

Project number: 20004
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Subject: Comments on proposed development at land off Capel Street, Capel-le-Ferne
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1 Introduction

1.1.1 This technical note has been produced on behalf of Capel-le-Ferne Parish Council to comment on the proposals for 34 residential dwellings off Capel Street (between Nos. 107 to 127). Lime Transport's experience and the qualifications of this report's authors are included at the back of the report.

1.1.2 This note refers to the following documents:

- Transport Statement (TS) produced by Markides Associates in support of the application. This report was prepared in November 2016 and relates to a superseded layout and access arrangement;
- Road Safety Audit produced by RKS Associates in support of the application and the designer's response including associated drawings;
- Planning pre-application advice dated August 2015 and May 2019;
- Highways pre-application advice dated July 2019 and September 2019 and Highways consultation response dated November 2019;
- Amended Illustrative Masterplan drawing (submitted Nov 2019);
- Amended Proposed Highways Works A1382-106 Rev B (submitted Nov 2019).

1.1.3 The summary and recommendations of this note are set out below:

Summary
The proposals do not meet the objectives set out in the site allocation. In terms of meeting the objective to minimise the loss of the hedgerow, the applicant proposes to replant the eastern hedgerow to avoid junction visibility splays, but it will also be affected by forward visibility splays (not shown on proposals). Also, the proposals fail to provide safe pedestrian routes and the do not take account of the requirement for street lighting.
The TS fails to provide adequate survey data to determine the impact of the development, particularly in relation to school traffic.
As evidenced by car ownership and travel to work data, the site is not sustainably located. The majority of facilities, including bus stops, are significantly beyond typical walking distances. In addition, the pedestrian network is poor. The use of sustainable modes is unlikely to be a realistic option for the majority of day-to-day trips.
The trip generation rates are significantly under-estimated given the site's location and the considerable proportion of larger houses (30% 4-bed).
The application does not meet the adopted parking standards and the community parking replaces only seven of the displaced 15 spaces.
The design of the access is not safe and suitable for all users. Access is not a reserved matter, so there is no mechanism for the Highway Authority to revise the proposals and, therefore, these unsafe and unsatisfactory access arrangements would be fixed.

<p>Vehicle visibility splays included in the application cross the private land of two properties outside the control of the applicant and the achievable splay is significantly below the required standard. This is likely to compromise highway safety.</p> <p>Vehicle swept path analysis and forward visibility have not been provided to demonstrate that the proposed accesses can operate safely and the provision of forward visibility splays at the private driveways is likely to have further impact on the replanted hedgerows.</p> <p>Despite the TS claiming that the additional vehicle trips can be easily accommodated in terms of traffic impact, no assessment has been carried out on the impact of these additional vehicles on the operation and safety of the public highway for all users in relation to the increase in traffic at school pick up and drop off times.</p>
<p>The Amended Proposed Highway Works drawing is not sufficient to determine the feasibility of the proposed works. It is unclear how the proposed widening will be achieved given the constraints to pedestrian visibility splays on both sides of the carriageway. The pedestrian visibility splays shown cross private land not in the control of the applicant. These issues compromise the ability to provide a safe pedestrian crossing and route.</p>
<p>The Traffic Regulation Orders required to ensure safe access and improve the flow of vehicles along Capel Street are subject to consultation.</p>
<p>The Road Safety Audit raised a number of issues that are not addressed in the designer's response. Given the constrained nature of the geometry of Capel Street and the vehicle parking and manoeuvring associated with the school, significant highway safety issues were not considered in the TS as a result of the additional traffic flow along Capel Street including:</p> <ul style="list-style-type: none"> • The impact on the residents on the western side of Capel Street stepping into a running carriageway with no footway protection; and, • The operation of the street at school times.
<p>Key documents have not been submitted including a Lighting Assessment to consider the impact of the need for street lighting and a sufficiently detailed Construction Management Plan to ensure the development can be built safely.</p>

1.1.4 The support for these conclusions is set out in the remainder of this report, which deals with the following areas:

- Transport-related site allocation objectives;
- Geometry and traffic restrictions on Capel Street;
- Traffic survey information;
- Sustainability of the site's location;
- Access and visibility splays;
- Vehicle swept path analysis;
- Predicted trip generation;
- Comparison of parking provision and requirements set out in the standards;
- Impact of development on traffic capacity;
- Review of mitigation measures;
- Policy context of development in transport terms;
- Issues raised in the Road Safety Audit; and
- Other required documentation to support an application related to transport and highways issues.

2 Comments on Transport Statement

2.1 Site allocation

Summary

The proposals do not meet the objectives set out in the site allocation. In terms of meeting the objective to minimise the loss of the hedgerow, the applicant proposes to replant the eastern hedgerow to avoid junction visibility splays but it will also be affected by forward visibility splays (not shown on proposals). Also, the proposals fail to provide safe pedestrian routes and the do not take account of the requirement for street lighting.

- 2.1.1 The site is allocated as potentially suitable for residential development in Dover District Council's Policy LA26 subject to a number of objectives. Pre-application advice was sought in August 2015 and the planning officer stated the following in their pre-application advice:

Owing to the fact that this is a criteria based policy, it will be extremely important that any planning application addresses all of the criteria in policy LA26 and, consequently, the documents submitted with any formal application should make particular reference to this policy and how each of its objectives have been met.

- 2.1.2 The following objectives related to transport have not been met by the proposed development:

- **Vehicle access is achieved onto Capel Street, which is designed to minimise the loss of existing hedgerow** – it is proposed to replant the eastern hedgerow to the west of its existing position. The layout of the site, with one major access and four minor accesses, means that in order to accommodate the vehicle accesses and associated visibility splays (both junction and forward) will require significant space impacting even on the ability to replant the hedgerow.
- **Footway connections are provided** – new footway has been proposed, however, the connections between the proposed footway and the existing footway network on the eastern side of Capel Street (to reach the primary school) are inadequate and unsafe. The scheme does not provide a safe route for residents of the development to reach the existing pedestrian network or those using the displaced parking spaces.
- **Street lighting should be designed to minimise the impact of light pollution and conserve the dark skies of the AONB** – street lighting will be required at the new dropped kerb pedestrian crossing points and vehicle access. Both pre-application advice responses in 2015 and 2019 set out the requirement for a lighting assessment. There is no record of a lighting assessment being submitted and no reference in the Planning Statement or Design and Access Statement to any lighting assessment work.
- **Should incorporate frontage development** – this relates to the position of dwellings and does not necessarily require numerous vehicle accesses direct from Capel Street. In fact, the pre-application advice recommends that side or rear access is considered for these properties specifically to reduce any impact on the hedgerow.

2.2 Capel Street

Summary

The TS contains a number of factual errors with regards the existing situation, most importantly it significantly over-estimates the width of the Capel Street carriageway.

Carriageway width

- 2.2.1 The report states that Capel Street has a carriageway width of approximately 6.5m along the site frontage. This is incorrect. The width of Capel Street along the proposed development site frontage varies between approximately 4.2m to 5.1m.

Speed limit

- 2.2.2 The changes to speed limit to 20mph along Capel Street (between New Dover Road and 142m north-east of Green Lane) are not reflected in the TS and warrant a new speed survey being carried out to check these speed limits are being adhered to.

Parking controls

- 2.2.3 The report states that there are no parking controls along Capel Street other than school keep clear markings and associated zigzags, however, there are also a number of H-bars restricting parking across private drives.

2.3 Traffic surveys

Summary

The TS fails to provide adequate survey data to determine the impact of the development. The location of the two speed surveys is unspecified, no base data is included in the report and a summary of one speed survey only is provided. No surveys to establish the effect of school traffic, parking or manoeuvring on the operation of Capel Street have been carried out.

- 2.3.1 Automatic traffic counters were placed along Capel Street at two locations in September 2016, as stated in the TS. The ATC data has been summarised in the TS and this sets out:
- Number of vehicles per direction in the morning and evening peak hour and daily flow;
 - 85th percentile speed per direction.
- 2.3.2 It is highly unusual not to include the base survey data in an appendix of the Transport Statement and the lack of this data means that this summary data cannot be verified or additional pertinent information understood. The summary data refers to one traffic counter results only and there is no information on where this was located or how the results of the second counter compare to it. The base survey data needs to be considered in more detail to check:
- How vehicle speed changes across the day and week and for the two different unspecified locations;
 - The range and consistency of vehicle speed and the highest vehicle speeds observed;
 - The traffic flow at the key school pick up time; and,
 - The proportion of large vehicles.

- 2.3.3 No further surveys were carried out other than the two automatic counters. Given the proximity of the school, narrowness of the carriageway and reported congestion around school times, the applicant did not carry out any surveys to specifically consider the impact of the development at school times. School pick up and drop off times will result in a large increase in vehicles and it is reported from residents that these vehicles park in an ad-hoc manner and carry out numerous turning manoeuvres. The build up for the afternoon school pick up time starts after 2pm and Capel Street remains heavily parked for over an hour, effectively reducing the carriageway to one-way working. It is reported by residents that the road frequently gets blocked at these times.
- 2.3.4 Photos 1 to 4 (8.45am Tuesday 14th January 2020) below show the level of congestion experienced at school times. Photo 1 shows a regular delivery of a milk tanker travelling along Capel Street from a nearby dairy farm. It should be noted that there are regular movements along Capel Street by large vehicles due to the proximity of farms, skip hire company and caravan site. In addition, Capel Street is used as a rat-run between New Dover Road and Whitfield and the western area of Dover. Photos 5 to 7 6 (3.30pm Tuesday 14th January 2020) show that vehicles currently disregard the double yellow lines and there is evidence of pavement parking.



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7

- 2.3.5 Any increase in traffic will have a significant impact on the operation and, more importantly, safety for highway users. This aspect has not been investigated or considered in any manner in the TS with no reference to the impact of any additional traffic along Capel Street on an already congested and constrained situation.

2.4 Sustainability of site's location

Summary

As evidenced by car ownership and travel to work data, the site is not sustainably located. Only the primary school and Village Hall are within walking distance. All other facilities, including bus stops, are significantly beyond typical walking distances. In addition, the pedestrian network is poor, with an intermittent footway on Capel Street and an un-lit, unbound path to the bus stops.

The use of sustainable modes is unlikely to be a realistic option for the majority of day-to-day trips and the vast majority of trips will be by private car.

- 2.4.1 The TS states that the site is located less than 4km from Folkestone town centre. This is an 'as the crow flies' measurement and the walk/cycle distance to Folkestone town centre is closer to 5.5km. In terms of the sustainability of the site's location, the TS accepts that trip attractors within walking distance are limited. It lists three attractors within walking distance:

- Primary school;
- Small convenience store on New Dover Road nearly 1km away; and,
- Village hall.

Footway provision

- 2.4.2 The footway provision along Capel Street (heading south) is poor, with a footway on one side of the carriageway only for much of its length. This footway provision alternates on either side of the carriageway and in order to reach New Dover Road, residents would need to cross, unassisted by crossing facilities, three times along Capel Street, in addition to crossing New Dover Road. It is highly unlikely that residents of the proposed development will walk nearly 2km (12 minutes each way) to use a convenience store given these conditions. In addition, on-footway parking occurs, likely due to the narrowness of the carriageway, which further exacerbates conditions for pedestrians.
- 2.4.3 In practice the vast majority of trips generated by the development will be by private car and the residents would have very little opportunity to use active modes of travel.

Public transport

- 2.4.4 The TS states that the Green Lane bridleway provides suitable access to bus stops along New Dover Road within *'an acceptable distance'*. It continues *'travel by bus is, therefore, a feasible mode of travel for residents to access major employment and retail centres from the site'*. Census travel to work data for the area shows that, of those in employment (and excluding those that work from home), over 80% of people use the private car to travel to work (75% as driver and 7% as passenger), whilst only 2% use the bus. This suggests that the bus is not an attractive option for travel to work.
- 2.4.5 The Green Lane bridleway, whilst a leisure route, is not lit (with significant tree cover) and does not have a suitable all-weather surface to provide access to the bus stops. Even using the Green Lane bridleway, the bus stops are beyond acceptable walk distance. The eastbound bus stop is over 800m from the centre of the site and the westbound bus stop is 900m. Using Lancaster Avenue instead to access the bus stops, the eastbound bus stop is 960m away and the westbound is 850m. These distances are significantly beyond the accepted typical maximum walk distance for access to a bus stop.
- 2.4.6 The Chartered Institution of Highways and Transportation document 'Planning for Walking' states *'The power of a destination determines how far people will walk to get to it. For bus stops in residential areas, 400m has traditionally been regarded as a cut-off point and, in town centres, 200m. People will walk up to 800m to get to a railway station, which reflects the greater perceived quality or importance of rail services.'* Recommended maximum walk distances are as follows:
- 500m – core bus corridors with two or more high frequency routes;
 - 400m – single high-frequency route (every 12 minutes or better);
 - 300m – less frequent routes.
- 2.4.7 The bus route along New Dover Road has a frequency of every 20 minutes and, therefore, it is highly unlikely residents will walk over 800m to access it.
- 2.4.8 In order to reach the westbound bus stop, pedestrians will need to cross New Dover Road (40mph) at an uncontrolled crossing with dropped kerbs and a central refuge island only.
- 2.4.9 The use of bus for day-to-day travel is not an attractive option and this is borne out by the travel to work data for the area.

- 2.4.10 The ability to provide safe, direct and convenient pedestrian routes, particularly to the primary school is vital to ensure that access to the site by means other than the private car is promoted, in line with national, regional and local policy on sustainable modes of travel. The planning pre-application advice states that *'developments should be balanced in favour of sustainable modes of transport'*.

Car ownership

- 2.4.11 Car ownership for the immediate area is an average of 1.7 cars per household for all dwelling types and sizes. The TS states that car ownership for the ward is 1.5 but the area around the site more accurately reflects the likely characteristics of the development. This demonstrates that high car ownership is essential in the area (even though nearly half of all houses are 2-bed only) and sustainable modes of travel do not provide a realistic alternative. The existing area has:
- 45% 2-beds;
 - 37% 3-bed; and,
 - 18% 4- and 5-bed.
- 2.4.12 This mix of house sizes is very different from the proposed development with 23% 2-bed, 47% 3-bed and 30% 4-bed. It is likely that the residents would have even greater car ownership given the high proportion of larger houses. There are limited comparable areas along Capel Street with a high proportion of 4-bed dwellings, however, other areas nearby (in Hawkinge) with a high proportion of large houses have car ownership closer to two cars per dwelling.
- 2.4.13 The areas in Hawkinge with a high proportion of larger houses have considerably better access to public transport and local facilities within walking distance than the development and, therefore, it is arguable, that car ownership of the development will be even higher.

2.5 Access design and visibility

Summary
<p>The design of the access is not safe and suitable for all users. Access is not a reserved matter, so there is no mechanism for the Highway Authority to revise the proposals and, therefore, these unsafe and unsatisfactory access arrangements would be fixed.</p> <p>Vehicle visibility splays included in the application cross private land of two properties outside the control of the applicant and the achievable splay is significantly below the required standard. This is likely to result in vehicles entering the carriageway injudiciously. Vehicle swept path analysis has not been provided to demonstrate that the proposed accesses can operate safely. Cars turning out of the main access will sweep over the centre-line of the carriageway and large vehicles will use the entire carriageway. The shared private drives cannot accommodate 2-way movement and forward visibility has not been established. Providing sufficient forward visibility to ensure adequate road safety is likely to have an impact on the replanted hedgerow.</p>

Vehicle visibility splays

- 2.5.1 There are a number of issues related to the calculation and drawing of the vehicle visibility splays from the proposed site accesses, as follows.
- 2.5.2 Quality of drawing - The quality of the submitted Amended Proposed Highway Works drawing is insufficient to determine whether the required visibility splays have been achieved. The base mapping is a sketch only and the widths of the visibility splay lines obscure the base mapping. Instead the visibility splays and base mapping provided for the designer's response to the Road Safety Audit have been checked and, as part of this review, a CAD base of the existing highway has been used to produce visibility splay drawings.
- 2.5.3 Base survey data not provided - The base survey data (undertaken at two unspecified points) has not been provided. Summary data from one survey location is included in the TS but not the second survey location. The visibility splays shown on the Amended Proposed Highway Works drawing are for different speeds. The northernmost access shows a visibility splay of 48m to the left and 39m to the right, and the main access to the south shows a visibility splay of 43m in each direction. This suggests that speeds to the north of the site frontage are higher than speeds to the south. As the base survey data has not been provided the difference in the visibility splays cannot be checked.
- 2.5.4 Visibility splay X-distance - The X-distance for the visibility splays from the main site access is measured at 2.4m back from the edge of carriageway. For the accesses to the private drives, the X-distance has been measured 2m from the edge of carriageway. Manual for Streets 2 states that *'a minimum X-distance of 2m may be considered in some slow-speed situations when flows on the minor arm are low, but using this value will mean that the front of some vehicles will protrude slightly into the running carriageway of the major arm, and many drivers will tend to cautiously nose out into traffic. The ability of drivers and cyclists to see this overhang from a reasonable distance, and to manoeuvre around it without undue difficulty, should be considered. This also applies in lightly-trafficked rural lanes'*. Kent Design Guide states that *'in certain constrained situations, 2.0m will be acceptable subject to an assessment of the risks associated with longer bonnet vehicles using the junction.'* This has not been carried out.
- 2.5.5 Visibility splay Y-distance - The Y-distance has been measured to the nearest edge of carriageway as set out in Manual for Streets 2. For the northernmost access only, the applicant has measured the Y-distance, to the left, to the centre-line of the carriageway. This is only allowed in situations where *'physical features'* prevent a vehicle from crossing the centre-line. This may occur, for example, when overtaking or passing a delivery vehicle (allowed to deliver on double yellow line restrictions) or broken-down vehicle.
- 2.5.6 There are no centrally located physical features along Capel Street and, therefore, the visibility splay should have been measured to the nearest edge of the carriageway. This has been carried out and it can be seen in drawing 20004.TOPO.101.01 that the visibility splay crosses third party land (both No. 127 and No. 129 Capel Street). This land is not within the control of either the applicant or the Highway Authority. A visibility splay of below 25m can be achieved within the applicant's control or highway land. This is significantly below the required standard and is likely to lead to vehicles entering the carriageway injudiciously.

Vehicle swept paths

- 2.5.7 Vehicle swept path analysis is not provided for the submitted layout. It is not, therefore, possible to determine if the layout provides suitable access and manoeuvring for the range of vehicles likely to require access.
- 2.5.8 At the main vehicle access to the site:
- The swept-path analysis produced by the applicant indicates that a large refuse vehicle sweeps across the centre-line of Capel Street (in to the path of oncoming vehicles) and requires the full width of the proposed access in order to access the site;
 - There is no swept-path analysis to demonstrate that a large refuse vehicle can egress the site without over-sweeping the centre-line of Capel Street in to the path of an oncoming vehicle. Again, swept-path analysis has been carried out as part of this review, which demonstrates that the body of the vehicle will over-sweep the entire carriageway and even the verge on the eastern side of Capel Street (see drawing 20004.TOPO.101.02).
 - There is no swept-path analysis to demonstrate that a large car can egress the site without over-sweeping the centre-line of Capel Street into the path of an oncoming vehicle. As part of this review, swept-path analysis has been undertaken. This shows that a large car turning left out of the site, will cross the centre-line of Capel Street potentially into the path of an on-coming vehicle (see drawing 20004.TOPO.101.03).
- 2.5.9 In addition, there are no swept-path analyses for any of the shared private drives onto Capel Street, to demonstrate that a large car can access or egress the site without sweeping on to the opposite side of the carriageway, conflicting within a vehicle travelling in the opposite direction of the drive. Swept-path analysis undertaken as part of this review demonstrates that a large car requires the full width of the access at each of the shared private drives (see drawings 20004.TOPO.101.04 and 05). Forward visibility for vehicles turning into these drives is particularly an issue given the proposals to replant the hedgerow.
- 2.5.10 It is also considered that the layout as shown on the Illustrative Masterplan does not show sufficient space within the shared private driveways, particularly the central two private driveways, to allow a car to enter and exit the driveway in a forward gear. This increases the potential for accidents along Capel Street. None of these manoeuvres have been shown on any swept-path diagrams.

2.6 Trip generation

Summary

The trip generation rates are significantly under-estimated given the site's location and the considerable proportion of larger houses (30% 4-bed). It makes no reference to the school pick up time despite this being the busiest time of the day for vehicle trip generation.

- 2.6.1 The trip generation rates predicted in the TS are very low for a site in this location, with a high proportion of large houses. Trip rates of 0.57 in the morning peak (8am-9am) and 0.569 in the evening (5pm-6pm) are modest for this type of development in this location. The TS states that 'out of town' sites were selected but the TRICS print out in the appendices shows that all sites selected were in fact 'edge of town'. It is considered that the site is in a village and 'edge of town' sites are wholly unrepresentative. It is highly likely that the site will generate considerably more vehicle trips than predicted.

- 2.6.2 The summary of trip generation included in the report refers to the morning and evening peak hour. It makes no reference to the school pick up time between 3pm and 4pm despite the proximity of the primary school. It is also remiss of the report not to refer to this time period, as the TRICS print out shows that this time period has a higher vehicle trip generation than the evening period between 5pm and 6pm.
- 2.6.3 The trip generation does not consider the use of the displaced parking spaces being relocated within the site.

2.7 Parking provision

Summary

The application does not meet the adopted parking standards. 15 parking spaces will be displaced as a result of the proposed highway works and these are replaced with seven spaces on-site only.

- 2.7.1 As set out in the Core Strategy 2010, parking is required at a minimum of:
- 1.5 spaces/2-bed dwelling;
 - 2 spaces per 3- and 4-bed dwelling; and,
 - Visitor spaces are required on-street at a rate of one space per 0.2 dwellings.
- 2.7.2 The development, therefore, requires a minimum of 68 spaces for the residents and a further seven for visitors. The Illustrated Masterplan does not show the layout in detail and, therefore, it is difficult to ascertain exactly how many spaces are being provided. It appears that the following is proposed:
- 2 spaces per dwelling for all dwellings;
 - 2 spaces for residents' visitors; and,
 - An additional 12 spaces to compensate for the loss of parking associated with the proposal to restrict parking along Capel Street. One of these spaces is provided across the ramp to the shared surface, which will be difficult to manoeuvre into.
- 2.7.3 This is not compliant with the adopted standards. Even assuming that the provision of two spaces per 2-bed dwelling (above the standard of 1.5/dwelling) allows those dwellings to provide for visitors on plot, then six visitor spaces are still required rather than the two proposed. This ignores Kent's policy that requires all visitor parking to be on-street. This assumption that the 2-bed dwellings will be able to accommodate their visitors on plot is optimistic and in reality it is likely that the provision of seven visitor spaces, as required by the standards, is appropriate.
- 2.7.4 Census data for 2011 for car ownership shows that car ownership in the area is an average of 1.7 cars per dwelling with almost half of all dwellings being 2-beds. This suggests that car ownership is high even for smaller dwellings. This means that their allocated two spaces will be used and their visitors will need to park on-street. The Core Strategy states that '*allocation of one space per unit possible*' which is a different emphasis from that stated in the TS '*one of which is allocated if possible*'. This implies that the Core Strategy *encourages* allocation when in fact the Core Strategy *allows* an element of allocation whilst accepting in the 'Kent Design Residential Parking – Guidance Note' that allocation increases the number of spaces required and non-allocated spaces allows the land given over to parking to be used in the most efficient way. The TS incorrectly reiterates this in the Development section and again refers to Kent policy requiring parking for all types as being allocated '*if possible*'. Notwithstanding this, as a minimum six visitor spaces are required. 'Kent Design Residential Parking - Guidance Note' states that allocation of parking increases the amount of parking needed.

- 2.7.5 The shortfall of four to five visitor spaces means that in practice the spaces provided to compensate for the loss of parking along Capel Street will also be used by residents' visitors and only seven or eight will be available for the wider community.
- 2.7.6 In addition, it should be noted that the development has a large proportion of 4-bed dwellings, Census data shows that car ownership for larger houses is usually higher.
- 2.7.7 It is not possible to check the dimensions of parking spaces are appropriate and vehicle swept path analysis has not been provided to demonstrate that all parking spaces can be accessed.

2.8 Traffic capacity

Summary
Despite the TS claiming that the additional vehicle trips can be easily accommodated in terms of traffic impact, no assessment has been carried out on the impact of these additional vehicles on the operation and safety of the public highway for all users in relation to the increase in traffic at school pick up and drop off times.

- 2.8.1 The TS states that the '*additional trips would not result in a material impact in the operation of Capel Street and can be readily accommodated*'. The Highways Officer raised concerns about the 'significant increase in traffic' at school times and '*the associated parking demand and consequent narrowing of the road to single way working*'. These issues were ignored in the TS. No surveys were carried out to determine the level of school traffic, no prediction of trip generation during school times was carried out and no consideration given to the impact of the additional traffic at these times. In particular, no reference is made to the impact on highway safety associated with additional vehicle movements at school times.

2.9 Mitigation measures

Summary
The Amended Proposed Highway Works drawing is a sketch and not sufficient to determine the feasibility of the proposed works. It is unclear how the proposed widening will be achieved given the constraints to pedestrian visibility splays on both sides of the carriageway. The pedestrian visibility splays shown cross private land not in the control of the applicant. These issues compromise the ability to provide a safe pedestrian crossing and route. The Traffic Regulation Orders required to ensure safe access and improve the flow of vehicles along Capel Street are subject to consultation.

- 2.9.1 The Amended Proposed Highway Works drawing is not an engineering drawing. The accuracy of the base is questionable as it appears to be a sketch rather than based on a topographical survey or OS base mapping. It is understood that this is an outline application, however, access is **not** a reserved matter. Accesses onto the public highway and all proposed highway works should be shown on a drawing with clearly marked dimensions. The drawings produced for the Road Safety Audit are based on a topographical survey and it is not clear why this survey data was not used to inform the Amended Proposed Highway Works drawing.
- 2.9.2 The submitted drawing is not acceptable as:
- It does not show a number of existing accesses to private driveways.
 - It is not possible to determine how the carriageway of Capel Street is being widened from 4.2-5.1m to 5.5m. There is no key to show the extent of existing carriageway or the proposed widening and whether this is to the eastern or western side of the existing carriageway.

- The width of the visibility splay lines obstructs the base plan and makes assessment of the impact on third party land difficult. An extract (Figure 1) showing pedestrian visibility splays appearing to cross private land (No. 107) is included below.

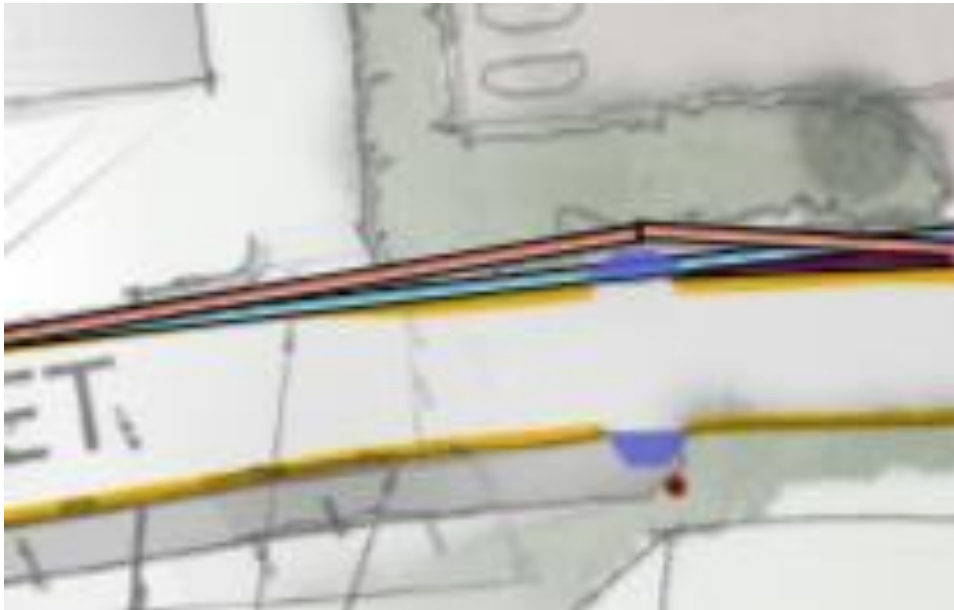


Figure 1 Extract from Amended Proposed Highway Works drawing

Proposed carriageway widening

- 2.9.3 The TS makes no reference to carriageway widening of Capel Street. The widening required is specified by the Highways Officer who states that minor widening is required between the main site access and to the south along Capel Street.
- 2.9.4 Given the constraints of the wall and boundary of No. 107 on pedestrian visibility on the western side and the constraints on pedestrian visibility and land ownership on the eastern side, it is unclear how the existing carriageway can be widened to 5.5m, whilst at the same time providing a safe crossing for pedestrians, with clear, unobstructed visibility.

Proposed pedestrian crossing

- 2.9.5 There are a number of accesses to private driveways in the vicinity of the pedestrian connection and the dropped kerb crossing point on the eastern side (opposite the south-east corner of the site) is proposed adjacent to one of these driveways (No.120). Vehicles manoeuvring into the private driveway could sweep over the dropped kerb crossing. This is exacerbated by the poor visibility resulting from the gradient of the verge on the eastern side and the presence of a wall surrounding a nearby private drive access (No.122).
- 2.9.6 Proximity of the crossing to driveways was raised as an issue by the Highways Officer in relation to the previous layout when the pedestrian crossing was located close to a different driveway (No.107). The Amended Highway Improvements Works drawing does not show the driveway (No.120) adjacent to the proposed pedestrian crossing, however, the Highways Officer's concerns are valid and remain.

Pedestrian visibility splays

2.9.7 There are a number of issues associated with the pedestrian visibility splays:

- The visibility splay for pedestrians at the proposed crossing point on the western side of Capel Street (south-east corner of the site) crosses private land (No. 107 Capel Street), and is obstructed by the boundary wall of the property, which is more than 1.5m high (see photo 8 below).
- The visibility splay for pedestrians at the proposed crossing point on the eastern side of Capel Street crosses the driveway to No. 122 Capel Street, which has a 1.0m high retaining wall (with overplanting), which restricts visibility (see photo 9 below).



Photo 8



Photo 9

Proposed footway on eastern side

2.9.8 The TS states that a new footway along the eastern side of Capel Street will be provided to connect to the public footway to the south near the access to the school. The drawing that shows this does not include the dropped kerb accesses to private driveways. The proposed footway connection running adjacent to the carriageway meets the existing provision at a private driveway (No.112) and pedestrians are required to walk along the private driveway (as well as across it) to reach the existing provision set back from the edge of carriageway behind the verge.

Replacement parking spaces and proposed passing places

2.9.9 The proposals include provision of 15 spaces within the site to replace the 15 spaces on-street to be removed as part of the proposed parking restrictions on Capel Street. Only 12 spaces have been shown on the layout and given the shortfall of residents' visitor spaces, five of these 12 are required to meet the parking standards for visitor parking. Therefore, only seven spaces are being provided to replace the lost parking spaces. No assessment has been made of the impact of displaced parking on road safety, including:

- The significant increase in the number of pedestrians using the proposed informal pedestrian crossing during the school drop-off and pick-up, as parents will park within the proposed development;

- The significant number of pedestrians using the shared-surface road within the amended site layout; and,
- The significant increase in turning movements at the proposed main access junction into the development.

2.9.10 Any Traffic Regulation Orders (TROs) will need to be subject to public consultation. There is no guarantee that the required TROs can be implemented, particularly if there are significant neighbour objections. It is also considered that if the development were granted consent, but the proposed TROs were not progressed, there is nothing to prevent further vehicles parking along Capel Street to the detriment of the safety and free-flow of traffic along the carriageway. Due to the geometry of Capel Street, there are limited alternative passing places either north or south of the site.

2.9.11 The implementation of two passing places south of the school along Capel Street is unlikely to significantly improve traffic flow and does little to address safety concerns for pedestrians associated with the properties on the western side or the school.

2.10 Transport-related policy context

Summary
It is considered that the development is not policy compliant despite the assertion in the TS that it is. Safe and suitable access has not been provided. The impact of the additional traffic has not been assessed on the safety of highway users near the school and for the residents of the properties on the western side of Capel Street. Opportunities for sustainable travel have not been maximised.

2.10.1 It is considered that in accordance with the National Planning Policy Framework:

- Opportunities for sustainable travel have not been taken up as the pedestrian route to the school does not provide a safe crossing point or safe connection with the existing pedestrian network. In addition, the pedestrian visibility splays at the crossing point, cross private land on the western side and are obscured by a wall on the eastern side. Public transport use is unlikely to be a realistic alternative to the private car as routes to the bus stops are unsuitable and significantly beyond acceptable walk distance.
- Safe and suitable access to the site has not been achieved for all users. The northernmost driveway's visibility splays cross private land and forward visibility for drivers turning into the private driveways has not been tested.
- Improvements have not been undertaken in the transport network that cost effectively and safely limit the impact of the development. The impact of increased traffic on the operation and safety of Capel Street, particularly at school times, has not been assessed; the safety of residents on the western side of Capel Street that step directly into a running carriageway has not been considered and the displaced parking as a result of the proposed parking restrictions has not been fully replaced for the community.

2.10.2 Dover District Council's Core Strategy sets out transport policies in DM11, DM12 and DM13 that are relevant to the site. It is considered that the development is not in accordance with these policies as:

- The development does not reduce the need to travel or provide a choice of means of travel;
- The mitigation measures proposed do not encourage sustainable modes of travel; and,

- It does not meet the adopted parking standards.

3 Review of Road Safety Audit and highway safety

Summary
<p>The Road Safety Audit raised a number of issues in relation to manoeuvring, visibility, gradients and footway provision that are not addressed in the designer's response. Given the constrained nature of the geometry of Capel Street and the vehicle parking and manoeuvring associated with the school, significant highway safety issues were not considered in the TS as a result of the additional traffic flow along Capel Street including:</p> <ul style="list-style-type: none"> • The impact on the residents on the western side of Capel Street stepping into a running carriageway with no footway protection; and, • The operation of the street at school times. <p>The need for street lighting as part of the highway works has also not been addressed.</p>

3.1 Background

- 3.1.1 This section of the report has been prepared by a qualified Road safety Auditor and Member of the Society of Road Safety Auditors. It reviews the transport and highway works proposed as part of the development and in particular the road safety issues raised in the Stage 1 Road Safety Audit Report (produced by RKS Associates) and the designer's response.
- 3.1.2 The road safety audit report was based on a site visit, undertaken on Thursday 19th May 2019, and a review of the following drawings:
- Urban & Rural Limited Drawing Number: A1382-10 Revision C – Proposed Illustrative Masterplan; and
 - Markides Associates Drawing Number 19182-01-102 Rev A – Proposed Highways Works;
- 3.1.3 It should be noted that the both drawings have been substantially revised since the audit was undertaken in May 2019. However, no further Audit has been requested by the Highway Authority or applicant.

3.2 Review of issues raised in the Audit report

Audit point 2.2 – Access on to Capel Street

- 3.2.1 Comment - No details relating to the vertical alignments have been provided.
- 3.2.2 The designer's response states that '*vertical alignment will be checked as part of subsequent detailed design/reserved matter submissions, with minimum requirements met.*' However, access to the site is not a reserved matter, and there is nothing within the supporting information to demonstrate that the maximum allowable gradients (i.e. 1 in 20m for the first 15-20m, and 1 in 12m for the remainder of the on-site highway layout) can be achieved within the main access to the site or the separate shared private accesses on to Capel Road.
- 3.2.3 There is also insufficient information for the Highway Authority to determine that the proposed footway along the site frontage can be accommodated without excessive crossfalls.

Audit point 3.2 – swept-path analysis of vehicles accessing/egressing the site

- 3.2.4 Comment - No vehicle swept path plots have been provided and it is therefore not clear whether or not the appropriate vehicles will be able to perform turning manoeuvres without overrunning opposing traffic lanes or footways. Inadequate carriageway space could lead to collisions between vehicles or with other road users.
- 3.2.5 The designer's response provides a limited number of vehicle swept paths and states that '*vehicle swept path analysis provided at drawing 1982-01-104/105 confirming the main site access can be negotiated by conflicting car movements and large refuse vehicle.*' It is considered that the designer's response is inadequate as:
- Not all vehicle manoeuvres have been tested (including refuse vehicle leaving the site, large car leaving the site);
 - Those manoeuvres that have been provided show that vehicles overrun the centre-line of the carriageway, which was expressly the concern of the Audit Team.
- 3.2.6 These are valid road safety concerns raised by the Road Safety Audit Team that have not been addressed.

Audit point 3.3 – width of private driveways

- 3.2.7 Comment - No details relating to the width of the vehicle crossovers serving the proposed residential units fronting Capel Street have been provided. The widths of the vehicle crossovers appear to be narrow and as a result there may be an increased risk of collisions between vehicles entering and exiting the access simultaneously.
- 3.2.8 The designer's response indicates that '*the width of private drives has been amended to accommodate anticipated movements, adopting standard widths for shared private drives of 5.4m flat kerbs along the kerbline (plus 2 x 0.9m transition kerbs) and 4.5m wide at the back of footway.*'
- 3.2.9 There is no swept-path analysis to demonstrate that the valid concerns of the Audit Team have been addressed. The width of the private driveways at the back of the footway is only 4.5m wide. Whilst this is wide enough to allow two cars to pass on a straight section of carriageway, this is not wide enough to allow a car to turn into the driveway from Capel Street at the same time as another car is egressing the driveway. The forward visibility for drivers turning into and out of the proposed private drives has not been tested. It is likely that forward visibility will be obscured by the replanted hedgerow. The width of the driveways means that two cars are not able to pass and combined with the limited forward visibility means that the potential for head on collisions is increased on the private drives and rear-end shunt type accidents along Capel Street.
- 3.2.10 It is also considered that the layout as shown on drawings 1982-01-104 and 1982-01-105 does not show sufficient space within the shared private driveways to allow a large car to enter and exit the driveway in a forward gear. This increases the potential for accidents along Capel Street. None of these manoeuvres have been shown on any swept-path diagrams.
- 3.2.11 As mentioned above, access is not a reserved matter, so there is no mechanism for the Highway Authority to review the proposals as they are developed, and, therefore, unsatisfactory access arrangements will be fixed.

Audit point 4.1 – lack of pedestrian footway to the north of the site

- 3.2.12 Comment - The highway works indicate that a pedestrian footpath is to be provided along the development frontage, the northbound footway terminates at the proposed vehicle crossover serving the most northern residential units fronting Capel Street. It is unclear how pedestrians will continue along Capel Street (northbound). The absence of a safe facility may increase the risk of pedestrians being struck by passing traffic.
- 3.2.13 The designer's response indicates that *'there are no trip attractors north of the site that will result in a material number of additional pedestrian trips generated by the development and so it is not believed to be necessary to introduce a footway north of the furthest unit to support the development. This was also not raised as a concern of the highway authority as part of the previous or current planning application.'*
- 3.2.14 The proposed development introduces up to 34 dwellings and a footway along the site frontage on western edge of Capel Street, which will generate pedestrian movements to the north and south of the site (e.g. visiting friends, accessing the Public Rights of Way, leisure trips). The proposals do not provide a safe facility to the north of the site for pedestrians to continue along Capel Street (e.g. additional signage, dropped-kerbs etc.), to the detriment of road safety. In particular, pedestrians with visual impairment or cognitive difficulties will become disorientated, and could step into the carriageway injudiciously, into the path of an oncoming vehicle.

Audit point 4.2 – Pedestrian crossing at the south-eastern corner of the site

- 3.2.15 Comment - The highway works indicate that a pedestrian footpath is to be provided along the east side of Capel Street at a location where the vertical level difference is challenging. There is concern that the inappropriate crossfall may create a hazard for wheelchair and pram users. In addition a low level wall to the north from the eastern landing may restrict visibility. A combination of these factors may increase the risk of injury to pedestrians.
- 3.2.16 The designer's response indicates that *'necessary earthworks will be undertaken to accommodate the informal pedestrian crossing provision, with levels to be confirmed at detailed design stage. Drawing 102B indicates pedestrian visibility splays of 1.5m x 43m at the crossing point.'*
- 3.2.17 The pedestrian visibility splays at the proposed crossing on both sides of Capel Street are obstructed by existing boundary walls.
- 3.2.18 The retaining wall to the driveway of No. 122 will also obstruct a driver's view of pedestrians waiting to cross the road, particularly young children, as the required visibility splay between 0.6 and 1.05m cannot be achieved.
- 3.2.19 The tactile paving on the eastern edge of Capel Street partially sits directly adjacent to the driveway of No. 120. It is considered that vehicles accessing/egressing the driveway may over-sweep the tactile paving, conflicting with pedestrians waiting to cross the road.

3.3 General highway safety issues

- 3.3.1 The following highway safety issues have not been raised in either the TS or the Road Safety Audit.

Street lighting

- 3.3.2 There is no street-lighting in the vicinity of the proposed pedestrian crossing, which will lead to shadowing, and result in drivers being unaware of pedestrians waiting to cross (or starting to cross) the road, increasing the potential for pedestrians to be hit by oncoming vehicles.
- 3.3.3 The existing street lighting (within the garden of No. 134) is not sufficient to light the proposed main access to the site. Additional lighting will be required at the access.
- 3.3.4 The need for additional street lighting has not been identified as part of the application, even though access is not a reserved matter. It is also considered that the location of street lighting columns will need careful consideration, to ensure that the columns are not at increase risk of strike by errant vehicles.

Impact on residents on western side of Capel Street (Nos. 107 and southwards)

- 3.3.5 There is no footway along the frontage of these properties and residents step directly into the running carriageway of Capel Street. The presence of on-street parking reduces the effective width of the carriageway. The impact of increasing vehicle flow on the residents' safety has not been considered.

Impact of increased vehicle flow along Capel Street

- 3.3.6 There is significant congestion, parking and manoeuvring along Capel Street at school times effectively reducing the carriageway to one-way working. The impact of additional traffic on this situation has not been referred to in the TS. It is considered that adding further traffic to an already congested environment is likely to lead to highway safety issues.

Horse riders

- 3.3.7 Capel Street is well used by horse riders of all ages and is near a livery yard. It provides a connection between numerous bridleways in the area. The impact of additional traffic on this highway user has not been considered as part of the TS.

4 Planning submission

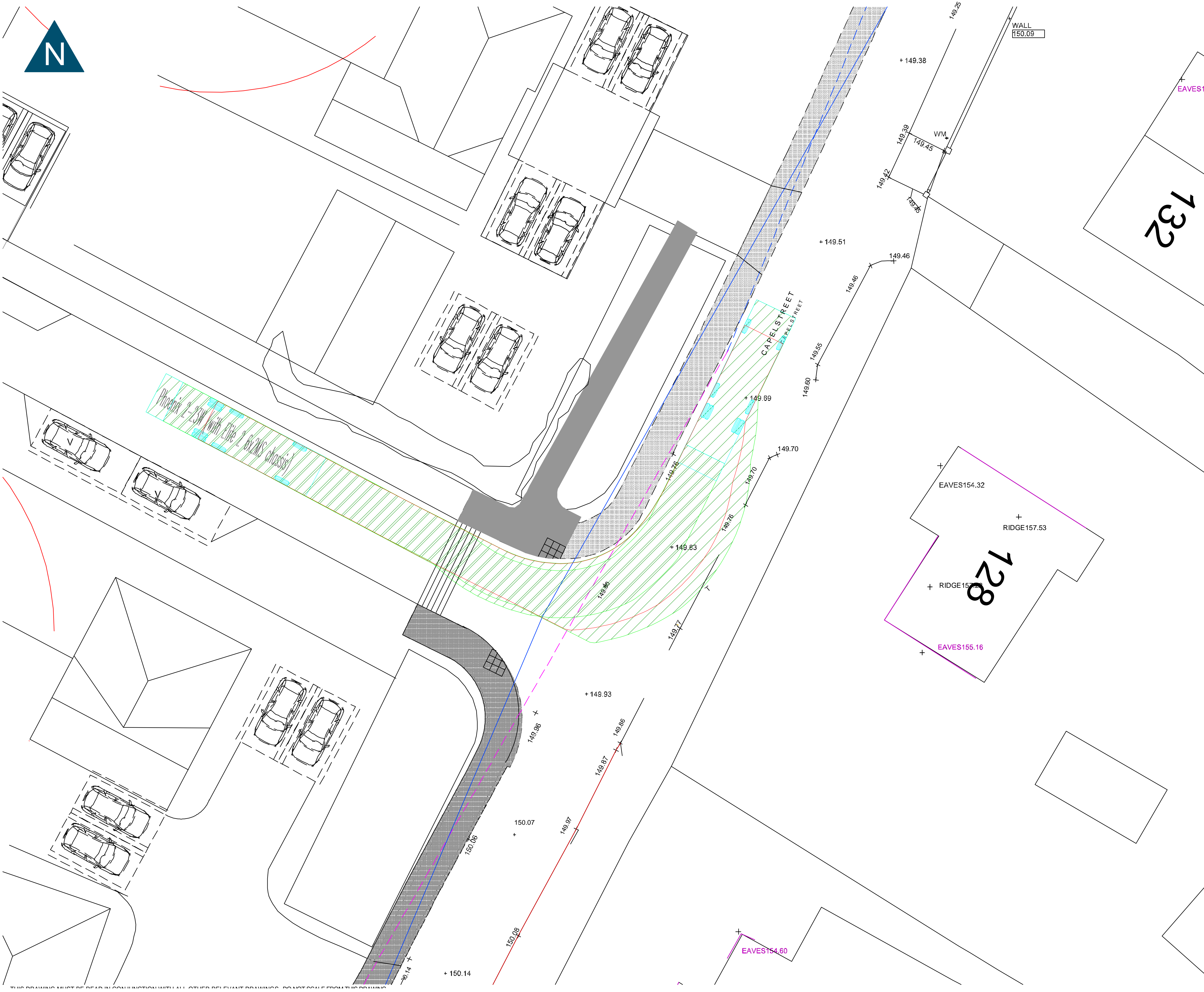
4.1 Other documentation

Summary
<p>A Lighting Assessment is required and has not been submitted.</p> <p>A more detailed Construction Management Plan should have been provided at planning stage to ensure the development can be built safely.</p>

- 4.1.1 Planning pre-application advice was obtained in May 2019, however, this is not referred to in the Transport Statement. In this advice, it is set out that the following documents are required to be submitted with a formal planning application:
- Lighting Assessment – there is no reference to a lighting assessment being carried out, particularly given the need for lighting at the proposed pedestrian crossing points and vehicle access;

- Construction Management Plan - given the narrowness of the carriageway along Capel Street, the lack of footways along the western side with residents stepping directly into the carriageway from their property and the proximity of the primary school, it is agreed that a Construction Management Plan, particularly dealing with traffic, is vital. The Construction Management Plan submitted is basic and as a minimum it is considered that vehicle swept path analysis of the range of vehicles expected to visit the site should have been carried out along Capel Street.

Helen Jenkins
BEng (Hons) CEng MICE MCIHT
Andy Roberts
BEng (Hons) MCIHT MSoRSA FFB



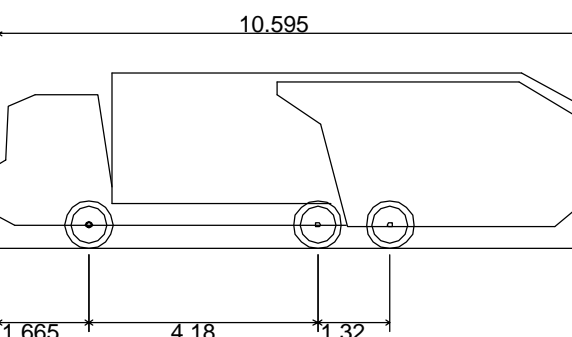
GENERAL NOTES

1. This drawing to be read in conjunction with all relevant civil engineering drawings.

LEGEND

Phoenix 2-23W (with Elite 2 6x2MS chassis)

Overall Length	10.595m
Overall Width	2.530m
Overall Body Height	3.205m
Min Body Ground Clearance	0.410m
Track Width	2.500m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	10.150m



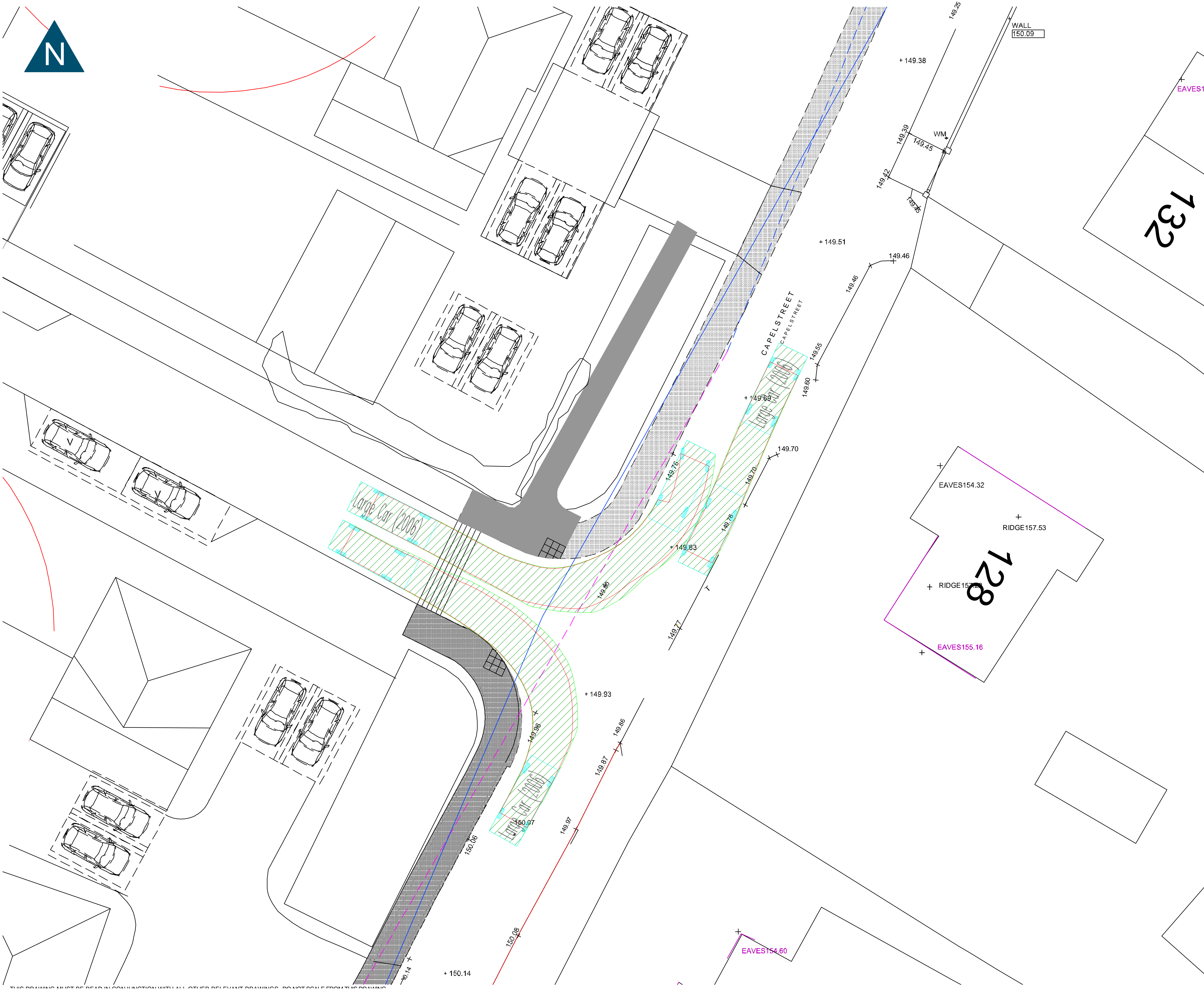
NOT FOR CONSTRUCTION

Rev	Date	Description	Drawn	Check
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lime
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Drawing Status	Date 14.01.2020
PRELIMINARY	Scale 1:100@A1
Project	Drawn ABR
Land at Capel Street, Capel-Le-Ferne	Checked HLJ
	Project No 20004
Title	Client Project No
Swept-path analysis - large refuse vehicle leaving the site and heading north	Revision
Drawing No 20004.TOPO.101.02	



GENERAL NOTES

1. This drawing to be read in conjunction with all relevant civil engineering drawings.

LEGEND

5.079

Large Car (2006)

Overall Length

Overall Width

Overall Body Height

Min Body Ground Clearance

Max Track Width

Lock to Lock Time

Kerb to Kerb Turning Radius

5.079m

1.872m

1.525m

0.310m

1.831m

4.00s

5.900m

NOT FOR CONSTRUCTION

Rev	Date	Description	Drawn	Check
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Drawing Status

PRELIMINARY

Project

Land at Capel Street,
Capel-Le-Ferne

Drawing No

20004.TOPO.101.03

Date

14.01.2020

Scale

1:100@A1

Drawn

ABR

Checked

HLJ

Project No

20004

Client Project No

Revision

Swept-path analysis - large cars
manoeuvring into and out of the
site, and along Capel Street

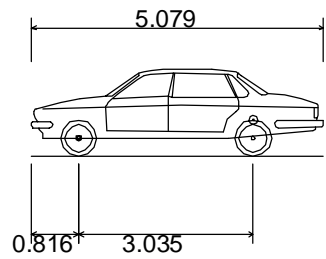
THIS DRAWING MUST BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS. DO NOT SCALE FROM THIS DRAWING.



GENERAL NOTES

1. This drawing to be read in conjunction with all relevant civil engineering drawings.

LEGEND



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

NOT FOR CONSTRUCTION

Rev	Date	Description	Drawn	Check
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Drawing Status

PRELIMINARY

Project

Land at Capel Street,
Capel-Le-Ferne

Title

Swept-path analysis - large car
accessing the private driveways
(sheet 1 of 2)

Drawing No

20004.TOPO.101.04

Date 14.01.2020

Scale 1:100@A1

Drawn ABR

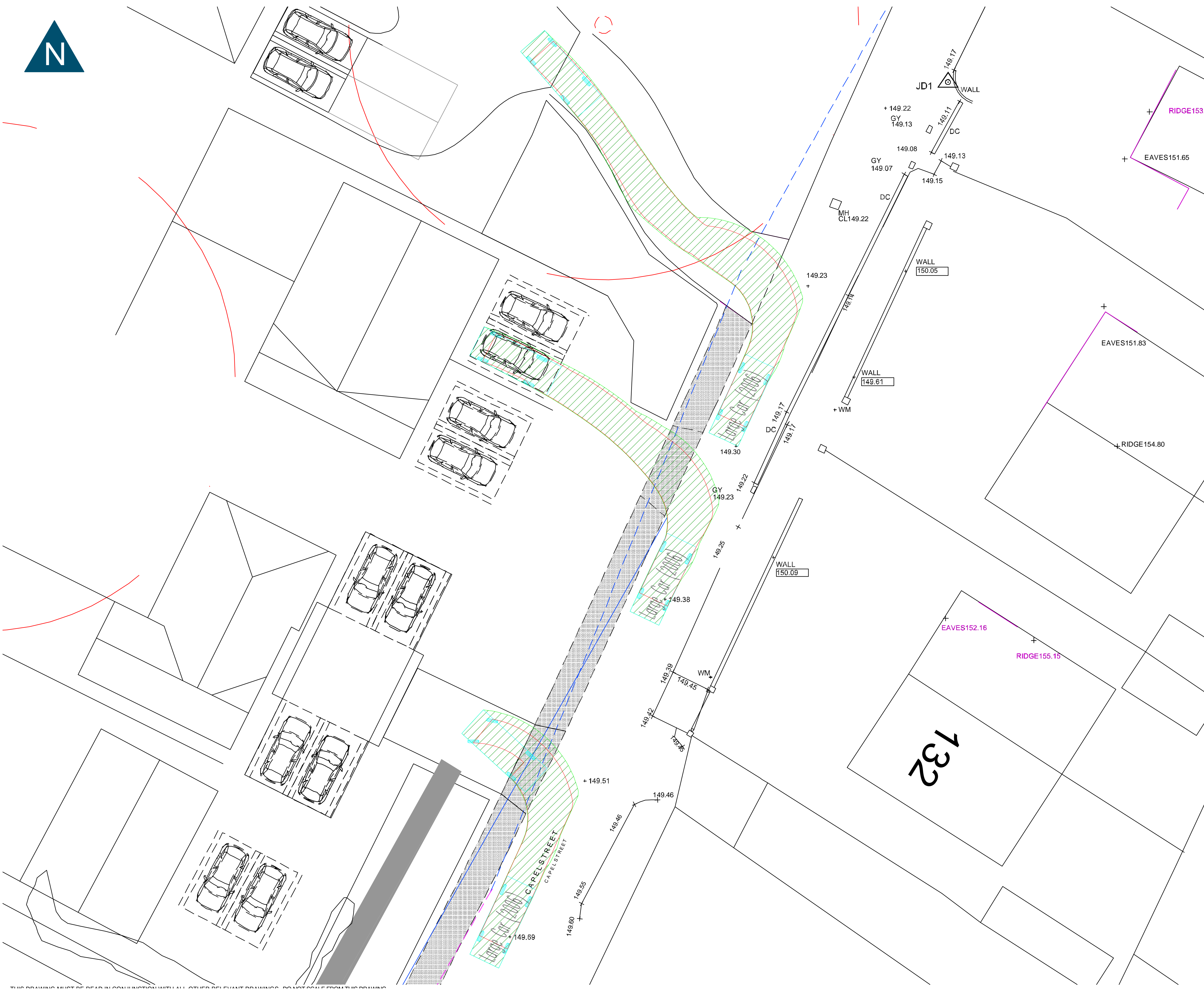
Checked HLJ

Project No

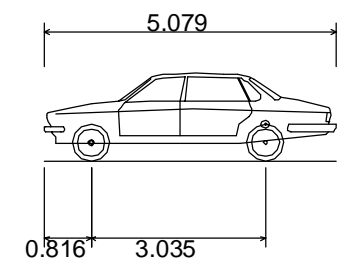
20004

Client Project No

Revision



THIS DRAWING MUST BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS. DO NOT SCALE FROM THIS DRAWING.



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

Rev	Date	Description	Drawn	Check
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PRELIMINARY

Land at Capel Street, Checked HLJ

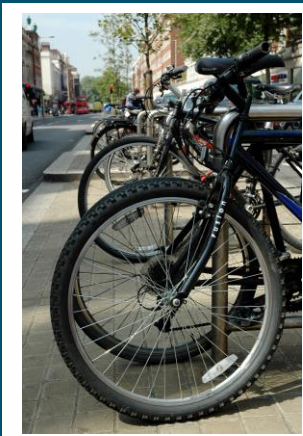
Capel-Le-Ferne

Project No
20004

Swept-path analysis - large car
accessing the private driveways

20004.TOPO.101.05

THIS DRAWING MUST BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS. DO NOT SCALE FROM THIS DRAWING.



About us

Lime Transport was set up in 2015 by Helen Jenkins and Andy Roberts. Helen and Andy bring a wealth of knowledge and experience to this company having both held senior positions at large multi-disciplinary consultancies. Lime Transport's portfolio of services covers all aspects of transport planning consultancy, including providing supporting evidence for planning applications for the successful delivery of developments. Within this field of expertise, transport planning advice includes preparing transport assessments, travel plans, input to environmental statements, pre-acquisition reports, discharging conditions and negotiating legal agreements, road safety audits and construction management plans. As part of this work, Lime Transport attends public consultations and provides expert witness advice at public inquiries and hearings.

Within Lime Transport, two members of staff are fully qualified Road Safety Auditors and members of the Society of Road Safety Auditors.

Helen Jenkins BEng (Hons) CEng MICE MCIHT

Helen is a Director at Lime Transport having worked in the field of transport planning for over 25 years. Helen's work focusses on providing transport advice at planning application stage for projects in a wide range of market sectors, particularly residential. She also has a significant track record working for public sector clients on area-wide transport schemes including traffic management, pedestrianisation, bus priority and cycle infrastructure. She has appeared as an expert witness at Public Inquiries.

Helen is a Chartered Engineer and is both a Chartered Member of the Institution of Civil Engineers and Member of the Chartered Institute of Highways and Transportation. She has acted as a Mentor under the Institution of Civil Engineers membership scheme to support the professional development of graduate engineers.

Andy Roberts BEng (Hons) MCIHT MSoRSA FFB

Andy has nearly 30 years' experience of the transport and land use development planning process. He works with private sector developers and landowners providing advice on a wide variety of schemes throughout the UK and overseas. His experience includes undertaking Road Safety Audits, highway design, preparation of local safety schemes and undertaking accident analysis, as well as preparing Transport Assessments, Transport Statements and Travel Plans for development projects.

Andy is a Member of both the Chartered Institution of Highways and Transportation and the Society of Road Safety Auditors, and a Fellow of the Forum for the Built Environment.

Our work

Supporting planning applications

Road Safety Audits

Pedestrian and cycle schemes

Public transport corridors

Traffic management and calming

Highway design and capacity

Parking studies

Town centre regeneration

Community engagement and consultation

Statutory processes

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