

# [ABSL-1358] Feasibility Appraisal

## 20mph Speed Limit on B2244, Sedlescombe

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DATE:	04 November 2022
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### 1. Introduction

- 1.1. Sedlescombe Parish Council (SPC) has applied for a feasibility study, through the East Sussex Highways (ESH) Community Match initiative, on a proposal to introduce a 20mph speed limit through the centre of Sedlescombe. The scheme has been requested by the Parish Council who have been working with the residents to identify ways to improve the environment within the village.
- 1.2. It is envisaged that the introduction of a reduced speed limit would provide a safer environment for residents and pedestrians and encourage better driver behaviour when travelling through the village.
- 1.3. In 2019 SPC commissioned an independent consultant, GTA Civils & Transport, to carry out a feasibility study on the proposals. In their report GTA suggested that, based on speed data that was collected, the existing vehicle speeds were sufficiently low enough to warrant the introduction of a 20mph limit through the village. They also suggested that physical traffic calming features could be introduced including a pinch-point at both the northern and southern ends of the village.
- 1.4. The purpose of this report is to review the available data, including the GTA report, and assess the site in terms of suitability for introducing a 20mph speed limit. This review will then seek to provide an indication of potential costs to implement any scheme option that may arise from the study as well as risks to the delivery of this. This will help SPC decide whether or not to make a formal application for Community Match funding at a later date.

### 2. Objective of Scheme

- 2.1. SPC has been looking at a scheme to reduce the speed limit in the village to make Sedlescombe a safer place and improve the residential amenity for those living alongside the main roads.
- 2.2. The Parish Council has received complaints from the residents about speeding through the village and has an active Speedwatch team that has identified that there is a speeding issue.
- 2.3. The objective of the scheme, therefore, is to reduce the speed limit to 20mph through the centre of the village.

### 3. Existing Situation

#### General

- 3.1. The B2244 is a single carriageway road heading north/south through the centre of Sedlescombe, joining up with the A21, which lies to the west of the village, at its southern end.
- 3.2. A 30mph speed limit applies through the village which is reinforced with repeater signs and roundels marked on the road. The 30 limit commences at the village hall at the northern end of the village and continues southwards through the village to a point approximately 85m south of the B2244 / Chapel Hill junction.
- 3.3. North of the village the 30mph speed limit increases to 50mph. South of the village the 30mph speed limit increases to the national speed limit to the junction with the A21 where a 50mph speed limit is in force.
- 3.4. There is no street lighting through the village.
- 3.5. The B2244 is predominantly semi-rural in nature but is bounded on both sides through the village by residential development and local shops / businesses.
- 3.6. Footways are provided along one or other side of the road along the majority of its length providing a safe route for pedestrians, albeit of varying width.
- 3.7. On-street parking is permitted throughout the village.
- 3.8. Figure 1 shows the key areas within the site.

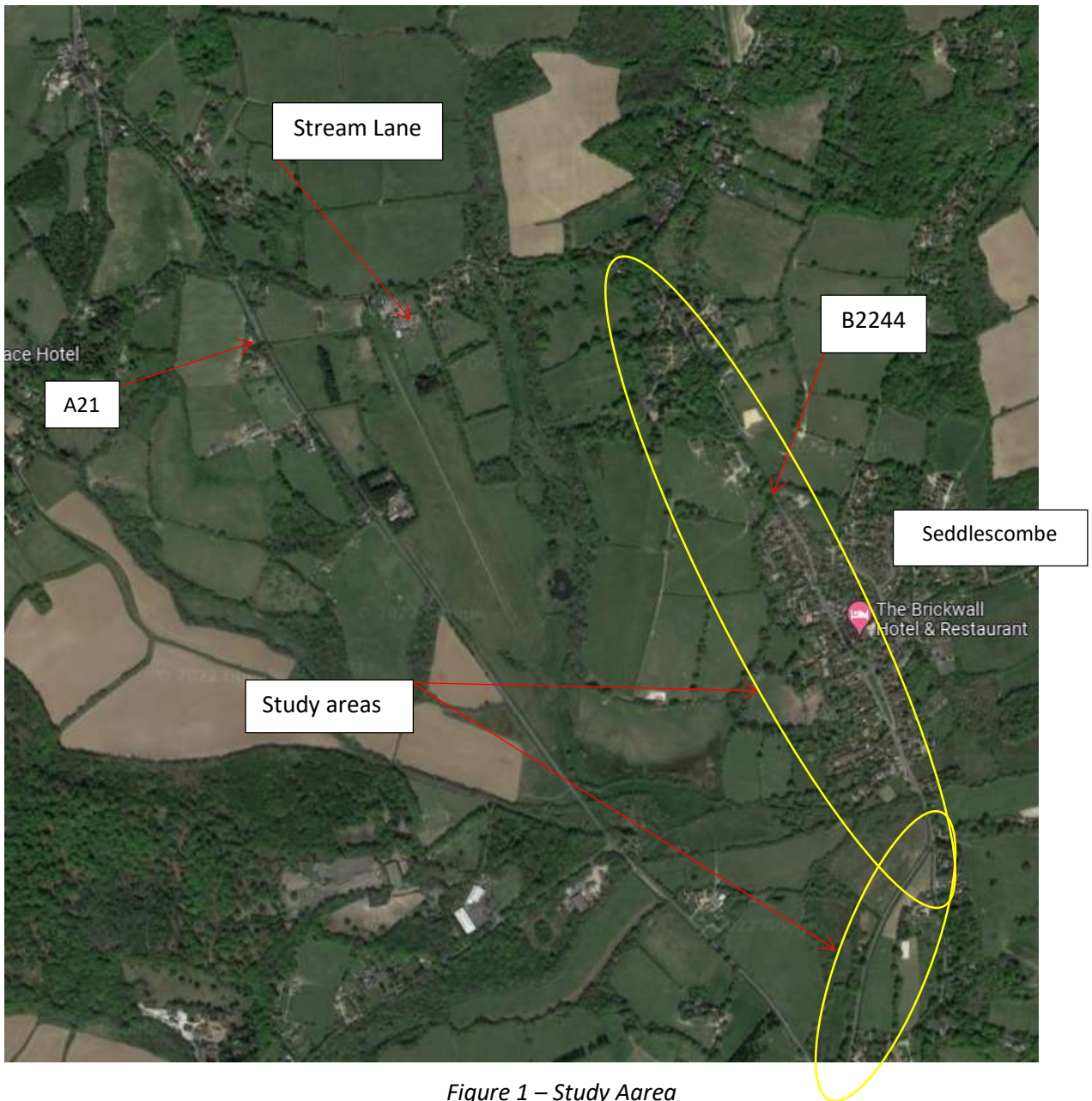


Figure 1 – Study Aarea

**Speed Limit / Speed Data / Traffic Data**

3.9. Traffic data is available from the following sources, with the dates that the surveys were carried out shown in brackets:-

ESCC Transport Monitoring Team

- Site Ref. 5172 – the Street o/s/ car sales (02/05/16 to 10/05/16)
- Site Ref. 5175 – Stream Lane east of The Manor (02/05/16 to 10/05/16)

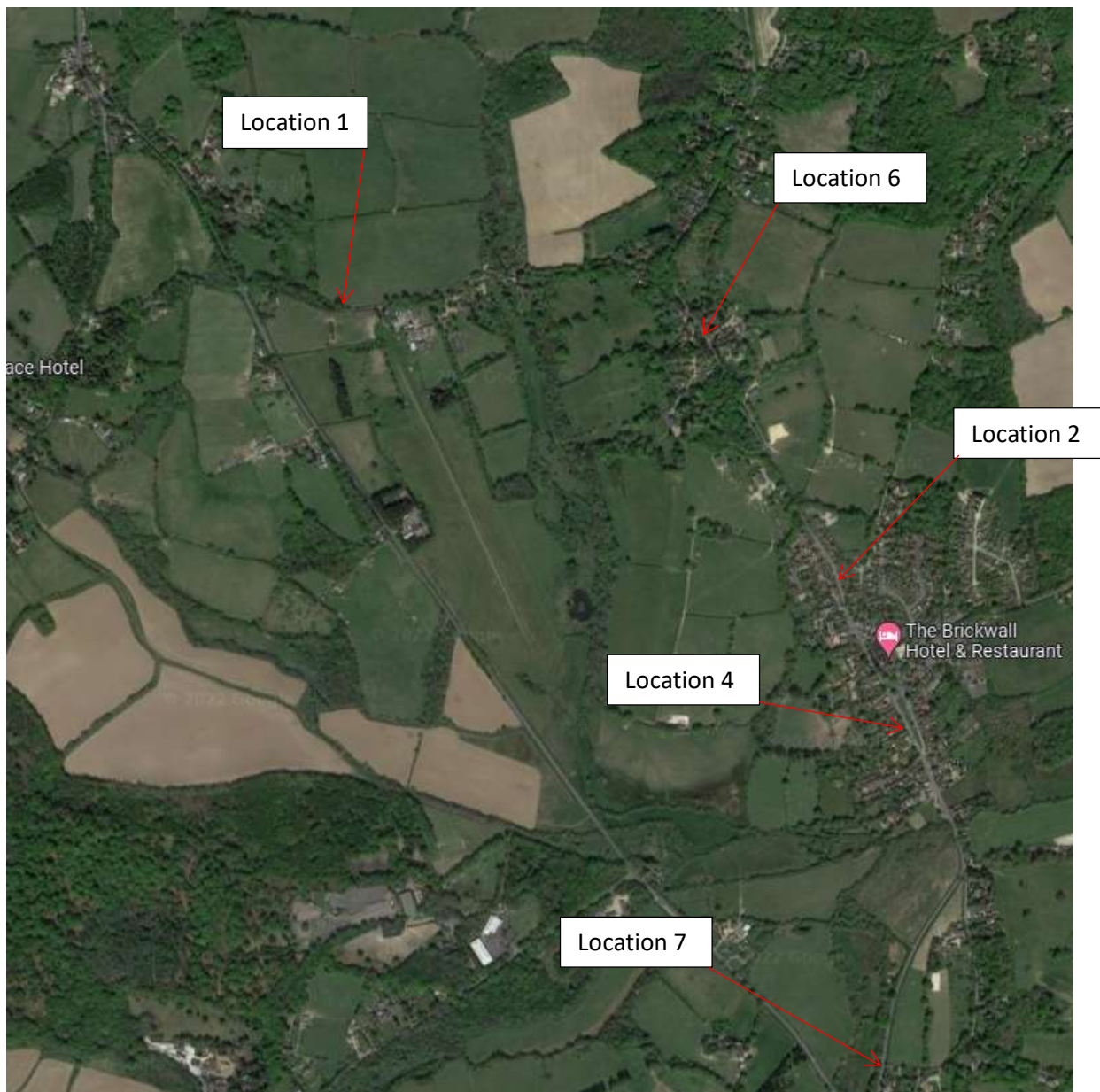
GTA Civils

- Location 1 - Stream Lane opposite Spilstead Barn – (5/12/19 to 11/12/19)

- Location 2 - B2244 opposite the junction of Meadow Lane – (26/11/19 to 2/12/19)
- Location 4 - B2244 opposite Linton House – (26/11/19 to 2/12/19)
- Location 6 - B2244 just south of Castlemans and Highfield Oast – (13/05/21 to 19/05/21)
- Location 7 - B2244 just south of Hornbeams – (13/05/21 to 19/05/21)

3.10. Due to the age of the data available from ESCC it is considered appropriate to use the data recorded in the GTA report only for this feasibility review.

3.11. The locations where the traffic data was collected are shown in Figure 2 following:-



*Figure 2 –Traffic survey sites*

3.12. These survey sites are not permanent counters and are not regularly monitored. This means that the data has not been updated to reflect the current trends, but it does provide a useful guide to vehicle speeds and volumes.

3.13. The recorded traffic speeds at these sites were: -

Site	Site speed limit	Eastbound Average Speed	Westbound Average Speed	Eastbound 85%ile speed	Westbound 85%ile speed
Location 1	60mph	29 mph	28 mph	35 mph	34 mph
Location 2	30mph	25 mph	24mph	31 mph	28 mph
Location 4	30mph	25 mph	23 mph	31 mph	28 mph
Location 6	50mph	44 mph	44 mph	51 mph	50 mph
Location 7	60mph	38 mph	38 mph	42 mph	44 mph

*The 85<sup>th</sup> percentile speed is the speed at, or below, which 85 percent of the traffic is travelling, or viewed another way, the speed that only 15 percent of drivers exceed.*

*The average speed is the speed at, or below, which 50 percent of the traffic is travelling, or viewed another way, the speed that 50 percent of drivers exceed.*

3.14. The results from the speed survey indicate that drivers generally adhere to the current 30mph speed limit through the village centre (Locations 2 and 4).

## 4. Crash Data

- 4.1. Information obtained from the Sussex Police database shows that there have been three recorded personal injury crashes within the study area in the 5 year period ending 31 July 2022.
- 4.2. All of these crashes resulted in 'slight' personal injuries.
- 4.3. Of the crashes;
  - One involved a driver pulling away from Brede Lane into the path of an oncoming vehicle having failed to look properly;
  - One involved loss of control at the Stream Lane / B2244 junction due to impairment by alcohol;
  - One involved a rear-end shunt close to the A21 / Riccards Lane junction having failed to judge other persons path or speed.
- 4.4. Analysis of the crash data indicates that excessive speed was not recorded as a major causation factor in any of the recorded crashes.

## 5. Proposed change in speed limit

### General

- 5.1. The main focus of the improvements requested by SPC is the reduction of vehicle speeds through the village by implementation of a 20mph speed limit.
- 5.2. There are two methods of introducing a 20mph speed limit that can be considered:-
  - 20mph limits – where the speed limit is introduced by signs only; and

- 20mph zones – where the scheme is designed to be ‘self-enforcing’ through the introduction of traffic calming measures (e.g. speed humps and / or chicanes etc).
- 5.3. 20mph speed limits by signs alone are most likely to be successful where vehicle speeds are already low. It has been determined through various studies that sites where the existing average speed is less than 24mph are most likely to be successful, resulting in mean vehicle speeds being compliant with the speed limit. Sites where the existing speeds are higher have demonstrated a slight reduction in vehicle speeds but, generally, not to the levels required.
  - 5.4. Generally 20mph zones are introduced where excessive speeds occur and traffic calming measures are required to enforce the lower speed limit. They are particularly appropriate where there is an existing record of accidents (especially involving children) over an area or where concentrations of pedestrians and / or cyclists exist or are anticipated. Traffic calming measures are introduced throughout the 20mph zone to regulate vehicle speeds and ensure that the reduced speed is self-enforcing, with no expectation on the police to provide additional enforcement beyond their routine activity.
  - 5.5. Typical traffic calming measures that would be considered include vertical features, such as speed cushions or tables, and horizontal features, such as pinch-points or buildouts.
  - 5.6. Vertical traffic calming features are the most effective in reducing vehicle speeds but can be expensive to implement and maintain and can also cause issues for the operation of emergency services and buses. In addition, vertical features are not suitable on busy roads with a high %age of HGV traffic, due to the potential increase in noise and vibration which could become a nuisance to the local residents and, critically, can only be installed where a system of street lighting is in place. Because of this lighting requirement alone, the introduction of vertical traffic calming measures through the village is not recommended as the introduction of street lighting is unlikely to be supported by the community.

### **Proposed Scheme**

- 5.7. Using the data obtained from the traffic surveys commissioned by GTA, a potential scheme has been identified to reduce the current 30mph speed limit through the village to 20mph. Due to the current, recorded, vehicle speeds a 20mph speed limit is unlikely to be successful by the introduction of signing alone, so it is recommended that a number of additional speed reducing features are introduced as a part of the scheme.
- 5.8. The section of road to be included in this 20mph speed limit is shown on Drawing 3520000-ESH-HGN-ABSL-1348-DR-CH-0001 included in Appendix A.
- 5.9. The following paragraphs outline the scheme proposals starting at the southern end. Please note that the introduction of traffic calming features would remove sections of on-street parking within the immediate vicinity of each feature.
- 5.10. Location / feature 1 (junction with A21) – 50mph speed limit / 40mph terminal – start of 40mph limit
  - erection of 600mm diameter speed limit terminal signs on 76mm diameter posts.
  - Laying a new 7.5m long ‘40’ roundel on the road surface with red coloured surfacing to make this more conspicuous.
  - The 40mph limit would act as a buffer between the existing 50mph currently in force along this section of the A21 and the proposed 20mph speed limit through the village. Repeater signs to be provided at regular spacings with roundels and possible addition of red coloured surfacing.

5.11. Location / feature 2 - 40mph / 20mph terminal signs – start of 20mph limit

- Erection of 600mm diameter speed limit terminal signs on 76mm diameter posts.
- Construction of a new priority working feature with vehicles approaching the village giving way to vehicles exiting the village.
- Laying of '20' roundel and, possibly, red surfacing to emphasise the new limit.
- Installation of 300mm diameter speed limit repeater signs at regular intervals through the village, supplemented with small '20' roundels on the road surface at each repeater sign location.

Alternative option

- Erection of 600mm diameter speed terminal signs on 76mm diameter posts.
- Realign kerbing over bridge to create a priority working feature here.
- Laying of '20' roundel and, possibly, red surfacing to emphasise the new limit.
- Installation of 300mm diameter speed limit repeater signs at regular intervals through the village, supplemented with small '20' roundels on the road surface at each repeater sign location.

5.12 Location / feature 3 - Priority feature adjacent to the village pump:-

- Construction of a priority working feature giving priority to southbound vehicles. The priority feature would comprise a new traffic island with priority markings and signing.
- This feature would sit on a section of road within the new 20mph speed limit.

5.13. Location / feature 4 – Priority feature o/s the Brickwall Hotel:-

- Construction of a priority working feature giving priority to northbound vehicles. The priority feature would comprise a new priority buildout with priority markings and signing. A simple pedestrian crossing facility would be incorporated into this feature.
- This feature would sit on a section of road within the new 20mph speed limit.

5.14. Location / feature 5 - 20mph / 40mph terminal signs – start of 40mph buffer

- Erection of 600mm diameter speed limit terminal signs on 76mm diameter posts.
- Construction of a new priority working feature with vehicles approaching the village giving way to vehicles exiting the village.
- Laying of '20' roundel and, possibly, red surfacing to emphasise the new limit.
- Installation of 300mm diameter speed limit repeater signs at regular intervals through the village, supplemented with small '20' roundels on the road surface at each repeater sign location.

5.15. Location / feature 6 – 40mph / 50mph terminal signs – end of 40mph buffer

- erection of 600mm diameter speed limit terminal signs on 76mm diameter posts.
- Laying a new 7.5m long '40' roundel on the road surface with red coloured surfacing to make this more conspicuous.

- The 40mph limit would act as a buffer between the existing 50mph speed limit and the proposed 20mph speed limit through the village.

#### Alternative option

- Reduction of the existing 50mph speed limit over its length to 40mph.
- Possible introduction of additional traffic calming measures to ensure compliance with the lower speed limit.

*Note:- An additional traffic survey will be required somewhere within the existing 50mph limit to record average vehicle speeds and determine whether or not additional features are required to make the extended 40mph limit self-enforcing.*

- 5.16. Paragraphs 5.10 to 5.15 outline the key traffic calming features that should be considered but in order for these to be effective, guidance suggests that features are introduced at between 60 – 80m intervals. To achieve this, additional measures will need to be considered between features 2 and 4 discussed above. The nature of these additional features would have to be determined if the scheme progresses to the next design stage.
- 5.17. The national speed limit is currently in force along Stream Lane and consideration has been given to reducing this to 40mph. Based on the recorded traffic speeds along stream lane, however, these indicate that average speeds are 29-mph and 28-mph and 85%iles of 35-mph and 34-mph. Reducing the speed limit to 40mph would be implementing a speed limit significantly higher than the vast majority of drivers are already select as a 'safe' speed. There would be no justification for reducing the speed limit and it is unlikely to be supported by ESCC or Sussex Police so for this reason, the proposal should not be considered further.
- 5.18. The speed limit changes would extend a short distance into the various side roads although the exact lengths would have to be determined as a part of the next design phase should the scheme progress.

*Note:- all works on the Highway are reviewed by an independent safety audit team and must be approved by the local authority who would be responsible for its operation and safety. This may result in proposed features being modified or removed from a scheme.*

## 6. Scheme Costs

- 6.1. Based on the measures discussed above, the budget cost for the introduction of a 20mph speed limit together with priority working and intermediate features would be in the order of £170,000 - £200,000.
- 6.2. This is a ball-park estimate and includes design support in the preparation of the scheme. In order to change speed limits, a statutory process needs to be followed to amend the existing Traffic Regulation Orders (TROs) to reflect the new speed limits. This will require consultation with stakeholder groups together with members of the public. This statutory process is covered within the estimate provided, although no allowance has been made to address any objections coming out of this process given it is assumed that the community would all be in support of the proposals being put forward. Previous experience has shown that schemes where the communities have not been supportive of the proposals result in longer design processes as further consultation and re-iteration of the designs are required. Key stakeholders include Sussex Police Authority and ESCC, without whose support a scheme cannot progress.

- 6.3. The option to extend the proposed 40mph speed limit northwards to encompass the existing 50mph speed limit has been considered feasible. Speed surveys would be required to determine the current vehicle speeds along this section of road from which it may prove necessary to introduce additional traffic calming features. As a budget estimate, this could increase the cost of any scheme by an additional £150,000.

## 7. Risks to scheme delivery

- 7.1. The following table summarises the risks identified in delivering this package of measures.

Risks	Mitigation Measures
Capital Cost to implement scheme considered too high for County Council to part fund	Early engagement with County Council Offices through Community Match Application process
Scheme not supported by the community leading to increased design time and cost to address objections to the project.	Parish to conduct earlier stakeholder engagement before application stage to ensure there is support to the project.
Scheme not supported by Statutory bodies and stakeholder groups, including ESCC Road Safety and Sussex Police, leading to abortive design costs or protracted design phase to re-develop options or address objections to the project.	Early engagement with stakeholder groups is required to establish if the principals of the scheme are acceptable, preferably before application stage.
Insufficient details of the site, such as underground apparatus and base mapping data to sufficiently develop a design to give confidence in scheme costs.	Appropriate risk/contingency made. This will be reviewed at each stage of the scheme.
Scheme presented based on feasibility / desktop design only at this stage and may significantly alter if taken forward, with subsequent impact on design time and cost and construction costs.	Recommend that a scheme of this nature is developed through preliminary design stage before progressing to detailed design.

## 8. Conclusions and Recommendations

- 8.1. Sedlescombe Parish Council would like to reduce the speed limit through the village to 20mph.
- 8.2. Introducing the 20mph speed limit by signing alone is unlikely to be successful due to the current, recorded, vehicle speeds. It is recommended therefore, that a scheme that provides physical traffic calming features at regular intervals be considered.
- 8.3. It is recommended that a scheme that provides horizontal traffic calming features as opposed to vertical features is developed as vertical features are not supported by the emergency

services, create noise and vibration pollution for the community and, critically, require a system of street lighting to be introduced.

- 8.4. The current speed limits on the approaches to the village are 50mph north of the village and national speed limit to the south of the village. It is recommended that the existing speed limit along the B2244 south of the village is reduced to 40mph up to its junction with the A21.
- 8.5. North of the village a 40mph buffer would be introduced by amending the limits of the existing 50mph limit. Additional traffic calming measures may be required to ensure that the new 40mph speed limits are self-enforcing. As an alternative, it would be feasible to replace the whole section of 5mph north of the village to 40mph but the need for additional traffic calming features would have to be determined through additional traffic surveys.
- 8.6. Changes to the speed limit along Stream Lane are not recommended.
- 8.7. It is highlighted that all measures are subject to a road safety audit process and consultation with key parties including the Sussex Police authority, and this may result in additional features being introduced or changes to the feasibility layout suggested.
- 8.8. The next stage of the Community Match initiative is usually for the parish to submit an application for funding which, if successful, leads on to the detailed design and construction of a scheme. In this instance, due to the scope of work required to introduce the lower speed limit it is recommended that the parish undertake further consultation with the community first to gauge the level of support to a scheme.
- 8.9. Should the parish then agree to progress with a scheme it is recommended that they contact ESCC / ESH to discuss the next steps as it is recommended that an element of preliminary design work is undertaken first to iron out any issues before developing the detailed design.

# APPENDIX A

Drawing 3520000-ESH-HGN-ABSL-1348-DR-CH-0001

Feasibility Design