

## Shirehampton Road/Kingsweston Road – Junction Improvements

Project Ref: RS15003

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### Report status: Final Summary

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#### 1.0 Introduction:

- 1.1 The Avonmouth and Kingsweston Neighbourhood Partnership of Avonmouth and Kingsweston have prioritised a scheme to improve the junction of Shirehampton Road, Kingsweston Road and Westbury Lane due to concerns about the number of accidents occurring and poor pedestrian facilities. (*‘Approved Schemes’ under Local Traffic Schemes in Neighbourhood Partnership Meeting minutes of 1<sup>st</sup> July 2014*).

#### 2.0 Finance

2015/16 budget		
Shirehampton Road/Kingsweston Road/Westbury Lane Junction Improvements	Design and Consultation - Minor Traffic	£12,500
2016/17 budget		
Shirehampton Road/Kingsweston Road/Westbury Lane Junction	Implementation	£12,500

- 2.1 Avonmouth and Kingsweston Neighbourhood Partnership has allocated funds of £25k towards this scheme in the knowledge that it will not be enough to provide a full range of improvements at this junction.
- 2.2 Nevertheless it is recognised that there are a number of issues at this junction that affect other work streams and this commitment is designed to encourage funding from other work programmes with a view to achieving sufficient funding to enable a solution to be implemented.
- 2.3 Funding contributions confirmed for this scheme are:
- |                           |      |
|---------------------------|------|
| Neighbourhood Partnership | £25k |
|---------------------------|------|
- 2.4 Funding contributions offered but as yet unconfirmed for this scheme are:
- |                     |      |
|---------------------|------|
| Public Transport    | £40k |
| Highway Maintenance | £20k |
| Road Safety         | £20k |
- 2.5 This provides funding to a maximum of £105,000. Many of the options considered, including those that come closest to achieving all the objectives, would cost more than this and therefore the current budget available is insufficient to meet all the objectives as noted above.
- 2.6 However in prioritising this scheme it was recognised that funds available to the partnership itself would be insufficient to cover the cost of any scheme. Therefore this feasibility study aims to identify the options available to help address the concerns, the advantages and disadvantages of these options, as well as other sources of funding which may be available to help deliver a scheme in this location.

### **3.0 Issues/Objectives Identified:**

- 2.1 The Neighbourhood Partnership has identified a number of issues and road safety concerns they wish to see resolved:
- 2.1.1 Issue:– The junction is felt to be particularly dangerous for cyclists and pedestrians due to the speed and volume of traffic. (See Road Safety Assessment – Section 3.0).

Objective:– To redesign the junction sufficiently to reduce the frequency and severity of road traffic accidents.

2.1.2 Issue:– There is an increasing pedestrian desire line through the junction from Sea Mills towards the Oasis Academy School in Penpole Lane and vice versa.

Objective:– To improve pedestrian facilities and safety around the junction to accommodate this desire line and access to bus stops around the junction.

2.2 Alongside the concerns raised by the Neighbourhood Partnership, a number of additional issues and aspirations have been identified by Council Officers:

2.2.1 Issue:– There is a proposal to update the bus stops in the area to provide real time information panels, weather protection and improved boarding facilities.

Objective:– To integrate these works in conjunction with the revised junction redesign for the benefit of bus passengers.

2.2.2 Issue:– Some sections of the road surface through the junction is approaching the end of its design life.

Objective:– To integrate any necessary maintenance work into the project in order to reduce costs and provide an adequate road construction for any junction redesign.

2.2.3 Issue:– The junction forms part of an aspirational strategic cycle route linking the A4018 with a number of other routes including NCN route 41 at Shirehampton.

Objective:– Continue to promote cycling within the City by enhancing cycle facilities on this route and reduce the likelihood of personal injury accidents occurring to cyclists at the junction.

### 3.0 Road Safety assessment:

3.1 In the 5 year period between 01/08/10 and 31/07/15 there were 13 accidents within the junction area resulting in 15 casualties, all with slight injury.

*[See Appendix (i) 5 Year Accident Plot]*

3.2 As all the injuries resulted in slight injury, the overall severity rate is low at the junction; i.e. there were no Killed or seriously injured (KSI) casualties recorded.

3.3 A number of patterns have been found within the data:

- Of the 13 accidents recorded 12 occurred on a weekday.
- 7 of the 13 accidents occurred in December, January or February including all 4 that occurred during the afternoon peak period (between 15:20 and 17:50).
- 9 of the accidents occurred at the Westbury Lane/Kingsweston Road junction. Of these there 4 cycle accidents involved cars emerging from Westbury Lane across the path of southbound cyclists.
- All of these cycle accidents occurred in January, February or April. Of the 6 cycle casualties recorded, 5 were aged between 37 and 49 and all 6 were male.

*[See Appendix (ii) 5 Year Accident Plot – Cyclists]*

3.4 There were no specific patterns apparent in relation to wet/dry, or light/dark conditions.

3.5 Two of the accidents involved loss of control and 1 was a nose to tail which could imply excessive speed or travelling too fast for the conditions. Only one of these accidents has causation factors indicated, but these include poor road surface conditions due to the weather.

3.6 Two of the accidents involved car drivers failing to stop after a collision with a cyclist.

#### 4.0 Assessment of Options

A number of options have been considered and summarised below. The detail of these schemes are in Appendix (iv)

Option Number	Reduces Accidents	Improves Pedestrian Facilities	Improves Bus Stop/Service	Improves Road Surface	Improves Cycle Facilities	Engineering Constraints	Estimated Cost
1 Westbury One Way	Y (~ 1 /yr)	Negligible	N (Negative)	N	N (Marginal or negative)	Negligible	£20k
2 Upper slip road narrow & one-way	Y (~ 0.3 /yr)	Y (Marginal)	N (Negative)	Y (Locally)	Negligible	significant *	£80k+
3 Slipway two-way buses only	Y (~ 0.3 /yr)	Y (Marginal)	Y	Y (Locally)	Y (Marginal)	significant *	£150k+
4 Roundabouts	Y (~ 0.5 /yr)	N	N	Y	N	Significant *	£150k+
5 Signalise the junction	Y (~ 1.5 /yr)	Y	Y	Y locally	Y	Manageable	£400k+
6 Do Nothing							
7 Upgrade & Refresh road markings	Y (< 0.2 /yr)	N	N	N	N	Negligible	£5k
8 Close upper slip road / remodelling	Y (~ 0.8 /yr)	Y	N	Y	Y	significant *	£150k+
9 New	Y (~ 0.8 /yr)	Y	N	Y Locally	Y	Manageable	£120k

Deflections							
10 Mini roundabout / one way upper slip road	Y (~ 0.5/yr)	Potentially	N	Y	Potentially	Significant *	£300k+
11 Improved cycle facilities	Y (~ 0.8/yr)	Y	N	Y Locally	Y	significant *	£150k+
12 Change Priority	Y (~ 1.2/yr)	Y	Y	Y	Y	Significant	£200k+

## **7.0 Conclusions:**

- 7.1 Only options 5 (Signalise the Junction) and 12 (Change priority from N/S to E/W) are likely to offer significant accident reduction benefits as well as providing the opportunity to realise the other improvements desired.

Whilst both require significant civil engineering works to enable them to operate appropriately, both are considered to have engineering constraints which are manageable.

- 7.2 Option 9 (New deflections, widths and alignments) is a cheaper alternative that could provide some of the improvements required, but is unlikely to enable improvements for bus services or achieve more than modest accident reduction.
- 7.3 Of the options affordable within the existing Neighbourhood Partnership budget, option 1 (Make Westbury Lane one way) provides the greatest overall benefit, but could create a number of new issues with speeding on Westbury Lane; additional pressure on alternative routes within the area; and the need to change existing bus routes.
- 7.4 The uncertainty surrounding available funding to provide a scheme that fully meets the objectives set out in 2.0 means that a recommendation to proceed with this proposal cannot be made at this time unless the Partnership is minded to agree to pursue a lesser scheme option to address some, but not all of the issues raised.

## **8.0 Recommendations:**

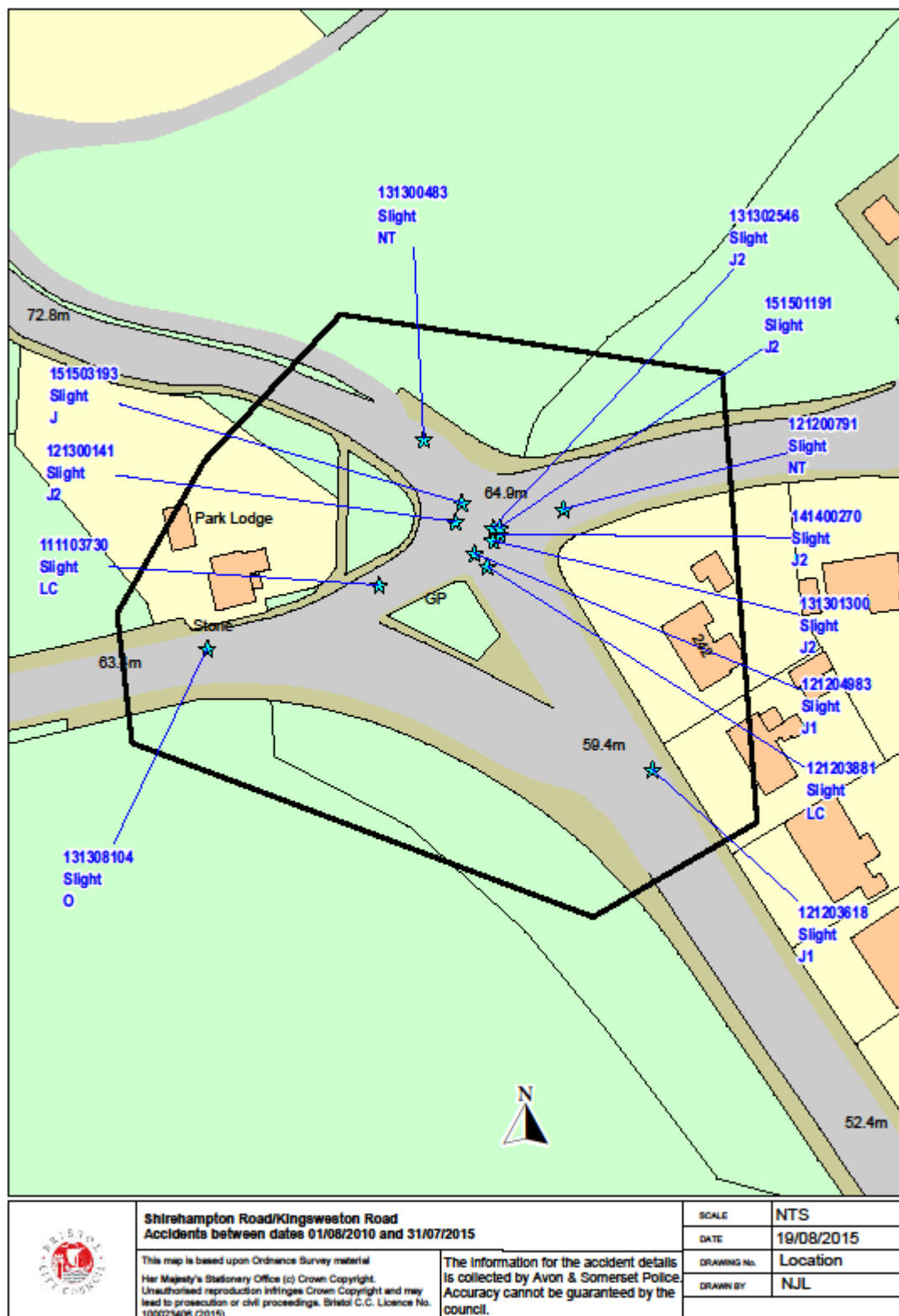
- 8.1 Await the outcome of further investigations by officers to secure sufficient funding to proceed with an option that fully meets the objectives set out in section 2.0
- 8.2 Determine which alternative scheme officers should progress if the additional funding proves unobtainable.

## Appendices

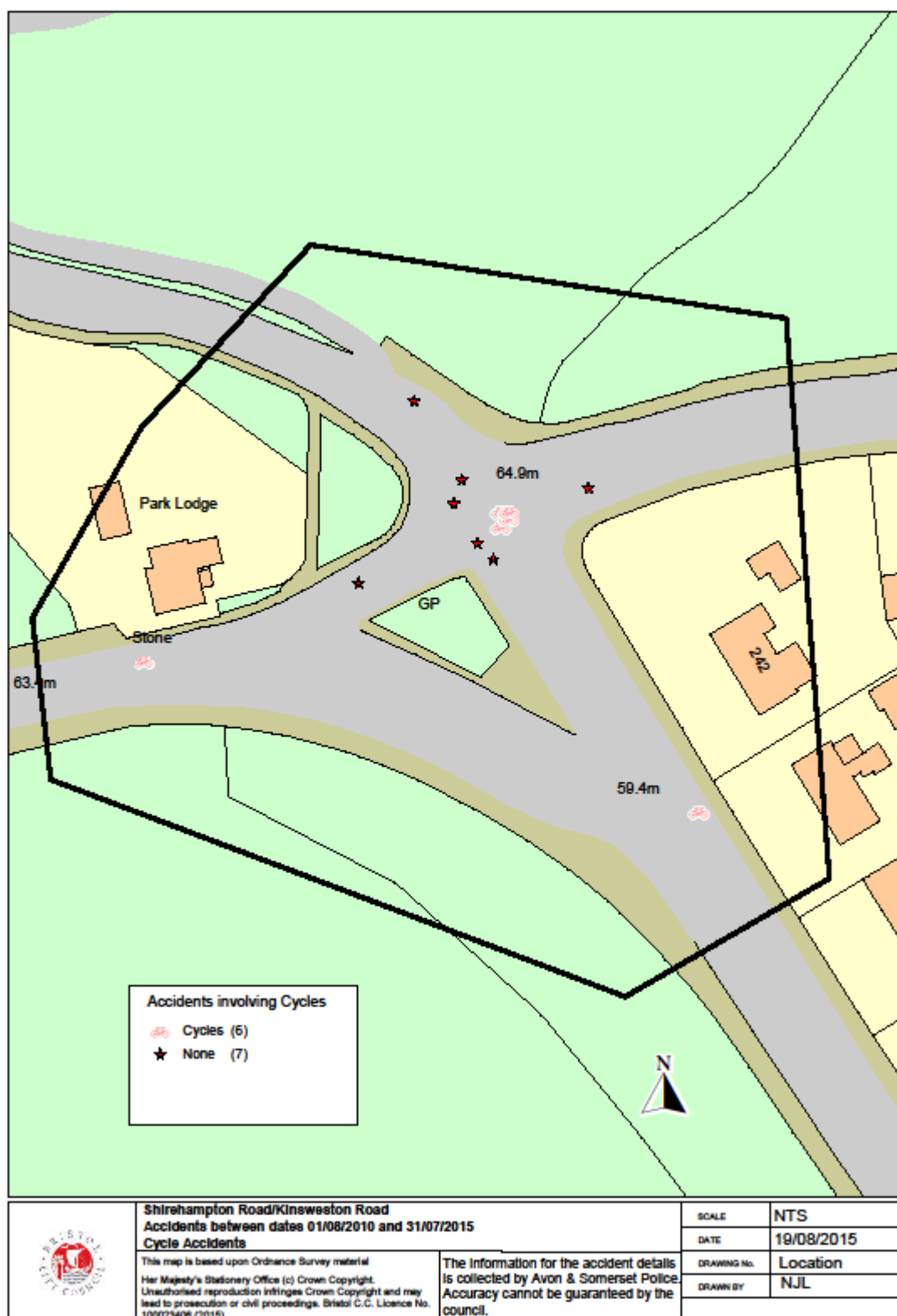
- (i) 5 Year Accident Plot
- (ii) 5 Year Accident Plot – Cyclists
- (iii) Right Turn into Shirehampton Road – Engineering Constraint
- (iv) Sketches for Options considered:
  - Sketch Option 1
  - Sketch Option 2
  - Sketch Option 3
  - Sketch Option 4
  - Sketch Option 5
  - Sketch Option 8
  - Sketch Option 9
  - Sketch Option 10
  - Sketch Option 11
  - Sketch Option 12



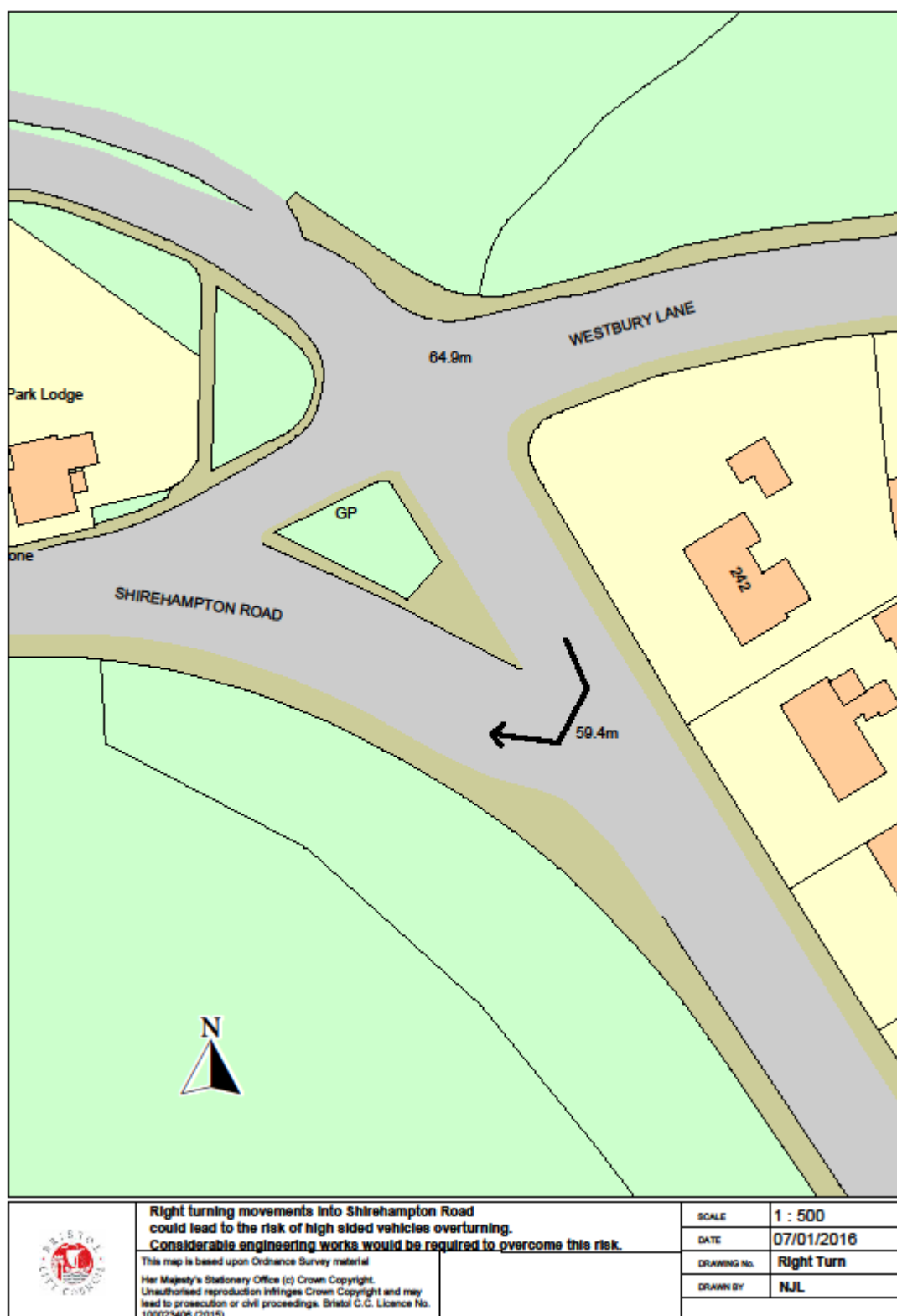
# Appendix (i) 5 Year Accident Plot



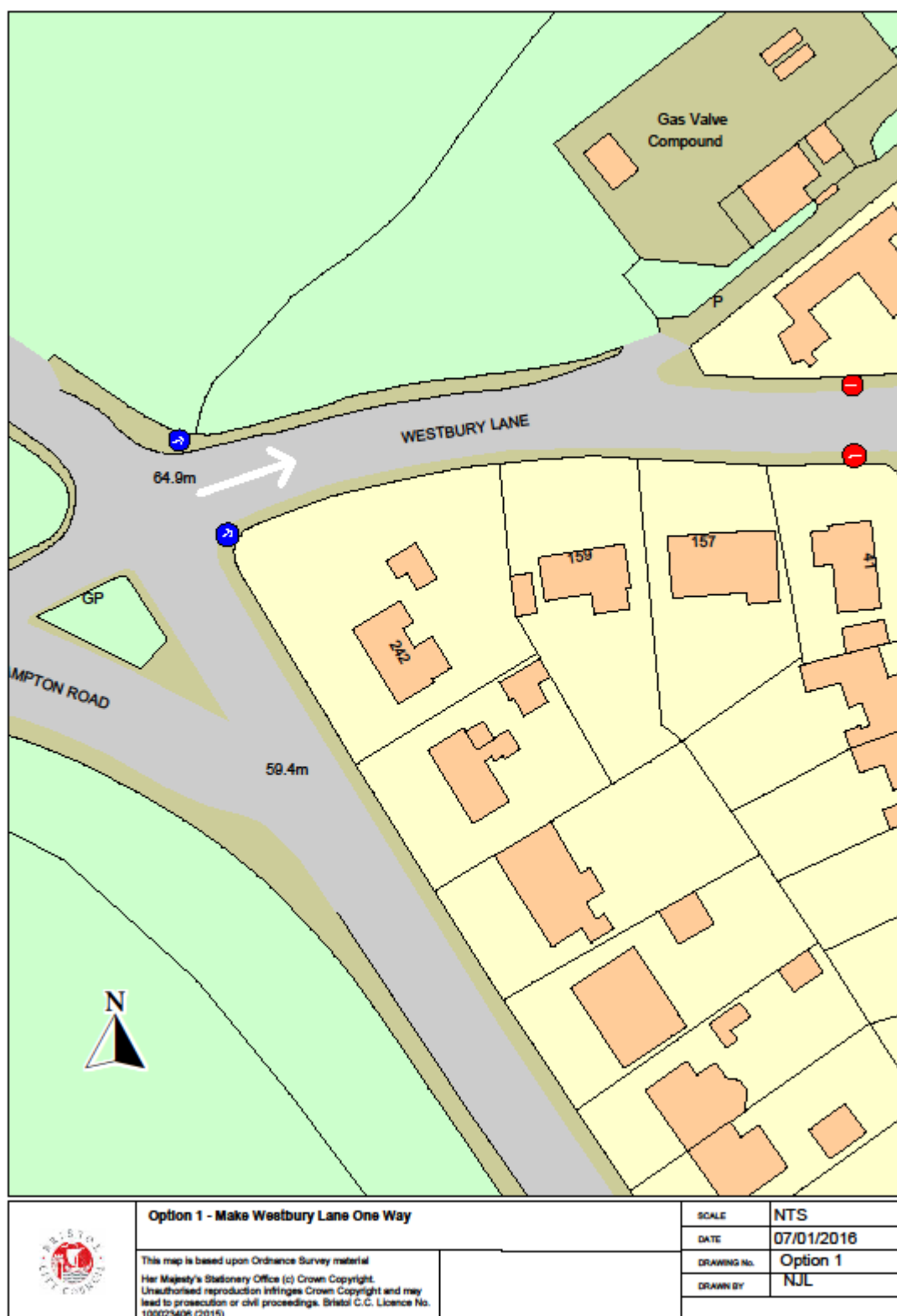
## Appendix (ii) 5 Year Accident Plot – Cyclists



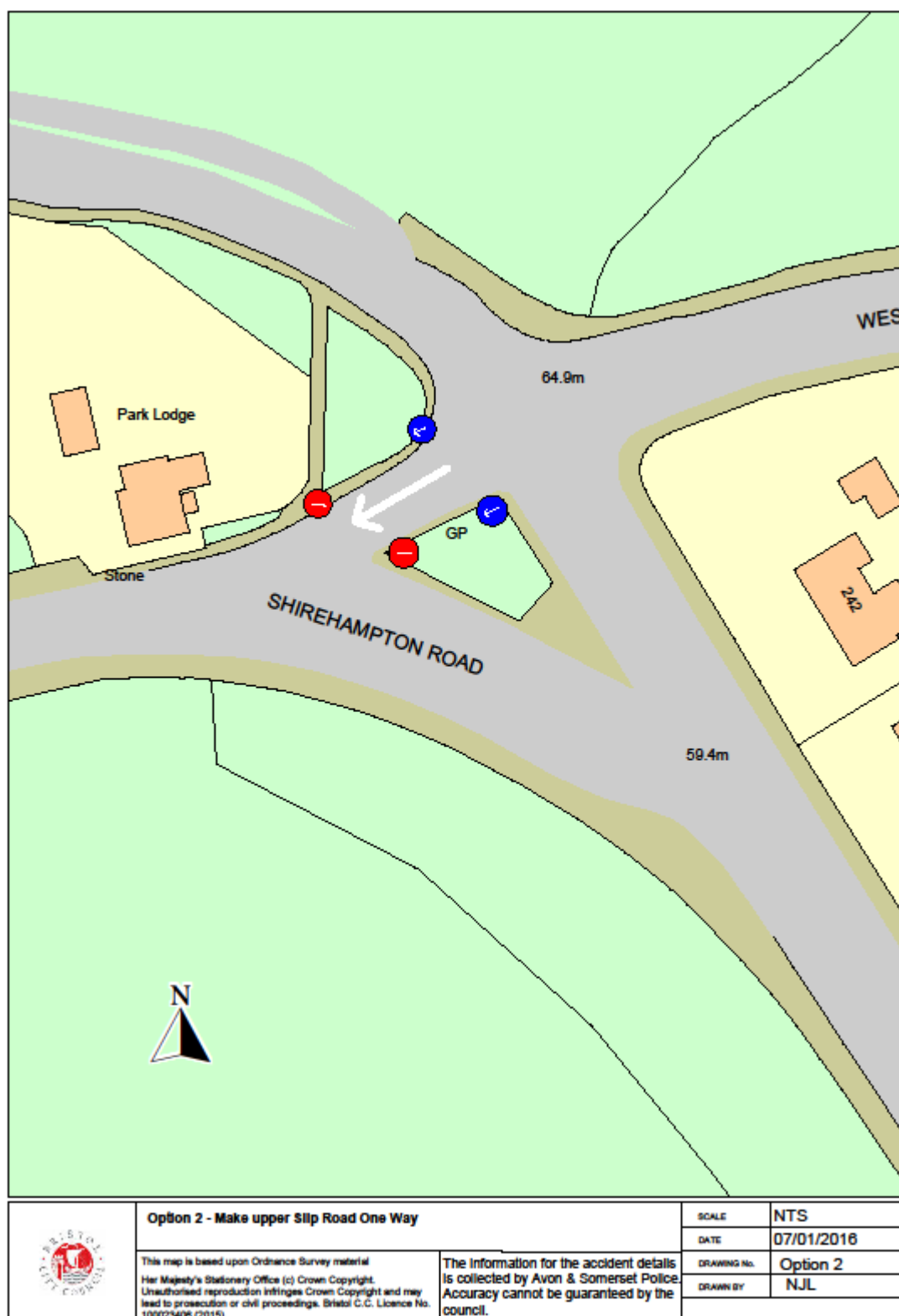
### Appendix (iii) Right Turning Movements into Shirehampton Road



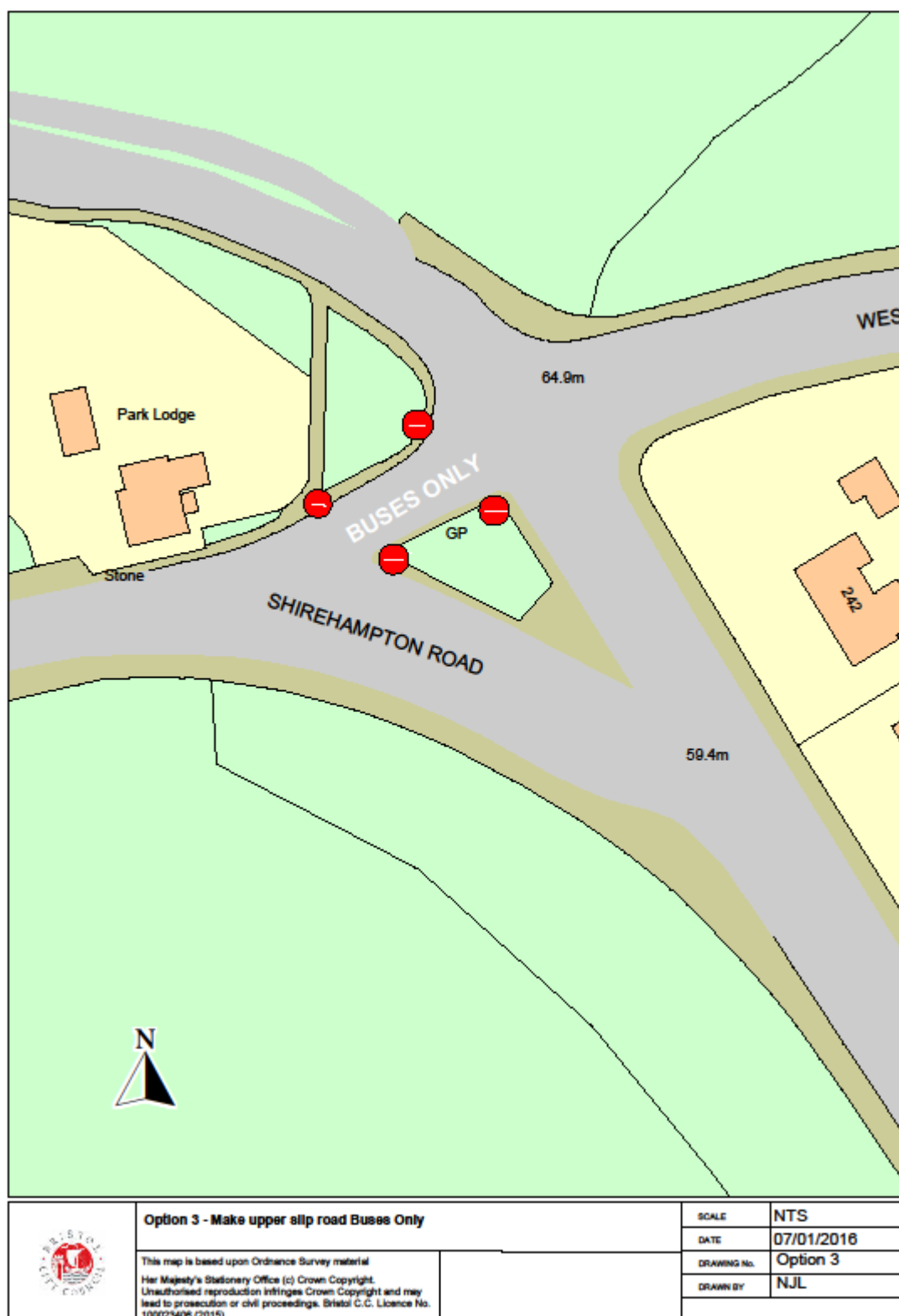
Appendix (iv) Sketches of Options  
Option 1



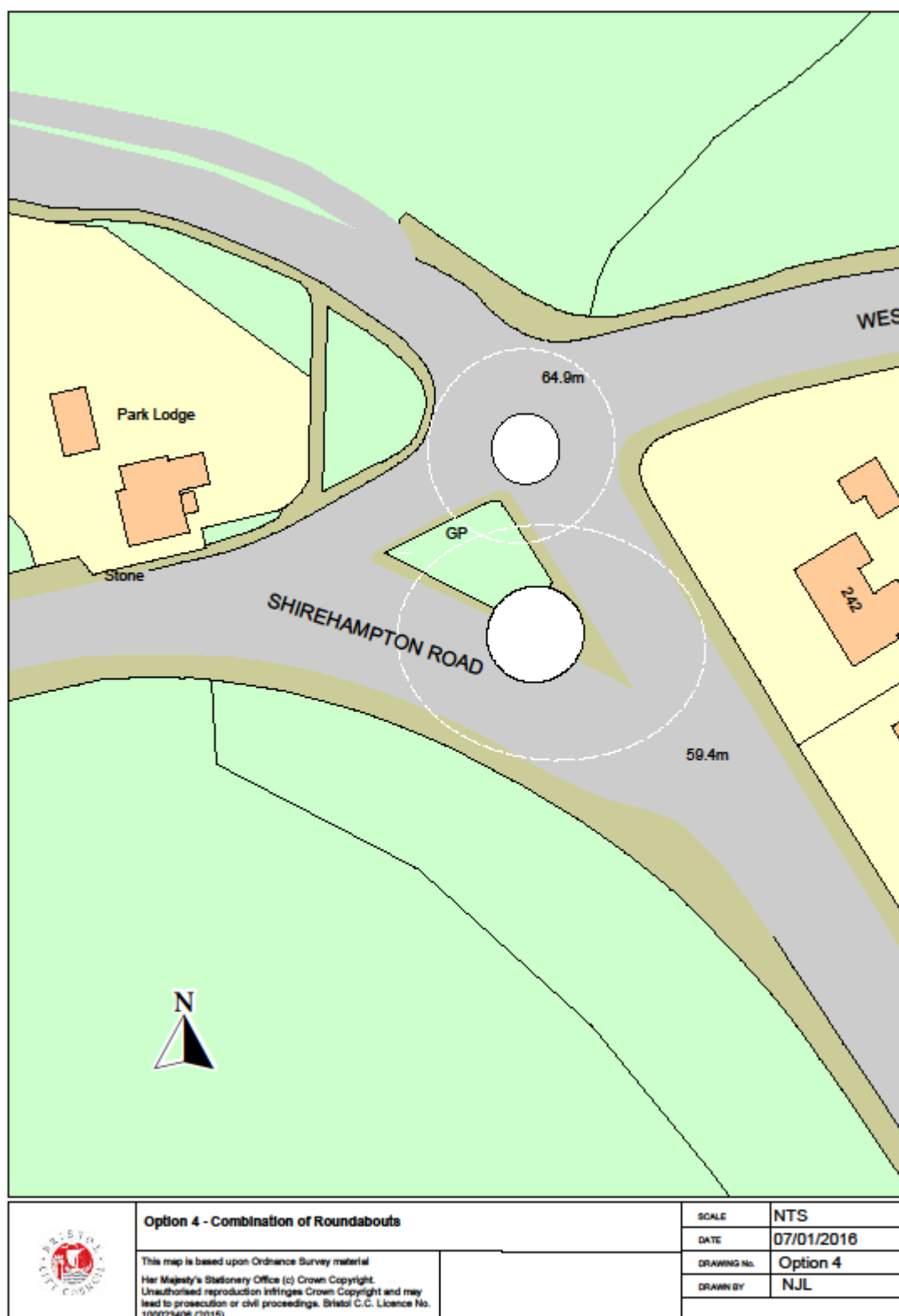
## Option 2



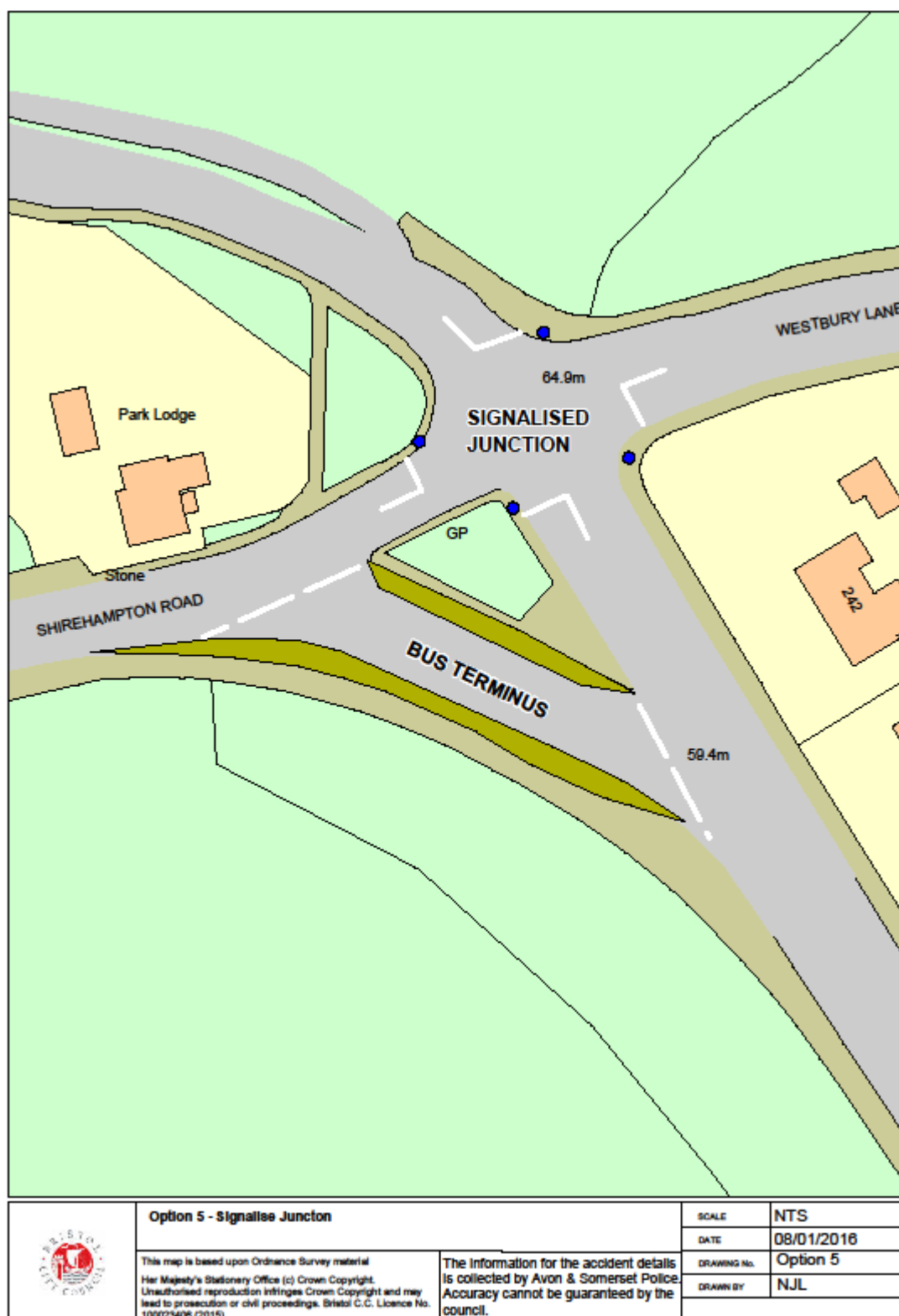
## Option 3



## Option 4

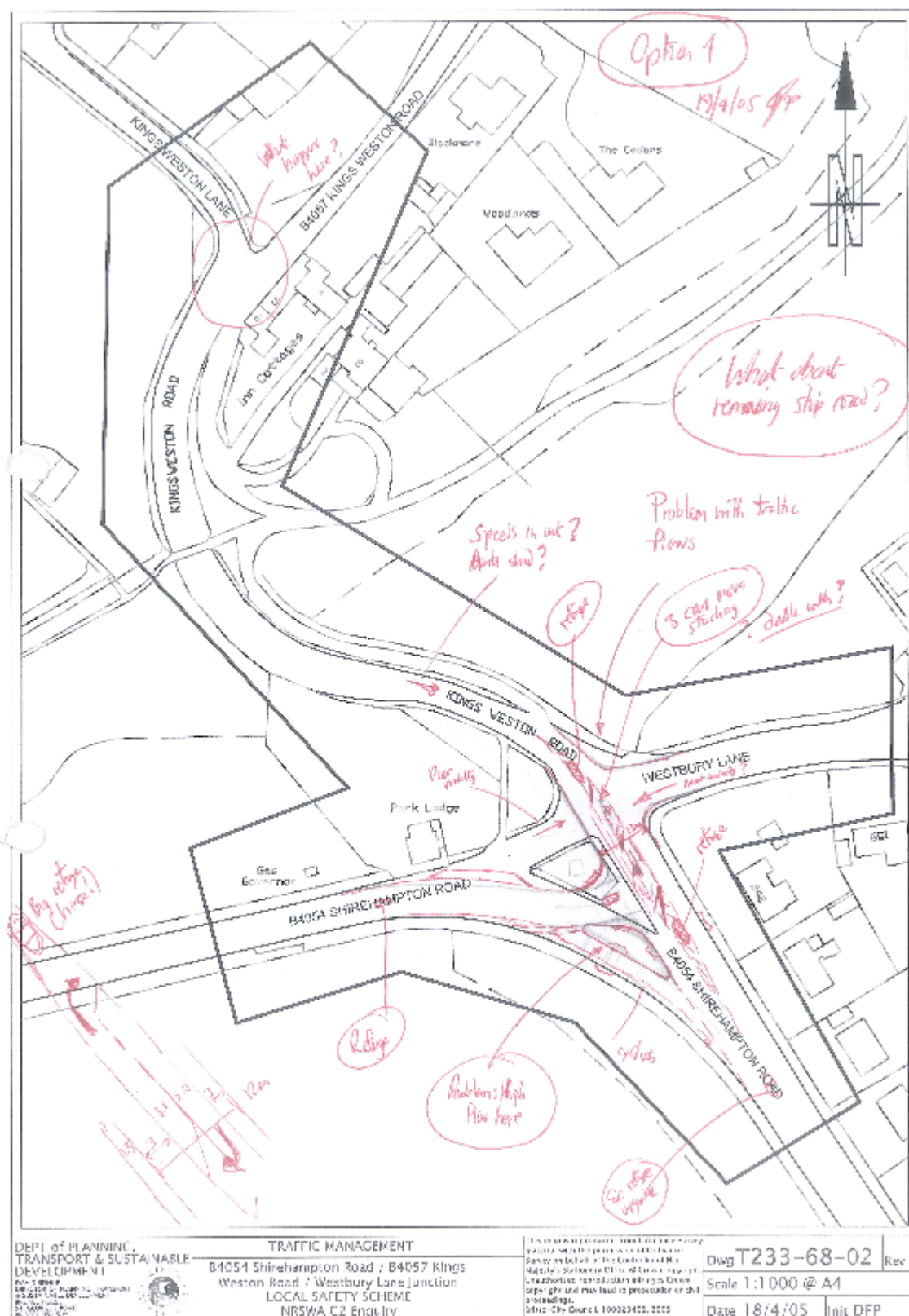


## Option 5



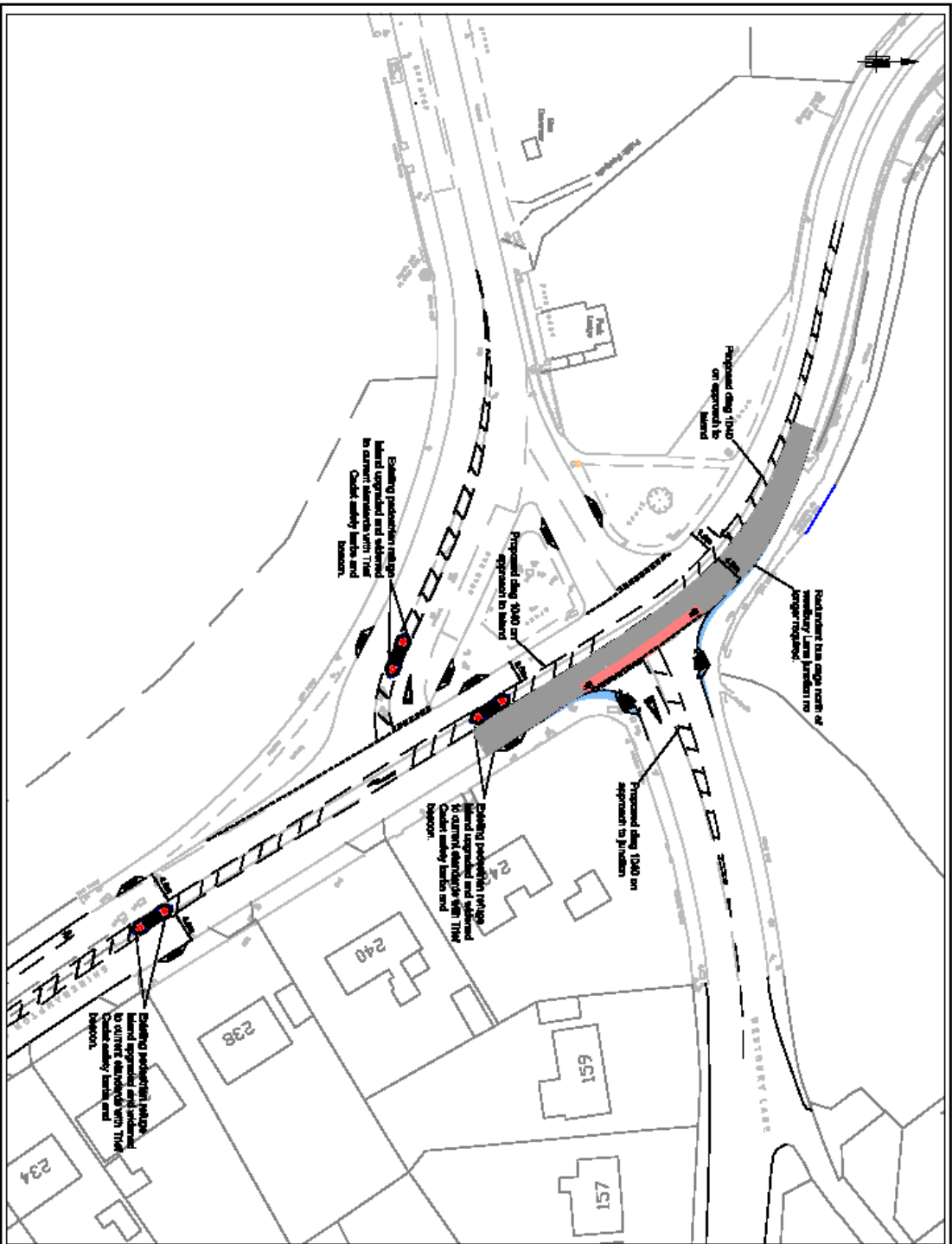








### Option 8



## Option 9

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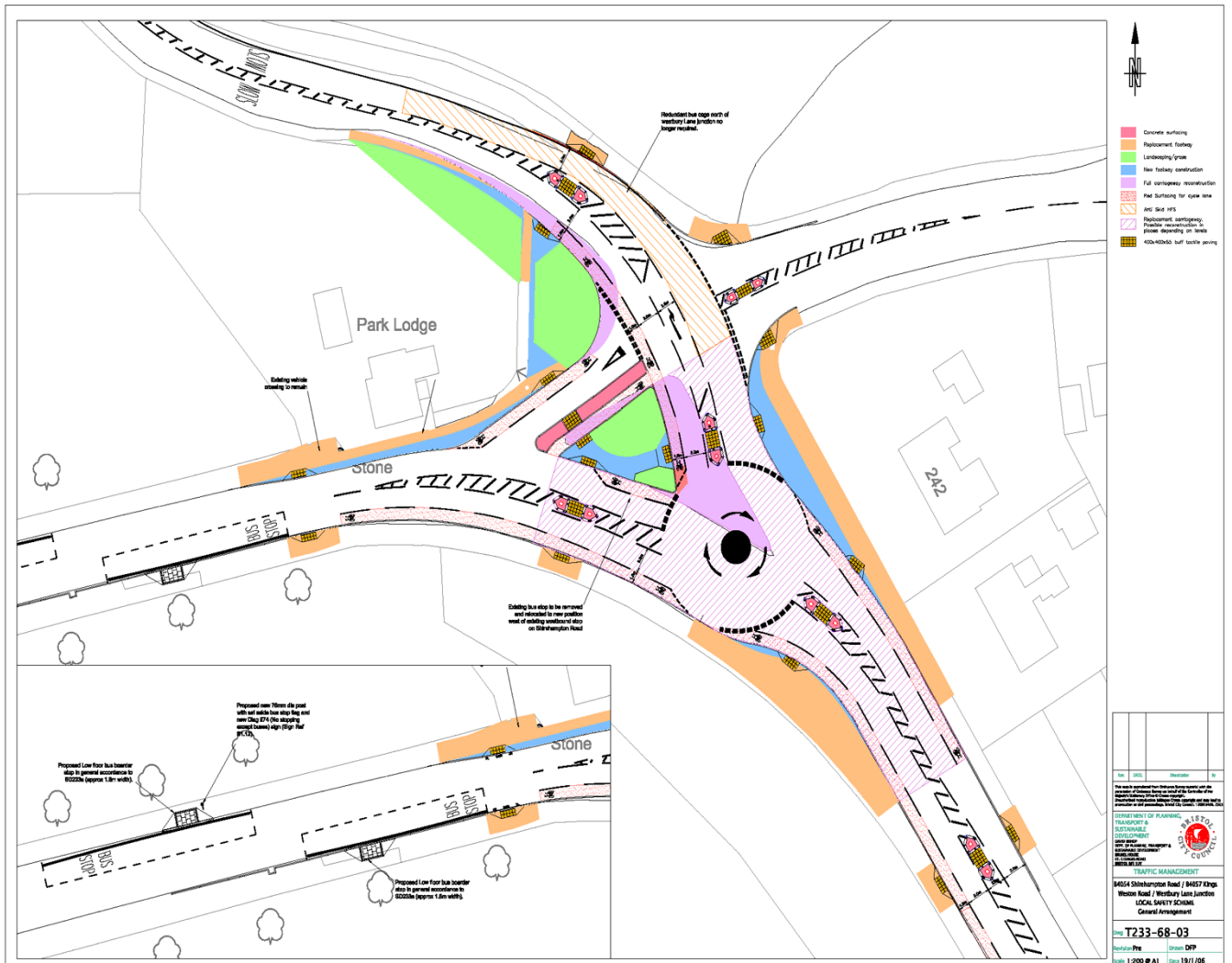


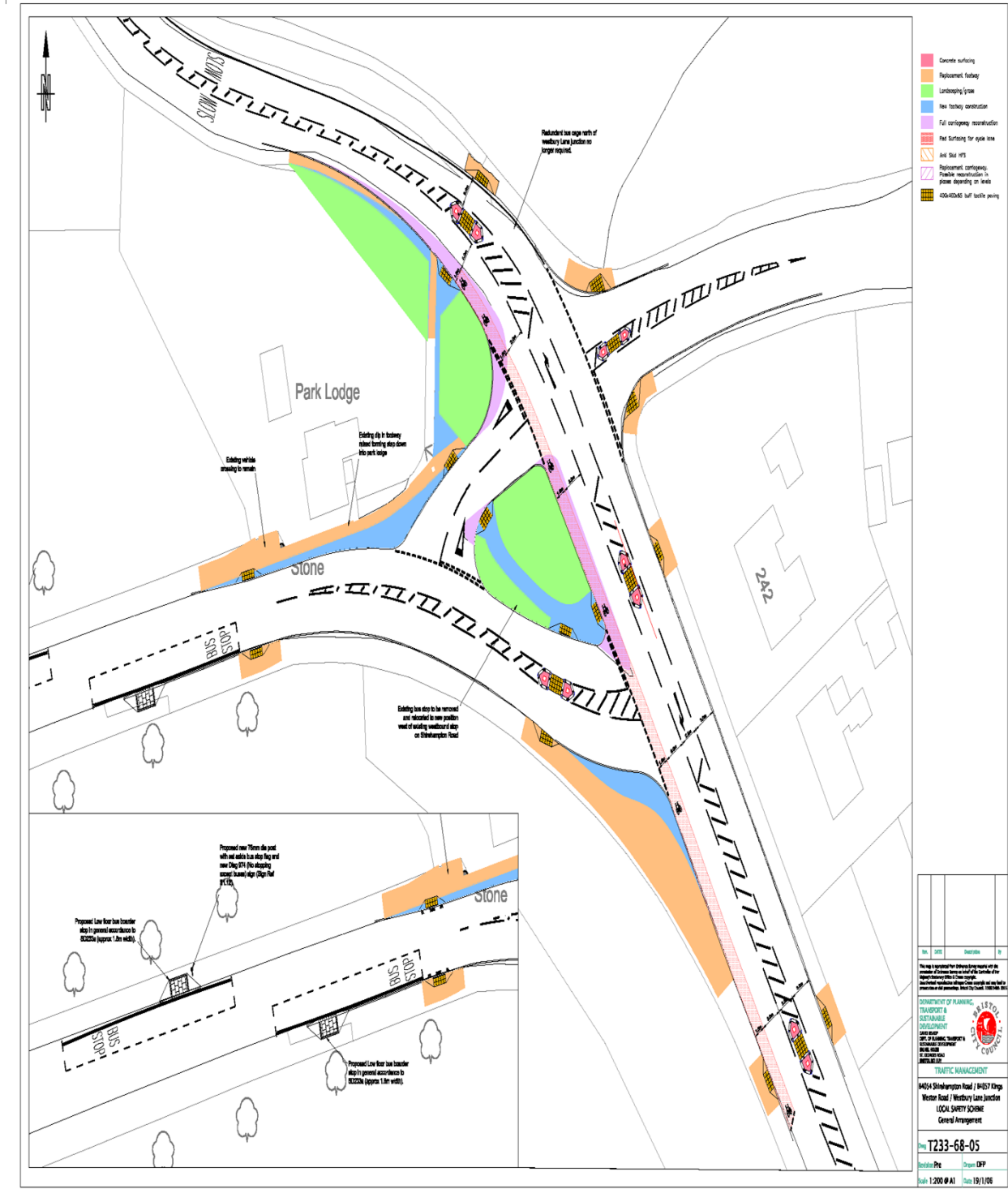
- | KEY   |                                |
|---|--------------------------------|
|  | Concrete surfacing             |
|  | Replacement footing            |
|  | New footing construction       |
|  | Red Surfacing 1st cycle        |
|  | Anti Silt HPS                  |
|  | 400/400x65 buff tactile paving |

## Notes

25m<sup>2</sup>    Cycle lane (South bound)  
          across Watbury Lane  
          junction

### Option 10





Option 12

