proposed are also described and justified against the evidence and analyses given in Section 2 of my evidence. I then respond on the matters raised in the first reason for refusal, the consultation responses from the Highways Officers and in the Planning Officers report to Committee.

3.2. REASON FOR REFUSAL & CONSULTATION RESPONSES

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- 3.2.1. The first reason for refusal given by Wrexham County Borough Council is given below:

"The highway network surrounding and giving access to the site, being of limited width with poor horizontal alignment and sporadic pedestrian and cycle provision is considered to be substandard and insufficient to cope with the additional traffic movements associated with the development. The development is therefore considered to represent a detrimental impact upon the safety of motorists, cyclists and pedestrians and would be contrary to policy GDP1 of the Wrexham Unitary Development Plan."

- 3.2.2. On examination of the first reason for refusal it is considered that it could be better worded and made clearer as to exactly where and how the highway authority considers the highway network to be "substandard and insufficient".

- 3.2.3. Pages 24 and 25 of the Planning Officer's report to the Committee that made the decision on the application offers some clarification on the above matters and are attached as Appendix A to my evidence for the benefit of the Inspector. In addition, the consultation responses dated 6th September and 14th December 2016 and our Technical Notes 1 and 2 in response to each of these respectively may also assist and can be found in Appendix B.
- 3.2.4. In refusing the planning application the Council raised concerns on highways matters such that *"the roads giving access to the site are of inadequate width and of poor horizontal alignment."* Whilst improvements to the highways to the north of the Appeal Site were proposed in mitigation the Council response was that they did not consider *"that these alterations will overcome the concerns addressed above and in some instances could result in increased speeds on an already substandard network (i.e. where road widening is proposed) and congestion (i.e. where limited stacking occurs at the proposed traffic signals).*
- 3.2.5. However, the consultation responses from the Council also suggest that *"to the south of the site, much of Bottom Road is of substandard width. There is very limited pedestrian provision resulting in pedestrians walking on the highway; the intermittent footways are generally of substandard width. Large numbers of cars parked on the street restricts through flow of traffic".*
- 3.2.6. The consultation responses from the Council again do not say what guidance is being referred to when they say that Bottom Road is of substandard width and make somewhat general and sweeping statements such as *"very limited pedestrian provision"* and *"the intermittent footways are generally (my underlining) of substandard width (which is?)"* and *"Large numbers (quantify?) of cars parked on the street restricts through flow of traffic"*. In all these cases, no actual factual information is provided to justify what is said.

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3.3. REVISED HIGHWAY WORKS

- 3.3.1. Section 2 of my evidence outlines how the traffic impact of the proposals has been reviewed following the carrying out of further recent traffic surveys at nearby junctions to ascertain the current preferred routes for residents to travel. This, coupled with a review of journey to work information obtained from the 2011 census suggests that the level of increase in traffic to the north of the Appeal Site is likely to be significantly less than originally mooted in the transport assessment for the planning application.
- 3.3.2. As a consequence of the above review, aside from the works required to provide the main site access, the majority of the improvements to the local highway network that were proposed to the north of the Appeal Site are now considered **not** required to mitigate the impact.
- 3.3.3. The revised highway works now proposed can be summarised as follows:
- ✦ Widening of Bottom Lane to form access to site – see drawing 1606402 Rev F
 - ✦ Creation of priority system on Bottom Lane to south of the proposed access – see drawing 1606402 Rev F
 - ✦ Provision of improved junction of public right of way at northern extent of site on to the un named section of road between Bottom Lane and the A541 – see drawing 1606405 Rev E
- 3.3.4. The first two measures are both shown on drawing 1606402 Rev F in Appendix I. The carriageway of Bottom Road would be widened to 5.5m along part of the Appeal Site frontage in order to provide room for the swept path of refuse / emergency vehicles in to the development and to achieve the required visibility splays. There is an existing pinch point to the south of the new access location caused by the boundary wall to the adjacent bungalow. A speed cushion is already provided in this location.

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- 3.3.5. The road narrowing just to the south of the site access will be widened beyond the speed cushion by narrowing a short section of footway on the approach to the mini-roundabout. The proposal is to narrow the last 14m of footway to create two-way passing of vehicles for the mini-roundabout approach. This section of footway does not provide access to any properties with the dwelling on the west side of Bottom Road having a footway across its own frontage.
- 3.3.6. It is therefore considered this proposal would have no detriment to vulnerable road users such as pedestrians. This also forms a short pinch point (around the wall return) on the approach to the site access. A hard margin of at least 600mm width can be provided to allow any walkers space to step on to if a vehicle was encountered. At the moment the vegetation does not allow this to occur.
- 3.3.7. It is intended that this pinch point operates as a priority system, with northbound traffic giving way to southbound. Road markings and signage will be provided to manage the traffic. The visibility splay to the left is considered to be appropriate for a design speed of 20mph. It is also noted that the proposed pedestrian / cycle route through the Appeal Site will provide a significant improvement (safe and convenient link between Summerhill and the bridleway to the north), more than outweighing the impact of narrowing a short section of footway.
- 3.3.8. The third measure will retain the improved junction of the public right of way at northern extent of the Appeal Site on to the un named section of road between Bottom lane and the A541 – see drawing 1604605 Rev E. This provides significant benefits to users of the existing public rights of way with improved visibility be afforded to users and other traffic.

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3.4. RESPONSE TO FIRST REASON FOR REFUSAL / CONSULTATION RESPONSES

3.4.1. I would respond to the first reason for refusal and the consultation response / planning officer's report by identifying the main issues and dealing with each in turn. The main issues appear to be as follows:

- ✓ The impact of the development traffic on the highway network to the north of the Appeal Site
- ✓ The impact of the development traffic on the highway network to the south of the Appeal Site, in particular Bottom Road
- ✓ The effect of the additional traffic on the safe movement of pedestrians and cyclists

3.4.2. The above issues are considered and responded on in the following paragraphs.

HIGHWAY NETWORK TO NORTH OF APPEAL SITE

3.4.3. The review of the predicted distribution of traffic from the proposed development in sections 2.2 to 2.4 of my evidence shows that the peak hour flows on Bottom Road to the north of the Appeal Site are likely to increase by a maximum of 8 additional vehicle movements (see section 2.6 above). I show that whilst in percentage terms the increase might be considered high, in quantum terms the present flows on Bottom Road are low and will remain low with the addition of traffic from the development (at less than one vehicle movement per minute during peak hours post completion).

3.4.4. Therefore, I consider the level of highway improvements originally put forward in our transport assessment can now be significantly reduced and confined to providing the immediate access to the Appeal Site and to improving the crossing of the unnamed road between Bottom Road and the A541 by vulnerable road users at the northern extremity of the site.

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- 3.4.5. These reduced / amended works are shown on drawings 1606402 Rev F and 1606405 Rev E which can be found in Appendix I to my evidence.
- 3.4.6. I have provided evidence in the form of the review of the traffic distribution (using several methodologies) which shows that traffic on the highway network to the north of the Appeal Site will only increase by a negligible amount. Furthermore, the concerns that the Council raised over the previous works on this part of the network offered in mitigation previously (as given in their consultation responses in Appendix B – e.g. increased speeds, lack of stacking at the traffic signals, effect on pedestrians and cyclists etc) are removed as a result of the reduced level of improvements now being put forward.
- 3.4.7. An examination of the accident history on the highway network north of the Appeal Site (see Appendix H) shows that a single incident resulting in slight injury was recorded on the unnamed road between Bottom Road and the A541 in August 2008. This excellent road safety record does not show that there is a highway safety problem on the network which would deteriorate as a result of a maximum of 8 additional vehicle movements per hour in the peak periods. Therefore, the part of the first reason for refusal which relates to the highway network north of the Appeal Site is now shown to be without substance.

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HIGHWAY NETWORK TO SOUTH OF APPEAL SITE

- 3.4.8. In the absence of clear information from the Council regarding the standards they have referred to, it has been assumed the relevant guidance for this location is that with Manual for Streets and its accompanying document Manual for Streets 2: Wider Application of the Principles.
- 3.4.9. I would refer to Figure 7.1 on page 79 of Manual for Streets, a copy of which is provided at Appendix J to my evidence. This shows what sizes of vehicles can safely use varying widths of carriageway.

- 3.4.10. At a width of 4.1m then two cars can pass each other or a goods vehicle can pass a cycle (or a pedestrian). A width of 4.5m is often quoted by local highway authorities as being a preferred width for two cars to pass each other. At 4.8m a car can pass a goods vehicle.
- 3.4.11. Paragraph 7.2.14 of Manual for Streets advises that shared surface streets (where pedestrians and vehicles share the same space) have been shown to work well where traffic volumes are less than 100 vehicles per hour in low speed environments and where there is no real incidence of on street parking.
- 3.4.12. In section 2.6 of my evidence I describe the current and predicted two-way traffic flows along varying sections of Bottom Road south of the Appeal Site. The table below summarises these flows:

TABLE 5. TWO-WAY TRAFFIC FLOWS ON BOTTOM ROAD SOUTH OF APPEAL SITE

	AM Peak		PM Peak	
	Existing	Ex + Dev	Existing	Ex + Dev
South of Site Access	37	78	44	83
Just North of Chestnut Av Junction	58	99	70	109
Just South of Chestnut Av Junction	108	134	103	134

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- 3.4.13. The reason for the difference in traffic from just south of the Appeal Site to north of the Chestnut Avenue junction is the existing vehicle movements generated by the houses fronting Bottom Road on that section (17 dwellings) and those on Summer Hill Park (24 dwellings).

- 3.4.14. To the south of the Chestnut Avenue junction the flows increase due to the preference by existing residents to travel south using Bottom Road and then Summerhill Road instead of either Wheatsheaf Lane / A541 or Wheatsheaf Lane / Old Mold Road. Whilst in percentage terms the increase might be considered high, in quantum terms the present flows on Bottom Road are low and will remain low with the addition of traffic from the development.
- 3.4.15. Section 2.7 of my evidence describes the character of Bottom Road south of the Appeal Site. I show that the potential number of additional pedestrian movements from the proposed development is low with 14 and 11 pedestrian movements in the AM and PM peak hours and 90 over the whole day (see Table 3 at 2.7.3). These would be directed to use the improved link to Summer Hill Park.
- 3.4.16. Once pedestrians reach the junction with Chestnut Avenue then most will have a destination along Beech Street such as the schools or shops. There are also bus stops on there and on New Road so “new pedestrians” would not tend to continue along Bottom Road to the south of Chestnut Avenue but will use the footways on the latter.
- 3.4.17. The main destinations for people on foot will be the bus stops and the local amenities (shops, community facilities and schools) along Beech Street / First Avenue reached via public footpaths or Heol Hyfryd. This explains why the main pedestrian movements appear to be across Bottom Road rather than walking for any great distance along it.
- 3.4.18. At 2.7.10 to 2.7.20 I describe the footway provision along Bottom Road to the south of the Appeal Site and show that contrary to the first reason for refusal that there is only 10% of the entire length of that road which has no pedestrian measures (see table 4 at 2.7.22 and 2.7.23).

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- 3.4.19. At 2.6.6 I show that the predicted traffic on this road will remain at around 2 vehicles per minute post development leaving an average gap of about 30 seconds which is more than would be required for a pedestrian to walk over the longest length of shared carriageway. The accident record along Bottom Road south of the Appeal Site is provided in Appendix H of my evidence. This shows the injury accident record in the Summerhill area for the ten year period up to the end of 2016. As can be seen there has been **no injury accidents recorded at all on any part of the section of Bottom Road referred to above.**
- 3.4.20. In terms of on street parking whilst there are narrow sections of carriageway along Bottom Road it is apparent from observations taken on site show that residents are mindful of this and do not park in this location and tend to park on wider sections slightly further away. Generally the width of the carriageway of Bottom Road ranges between pinch points 4.5m, 4.9m to 5.8m with only one section between Heol Hyfryd and Vicarage Close which narrows to 3.8m which allows the passage of a single vehicle.
- 3.4.21. As stated at 2.7.25 to 2.7.30, the situation along Bottom Road is similar to that which exists in many other locations where roads pass through older residential areas. When parking occurs the most (in the evening or at weekends) then traffic volumes on the road network are considerably less than during the normal peak hours. Consequently, any restriction on the flow of traffic along Bottom Road by on street parking is likely to be minimal at such times.
- 3.4.22. It is evident that conditions along Bottom Road south of the Appeal Site accord with the principles put forward in Manual for Streets and there is no reason to suggest this would change as a result of the Appeal proposals. Therefore, the part of the first reason for refusal which relates to the highway network south of the Appeal Site is now shown to be without substance.

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EFFECT ON SAFE MOVEMENT OF PEDESTRIANS AND CYCLISTS

- 3.4.23. I have provided evidence (at Section 2.6) which shows that following a review of the potential traffic distribution, the likely traffic impact on the road network north of the Appeal Site is negligible (maximum of 8 vehicles per hour at peak). I have also shown that the removal of the majority of the highway improvements originally proposed in mitigation (using the now superseded traffic distribution) would maintain the current character and safety record along these roads. It was the combination of the now superseded traffic generation and the mitigation measures which caused the concerns of the Council Officers.
- 3.4.24. My evidence also shows (in Section 2.7) that the majority of pedestrian movements from the development will tend to head towards local services, schools and bus stops which are located away from the section of Bottom Road south of the Appeal Site. It would appear the main pedestrian movements are across Bottom Road rather than walking for any great distance along it.
- 3.4.25. As I have said contrary to the views expressed by the Council, the conditions for pedestrians walking along Bottom Road could not be considered unsafe given the absence of any incidents resulting in injury over the last ten years and that the proposals will not significantly increase traffic or pedestrian movements on this route.
- 3.4.26. Therefore, the part of the first reason for refusal which relates to the safe movement of pedestrians and cyclists is now shown to be without substance.

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3.5. PLANNING POLICY

- 3.5.1. The first reason for refusal states *the development is therefore considered to represent a detrimental impact upon the safety of motorists, cyclists and pedestrians and would be contrary to policy GDP1 of the Wrexham Unitary Development Plan.*" Policy GDP1 states "All new development should: d) Ensure safe and convenient pedestrian and vehicular access to and from development sites, both on site and in the nearby locality.
- 3.5.2. My evidence shows (at Sections 2.3 and 2.4) that the review of the distribution of traffic from the development has reduced the impact on the highway network to the north of the Appeal Site from 60% to only 16%. This has allowed us to also review the level of highway improvements on that network which in themselves were a cause for concern for the Council.
- 3.5.3. My evidence also shows (at Section 2.6) that even with the increased bias in development traffic on to the highway network to the south of the Appeal Site, the level of increase in traffic on the particular road cited by the Council (Bottom Road) is such that the present flows on Bottom Road are low and will remain low with the addition of traffic from the development. At Section 2.7, I also show that the level of pedestrian provision is of a reasonable standard having due regard to the potential movements, the amount of vehicle traffic and the environment / character of the road.
- 3.5.4. Therefore, based on actual evidence rather than opinion, I have shown that a safe and suitable access to the development by all road users can be achieved with no material impact on the highway network and so the proposals comply with policy GDP1 of the Wrexham Unitary Development Plan.

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4. Summary and Conclusions

- 4.1.1. My evidence presents has shown that following a review of the traffic impact of the Appeal proposals, the impact on the highway network to the north of the Appeal Site has reduced from 60% to only 16%. This has allowed us to also review and reduce the level of highway improvements on that network which in themselves were a cause for concern for the Council.
- 4.1.2. My evidence also shows that even with the increased bias in development traffic on to the highway network to the south of the Appeal Site, the level of increase in is such that the flows on Bottom Road will remain low with the addition of traffic from the development. I also show that the level of pedestrian provision is of a reasonable standard having due regard to the potential movements, the amount of vehicle traffic and the environment / character of the road.
- 4.1.3. The safety record on the local highway network considered in my evidence shows only one incident which resulted in slight injury (in 2008) on any part of the highway network that the Council had raised concerns about. This excellent road safety record does not show that there is a highway safety problem on the network which would deteriorate as a result of minimal increase in traffic to the north or a modest increase to the south.
- 4.1.4. Finally using the evidence that has been prepared the proposals have been assessed against the relevant local and national planning policies and I conclude that these are fully complied with.
- 4.1.5. I respectfully suggest that this appeal be allowed.

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APPENDIX A: Pages 24 & 25

Planning Officer Report

which are distinctive and respect local character’ and ‘...focus on the quality of places and living environments for pedestrians rather than the movement and parking of vehicles’. I consider the design solution presented to be extremely poor without any attention given to the local settlement pattern and density and represents an inefficient use of land. The highway network within the development is overly rigid and governs the overall layout without have any form of hierarchy. It is a lacklustre layout that would ultimately result in a bland and car dominant scheme. The position of the highway within the site also presents a very hard edge to the site boundary. I consider that this represents a poor juxtaposition between the proposed continuation of the urban landscape and the existing rural landscape.

I also have concerns regarding the density of the dwellings proposed. In order for the council to justify the release of land for housing purposes outside defined settlement limits, it must be satisfied that the development would be deliverable to justify counting towards the housing land supply requirement as well as presenting an efficient and sustainable use of land. In this case I do not consider that the proposal would represent an efficient use of the overall application site to justify its release contrary to the strategic and site specific policies of the UDP which seek to protect the countryside and areas of special landscape character.

Highways: The site is located at the northern fringe of the Gwersyllt settlement. Approval for the position of the proposed access is sought at this outline stage at the southern end of the site approximately 50 metres north of the existing mini roundabout on to Summerhill Park. A pedestrian access is also proposed to the southern end of the site and also to the northern site boundary linking existing public rights of way through the development site.

Highways have raised strong objections to this proposal on the grounds that the roads giving access to the site are of inadequate width and of poor horizontal alignment. The road also provides for substandard pedestrian and cycle provision and is unsuitable to accommodate the increase in traffic likely to be generated by the development. The applicant has carried out a traffic count as part of their Transport Assessment indicating a 78% increase in traffic movements at morning peak and 48% increase at evening peak. Whilst the traffic count was carried out during a school holiday period (against good practice) it still represents a significant increase in traffic movements on a substandard highway network and ultimately it would not be possible to support the traffic movements associated with an additional 59 dwellings.

The applicant has provided a series of highway improvement proposals along Bottom Road as it heads down towards Ffos-y-Go and the junction with Mold Road (A541). These consist of the following:

- The provision of carriageway widening and a priority system adjacent to the proposed access;
- Junction widening and marking to the north west of the site boundary;
- Widening of the highway to provide a footway link and improved forward visibility on the bend to the north of the site;

- The provision of a priority traffic light system where the road passes under the railway line; and
- The provision of three new passing places and the improvements to existing passing places.

Highways do not consider that these alterations will overcome the concerns addressed above and in some instances could result in increased speeds on an already substandard network (i.e. where road widening is proposed) and congestion (i.e. where limited stacking occurs at the proposed traffic signals).

There are also proposed improvements and formalisations to existing passing bays. The benefit of carrying out these changes will be limited as the facilities already exist.

The proposed traffic signals will effectively make the road 'one way' over a 200m distance during green phase potentially increasing vehicle speeds causing danger to pedestrians, cyclists and horse riders using the road. The Council is also not generally supportive of using traffic signals on rural roads to control traffic flows.

Where a traffic prioritisation scheme is proposed in the proximity of the narrow pinch point adjacent to the proposed access, there is concern that the forward visibility of this facility has not been established and could not be achieved due to an existing third party wall. The sudden decrease in the improved carriageway width from 5.5m to 2.95m is likely to represent a hazard to all road users.

Ecology: The highway improvements will result in the removal and replanting of approximately 250m of native hedgerow. This is considered to represent a significant detriment to existing habitat. It is acknowledged that the benefits of the proposed development must be weighed against this potential harm. However, I also have in mind that the removal of the identified stretches of hedgerow would be required to facilitate a highway improvement strategy which would not overcome the negative impacts of the development.

The applicant has presented a bat report. Of particular concern is the large number of noctule passes recorded indicating the presence of a nearby roost. Loss of the boundary hedgerow, the provision of light and infrastructure associated with a residential development could provide a barrier to the species dispersal and reduction of available foraging habitats. The low activity level for bats at the site is challenged on the basis of the methodology used.

For this reason, on balance, I consider that the loss of the hedgerow would be unacceptable and would have a long term impact upon species which are afforded protection through the planning system.

Drainage: Welsh Water have removed an objection to the proposal on the grounds their initial concern about the capacity of the foul drainage system was as a result of overloading from surface waters flows. They have

APPENDIX B: Council Consultation Responses and Technical Notes 1 & 2

MEMORANDUM

From:	Service Manager Environment	To:	Head of Community Well-being and Development
Our Ref:	P/2016/0738	Your Ref:	P/2016/0738
Date:	6 September 2016		

TOWN AND COUNTRY PLANNING ACT 1990

TOWN AND COUNTRY (GENERAL DEVELOPMENT PROCEDURE) ORDER 1995

Location: O. S Grid Ref: 3101 5425 Land East of Bottom Road, Summerhill

Development: Outline application for residential development

I refer to your consultation dated 8 August 2016 in respect of the above.

The site is located on a narrow unclassified highway subject to a 30 mph speed limit; a speed survey undertaken by the applicant revealed lower 85th percentile speeds. The proposed access design indicates that it is possible to achieve visibility splays in accordance with Welsh Government guidelines.

The access itself is located on a road of approximately 3.2m width, inadequate to permit the simultaneous passage of vehicles. The submitted plans demonstrate an intention to widen part of the road to 5.5m and to tie the footway into the existing. The proposed access does not meet current highway design standards.

It does not appear possible to tie into the existing footway as it is only 3.2m wide and land required to widen it is outside the control of the applicant. It is not considered acceptable to create an access into a new housing development of 59 dwellings off a road that is only 3.2m wide.

The roads giving access to the site are considered seriously substandard to serve as access to a further 59 dwellings.

To the north east / west of the site, the road is of substandard width to allow the simultaneous passage of vehicles. The road suffers from inadequate forward visibility due to the road width, high hedgerows and horizontal layout. There is no footway provision for pedestrians. It is of steep gradient in places. There are no facilities for cyclists.

To the south of the site, much of Bottom Road is of substandard width. There is very limited pedestrian provision resulting in pedestrians walking on the highway; the intermittent footways are generally of substandard width. Large numbers of cars parked on the street restrict through flow of traffic.

It is considered that traffic generated by this proposal will detrimentally impact on highway safety and the through flow of traffic on the roads leading to the site.

The transport assessment includes a traffic count done during a school holiday; it is not good practice to undertake traffic counts during school holidays. However the counts show 37 vehicles using the unclassified road to the north of the site in the morning peak hour and 44 during the evening. The traffic generation figures submitted by the applicant conclude that there will be an additional 29 vehicles using the route in the morning peak and a further 20 in the evening.

Assuming these figures are correct this equates to a 78% increase in vehicular usage in the morning peak and a 45% increase in the evening.

Given that the road is of such substandard design and layout, the surrounding road network is considered to be at capacity; any further increase in traffic generation is likely to cause detriment to highway safety. An increase of 45 to 78% in vehicular numbers raises serious concerns.

The application has proposed some minor highway works to aid passing along the restricted length of road to the north east/ west. These minor works are not considered to overcome the concerns over highway safety.

The proposed pedestrian / cycle link to the north of the site gives no indication of how it is possible to enter the highway safely on a bend with substandard visibility. Providing a safe access may result in significant loss of hedgerow.

The internal layout of the site is below current design standards; however as this is an outline application the site layout would be dealt with at reserved matters.

I recommend that the application is refused for the following reasons:

- The roads giving access to the site are by reason of their inadequate width, their horizontal alignment and their substandard pedestrian / cycle provision, unsuitable to accommodate the increase in traffic likely to be generated by the development

Peter Donohue

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Service Manager Environment

MEMORANDUM

From:	Service Manager Environment	To:	Head of Community Well-being and Development
Our Ref:	P/2016/0738	Your Ref:	P/2016/0738
Date:	14 December 2016		

TOWN AND COUNTRY PLANNING ACT 1990

TOWN AND COUNTRY (GENERAL DEVELOPMENT PROCEDURE) ORDER 1995

Location: O. S Grid Ref: 3101 5425 Land East of Bottom Road, Summerhill

Development: Outline application for residential development

I refer to your revised consultation dated 6 December 2016 in respect of the above.

The site is located on a narrow unclassified highway subject to a 30 mph speed limit. It is unclear from the submitted plan whether adequate visibility can be achieved in a southerly direction due to the presence of a wall belonging to the dwelling known as Greenacres, which appears to obstruct lateral visibility.

The applicant has submitted a revised technical note to address concerns raised over the adequacy of the highway.

The access itself is located on a road of approximately 3.2m width, inadequate to permit the simultaneous passage of vehicles. The submitted plans now demonstrate an intention to create a priority working system.

It is unclear from the plans what forward visibility will be achievable at the proposed priority system as there is a wall belonging to the dwelling known as Greenacres, which appears to obstruct forward visibility.

In order to construct the priority working system it is necessary to lose approximately 15m of footway alongside Bottom Road. In an area where pedestrian provision is already at a premium then the loss of 15m of footway is of some concern.

Increasing the width of the road to 5.5m across the site frontage is likely to increase speeds; this will be of concern where the 5.5m wide road suddenly reduces to 2.95m wide. There are no proposals to demonstrate how this sudden change in the road character will be managed.

The roads giving access to the site are considered seriously substandard to serve as access to a further 59 dwellings.

To the north east / west of the site, the road is of substandard width to allow the simultaneous passage of vehicles. The road suffers from inadequate forward visibility due to the road width, high hedgerows and horizontal layout. There is no footway provision for pedestrians. It is of steep gradient in places. There are no facilities for cyclists.

To the south of the site, much of Bottom Road is of substandard width. There is very limited pedestrian provision resulting in pedestrians walking on the highway; the intermittent footways are generally of substandard width. Large numbers of cars parked on the street restricts through flow of traffic.

It is considered that traffic generated by this proposal will detrimentally impact on highway safety and the through flow of traffic on the roads leading to the site.

The transport assessment includes a traffic count done during a school holiday; it is not good practice to undertake traffic counts during school holidays. However the counts show 37 vehicles using the unclassified road to the north of the site in the morning peak hour and 44 during the evening. The traffic generation figures submitted by the applicant conclude that there will be an additional 29 vehicles using the route in the morning peak and a further 20 in the evening.

Assuming these figures are correct this equates to a 78% increase in vehicular usage in the morning peak and a 45% increase in the evening.

Given that the road is of such substandard design and layout, the surrounding road network is considered to be at capacity; any further increase in traffic generation is likely to cause detriment to highway safety. An increase of 45 and 78% in vehicular numbers raises serious concerns.

The revised highways proposal includes some minor highway works to aid passing along the restricted length of road to the north east/ west.

These works mainly include formalising the existing passing places which will not be of any significant benefit to the capacity on the road as the bays already exist.

Plan 1606404 indicates the removal of brambles and weeds from an area of land that does not appear to be in the applicant's ownership.

Whilst the proposed widened junction will improve manoeuvrability for vehicles, the change in priority means that visibility to the west for vehicles exiting Bottom Road will be seriously substandard.

The proposed cycle link on plan 1606405 is over engineered. Given the width of the highway at this point it is highly likely that the link will be used as another passing bay and vehicles will ride over the foot/cycleway surface. Whilst consideration has to be given to improving cycle links I'm not convinced that this route is particularly suitable for encouraging the use of cycles.

The proposed traffic signals are positioned some 200m apart and their operation will cause some delay to vehicles particularly during peak hours.

The proposed road alterations to accommodate two way passing only allows for the stacking of two vehicles. It would only take a queue of three vehicles to effectively block the road.

The introduction of traffic signals will effectively make the road one way during green light phase which may potentially increase traffic speeds, thereby creating additional danger to pedestrians, cyclists and horse riders using the road

The Council does not support the use of traffic signals on narrow rural roads, in an attempt to control traffic flows.

The proposed improvement works are not considered to overcome the concerns over highway safety.

The internal layout of the site is below current design standards; however as this is an outline application the site layout would be dealt with at reserved matters.

I recommend that the application is refused for the following reasons:

- The roads giving access to the site are by reason of their inadequate width, their horizontal alignment and their substandard pedestrian / cycle provision, unsuitable to accommodate the increase in traffic likely to be generated by the development

 Service Manager Environment

Technical Note: Highways

Project: Land adjacent to Bottom Rd, Summerhill



This Technical Note has been written in response to the highways consultation response by Wrexham Council (dated 6th September 2016) for the planning application for 59 dwellings (P/2016/0738).

The highways consultation response objects to the development on the grounds of an unsuitable highway network, especially the point of access and along Bottom Road. The response suggests that the access connects into a road which is only 3.2m wide.

The application proposes to widen Bottom Road to 5.5m (for two way passing of vehicles) within the vicinity of the site access. A series of passing places, road widening and general improvements to the north along Bottom Road was also proposed. Further improvements are now offered to provide additional mitigation along Bottom Road.

The additional improvements provide additional passing places, improved visibility for the pedestrian / cycle link to the north and improved forward visibility for vehicles at the bends in the road. The improvements are shown on the attached drawings. The road narrowing just to the south of the site access will be widened beyond the speed cushion by removing a short section of footway on the approach to the mini-roundabout.

This creates a pinch point will therefore result in a carriageway width of 3.2m (adjacent to speed cushion) for a short section (only 14m long). This is considered to be acceptable and typical of many traffic calming features in the Summerhill area. The removal of a short section of footway (14m) is considered to be acceptable given that there is an alternative proposed pedestrian / cycle link that is located just off Summerhill Park (40m to the east).

Further to the north of the access, Bottom Road will be widened to 5.5m for 50m. A passing place is also proposed along this section, up to the next junction. The junction will also be improved by widening, increased visibility and change in priority.

The pedestrian / cycle link to the north has been relocated to connect to the existing bridleway on the other side of the road. The proposals now show the link running adjacent to the carriageway, which also improves the forward visibility available for drivers seeing pedestrians crossing and oncoming vehicles. The hedgerow will be set back from the carriageway / footway edge by 1m to allow for hedge overgrowth, which we understand is a current issue along the narrow sections of Bottom Road. The forward visibility over the verge

Technical Note: Highways



Project: Land adjacent to Bottom Rd, Summerhill

on the inside bend is currently restricted by overgrown brambles / shrubs and will be removed to increase forward visibility.

Minor improvements are now also proposed around the bend further along the unnamed access road, locally known as the 'canal bend'. This will improve turning and forward visibility at this location.

These highway improvements are therefore considered to be a significant benefit to existing and proposed users of the local highway network. They provide many new opportunities for cars to pass each other safely and a significant improvement is provided by the introduction of the traffic free, segregated pedestrian and cycle link connecting Summerhill, the proposed development and the existing bridleway to the north.

Regarding the traffic survey data it is acknowledged that the survey dates did extend into the school holidays (27th May to 6th June 2016), however the data used and presented for the assessment was selected from days within the school term. The survey on Bottom Road was carried out over a week, and the peak day (Friday 27th May) was selected to provide a robust assessment. It is noted that less traffic was recorded the day before, which was a school day, but the peak day was selected to provide a robust assessment. The hourly two-way traffic flow figures of 37 vehicles in the morning peak (44 vehicles in the evening peak) is considered to be suitable and relevant for use in the Transport Statement.

The Transport Statement predicts a maximum increase of 29 vehicles per hour (two way), which equates to an increase of less than one vehicle every two minutes in any direction. The Highways consultation response quite rightly points out that this increase is some 78% but given the extremely low background traffic figures, any increase will have a high percentage increase.

Notwithstanding the improvements to the pedestrian / cycle provision as a result of the development, consideration should be made to the very low numbers of pedestrians which will use the infrastructure in and around Summerhill. Whilst some sections of the segregated pedestrian network are narrow and often missing, it is not considered to raise significant concerns. Summerhill residents are familiar with shared spaces, and drivers acknowledge the potential for pedestrians and oncoming vehicles along narrow sections of the road network. As such the existing characteristics of the road network lead to low speeds, traffic volumes and accident records.

Technical Note: Highways

Project: Land adjacent to Bottom Rd, Summerhill



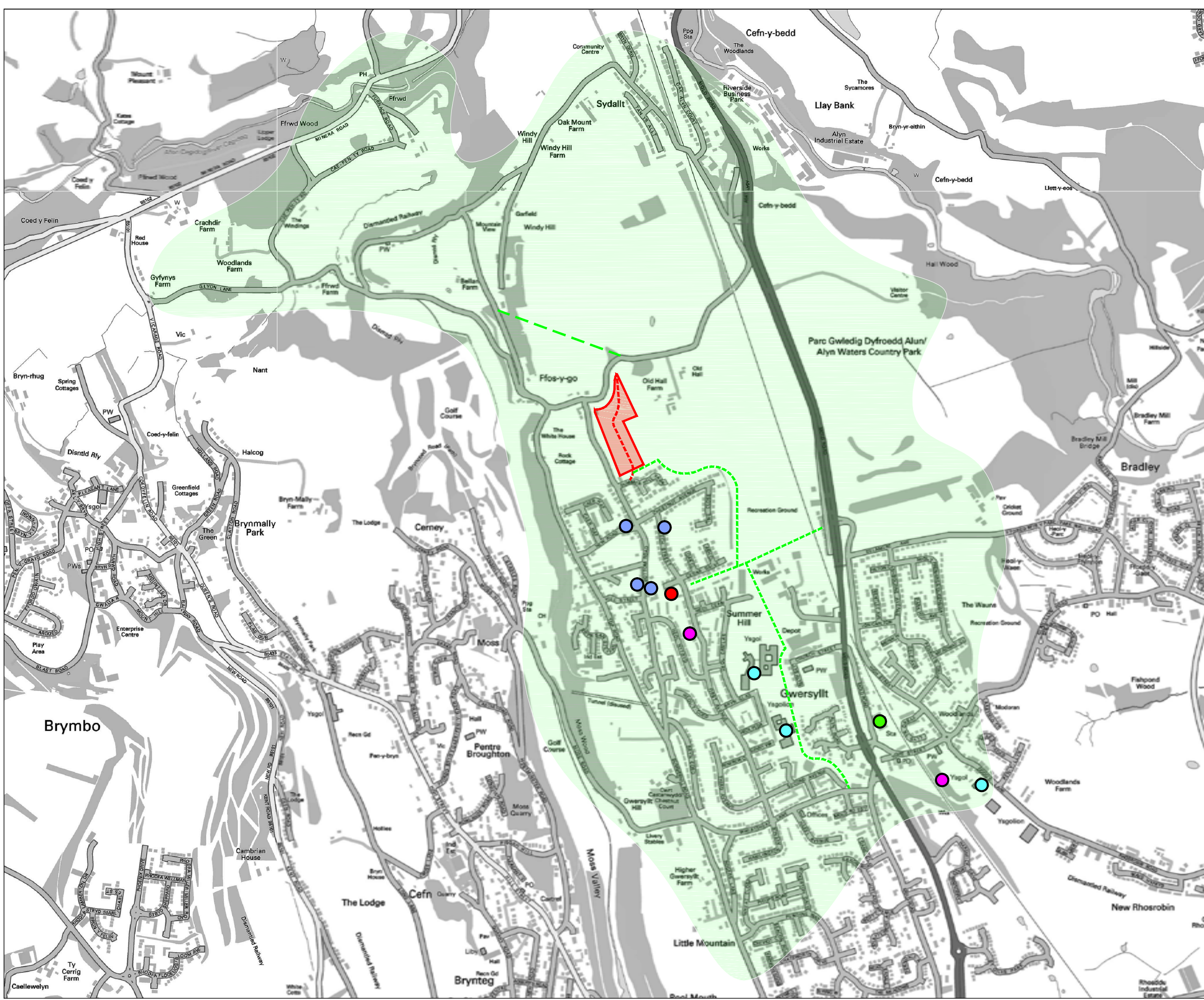
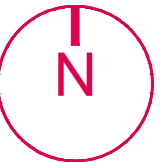
The trip rates for vehicles presented in the Transport Statement were taken from the Boozey Fields reports and appear to be accepted. The report for Boozey Fields also identifies trip rates for pedestrians. Using these, the application site will only generate a maximum of 13 pedestrian movements per hour.

Given the provision of the segregated pedestrian / cycle route connects to a public footpath to the south east of the site, it is assumed that the majority of pedestrians will use this route since it connects to the school, shopping areas and the train station. Some pedestrians will also travel north towards the bridleway. As such the level of pedestrians using the road network to the south (through Summerhill residential areas) will be extremely low. Figure 1 from the Transport Statement has been updated to include public rights of way in the area, and is attached.

Given the above it is considered that the development impact in terms of highway capacity and safety will be very low and on balance, the improvements offered to vehicle, pedestrian and cycle safety outweigh the concerns raised regarding an inadequate highway network.

Chris Yarrow

12th October 2016

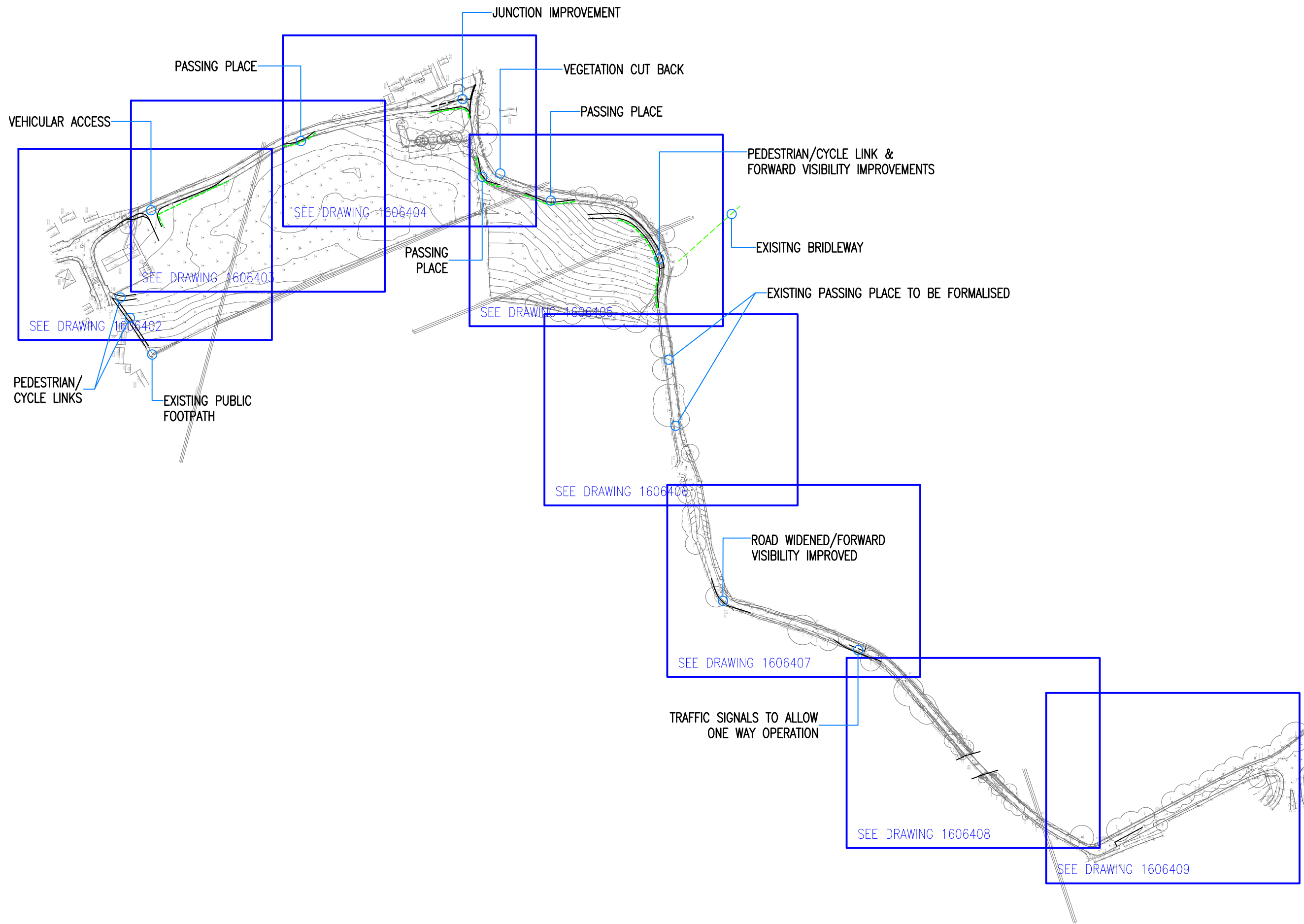
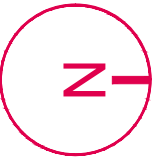


- KEY**
- PUBLIC BRIDLEWAY
 - PUBLIC FOOTPATH
 - PROPOSED PEDESTRIAN /CYCLE LINK
 - APPLICATION SITE
 - ONE MILE WALK CATCHMENT
 - BUS STOPS
 - RAILWAY STATION
 - SCHOOLS
 - SHOPS
 - MEDICAL CENTRE



FIGURE 1
LOCAL FACILITIES
PLAN

SCALE 1: 10,000 ©A3



THE OLD COACH HOUSE, 1 CAMPBELL STREET
PUDSEY LS28 6DP

tel: 0113 3453957
email: highwaymen@viasolutions.com

PROPOSED RESIDENTIAL
DEVELOPMENT

LAND ADJACENT TO BOTTOM ROAD,
SUMMERHILL, WREXHAM

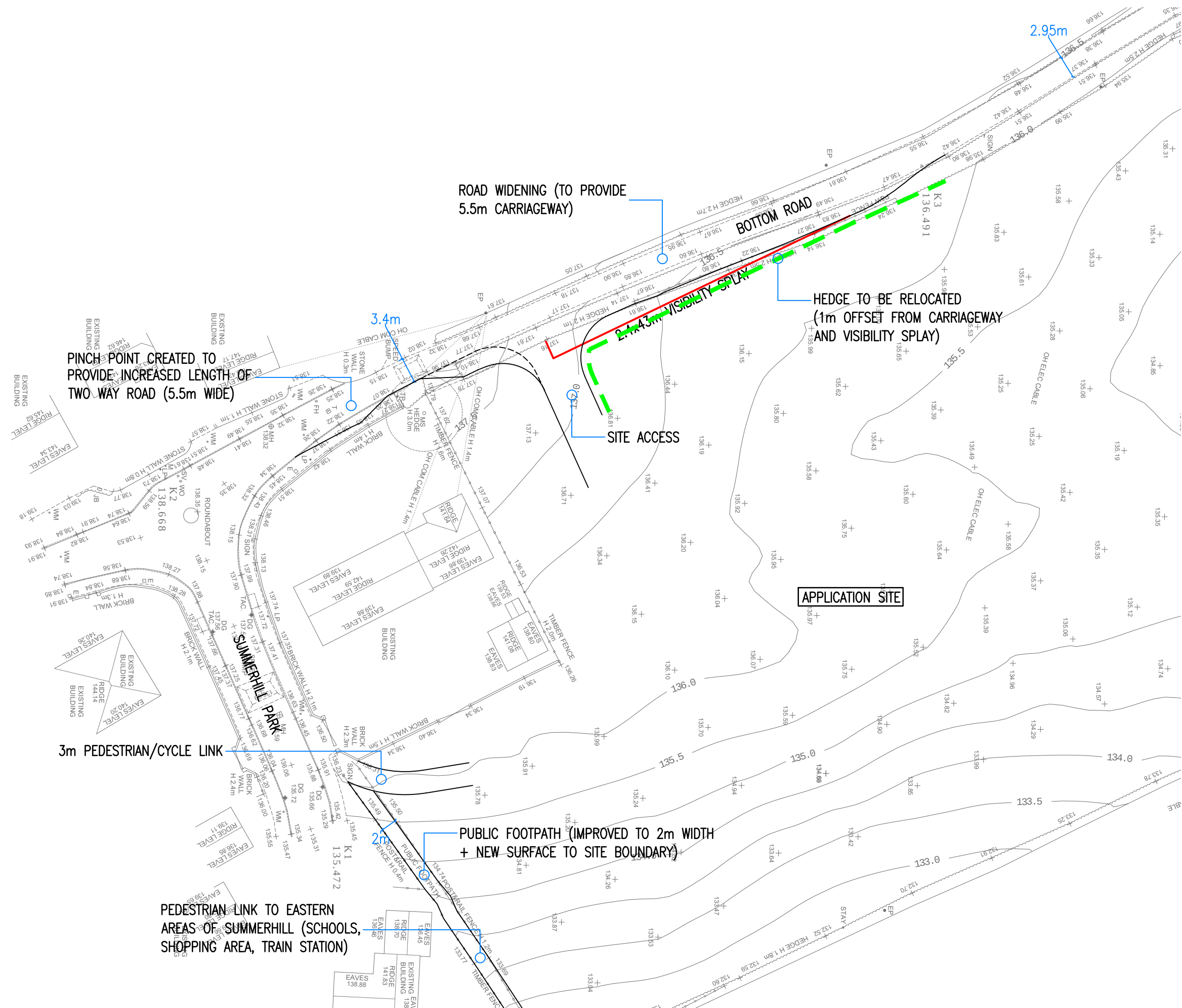
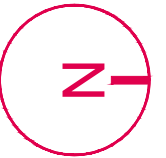
HIGHWAY IMPROVEMENTS

SCALE 1:2500 @A3

DATE OCT 2016

DRAWING No 1606401

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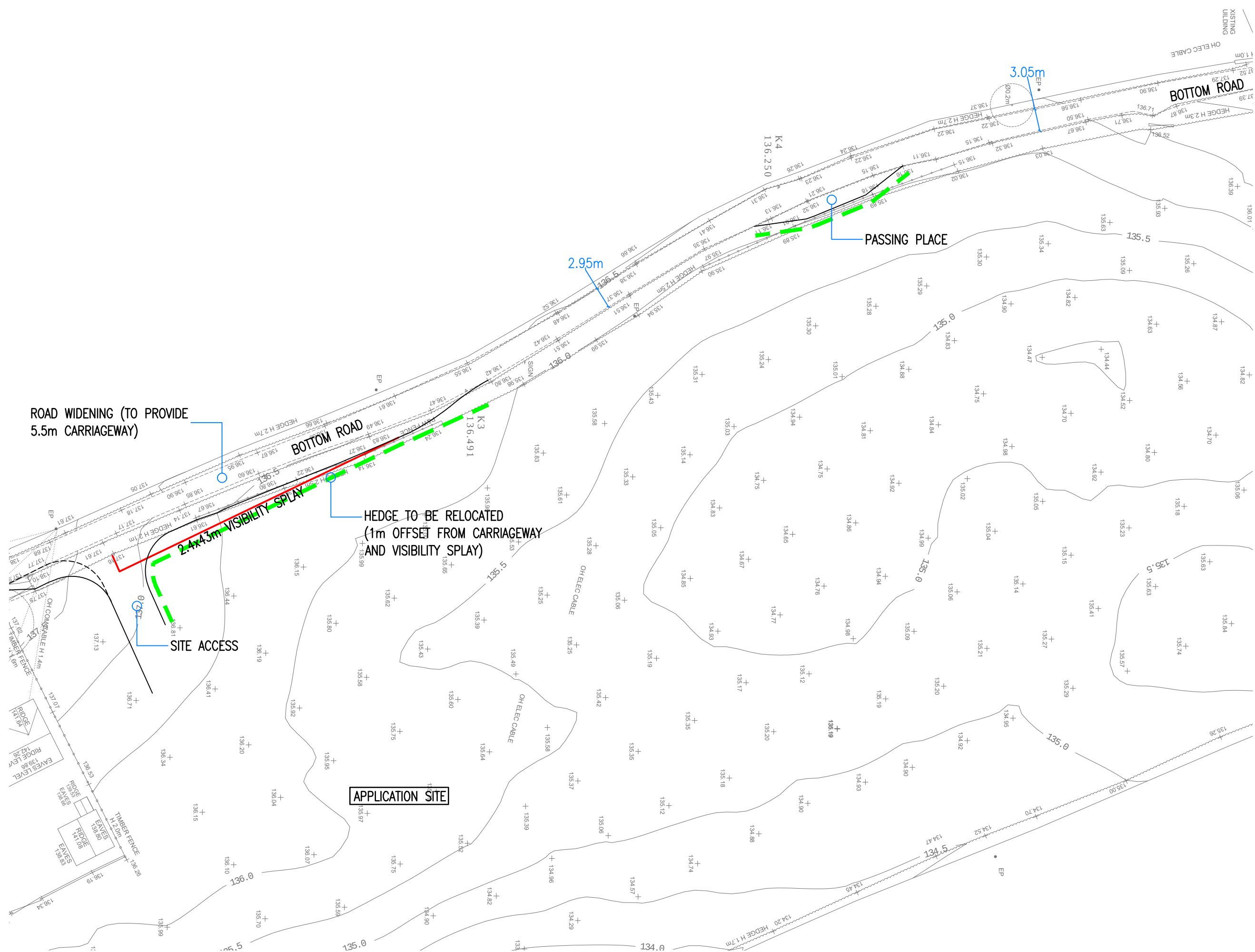
HIGHWAY IMPROVEMENTS

SCALE 1:500 @A3

DATE OCT 2016

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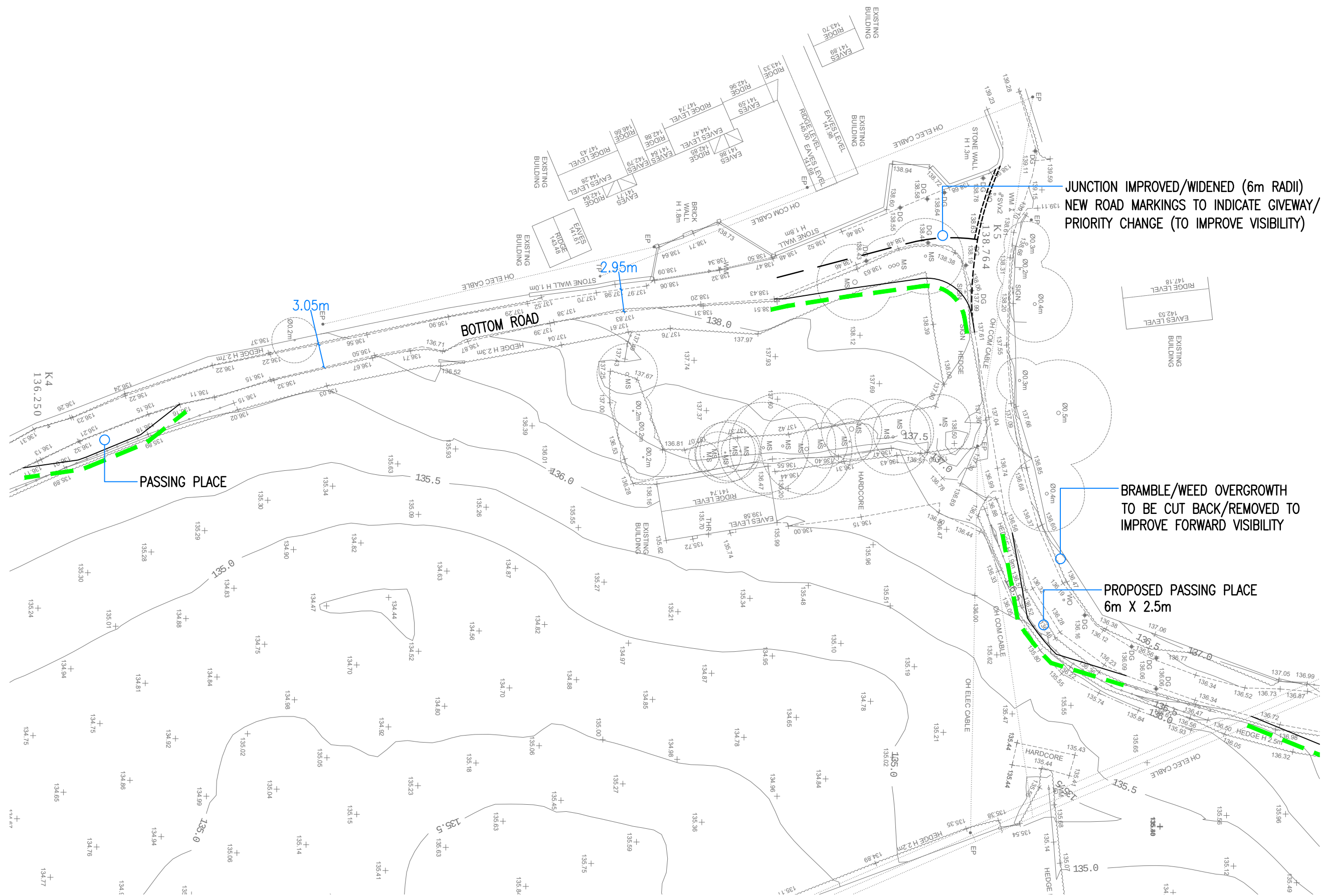
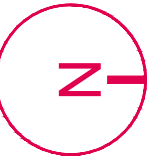
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DATE OCT 2016

DRAWING No: 1606403 REV D



JUNCTION IMPROVED/WIDENED (6m RADII)
NEW ROAD MARKINGS TO INDICATE GIVEWAY/
PRIORITY CHANGE (TO IMPROVE VISIBILITY)

BRAMBLE/WEED OVERGROWTH
TO BE CUT BACK/REMOVED TO
IMPROVE FORWARD VISIBILITY

PROPOSED PASSING PLACE
6m X 2.5m



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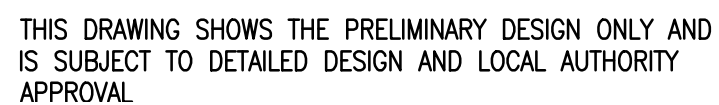
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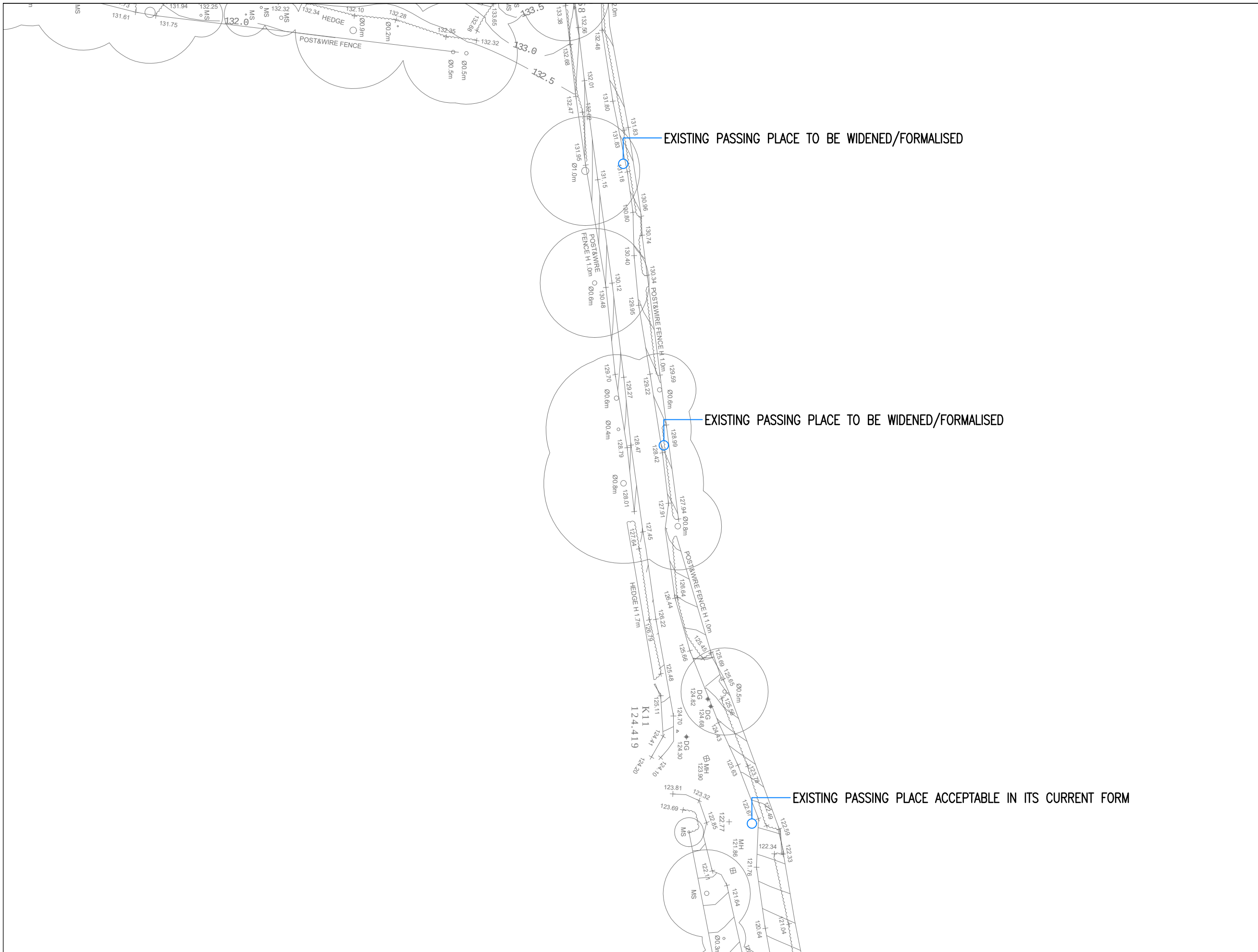
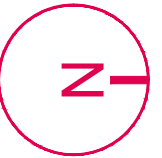
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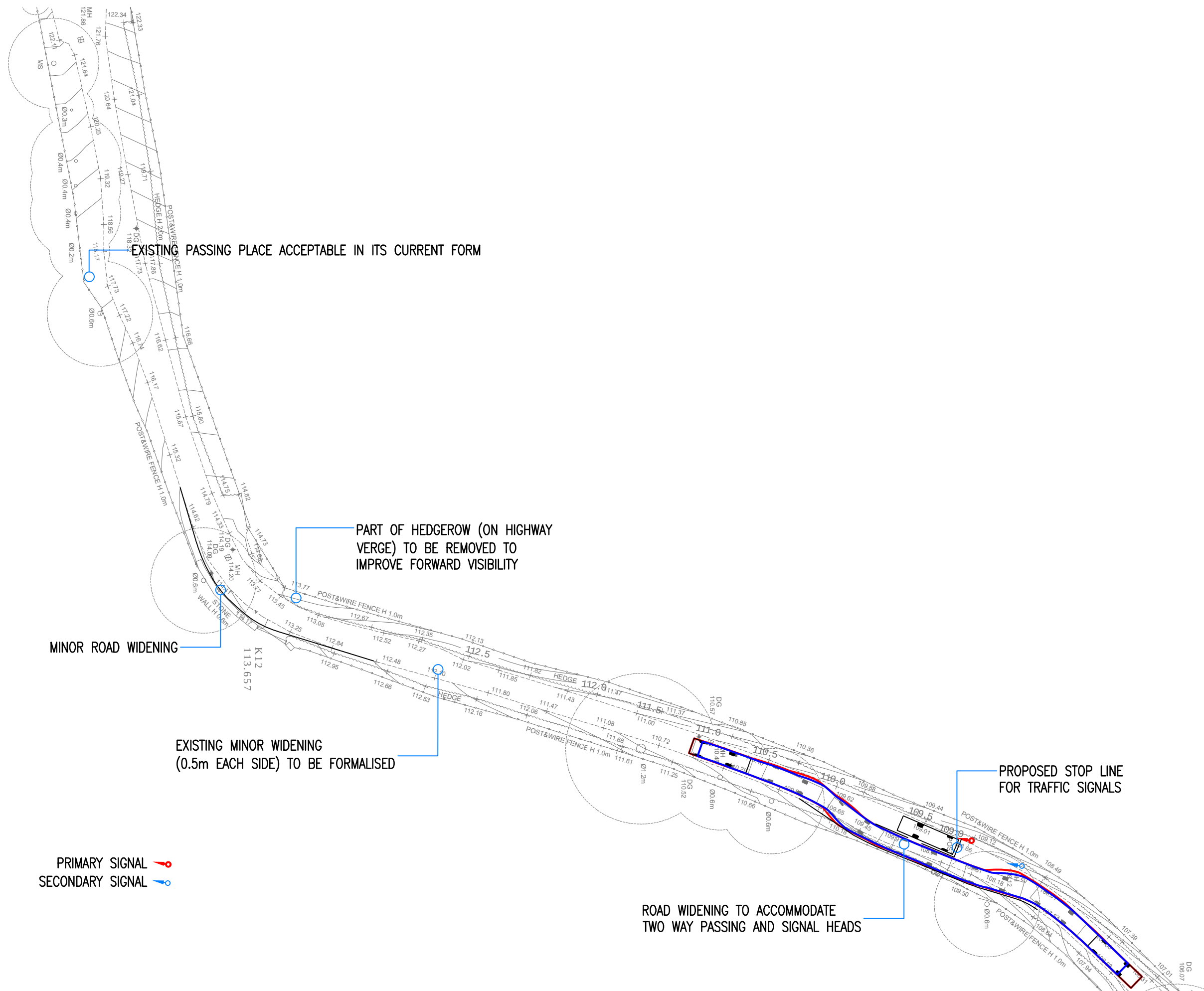
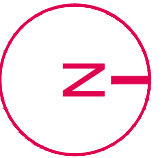
HIGHWAY IMPROVEMENTS

SCALE 1:500 @A3

DATE JULY 2016

DRAWING No 1606406

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HIGHWAY IMPROVEMENTS

SCALE 1:500 @A3

DATE OCT 2016

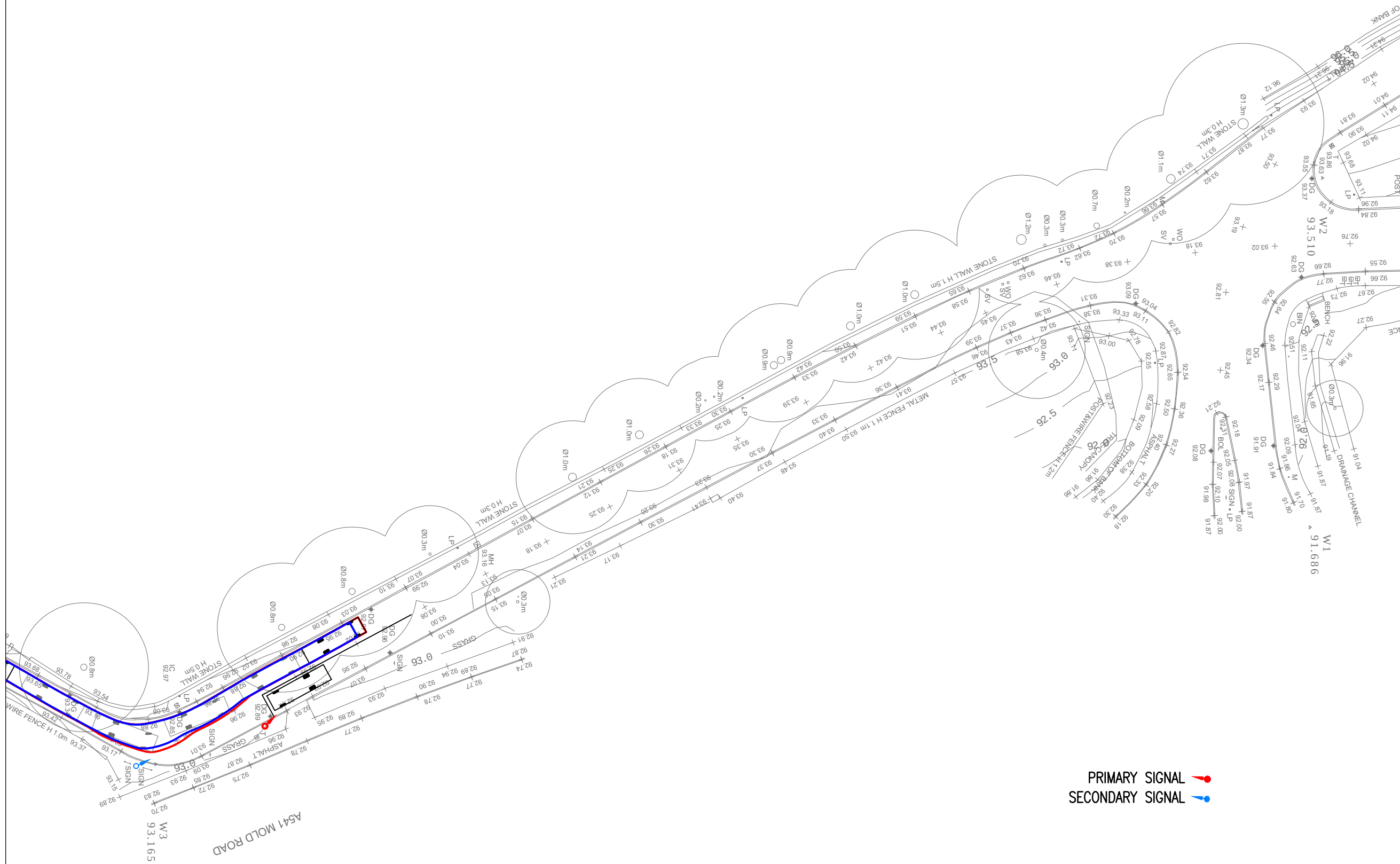
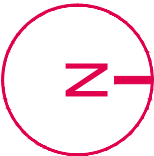
DRAWING No 1606407B

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APPROVAL



DRAWING No 1606408

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DEVELOPMENT

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HIGHWAY IMPROVEMENTS

SCALE 1:500 @A3

DATE JULY 2016

DRAWING No 1606409

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Technical Note 2: Highways



Land adjacent to Bottom Rd, Summerhill
Proposed Residential Development (59 dwellings)
Ref: P/2016/0738

This Technical Note has been written in response to the revised highways consultation response by Wrexham Council (dated 14th December 2016). This commented on the additional information and revised designs of the highway improvements provided by Via Solutions, which responded to the initial comments raised by the highway authority (dated 6th September 2016) on the Transport Statement submitted with the planning application. Further highway improvements are now proposed, as shown on the attached drawings.

The highways consultation response continues to object to the development on the grounds of an unsuitable highway network, especially the point of access and along Bottom Road. It is our opinion that this conclusion does not take into account the level of impact of the development and improvements offered, which will clearly be of benefit to the existing users of the local highway network. There are a number of concerns raised in the revised response, additional information and comments are provided below for each area of concern.

Site Access: The application proposes to widen Bottom Road to 5.5m (for two way passing of vehicles) within the vicinity of the site access. The road narrowing just to the south of the site access will be widened beyond the speed cushion by removing a short section of footway on the approach to the mini-roundabout. This part of the footway offers very little benefit to pedestrians given that it ends 25m from the mini-roundabout and leads into a very long section of Bottom Road with no footway.

The proposal is to remove 14m of footway to create two-way passing of vehicles for the mini-roundabout approach and is therefore seen as a safety benefit to all highway users. This also forms a short pinch point (around the wall return) on the approach to the site access.

It is intended that this pinch point operates as a priority system, with northbound traffic giving way to southbound. Road markings and signage will be provided to manage the traffic, as shown on drawing 1606402e. The visibility splay to the left is now shown, and is considered to be appropriate for a design speed of 20mph.

It is also noted that the proposed pedestrian / cycle route through the site will provide a significant improvement (safe and convenient link between Summerhill and the bridleway to the north), more than outweighing the impact of removing a short section of footway.

Technical Note 2: Highways



Land adjacent to Bottom Rd, Summerhill
Proposed Residential Development (59 dwellings)
Ref: P/2016/0738

Passing Places: The hedgerow will now be set back between the passing places just to the north of the proposed site access. This will provide intervisibility between the passing places. All of the passing places, whether or not replacing informal over run verges, are considered to be a notable highway improvement. This proposal will reduce ecological damage to the verges and the egress of mud onto the road. Road signs will also be provided. The signs will clearly indicate the location of the passing places which will be of benefit to drivers should they meet oncoming vehicles along the long section of Bottom Road.

Bottom Road (to the south of site): It is acknowledged that some of the sections along Bottom Road through Summerhill have restricted widths and on-street parking concerns. This is however typical of many urban environments in this area and the impact of the development is very low along this section of highway. The Transport Assessment predicts a maximum of only 20 vehicles per hour (two way) using the southern section of Bottom Road. This equates to only one vehicle every three minutes in any direction.

Visibility Splay at Junction: The proposed priority change and junction widening is considered to be a significant improvement to the junction despite the restricted visibility to the left. Visibility is currently restricted in all directions, and the narrow approach roads with small radii restricts vehicle manoeuvrability.

Vegetation overhang: Forward visibility around the bend (close to the bridleway) can be improved by removing and cutting back the overgrown vegetation / brambles. This is an existing concern and works to remove or cut back vegetation can be carried out under statutory powers by the highway authority. The public highway boundary limits in this area is also vague and the verge could well be part of the highway. As such ownership restrictions is not considered to be of concern.

Pedestrian / Cycle Link: This proposal is considered to be of significant benefit to existing and proposed residents and visitors in the area. It will provide a safe and attractive route given that the link will provide a wide, traffic free route connecting directly to the bridleway to the north. The new link will run along the edge of Bottom Road along the northern boundary of the site. This will be kerbed (therefore deterring vehicle use) and will improve forward visibility around the bend. The proposal will also provide a connection to the east along the boundary of Summerhill (public footpath to the school).

Technical Note 2: Highways



Land adjacent to Bottom Rd, Summerhill
Proposed Residential Development (59 dwellings)
Ref: P/2016/0738

Signal Control: This proposal is also considered to be of significant benefit given that it removes the potential of two vehicles meeting at the rail bridge. We have amended the road widening around the northern signal heads to allow stacking for five cars, which is considered to be more than adequate (shown on drawing 1606407c).

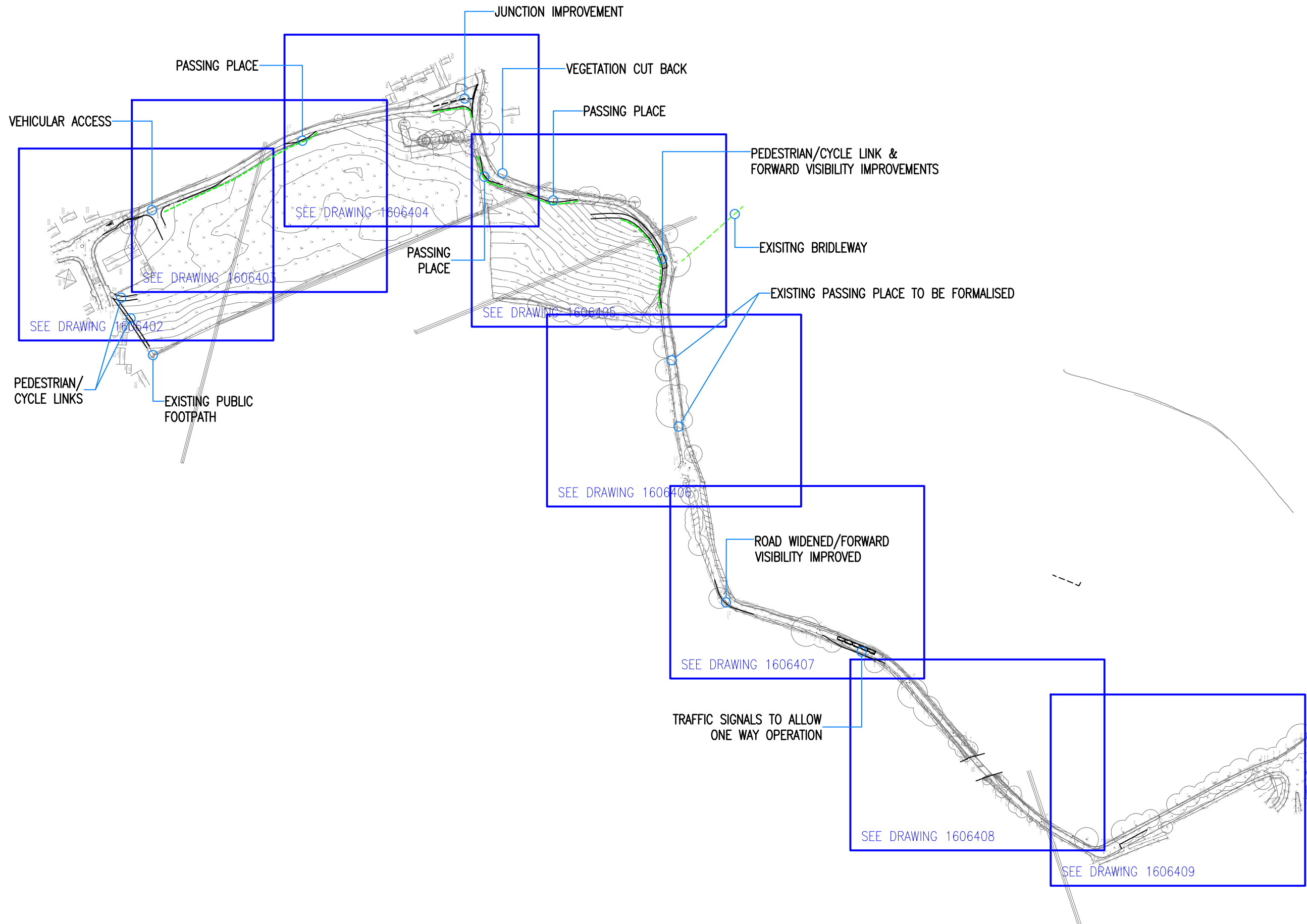
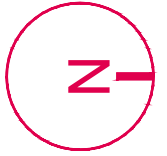
Traffic Surveys: We have already responded to the concern relating to the traffic survey dates potentially been in school holidays. Our comments are repeated below:

Regarding the traffic survey data it is acknowledged that the survey dates did extend into the school holidays (27th May to 6th June 2016), however the data used and presented for the assessment was selected from days within the school term. The survey on Bottom Road was carried out over a week, and the peak day (Friday 27th May) was selected to provide a robust assessment. It is noted that less traffic was recorded the day before, which was a school day, but the peak day was selected to provide a robust assessment. The hourly two-way traffic flow figures of 37 vehicles in the morning peak (44 vehicles in the evening peak) is considered to be suitable and relevant for use in the Transport Statement.

Given the above it is considered that the development impact in terms of highway capacity and safety will be very low and on balance, the improvements offered to vehicle, pedestrian and cycle safety outweigh the concerns raised regarding an inadequate highway network.

Chris Yarrow

18th January 2017



PROPOSED RESIDENTIAL
DEVELOPMENT
LAND ADJACENT TO BOTTOM ROAD,
SUMMERHILL, WREXHAM

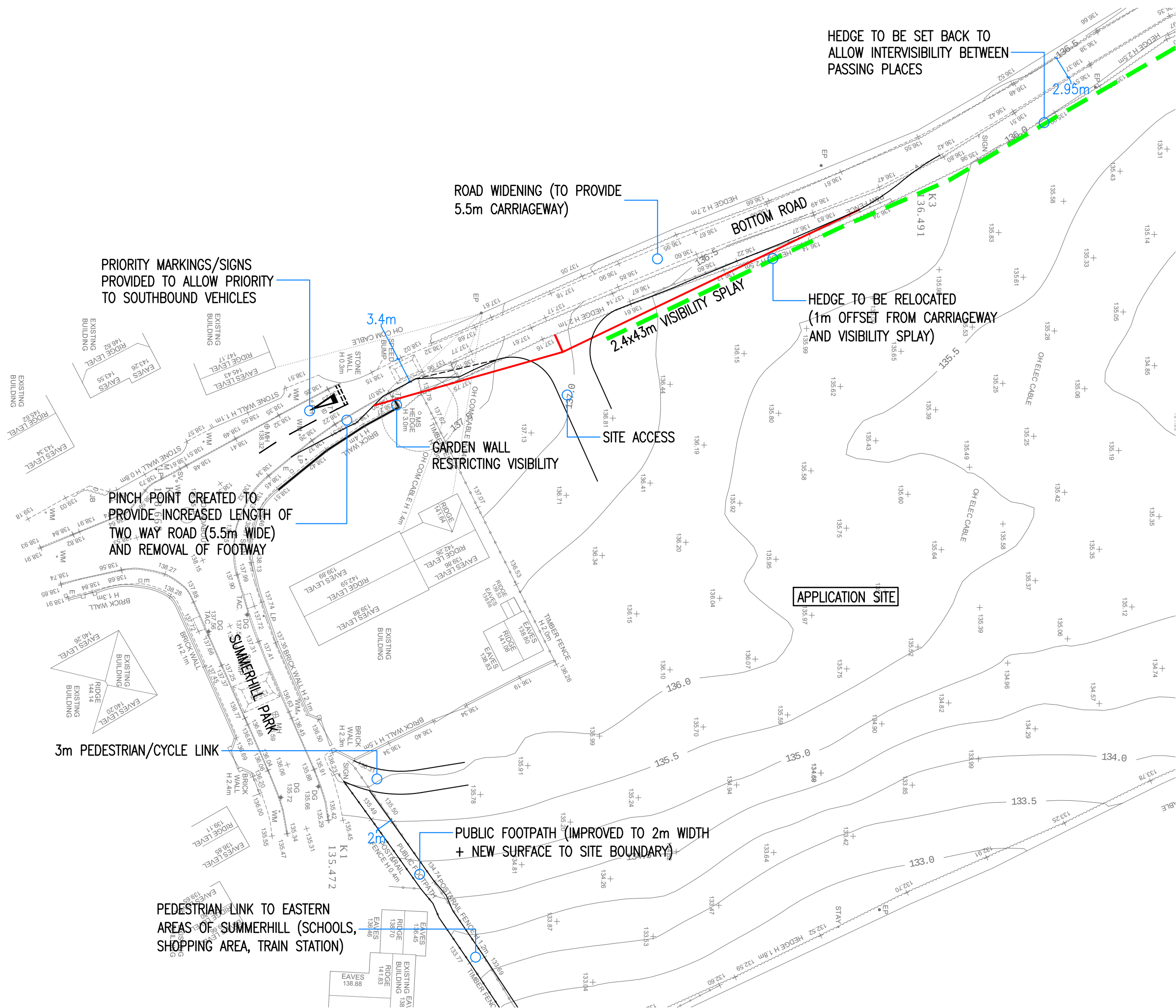
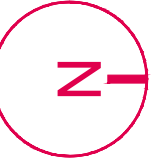
HIGHWAY IMPROVEMENTS

SCALE 1:2500 @A3

DATE JAN 2017

DRAWING No 1606401

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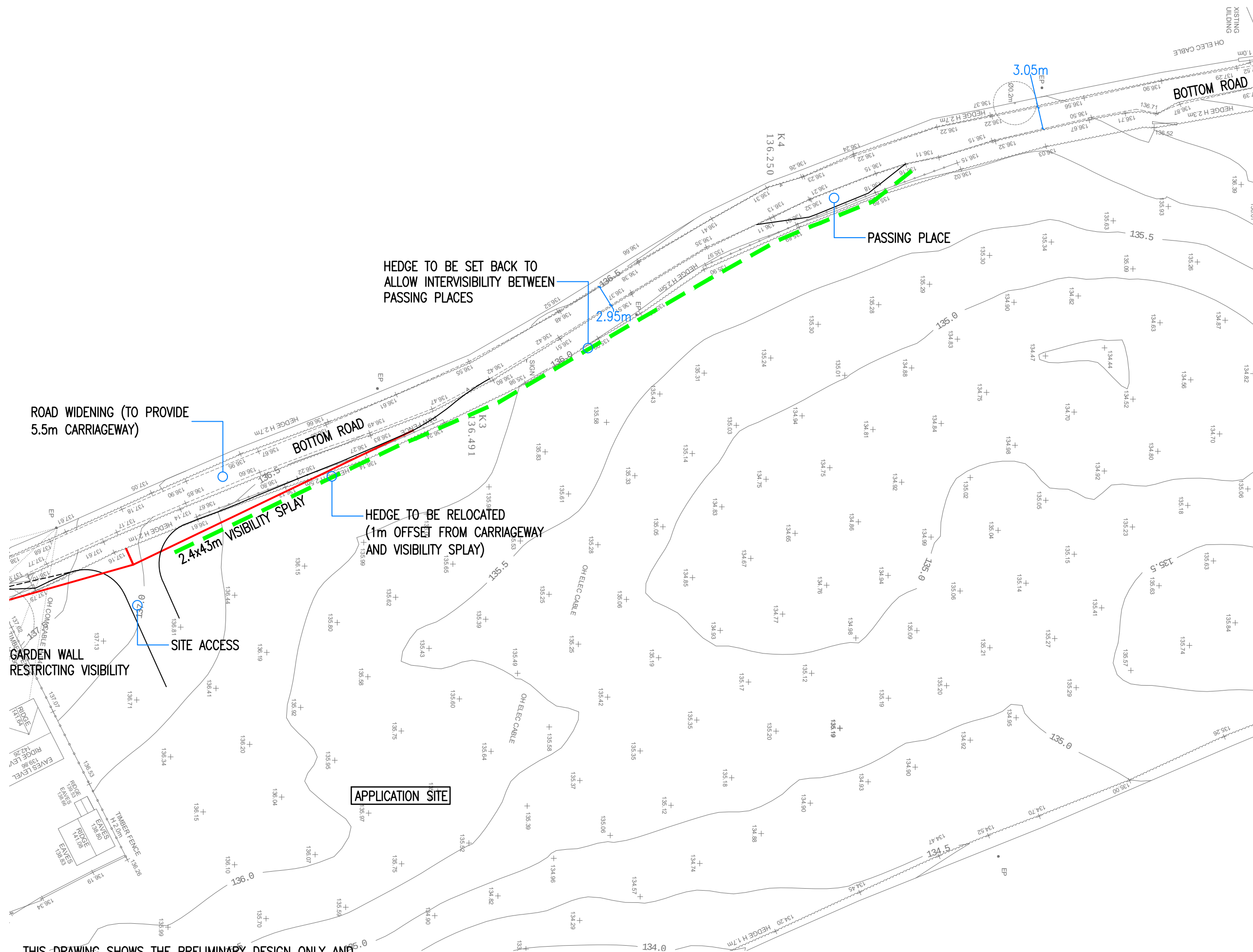
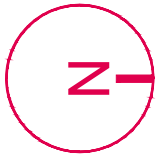
HIGHWAY IMPROVEMENTS

SCALE 1:500 @A3

DATE JAN 2017

DRAWING No: 1606402 REV E

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PROPOSED RESIDENTIAL DEVELOPMENT

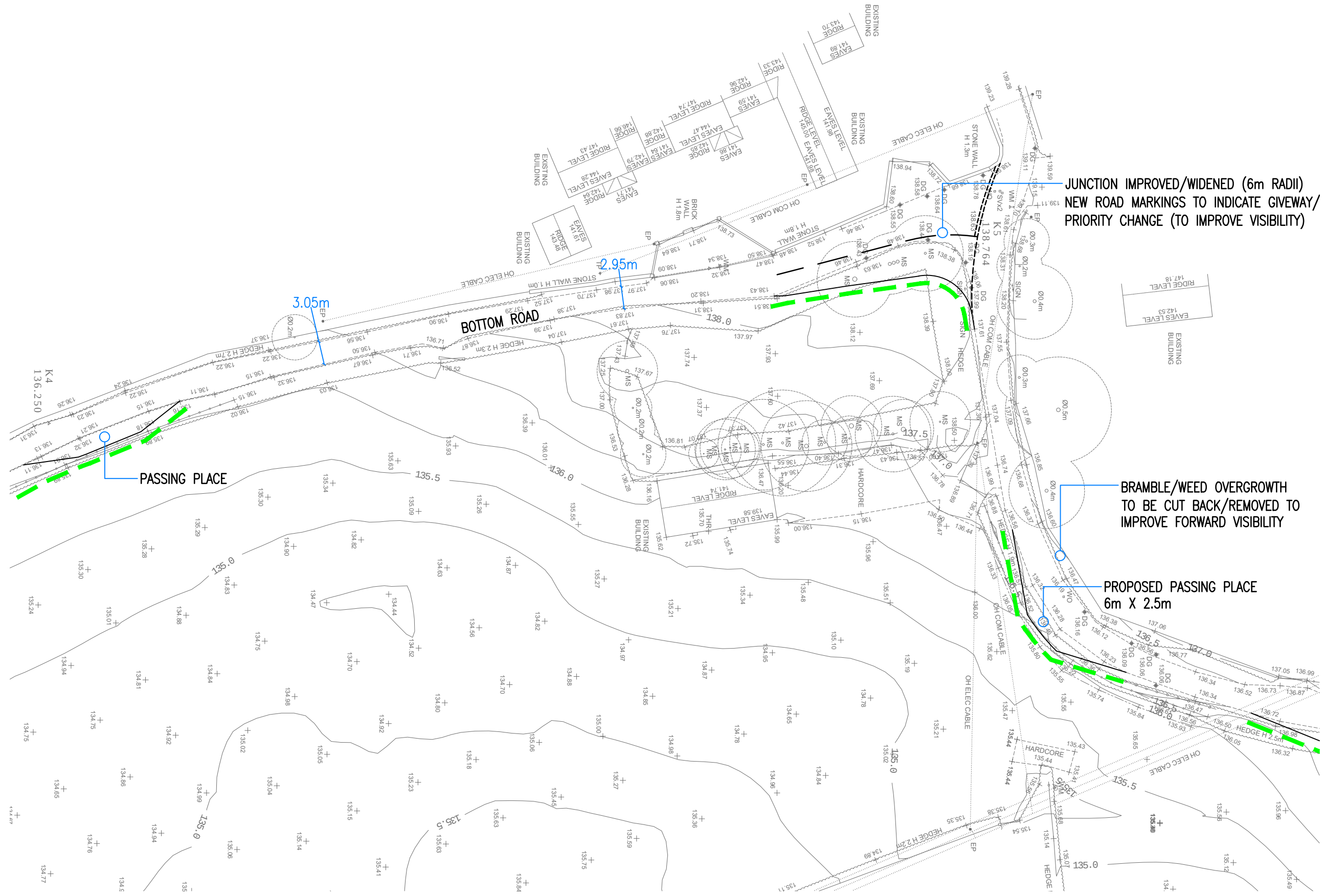
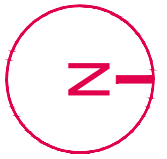
LAND ADJACENT TO BOTTOM ROAD,
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HIGHWAY IMPROVEMENTS

SCALE 1:500 @A3

DATE JAN 2017

DRAWING No: 1606403 REV D




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DEVELOPMENT

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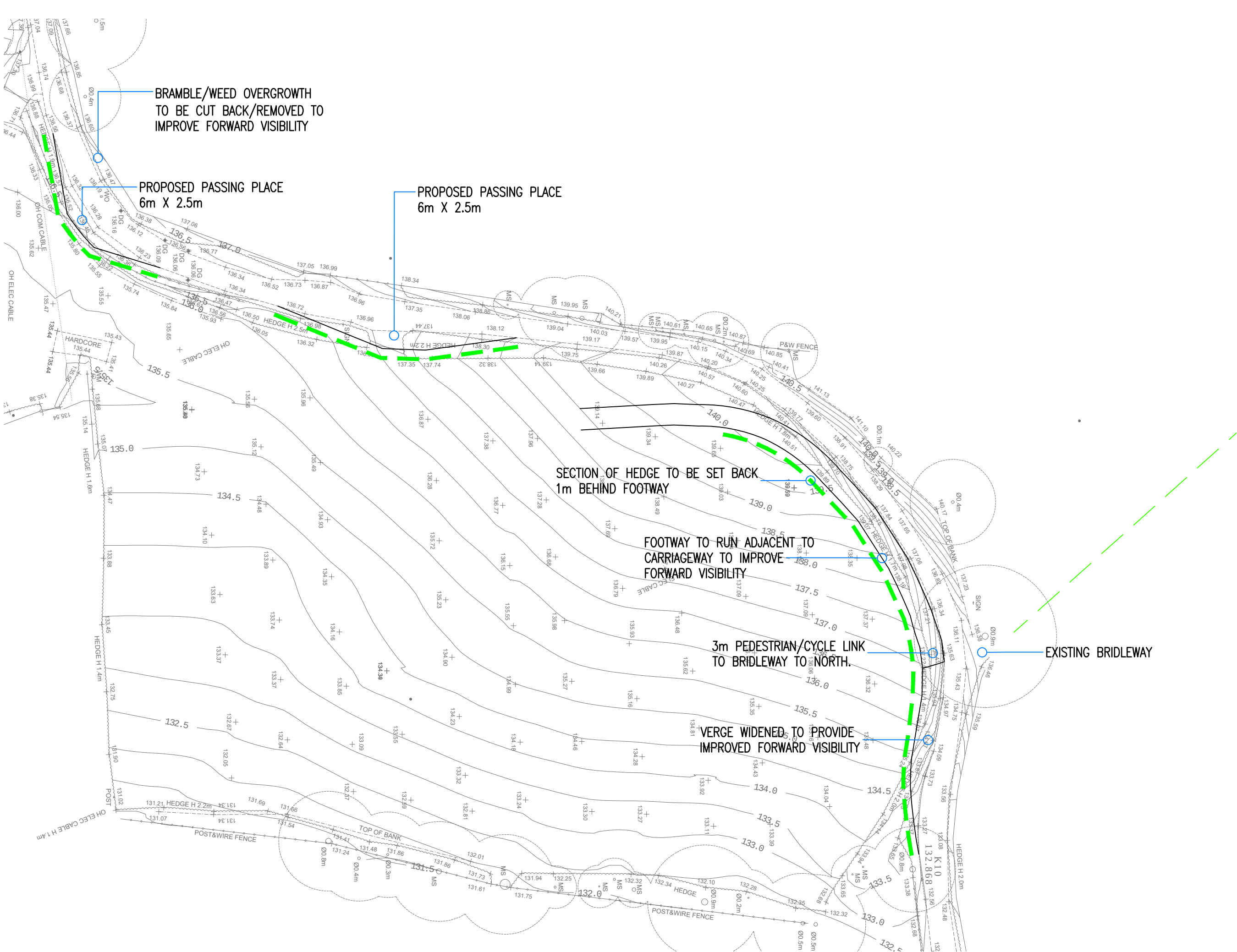
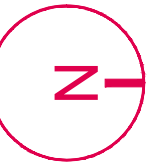
HIGHWAY IMPROVEMENTS

SCALE 1:500 @A3

DATE JAN 2017

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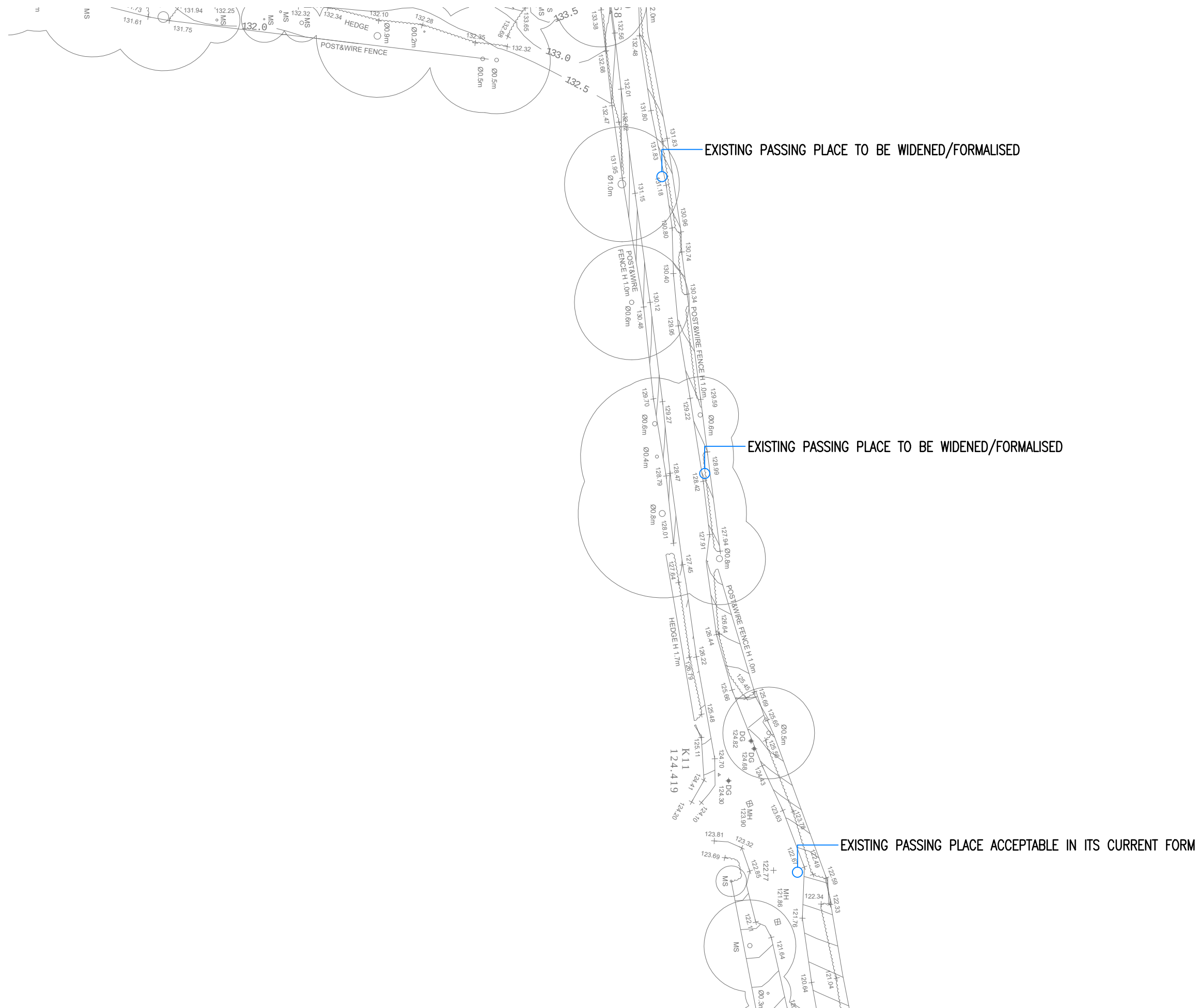
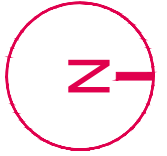
HIGHWAY IMPROVEMENTS

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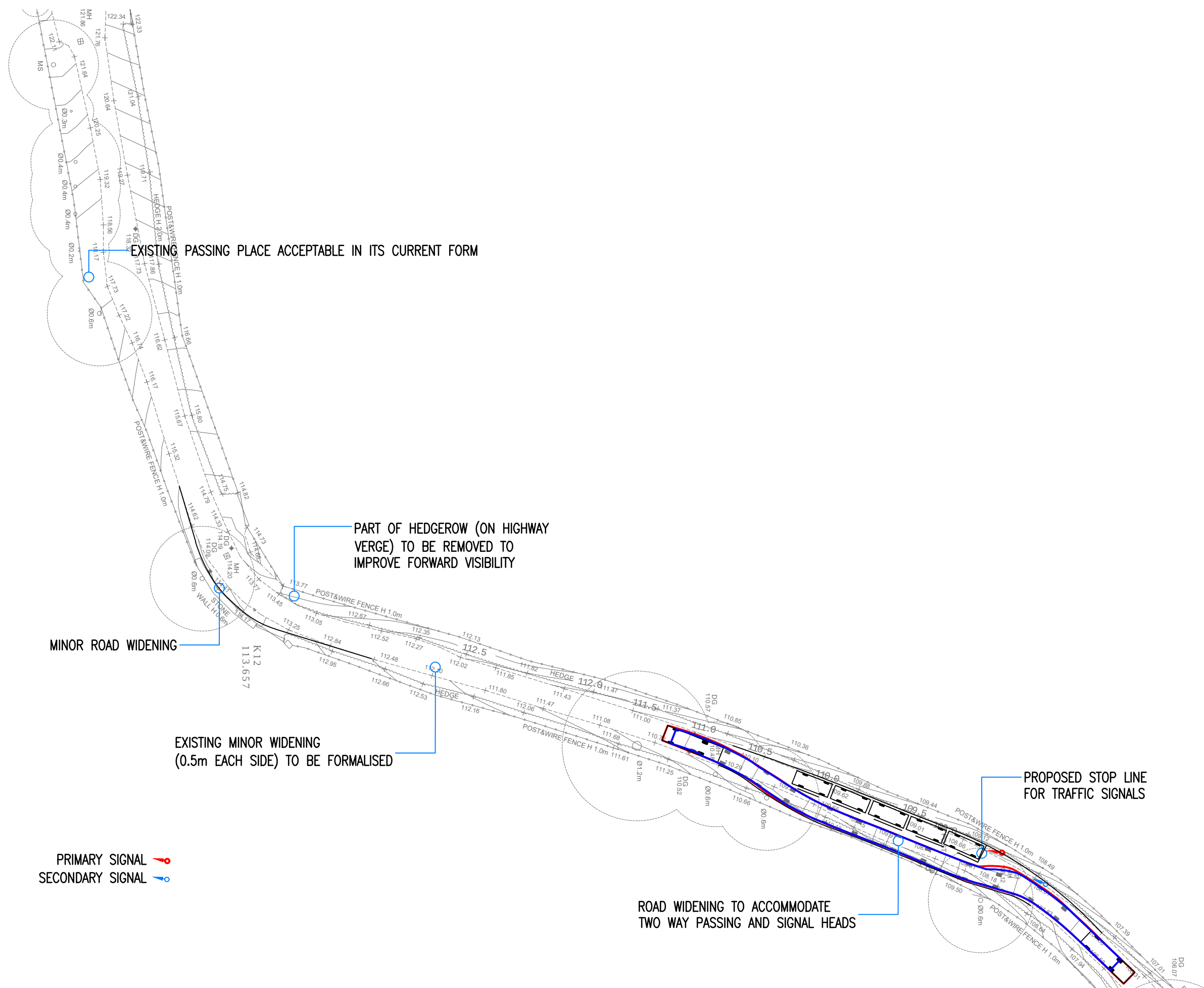
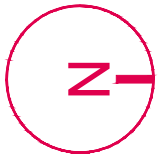
HIGHWAY IMPROVEMENTS

SCALE 1:500 @A3

DATE JAN 2017

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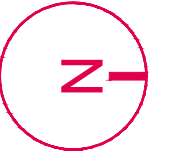


VIA SOLUTIONS
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PUDSEY LS28 6DP
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PROPOSED RESIDENTIAL DEVELOPMENT
LAND ADJACENT TO BOTTOM ROAD, SUMMERHILL, WREXHAM
HIGHWAY IMPROVEMENTS
SCALE 1:500 @A3
DATE JAN 2017
DRAWING No 1606407C

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IS



RAIL BRIDGE
HEIGHT RESTRICTION 2.6m



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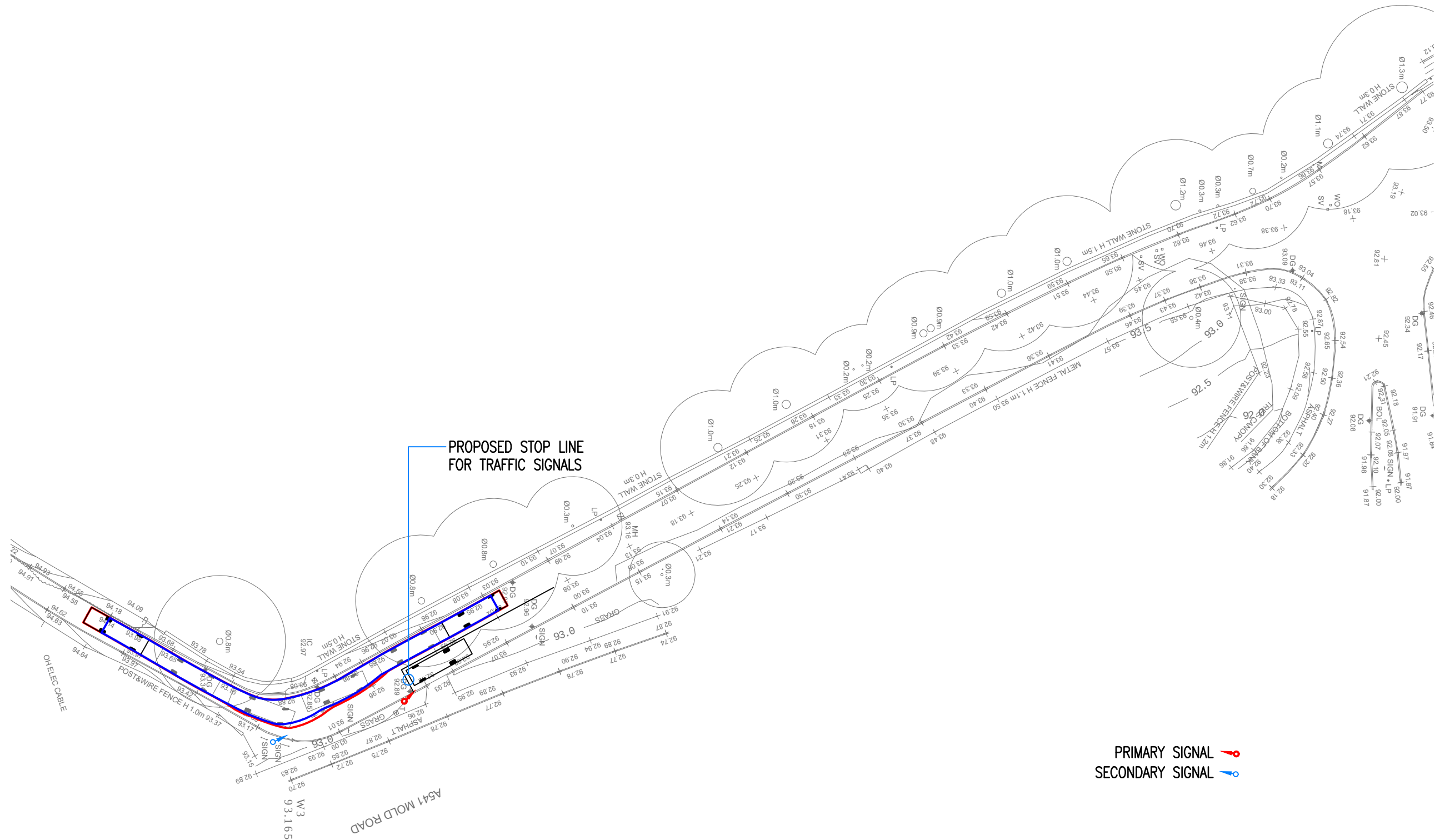
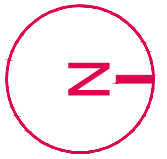
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SCALE 1:500 @A3

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SCALE 1:500 @A3

DATE JAN 2017

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APPENDIX C: Automatic Traffic Survey 26 May to 1 June 2016

Site No.	Location.	Direction.	Speed Limit - PSL (mph)	Start Date.	End Date.	Total Vehicles.	5 Day Ave.	7 Day Ave.	No. > Speed Limit.	% > Speed Limit.	No. > ACPO Limit.	% > ACPO Limit.	No. > DfT Limit.	% > DfT Limit.	Mean Speed	85%ile Speed
2	Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189	North bound	60	26 May 2016	01 June 2016	1363	205	195	0	0.0	0	0.0	0	0.0	20.7	25.3
		South bound	60	26 May 2016	01 June 2016	1263	193	180	0	0.0	0	0.0	0	0.0	21.8	26.4
		Two way	60	26 May 2016	01 June 2016	2626	398	375	0	0.0	0	0.0	0	0.0	21.2	25.9

Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction North bound

6335 / Summerhill
May 2016
Automatic Traffic Count

26 May 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0100	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.4	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.7	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.9	-
0600	9	1	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.9	-
0700	23	0	22	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.5	23.5
0800	19	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	25.7
0900	15	0	11	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.5	25.1
1000	15	0	14	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	19	21.3
1100	12	0	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.8	24.2
1200	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.5	-
1300	10	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.7	-
1400	14	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.6	21.5
1500	11	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.1	21.9
1600	19	0	18	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.7	22.1
1700	25	0	20	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.8	23.5
1800	15	0	14	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.4	25.7
1900	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.3	-
2000	10	0	9	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	19.7	-
2100	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.8	-
2200	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.6	-
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
07-19	187	0	170	0	16	0	0	0	1	0	0	0	0	0	0	0	0	0	0	20.1	24.6
06-22	220	1	200	0	17	0	1	0	1	0	0	0	0	0	0	0	0	0	0	20.1	24.4
06-00	224	1	204	0	17	0	1	0	1	0	0	0	0	0	0	0	0	0	0	20.2	24.6
00-00	235	1	215	0	17	0	1	0	1	0	0	0	0	0	0	0	0	0	0	20.3	24.6



Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction North bound

6335 / Summerhill
May 2016
Automatic Traffic Count

27 May 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	-
0600	8	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.3	-
0700	20	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.2	26.8
0800	22	0	21	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.5	25.1
0900	10	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.2	-
1000	16	0	14	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.8	23.5
1100	12	0	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.3	23.7
1200	12	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.5	25.9
1300	17	1	15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	28
1400	12	0	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.4	23.3
1500	12	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.4	24.2
1600	17	0	15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.7	21.3
1700	23	1	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.4	24.4
1800	13	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.8	25.9
1900	12	0	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.1	25.3
2000	13	1	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.3	28.2
2100	7	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.3	-
2200	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.5	-
2300	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.3	-
07-19	186	3	174	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.7	25.1
06-22	226	6	209	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25.9
06-00	236	6	219	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.1	25.9
00-00	242	6	225	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.1	25.9



Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction North bound

6335 / Summerhill
May 2016
Automatic Traffic Count

28 May 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0100	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	-
0200	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.7	-
0300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.7	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	6	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.1	-
0700	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.3	-
0800	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.4	-
0900	12	0	10	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	25.1
1000	19	0	18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.5	23.5
1100	11	1	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.9	21.5
1200	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.5	-
1300	15	1	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	21.5
1400	16	1	13	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.1	23.7
1500	21	3	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4	25.3
1600	19	3	15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.9	28.2
1700	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.5	-
1800	14	0	12	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.7	23.7
1900	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.1	-
2000	11	0	9	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.4	24.2
2100	3	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27.7	-
2200	4	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.9	-
2300	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.6	-
07-19	157	9	137	4	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.7	24.8
06-22	182	10	158	4	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25.7
06-00	191	10	166	4	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	26.2
00-00	195	10	170	4	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	26.2

Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction North bound

6335 / Summerhill
May 2016
Automatic Traffic Count

29 May 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27.1	-
0100	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27.1	-
0200	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	-
0300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.5	-
0400	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	-
0700	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.4	-
0800	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.5	-
0900	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.5	-
1000	11	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.6	22.4
1100	13	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.8	23.9
1200	13	0	12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.7	25.3
1300	14	1	11	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	23.3
1400	15	2	11	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.9	23.7
1500	10	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.6	-
1600	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.7	-
1700	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.3	-
1800	10	0	9	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	20.7	-
1900	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.2	-
2000	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	-
2100	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.3	-
2200	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.6	-
2300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.4	-
07-19	112	3	102	1	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	20.3	23.9
06-22	128	3	118	1	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	20.6	24.6
06-00	135	3	125	1	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	20.7	24.6
00-00	145	3	134	1	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	20.9	25.3

Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction North bound

6335 / Summerhill
May 2016
Automatic Traffic Count

30 May 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.3	-
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.9	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.6	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.2	-
0700	4	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16.3	-
0800	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16.9	-
0900	9	0	8	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	19.7	-
1000	7	0	6	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	17	-
1100	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.1	-
1200	10	1	6	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	21	-
1300	16	3	12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.7	23.5
1400	14	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	23.9
1500	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.1	-
1600	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.8	-
1700	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.3	-
1800	18	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.1	25.7
1900	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.7	-
2000	4	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.1	-
2100	3	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	-
2200	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	-
2300	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.9	-
07-19	105	5	94	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	20.2	24.2
06-22	117	5	104	1	4	1	2	0	0	0	0	0	0	0	0	0	0	0	0	20.2	24.2
06-00	123	5	110	1	4	1	2	0	0	0	0	0	0	0	0	0	0	0	0	20.4	24.2
00-00	128	5	114	1	5	1	2	0	0	0	0	0	0	0	0	0	0	0	0	20.6	24.6



Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction North bound

6335 / Summerhill
May 2016
Automatic Traffic Count

31 May 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0100	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.3	-
0200	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.1	-
0300	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.8	-
0400	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	-
0500	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.4	-
0600	9	0	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.5	-
0700	19	1	17	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.9	24.2
0800	16	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.1	23.7
0900	11	0	9	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.6	21.7
1000	14	0	12	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	24.4
1100	14	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.4	22.4
1200	11	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.8	21.5
1300	7	1	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.9	-
1400	18	3	14	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.5	24.4
1500	10	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.4	-
1600	14	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.8	22.6
1700	11	0	9	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	24.6
1800	12	0	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.6	22.4
1900	13	2	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.1	23
2000	10	0	9	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	15.9	-
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2200	4	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	-
2300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.1	-
07-19	157	5	140	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.3	23.9
06-22	189	7	168	0	13	0	0	0	0	0	1	0	0	0	0	0	0	0	0	19.8	24.2
06-00	195	8	172	0	14	0	0	0	0	0	1	0	0	0	0	0	0	0	0	19.9	24.2
00-00	204	8	181	0	14	0	0	0	0	0	1	0	0	0	0	0	0	0	0	19.9	24.2

Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction North bound

6335 / Summerhill
May 2016
Automatic Traffic Count

01 June 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	-
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.1	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.9	-
0600	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8	-
0700	14	2	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.1	24.8
0800	19	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	24.8
0900	9	0	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4	-
1000	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.2	-
1100	7	0	5	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.5	-
1200	18	1	15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4	26.8
1300	16	0	15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	23.5
1400	19	0	18	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.1	24.4
1500	11	1	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.6	23.5
1600	15	0	13	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.3	25.5
1700	21	0	20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	25.1
1800	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	-
1900	12	0	9	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25.1
2000	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	-
2100	4	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.9	-
2200	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	-
2300	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.7	-
07-19	165	4	149	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25.1
06-22	197	4	177	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.9	25.1
06-00	208	4	188	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25.3
00-00	214	4	194	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.1	25.5

Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction North bound

6335 / Summerhill
May 2016
Automatic Traffic Count

Virtual Day (7)

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.1	-
0100	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.4	-
0200	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.3	-
0300	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.1	-
0400	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.9	-
0500	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	-
0600	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	-
0700	12	1	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	24.4
0800	13	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.7	25.1
0900	10	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	24.8
1000	13	0	12	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.8	23.9
1100	10	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.2	23.9
1200	12	0	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4	25.5
1300	14	1	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.2	23.9
1400	15	1	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4	24.2
1500	12	1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	24.2
1600	14	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.9	25.5
1700	14	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	24.6
1800	13	0	12	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.9	24.6
1900	9	0	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.1	-
2000	8	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.6	-
2100	4	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.8	-
2200	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.8	-
2300	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.1	-
07-19	153	4	138	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.5	24.6
06-22	180	5	162	1	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	20.6	24.8
06-00	187	5	169	1	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	20.6	25.1
00-00	195	5	176	1	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	20.7	25.3

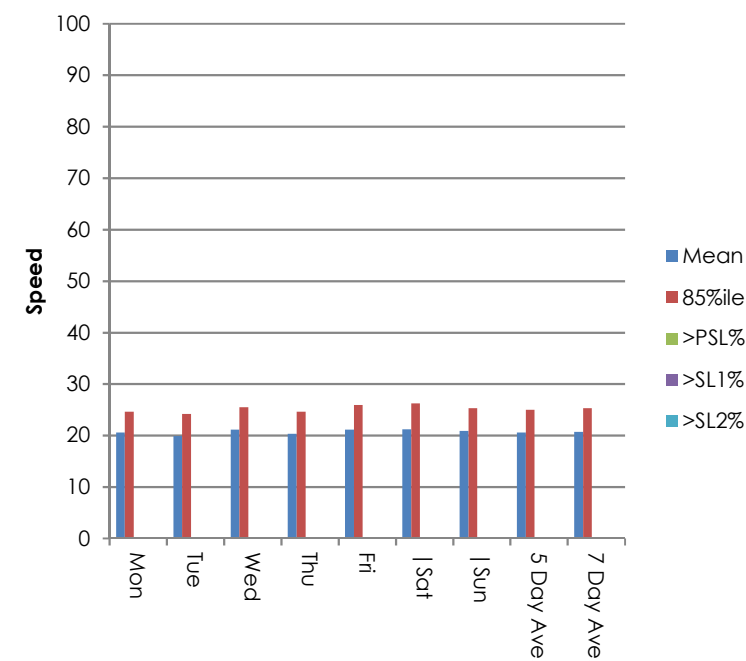
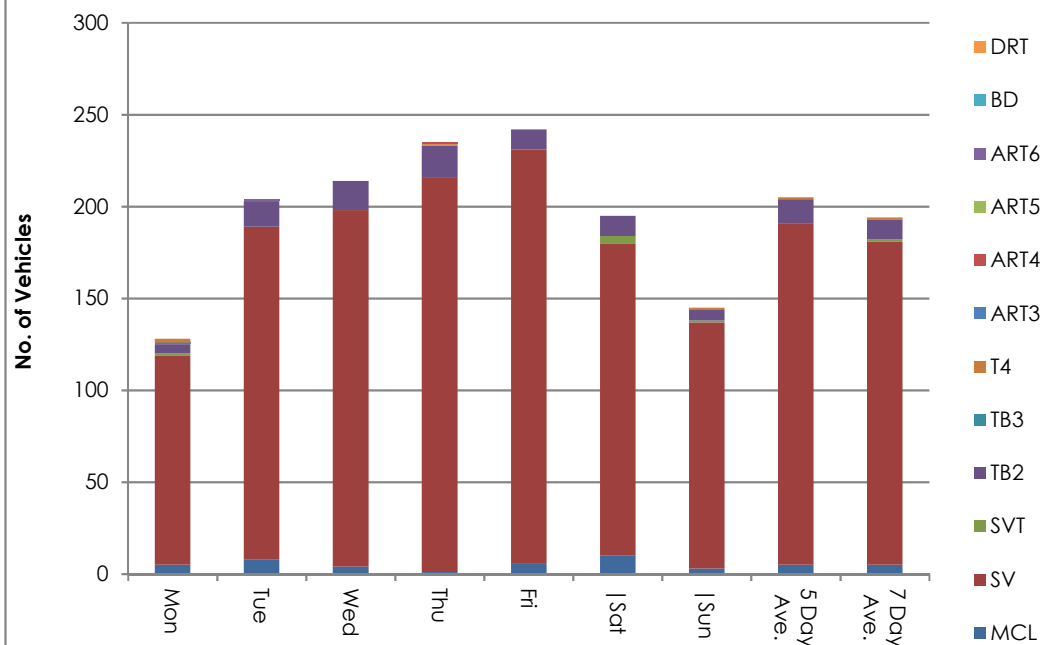
Site 2
 Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
 Direction North bound

6335 / Summerhill
 May 2016
 Automatic Traffic Count

Virtual Week (1)

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
Mon	128	5	114	1	5	1	2	0	0	0	0	0	0	0	0	0	0	0	0	20.6	24.6
Tue	204	8	181	0	14	0	0	0	0	0	1	0	0	0	0	0	0	0	0	19.9	24.2
Wed	214	4	194	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.1	25.5
Thu	235	1	215	0	17	0	1	0	1	0	0	0	0	0	0	0	0	0	0	20.3	24.6
Fri	242	6	225	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.1	25.9
Sat	195	10	170	4	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	26.2
Sun	145	3	134	1	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	20.9	25.3
5 Day Ave.	205	5	186	0	13	0	1	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	20.6	25.0
7 Day Ave.	195	5	176	1	11	0	1	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	20.7	25.3
--	1363	37	1233	6	80	1	4	0	1	0	1	0	0	0	0.0	0	0.0	0	0.0	20.7	25.3

Summary Graphs



Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction South bound

6335 / Summerhill
May 2016
Automatic Traffic Count

26 May 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33.4	-
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.6	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.9	-
0600	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.4	-
0700	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.2	-
0800	12	0	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8	22.8
0900	15	0	12	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	24.8
1000	7	0	6	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	23.2	-
1100	10	0	8	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8	-
1200	11	1	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4	22.4
1300	10	0	8	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.6	-
1400	17	0	15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.9	22.4
1500	22	0	21	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.2	25.5
1600	27	0	25	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.7	25.9
1700	19	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.1	27.1
1800	23	0	22	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.9	27.7
1900	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4	-
2000	15	2	12	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.5	29.1
2100	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.5	-
2200	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27.7	-
2300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.7	-
07-19	176	1	160	0	14	0	0	0	1	0	0	0	0	0	0	0	0	0	0	21.3	25.9
06-22	212	3	193	0	15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	21.4	26.2
06-00	217	3	198	0	15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	21.5	26.4
00-00	221	3	202	0	15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	21.6	26.4

Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction South bound

6335 / Summerhill
May 2016
Automatic Traffic Count

27 May 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.2	-
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31.1	-
0600	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	-
0700	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.1	-
0800	15	1	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.9	28.6
0900	12	0	9	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.3	26.2
1000	11	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	24.8
1100	11	2	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.8	22.8
1200	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.1	-
1300	15	0	14	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.9	25.9
1400	15	1	12	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.5	27.3
1500	20	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.6	24.4
1600	23	2	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25.1
1700	21	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.2	25.1
1800	20	1	18	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.5	25.9
1900	8	0	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	-
2000	12	1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.2	27.3
2100	6	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.4	-
2200	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28.9	-
2300	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.2	-
07-19	175	7	159	0	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.9	26.2
06-22	206	9	187	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	22	26.2
06-00	211	9	192	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	22.2	26.4
00-00	214	9	195	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	22.3	26.4

Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction South bound

6335 / Summerhill
May 2016
Automatic Traffic Count

28 May 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	-
0100	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.5	-
0200	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30.7	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	-
0600	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.7	-
0700	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.3	-
0800	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	-
0900	9	0	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.8	-
1000	12	0	10	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.6	27.7
1100	9	0	7	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.9	-
1200	11	0	10	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.7	24.4
1300	13	1	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.4	25.1
1400	8	0	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.1	-
1500	19	3	15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.2	28.4
1600	14	2	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.3	30.9
1700	9	0	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	-
1800	11	1	9	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	19.4	22.8
1900	10	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.6	-
2000	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.3	-
2100	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.6	-
2200	5	0	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.5	-
2300	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27.8	-
07-19	121	7	102	2	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.4	26.4
06-22	146	7	126	2	10	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.8	27.1
06-00	155	7	134	2	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	22.1	27.3
00-00	162	7	141	2	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	22.2	27.3

Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction South bound

6335 / Summerhill
May 2016
Automatic Traffic Count

29 May 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0100	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.7	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.1	-
0700	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13.8	-
0800	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.8	-
0900	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.1	-
1000	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4	-
1100	9	0	7	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.7	-
1200	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	-
1300	10	2	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.6	-
1400	9	0	7	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	-
1500	12	0	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.5	24.2
1600	14	1	12	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.1	26.2
1700	12	0	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.9	25.9
1800	13	0	12	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.2	25.1
1900	12	0	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.1	26.4
2000	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.9	-
2100	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.9	-
2200	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.5	-
2300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.9	-
07-19	103	4	90	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.6	25.9
06-22	128	4	114	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	25.9
06-00	133	4	119	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8	25.9
00-00	135	4	120	1	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	26.2

Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction South bound

6335 / Summerhill
May 2016
Automatic Traffic Count

30 May 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.1	-
0100	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35.1	-
0200	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29.3	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28.2	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	-
0700	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.6	-
0800	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.1	-
0900	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.6	-
1000	7	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.6	-
1100	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.9	-
1200	12	2	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.3	25.9
1300	11	3	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.1	22.4
1400	4	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.9	-
1500	11	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.6	23.3
1600	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.3	-
1700	11	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8	24.2
1800	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.1	-
1900	11	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.3	25.1
2000	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.6	-
2100	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.7	-
2200	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.8	-
2300	3	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28.2	-
07-19	87	5	79	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.4	25.3
06-22	110	5	102	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8	25.9
06-00	116	5	107	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	26.2
00-00	125	5	115	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.4	27.1



Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction South bound

6335 / Summerhill
May 2016
Automatic Traffic Count

31 May 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33.4	-
0300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27.8	-
0400	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	-
0500	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	-
0600	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.2	-
0700	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	-
0800	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4	-
0900	9	0	6	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.4	-
1000	12	1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.7	23.3
1100	13	0	11	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	25.1
1200	10	1	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.6	-
1300	14	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.3	25.5
1400	11	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.8	23.9
1500	16	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.6	25.9
1600	21	0	15	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.5	24.6
1700	13	0	12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.5	23.7
1800	19	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.1	26.6
1900	16	1	14	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.1	25.1
2000	16	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15.3	22.4
2100	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.1	-
2200	7	1	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28.4	-
2300	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.3	-
07-19	148	3	131	1	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	24.8
06-22	193	4	174	1	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.6	24.8
06-00	203	5	182	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25.3
00-00	212	5	191	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25.5

Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction South bound

6335 / Summerhill
May 2016
Automatic Traffic Count

01 June 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.5	-
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.9	-
0600	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.3	-
0700	5	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.2	-
0800	4	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.3	-
0900	4	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	-
1000	9	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.3	-
1100	14	1	11	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.5	27.1
1200	16	0	13	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.4	26.4
1300	16	0	14	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.9	29.1
1400	11	0	10	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.8	27.5
1500	14	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	26.4
1600	24	1	21	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.2	26.4
1700	17	0	16	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.4	24.4
1800	19	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.7	24.8
1900	14	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.9	24.6
2000	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.1	-
2100	6	0	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.2	-
2200	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34.2	-
2300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.5	-
07-19	153	4	135	1	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	26.4
06-22	187	4	167	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	26.2
06-00	191	4	171	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	26.4
00-00	194	4	174	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.4	26.4

Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction South bound

6335 / Summerhill
May 2016
Automatic Traffic Count

Virtual Day (7)

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.9	-
0100	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.4	-
0200	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29.5	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27.8	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.1	-
0500	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.2	-
0600	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.4	-
0700	4	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.5	-
0800	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8	-
0900	8	0	7	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.5	-
1000	9	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.4	-
1100	11	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.8	25.1
1200	11	1	10	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	26.2
1300	13	1	10	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8	25.5
1400	11	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	25.3
1500	16	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.9	25.5
1600	19	1	16	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	26.4
1700	15	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.9	26.2
1800	16	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.9	26.6
1900	12	0	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.1	27.3
2000	10	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.6	-
2100	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	-
2200	4	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27.1	-
2300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.8	-
07-19	138	4	122	1	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.4	25.9
06-22	169	5	152	1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.5	26.2
06-00	175	5	158	1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.6	26.4
00-00	180	5	163	1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8	26.4

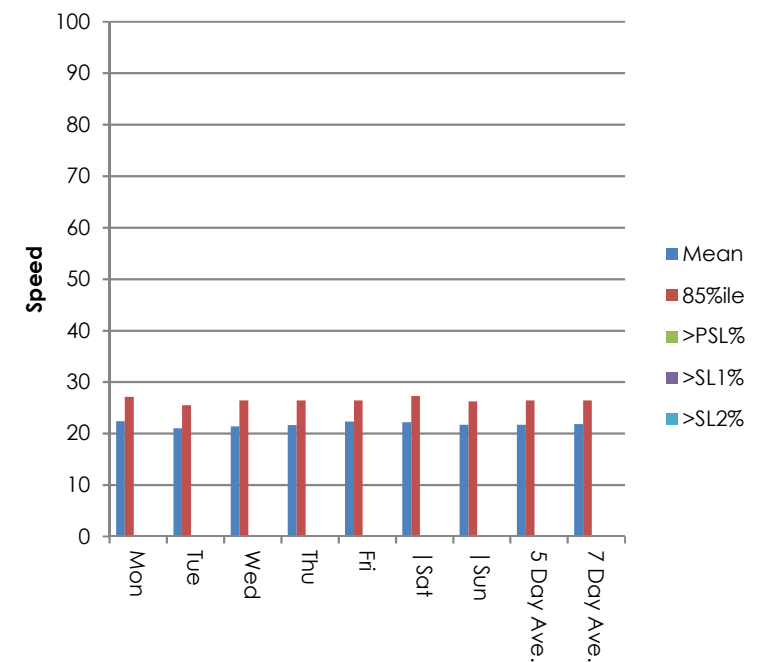
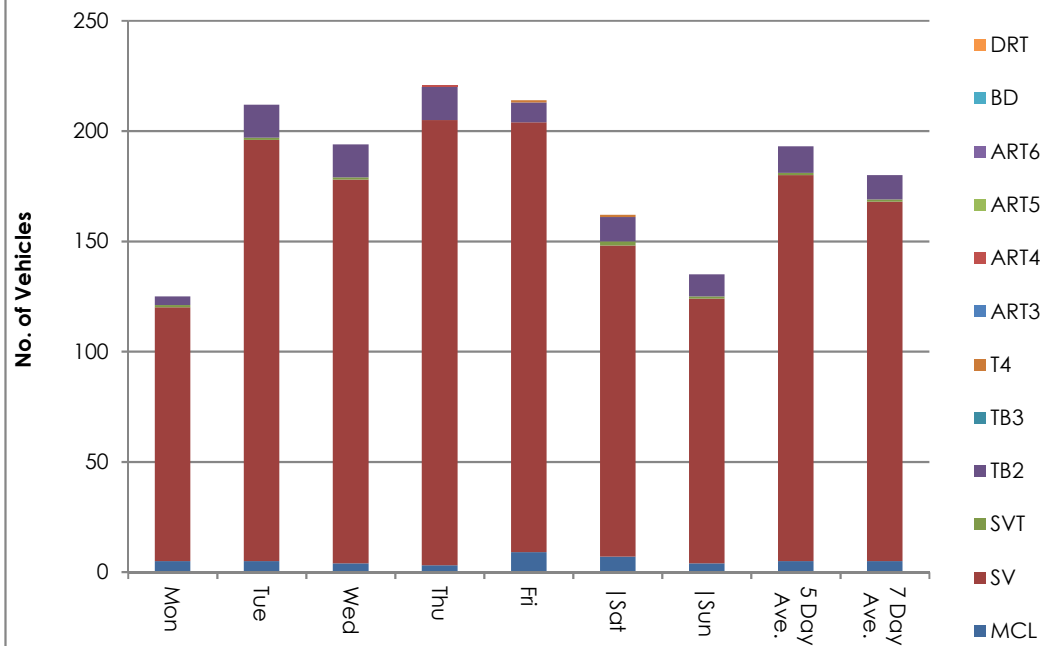
Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction South bound

6335 / Summerhill
May 2016
Automatic Traffic Count

Virtual Week (1)

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
Mon	125	5	115	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.4	27.1
Tue	212	5	191	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25.5
Wed	194	4	174	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.4	26.4
Thu	221	3	202	0	15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	21.6	26.4
Fri	214	9	195	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	22.3	26.4
Sat	162	7	141	2	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	22.2	27.3
Sun	135	4	120	1	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	26.2
5 Day Ave.	193	5	175	1	12	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	21.7	26.4
7 Day Ave.	180	5	163	1	11	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	21.8	26.4
--	1263	37	1138	6	79	0	2	0	1	0	0	0	0	0	0.0	0	0.0	0	0.0	21.8	26.4

Summary Graphs



Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction Two way

6335 / Summerhill
May 2016
Automatic Traffic Count

26 May 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33.4	-
0100	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.4	-
0200	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.6	-
0300	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.7	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	11	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.4	25.5
0600	15	1	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.9	28.2
0700	26	0	25	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.2	22.8
0800	31	0	30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	25.1
0900	30	0	23	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.4	25.1
1000	22	0	20	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	20.4	25.9
1100	22	0	18	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	25.1
1200	20	1	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.5	22.4
1300	20	0	17	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.6	23.3
1400	31	0	28	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.3	22.4
1500	33	0	32	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.8	24.2
1600	46	0	43	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.3	25.1
1700	44	0	39	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	25.9
1800	38	0	36	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.7	26.2
1900	20	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.3	25.5
2000	25	2	21	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.4	24.6
2100	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.4	-
2200	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.3	-
2300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.7	-
07-19	363	1	330	0	30	0	0	0	2	0	0	0	0	0	0	0	0	0	0	20.7	25.1
06-22	432	4	393	0	32	0	1	0	2	0	0	0	0	0	0	0	0	0	0	20.8	25.1
06-00	441	4	402	0	32	0	1	0	2	0	0	0	0	0	0	0	0	0	0	20.9	25.3
00-00	456	4	417	0	32	0	1	0	2	0	0	0	0	0	0	0	0	0	0	20.9	25.5

Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction Two way

6335 / Summerhill
May 2016
Automatic Traffic Count

27 May 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.2	-
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.4	-
0600	13	1	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.9	26.4
0700	24	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	25.1
0800	37	1	34	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.5	25.1
0900	22	1	18	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.8	26.2
1000	27	0	25	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.5	24.8
1100	23	2	19	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.1	23.9
1200	20	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.4	27.5
1300	32	1	29	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.6	26.2
1400	27	1	22	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	25.3
1500	32	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.8	24.4
1600	40	2	36	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	23.7
1700	44	1	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8	24.4
1800	33	1	31	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.2	25.9
1900	20	0	17	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.3	25.5
2000	25	2	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.8	28
2100	13	2	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.4	29.1
2200	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.9	-
2300	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.5	-
07-19	361	10	333	0	17	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.3	25.9
06-22	432	15	396	0	20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.5	26.2
06-00	447	15	411	0	20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.6	26.2
00-00	456	15	420	0	20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.6	26.2



Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction Two way
28 May 2016

6335 / Summerhill
May 2016
Automatic Traffic Count

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	-
0100	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.8	-
0200	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28.2	-
0300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.7	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	-
0600	10	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.7	-
0700	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.8	-
0800	13	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	26.2
0900	21	0	18	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.6	25.5
1000	31	0	28	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	24.6
1100	20	1	15	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4	22.8
1200	21	0	20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.6	24.8
1300	28	2	23	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.6	24.2
1400	24	1	20	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4	23.5
1500	40	6	33	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.3	26.4
1600	33	5	27	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.1	28.6
1700	14	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	25.7
1800	25	1	21	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	19	23.5
1900	15	0	14	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.7	28.2
2000	17	0	15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	24.2
2100	8	0	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.5	-
2200	9	0	7	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.1	-
2300	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.9	-
07-19	278	16	239	6	16	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21	25.7
06-22	328	17	284	6	20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.4	26.4
06-00	346	17	300	6	22	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.6	26.6
00-00	357	17	311	6	22	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.6	26.6

Site 2
 Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
 Direction Two way

6335 / Summerhill
 May 2016
 Automatic Traffic Count

29 May 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27.1	-
0100	3	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.8	-
0200	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	-
0300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.5	-
0400	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.4	-
0700	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12.3	-
0800	4	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.7	-
0900	11	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	24.4
1000	16	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.5	23.9
1100	22	0	20	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.4	24.2
1200	22	0	21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	25.5
1300	24	3	18	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	24.8
1400	24	2	18	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.1	23.7
1500	22	0	20	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.1	24.6
1600	24	1	22	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.1	25.9
1700	20	0	19	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.5	25.1
1800	23	0	21	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.6	25.1
1900	20	0	19	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.1	26.4
2000	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.9	-
2100	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.6	-
2200	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.4	-
2300	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.7	-
07-19	215	7	192	2	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	20.9	25.1
06-22	256	7	232	2	14	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.1	25.5
06-00	268	7	244	2	14	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.2	25.5
00-00	280	7	254	2	16	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.3	25.7

Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction Two way
30 May 2016

6335 / Summerhill
May 2016
Automatic Traffic Count

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.6	-
0100	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35.1	-
0200	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28.1	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.5	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.3	-
0700	8	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.9	-
0800	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.2	-
0900	13	0	12	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	19	22.6
1000	14	0	12	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	17.8	21.5
1100	14	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8	26.2
1200	22	3	16	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	22.3	25.9
1300	27	6	19	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.9	23.5
1400	18	0	17	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.4	23.9
1500	19	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4	24.2
1600	14	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	23.7
1700	16	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.9	25.1
1800	23	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.5	26.2
1900	15	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.1	25.1
2000	10	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	-
2100	8	0	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.1	-
2200	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.9	-
2300	7	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.2	-
07-19	192	10	173	2	4	1	2	0	0	0	0	0	0	0	0	0	0	0	0	20.7	24.8
06-22	227	10	206	2	6	1	2	0	0	0	0	0	0	0	0	0	0	0	0	21	25.1
06-00	239	10	217	2	7	1	2	0	0	0	0	0	0	0	0	0	0	0	0	21.2	25.3
00-00	253	10	229	2	9	1	2	0	0	0	0	0	0	0	0	0	0	0	0	21.5	25.9

Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction Two way
31 May 2016

6335 / Summerhill
May 2016
Automatic Traffic Count

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0100	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.3	-
0200	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28.3	-
0300	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.8	-
0400	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	-
0500	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.7	-
0600	17	0	16	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4	25.3
0700	24	1	22	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	24.2
0800	21	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.9	23.5
0900	20	0	15	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.4	24.6
1000	26	1	23	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.9	23.7
1100	27	0	25	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.2	23.7
1200	21	1	19	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.7	22.4
1300	21	1	18	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8	24.4
1400	29	3	25	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	24.8
1500	26	1	24	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4	23.3
1600	35	0	28	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.8	24.6
1700	24	0	21	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.2	24.4
1800	31	0	30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	26.2
1900	29	3	25	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.8	25.1
2000	26	0	25	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	15.5	22.4
2100	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.1	-
2200	11	2	7	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.9	30.4
2300	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.8	-
07-19	305	8	271	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.7	24.4
06-22	382	11	342	1	27	0	0	0	0	0	1	0	0	0	0	0	0	0	0	20.2	24.6
06-00	398	13	354	1	29	0	0	0	0	0	1	0	0	0	0	0	0	0	0	20.4	24.8
00-00	416	13	372	1	29	0	0	0	0	0	1	0	0	0	0	0	0	0	0	20.5	25.1

Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction Two way

6335 / Summerhill
May 2016
Automatic Traffic Count

01 June 2016

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.9	-
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.1	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.4	-
0600	14	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.3	26.4
0700	19	3	14	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8	24.4
0800	23	0	22	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.9	24.8
0900	13	0	10	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.6	23.3
1000	16	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.8	23.9
1100	21	1	16	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.5	27.1
1200	34	1	28	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.3	26.4
1300	32	0	29	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.6	24.2
1400	30	0	28	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.6	26.6
1500	25	1	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.4	25.3
1600	39	1	34	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.5	25.7
1700	38	0	36	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	25.1
1800	28	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.2	24.8
1900	26	0	22	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.9	25.1
2000	16	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.3	24.2
2100	10	0	8	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.1	-
2200	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.5	-
2300	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.3	-
07-19	318	8	284	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	25.5
06-22	384	8	344	1	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.1	25.5
06-00	399	8	359	1	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	25.5
00-00	408	8	368	1	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	25.5

Site 2
Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
Direction Two way

6335 / Summerhill
May 2016
Automatic Traffic Count

Virtual Day (7)

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
0000	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	-
0100	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	-
0200	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.5	-
0300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.8	-
0400	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.9	-
0500	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.9	-
0600	11	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.2	28
0700	16	1	15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.9	24.4
0800	19	0	18	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.1	25.1
0900	19	0	15	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	25.3
1000	22	0	20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.5	24.6
1100	21	1	18	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.5	25.1
1200	23	1	20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.1	25.9
1300	26	2	22	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	24.6
1400	26	1	23	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	24.8
1500	28	1	26	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.5	24.8
1600	33	1	29	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.7	25.9
1700	29	0	27	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.5	25.5
1800	29	0	27	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.4	26.2
1900	21	0	19	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	25.7
2000	18	1	17	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.6	26.2
2100	9	0	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.1	-
2200	8	0	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.8	-
2300	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.2	-
07-19	290	9	260	2	19	0	1	0	0	0	0	0	0	0	0	0	0	0	0	20.9	25.3
06-22	349	10	314	2	21	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21	25.5
06-00	363	11	327	2	22	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.1	25.7
00-00	375	11	339	2	23	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.2	25.9

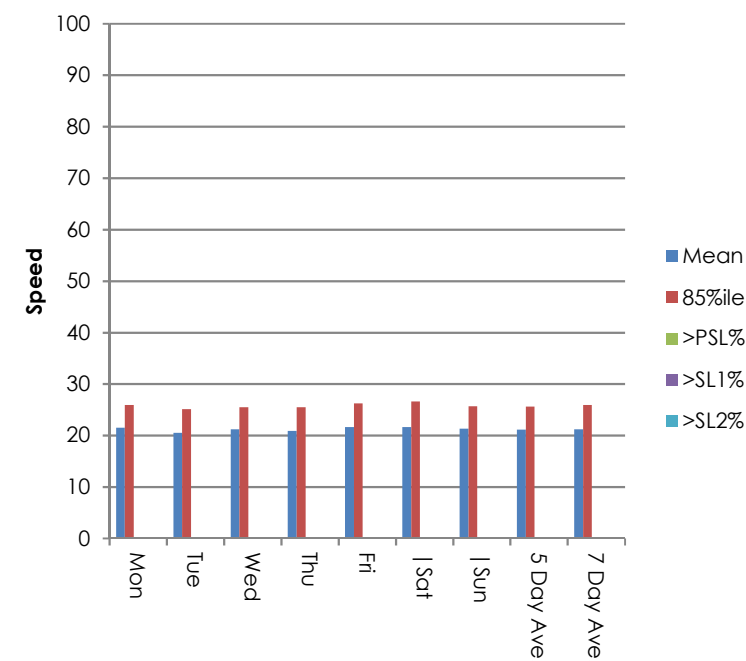
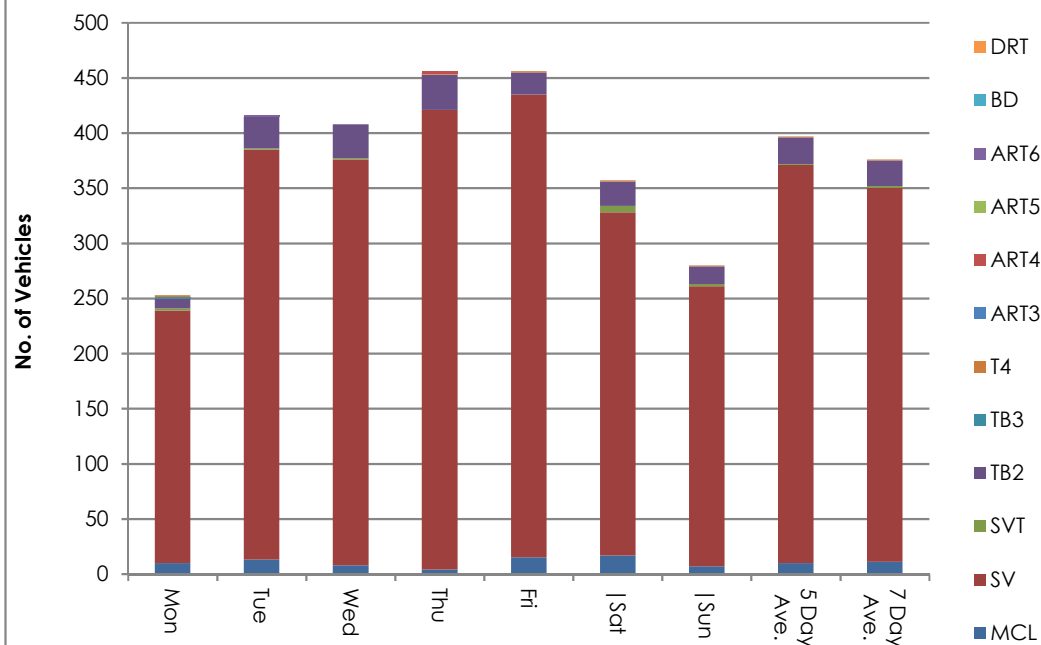
Site 2
 Location Bottom Road, Att - Hump Sign, OSGR: SJ 30989 54189
 Direction Two way

6335 / Summerhill
 May 2016
 Automatic Traffic Count

Virtual Week (1)

Time	Total	Classification												>PSL 60	>PSL% 60	>SL1 68 ACPO	>SL1% 68 ACPO	>SL2 75 DfT	>SL2% 75 DfT	Mean	Vpp 85
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT								
Mon	253	10	229	2	9	1	2	0	0	0	0	0	0	0	0	0	0	0	0	21.5	25.9
Tue	416	13	372	1	29	0	0	0	0	0	1	0	0	0	0	0	0	0	0	20.5	25.1
Wed	408	8	368	1	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	25.5
Thu	456	4	417	0	32	0	1	0	2	0	0	0	0	0	0	0	0	0	0	20.9	25.5
Fri	456	15	420	0	20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.6	26.2
Sat	357	17	311	6	22	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.6	26.6
Sun	280	7	254	2	16	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21.3	25.7
5 Day Ave.	398	10	361	1	24	0	1	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	21.1	25.6
7 Day Ave.	375	11	339	2	23	0	1	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	21.2	25.9
--	2626	74	2371	12	159	1	6	0	2	0	1	0	0	0	0.0	0	0.0	0	0.0	21.2	25.9

Summary Graphs



ATC VEHICLE CATEGORIES

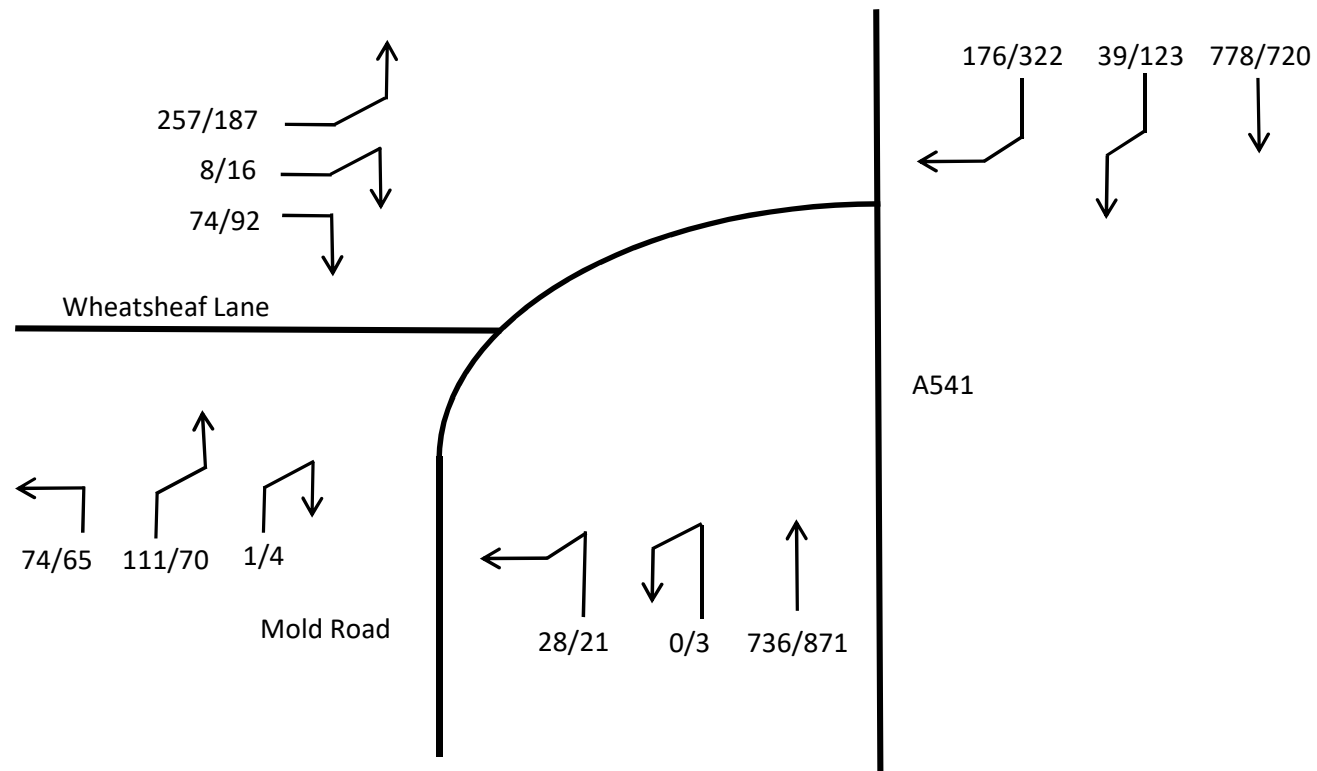
Axles	Groups	Description	Class		Parameters	Dominant Vehicle	Aggregate
2	1 or 2	Very Short - Bicycle or Motorcycle	MC	1	$d(1) < 1.7\text{m}$ & $\text{axles} = 2$		1 (Light)
2	1 or 2	Short - Sedan, Wagon, 4WD, Utility, Light Van	SV	2	$d(1) \geq 1.7\text{m}$, $d(1) \leq 3.2\text{m}$ & $\text{axles} = 2$		
3, 4 or 5	3	Short Towing - Trailer, Caravan, Boat, etc.	SVT	3	$\text{groups} = 3$, $d(1) \geq 2.1\text{m}$, $d(1) \leq 3.2\text{m}$, $d(2) \geq 2.1\text{m}$ & $\text{axles} = 3, 4, 5$		
2	2	Two axle truck or Bus	TB2	4	$d(1) > 3.2\text{m}$ & $\text{axles} = 2$		2 (Medium)
3	2	Three axle truck or Bus	TB3	5	$\text{axles} = 3$ & $\text{groups} = 2$		
>3	2	Four axle truck	T4	6	$\text{axles} > 3$ & $\text{groups} = 2$		
3	3	Three axle articulated vehicle or Rigid vehicle and trailer	ART3	7	$d(1) > 3.2\text{m}$, $\text{axles} = 3$ & $\text{groups} = 3$		3 (Heavy)
4	>2	Four axle articulated vehicle or Rigid vehicle and trailer	ART4	8	$d(2) < 2.1\text{m}$ or $d(1) < 2.1\text{m}$ or $d(1) > 3.2\text{m}$ $\text{axles} = 4$ & $\text{groups} > 2$		
5	>2	Five axle articulated vehicle or Rigid vehicle and trailer	ART5	9	$d(2) < 2.1\text{m}$ or $d(1) < 2.1\text{m}$ or $d(1) > 3.2\text{m}$ $\text{axles} = 5$ & $\text{groups} > 2$		
≥ 6	>2	Six (or more) axle articulated vehicle or Rigid vehicle and trailer	ART6	10	$\text{axles} = 6$ & $\text{groups} > 2$ or $\text{axles} > 6$ & $\text{groups} = 3$		
>6	4	B-Double or Heavy truck and trailer	BD	11	$\text{groups} = 4$ & $\text{axles} > 6$		
>6	≥ 5	Double or triple road train or Heavy truck and two (or more) trailers	DRT	12	$\text{groups} \geq 5$ & $\text{axles} > 6$		

ATC SPEED BINS & DATA HEADINGS

Heading	Description
0 - 5	Speed bin totals 0 - 5 mph
5 - 10	Speed bin totals 5 - 10 mph
10 - 15	Speed bin totals 10 - 15 mph
15 - 20	Speed bin totals 15 - 20 mph
20 - 25	Speed bin totals 20 - 25 mph
25 - 30	Speed bin totals 25 - 30 mph
30 - 35	Speed bin totals 30 - 35 mph
35 - 40	Speed bin totals 35 - 40 mph
40 - 45	Speed bin totals 40 - 45 mph
45 - 50	Speed bin totals 45 - 50 mph
50 - 55	Speed bin totals 50 - 55 mph
55 - 60	Speed bin totals 55 - 60 mph
60 - 65	Speed bin totals 60 - 65 mph
65 - 70	Speed bin totals 65 - 70 mph
70 - 75	Speed bin totals 70 - 75 mph
75 - 80	Speed bin totals 75 - 80 mph
80 - 85	Speed bin totals 80 - 85 mph
85 - 90	Speed bin totals 85 - 90 mph
90 - 95	Speed bin totals 90 - 95 mph
95 - 100	Speed bin totals 95 - 100 mph
100 - 105	Speed bin totals 100 - 105 mph
105 - 110	Speed bin totals 105 - 110 mph
110 - 115	Speed bin totals 110 - 115 mph
115 - 120	Speed bin totals 115 - 120 mph
120 - 125	Speed bin totals 120 - 125 mph
125 - 130	Speed bin totals 125 - 130 mph
130 - 135	Speed bin totals 130 - 135 mph
135 - 140	Speed bin totals 135 - 140 mph

Heading	Description
>PSL	Greater than the posted speed limit
>PSL%	Greater than the posted speed limit as a percentage
>SL1 ACPO	Greater than ACPO (Association of Chief Police Officers) standard. ACPO is PSL x 10%+2mph
>SL1% ACPO	Greater than ACPO displayed as a percentage
>SL2 Dft	Greater than DFT (Department For Transport) standard. DFT is PSL plus 15mph.
>SL2% Dft	Greater than DFT displayed as a percentage
Mean	Average speed
Vpp 85	85th percentile speed

APPENDIX D: Traffic Flow Diagrams



AM PEAK = 0800 - 0900

PM PEAK = 1615 - 1715



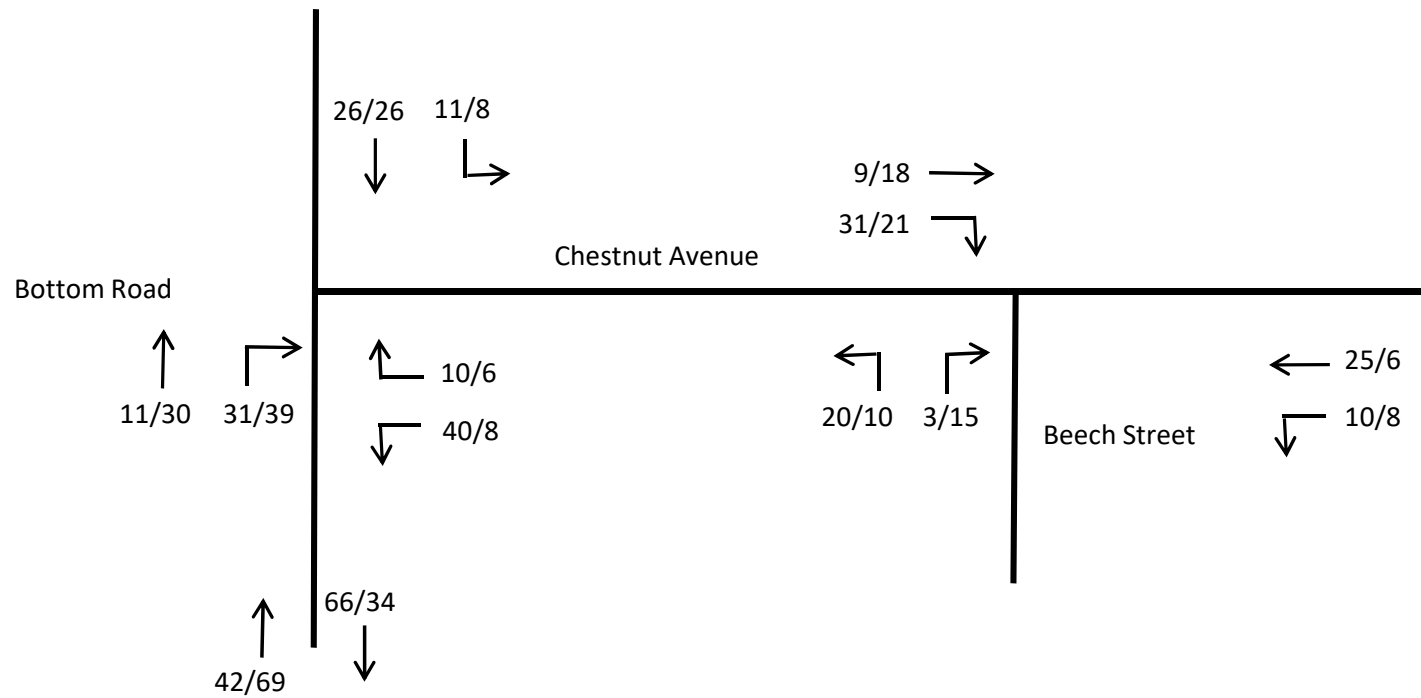
PROPOSED RESIDENTIAL DEVELOPMENT

Summerhill

FIGURE 11

2016 AM/PM PEAK

FLOWS AM/PM PEAK



AM PEAK = 0800 - 0900

PM PEAK = 1630 - 1730



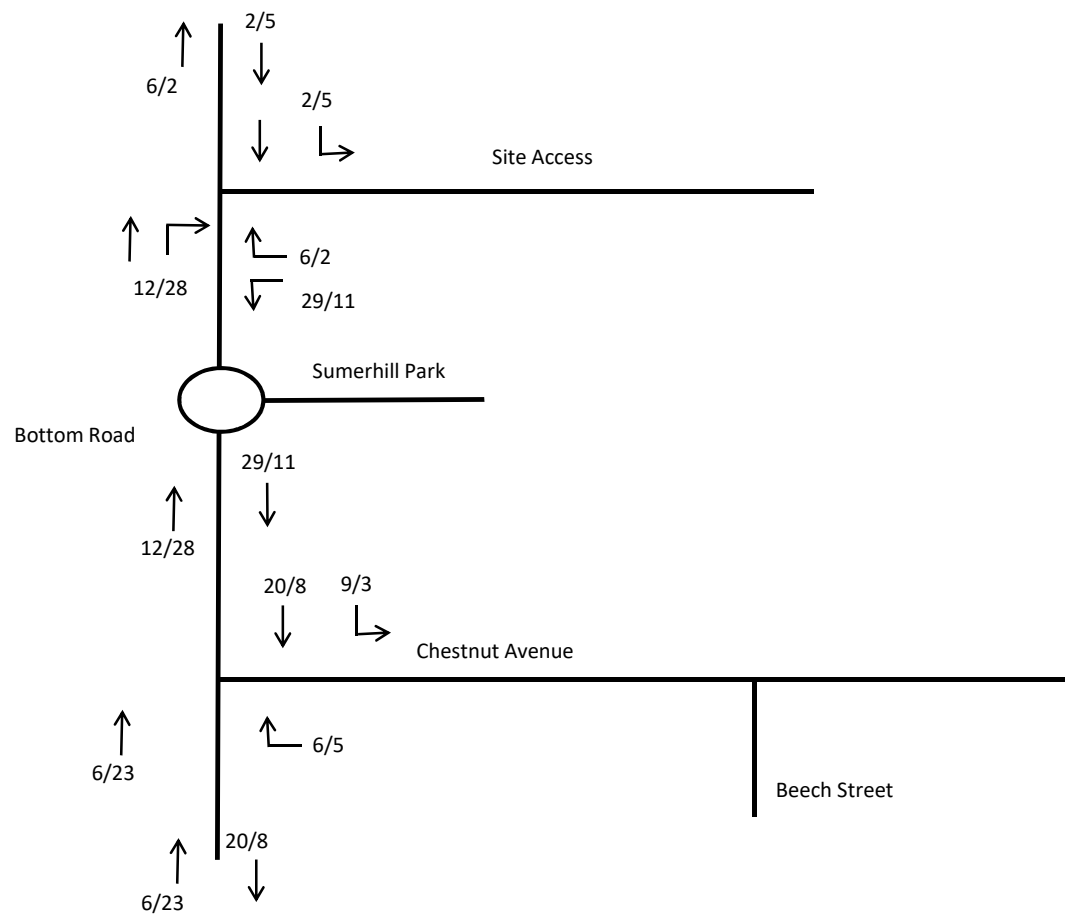
PROPOSED RESIDENTIAL DEVELOPMENT

Summerhill

FIGURE 12

2017 AM/PM PEAK

JULY 2017 SURVEY FLOWS



PROPOSED RESIDENTIAL DEVELOPMENT
Summerhill

FIGURE 13
2017 AM/PM PEAK
DEVELOPMENT FLOWS

APPENDIX E: Traffic Distribution 2011 Census

WF01BEW - Location of usual residence and place of work (OA level)

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population
units
date

All usual residents ages 16 and over in employment the week before the census
Persons
2011

	currently residing in							
place of work : 2011 census merged local authority district	W01000377 : Wrexham 004A			To A483 Jct / Sth	To North		To A483 Jct / Sth	To North
Herefordshire, County of	1	0.15%		1			0.15%	
Rugby	1	0.15%		1			0.15%	
Shropshire	11	1.60%		1			1.60%	
Telford and Wrekin	2	0.29%		1			0.29%	
Cardiff	1	0.15%		1			0.15%	
Conwy	2	0.29%			1			0.29%
Denbighshire	14	2.04%		0.8	0.2		1.63%	0.41%
Flintshire	77	11.21%			1			11.21%
Powys	1	0.15%		1			0.15%	
Wrexham								
W02000080 : Wrexham 003	19	2.77%		1			2.77%	
W02000081 : Wrexham 004	39	5.68%		1			5.68%	
W02000082 : Wrexham 005	10	1.46%		1			1.46%	
W02000083 : Wrexham 006	4	0.58%		0.8	0.2		0.47%	0.12%
W02000084 : Wrexham 007	4	0.58%		1			0.58%	
W02000085 : Wrexham 008	72	10.48%		1			10.48%	
W02000086 : Wrexham 009	17	2.47%		1			2.47%	
W02000087 : Wrexham 010	2	0.29%		1			0.29%	
W02000088 : Wrexham 011	102	14.85%		1			14.85%	
W02000089 : Wrexham 012	34	4.95%		1			4.95%	
W02000090 : Wrexham 013	10	1.46%		0.8	0.2		1.16%	0.29%
W02000091 : Wrexham 014	6	0.87%		1			0.87%	
W02000092 : Wrexham 015	4	0.58%		1			0.58%	
W02000093 : Wrexham 016	22	3.20%		1			3.20%	
W02000094 : Wrexham 017	6	0.87%		1			0.87%	
W02000095 : Wrexham 018	6	0.87%		1			0.87%	
W02000096 : Wrexham 019	11	1.60%		1			1.60%	
W02000420 : Wrexham 020	140	20.38%		1			20.38%	
Cheshire East	5	0.73%		1			0.73%	
Cheshire West and Chester	50	7.28%		0.8	0.2		5.82%	1.46%
Halton	2	0.29%			1			0.29%
Preston	2	0.29%			1			0.29%
South Lakeland	1	0.15%			1			0.15%
St. Helens	1	0.15%			1			0.15%
Warrington	5	0.73%			1			0.73%
Wirral	3	0.44%			1			0.44%
	687	100.00%					84.19%	15.81%

		Flow	To A483 Jct / Sth	To North
AM	Arr	14	11.79	2.21
	Dep	35	29.47	5.53
PM	Arr	33	27.78	5.22
	Dep	13	10.94	2.06

		Flow	80.00% To A483 Jct / Sth	20.00% To North
AM	Arr	14	11.20	2.80
	Dep	35	28.00	7.00
PM	Arr	33	26.40	6.60
	Dep	13	10.40	2.60

APPENDIX F: Boozey Fields Trip Generation Rates



APPENDIX 5

Calculation Reference: AUDIT-726001-150421-0443

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLESSelected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	1 days
	SC SURREY	1 days
03	SOUTH WEST	
	CW CORNWALL	1 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
	SF SUFFOLK	1 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	2 days
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	3 days
	SY SOUTH YORKSHIRE	1 days
09	NORTH	
	CB CUMBRIA	2 days
11	SCOTLAND	
	AD ABERDEEN CITY	1 days
	EA EAST AYRSHIRE	1 days
	FA FALKIRK	1 days
	HI HIGHLAND	1 days
	PK PERTH & KINROSS	1 days
	SR STIRLING	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
 Actual Range: 36 to 115 (units:)
 Range Selected by User: 32 to 128 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/07 to 23/01/14

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	4 days
Tuesday	2 days
Wednesday	3 days
Thursday	6 days
Friday	5 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	20 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	12
Edge of Town	8

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	17
No Sub Category	3

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:Use Class:

C3	20 days
----	---------

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filtering Stage 3 selection (Cont.):Population within 1 mile:

1,001 to 5,000	3 days
5,001 to 10,000	5 days
10,001 to 15,000	3 days
15,001 to 20,000	6 days
20,001 to 25,000	3 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	4 days
50,001 to 75,000	2 days
75,001 to 100,000	7 days
100,001 to 125,000	1 days
125,001 to 250,000	3 days
250,001 to 500,000	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	16 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	19 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1	AD-03-A-01	SEMI-DETACHED	ABERDEEN CITY
	SPRINGFIELD ROAD		
	ABERDEEN		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	59	
	Survey date: FRIDAY	18/05/12	Survey Type: MANUAL
2	CB-03-A-03	SEMI DETACHED	CUMBRIA
	HAWKSHEAD AVENUE		
	WORKINGTON		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	40	
	Survey date: THURSDAY	20/11/08	Survey Type: MANUAL
3	CB-03-A-04	SEMI DETACHED	CUMBRIA
	MOORCLOSE ROAD		
	SALTERBACK		
	WORKINGTON		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	82	
	Survey date: FRIDAY	24/04/09	Survey Type: MANUAL
4	CW-03-A-02	SEMI D./DETACHED	CORNWALL
	BOSVEAN GARDENS		
	TRURO		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	73	
	Survey date: TUESDAY	18/09/07	Survey Type: MANUAL
5	EA-03-A-01	DETACHED	EAST AYRSHIRE
	TALISKER AVENUE		
	KILMARNOCK		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	39	
	Survey date: THURSDAY	05/06/08	Survey Type: MANUAL
6	ES-03-A-02	PRIVATE HOUSING	EAST SUSSEX
	SOUTH COAST ROAD		
	PEACEHAVEN		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	37	
	Survey date: FRIDAY	18/11/11	Survey Type: MANUAL
7	FA-03-A-01	SEMI-DETACHED/TERRACED	FALKIRK
	MANDELA AVENUE		
	FALKIRK		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	37	
	Survey date: THURSDAY	30/05/13	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	HI-03-A-14	SEMI-DETACHED	HIGHLAND
	CALEDONIAN ROAD		
	DALNEIGH		
	INVERNESS		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	73	
	Survey date: FRIDAY	13/05/11	Survey Type: MANUAL
9	NF-03-A-02	HOUSES & FLATS	NORFOLK
	DEREHAM ROAD		
	NORWICH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	98	
	Survey date: MONDAY	22/10/12	Survey Type: MANUAL
10	NY-03-A-06	BUNGALOWS & SEMI DET.	NORTH YORKSHIRE
	HORSEFAIR		
	BOROUGHBRIDGE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	115	
	Survey date: FRIDAY	14/10/11	Survey Type: MANUAL
11	NY-03-A-09	MIXED HOUSING	NORTH YORKSHIRE
	GRAMMAR SCHOOL LANE		
	NORTHALLERTON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	52	
	Survey date: MONDAY	16/09/13	Survey Type: MANUAL
12	NY-03-A-10	HOUSES AND FLATS	NORTH YORKSHIRE
	BOROUGHBRIDGE ROAD		
	RIPON		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	71	
	Survey date: TUESDAY	17/09/13	Survey Type: MANUAL
13	PK-03-A-01	DETAC. & BUNGALOWS	PERTH & KINROSS
	TULLYLUMB TERRACE		
	GORNHILL		
	PERTH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	36	
	Survey date: WEDNESDAY	11/05/11	Survey Type: MANUAL
14	SC-03-A-04	DETACHED & TERRACED	SURREY
	HIGH ROAD		
	BYFLEET		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	71	
	Survey date: THURSDAY	23/01/14	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15	SF-03-A-01	SEMI DETACHED	SUFFOLK
	A1156 FELIXSTOWE ROAD		
	RACECOURSE		
	IPSWICH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	77	
	Survey date: WEDNESDAY	23/05/07	Survey Type: MANUAL
16	SH-03-A-04	TERRACED	SHROPSHIRE
	ST MICHAEL'S STREET		
	SHREWSBURY		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Number of dwellings:	108	
	Survey date: THURSDAY	11/06/09	Survey Type: MANUAL
17	SH-03-A-05	SEMI-DETACHED/TERRACED	SHROPSHIRE
	SANDCROFT		
	SUTTON HILL		
	TELFORD		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	54	
	Survey date: THURSDAY	24/10/13	Survey Type: MANUAL
18	SR-03-A-01	DETACHED	STIRLING
	BENVUE		
	STIRLING		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	115	
	Survey date: MONDAY	23/04/07	Survey Type: MANUAL
19	SY-03-A-01	SEMI DETACHED HOUSES	SOUTH YORKSHIRE
	A19 BENTLEY ROAD		
	BENTLEY RISE		
	DONCASTER		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	54	
	Survey date: WEDNESDAY	18/09/13	Survey Type: MANUAL
20	WM-03-A-03	MIXED HOUSING	WEST MIDLANDS
	BASELEY WAY		
	ROWLEYS GREEN		
	COVENTRY		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	84	
	Survey date: MONDAY	24/09/07	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLES**Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	20	69	0.071	20	69	0.291	20	69	0.362
08:00 - 09:00	20	69	0.174	20	69	0.396	20	69	0.570
09:00 - 10:00	20	69	0.156	20	69	0.206	20	69	0.362
10:00 - 11:00	20	69	0.139	20	69	0.156	20	69	0.295
11:00 - 12:00	20	69	0.168	20	69	0.169	20	69	0.337
12:00 - 13:00	20	69	0.164	20	69	0.155	20	69	0.319
13:00 - 14:00	20	69	0.179	20	69	0.178	20	69	0.357
14:00 - 15:00	20	69	0.182	20	69	0.196	20	69	0.378
15:00 - 16:00	20	69	0.244	20	69	0.186	20	69	0.430
16:00 - 17:00	20	69	0.296	20	69	0.170	20	69	0.466
17:00 - 18:00	20	69	0.371	20	69	0.207	20	69	0.578
18:00 - 19:00	20	69	0.252	20	69	0.156	20	69	0.408
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.396			2.466			4.862

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 36 - 115 (units:)
 Survey date date range: 01/01/07 - 23/01/14
 Number of weekdays (Monday-Friday): 20
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 2

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PEDESTRIANS**Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	20	69	0.024	20	69	0.066	20	69	0.090
08:00 - 09:00	20	69	0.041	20	69	0.183	20	69	0.224
09:00 - 10:00	20	69	0.052	20	69	0.052	20	69	0.104
10:00 - 11:00	20	69	0.045	20	69	0.053	20	69	0.098
11:00 - 12:00	20	69	0.044	20	69	0.035	20	69	0.079
12:00 - 13:00	20	69	0.034	20	69	0.034	20	69	0.068
13:00 - 14:00	20	69	0.036	20	69	0.047	20	69	0.083
14:00 - 15:00	20	69	0.044	20	69	0.044	20	69	0.088
15:00 - 16:00	20	69	0.124	20	69	0.087	20	69	0.211
16:00 - 17:00	20	69	0.103	20	69	0.059	20	69	0.162
17:00 - 18:00	20	69	0.108	20	69	0.068	20	69	0.176
18:00 - 19:00	20	69	0.079	20	69	0.039	20	69	0.118
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.734			0.767			1.501

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

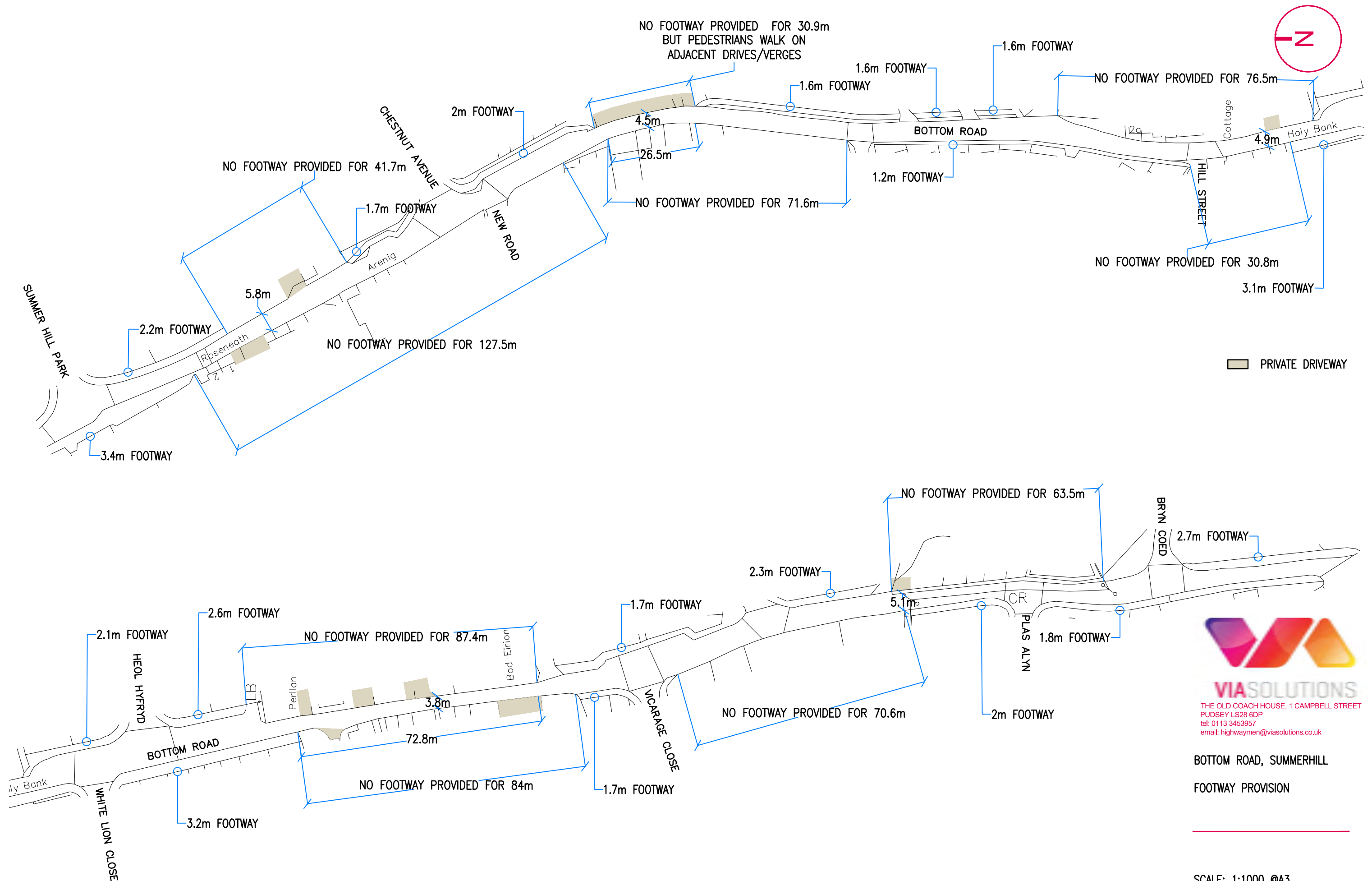
To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected:	36 - 115 (units:)
Survey date date range:	01/01/07 - 23/01/14
Number of weekdays (Monday-Friday):	20
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	2

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

APPENDIX G: Drawing 1708901 – Bottom Road Footway Provision



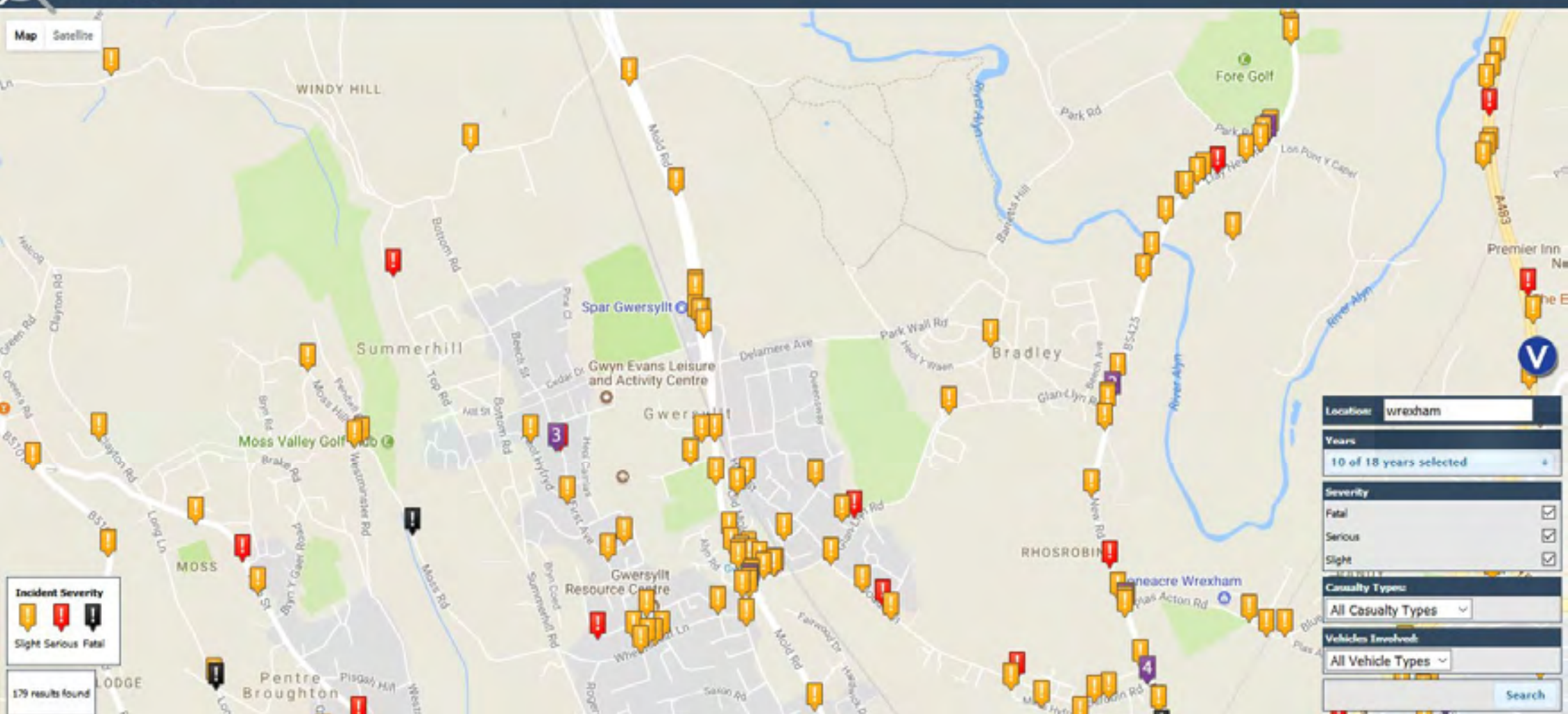
THIS DRAWING SHOWS THE PRELIMINARY DESIGN ONLY AND IS
SUBJECT TO DETAILED DESIGN, TOPOGRAPHICAL SURVEY
INFORMATION AND LOCAL AUTHORITY APPROVAL

SCALE: 1:1000 @A3
DATE: AUG 2017
DRAWING No: 1709801

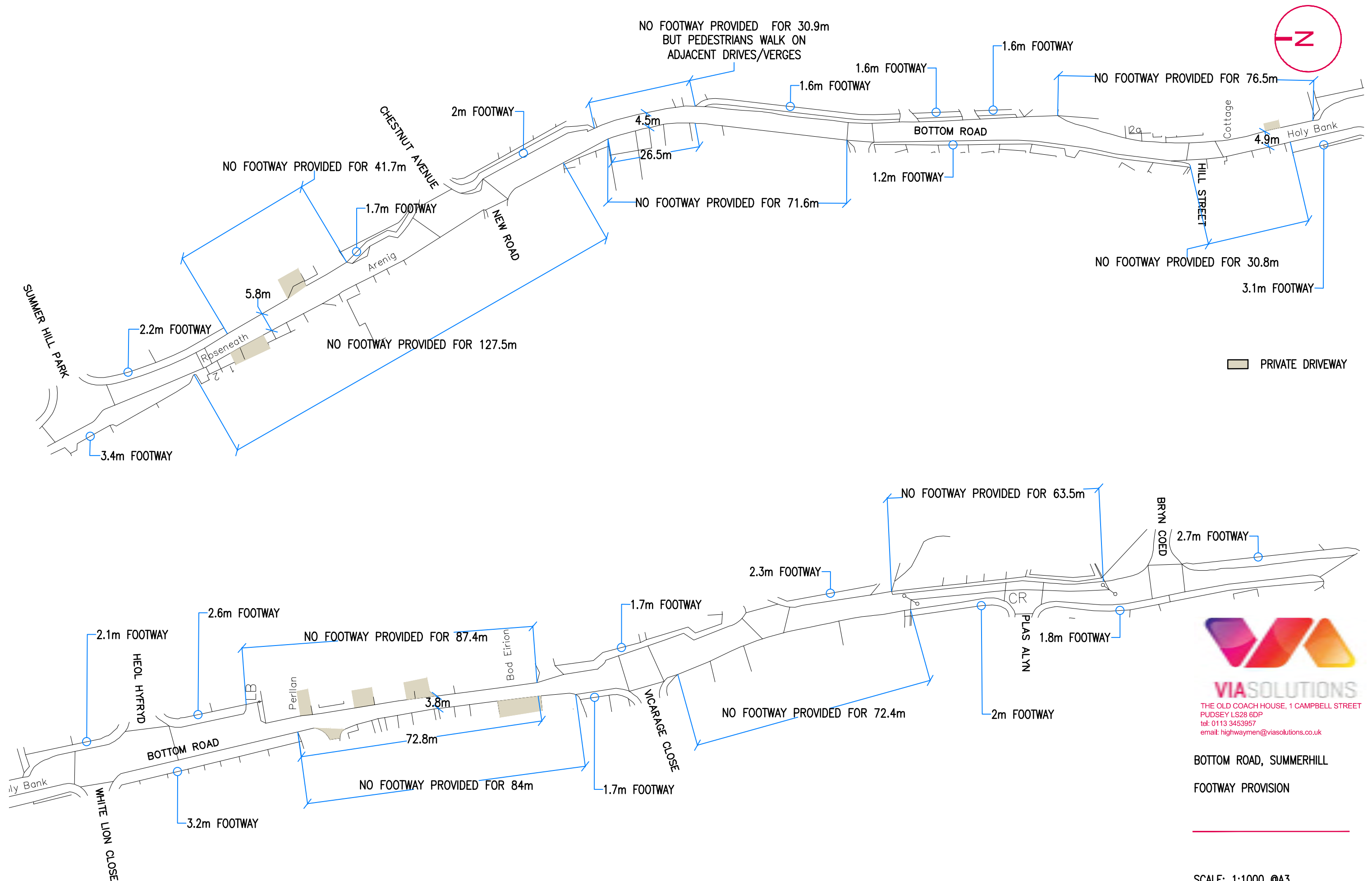
VIA SOLUTIONS
THE OLD COACH HOUSE, 1 CAMPBELL STREET
PUDSEY LS28 6DP
tel: 0113 3453957
email: highwaymen@viasolutions.co.uk

BOTTOM ROAD, SUMMERHILL
FOOTWAY PROVISION

APPENDIX H: Crashmap – 10 Years Record



APPENDIX I: Drawings 1604602 Rev F & 1604605 Rev E

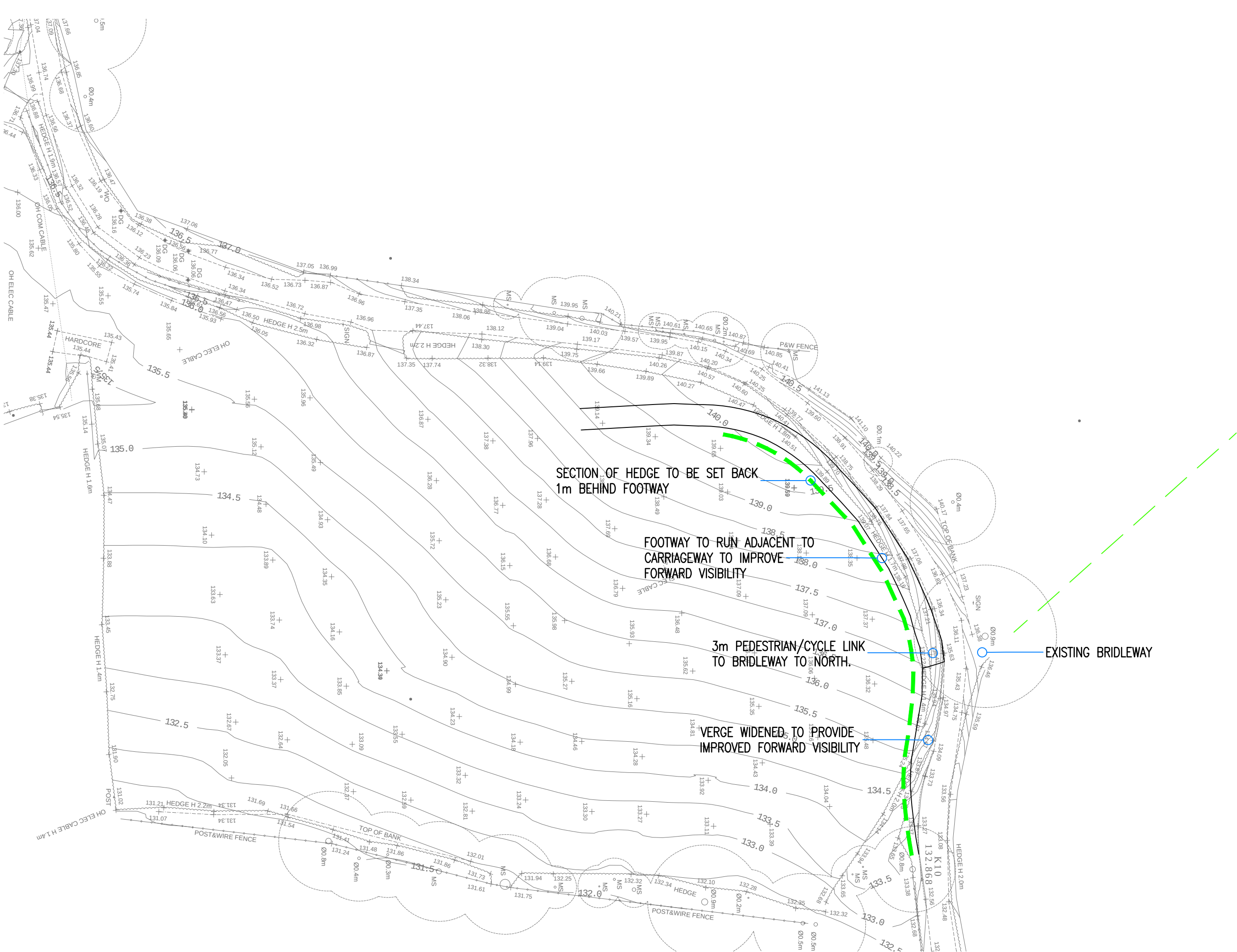
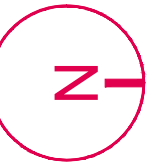


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INFORMATION AND LOCAL AUTHORITY APPROVAL

SCALE: 1:1000 @A3
DATE: AUG 2017
DRAWING No: 1709801

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BOTTOM ROAD, SUMMERHILL
FOOTWAY PROVISION



THE OLD COACH HOUSE, 1 CAMPBELL STREET
PUDSEY LS28 6DP

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email: highwaymen@viasolutions.com

PROPOSED RESIDENTIAL
DEVELOPMENT

LAND ADJACENT TO BOTTOM ROAD,
SUMMERHILL, WREXHAM

HIGHWAY IMPROVEMENTS

SCALE 1:500 @A3

DATE AUG 2017

DRAWING No 1606405 REV E

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APPROVAL

APPENDIX J: Page 79 – Manual for Streets

Chapter aims

- Advise how the requirements of different users can be accommodated in street design.
- Summarise research which shows that increased visibility encourages higher vehicle speeds.
- Describe how street space can be allocated based on pedestrian need, using swept path analysis to ensure that minimum access requirements for vehicles are met.
- Describe the rationale behind using shorter vehicle stopping distances to determine visibility requirements on links and at junctions.
- Recommend that the design of streets should determine vehicle speed.
- Recommend a maximum design speed of 20 mph for residential streets.

7.1 Introduction

7.1.1 Several issues need to be considered in order to satisfy the various user requirements detailed in Chapter 6, namely:

- street widths and components;
- junctions;
- features for controlling vehicle speeds;
- forward visibility on links; and
- visibility splays at junctions.

7.2 Street dimensions

7.2.1 The design of new streets or the improvement of existing ones should take into account the functions of the street, and the type, density and character of the development.

7.2.2 Carriageway widths should be appropriate for the particular context and uses of the street. Key factors to take into account include:

- the volume of vehicular traffic and pedestrian activity;
- the traffic composition;
- the demarcation, if any, between carriageway and footway (e.g. kerb, street furniture or trees and planting);
- whether parking is to take place in the carriageway and, if so, its distribution, arrangement, the frequency of occupation, and the likely level of parking enforcement (if any);
- the design speed (recommended to be 20 mph or less in residential areas);
- the curvature of the street (bends require greater width to accommodate the swept path of larger vehicles); and
- any intention to include one-way streets, or short stretches of single lane working in two-way streets.

7.2.3 In lightly-trafficked streets, carriageways may be narrowed over short lengths to a single lane as a traffic-calming feature. In such single lane working sections of



Figure 7.1 Illustrates what various carriageway widths can accommodate. They are not necessarily recommendations.

