



Newton St Cyres Controlled Crossing

Devon County Council

Comparison of Options A to D

B23006CH/R/001 | P02

15 October 2019



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Project No: B23006CH
 Document Title: Comparison of Options A to D
 Document No.: B23006CH/R/001
 Revision: P02
 Date: 15 October 2019
 Client Name: Devon County Council
 Project Manager: Patrick Carney
 Author: James Fabris
 File Location: \\EXEFIL01\Projects\Data\DCC\B23006CH - Newton St Cyres Controlled Crossing\03 Engineering\3.5 Feasibility Study\B23006CH-R-001 Rev P02 Newton St Cyres Controlled Crossing Options Comparison Report.docx

Jacobs U.K. Limited

Aperture,
 Pynes Hill, Rydon Lane,
 Exeter,
 EX2 5AZ

T +44 (0)1392 269 800
www.jacobs.com

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Document history and status

Revision	Date	Description	By	Review	Approved
P01	16/09/2019	First Issue	J. Fabris	C. Bonnett	P. Carney
P02	15/10/2019	Issue for public consultation	J. Fabris	P. Carney	P. Carney

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Appendix A: Drawing of the Proposed Design

1. Introduction

- 1.1 This report compares four options for installing a controlled puffin crossing in Newton St Cyres, undertaken by Jacobs UK Ltd at the request of Devon County Council.
- 1.2 The Design of Pedestrians Crossings (LTN 2-95), Accessible Bus Stop Design Guidance (TFL), Traffic Signs Manual (Chapter 5), Highway Link Design (TD 9-93), Manual for Streets 1 and Manual for Streets 2 have been used for reference when developing the layout of the crossing.
- 1.3 No road safety audits have been undertaken on the proposed designs.
- 1.4 This report has been prepared exclusively for Devon County Council and no liability is accepted for any use or reliance on the report by third parties.
- 1.5 There is a desire for a controlled crossing on the A377 in the village because the primary school has been relocated from the south side of the A377 to the north, and the majority of children that walk to school live on the south side of the A377. This means that they have to cross the A377 and the only crossing facilities available in this area is an uncontrolled crossing. The uncontrolled crossing is not considered to be a suitable crossing point for this type of road and for the children using it. A School Crossing Patrol is currently in place at the start and end of the school day to help the children cross the road safely.

2. Current Road Layout of Newton St Cyres



Figure 2-1 - Bus stops on the A377 in Newton St Cyres.

- 2.1 The current road layout in the centre of Newton St Cyres, as shown in Figure 2-1, is composed of:
- The A377 which is a two-lane single carriageway with a 30mph speed limit that is routed through the village from east to west. The A377 is one of the main routes between Barnstaple and Exeter.
 - Two bus stops, one on either side of the carriageway, which serve approximately 4-5 buses per hour. The stops are composed of 3m wide laybys with bus shelters.
 - The waiting area for the northern bus stop is on an island between the A377 and Godolphin Close, (a cul de sac that provides access to 13 properties). This island is not accessible for people with reduced mobility as there are crossing facilities between the island and the closest footway, also there are no dropped kerbs to access the island. The island is approximately 2m wide in the middle and is formed of half battered kerbs.
 - The waiting area at the southern bus stop is on the main footway to the south of the A377.
 - An uncontrolled pedestrian crossing with a refuge island is sited at the west end of the bus stops.
 - A junction between the A377 and West Town Road on the south west side of the pedestrian crossing provides access to the south of Newton St Cyres and West Town.
 - On the south east side of the village centre there is another junction between the A377 and Pump Street which provided access to a couple of properties.
 - Limited footways are present on the north side of the village centre, behind the bus stop island. Currently, the footway finishes in front of the closed post office to the west and then restarts approximately 40m to the east in front of local pub.

- Currently, at the uncontrolled crossing near the junction of West Town Road where there is the pedestrian island, there is a School Crossing Patrol at the start and end of the school day. This site is one of the busiest School Crossing Patrol sites in the County and many drivers are reluctant to, or do not stop for the Patrol when he is in the carriageway displaying his sign. Recruitment of new Patrols in Devon is problematic and especially at a very busy and demanding location such as this site.

3. Optioneering

The centre of Newton St Cyres, in its current layout, has many constraints including the two bus stops, the junctions in close proximity and the layout of Godolphin Close; therefore, the feasible options for installing a controlled puffin crossing are limited and are likely to have some elements that are not in accordance with the usual design standards. Furthermore, as the centre of Newton St Cyres is in a conservation area and the area to the south of the A377 is a village green then the local conservation officer will need to be consulted and will need to approve the proposal being progressed further.

This report only compares options that include a puffin crossing. The installation of average speed cameras with the existing road layout or with one of the proposed road layouts has not been investigated. However, it is considered that the installation of average speed cameras should be investigated to reduce traffic speeds travelling through Newton St Cyres which would also facilitate pedestrians crossing this road.

Drawings which present the layouts of the four proposed options are included in Appendix A.

Note that the proposals are based on the OS Mapping and site measurements, so the road layout used for the four options may have some minor inaccuracies. A topographical survey should be undertaken prior to the detailed design phase.

3.1 Option A (Drawing B23006CH/001)

- 3.1.1 The proposed design for Option A is to modify the alignment of the A377 by offsetting it to the north through the existing bus layby. This will provide sufficient space to create another refuge island on the south side of the carriageway. The layout will thus be composed of two refuge islands which will support the traffic lights for a puffin crossing over the A377. On the other side of these islands, there will be two bus lanes with the bus stops. The islands will be accessible by two uncontrolled crossings from the opposing footways. On the north side of the village centre, opposite the post office, the footway will be extended to accommodate the bus stop shelter and to improve the pedestrian facilities in this area.
- 3.1.2 This design will also improve bus stop accessibility, especially to the north stop, which is not currently wheelchair accessible.
- 3.1.3 It is considered that the bus lanes will have low traffic flows and the speed of the buses at these locations will be low because of the proximity to the stops. Therefore, installation of a controlled crossing to access the islands has not been included.
- 3.1.4 A concern with not installing traffic lights on the bus stop sides of the islands is that drivers may use that route as a “rat run” if the traffic lights are red and there is not a bus in the bus stop. This may lead to conflicts between pedestrians and vehicles in these areas.
- 3.1.5 Furthermore, on the north side, if a bus is waiting in the bus layby, then access to Godolphin Close will be restricted to the east side only (in front of the pub).

3.2 Option B (Drawing B23006CH/002)

- 3.2.1 The proposed design for Option B is to slightly amend the alignment of the A377 by offsetting it to the south. This is achievable by moving the bus stop layby on the south side into the grassed area. In addition, the bus island on the north side of the A377 will be removed and the junction into Godolphin Close realigned to provide a T-junction. These changes will remove the small road in front of the Post Office and provide a large area to be used by pedestrians and provision of one parking space. The northern bus laybys will be relocated opposite Belluno's car park entrance and this entrance will be relocated onto Godolphin Close. The proposed puffin crossing over the A377 will then be located to the east side of the West Town Road junction.
- 3.2.2 This design will improve the bus stop accessibility as both bus stops will be located along footways.
- 3.2.3 This option would require approval from the owner of Belluno's Pub and consultation with local residents to move the access of the car park onto Godolphin Close.
- 3.2.4 Consultation and approval will also be required for the land take required from the village green.

3.3 Option C (Drawing B23006CH/004)

- 3.3.1 The proposed design for Option C is to slightly amend the alignment of the A377 by offsetting it to the south. This is achievable by moving the bus stop layby on the south side into the grassed area. In addition, the bus island on the north side of the A377 will be amended slightly to improve the accessibility of this island by providing dropped kerbs. The small road in front of the Post Office will be maintained. The proposed puffin crossing over the A377 will then be located to the east side of the West Town Road junction.
- 3.3.2 This design will slightly improve the bus stop accessibility on the north side by providing a dropped kerb section.
- 3.3.3 The approach visibility of the traffic signals heads is in accordance with the Desirable Minimum Visibility set out in Table 1 of LTN 2/95.
- 3.3.4 The distance between the middle of the give way line at the West Town Road junction and the road studs of the puffin crossing would be 20m which is in accordance with the suggestion from LTN 2/95 Section 2.1.1.1.
- 3.3.5 Consultation and approval will be required for the land take required from the village green.

3.4 Option D (Drawing B23006CH/005)

- 3.4.1 The proposed design for Option D is to install the puffin crossing in a similar location to the existing uncontrolled crossing and keep the bus layby on the south side and existing layout as existing. The bus layby on the north side will be slightly amended to be realigned with the new carriageway alignment.
- 3.4.2 In this option, the driveway to the west of the post office will be located directly on the crossing point. Although this is currently the case with the uncontrolled crossing, a puffin crossing would introduce traffic signal posts and push button units which will create a physical obstacle for vehicles accessing this driveway. Vehicle tracking has been undertaken and the driveway would still be accessible, but it would require vehicles driving across the proposed puffin crossing and the owner might refuse to have his access restricted.
- 3.4.3 This design will require the least amount of work and will keep the existing road layout as existing.
- 3.4.4 Access to the island on the north side of the A377 will be improved by installing dropped kerbs onto this island.
- 3.4.5 The approach visibility of the traffic signals heads is in accordance with the Desirable Minimum Visibility set out in Table 1 of LTN 2/95.
- 3.4.6 The distance between the middle of the give way line at the West Town Road junction and the road studs of the puffin crossing would be approx. 14.5m which is not in accordance with the 20m suggested in LTN 2/95 Section 2.1.1.1.

4. Advantages and Disadvantages

The following Table 4-1 lists out the main advantages and disadvantages for each of the three options.

Table 4-1: Advantages and disadvantages of the three different options.

Option	Advantages	Disadvantages
Option A	<p>No land take from the grassed area on the south side of the A377.</p> <p>No diversion of Openreach apparatus, on the south side of the A377.</p> <p>Access to the pub car park is unchanged.</p> <p>Both bus stops are more accessible as they would be located on the footways.</p> <p>Access to Godolphin Close is unchanged.</p>	<p>Loss of parking spaces in front of the Post Office.</p> <p>Vehicles could use the bus lanes to bypass the puffin crossing.</p> <p>Access to Godolphin Close could be temporarily blocked/restricted by a bus stopped/waiting at the bus stop on the northern side.</p> <p>High number of crossings: one puffin and two uncontrolled crossings.</p> <p>Crossings are not on the desire line.</p> <p>Footway in front of the post office will be at the same level as the carriageway due to the lower level of the doors to the post office.</p>
Option B	<p>Puffin crossing is on the desire line.</p> <p>Short crossing distance for pedestrians.</p> <p>Both bus stops are more accessible as located on the footways.</p>	<p>Loss of parking spaces in front of the Post Office.</p> <p>Loss of some grassed area on south side of the A377.</p> <p>Statutory diversionary works would be required due to the relocation of the footway on the south side which could have a higher cost/lead time than anticipated.</p> <p>Access to the pub car park moved to Godolphin Close thus increased traffic on this road.</p> <p>Removal of the loop road which is part of the historical part of the town.</p> <p>Vehicles could park on the large footway area in front of the Post Office.</p> <p>Water may pond on the large footway area.</p>

		Most expensive option (as estimated).
Option C	<p>Puffin crossing is on the desire line.</p> <p>Short crossing distance for pedestrians.</p> <p>Access to the pub car park and Godolphin Close is unchanged.</p> <p>The distance of the puffin crossing to West Town Road side road is in accordance with the suggested value in LTN 2/95.</p>	<p>Slight loss of parking space in front of Post Office.</p> <p>Loss of some grassed area on south side of the A377.</p> <p>Statutory diversionary works would be required due to the relocation of the footway on the south side which could have a higher cost/lead time than anticipated.</p> <p>Bus stop on the north side of the A377 would remain onto the island and no tactile paving will be provided to access this bus stop.</p>
Option D	<p>Existing road layout is maintained.</p> <p>Crossing point is on the desire line.</p> <p>No land take from the grassed area on the south side of the A377.</p> <p>Access to the pub car park and Godolphin Close is unchanged.</p> <p>No statutory diversionary works are required.</p>	<p>Bus stop island on the north side of the A377 will remain as existing thus will not be widened, and no tactile paving will be provided to help visually impaired people access this bus stop.</p> <p>Access to the driveway in front of the proposed puffin crossing will require vehicles to drive next to this pedestrian crossing and across the tactile paving at the back of the footway.</p> <p>Traffic signals are very close to the West Town Road junction, the bus stops and the area in front of the Post Office, which may be a safety concern.</p> <p>The distance of the puffin crossing to West Town Road side road is not in accordance with the suggested value in LTN 2/95.</p>

5. Conclusion

- 5.1.1 There is a desire to install a controlled pedestrian crossing on the A377 because of the increased number of people crossing the road following the relocation of the school.
- 5.1.2 The current layout of Newton St Cyres centre has many constraints which limit what can be installed in the area. Therefore, four options have been investigated, varying from minor alterations to a significant re-design of the area immediately north of the A377 (moving the bus stop and entrance to Godolphin Close), all to enable a puffin crossing to be installed.
- 5.1.3 Each of these designs have issues due to the site constraints and would require a road safety audit and consultation to be undertaken to determine the preferred option.
- 5.1.4 It is considered that Option C is the most suitable proposal from a safety point of view, but it has a higher estimated cost and would require significant statutory diversion works and land take from the village green which is likely to be contentious.
- 5.1.5 Overall, Option D is the preferred design which keeps the parking facilities, avoids land take from the village green, avoids diverting BT cables and has a lower estimated cost. However, it should be noted that there is a potential safety issue with a private driveway being located directly behind proposed crossing. This is no different to the existing uncontrolled crossing, but the introduction of the traffic signals may increase the risk of conflict in that area. In addition, the distance of the proposed puffin crossing to the junction with West Town Road would not be in accordance with the suggested value in LTN 2/95.
- 5.1.6 Furthermore, it would be beneficial to consider installing average speed cameras in Newton St Cyres to reduce the traffic speeds through the village centre which would facilitate the crossing of the A377 at the uncontrolled crossing or at one of the proposed puffin crossings.

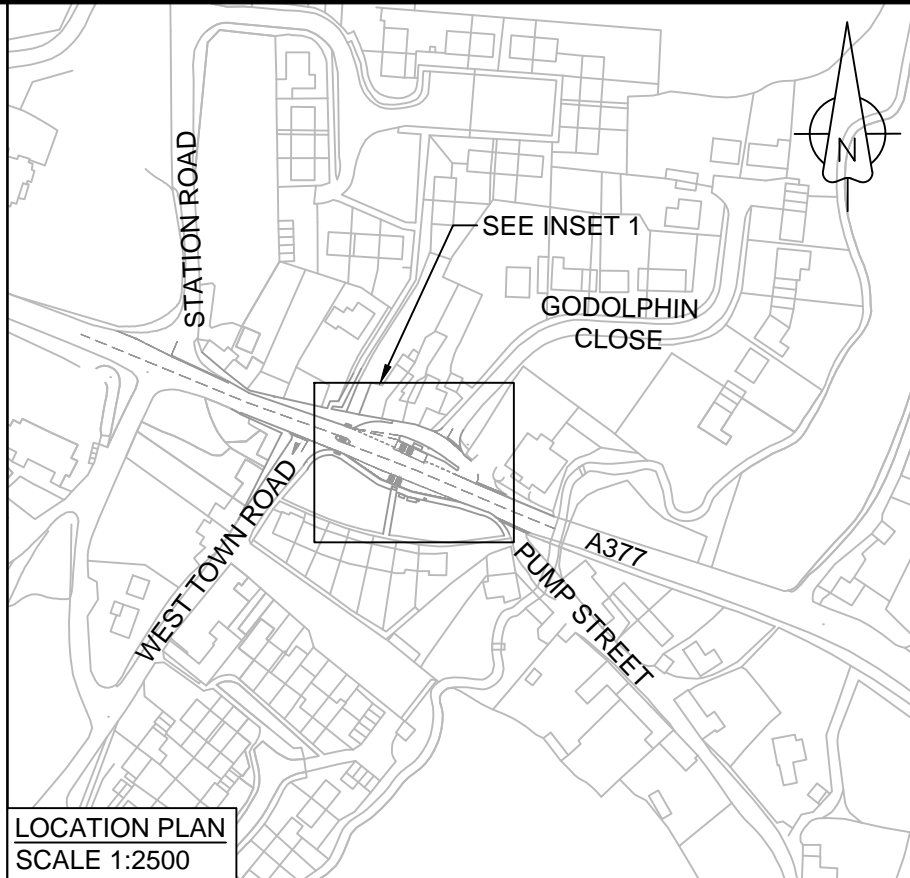
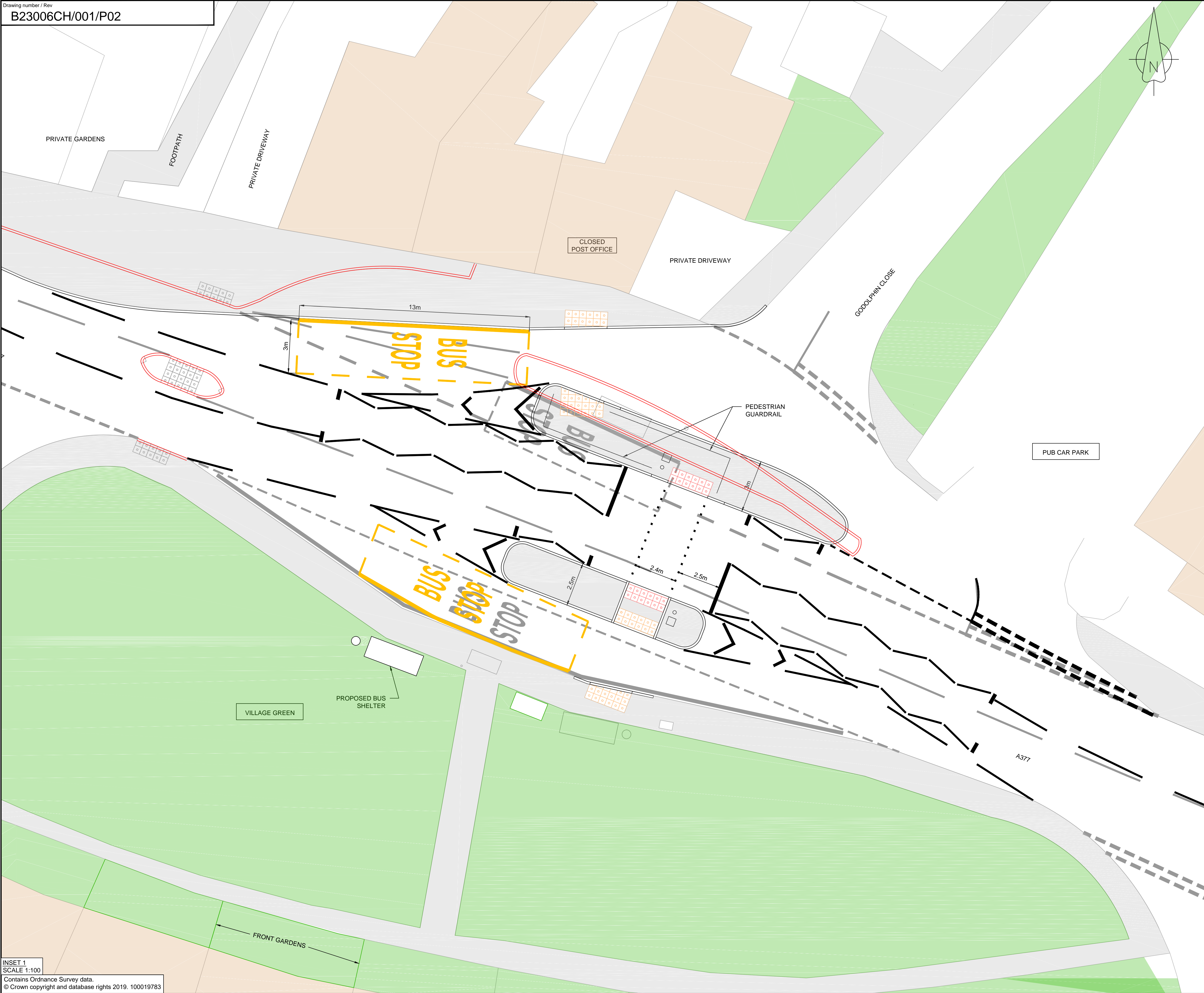
6. References

- Local Transport Note 2/95 – The Design of Pedestrian Crossings, Department for Transport, April 1995.
- Accessible Bus Stop Design Guidance, Transport for London, January 2017.
- Manual for Streets (MfS1), Department for Transport.
- Manual for Streets 2 (MfS2), Department for Transport.
- Chapter 5: Road Markings, Traffic Sign Manual, Department for Transport, 2003.
- Highway Link Design (TD 9/93), Design Manual for Roads and Bridges, Volume 6 Section 1 Road Geometry Links, February 2002.
- Land at Newton St Cyres, Highway Statement – Part 1, PCL Transport Planning Ltd, 4 August 2014, from Mid-Devon planning application: 14_01332_MOU

Appendix A. Plans of the Proposed Designs

The drawings attached in this Appendix A are:

- Newton St Cyres, Proposed Crossing Option A, ref: B23006CH/001 Rev P02.
- Newton St Cyres, Proposed Crossing Option B, ref: B23006CH/002 Rev P02.
- Newton St Cyres, Proposed Crossing Option C, ref: B23006CH/004 Rev P01.
- Newton St Cyres, Proposed Crossing Option D, ref: B23006CH/005 Rev P01.



KEY	
	EXISTING FEATURES
	PROPOSED ROAD MARKINGS
	BUFF TACTILE PAVING
	RED TACTILE PAVING
	TRAFFIC SIGNAL
	DRAWPIT
	EXISTING KERBS TO BE REMOVED
	PROPOSED KERBING
	BUILDINGS
	GRASS/VEGETATION
	FOOTPATH

P02	SEP. 2019	Updated OS mapping with site measurement	JF	BG	CJB	PC
P01	AUG. 2018	FIRST ISSUE	JF	BG	PC	PC
Rev	Rev. Date	Purpose of revision	Drawn	Checked	Rev'd	Appr'd

Client

Devon
County Council

JACOBS
Aperture, Pynes Hill, Rydon Lane, Exeter, EX2 5AZ
Tel: +44(0)1392 269 800
Website : www.jacobs.com

Project

NEWTON ST CYRES

Drawing title

PROPOSED CROSSING
OPTION A

Drawing status

SO - PRELIMINARY

Scale

AS SHOWN @ A1 DO NOT SCALE

Jacobs No.

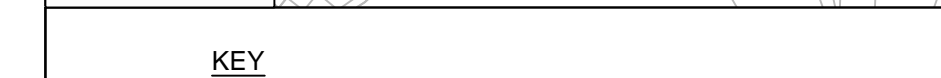
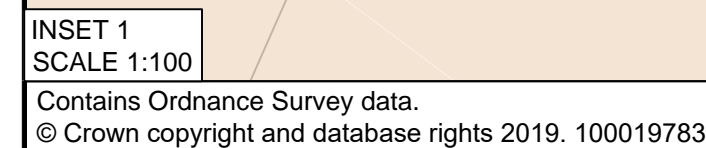
B23006CH

Drawing number

B23006CH/001

Rev

P02



- NOTES:**
1. PROPOSAL IS BASED ON THE OS MAPPING AND SITE MEASUREMENTS. A FULL TOPOGRAPHICAL SURVEY WILL BE REQUIRED TO DETERMINE THE EXACT ROAD LAYOUT AND DIMENSIONS.
 2. THE PROPOSED PUFFIN CROSSING IS TO BE LOCATED 20m FROM THE WEST TOWN ROAD JUNCTION. THE DISTANCE IS MEASURED FROM THE MIDDLE OF THE GIVE WAY LINE AT THE JUNCTION TO THE NEAREST ROAD STUD AT THE CROSSING.
 3. THIS OPTION REQUIRES LAND TAKE FROM THE VILLAGE GREEN.
 4. A BT SERVICE DIVERSION IS REQUIRED WHERE THE KERBING IS PROPOSED TO BE RE-ALIGNED.

P01	SEP. 2019	First Issue	JF	BG	CJB	PC
Rev	Rev. Date	Purpose of revision	Drawn	Checkd	Rev'd	Apprv'd

Devon
County Council

JACOBS
Aperture, Pynes Hill, Rydon Lane, Exeter, EX2 5A
Tel: +44(0)1392 269 800
Website : www.jacobs.com

NEWTON ST CYRES

Drawing title

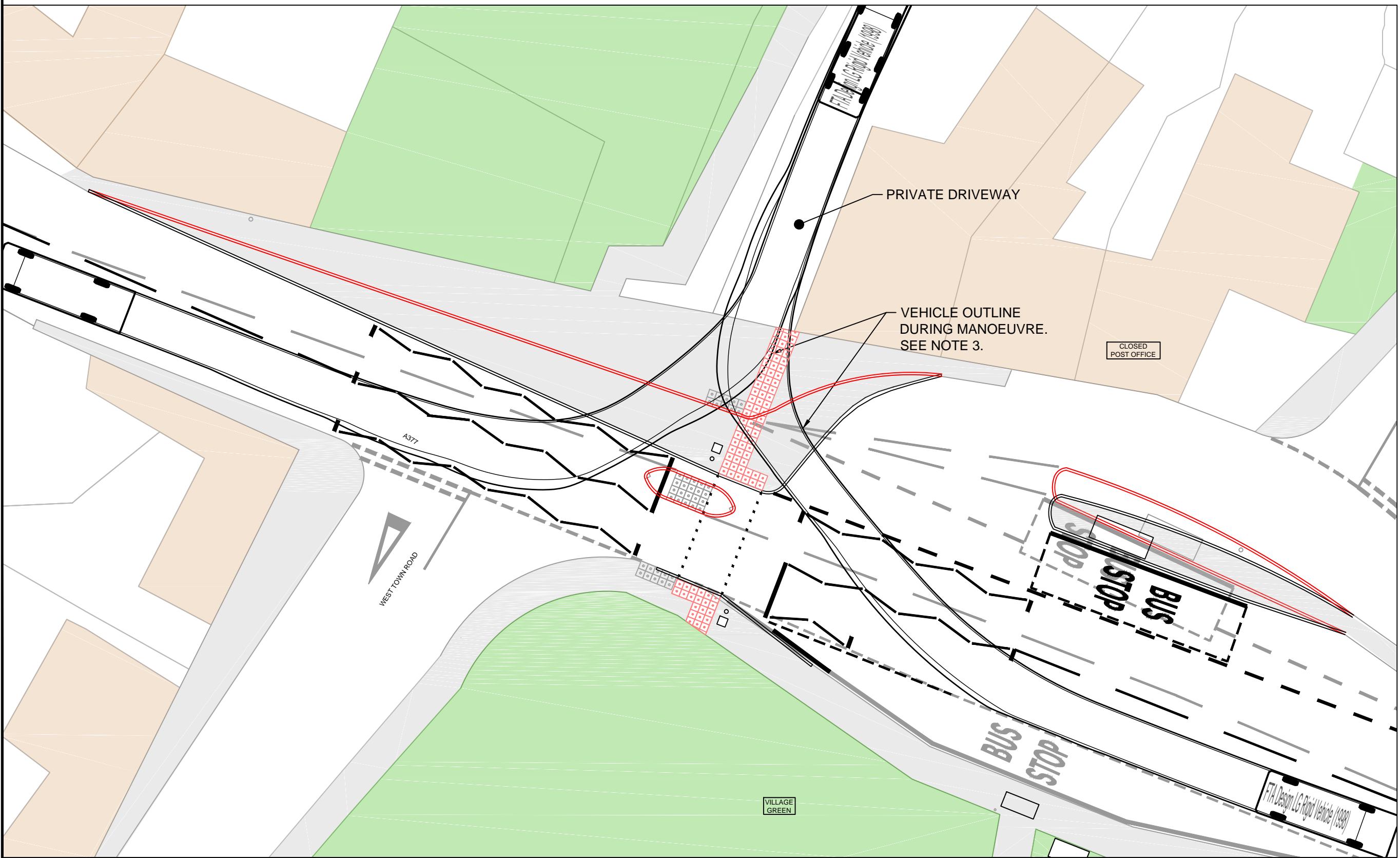
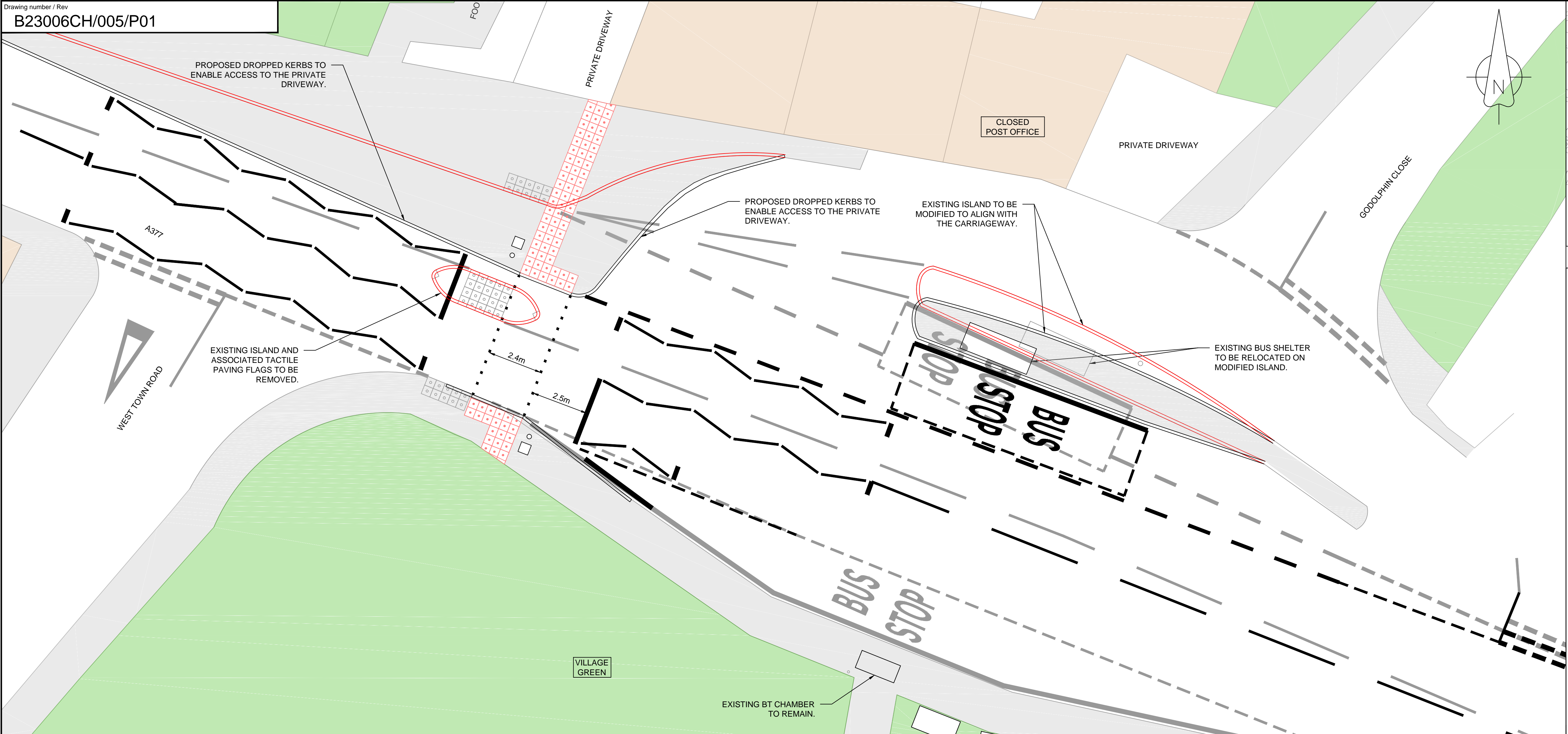
PROPOSED CROSSING
OPTION C

Drawing status **S0 - PRELIMINARY**

Scale	AS SHOWN @ A1	DO NOT SCALE
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Jacobs No.	B23006CH
Drawing number	Rev B23006CH/004 P01

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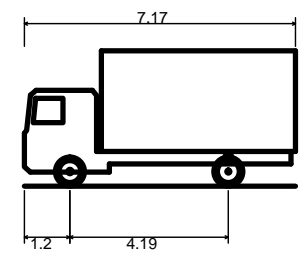
VEHICLE TRACKING OF A LARGE GOODS RIGID VEHICLE
SCALE 1:200

Contains Ordnance Survey data.
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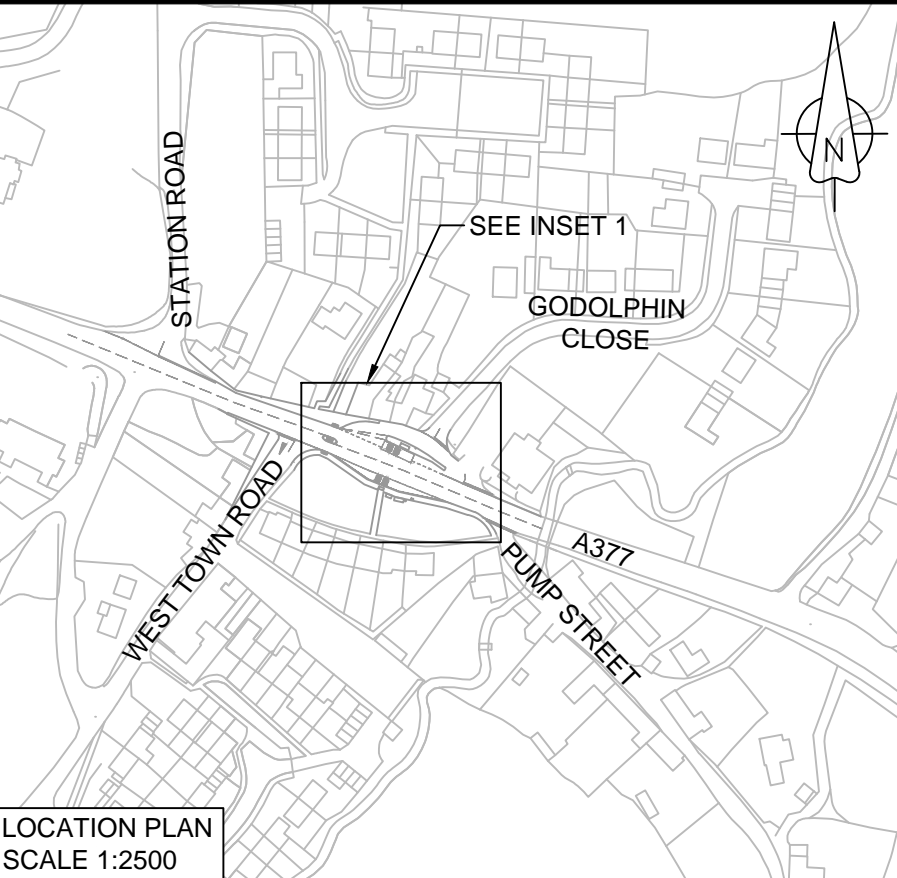
INSET 1
SCALE 1:100

NOTES:

1. PROPOSAL IS BASED ON THE OS MAPPING AND SITE MEASUREMENTS. A FULL TOPOGRAPHICAL SURVEY WILL BE REQUIRED TO DETERMINE THE EXACT ROAD LAYOUT AND DIMENSIONS.
2. THE PROPOSED PUFFIN CROSSING IS BE LOCATED 14.5m FROM THE WEST TOWN ROAD JUNCTION. THIS DISTANCE IS MEASURED FROM THE MIDDLE OF THE GIVE WAY LINE AT THE JUNCTION TO THE NEAREST ROAD STUD AT THE CROSSING.
3. ACCESS TO THE PRIVATE DRIVEWAY WILL BE POSSIBLE BY DRIVING EITHER SIDE OF THE PROPOSED PUFFIN



FTA Design LG Rigid Vehicle (1998)
Overall Length 7.170m
Overall Width 2.300m
Overall Body Height 3.580m
Min Body Ground Clearance 0.375m
Track Width 2.120m
Lock to Lock Time 3.00s
Kerb to Kerb Turning Radius 7.000m



KEY

- EXISTING FEATURES
- EXISTING ROAD MARKINGS
- PROPOSED ROAD MARKINGS
- RED TACTILE PAVING
- TRAFFIC SIGNAL
- DRAWPIT
- EXISTING KERBING TO BE REMOVED
- PROPOSED KERBING
- BUILDINGS
- GRASS/VEGETATION
- FOOTPATH

Rev	Rev. Date	Purpose of revision	Drawn	Checked	Rev'd	Appr'd
P01	SEP. 2019	First Issue	JF	BG	CJB	PC

Client



JACOBS

Aperture, Pynes Hill, Rydon Lane, Exeter, EX2 5AZ
Tel: +44(0)1392 269 800
Website : www.jacobs.com

Project

NEWTON ST CYRES

Drawing title

PROPOSED CROSSING
OPTION D

Drawing status

S0 - PRELIMINARY

Scale

AS SHOWN @ A1

DO NOT SCALE

Jacobs No.

B23006CH

Drawing number

B23006CH/005

Rev

P01

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