

CORMAC

Trethurgy Village

Safety Improvements Feasibility Study

Infra22-071-CSL-GEN-SX0355-RP-CH-0001 P03

Cormac Solutions Ltd – Infrastructure Design



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APPENDICES

- A Trethurgy Highways Questionnaire Survey Report
- B Eden Roundabout 12 hour manual traffic count 2016

1 Introduction

1.1 Scheme Background

- 1.1.1 Cornwall Council's Connectivity and Transport Policy Team has requested Cormac Solutions to undertake a feasibility study within the village of Trethurgy. The aim of the study is to determine all viable road safety improvements with a particular focus towards pedestrians, including access to and from the playground. Indicative costings for delivery are to be provided.
- 1.1.2 Recently two Community Network Panel highway schemes have been implemented to address concerns raised by the local community regarding road safety. These schemes are as follows:
- Butts Lane – No waiting at any time restrictions to improve visibility for traffic exiting the junction; and
 - The extension of the 30mph speed limit on several approaches to the village. Including new gateway features and 30mph carriageway roundels laid on red anti-skid surfacing. A new playground warning sign and new SLOW road marking.
- 1.1.3 On the 16th March 2023, a meeting was held in the village between Cormac and several local representatives, where concerns regarding road safety and possible measures that could be considered to address them were discussed.

1.2 Study Area

1.2.1 Trethurgy is a village in the parish of Treverbyn, approximately 2 miles northeast of St Austell and less than 1 mile north west of the Eden Project.



Figure 1.1 – Trethurgy village location plan



Figure 1.2 – Trethurgy village main study area

1.3 Report Structure

1.3.1 The report structure is as follows:

- Section 2 – Existing Conditions;
- Section 3 – Community Safety Concerns;
- Section 4 – Proposed Works; and
- Section 5 – Conclusion and Recommendations.

2 Existing Conditions

2.1 General

- 2.1.1 The existing situation such as the location of speed limits signs, traffic volumes, public rights of way etc are shown on drawing numbers: Infra22-071-CSL-GEN-SX0355-DE-CH-0001 to 0005 and summarised in this section of the study.
- 2.1.2 For a detailed description of the village, including some of its history please refer to the Trethurgy Highways Questionnaire Survey Report written by local resident Malcolm Roberts. This report can be found in Appendix A.
- 2.1.3 Proposals to improve the existing situation will be described in Section 4.

2.2 Village Amenities

- 2.2.1 Trethurgy currently has no shop, pub, school or church. A village hall is located towards the southern extent of the village and holds regular social/community events. Carne Grey rock and quarry, situated within the south-western area of the village is a popular public recreational space and includes a small car park. Nearby Knightor Winery and wedding venue is to the north-west of the village. A playground is located centrally within the village and has recently been improved including children's play equipment, a cycle pump track and an outdoor table tennis table. The playground vehicle and pedestrian access is near the Butt's Lane junction. The pedestrian access at the southern end of the playground is currently closed due to concerns regarding visibility and the poor state of repair of the boardwalk.



Figure 2.1 – Playground boardwalk access (currently closed)

2.3 Traffic

2.4 Volumes

2.4.1 The “main road” through Trethurgy, the C0281 has a 2019 annual average daily traffic (AADT) of 1600. Knightor Road, which is the village’s northern road has a 2019 AADT of 530. There is no traffic volume information for the other roads in the village, it is likely that the traffic flows are low, similar to Knightor Road.

2.4.2 The traffic volumes in the village are summarised in the table below:

Traffic Volumes – 2019 Annual average daily traffic			
Road	Traffic Flow	Heavy Commercial vehicles (HCVs)	HCVs including Medium Goods Vehicles
C0281	1600	40	70
Knightor Road	530	No available data	30

Table 2.1 – Traffic volumes

2.4.3 In Cornwall, HCVs are classed as all vehicles of 3.5 tonnes and above. The heavy commercial volumes also include buses and coaches. From a 2016 manual traffic count at the C0281/C0729 “Eden Project” roundabout about two thirds of the HCVs were buses or coaches. The 2016 manual traffic count is included in Appendix B.

2.4.4 Medium goods vehicles are vehicles between 1.5 and 3.5 tonnes.

2.5 Speed Data

- 2.5.1 A traffic speed survey was carried out in the village using a RadarClass device in September 2022. The device was erected on the C0281 adjacent to the playground and recorded the speed of passing vehicles for a period of 8 days. The results are summarised in the table below:

RadarClass Speed Data - September 2022		
30mph Speed Limit C0281	Northbound	Southbound
Number of observations	4,321	5,738
Mean Speed (mph)	27.5	29
85 th percentile Speed (mph)	32	34
% ≤ 30mph	74.4	61.7
% 31 to 40mph	24.7	36.2
% >40mph	0.9	2.0

Table 2.2 – Speed survey

- 2.5.2 The speed survey indicates that a significant number of drivers are exceeding the speed limit at this location. Drivers will generally drive at a speed according to perceived risk. At this location the road is straight, wide enough for two-way traffic and with good visibility, all factors that can encourage quicker speed. Proposals to address the speed of traffic are shown on drawing numbers: Infra22-071-CSL-GEN-SX0355-DE-CH-0006 to 0010 and discussed in section 4.

2.6 Collision Data

- 2.6.1 5-year validated collision history between the period 01/01/2017 and 31/12/2021 shows that no injury collisions have been recorded. Please note, after a national change in collision reporting in 2015/16, damage only collisions are no longer recorded. Cornwall Council therefore no longer receive information relating to damage only collisions, nor do Cornwall Council have access to information relating to those incidents that go unreported. Such damage only collision happen consistently throughout the network and are not unique to one location.

2.7 The Clay Trails

- 2.7.1 The Clay Trails are a network of active travel routes in the St Austell area. The traffic free sections are intended for walkers, cyclists and horse riders. The clay trails are also part of routes 2 and 3 of the National Cycle Network.
- 2.7.2 The section from the Eden Project to Wheal Martyn, approximately 4.5 miles, passes through Trethurgy village. This 4.5-mile section is mostly traffic free, passing through areas of natural beauty and striking china clay industrial landscapes.

2.7.3 The on-road section through Trethurgy is quite short, approximately a third of a mile. The route travels along Chapel Lane, doglegs on the C0281 and continues along the road known locally as Knightor.

2.7.4 An overview of the Clay Trails in the St Austell area is shown in the figure below:



Figure 2.2 – The Clay Trails in the St Austell Area

2.7.5 The Clay Trail route through Trethurgy village is shown in the figure below:

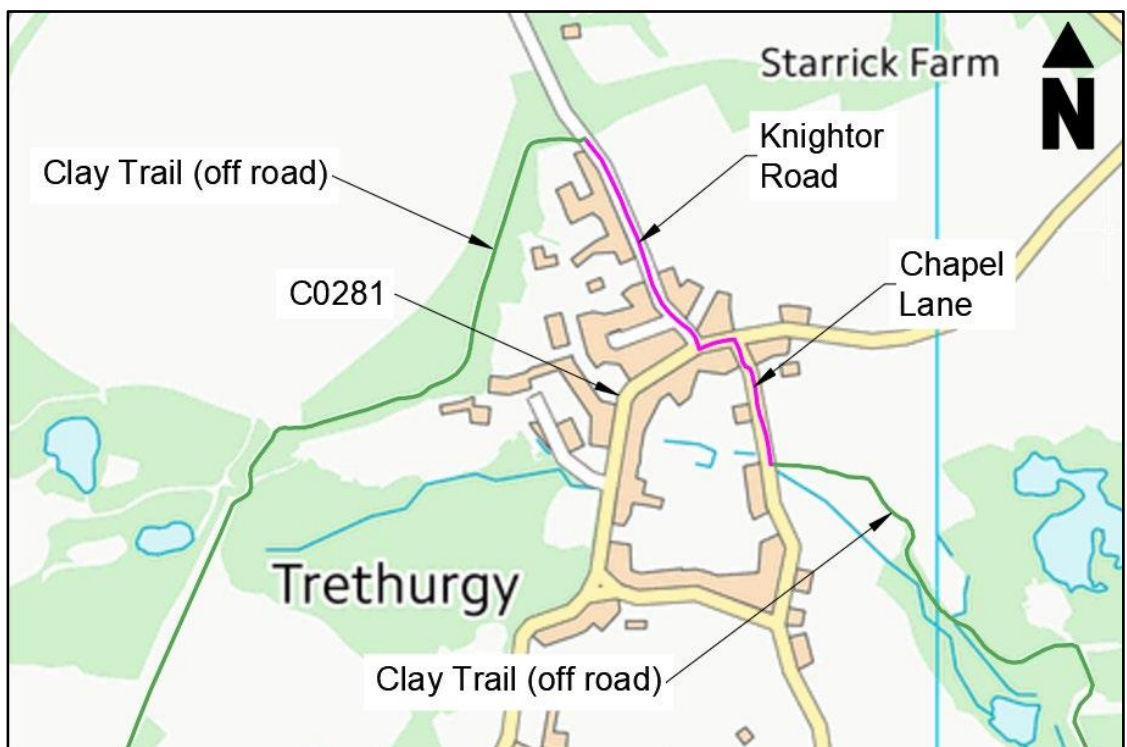


Figure 2.3 – The Clay Trails through Trethurgy Village

2.8 Speed Limits

2.8.1 The village is currently subject to a 30mph speed limit. The northern, eastern and south-western limits have recently been extended. An overview of the speed limit is shown in the figure below:

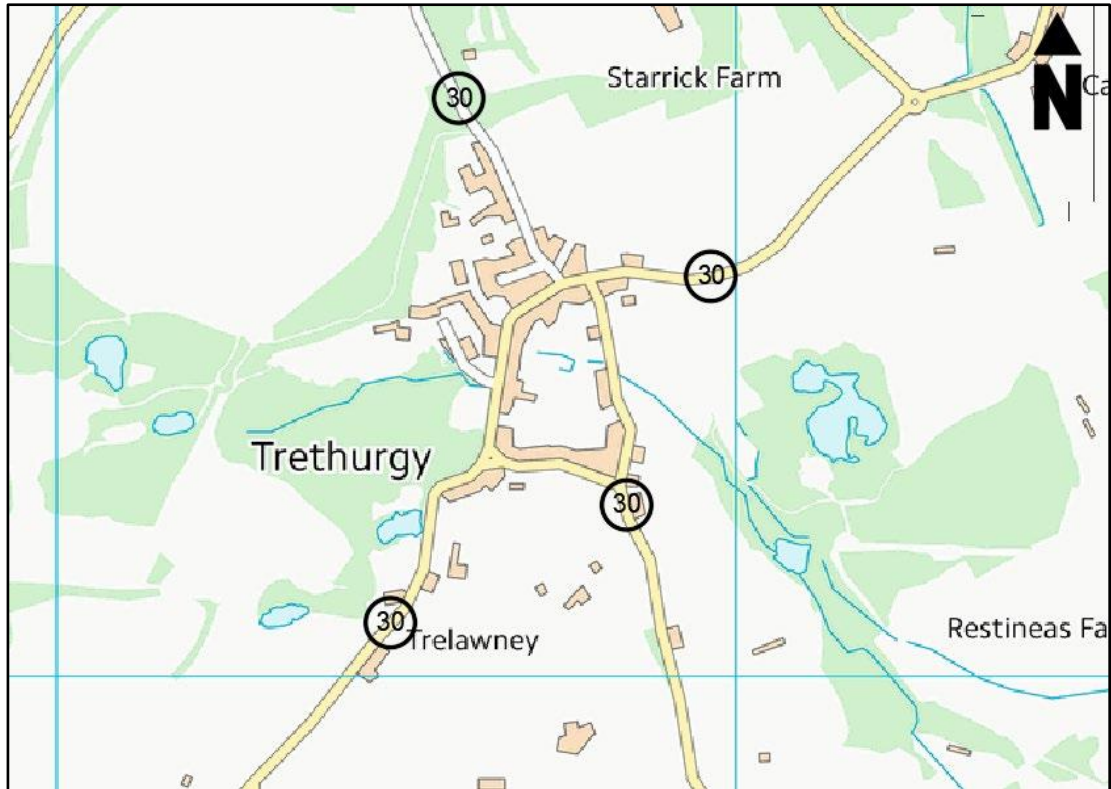


Figure 2.4 – Extent of 30mph speed limit

2.9 Public Rights of Way

2.9.1 There are 2 public footpaths and 1 public bridleway within the main study area of the village. The bridleway is also part of the Clay Trails and route 2 of the National Cycle Network. The public footpath to the east of the playground is no longer in use and has been built over. It is, however, still shown on Cornwall Council's definitive map. An overview of the public rights of way are shown on the figure below:

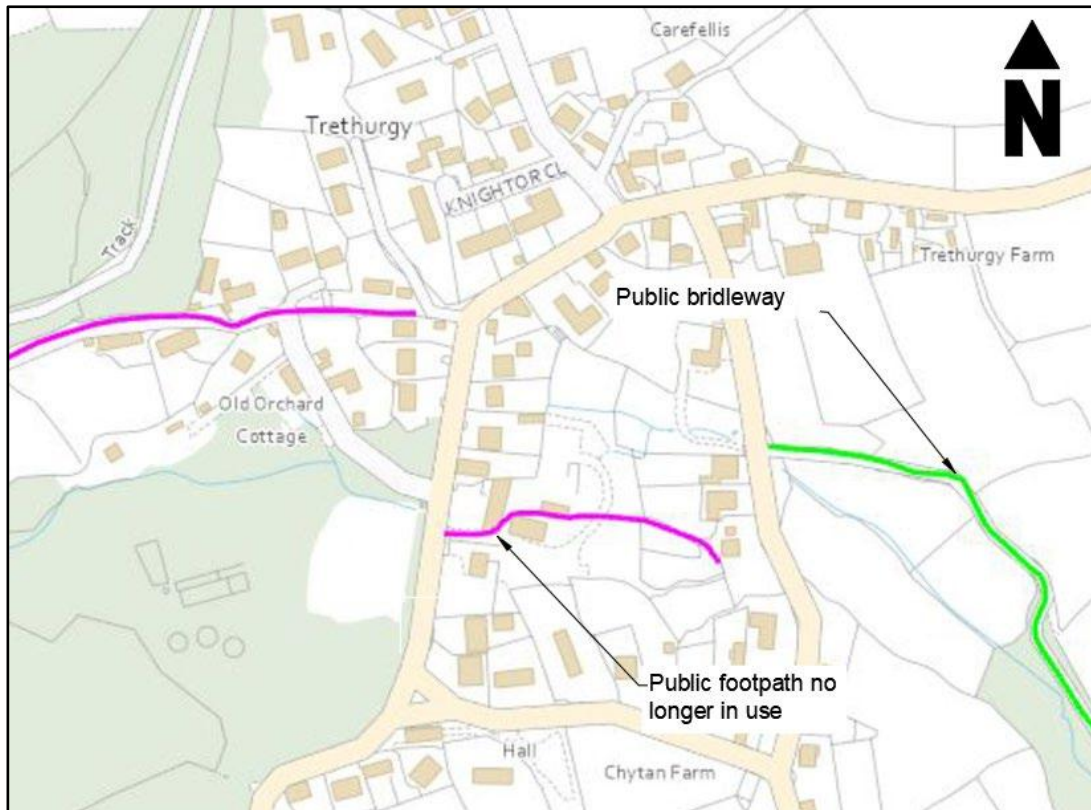


Figure 2.5 – Public rights of way

2.10 Public Transport

2.10.1 There are 2 bus stops within the village, 1 near the Knightor junction and the other near the village hall. The public bus service through the village is the number 31 St Austell to Luxulyan via Trethurgy and Rosemelling service. The village is also served by the Penrice School and Poltair School coach operated by Roselyn Coaches. Trethurgy is also on the St Austell to Eden Project bus route. The location of the bus stops are shown on the figure below:

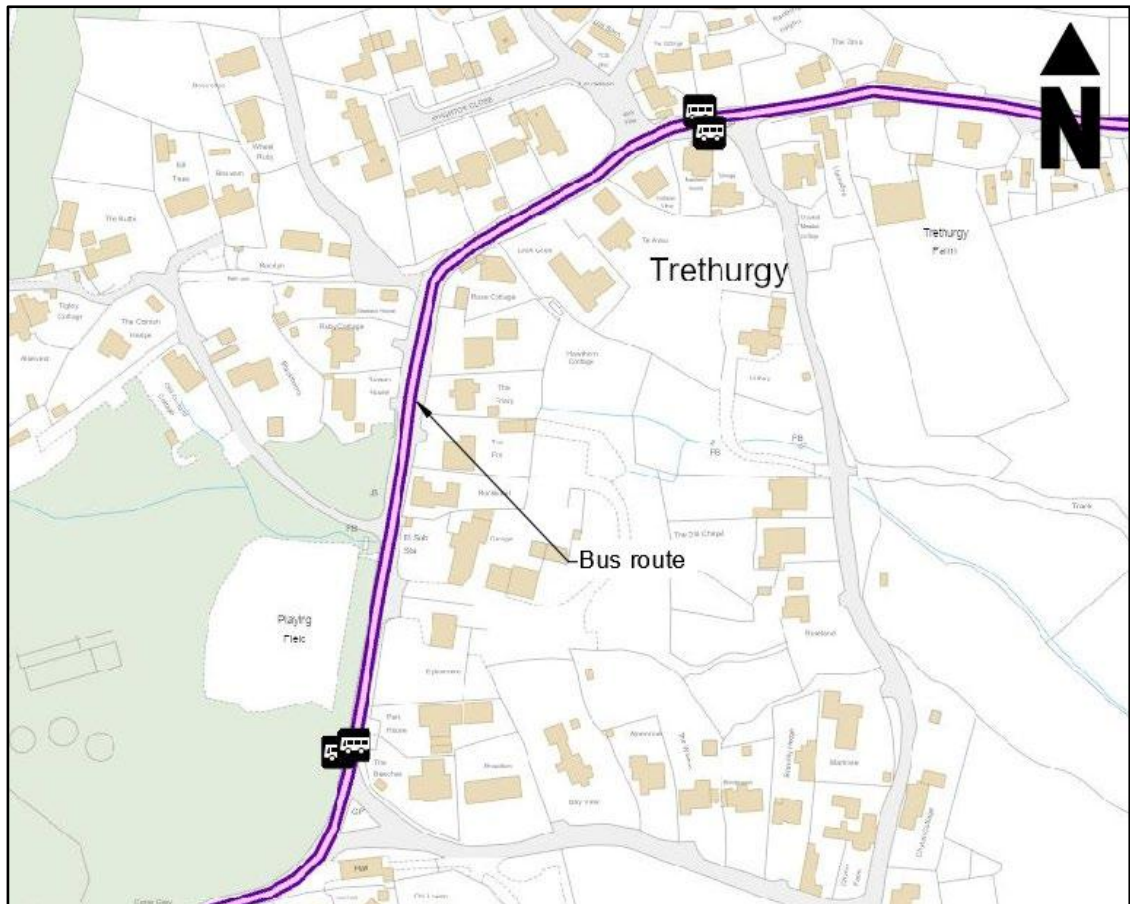


Figure 2.6 – Public transport

2.11 Traffic Signs

2.11.1 The location of the traffic signs are shown on the existing situation drawings.

2.11.2 There are a total of 6 Walkers in road warning signs in the village, 2 on Chapel Lane, 2 on the C0281 and 2 more on Knightor Road. Presumably these have been erected for the benefit of the Clay Trail users.



Figure 2.7 – Walkers in road warning sign
(Image – Google street view)

2.11.3 There are 3 Playground warning signs erected on the C0281. One pair of signs either side of the current playground access and a further sign erected in advance of the now closed southern pedestrian access.



Figure 2.8 – Playground warning sign
(Image – Google street view)

- 2.11.4 There are a pair of side road warning signs in advance of the C0281/Butts Lane junction.



Figure 2.9 – Side road ahead warning signs
(Image – Google street view)

- 2.11.5 Additional signs within the village include Clay Trails direction signs, 2 traditional finger post direction signs and a public footpath sign.



Figure 2.10 – Finger post sign near the village hall



Figure 2.11 - Finger post sign at the C0281/Knightor Road junction

(Image – Google street view)



Figure 2.12 – Clay Trails direction signs at the C0281/Chapel Lane junction

(Image – Google street view)



Figure 2.13 - Public footpath sign
(Image – Google street view)

3 Community Road Safety Concerns

3.1 Trethurgy Highways Questionnaire Survey Report

- 3.1.1 The concerns of the community regarding road safety are described in detail in the Trethurgy Highways Questionnaire Survey Report presented on behalf of village residents by Malcolm Roberts (Appendix A).
- 3.1.2 The concerns of the community in Trethurgy are perhaps the same as those in most villages in Cornwall and throughout the country. Primarily, speeding drivers, high volumes of traffic (particularly HGVs), unnecessary through traffic and the lack of pedestrian footways.
- 3.1.3 These issues, whether real or perceived, have a detrimental impact on the life of those in rural villages such as Trethurgy. The following section proposes measures aimed at addressing these problems.
- 3.1.4 The issue of HGV through traffic and the various ways to address it are quite complex and could form a separate feasibility report in itself. The options include non-regulatory controls such as advisory signing or regulatory controls such as a weight restriction. There are 5 possible routes into the village and the roads vary in terms of width, alignment and forward visibility. The traffic data that is available is old, typically 1994 or 2016. The AADT figures referred to in this study are based on the 2016 traffic count at the Eden roundabout and factored to give the 2019 AADT. It is considered that up-to-date surveys would be required to evaluate current HGV flows.

4 Proposed Works

4.1 General

- 4.1.1 The proposed works are shown on drawing numbers: Infra22-071-CSL-GEN-SX0355-DE-CH-0006 to 0010 and summarised in this section. The drawings should not be treated as detail scheme designs but as high-level concept proposals for further discussion and investigation.
- 4.1.2 The proposals have been discussed with a road safety specialist and as a consequence a couple of minor amendments have been made.
- 4.1.3 Indicative costs are included in this section for each of the proposals. These costs do not include for any possible diversions or protection of Statutory Undertakers plant that may be necessary as a result of the works.
- 4.1.4 The indicative costs do not include for topographical or ground penetration radar surveys. These costs are assumed to be approximately £6,000 total for the highways within the village.
- 4.1.5 The indicative costs do not include drainage works because there appears to be no storm water sewer in the village. Surface water appears to drain directly into ditches/water courses via grips or the occasional road gully. Should any of the proposed scheme's progress to detail design, drainage will need to be considered.

4.2 20mph Speed Limit

- 4.2.1 At the Cornwall Council Cabinet meeting of 22nd March 2023, members approved the Cornwall wide roll out of new 20mph limits introduced in phases in urban and residential areas. St Austell and Mevagissey are currently in Phase 3 of the programme scheduled for 2024.
- 4.2.2 New signs and an extensive education and awareness campaign on why 20mph is plenty, will underpin the roll out.
- 4.2.3 The Trethurgy village community are supportive of a 20mph speed limit, of those who responded to the highway safety questionnaire, 44 were in favour of the introduction of a 20mph limit whilst only 2 were not.
- 4.2.4 An initial assessment of Trethurgy by the Traffic Regulation Order (TRO) Team has confirmed that the village is likely to qualify for a 20mph limit. That said, the existing 30mph extents will be reviewed during Phase 3 (2024) alongside all other sites in the China Clay geography.
- 4.2.5 From NRSWA C2 information received from the utility companies it would appear that this proposal should not affect any overhead or underground services.

- 4.2.6 The approximate cost of the 20mph speed limit proposal including design fees to process the traffic regulation order necessary for the speed limit would be £15,000.

4.3 Village Hall Triangle



Figure 4.1 – Village Hall triangle

- 4.3.1 Proposals for this area are shown on drawing number: Infra22-071-CSL-GEN-SX0355-DE-CH-0003.
- 4.3.2 The community have expressed a concern that the village hall triangle (northern side) is too narrow for two-way traffic, and that visibility to the right is poor when emerging from the junction onto the C0281.
- 4.3.3 The suggestion in the Trethurgy Highways Questionnaire Survey Report (Appendix A) is that this section of the triangle be made one-way in a south easterly direction. There are a couple of issues with this proposal, firstly it may encourage higher traffic speeds in an area where pedestrians cross the road when walking from the village hall car park towards the playground. Secondly, the one-way system would need to be signed appropriately, including illuminated no-entry signs. It is considered that the additional signing would spoil this pleasant area of the village.
- 4.3.4 Cormac's proposal is to close the northern side of the triangle and provide a larger radius on the remaining access to cater for larger vehicles. This proposal provides scope to increase the landscaping, widen the existing footway and provide a new footway for bus users. The issue of poor visibility to the right when emerging from the junction is addressed and the pedestrian crossing to/from the car park is greatly improved.

- 4.3.5 This proposal was discussed at the 16th March meeting in the village and was not popular with the representatives. Their concern was that larger vehicles turning left from the C0281 into the U6111 would need to encroach onto the “wrong” side of the road. It was felt that the inter-visibility between the turning vehicle and a vehicle approaching the junction from the west is not adequate.
- 4.3.6 A desktop study has been undertaken which has determined that sufficient forward visibility can be achieved, assuming visibility across the verge can be maintained. This proposal is therefore presented in this study for further consideration.
- 4.3.7 Using vehicle tracking software, the maximum speed in which a car can negotiate the left hand bend when approaching from the west is approximately 28mph. From Manual for Streets (DfT 2007) the required stopping sight distance for an 85th percentile speed of 28mph (not maximum speed) would be 39m. This visibility can be achieved if the verge can be kept clear of vegetation. The land is owned by Imerys although highway rights have likely accrued therefore Cornwall Council will also have some responsibility to maintain this verge.

4.3.8 The figures below illustrate the inter-visibility issues.

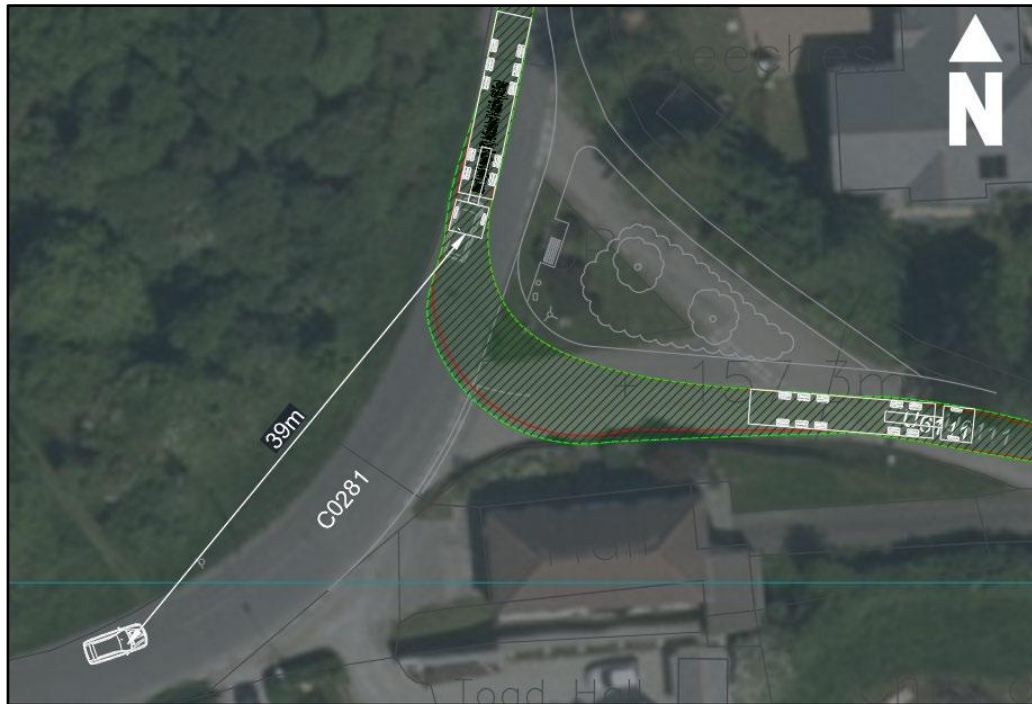


Figure 4.2 – Village Hall triangle – inter-visibility



Figure 4.3 – Village Hall triangle – inter-visibility
(Image – Google street view)

4.3.9 From NRSWA C2 information received from the utility companies it would appear that this proposal should not affect any overhead or underground services.

4.3.10 The village hall triangle costs are summarised in the table below:

Item	Cost (£)
Preliminaries (traffic management and welfare facilities)	3,600
Site clearance	1,400
Earthworks	7,600
Pavements	1,700
Kerbs, footways and paved areas	9,000
Traffic signs and road markings	2,000
Miscellaneous items, trees, bench etc.	3,300
Sub-total	28,600
10% contingency	2,860
10% operational management	2,860
10% risk due to minor excavations	2,860
7.5% inflation to March 2024	2,145
Design fees	3,675
Total	£43,000

Table 4.2 – The village hall triangle costs

4.4 Playground Footway



Figure 4.4 – Playground footway

4.4.1 Proposals for this area are shown on drawing number: Infra22-071-CSL-GEN-SX0355-DE-CH-0003.

- 4.4.2 The community's concerns are that apart from a 30m long footway on the northern side of the village hall triangle there are no other footways in the village.
- 4.4.3 The suggestion in the Trethurgy Highways Questionnaire Survey Report (Appendix A) is that a footway be constructed along the C0281 from the village hall triangle to the junction with Knightor Road.
- 4.4.4 Unfortunately, from a review of available highway widths using Ordnance Survey mapping, the road is not sufficiently wide for a continuous footway and two-way traffic. Cormac's proposal therefore is to provide a physical footway constructed in the carriageway from the village hall triangle to the entrance to the playground and a virtual footway from there to the Knightor junction. This proposal would create a longer section of single way working adjacent to the playground and therefore a passing bay is proposed opposite the footway. From Cornwall Council's records the verge on the western side of the C0281 in this area is not public maintained highway although it is likely that highway rights have accrued. It is understood that the land is owned by Treverbyn Parish Council and their agreement to this proposal would be required if land outside the public highway is required.
- 4.4.5 Some people may feel that the physical footway may 'urbanise' the rural character of the village and to mitigate this it is proposed to construct the footway with granite kerbs rather than pre-cast concrete. Also, the footway could be constructed at a reduced height, for example 60mm rather than the standard 125mm.
- 4.4.6 Single lane working is felt to be acceptable in this location as the traffic volumes are relatively low, 2019 annual average daily traffic 1600. Some inconvenience to drivers may be caused at busier times but this may act as a deterrent to unnecessary through traffic which is a community concern.
- 4.4.7 The remaining road width needs to be cycle friendly in accordance with Chapter 7, Local Transport Note 1/20 Cycle Infrastructure Design (DfT 2020) and should be considered should this proposal progress to detail design.



Figure 4.6 – View of bank etc from inside the playground



Figure 4.7 – View of bank etc from the road
(Image – Google street view)

- 4.4.11 The proposed footway, single-way traffic working, and removal of the hedge was discussed at the 16th March meeting in the village and was generally supported. It was felt that the removal of the hedge would improve the feeling of personal safety for playground users and deter any anti-social behaviour (not that this is currently an issue).

- 4.4.12 An existing tree survey and environmental assessment should be considered if this proposal is to progress to detail design.



Figure 4.8 – Playground

- 4.4.13 From NRSWA C2 information received from the utility companies it would appear that the only services affected by the proposals would be overhead BT cables that have been engulfed by the hedge and beech trees. Although at this stage it is considered that it would be possible to remove the vegetation without diverting the services.

4.4.14 The playground footway costs are summarised in the table below:

Item	Cost (£)
Preliminaries (traffic management and welfare facilities)	6,400
Site clearance	1,300
Earthworks	30,400
Pavements	4,000
Kerbs, footways and paved areas	25,600
Traffic signs and road markings	700
Miscellaneous items, trees, railings etc.	6,600
Sub-total	75,000
10% contingency	7,500
10% operational management	7,500
10% risk due to minor excavations	7,500
7.5% inflation to March 2024	5,625
Design fees	9,875
Total	£113,000

Table 4.3 – The playground footway costs

4.5 Virtual Footway



Figure 4.9 – Virtual footway

4.5.1 Proposals for this area are shown on drawing numbers: Infra22-071-CSL-GEN-SX0355-DE-CH-0003 and 0004.

- 4.5.2 The proposed virtual footway was discussed at the 16th March meeting in the village and was generally supported considering that a continuous physical footway could not be provided due to width constraints within the highway boundary. Some people may feel that this long section of virtual footway may 'urbanise' the rural character of the village and to mitigate this a buff coloured surface is recommended. Ongoing maintenance of the virtual footway may be an issue considering the pressure on Cornwall Council's highway budgets.
- 4.5.3 To understand if a virtual footway is a practical proposal a topographical survey is recommended. From Ordnance Survey mapping and using vehicle tracking software it would appear that only the section from the corner to the Knightor junction would be overrun by two cars trying to pass each other as shown in the figure below:



Figure 4.10 – Virtual footway overrun

- 4.5.4 The overrun maybe acceptable considering the relatively low vehicle volumes, 2019 annual average daily traffic 1600 and that driver speeds may be reduced due to the visual narrowing of the road.

- 4.5.5 The virtual footway does not continue from the playground on the western side because of on street parking trends as shown in the figure below:



Figure 4.11 – Parking trends
(Image – Google street view)

- 4.5.6 This proposal should not affect utility companies' plant as the required excavation is shallow.

- 4.5.7 The virtual footway costs are summarised in the table below:

Item	Cost (£)
Preliminaries (traffic management and welfare facilities)	1,700
Earthworks	400
Pavements	12,400
Traffic signs and road markings	700
Sub-total	15,200
10% contingency	1,520
10% operational management	1,520
7.5% inflation to March 2024	1,140
Design fees	3,420
Total	£38,000

Table 4.4 – The virtual footway costs

4.6 Knightor Junction



Figure 4.12 – Knightor junction

- 4.6.1 Proposals for this area are shown on drawing number: Infra22-071-CSL-GEN-SX0355-DE-CH-0004.
- 4.6.2 The community's concerns are that visibility to the right when emerging from Knightor Road is poor. There are also issues with car parking on the western corner.
- 4.6.3 Cormac's proposal is to reduce the size of this junction and incorporate tighter corner radii. This approach is recommended in Manual for Streets (DfT 2007) and Streets for People Design Code – Delivering Quality of Life (Cornwall Council undated). This technique reduces the speed of drivers turning into and from the junction and therefore improves road safety, particularly for pedestrians, cyclists and horse-riders.
- 4.6.4 The proposal will form a waiting area on the eastern side for bus users where seating could be provided. The fingerpost direction sign could also be relocated to a more prominent location, especially for traffic approaching from the north on Knightor Road. There is also scope for tree planting in this area although consideration would need to be given to the overhead BT lines.
- 4.6.5 The proposal was discussed at the 16th March meeting in the village and was generally supported. It was felt that the scheme would deter parking on the western corner.
- 4.6.6 Unfortunately, this proposal is unlikely to significantly improve visibility, although in combination with the other proposals for the village, speeds may be reduced, thereby mitigating the issue.

- 4.6.7 This proposal is currently designed to accommodate a maximum legal length articulated HGV. However, if this scheme is to progress to detail design an assessment should be made to the maximum size of vehicle to be accommodated and the junction designed accordingly.
- 4.6.8 From NRSWA C2 information received from the utility companies it would appear that this proposal should not affect any of their overhead or underground services although consideration will need to be given to the tree planting and overhead BT lines.
- 4.6.9 The Knightor junction costs are summarised in the table below:

Item	Cost (£)
Preliminaries (traffic management and welfare facilities)	3,400
Site clearance	200
Kerbs, footways and paved areas	12,500
Traffic signs and road markings	2,000
Miscellaneous items, trees, bench etc.	3,500
Sub-total	21,600
10% contingency	2,160
10% operational management	2,160
10% risk due to minor excavations	2,160
7.5% inflation to March 2024	1,620
Design fees	3,300
Total	£33,000

Table 4.5 – The Knightor junction costs

4.7 Review of Traffic Signs

- 4.7.1 The current signs within the village are detailed in Section 2.10.
- 4.7.2 DfT Circular 01/2016 The Traffic Signs Regulations and General Directions 2016 (DfT 2016) recommends a reduction of signing whenever possible and that a cultural change is needed in the way that signing is used. It is considered that overuse of traffic signs blights the landscape, wastes taxpayers' money and dilutes important road safety messages. With this in mind it is recommended that should some of the proposals in this study be implemented and traffic speeds are reduced a review of the current warning signs is undertaken to determine if they are still required.
- 4.7.3 If the southern pedestrian access to the playground is to remain closed for the foreseeable future, then consideration should be given to the removal of the advance warning sign approaching from the south as it is detracting from the warning sign positioned nearer to the current access.
- 4.7.4 The existing traditional finger post direction signs are a very nice feature of the village and should therefore be refurbished. This has already been included in the scheme costs above. If the fingerposts need relocating it is important to ensure that generous clearances from passing traffic is provided to ensure no accidental damage occurs. Improvements such as this may psychologically effect driver behaviour and encourage lower speeds. For this reason, it is also proposed to replace the dilapidated footpath sign with a new finger post type with wooden post. These proposals would require consultation with the relevant Cornwall Council highway and public rights of way teams.

4.8 Vehicle activated speed signs

- 4.8.1 Vehicle activated speed signs are mentioned in the Trethurgy Highways Questionnaire Report. Whilst some may feel that flashing signs may detract from the rural village environment they are included in this study for consideration.
- 4.8.2 There are two types of vehicle activated speed signs currently used in Cornwall, permanent and mobile. The permanent type are erected and maintained by Cornwall Council. These signs are activated when an approaching car exceeds a set threshold and flash up the speed limit together with the message SLOW DOWN, a light flashes in the four corners of the sign. The mobile type display the speed of an approaching vehicle, some signs display a smiley face if the speed is at or below the speed limit, or a sad face if the speed limit is exceeded. The permanent signs can be either solar or mains powered. The mobile type are either battery or battery/solar powered.
- 4.8.3 The permanent signs cost between £10,000 and £15,000 each depending on whether they are mains or solar powered or the amount of civil engineering works required such a maintenance vehicle parking bay. The type and location of a permanent sign would need to be agreed with Cornwall Council's Connectivity & Environment team.

- 4.8.4 It is considered that a mobile vehicle activated speed sign would be more beneficial in the village as its location can be varied and therefore a wider area of the village covered.
- 4.8.5 The mobile vehicle activated speed signs come under the Community Speed Initiatives programme and should the community wish to pursue this then they should contact Cornwall Council's Highways & Environment Manager.

5 Conclusion and Recommendations

5.1.1 Proposals for road safety improvements in the village are presented in Section 4 and are costed as separate schemes as summarised in the table below:

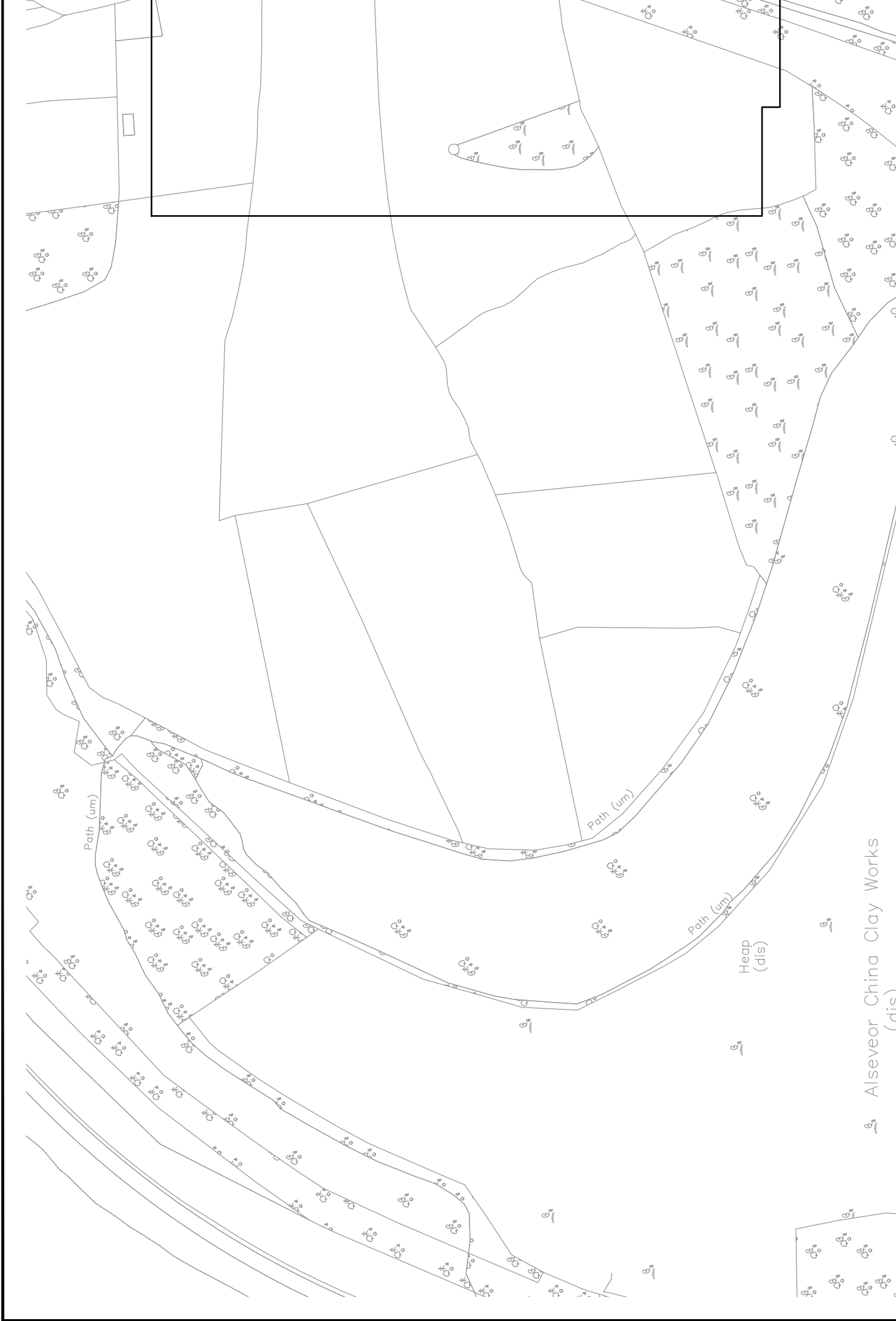
Scheme	Cost (Including design fees) £
20mph speed limit	15,000
Village hall triangle	43,000
Playground footway	113,000
Virtual footway	38,000
Knightor junction	33,000
Vehicle activated speed sign	15,000
Total	257,000

Table 5.1 – Summary of scheme costs

- 5.1.2 A traffic survey is recommended at the village hall triangle, particularly to assess the volume of HGVs using the northern side of the triangle, as discussed in paragraphs 4.3.5 to 4.3.7. A survey would help determine the suitability of removing the carriageway from the northern side of the triangle, as proposed.
- 5.1.3 These proposals should address most of the communities' concerns regarding road safety except perhaps the volumes of HGVs. It is recommended that to better understand this issue new traffic surveys are commissioned as the most recent, at the "Eden Project" roundabout is approaching 7 years old.
- 5.1.4 If the southern pedestrian access to the playground is to remain closed for the foreseeable future, it is recommended that removal of the warning signs is considered as suggested in section 4.7.3. However, to promote a feeling of personal safety for users of the playground, more than one access is recommended.
- 5.1.5 It is recommended that should some of the proposals in this study be implemented and traffic speeds are reduced a review of the current warning signs is undertaken to determine if they are still required.

DRAWINGS

Infra22-071-CSL-GEN-SX0355-DE-CH-0001	Existing Situation – Sheet Location Plan
Infra22-071-CSL-GEN-SX0355-DE-CH-0002	Existing Situation – Sheet 1 of 4
Infra22-071-CSL-GEN-SX0355-DE-CH-0003	Existing Situation – Sheet 2 of 4
Infra22-071-CSL-GEN-SX0355-DE-CH-0004	Existing Situation – Sheet 3 of 4
Infra22-071-CSL-GEN-SX0355-DE-CH-0005	Existing Situation – Sheet 4 of 4
Infra22-071-CSL-GEN-SX0355-DE-CH-0006	Proposed Works – Sheet Location Plan
Infra22-071-CSL-GEN-SX0355-DE-CH-0007	Proposed Works – Sheet 1 of 4
Infra22-071-CSL-GEN-SX0355-DE-CH-0008	Proposed Works – Sheet 2 of 4
Infra22-071-CSL-GEN-SX0355-DE-CH-0009	Proposed Works – Sheet 3 of 4
Infra22-071-CSL-GEN-SX0355-DE-CH-0010	Proposed Works – Sheet 4 of 4



Alseveor China Clay Works (dis)

SHEET 02
CUT LINE

SHEET 02
CUT LINE

Carne Grey
Cottage

C0281

Quadrants
(Sis)

Water





Tigley Cottage

The Cornish Hedge

Old Orchard Cottage

Blackthorns

Ruby Cottage

Seaglass House

Rowan House

Butts Lane

Recent double yellow lines parking restrictions

Playing field access

Playing field

U6107

FB

LB

SHEET 03
CUT LINE

155.1

veor

Badgers

SHEET 04
CUT LINE

Springs

SHEET 04
CUT LINE

Knights Road

167.3m

The Hollyhocks

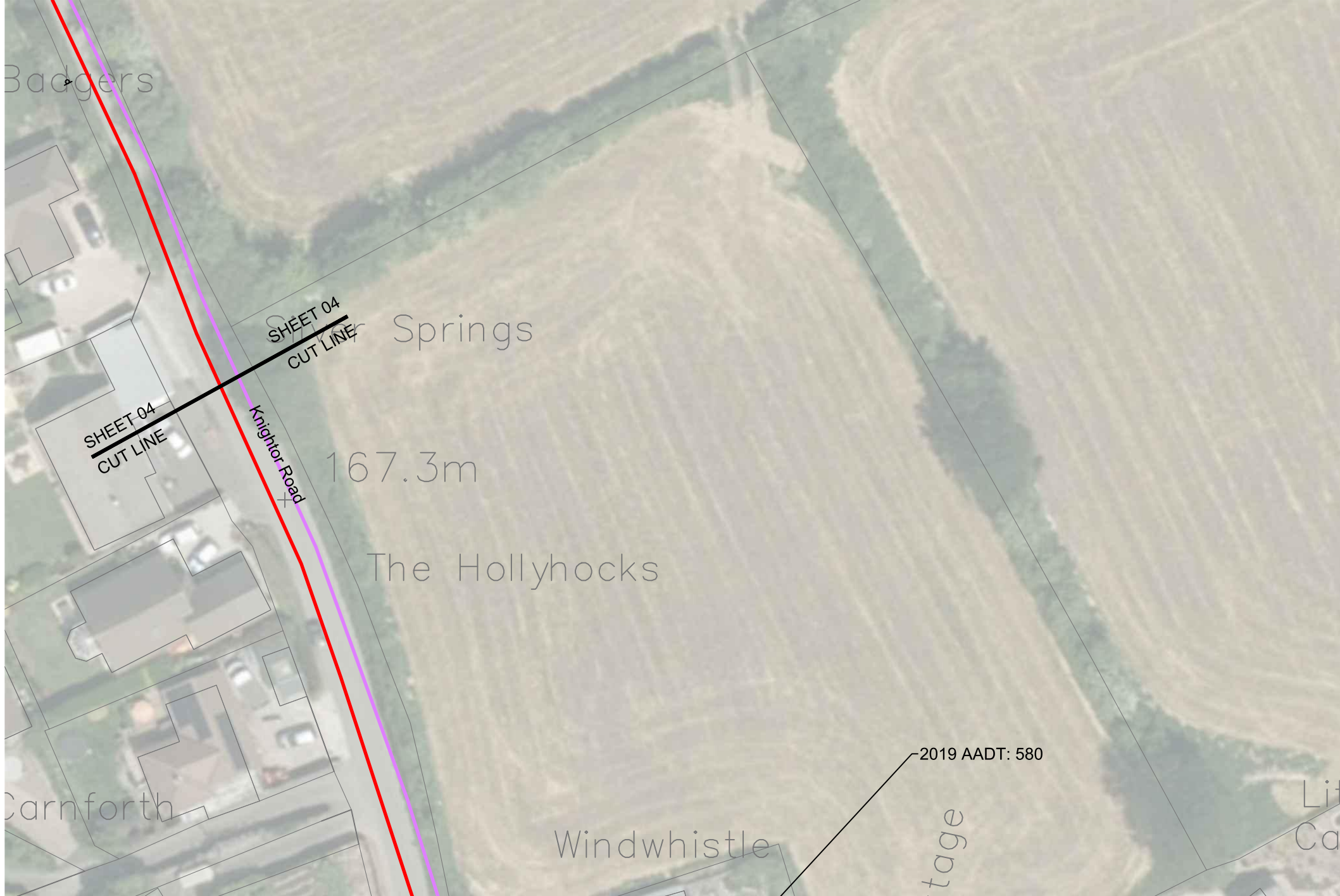
Carnforth

Windwhistle

2019 AADT: 580

tage

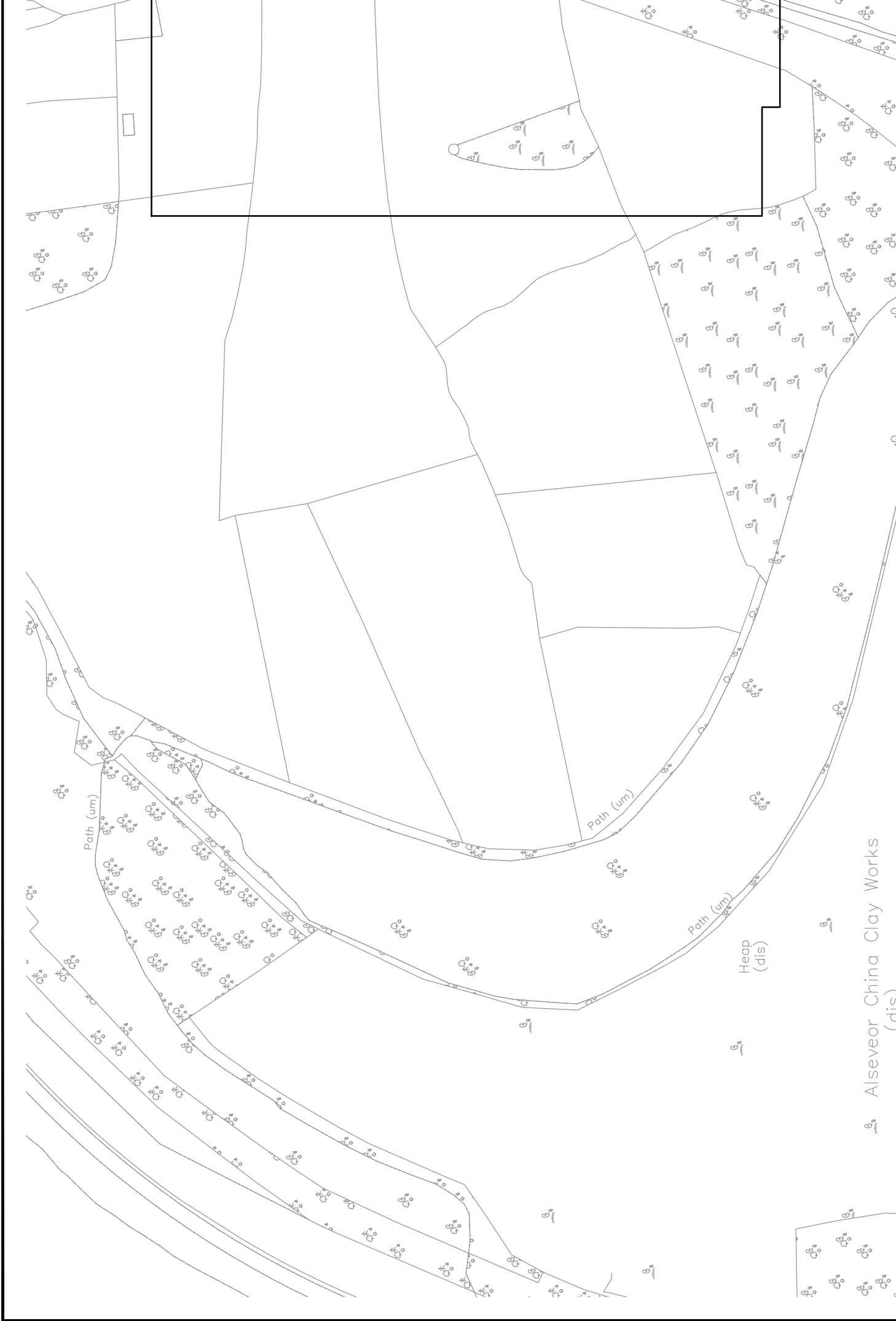
Lit
Ca





170.7m

+



Alseveor China Clay Works (dis)

SHEET 02
CUT LINE

SHEET 02
CUT LINE

Carne Gre
Cottage

C0281

Quarry
(Site)

Water





SHEET 03
CUT LINE

155.1

Virtual footway

Ensure 1.5m gap between gate and wall for wheelchair access.
Provide surfaced footway from road to pedestrian/vehicular access.

LB

FB

E

Badgers

SHEET 04
CUT LINE

Springs

SHEET 04
CUT LINE

Knightor Road

167.3m

The Hollyhocks

Carnforth

Windwhistle

stage

Lit
Ca



+

170.7m

APPENDICES

- A Trethurgy Highways questionnaire Survey Report
- B Eden Roundabout 12-hour manual traffic count 2016

APPENDIX A



Trethurgy Highways questionnaire Survey Report presented on behalf of village residents by Malcolm Roberts

Lee Water – Deputy Minister for Climate Change

“Evidence from around the world is very clear – reducing speed limits reduces collisions and saves lives. Slow speeds also create a safer and more welcoming environment, giving people the confidence to walk and cycle more, which will help to improve our health and well-being and help to improve the environment.

New research shows the saving in terms of reduction in people being hurt or killed; but the benefits of 20mph stretch much further than casualty savings alone. It suggests lower speed limit will encourage physical activity and in turn reduce obesity, stress and anxiety.”

Conservative Cornwall Council Pledge:

“Wanting our streets to be greener, safer, healthier and more accessible to our communities, especially where we expect to see vulnerable road users. Furthermore, one of our manifesto pledges is the introduction of 20mph for those communities who want them!”



TRETHURGY

Tucked out of the way some 3 miles from St Austell town on periphery of Clay-Country and once a place of no real reason to venture unless living there, an archaeological dig back in 1970s was to discover people having lived in what is now Trethurgy since way back in 200AD. Life just went on in its own quiet way of long-rooted tin-mining and china clay quarrying industry, and with a few scattered farm small-holdings and cottage homesteads that remain as character features today.

Trethurgy is approached via three unnamed roads, with main route from St Austell/Carclaze passing through the centre of the village and descends down to an entrance of The Eden Project and further on to Luxulyan. The others are a couple of country lanes, although classified as 'single carriageway roads' to which 60mph national speed limit ridiculously apply. One meanders up the valley from neighbouring hamlet of Tregrehan; whilst the other, from a crossroads junction within the village, passes the old Knightor Manor with date-stone of 1623 and now home to 'Knightor Winery'. Further along this lane is the Trebal China Clay refinery and linking up to Carludon and Eden Project bi-pass road.

Back in the 1960s, Trethurgy was a rather bleak, sparsely populated hamlet, although with exactly same road network as today but far fewer traffic using it! The selling off of small parcels of once ECLP owned land and property leaseholds was to see a slow growth of new houses going up and this has increased to present day numbers with change to planning regulations bringing about more garden 'infill' development and larger modern-style detached properties – but, sadly, not always in keeping with the character design features of local surrounds.

However, the dominating change to the local area was to come about as the millennium approached with commenced construction just down the road out of the village in an old china clay-pit of what has since become the world renowned 'The Eden Project', as our close neighbour. Also, at the present time, and less than half-mile away as the crow flies, a major housing development – West Carclaze Garden Village - is well underway towards completion of Phase 1 build programme of 69 new houses and planned to expand to some 1500 properties and a school during the next decade or two.

Despite such growing population and traffic flow, the infrastructure and service provisions within Trethurgy remain basic to say the least, with no mains gas or a public sewerage system; and poor roadside drainage and high ground water run-off a frequent cause of flooding alongside its roadways at times of heavy rainfall. Also, without a single pavement or pathway alongside the narrow highway roads for safe pedestrian passage or crossing.

Although, nowadays, Trethurgy termed more of a village than a hamlet, it has not a single shop to purchase a daily required commodity; nor a newsagent, post office, school, pub, garage or any other amenity one would normally associate with a village. Even the once important focal gathering point and well-attended Chapel (built 1862) and adjacent Sunday School building have long been converted into private dwellings or holiday let.

The semi-rural countryside provides bridleway and Clay Trail passage routes between Wheal Martyn and Eden Project that are regularly frequented by horse-riders, cyclists and walking groups from St Austell and further afield enjoying of such daily exercise and pleasure activities – particularly since the covid-imposed lockdown a few years ago. The Village Hall (built 1934) and playing field (converted in late 1960s from ECLP owned land previously used for dumping china clay waste) provide locations for other community held events. The playing field, through grant-funding and other donated support, was recently re-vamped and now incorporates a toddler/child play equipment area, pump track for skateboards/bikes, outdoor table tennis and walking pathway that attracts all age-group interest and visitor use.

Re: HIGHWAY ISSUES WITHIN TRETHURGY

However, the increased traffic flow and sometimes speeding through Trethurgy remains a cause of concern and anxiety for local residents with the roadway network becoming more adopted as 'rat-run' routes for delivery and other HGV vehicle drivers. Apart from a 15m stretch of tarmac paving opposite the village hall, there is no other footpath or pavement whatsoever alongside the roads to enable safe movement/passage of any pedestrian around the village. And with more young children visiting the local playing field/children's park amenities, they have no alternative but to walk close to moving vehicles using those same routes. Also, walkers, cyclists and horse-riders having to apply similar due care and awareness of surrounding situations.

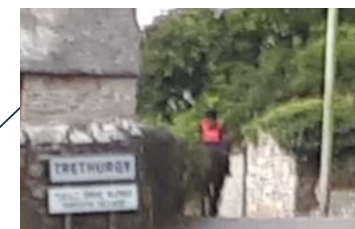
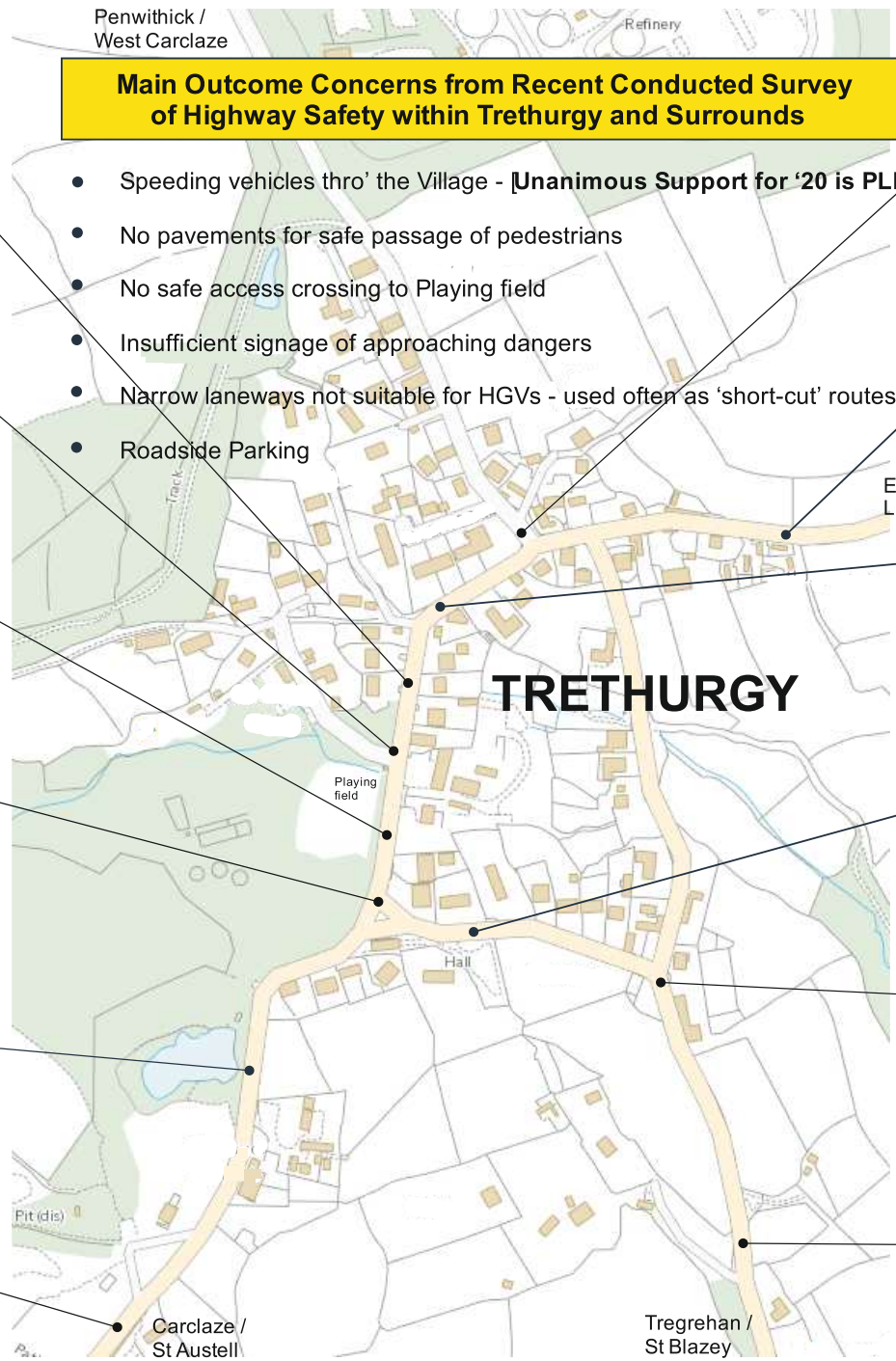
Although local residents take to 'Trethurgy & Friends' facebook page to report a highway problem, this rarely leads to any positive outcome or action to resolve those issues. Back last year, following such expressed concerns, a local highway questionnaire survey was compiled and over 50% of households responded by taking part. An analysed report with graphic map illustrations was later forwarded to ALL local Council government bodies as responsible for such matters.

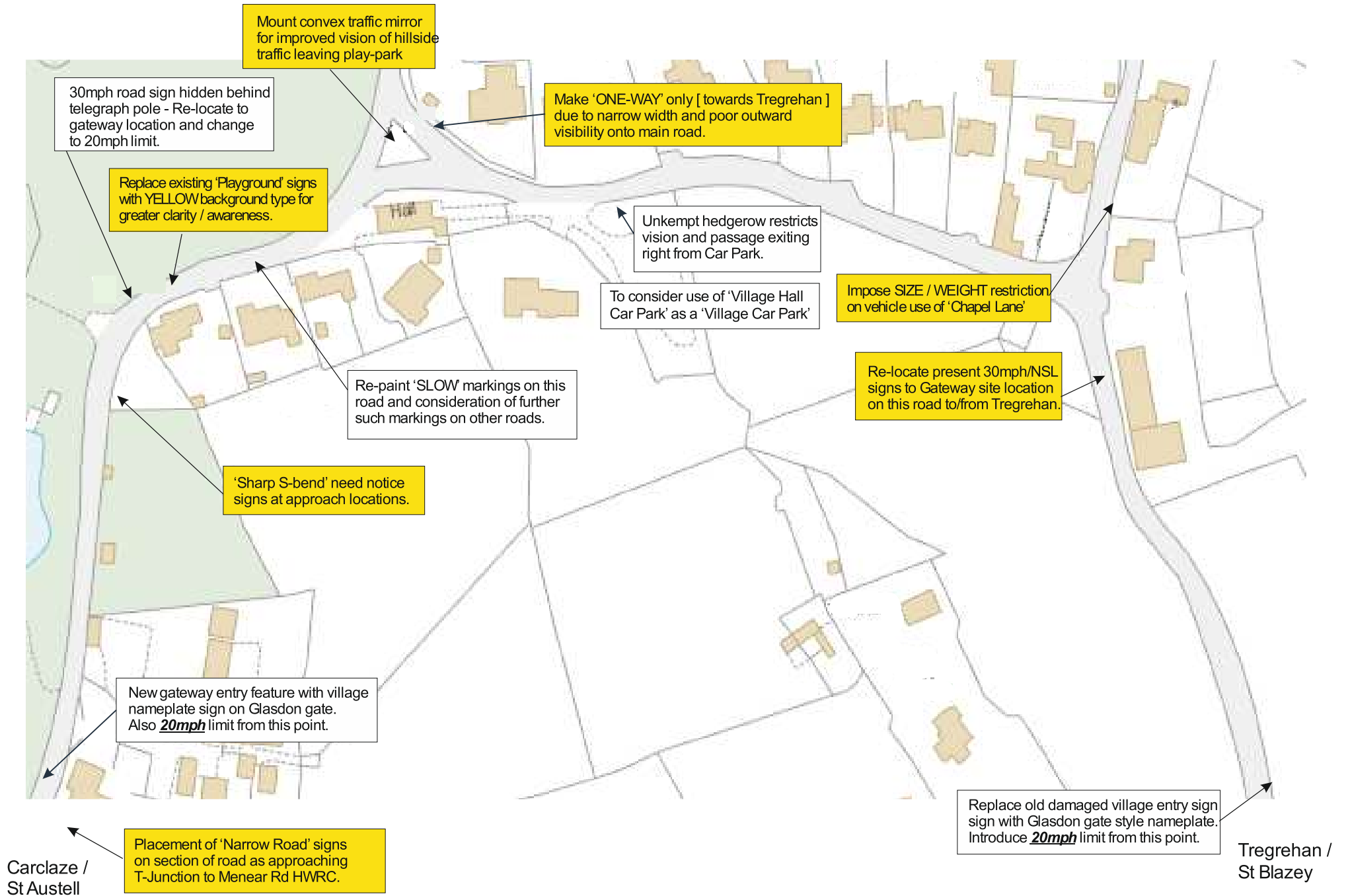
This neighbourhood continue to seek highway discussion and action to make Trethurgy a safer place for all residents and visitors to share and enjoy with the below presented suggestions/recommendations:

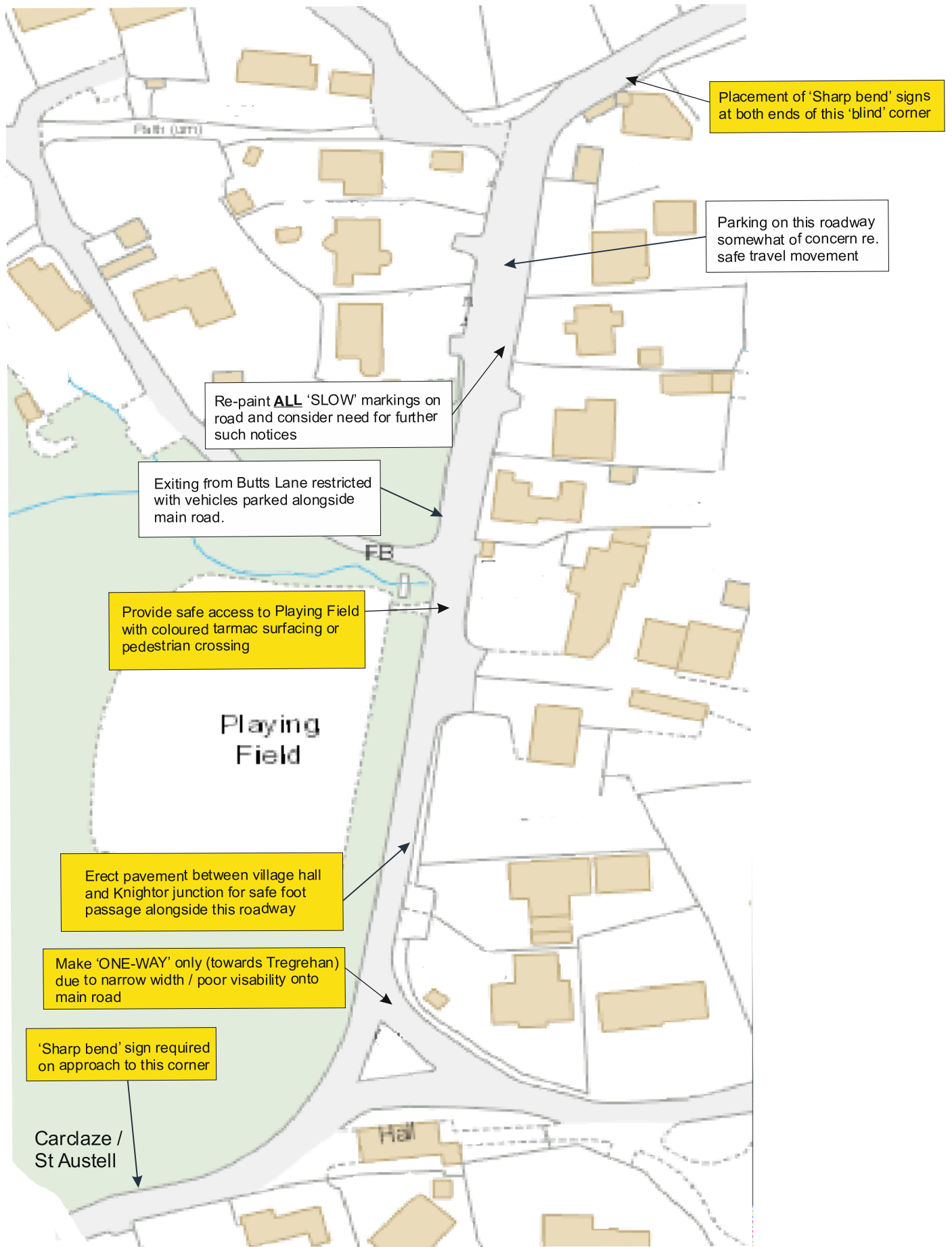
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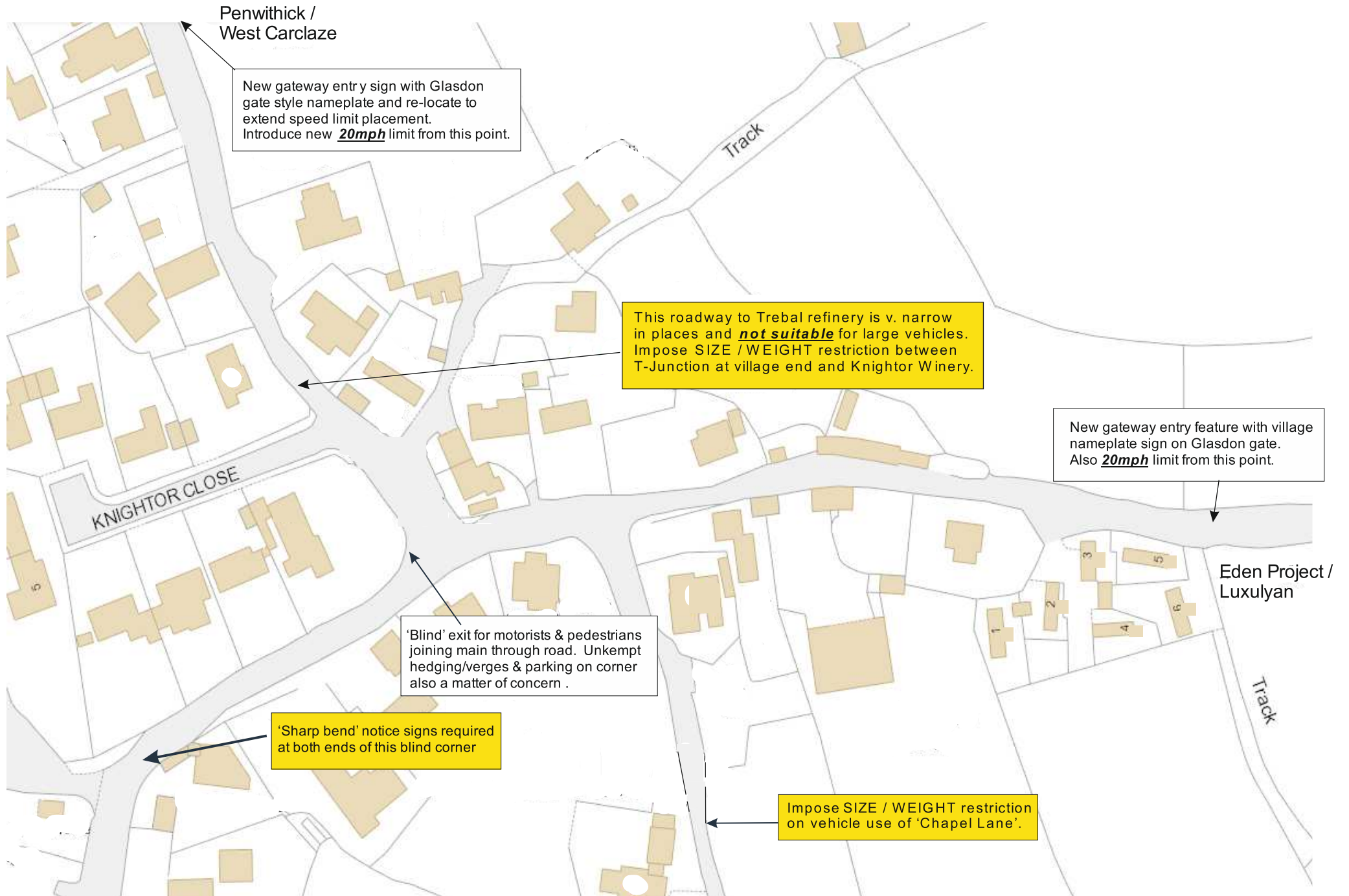
1. Gateway boundary signs to village with imposed **20mph** speed restriction throughout
2. Laying of a Pavement alongside main road passing through the village for safe pedestrian passage/travel
3. Zebra Crossing at gateway entrance/exit to Playing field / Children's play eqpt area off same road
4. Clear Warning Signage of sharp 'blind' bends, road narrowing and playground area, within gateway boundaries of village
5. Limiting size/weight of HGVs permitted access along single width shared highway lanes
6. Safe and restricted Car Parking provision as necessary
7. Consideration of change to Triangular Green junction roadway in front of Village Social Hall to part-ONE DIRECTION only.

Some work has come to fruition as result of a recent completed Clay Country Community Network Panel EDG1679 Cormac work programme.









Highway Safety within Trethurgy and Surroundings

- Questionnaire Survey Outcomes -

Delivered: 102



1. Do you Regularly (R), Occasionally (O) or Rarely/Never (N) use, visit or partake of these amenities or activities:-

a) Village Hall	R: 10	O: 29	N: 7
b) Playing Field	R: 4	O: 24	N: 18
c) Bridle Pathways	R: 32	O: 13	N: 3
d) Cycle Trail	R: 22	O: 12	N: 14
e) Horse-riding	R: 7	O: 2	N: 37
f) Bus Service	R: 3	O: 11	N: 32

2. Do you Regularly (R), Occasionally (O) or Rarely/Never (N) walk on the roads around the village? R: 38 O: 9 N: 0

3. Do you have concerns about using these roads? Yes: 44 No: 2

- If 'Yes', what are they?
- Is there a particular site or location of concern?
- What could be done to make this safer?

4. Are there other areas / locations around Trethurgy that could be made safer?

5. Are there sufficient warning signs/notices of approaching dangers?

Yes: 6 No: 39

6. Is there an issue of drivers exceeding 30mph through Trethurgy?

Yes: 45 No: 1

7. Do you consider a need for 'traffic calming' measures within the village?

Yes: 33 No: 12

8. Are you in support of '20's Plenty for Cornwall' in our Towns and Villages?

Yes: 44 No: 2

9. Should '20mph speed limit through Trethurgy' be introduced?

Yes: 44 No: 2

Recorded response refer to:-

- 3a.
- Traffic speeding too fast
 - Not sufficient space given
 - Narrow lanes being used
 - & towed caravans as 's
 - Village Hall 'Triangle' junction
 - way' only (towards Trethurgy)
 - High risk to young children
 - Pavement alongside a
 - Numerous sharp 'blind'
 - Roadside parking con
 - Overgrown/unkept

- 3b.
- Main road into, through
 - Sharp 'blind' bends by
 - Cottage corner.
 - Entry and exit passages
 - Narrow lane routes al
 - Exiting from T-junctio
 - Road from Village Hal

- 3c.
- Placement of 4 new
 - Extend and place 20
 - and intermittently al
 - Flashing 'Speed limit'
 - Fit signage at approa
 - Yellow background 'F
 - 'Coloured' road surfa
 - Close off entry to Pla
 - Pedestrian pavement

- T-Junction.
- 'No Parking' notices
- where roadside park
- Roadside 'Mirror' at
- motorists / pedestria
- A 'Size/Weight' limit
- section of Knightor R
- Warning signage of
- highway routes to th
- Existing 'SLOW' mark
- further considered a
- Consideration of use
- Park' with imposed
- Single 'NSL' roads, o

APPENDIX B

ROAD: C281 KM: 4.20 LOC: EDEN Rdbt, NE of TRETHURGY FILENAME: W138

DATE: 15/06/16 DAY: WEDNESDAY TIME FROM: 700 TO: 1900 JCT No : 1214 GRID REF: 204264 055846

REMARKS: Evening Celeb show

KEY TO WEATHER: FI=FINE CL=CLOUDY SH=SHOWERY RA=RAIN SN=SNOW FO=FOG
 JUNCTION TURNING MOVEMENTS EXCLUDE PEDAL & MOTOR CYCLES

HR INTERVAL BEGINNING AND WEATHER:

FLOW DISTRIBUTIONS:	HR INTERVAL BEGINNING AND WEATHER:												TOTAL
	700 SH	800 RA	900 CL	1000 CL	1100 CL	1200 CL	1300 CL	1400 SH	1500 CL	1600 SH	1700 RA	1800 CL	
FROM APP. 1, C281 LUXULYAN	1281/09												
TO EXIT:													
2: EDEN	0	0	9	13	16	6	10	3	5	11	12	18	103
3: TRETHURGY	32	53	38	67	44	37	29	46	48	44	29	25	492
4: CARLUDDON	45	42	30	52	41	42	42	52	32	47	28	19	472
TOTAL INTO JUNCT	77	95	77	132	101	85	81	101	85	102	69	62	1067
TOTAL FROM JUNCT	69	108	64	65	81	72	92	115	129	134	112	71	1112
FROM APP. 2, Uncl EDEN	/												
TO EXIT:													
3: TRETHURGY	0	0	4	10	8	11	21	19	25	17	25	28	168
4: CARLUDDON	0	3	14	18	17	36	86	187	224	181	138	63	967
1: LUXULYAN	0	1	4	2	5	6	11	18	36	31	15	9	138
TOTAL INTO JUNCT	0	4	22	30	30	53	118	224	285	229	178	100	1273
TOTAL FROM JUNCT	0	2	119	303	282	118	66	83	115	178	362	542	2170
FROM APP. 3, C281 TRETHURGY	1281/07												
TO EXIT:													
4: CARLUDDON	0	1	3	4	4	2	4	4	4	3	0	2	31
1: LUXULYAN	26	42	25	28	35	34	36	43	44	56	41	23	433
2: EDEN	0	0	20	21	20	13	8	8	12	14	47	67	230
TOTAL INTO JUNCT	26	43	48	53	59	49	48	55	60	73	88	92	694
TOTAL FROM JUNCT	32	54	42	86	55	51	50	67	75	67	56	56	691
FROM APP. 4, C769 CARLUDDON	1769/01												
TO EXIT:													
1: LUXULYAN	43	65	35	35	41	32	45	54	49	47	56	39	541
2: EDEN	0	2	90	269	246	99	48	72	98	153	303	457	1837
3: TRETHURGY	0	1	0	9	3	3	0	2	2	6	2	3	31
TOTAL INTO JUNCT	43	68	125	313	290	134	93	128	149	206	361	499	2409
TOTAL FROM JUNCT	45	46	47	74	62	80	132	243	260	231	166	84	1470

	PEDAL CYCLE	MOTOR CYCLE	CARS & TAXIS	BUS & COACH	LIGHT GOODS	MED. GOODS	HEAVY GOODS VEHICLES						TOTAL HGVS	TOTAL EXC MOTOR/PED CYCLES	
							RIGID 2 AX	RIGID 3 AX	RIGID 4 AX	ARTIC 3 AX	ARTIC 4 AX	ARTIC 5 AX			ARTIC 6+ AX
							App. 1								
INTO JUNCT	4	10	802	7	159	20	19	7	31	1	12	8	1	79	1067
FROM JUNCT	0	11	820	34	137	21	19	16	35	0	8	2	20	100	1112
TWO WAY	4	21	1622	41	296	41	38	23	66	1	20	10	21	179	2179
App. 2															
INTO JUNCT	0	3	1217	23	29	0	3	1	0	0	0	0	0	4	1273
FROM JUNCT	2	6	2112	2	50	3	2	1	0	0	0	0	0	3	2170
TWO WAY	2	9	3329	25	79	3	5	2	0	0	0	0	0	7	3443
App. 3															
INTO JUNCT	0	1	571	15	86	13	6	1	0	0	2	0	0	9	694
FROM JUNCT	2	3	560	15	98	10	5	1	0	1	1	0	0	8	691
TWO WAY	2	4	1131	30	184	23	11	2	0	1	3	0	0	17	1385
App. 4															
INTO JUNCT	1	17	2175	20	107	11	17	16	35	0	6	2	20	96	2409
FROM JUNCT	1	11	1273	14	96	10	19	7	31	0	11	8	1	77	1470
TWO WAY	2	28	3448	34	203	21	36	23	66	0	17	10	21	173	3879
TOTAL ENTERING	5	31	4765	65	381	44	45	25	66	1	20	10	21	188	5443

U-Turns	Hour Beginning												TOTAL
	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	
APP. 1, LUXULYAN	0	0	0	2	0	0	1	2	0	1	0	0	6
APP. 2, EDEN	0	1	0	0	0	0	0	0	0	0	0	0	1
APP. 3, TRETHURGY	0	0	0	1	1	0	0	0	0	0	0	0	2
APP. 4, CARLUDDON	0	0	1	1	2	2	0	0	0	0	0	0	6