



WHITE HOUSE FARM, CHICHESTER

INFRASTRUCTURE REVIEW

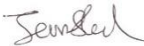


February 2017

West Sussex County Council

**STRATEGIC DEVELOPMENT  
WHITE HOUSE FARM  
CHICHESTER**

**INFRASTRUCTURE REVIEW**

**CONTROLLED DOCUMENT**

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STRATEGIC DEVELOPMENT  
WHITE HOUSE FARM  
CHICHESTER

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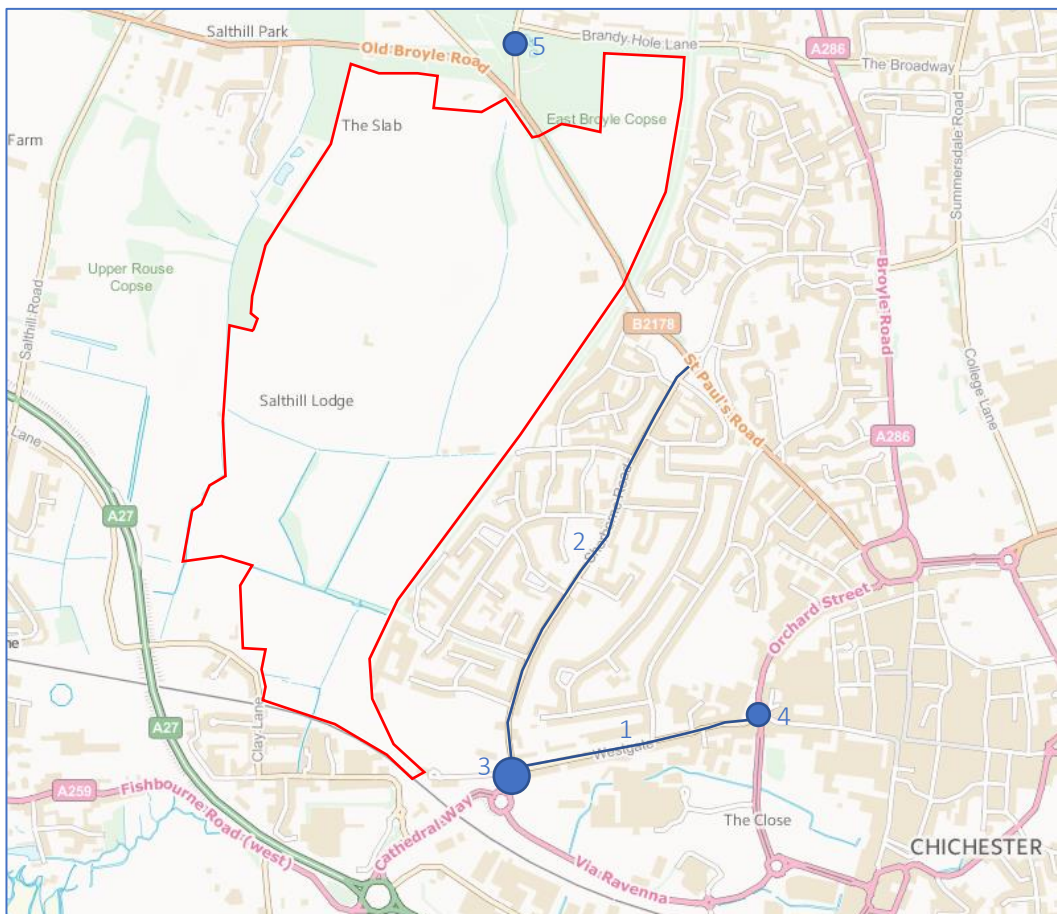
## 1. INTRODUCTION

1.1 This report has been prepared by Paul Basham Associates (PBA) on behalf of West Sussex County Council (WSSC) in relation to the White House Farm Strategic Development Location (SDL), Chichester.

1.2 A resolution to grant planning permission has been made by Chichester District Council (CDC) in relation to a first phase of development consisting of 750 dwellings and associated services/facilities (planning application reference 14/04301/OUT). An application for a second phase of a further 850 dwellings and 6 hectares of commercial use is anticipated in 2018.

1.3 As part of the resolution to grant planning permission for the first phase, a requirement for the following infrastructure schemes has been identified, as illustrated within **Figure 1** and **Appendix A**:

1. A traffic management scheme on Westgate
2. A modified traffic calming scheme on Sherborne Road
3. A junction improvement scheme for Westgate/Sherborne Road and Cathedral Way Roundabout
4. A junction improvement scheme at the Westgate Roundabout
5. A traffic management scheme on Brandy Hole Lane



**Figure 1:** Location of SDL & Infrastructure Schemes

- 1.4 An Infrastructure Steering Group (ISG) is to be formed, to advise and shape the above schemes as they progress through to detailed design. This Group will consist of representatives from the Developer, West Sussex County Council (WSCC), Chichester District Council (CDC) and Local Residents Associations.
- 1.5 At the request of WSCC, this report has been prepared to assess each of the above infrastructure schemes put forward by the developers' transport consultant Vectos and identify their benefits and potential dis-benefits in relation to traffic capacity, safety of all road users and sustainable travel. Where shortcomings are identified, improvements or modifications to the proposed works have been suggested, along with commentary describing alternative types of infrastructure. As a general point, there are a number of inconsistencies in the measures proposed by Vectos, with different configurations of the same schemes shown on different drawings. This review has been informed by a visit to each of the scheme locations in February 2017.
- 1.6 This Infrastructure Review has been prepared to inform local residents and members of the general public on the potential for the proposed schemes to achieve the desired outcomes of improved connectivity, effective traffic management and greater sustainability. Every effort has been made to present this report in a way that can be understood by a variety of audiences, but where the use of technical terms is included, these have been explained in further detail.
- 1.7 This review has been informed by the following local and national planning policy documents:
- National Planning Policy Framework (NPPF)
  - Design Manual for Roads and Bridges (DMRB)
  - Local Transport Notes (LTN)
  - Manual for Streets (MfS)
  - West Sussex County Council's Local Design Guidance
  - West Sussex Transport Plan 2011-26

## 2. WESTGATE TRAFFIC MANAGEMENT SCHEME

- 2.1 Westgate is currently subject to a 20mph speed limit, with extensive on-street parking and various traffic calming measures between its junction with Sherborne Road to the west and the roundabout with the A286 to the east. In assessing the scheme, this length of road has been divided into two parts, the first part consisting of the section between Sherborne Road and Parklands Road, and the second section being between Parklands Road and the A286.
- 2.2 The section between Sherborne Road and Parklands Road is characterised by speed humps, localised narrowing and bollards that create chicanes with no signed priority. Narrow cycle lanes are provided to by-pass the bollards but these are not flush with the road surface, with cyclists having to travel over a raised kerb. The section of Westgate between Parklands Road and the A286 is relatively narrow, due in part to the permitted on-street car parking along the north side of the road. The existing road surface along this section consists of coloured block paving and the carriageway is raised to the same level as the footways.
- 2.3 Data from a permanent traffic counter on Westgate near to Henty Gardens shows that the average week day flow during 2016 was 5549 vehicles, with an average of 529 in the AM peak and 574 in the PM peak. The most recent speed data shows that the 85<sup>th</sup> percentile speed is approximately 23.5mph. Personal Injury Accident (PIA) data shows that during the last five years, there has been one slight incident on Westgate as a result of a driver failing to look properly.
- 2.4 A revised traffic management scheme associated with the White House Farm development has been identified for Westgate, in order *“to provide a safe and attractive cycle route between the site and the city centre for both new and existing residents in the area.”* (Vectos document N48-MM-110013)
- 2.5 The current proposals are shown within Vectos drawing no. 110013\_A\_50 RevB2 (attached within **Appendix A**). The proposals consist of the following:
- Bollards are to be replaced with high visibility versions on new islands
  - Cycle lanes by-passing the bollards are to be widened to 2m and made flush with the carriageway
  - Some parking bays are to be formalised between Tannery Close and Sherborne Road
  - Existing build-out adjacent to Tannery Close removed
  - 0.5m median strip along centre of carriageway added between Parklands Road and Westgate Roundabout

### Traffic Capacity

- 2.6 The proposals are anticipated to have a negligible impact upon traffic capacity. The principle of traffic calming along this route is well established, and the proposals will not significantly affect the existing carriageway width, although buses may experience significant difficulty in negotiating the proposed chicanes due to the reduction in carriageway width. It is therefore unlikely that the proposal will contribute to lessening the attractiveness of this route to motorists looking to avoid Via Ravenna.

### Safety

- 2.7 The improvement of the cycle lanes by-passing the bollards could have a positive impact upon road safety by creating a more attractive route for cyclists, helping to segregate them from cars and therefore removing them from conflict with vehicles negotiating through the chicanes. The addition of a median strip may help to slow vehicles by visually narrowing the appearance of the road. However, there are some concerns relating to the proximity of these cycle lanes with the on-street parking bays, which reduce the effective width of the cycle by-pass particularly to the west of Tannery Close. This has the potential to discourage use of the by-passes by cyclists, and result in cyclists using the main carriageway. Whilst it is appreciated that the proposals will be subject to Road Safety Audits, this aspect of the design does give cause for concern and should be reviewed from a highway safety perspective (see LTN 2/08).

### Sustainability

- 2.8 Notwithstanding the safety concerns, the improvement of cycling facilities along Westgate will make a positive contribution towards the encouragement of sustainable travel behaviours. However, even with the improvement scheme, there will still be a number of features that make the route less attractive than it could be. For example, cyclists will still have to travel over several speed humps and the eastern end of Westgate is very narrow, with no proposals at this stage to widen the carriageway.
- 2.9 Although there is no significant recurrence of accidents involving cyclists along this road, cyclists may also be discouraged from using the facilities by the potential for car doors opening out into the cycle lane. These factors could discourage existing and future residents from undertaking cycle journeys and the possibilities of providing more comprehensive cycling facilities should be explored further.

### Suggested improvements, refinements or alternatives

- 2.10 Whilst it is appreciated that the current designs have been developed in response to comments from the highway authority and local residents' associations, there are a number of alternatives that could be considered by the Infrastructure Steering Group. The following suggestions range from small modifications to more comprehensive changes, and have been identified to assist with further discussions and demonstrate the potential for the scheme to provide greater accessibility and connectivity into Chichester by sustainable modes together with managing traffic movements.
- 2.11 As a minimum, the interaction between the on-street parking bays and the cycle by-passes should be reviewed. If parking were to be removed on one side of the carriageway, there could be potential for a continuous cycleway between Sherborne Road and Parklands Road. Whilst this would reduce the amount of on-street parking available, it would provide a substantially more attractive route for cyclists.
- 2.12 The reduced width of the eastern part of Westgate means that any solution is unlikely to meet all of the required outcomes. Given that the purpose of the existing traffic calming (introduced in 1994) is at least in part to discourage through traffic looking to avoid Via Ravenna/Avenue De Chartres, it is not unrealistic to suggest that a one-way arrangement could be explored whilst potentially retaining the on-street parking. Although the impact of this upon existing bus routes would have to be considered, this would have the added benefit of freeing up roadspace to be reallocated for cyclists, which would encourage sustainable travel behaviours.
- 2.13 It should be noted that the extent of works required on Westgate will be linked to the schemes undertaken on Sherborne Road and the Sherborne Road/Westgate mini-roundabout. If substantial changes are taken forward at these other locations, the level of traffic using Westgate could change considerably. The measures in each location should be viewed as part of a coherent package.

### 3. SHERBORNE ROAD TRAFFIC CALMING SCHEME

- 3.1 Sherborne Road is currently subject to a 20mph speed limit, with extensive on-street parking and a variety of traffic calming measures in place. Whilst various parking restrictions exist, in some instances the on-street parking results in cars having to give way to each other along Sherborne Road, acting as informal traffic speed management measures. The amount of on-street parking is known to fluctuate considerably depending on the time of day, given the presence of Parklands Primary School, Bishop Luffa School, St Wilfrid's Church, the parade of shops and the park.
- 3.2 There are a number of fixed traffic calming features that include speed humps, and raised tables at junctions to assist pedestrians in crossing the road. Three accidents have been reported within the last five years, two of which were slight whilst one was serious. One slight incident occurred as a result of a driver failing to look properly, and driving into the back of the car in front who was giving way to oncoming traffic. The second slight incident was the result of aggressive driving, whilst the serious incident resulted from a driver crashing into a tree.
- 3.3 A revised traffic management scheme associated with the White House Farm development has been identified, in order to "*discourage rat-running and enhance pedestrian and cycling facilities along the route(s)*" (Vectos Transport Assessment).
- 3.4 The current proposals are shown within Vectos drawing no. 110013\_A\_51 RevB2 (attached within **Appendix A**). The proposals consist of the following:
- Four narrowings of the road with one direction of traffic given priority and cycle by-passes
  - 0.5m median strip along centre of carriageway between Durnford Close and Newlands Lane

#### Traffic Capacity

- 3.5 The proposals are anticipated to have a minimal impact upon traffic capacity as the principle of traffic calming along this route is well established. It appears unlikely that the proposed narrowings would significantly increase driver inconvenience. In many cases the narrowings are proposed in locations where there is high demand for on-street parking, which is already considered to contribute towards a reduction in carriageway width and therefore traffic speeds (**Photo 1**). In summary, the proposed measures are regarded as having no significant advantage in discouraging additional traffic wishing to gain access onto the A27 from using Sherborne Road.



**Photo 1:** Existing Parking on Sherborne Road

### Safety

- 3.6 The median strip would help to encourage lower vehicle speeds, which would result in increased safety for pedestrians and cyclists. The provision of cycle by-passes with each of the narrowings (except for the southernmost) segregates cyclists from the traffic flows, although only in one direction. The southernmost narrowing has cycle by-passes in both directions, but the fact narrowing is on both sides of the road means that in order to use the by-passes, cyclists will have to deviate from the most direct route, contrary to best practice (LTN 1/07). This could discourage cyclists from using the by-passes and potentially put them in conflict with traffic through the narrowing.
- 3.7 Each of the narrowings would result in an additional pedestrian crossing (with dropped kerbs and tactile paving) over Sherborne Road, which would be beneficial to pedestrians, although careful design would be required to ensure pedestrians are aware of the potential conflict with cyclists. Revised road markings, via a Traffic Regulation Order (TRO) would also be beneficial to ensure inappropriate parking does not occur around the proposed traffic calming features (**Photo 2**).
- 3.8 There are safety concerns as to the siting of the narrowing just south of Oliver Whitby Road. This is in close proximity to the bus stop which is in regular use, and any queue of traffic giving way would back up past the bus stop. It is not clear how this queue would interact with any bus waiting to pull out, or any vehicles turning right out of Oliver Whitby Road (**Photo 3**).



**Photo 2:** Location of Northernmost Narrowing



**Photo 3:** Location of Proposed Narrowing adj. Bus Stop

#### Sustainability

- 3.9 The proposed scheme is only likely to have a marginal effect upon walking and cycling and therefore a minimal impact on sustainable travel behaviours. Whilst Sherborne Road is, and will remain, a relatively low speed environment, cyclists will still have to travel over existing speed humps and raised tables. If the narrowings are perceived to be dangerous by cyclists, their impact could have a negative effect and potentially worsen highway safety.

#### Suggested improvements, refinements or alternatives

- 3.10 Whilst it is appreciated that the current designs have been developed in response to comments from the highway authority and local residents' associations, there are a number of alternative proposals that could be considered by the Infrastructure Steering Group. The following represent significant alternatives over what is currently proposed, but are regarded as achieving the intended outcomes and therefore provide a broader range of options for the Steering Group to consider.
- 3.11 As a minimum, the exact sitings of the narrowings should be reviewed and the need for TROs considered. In particular, the narrowing adjacent to Oliver Whitby Road could be problematic, and the cycle facilities associated with the southernmost narrowing could be redundant as outlined above. Similarly, without introducing controls to restrict parking along the western side of Sherborne Road adjacent to the northernmost narrowing, an obstruction to the flow of traffic could result.

- 3.12 The proposed changes appear unlikely to significantly discourage the likely increase in demand for through traffic wishing to use Sherborne Road, which is the primary purpose of the scheme. It is considered that more fundamental alterations to the road would be required to achieve this aim given that traditional traffic calming does not appear to sufficiently deter drivers from using this road as a through route.
- 3.13 An alternative way of making a route less attractive would be to increase its length and in doing so make the route less direct, adding to journey times. In order to achieve this, part of Sherborne Road could be closed to cars, with the exception of access for residents, as illustrated in **Figure 2**. For example, if the stretch between Oliver Whitby Road and Durnford Close were to be restricted to buses and cyclists only, any through car traffic would be forced to divert along the longer route on Oliver Whitby Road and Sherlock Avenue. Clearly this would increase the amount of traffic using these roads, but would succeed in making the route far less attractive for through traffic.



**Figure 2:** Alternative Scheme for Sherborne Road

3.14 It would be beneficial to allow buses to continue to use any stretch of Sherborne Road that would be closed off to cars, except for resident access. However, the volume of traffic using this stretch of road would significantly decrease, affording an opportunity to improve the public realm between the park, St Wilfrid's Church and Parklands Primary School (Photo 4) by promoting a shared surface scheme as detailed within Manual for Streets. Whilst the merits of such a scheme would need to be considered by the Steering Group, it would act as a deterrent to through traffic whilst still allowing local residents access towards both the north and south. The removal of through traffic would result in lower queues at the junctions at either end of Sherborne Road than would otherwise be the case, whilst imposing a restriction for cars would increase the relative attractiveness of public transport.



Photo 4: Sherborne Road adj. Park

#### 4. WESTGATE/SHERBORNE ROAD JUNCTION IMPROVEMENT SCHEME

- 4.1 The junction of Westgate and Sherborne Road is currently a four arm mini roundabout with an overrun area for buses turning left into Westgate towards Bishop Luffa School (**Photo 5**). A pedestrian crossing over Sherborne Road is supported by tactile paving and a raised table (**Photo 6**), whilst another crossing supported by dropped kerbs is on the southern arm of the junction.



**Photo 5:** Existing overrun area



**Photo 6:** Pedestrian Crossing over Sherborne Road

- 4.2 Two slight incidents have occurred on the Westgate/Sherborne Road junction. One slight injury occurred when a child crossing Sherborne Road in between queuing southbound vehicles was struck by a northbound vehicle, whilst a second incident occurred when a cyclist crossing the road between the two roundabouts was hit by a car. Two further slight incidents have occurred on the Cathedral Way roundabout involving shunt type accidents.
- 4.3 As part of Phase 2 of the development, a southern access is to be provided onto Westgate, substantially increasing traffic flows through the mini-roundabout. Furthermore, Westgate forms part of the key pedestrian and cycle route between the site and Chichester city centre. A junction improvement scheme has therefore been identified, with a *“focus on pedestrian and cyclist improvements”* (Vectos Transport Assessment December 2014).
- 4.4 A Design Audit has previously been submitted (Vectos document N44-JM-110013) as well as a Stage 1 Road Safety Audit as part of the Transport Assessment. These appear to relate to superseded versions of the junction design, with the current proposals shown within Vectos drawing no. 110013/A/70 Rev C (attached within **Appendix A**). The proposals consist of the following:

- Retention of raised tables over the eastern and northern arms, with zebra crossings provided alongside markings for a cycle crossing
- Off street cycle lanes around three corners of the junction and on the Sherborne Road approach
- Widened southern approach between the Cathedral Way roundabout and Westgate mini-roundabout, and introduce a new pedestrian crossing with refuge island
- Addition of shared footway/cycleway on the south western corner of the junction

#### Traffic Capacity

- 4.5 The proposals themselves are anticipated to have a negligible impact upon traffic capacity given that very few of the key parameters are being altered. Vectos' Transport Assessment shows that following Phase 2, the roundabout will be over the 85% capacity threshold at which improvements should be considered. That assessment was based on a scheme that included a left turn filter lane, enabling vehicles turning left towards Bishop Luffa to do so without entering the mini-roundabout. However, the left turn filter lane has been removed from the current proposals. It is therefore considered that the junction design will need to be revisited as part of the forthcoming application for Phase 2 of the development.
- 4.6 On site observations during the AM peak period indicate that there is considerable congestion on each arm of the roundabout, increasing the risk of conflict with vulnerable road users such as cyclists navigating through queueing traffic. It is also worth noting that any schemes to discourage through traffic using Westgate or Sherborne Road may alter the future traffic flows. Equally, the current junction design does little to discourage further intensification of traffic resulting from the development of White House Farm. It is therefore concluded that the measures currently proposed will not address existing or future congestion or maximise the benefits available for cyclists and pedestrians.

#### Safety

- 4.7 A Stage 1 Road Safety Audit has been carried out on previous designs. However, given that the proposals have since been altered and that improvements may need to be considered for the Phase 2 application, our commentary on safety issues is included here.
- 4.8 Taking cyclists off the carriageway through the provision of off-street cycle lanes should provide a welcome safety benefit. In addition, improved pedestrian and cycle crossing facilities over three of the four arms will clearly represent improvements over the existing situation. The footway/cycleway on the south western corner of the junction currently terminates with no crossing over Westgate, which should be provided.

- 4.9 In addition, the crossing over the northern arm of the junction is in close proximity to the mini-roundabout, resulting in potential for vehicles to queue back through the junction, which could represent a highway safety issue.

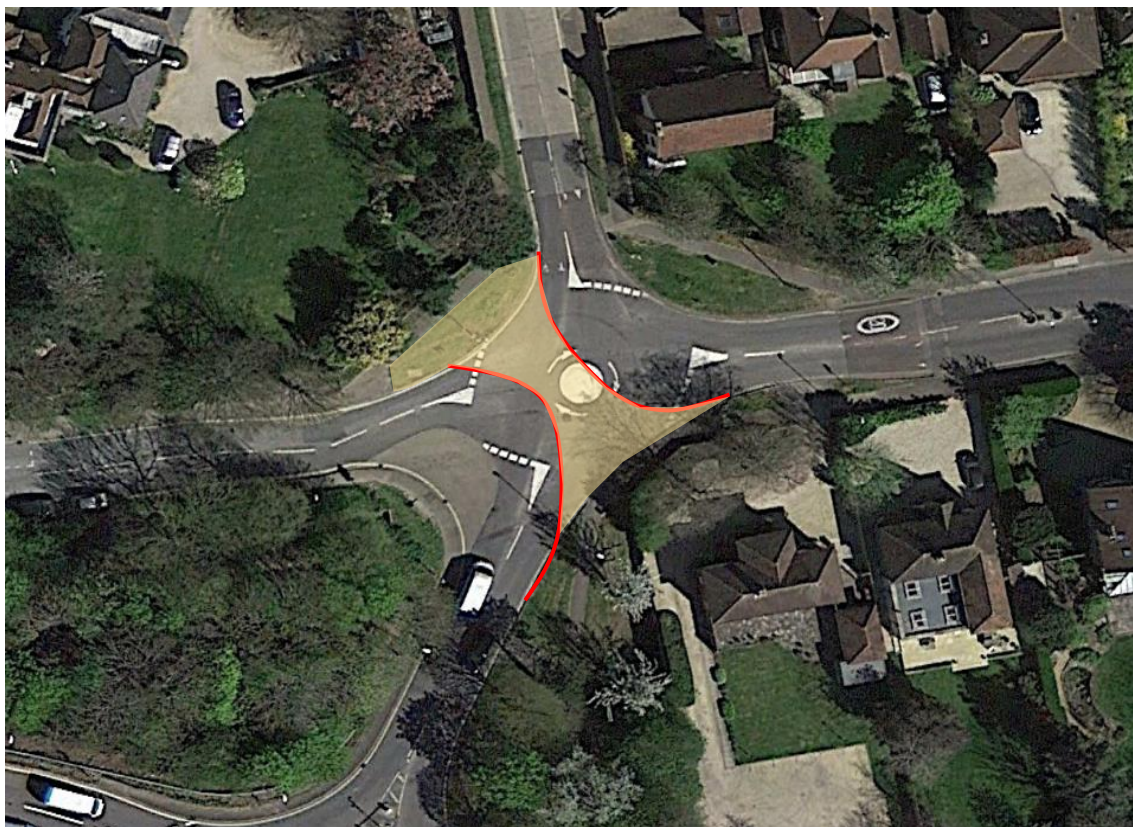
#### Sustainability

- 4.10 The dedicated pedestrian and cycle crossings and cycle lanes are considered a positive measure in terms of encouraging sustainable travel behaviour, although as stated above, a crossing over the western arm would be beneficial given that Bishop Luffa school is situated along this road and that this is a popular crossing for school pupils. However, the junction will be subject to substantially increased traffic flows as a result of the proposed development, which will act as a deterrent to walking and cycling.
- 4.11 It is therefore considered that a more comprehensive scheme of traffic management should be implemented, particularly given the context of wider traffic calming and discouragement of through traffic along both Westgate and Sherborne Road.

#### Suggested improvements, refinements or alternatives

- 4.12 Whilst it is appreciated that the current designs have been developed in response to comments from the highway authority and local residents' associations, there are alternatives that could be considered by the Infrastructure Steering Group. The following suggestions represent significant alternatives over what is currently proposed, but are regarded as supporting the intended outcomes and therefore provide a broader range of options for the Steering Group to consider.
- 4.13 Where pedestrians and cyclists come into conflict with vehicles, the highest level of convenience and safety is provided for pedestrians/cyclists by signalised crossings. However, it is not recommended practice to have signalised pedestrian crossings in close proximity to non-signalised junctions. Signalising the mini-roundabout by converting the junction to a crossroads would therefore provide an opportunity to create attractive pedestrian and cycle crossings as explored by Vectos (document N47-MM-110013). Inevitably there are other considerations such as the traffic queues this would create, as well as whether there is sufficient space to accommodate such a design. This option would present significant benefits for pedestrians and cyclists crossing the road to access Chichester City centre. However the consequences and resulting impact on traffic may be regarded as significant and therefore outweigh the benefits offered by signalisation.

- 4.14 A further alternative would be to prevent some traffic movements from being undertaken at this junction, enforced by the design. Whilst the implications of this would need to be carefully considered, this could form part of the wider traffic management package of measures on Westgate and Sherborne Road.
- 4.15 For example, traffic using the roundabout could be separated, such that it would only be possible to travel to the western arm from the southern arm (and vice versa), and from the northern arm to the eastern arm (and vice versa). A dedicated footway/cycleway could then be created at this junction, improving the connection between Bishop Luffa School, the proposed development and the city centre. It may also be possible to maintain bus movements to/from all arms by creating a level surface in the centre of the junction with restricted access to vehicles except buses, perhaps enforced by automatic bollards or similar. An illustrative sketch is shown in **Figure 3** although the design would need to be refined in light of land constraints – for example, it may be possible to re-align the link between the two roundabouts.



**Figure 3:** Alternative Scheme for Sherborne Road/Westgate Junction

4.16 This suggestion would also remove any chance of Sherborne Road and Westgate being used as a through route by future residents of the proposed development to access the A27 or Chichester city centre and therefore has the potential to improve the pedestrian and cycle experience on these roads. A re-design of the junction such as this, in conjunction with the suggested measures along Sherborne Road, would have significant implications on the distribution of traffic flows around the western and central parts of Chichester. Current residents within the western part of Chichester would face a longer drive to reach the A27, but would not be directly impacted by longer queues arising from the proposed development traffic. Traffic flows may increase on St Paul's Road, Orchard Street, Avenue De Chartres and Via Ravenna and the highway authority would have to decide if this was acceptable.

## 5. WESTGATE ROUNDABOUT JUNCTION IMPROVEMENT SCHEME

- 5.1 The junction of Westgate, Orchard Street, Wall Cottage Drive, West Street and Avenue De Chartres currently takes the form of a five arm roundabout. There is no dedicated provision for cyclists although there are pedestrian crossings on each arm of varying standard. There is also a signalised pedestrian crossing over both Avenue De Chartres and Orchard Street, approximately 20m south and north of the roundabout respectively.
- 5.2 Two incidents have occurred on the roundabout in the last five years, one slight and one serious. The slight incident arose from a car colliding with a pedestrian crossing West Street, whilst the serious incident occurred when a car attempted to overtake two cyclists on the roundabout.
- 5.3 A revised junction arrangement has been proposed in relation to the White House Farm development, since the publication of the Vectos TA in December 2014. Given that the junction is between the Westgate traffic calming scheme and the city centre, it has been assumed that the primary purpose of the scheme is to improve pedestrian and cycle connectivity.
- 5.4 The current proposals are shown within Vectos drawing no. 110013/A/74/B (attached within **Appendix A**) and consist of the following:
- Existing roundabout removed and replaced with signalised crossroads
  - Two lane traffic approaches on Orchard Street and Avenue De Chartres
  - T-junction of Wall Cottage Drive and West Street created
  - Mandatory on-street cycle lanes on each approach to junction with Advance Stop Line for cyclists
  - Off-street cycle paths around each corner of the junction with dedicated cycle crossings over each arm
  - Signalised pedestrian crossings over each arm
  - Existing vehicle access to property on western side of roundabout retained

### Traffic Capacity

- 5.5 The proposals are anticipated to have some impact upon traffic capacity and queueing at this junction. It is understood that traffic models have been submitted by Vectos and reviewed by the Local Highway Authority.

### Safety

- 5.6 The provision of signalised pedestrian and cyclist facilities is likely to significantly improve the safety situation compared to the existing roundabout. It is understood that a Road Safety Audit has been undertaken and reviewed by the Local Highway Authority.

### Sustainability

- 5.7 Similarly, dedicated provision for pedestrians and cyclists will significantly improve the attractiveness of the route between the site and the city centre. It is therefore considered that the proposals will have a positive impact upon sustainable travel behaviours. The traffic modelling outputs would need to be reviewed to determine whether the proposals would have a negative impact upon the Orchard Street Air Quality Management Area (outlined within WSCC's Transport Plan 2011-2026).

### Suggested improvements, refinements or alternatives

- 5.8 The design for this junction appears to meet safety and sustainability criteria, whilst the impact upon traffic capacity is unknown at this time. One refinement that could be considered by the Infrastructure Steering Group for inclusion within the final design is the provision of 'Keep Clear' road markings on Westgate, opposite Wall Cottage Drive. This would assist the flow of traffic leaving the minor road.

## 6. BRANDY HOLE LANE TRAFFIC MANAGEMENT SCHEME

- 6.1 Brandy Hole Lane is rural in nature, and as such does not have any dedicated pedestrian or cycle facilities. The road serves a number of residential properties and it is understood that visitors to East Broyle Copse currently park along the verge in some places.
- 6.2 A traffic management scheme has been proposed in relation to the White House Farm development, in order to prevent through traffic looking to travel between Old Broyle Road and the A286.
- 6.3 The current proposals are shown within Vectos drawing no. 110013/A/67 (attached within **Appendix A**) and consist of the following:
- Proposed closure of Brandy Hole Lane using bollards or similar
  - Retention of parking for East Broyle Copse
  - Provision of turning head for refuse vehicle to north of proposed closure

### Traffic Capacity

- 6.4 Clearly the proposals will result in all through traffic being diverted via other routes. From an inspection of the local road network, this may lead to an increase in traffic using either Hunters Race or Norwich Road, depending on the direction of travel.

### Safety

- 6.5 There are no obvious safety concerns with the proposed road closure, if adequate warning signage and appropriate lighting if required is provided for drivers approaching the road closure. The emergency services should be consulted to determine whether there would be merit in providing collapsible bollards to allow them access should it be required.

### Sustainability

- 6.6 These proposals will have a minor positive impact upon sustainable travel behaviours. By decreasing the attractiveness of the route for vehicles, there is potentially some benefit to be gained in encouraging the use of the road by pedestrians and cyclists to visit East Broyle Copse.

### Suggested improvements, refinements or alternatives

- 6.7 The design for Brandy Hole Lane appears to achieve its aim. However, refinements such as the provision of collapsible bollards, and potentially a turning area south of the closure could be considered by the Infrastructure Steering Group.

## 7. CONCLUSION

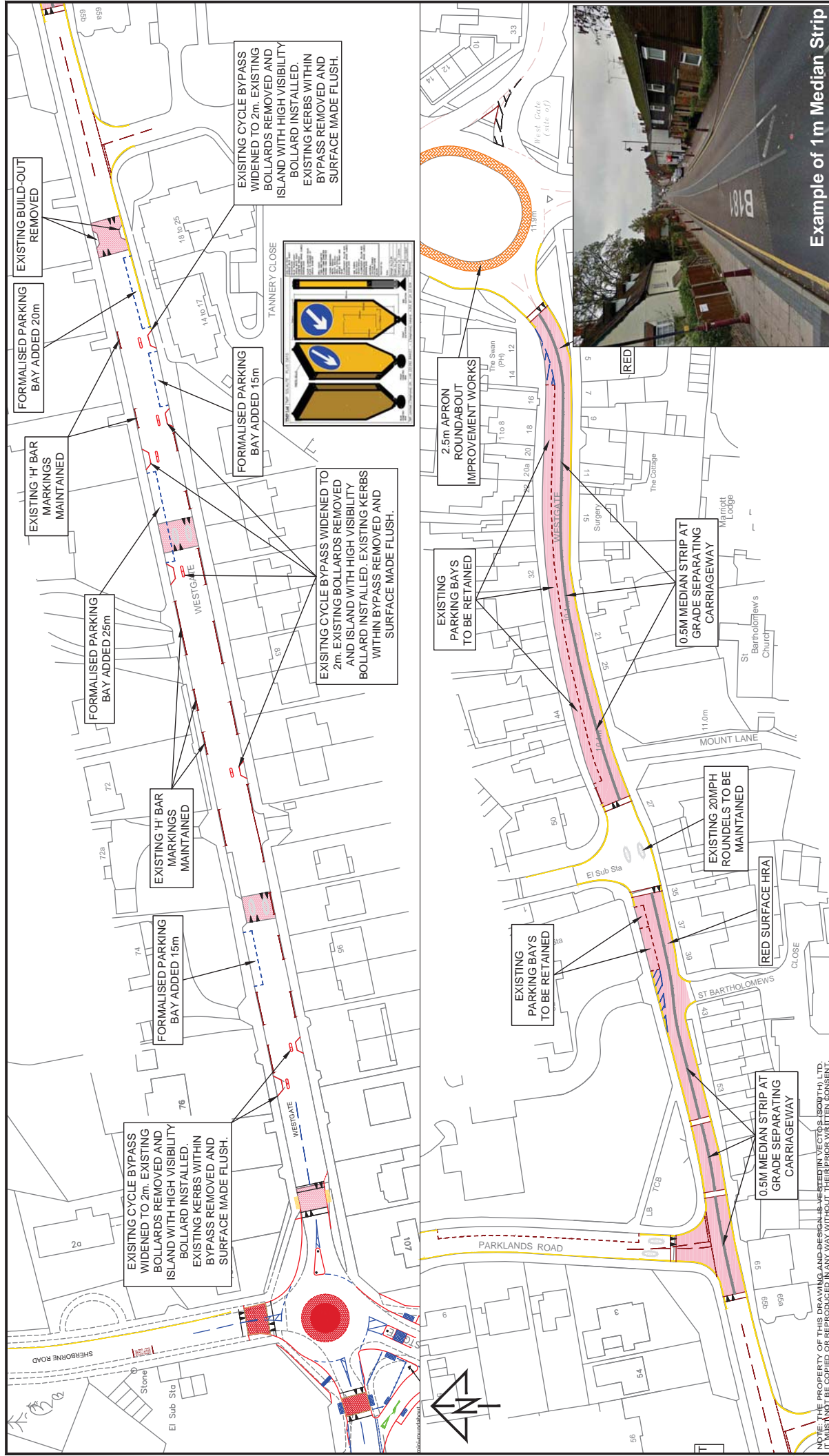
- 7.1 This report has been prepared by Paul Basham Associates on behalf of West Sussex County Council in relation the White House Farm strategic development to the west of Chichester. A resolution to grant planning permission has been made by Chichester District Council in relation to 750 dwellings, whilst a second application for 850 dwellings and 6 hectares commercial use is anticipated in 2018.
- 7.2 A number of infrastructure schemes have been identified in relation to the development, including:
1. A traffic management scheme on Westgate
  2. A modified traffic calming scheme on Sherborne Road
  3. A junction improvement scheme for Westgate/Sherborne Road and Cathedral Way Roundabout
  4. A junction improvement scheme at the Westgate Roundabout
  5. A traffic management scheme on Brandy Hole Lane
- 7.3 This report has been prepared to inform local residents and the Infrastructure Steering Group (yet to be formed). It has assessed each of the above schemes and advised on their potential benefits and dis-benefits in relation to traffic capacity, safety and sustainable travel. Where shortcomings have been identified, suggestions as to potential modifications or alternative schemes have been made. For simplicity, a summary is provided in **Table 1**.

Scheme Location	Impact on Capacity	Impact on Safety	Impact on Sustainability	Improvements or Alternatives
Westgate	Neutral	Neutral	Small positive	Review interactions between parking bays and cycle by-passes. Potential for one-way arrangement and improved provision for cyclists
Sherborne Road	Neutral	Negative	Small positive	Review sitings of narrowings. Partial closure of Sherborne Road to cars, divert and increase length of journey for through traffic. Improve public realm adj. Parklands Primary
Westgate/ Sherborne Road & Cathedral Way Junctions	Needs to be revisited	Neutral	Small positive	Consider signalisation of junction or a more fundamental change of preventing some traffic movements. This would benefit pedestrians and cyclists as well as discouraging through traffic along Sherborne Road and Westgate
Westgate Roundabout	Needs to be revisited	Positive	Positive	Consider inclusion of Keep Clear markings opposite Wall Cottage Drive
Brandy Hole Lane	Neutral	Neutral	Small positive	Design appears to achieve stated aim, but consider collapsible bollards and turning area south of closure

**Table 1:** Summary of Assessment

- 7.4 Each of the infrastructure schemes should not be considered in isolation, as the extent of works undertaken at one location has the potential to lessen the works required at another location. For example, if some movements were banned at the Westgate/Sherborne Road junction, this could potentially remove the need for measures to discourage through traffic from using Sherborne Road or Westgate.
- 7.5 The suggestions made within this report with regards to potential improvements or alternatives are put forward for consideration by the Infrastructure Steering Group. Further work would be required to develop the schemes from concepts into deliverable solutions in order to fully understand the wider implications of the suggested alternatives.





Example of 1m Median Strip

**Chichester**

**Westgate Improvement Scheme**

Miller Homes & Linden Homes

**vectos**  
transport planning specialists

10th Floor, Highbury House, Churchill Way, Cardiff, CF10 2HE  
t: 02920 720 860  
e: enquiries@vectos.co.uk

REVISION: B2  
DRAWING NUMBER: 110013\_A\_50

1:2000 at A3

SCALES: 30:10:14

CHECKED: AP

DATE: 30.10.14

ID: 110013\_A\_50

REV	DETAILS	DRAWN	CHECKED	DATE
A	Second option changes	AP		24.11.14
B	Third option changes	AP		04.12.14
B1	Priority narrowings added, Eastern about detail added	AP		27.07.15
B2	Cycle bypass improvements, give ways removed, eastern section surfacing to red surface HRA.	JM	MMcC	26.01.16

**Notes:**

- This is not a construction drawing and is intended for illustrative purposes only.
- White lining is indicative only.

**Legend:**

- Existing Markings Shown in Red
- Proposed Marking Shown in Blue

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REV	DETAILS	DRAWN	CHECKED	DATE
A	Second option changes	AP	ID	24.11.14
B	Third option changes	AP	ID	04.12.14
B1	Tables removed, 2 No. Priority narrowing's added.	AP	ID	30.07.15
B2	Cycle bypasses provided, narrowing adjacent to plots 31 & 48 removed.	JM	ID	25.01.15

Notes:

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- White lining is indicative only.

Legend:

- Existing Markings Shown in Red
- Proposed Marking Shown in Blue

Chichester

Sherborne Road Proposed Traffic Calming

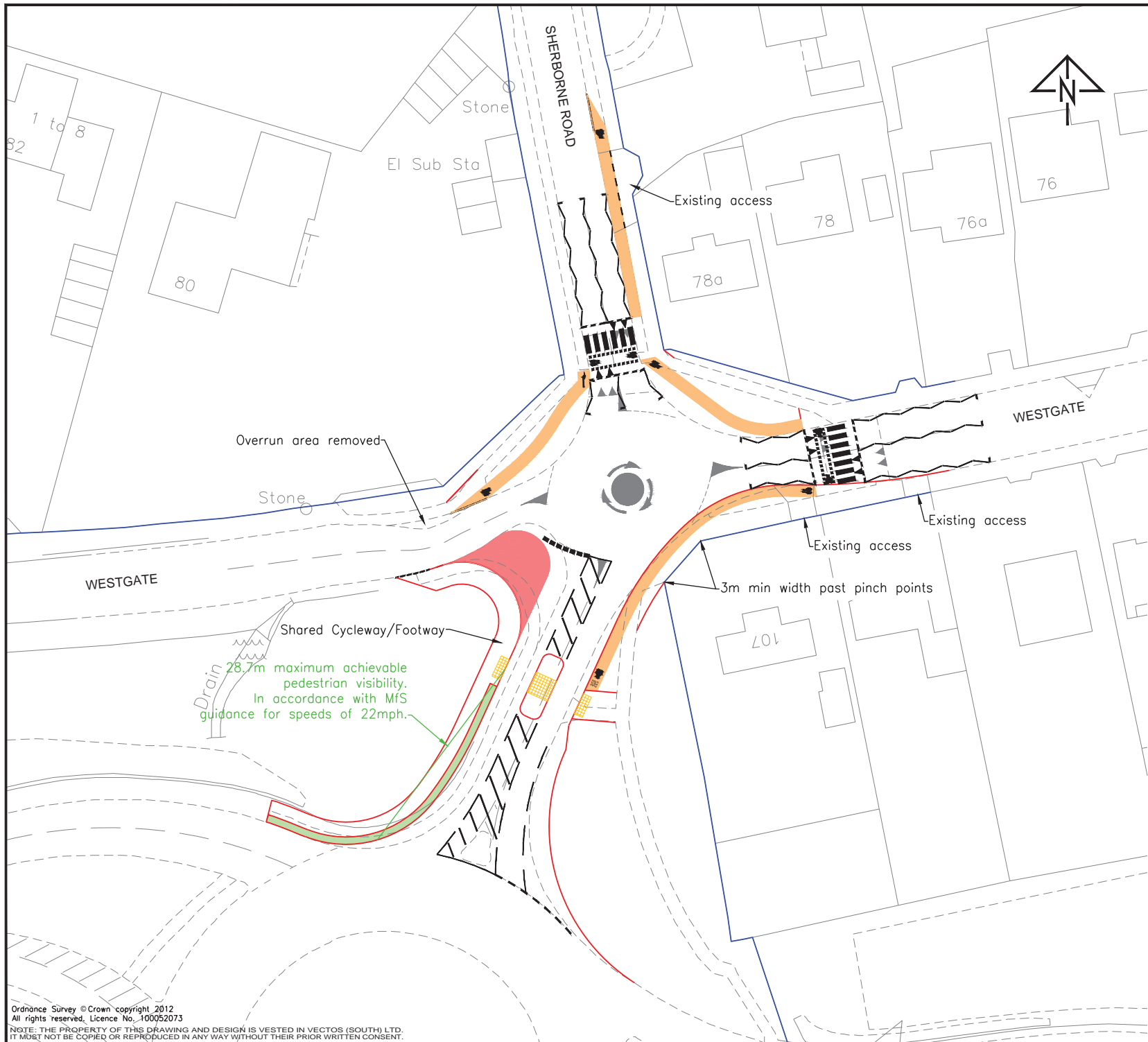
DRAWN: AP    CHECKED: ID    DATE: 31.10.14    SCALE: 1:2000 at A3

Miller Homes & Linden Homes

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DRAWING NUMBER: 110013\_A\_51    REVISION: B2

EXISTING JUNCTION TO BE RETAINED



**Notes:**

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REV.	DETAILS	DRAWN	CHECKED	DATE
C	WSSC Comments	JM	MMcC	20/07/2016
B	Stage 1 Road Safety Audit	JM	MMcC	29/06/2016
A	Lane marking added southern arm southbound.	JM	MMcC	19/04/2016

CLIENT:  
**Miller Homes & Linden Homes**

PROJECT:  
**Chichester**

DRAWING TITLE:  
**Westgate/Sherborne Road  
 Mini-Roundabout Improvements  
 Option 2**

SCALES:  
**1:500 at A3**

DRAWN: JM      CHECKED: MMcC      DATE: 06/04/2016

Network Building, 97 Tottenham Court Road, London W1T 4TP  
 t: 020 7580 7373      e: enquiries@vectos.co.uk

DRAWING NUMBER: **110013/A/70**      REVISION: **C**

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REV	DETAILS	DRAWN	CHECKED	DATE
B	WSSC Comments	JM	MMcC	20/07/2016
A	Stage 1 Road Safety Audit.	JM	MMcC	30/06/2016

CLIENT:

**Miller Homes & Linden Homes**

PROJECT:

**Chichester**

DRAWING TITLE:

**Proposed  
Westgate/Orchard Street  
Signalised Junction  
Option 4**

SCALE:

**1:500 at A3**

DRAWN:	JM	CHECKED:	MMcC	DATE:	08/04/2016
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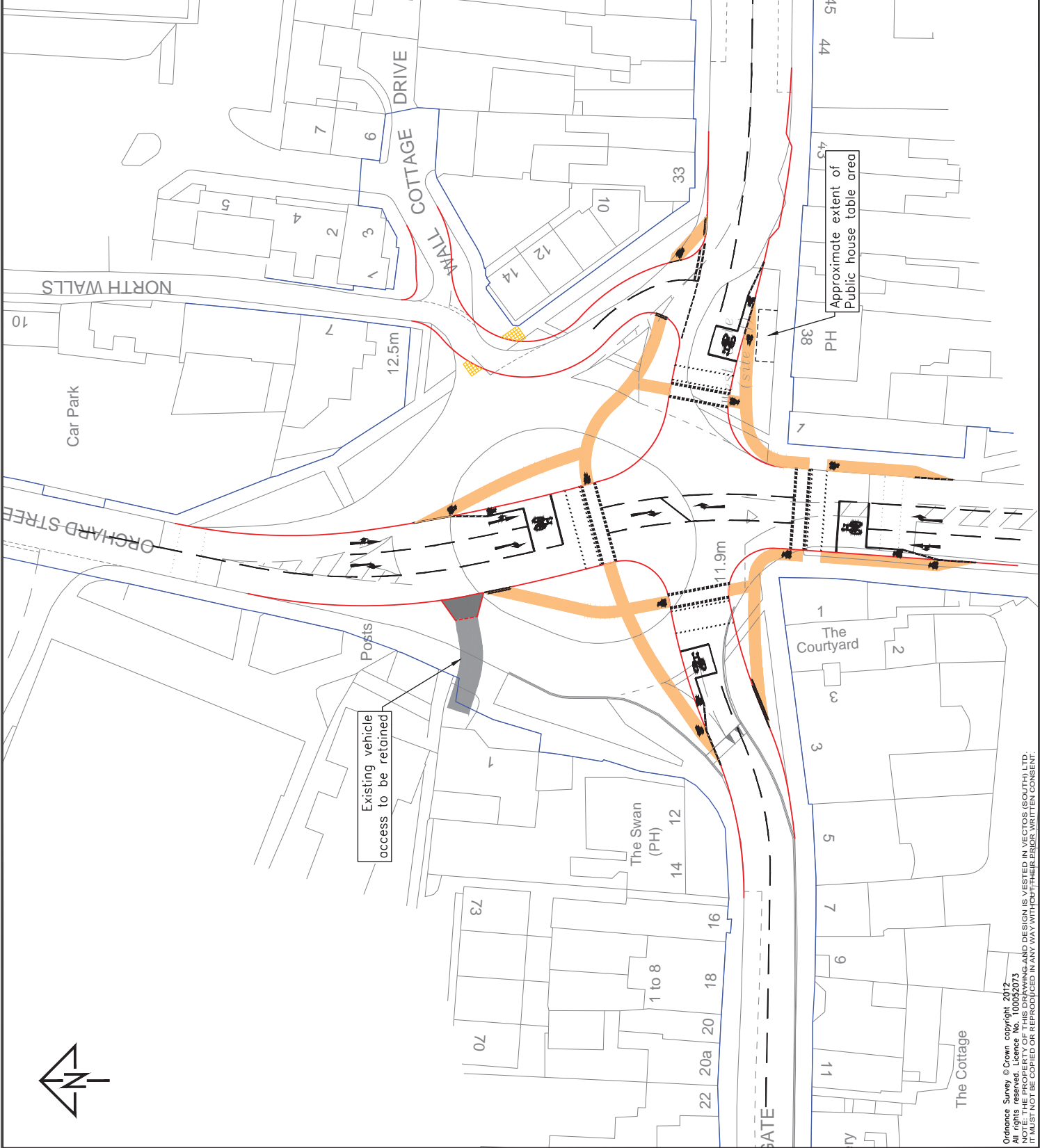
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DRAWING NUMBER:

**110013/A/74**

REVISION:

**B**



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**INDICATIVE ONLY**

REV	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

**Miller Homes & Linden Homes**

PROJECT:

**Chichester**

DRAWING TITLE:

**WSSC Proposed Partial Closure  
of Brandy Hole Lane**

SCALES:

**1:1000 at A3**

DRAWN:

**JM**

CHECKED:

**MMcC**

DATE:

**01/02/2016**



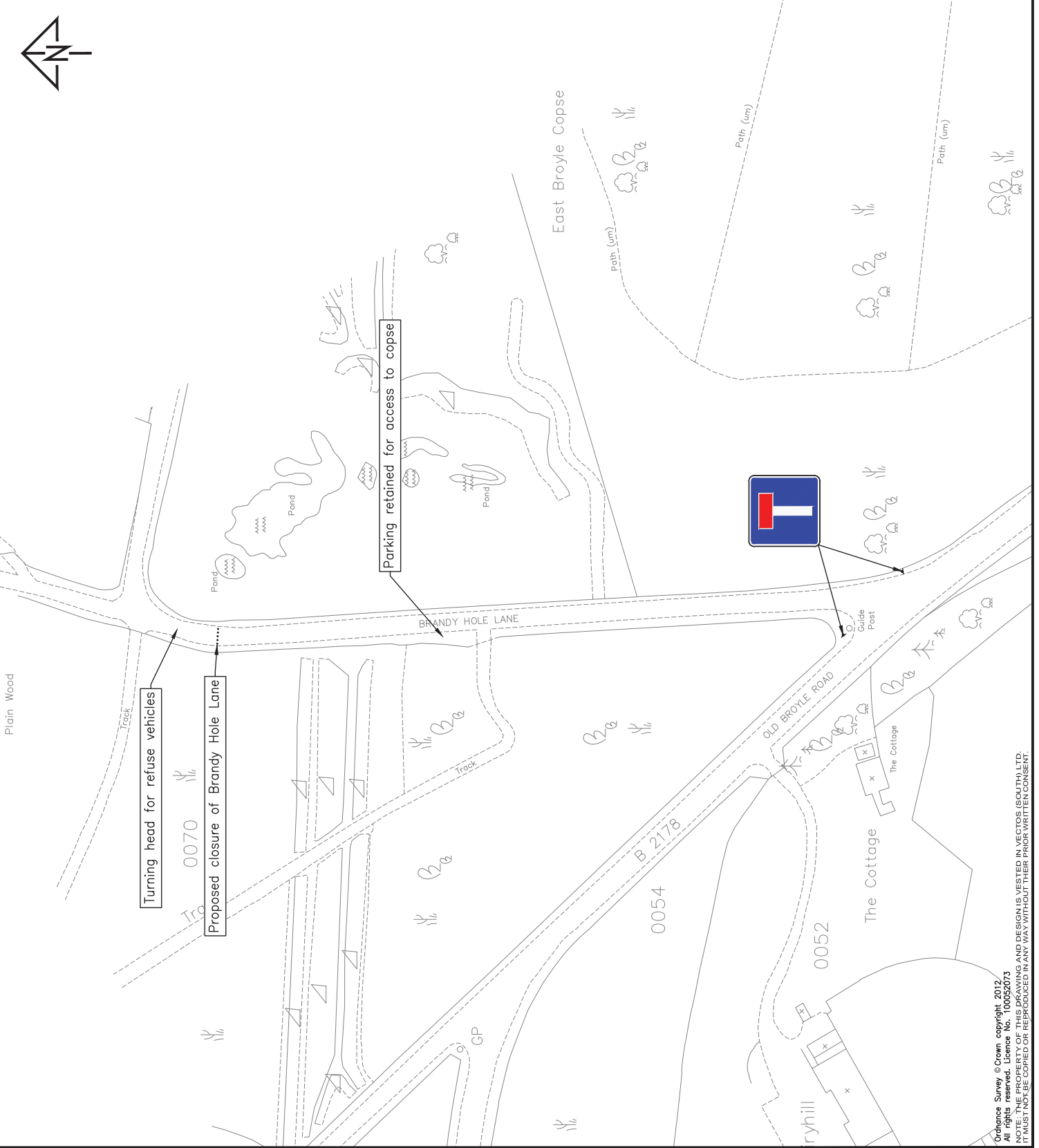
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DRAWING NUMBER:

**110013/A/67**

REVISION:

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