



Cuckold's Corner, Staplehurst

Summary Report for Concept Design

June 2015

Maidstone Borough Council

Cuckold's Corner, Staplehurst

Summary Report for Concept Design

June 2015

Maidstone Borough Council

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Contents

Chapter Title	Page
1 Introduction	1
2 Background information	2
2.1 Location _____	2
2.2 Information from statutory undertakers _____	3
2.3 Accident data _____	4
3 Site visit observations	5
4 Design basis	9
4.1 Junction capacity assessment _____	9
4.2 Site considerations and limitations _____	9
4.3 The Traffic Signs Regulations and General Directions (TSRGD) 2002 _____	9
4.4 Design Manual for Roads and Bridges (DMRB) _____	10
4.5 Traffic Signs Manual _____	10
4.6 Department for Transport guidance documents _____	10
4.7 Other considerations _____	10
5 Design summary	11
5.1 Concept layout drawing _____	11
5.2 Key considerations, advantages and disadvantages _____	11
5.2.1 Land take and horizontal alignment _____	11
5.2.2 Facilities for non-motorised users and for modes of public transport _____	13
6 Conclusion	15
6.1 Summary of the changes _____	15
6.2 Cost Estimate _____	15
Appendices	16
Appendix A. Concept Layout drawing _____	17
Appendix B. Extended observations from the site visit _____	19
Appendix C. Highway extents plan _____	22
Appendix D. Cost estimate _____	24
Appendix E. Information from statutory undertakers _____	26

1 Introduction

Mott MacDonald was instructed by Maidstone Borough Council, in March 2015, to undertake a concept design for the widening of the Cuckold's Corner staggered junction in Staplehurst.

This was in response to the findings of a previously commissioned junction capacity assessment, which was undertaken by Mott MacDonald for Maidstone Borough Council in January 2015. The findings of this previous junctions capacity assessment, which were summarised in report 347826/TPN/ITD/002/A (Revision A), showed that improvements would need to be made to Cuckold's Corner if it were to operate within capacity in 2031 and a list of modifications to achieve this were proposed.

The purpose of the current commission is to take these previously proposed modifications, more details of which are provided in Section 4.1, and create a proposed new concept layout design for the signalised junction.

The purpose of this report is to provide an in-context overview of the outline layout design. The report is divided into the following sections:

- Section 1: Introduction
- Section 2: Background information
- Section 3: Site visit observations
- Section 4: Design basis
- Section 5: Design summary
- Section 6: Conclusion
- Appendices

2 Background information

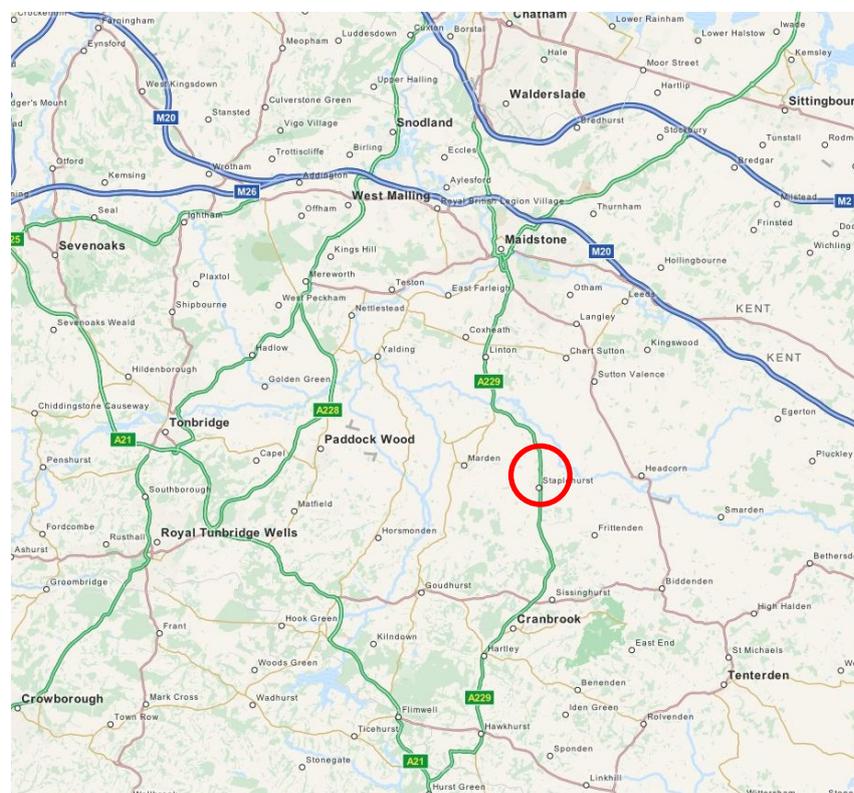
2.1 Location

Cuckold's Corner is a fully signalised staggered junction located within the village of Staplehurst, approximately 14 km south of Maidstone. Location plans are provided in Figure 2.1 and Figure 2.2.

The A229 runs on approximately a north-south alignment through the junction, connecting Maidstone and Rochester, to the north, with the A21 at Hurst Green, to the south. Immediately north of the junction, the A229 is named Station Road; to the south, the road is named High Street.

Marden Road runs westwards from the junction towards the village of Marden and Headcorn Road runs eastwards from the junction towards the village of Headcorn.

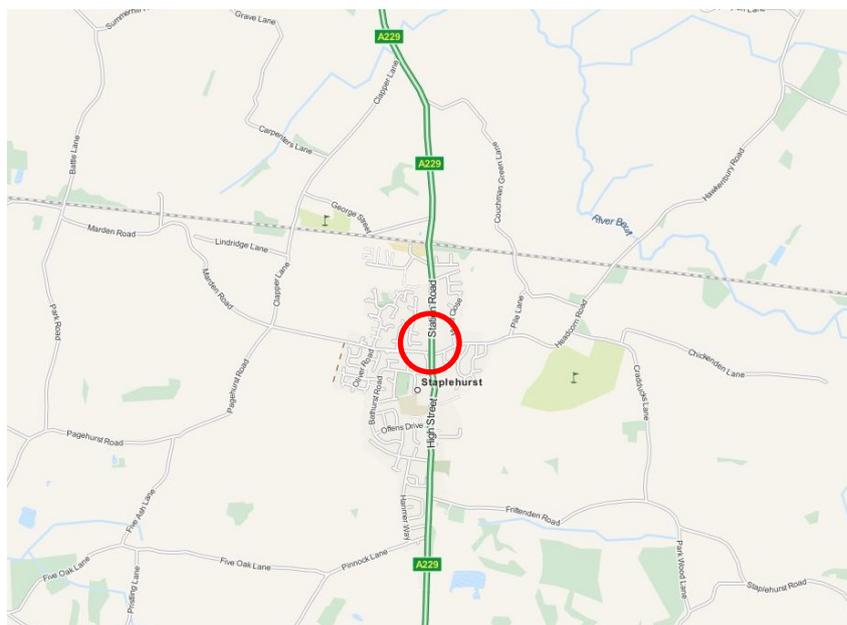
Figure 2.1: Area Plan 1 - location of the Cuckold's Corner indicated by red circle



Source: OpenStreetMap.org – © OpenStreetMap contributors (modified by Mott

MacDonald)

Figure 2.2: Area Plan 2 - location of the Cuckold's Corner indicated by red circle



Source: OpenStreetMap.org – © OpenStreetMap contributors (modified by Mott MacDonald)

2.2 Information from statutory undertakers

In order to identify services that may be within the boundary of the junction improvement works, a LinesearchbeforeUdig search was carried out. The return indicated that none of their associated asset owners had apparatus within the vicinity of the junction.

It should be noted that not all statutory undertakers that may have apparatus in the area are members of LinesearchbeforeUdig, and only those that are members have been contacted as part of this project. During the site visit, it was recorded that there were a number of service covers, fire hydrant signs and indications of a gas main located in the vicinity of the junction. It is therefore strongly recommended that further searches with all statutory undertakers that may have apparatus in the area should be carried out during the next design stage.

A full copy of the output from the search can be found in Appendix E.

2.3 Accident data

A review of data, supplied by Maidstone Borough Council on 24 March 2015, about road traffic collisions which took place at Cuckold's Corner between 01 October 2009 and 30 September 2014 was undertaken. There were six reported incidents that resulted in a casualty, and all six were rated "slight," which is the lowest rating.

It is suggested that four of the six incidents could involve drivers not noticing other road users who were travelling through the junction at the same time. One of the six incidents involved stationary vehicles parked near to the junction.

3 Site visit observations

A site visit was undertaken on Wednesday 15 April 2015 and an extended summary of the observations made is included in Appendix B.

Below are some of the key notes recorded during the site visit:

- Chamber covers, telegraph poles, fire hydrant and valve signs, and indications of a gas main were located in the vicinity of the junction, as shown in Figure 3.1, Figure 3.2, Figure 3.3 and Figure 3.4.

Figure 3.1: Gas valve



Source: Mott MacDonald

Figure 3.2: Gas pipe



Source: Mott MacDonald

Figure 3.3: Fire hydrant / sluice valve



Source: Mott MacDonald

Figure 3.4: Telegraph poles network



Source: Mott MacDonald

- Approximate measurements for the width of the westbound carriageway of Headcorn Road were taken at various points along the road. At some locations, the lane appeared wider than 3.2m and at other locations, the westbound lane appeared slightly narrower 3.2m (but, for some of these locations, the eastbound lane appeared wider than 3.2m).
- Footpaths were located on both sides of the carriageway on all arms of the junction. Some of these, however, appeared narrow – for example, some were measured to be less than 1.0m wide.
- It was observed that a number of dwellings are located in very close proximity to the junction. Some of these may clash with the widened carriageways and the need to provide suitable junction intervisibility, which was observed to be limited for some manoeuvres.
- An electricity sub-station, large trees, and a monument were also observed in the vicinity of the junction, as shown in Figure 3.5, Figure 3.6, Figure 3.7 and Figure 3.8.

Figure 3.5: Electricity sub-station



Source: Mott MacDonald

Figure 3.6: Monument



Source: Mott MacDonald

Figure 3.7: Trees (view from north)



Source: Mott MacDonald

Figure 3.8: Trees (view from south)



Source: Mott MacDonald

- The bus stop on the northbound carriageway of High Street was measured to be approximately 13.5m long by 2.8m wide. Bins and shelters were provided at both of the stops, but laybys were not present at either and bus stop road markings were not present on the southbound bus stop
- All arms of the junction had signal controlled pedestrian crossing points located between each arm's stop line and the centre of the junction, see Figure 3.9 and Figure 3.10. Tactile paving was provided at all of these crossing points.

Figure 3.9: Marden Road crossing



Source: Mott MacDonald

Figure 3.10: High Street crossing



Source: Mott MacDonald

- The stop lines at the junction were set back further than would be typically expected. It is suggested that this had been implemented to accommodate vehicular swept paths, especially given the lane widths and tight corner radii at the junction.
- Vehicles were regularly observed to be taking wide corners at the junction and overrunning the A229 centreline.

4 Design basis

This section details the methodology used when undertaking the concept design. Summaries of the parameters, regulations and guidance that have been used to inform the concept design are provided below. The summaries are provided in hierarchical order, with considerations which were given high, non-negotiable importance listed first; and those which were given lesser importance listed later (with the exception of 'Other considerations'). In instances where there conflicts between the different design considerations, this hierarchy was used to determine the priority of the application of standard.

4.1 Junction capacity assessment

A previously commissioned junction capacity assessment, which was undertaken by Mott MacDonald for Maidstone Borough Council in January 2015, considered the effects of traffic growth on junctions in the vicinity of Staplehurst. Its findings, which were summarised in report 347826/TPN/ITD/002/A (Revision A), showed that improvements would need to be made to Cuckold's Corner if it were to operate within capacity in 2031. The proposed modifications relevant to the junction redesign, taken from Section 3.3 of the abovementioned report, are listed below:

- Add a 35m flare / lane on Station Road
- Add a 60m flare / lane on High Street
- Increase the width of Headcorn Road from 3.0m to 3.2m for a distance of 100m back from the stop line

The concept layout also incorporates the lane widths and corner radii specified within the traffic model.

4.2 Site considerations and limitations

Where possible, and subject to the proposed modifications in the traffic model, the concept layout retains the existing features at the junction.

4.3 The Traffic Signs Regulations and General Directions (TSRGD) 2002

The road markings that have been designed are intended to comply with TSRGD.

4.4 Design Manual for Roads and Bridges (DMRB)

Where it has been possible and/or practical to do so, the guidance in DMRB has been followed. In particular, the following parts of DMRB have been referred to during the outline design:

- TD 50/04: The geometric layout of signal-controlled junctions and signalised roundabouts
- HD 24/06: Traffic assessment

4.5 Traffic Signs Manual

Unless they are to replicate the existing road markings at the junction, the road markings have been designed in accordance with Chapter 5 of the Traffic Signs Manual.

4.6 Department for Transport guidance documents

Local Transport Note 2/95 and Guidance on the use of Tactile Paving Surfaces have been used for guidance in the design of the signalised pedestrian crossings.

4.7 Other considerations

A number of other considerations, given varying importance, were taken into account when producing the concept layout shown on drawing MMD-344395-D-DR-HH02-XX-0101. The key considerations are explained in Section 5.2.

5 Design summary

5.1 **Concept layout drawing**

Drawing MMD-344395-D-DR-HH02-XX-0101, which shows a concept design layout for the junction, is included in Appendix A. It is intended that Section 5.2 in read in conjunction with this drawing.

5.2 **Key considerations, advantages and disadvantages**

Key design considerations, and their positive and negative implications, are summarised in this section.

5.2.1 **Land take and horizontal alignment**

In order to realise the redesign of the junction, it would be necessary to purchase and develop land outside the current highway extents. The highway extents have been based on the plan provided by Maidstone Borough Council on 24 March 2014, which can be found in Appendix C, and is shown with a blue shaded area on drawing MMD-344395-D-DR-HH02-XX-0101, which can be found in Appendix A. Additional land which would be required to accommodate the widened carriageways or the realigned footways is shown with pink shaded areas on the same drawing. The remainder of this sub-section discusses some of the key factors affecting the horizontal alignment and thus the amount of land take which may be required.

5.2.1.1 **Alignment of A229**

The proposed horizontal alignment of the widened A229 through the junction has been designed in such a way that reduces the amount of demolition of buildings and gardens, while maintaining the lane widths from the traffic model.

North of the junction, the widened carriageway would require land currently used as gardens for properties on Station Road. To the south of the junction, land located between High Street and Chestnut Avenue which, according to information provided by Maidstone Borough Council at a site meeting on 12 May 2015, is owned by a volume house developer, would be required for the proposed carriageway widening.

5.2.1.2 Lane widths

The concept layout is based on the lane widths specified with the traffic model. It should be noted that these lane widths are greater than the minimum lane widths recommended in paragraph 2.22 of DMRB TD 50/04. During the detailed design phase, a review of the impact of reduced lane widths on junction capacity could be undertaken to minimise overall land take.

5.2.1.3 Ghost islands on A229

Ghost island layouts have been introduced to accommodate the extra lanes approaching the junction on Station Road and High Street. The layout has been designed as per the guidance provided in paragraph 2.26 and figure 2/10 of DMRB TD 50/04. Some variation to this guidance has been included in the guidance to accommodate site constraints, such as in order to tie in with the existing carriageway.

5.2.1.4 Protected trees

In order to provide an extra lane on High Street without having to build within property boundaries to the east of the road, it may be necessary to relocate / remove some Horse Chestnut trees which are subject to Tree Protection Orders (TPOs).

5.2.1.5 Listed monument and building

In order to implement suitable junction geometry, based on the input dimension data used in the previous junction capacity assessment, it may be necessary to relocate the memorial to Marian Martyrs, which is currently situated on the north-west corner of the junction and is represented by a black star on drawing MMD-344395-D-DR-HH02-XX-0101. Furthermore, adjacent to the monument is the property boundary for a listed building. Some of the land, in which the listed building is contained, may be required for junction intervisibility purposes (see Section 5.2.1.8).

5.2.1.6 Vehicular swept path analyses

Traffic flow data, which were used in the traffic model, indicate that vehicles of the largest category, OGV1, which, according to table 2.1 of DMRB HD 24/06 includes articulated commercial vehicles with three or more axles or rigid commercial vehicles

with four axles, were not observed at the junction during the traffic survey. Furthermore, very few vehicles from class OGV2, which according to table 2.1 of DMRB HD 24/06 includes two and three axled rigid commercial vehicles, made turning manoeuvres at the junction. It was therefore decided to conduct swept path analyses using a 12m rigid bus. Although, according to Kent County Council's Public Transport Map (May 2015), buses travel; north and south through the junction along the A229, the swept path analyses showed that a 12m rigid bus is successfully able to make left, right and ahead manoeuvres from each of the four arms at the junction.

5.2.1.7 Corner radii

The corner radii used for the concept layout design have been taken from the traffic model.

5.2.1.8 Junction intervisibility

Land currently situated outside the current highway extents would need to be safeguarded in order to provide junction intervisibility, as per the guidance in paragraphs 2.10 – 2.18 of DMRB TD 50/04. Such land that would be required only for junction intervisibility, and not for the widened carriageways or realigned footways, is shown with a green shaded area on drawing MMD-344395-D-DR-HH02-XX-0101, which can be found in Appendix A. The boundary of the junction intervisibility zone, as defined in paragraph 2.10 of DMRB TD 50/04 is also shown on this drawing.

5.2.2 Facilities for non-motorised users and for modes of public transport

5.2.2.1 Pedestrian crossings

Signalised pedestrian crossings have been provided across all arms in the redesigned junction, to match the existing facilities. The crossings, which are 2.4m wide and are shown on drawing MMD-344395-D-DR-HH02-XX-0101, which can be found in Appendix A, have been designed in accordance with the Department for Transport's guidance documents Local Transport Note 2/95 and Guidance on the use of Tactile Paving Surfaces.

5.2.2.2 Footpaths

As noted in Section 3, footpaths are currently provided on both sides of each carriageway at the junction. Some of these footpaths, however, are relatively narrow (less than 1m in width). For areas where the carriageway has been realigned, the footpaths have also been realigned. The widths of the realigned footpaths are proposed to be equal to or greater than the widths of the footpaths which they will be replacing and tie-ing in to.

5.2.2.3 Bus stops

Two bus stops are currently present on High Street, in the vicinity of the junction. As described in Section 3, both bus stops have shelters and a bin, but only the northbound bus stop has associated road markings. Neither bus stop has a lay-by. The concept design layout is such the southbound bus stop facility is retained as per the existing layout. However, to accommodate the widened carriageway, the northbound bus stop will be relocated to the position shown in drawing MMD-344395-D-DR-HH02-XX-0101, which can be found in Appendix A.

6 Conclusion

Mott MacDonald has produced a concept design for junction capacity improvements at the Cuckold's Corner staggered junction in Staplehurst. The design has been based on the results of traffic modelling that was previously undertaken, as described in Section 4.1. The concept design is subject to a stage one road safety audit and a review of its impact on services.

6.1 Summary of the changes

Table 6.1 describes the changes to the road layout being proposed for the junction.

Table 6.1: Key changes to the road layout

Road	Existing layout	Proposed layout
Station Road (A229)	One lane approaching the junction; one lane away from the junction.	Two lanes approaching the junction; one lane away from the junction.
High Street (A229)	One lane approaching the junction; one lane away from the junction.	Two lanes approaching the junction; one lane away from the junction.
Marden Road	No changes are proposed for this arm of the junction	
Headcorn Road	One lane approaching the junction; one lane away from the junction.	One lane approaching the junction, widened in places; one lane away from the junction, narrowed in some places to accommodate the widened lane in the opposite direction.

Source: Mott MacDonald

6.2 Cost Estimate

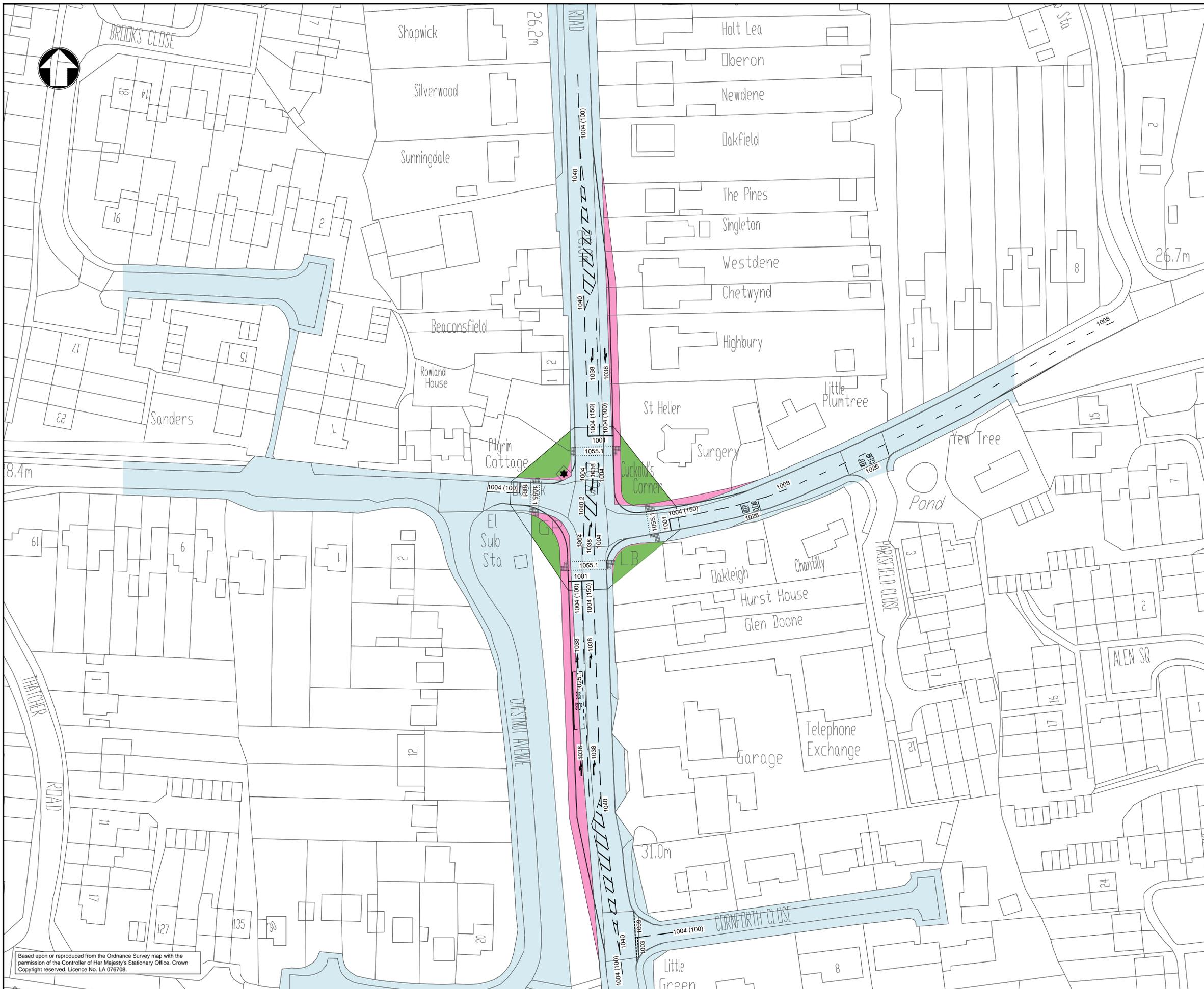
A high level cost estimate has been undertaken which indicated an approximate cost in the region of £300,000 to construct the scheme, subject to various assumptions and exclusions. A breakdown of the costs is provided in Appendix D.

Appendices

Appendix A. Concept Layout drawing	17
Appendix B. Extended observations from the site visit	19
Appendix C. Highway extents plan	22
Appendix D. Cost estimate	24
Appendix E. Information from statutory undertakers	26

Appendix A. Concept Layout drawing

Drawing MMD-344395-D-DR-HH02-XX-0101 shows the concept layout for the modified junction.



- Notes
1. Do not scale.
 2. Layout is indicative only and subject to detailed design.
 3. Signs and road markings in accordance with the Traffic Signs Regulations & General Directions (TSRGD) 2002.
 4. All dimensions in metres unless otherwise stated.
 5. Design based on report 347826/TPN/ITD/002/A (Revision A) produced by Mott MacDonald in January 2015.
 6. Extent of Highway Ownership based on plan provided by S.Clarke (Maidstone Borough Council) on 24th March 2015
 7. Diag 1025.1 is shown as black for presentation purposes only
 8. Extent of junction intervisibility zone based on the guidance in TD50/04 of the Design Manual for Roads and Bridges (DMRB)

Key to symbols

- 1001 TSRGD 2002 diagram number
- Proposed kerblines
- Proposed back of footway
- Extent of highway ownership
- Additional highway land required due to carriageway widening
- Additional highway land required for junction intervisibility (based on DMRB TD 50/04)
- Junction intervisibility zone boundary (based on DMRB TD 50/04)
- Existing location of monument
- Tactile paving slabs

Scale: 1:500

0 25m 50m

P1	04-06-15	RS	Preliminary Issue	AF	SC
Rev	Date	Drawn	Description	Ch'k'd	App'd

P1	04-06-15	RS	Preliminary Issue	AF	SC
Rev	Date	Drawn	Description	Ch'k'd	App'd

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Title
Cuckold's Corner
 Staplehurst
 Concept Layout
 Sheet 1 of 1

Designed	D.Desai	Eng check	A.Farrow
Drawn	R.Smith	Coordination	M.Smith
Dwg check	D.Desai	Approved	S.Coker
Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number
MMD-344395-D-DR-HH02-XX-0101

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Appendix B. Extended observations from the site visit

Site Visit Note



Project Title	Staplehurst – Outline Design for Junction Capacity Improvements	Purpose of Visit	To inform the outline staggered junction layout design
Project No.	344395HH02	Contact Names	D Desai and A Farrow
Site Visited	Cuckold's Corner, Staplehurst	Report prepared by	D Desai
Date of Visit	Wednesday 15 April 2015 during AM peak	Distribution	M Smith, E Frith, A Farrow, M Cochrane and D Desai

Item	Text
1.00	A site visit to the Cuckold's Corner staggered junction in Staplehurst, Kent was undertaken on Wednesday 15 April 2015 during the AM peak. The weather conditions were warm, bright and sunny. A number of observations were made during the site visit; these are summarised below.
1.01	It was noted that there were, what appeared to be tyre marks, on the sides of kerbs at the north-west corner of the junction and tyre skid marks on the high friction surfacing on the approach to the junction.
1.02	A number of chambers and telegraph poles were located in the vicinity of the junction. Furthermore, there were indications that a gas main was located at the junction. Fire hydrant and valve signs were located in the verge alongside the westbound carriageway of Marden Road.
1.03	The width of the westbound carriageway of Headcorn Road was to be widened from 3.0m to 3.2m for a distance of 100m back from the stop line, as proposed in section 3.3 of report 347826/TPN/ITD/002/A (revision A), which was produced by Mott MacDonald in January 2015. Approximate measurements were taken on site and it appeared that for some of the 100m, the lane width was wider than 3.2m (for example, at the stop line and at the "KEEP CLEAR" markings for the access route / driveway between the stop line and Parsfield Close). Furthermore, at other locations (for example, just to the east of the "KEEP CLEAR" markings at the junction with Parsfield Close), the lane width was just under 3.2m, however, the opposite carriageway was wider than 3.2m, so lane widths in excess of 3.2m for both carriageways could be achieved by realigning the centre line road marking. There were however other locations where it appeared that carriageway widening would need to take place in order to provide a 3.2m wide lane. It should be noted that there may be limited space to widen the carriageway within the current highway extents while maintaining footpaths on both sides of the road, as the footpaths already very narrow in some locations (see Item 1.05).
1.04	There was no indication of ponding or rutting, however this observation may have been affected by the lack of precipitation that was recorded on the days preceding the site visit.
1.05	Footpaths were located on both sides of the carriageway on all arms of the junction; however some of these appeared narrow. For example, some were measured to be less than 1.0m wide.
1.06	All of the arms to/from the junction appeared crowned.
1.07	The junction was subject to a 30mph speed limit.
1.08	Gullies were observed at the junction and the roads at the junction appeared to be crowned.
1.09	An electricity sub-station is located in the grassed verge between High Street and Chestnut Avenue, south of Marden Road. Benches, raised flowerbeds and trees were also located in the grassed verge.
1.10	There were directional signs with blue borders. These were discontinued in 1994 and there is an obligation for them to have been removed by the end of 2014 – see Paragraph 3.8 of Traffic Signs Manual Chapter 7.
1.11	Junction intervisibility may need to be addressed, particularly for traffic on: Marden Road turning left; High Street turning right; Station Road turning left and right; and Headcorn Road turning left and right.

Site Visit Note

Continuation Sheet



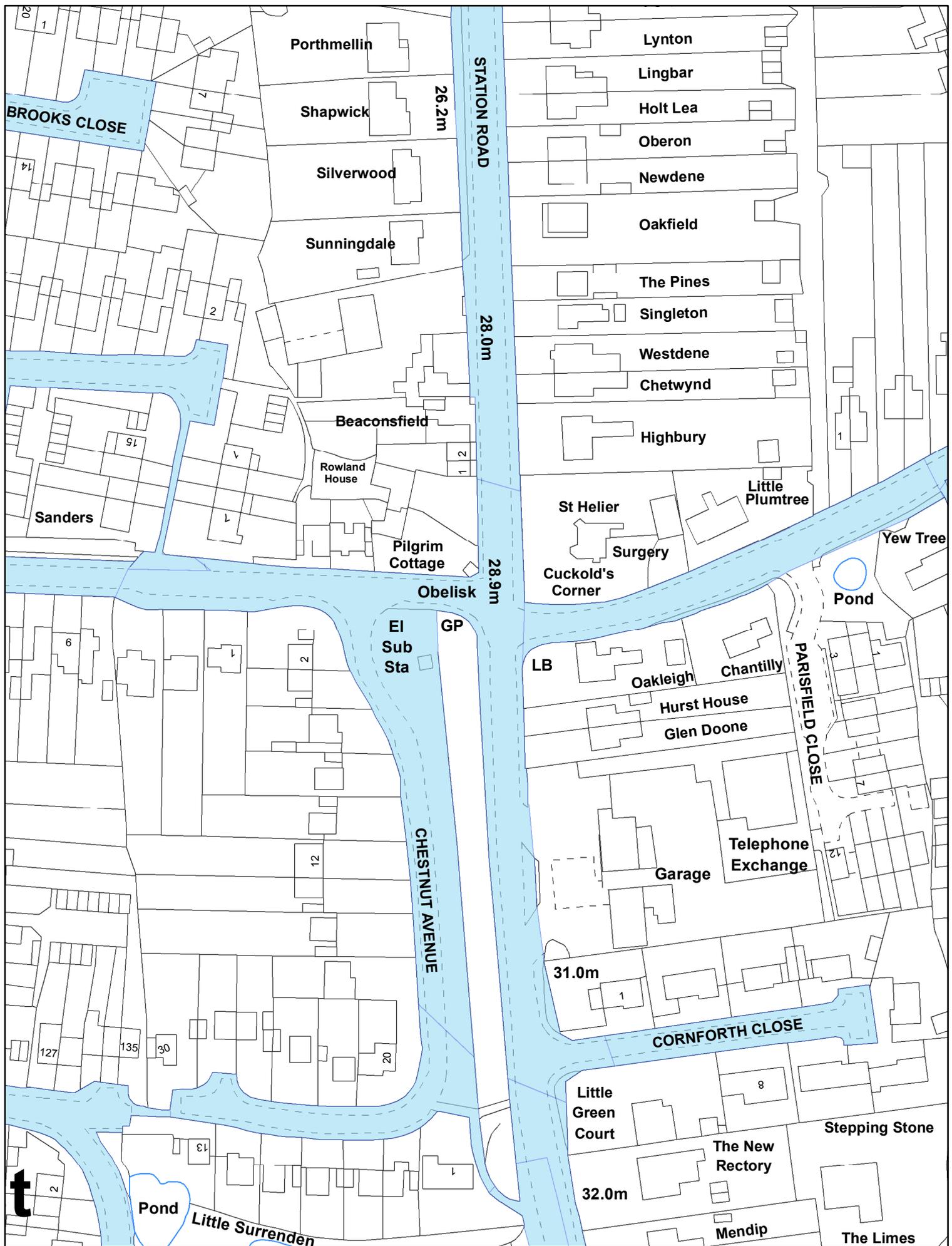
Project No. 344395HH02

Date of Visit 15 April 2015

Item	Text
1.12	It was observed that a number of dwellings are located in very close proximity to the junction. Some of these may clash with the widened carriageways and the need to provide sufficient junction intervisibility.
1.13	A monument, with fencing around it, is located on the north-west corner of the junction. In order to minimise the need to take land that appeared to be currently within the boundaries of residential premises when widening the carriageway, and to provide a suitable alignment for the widened carriageway of the A229 through the junction, it may be necessary to relocate the monument.
1.14	The refuelling station located on the southbound carriageway of High Street had closed and was boarded up.
1.15	The slope of the land was such that downhill was in a northerly direction for the A229 and an easterly direction for the Marden Road and Headcorn Road. These gradients appeared relatively shallow.
1.16	A number of parked vehicles were observed in the vicinity of the junction, particularly on Station Road and Headcorn Road.
1.17	The junction was located in an area of street lighting. On some of the arms, lighting columns were only provided on one side of the road.
1.18	During the site visit, it was not uncommon to see vehicles taking wide corners, and overrunning the centreline on the A229 through the junction, when turning. This was particularly noticeable for traffic turning left out of Headcorn Road and left out of Marden Road and it is suggested this could be attributed to the lane widths and relatively tight corner radii. This could also be a contributory factor that led to poor lane discipline was observed at the junction.
1.19	It was observed that if there are vehicles waiting to turn right from High Street to Headcorn Road, it can be difficult for traffic travelling straight ahead, from High Street to Station Road, to pass if the vehicle(s) waiting to turn right is/are not to the rightmost part of the lane or if vehicles making either of the manoeuvres are wide.
1.20	All arms of the junction had signal controlled pedestrian crossing points located between each arm's stop line and the centre of the junction. Tactile paving was provided at all of these crossing points.
1.21	At the time of the site visit, there were a number of non-motorised users in the vicinity of the junction. The majority of these were pedestrian schoolchildren waiting near the northbound bus stop on High Street.
1.22	The bus stop on the northbound carriageway of High Street was measured to be approximately 13.5m long by approximately 2.8m wide.
1.23	The timetables for the bus stops located on High Street indicated that buses typically served each of the stops once an hour. Bins and shelters were provided at both of the stops, but laybys were not present at either and bus stop road markings were not present on the southbound bus stop.
1.24	Double yellow lines were present on all four roads at the junction. There were also "KEEP CLEAR" markings on Marden Road and Headcorn Road, approaching the junction, at locations where these roads had other junctions with side roads or access routes.
1.25	The road markings along the A229 in the centre of the junction appeared to be non-standard.
1.26	It was noted that the stop lines were offset back from the junction by more than the minimum recommended distances in the Design Manual for Roads and Bridges / Traffic Signs Manual. It is suggested that this had been implemented to accommodate vehicular swept paths for drivers making turning manoeuvres at the junction.

Appendix C. Highway extents plan

The plan contained within this appendix was provided to Mott MacDonald on 24 March 2015 by Maidstone Borough Council. The blue shaded area represents “the considered [current] extent of the publicly maintainable highway in the vicinity as far as can be ascertained from [Kent] County Council’s existing records.” For the purposes of this commission, the edge of this shaded area has been taken to be the highway boundary.



Appendix D. Cost estimate

An itemised high level cost estimate is provided in this appendix.

Cuckold's Corner, Staplehurst High Level Cost Estimate



Item	Quantity Required	Unit	Cost (£) per Unit	Total Cost (£)
Preliminaries, Design Changes, Traffic Management, Contractors' Overheads and Profits				
Design changes allowance 20% of total	-	-	-	35,288.92
Preliminaries allowance - 20% of total	-	-	-	35,288.92
Traffic management allowance - 10% of total	-	-	-	17,644.46
Contractors' overheads and profits allowance - 10% of total	-	-	-	26,466.69
Site Clearance				
Breakout existing kerblines	335	m	5.00	1,675.00
Breakout existing footway	57	cu m	63.00	3,591.00
Remove existing signage	13	nr	50.00	650.00
Remove existing road markings (lines)	395	m	1.30	513.50
Remove existing traffic signals	8	nr	100.00	800.00
Remove existing lighting columns	6	nr	100.00	600.00
Drainage and Service Ducts (including Service Diversions)				
Excluded	-	-	-	-
Earthworks				
Excluded	-	-	-	-
Road Pavements and Islands				
Fill; granular material type 1	115	cu m	35.00	4,025.00
Compaction of fill	115	cu m	2.00	230.00
Dense bitumin macadam base course (200mm)	740	sq m	25.00	18,500.00
Dense bitumin macadam binder course (50mm)	740	sq m	10.00	7,400.00
Dense bitumin macadam surface course (50mm)	740	sq m	10.00	7,400.00
Kerbs, Footways and Guard Railing				
Footway construction (bit-mac plus edgings)	645	sq m	60.00	38,700.00
Precast concrete kerbs; bedded and jointed in cement mortar	325	m	25.00	8,125.00
Traffic Signs				
Reinstate existing signage	13	nr	120.00	1,560.00
Bus stop flag	1	nr	510.00	510.00
Bus shelter	1	nr	2,400.00	2,400.00
4 way traffic signal installation; major road, includes markings, lights and signs	1	nr	73,000.00	73,000.00
Road markings - centre lines / lane lines	545	m	0.86	468.70
Road markings - arrows (6m straight or turning)	5	nr	31.20	156.00
Road markings - arrows (6m double headed)	3	nr	46.80	140.40
Road markings - hatching	2	nr	500.00	1,000.00
Road Lighting Columns and Brackets, CCTV Masts and Cantilever Masts				
Reinstate existing lighting columns	6	nr	250.00	1,500.00
Abnormal Items				
Relocate monument	1	nr	2,000.00	2,000.00
Remove/relocate horse chestnut tree with tree protection order	1	nr	1,500.00	1,500.00
Exclusions				
Drainage and service ducts	-	-	-	-
Service diversions	-	-	-	-
Earthworks	-	-	-	-
Electrical work for road lighting and traffic signs	-	-	-	-
Landscape and ecology	-	-	-	-
Land take	-	-	-	-
Accommodation works to dwellings	-	-	-	-
Professional fees	-	-	-	-
VAT	-	-	-	-
Cost Estimate Total				£291,133.59

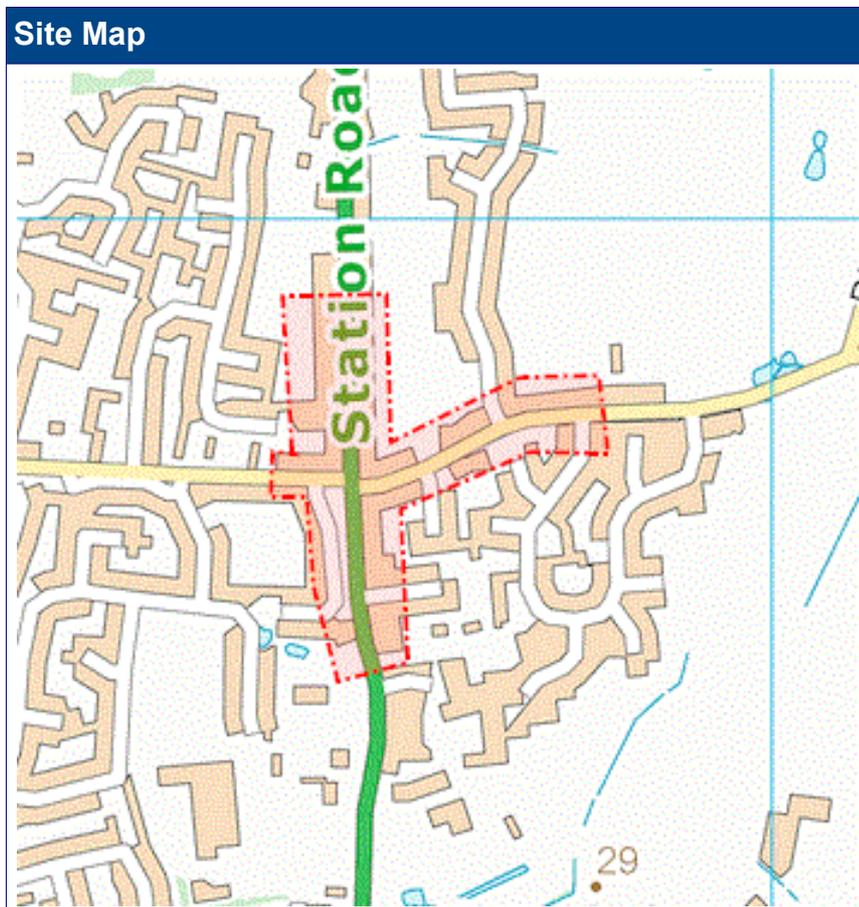
Appendix E. Information from statutory undertakers

The report from the inquiry made to LinesearchbeforeUdig is provided in this appendix. Please note that not all statutory undertakers that may have apparatus in the vicinity of the junction are members on LinesearchbeforeUdig and they should be contacted as part of the next design stage for this scheme.

Enquirer			
Name	Mr Dimas Basari	Phone	020 8774 3660
Company	Mott Macdonald	Mobile	Not Supplied
		Fax	Not Supplied
Address	Mott Macdonald House 8 - 10 Sydenham Road Croydon Surrey CR0 2EE		
Email	dimas.basari@mottmac.com		
Notes	Please ensure your contact details are correct and up to date on the system in case the Asset Owners need to contact you. Where Asset Owners charge for plans they have been requested to send you a quote before proceeding.		

Enquiry Details			
Scheme/Reference	Monument Junction, Staplehurst		
Enquiry type	Initial Enquiry	Work category	Highways
Start date	01/06/2015	Work type	Construction/realignment
End date	01/06/2016	Site size	57076 metres square
Searched location	Staplehurst	Work type buffer*	25 metres
Confirmed location	578589 143729		

* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen



Asset Owners

Subject always to our standard terms and conditions, this enquiry result is valid for 28 days only from the date of enquiry and is based on the confirmed information you entered. If the location of the work changes then a further enquiry must be made. Should the work not be undertaken within 28 days of the enquiry then a further enquiry must be made.

Where applicable listed below are those registered Asset Owners who have been notified, those to whom you need to send further information and those who have no apparatus within your search area. In addition your response will include other non-registered Asset Owners contact details who have NOT been notified, which may be of interest to you.

Please be aware that the lists below are not exhaustive and that not all Asset Owners are registered with this service. In particular please note that the LineasearchbeforeUdig system only contains information on National Grid's Gas above 2 bar asset and all National Grid Electricity Transmission asset. For National Grid Gas below 2 bar asset information please go to www.beforeudig.nationalgrid.com

If you are required to email additional info please note that we need the following: Site contact name and number, Location plan, Detailed plan (minimum scale 1:2500), Cross sectional drawings (if available), Work Specification.

Asset Owners who DO have assets near your proposed work site.

In the Zone of Interest

No LineasearchbeforeUdig Asset Owners within the Zone of Interest

LineasearchbeforeUdig Asset Owners who DO NOT have assets in the immediate vicinity of your proposed work site.

Not in the Zone of Interest

AWE Pipeline	FibreSpeed Limited	Oikos Storage Limited
BOC Limited (A Member of the Linde Group)	Gamma	Perenco UK Limited (Purbeck Southampton Pipeline)
BP Midstream Pipelines	Government Pipelines & Storage System	Phillips 66
BPA	Humbly Grove Energy	Premier Transmission Ltd (SNIP)
Carrington Gas Pipeline	HV Cables	RWEpower (Little Barford and South Haven)
Centrica Energy	IGas Energy	SABIC UK Petrochemicals
Centrica Storage Ltd	Ineos Enterprises Limited	Scottish Power Generation
ConocoPhillips (UK) Ltd	INEOS Manufacturing (Scotland and TSEP)	Seabank Power Ltd
Coryton Energy Co Ltd (Gas Pipeline)	Lark Energy	Shell Pipelines
CSP Fibre c/o Centara	Lightsource SPV Limited	Total (Finaline, Colnbrook & Colwick Pipelines)
EirGrid	Mainline Pipelines Limited	Transmission Capital
Electricity North West Limited	Manchester Jetline Limited	Vattenfall
E-on UK Plc (Gas Pipelines Only)	Marchwood Power Ltd (Gas Pipeline)	Western Power Distribution
ESP Utilities Group	National Grid Gas (above2 bar) and National Grid Electricity Transmission	Wingas Storage UK Ltd
ESSAR	Northumbrian Water Group	Zayo Group UK Ltd c/o JSM Group Ltd
Esso Petroleum Company Limited	NPower CHP Pipelines	

The following Asset Owners are NOT currently members of LineSearchbeforeUdig, however you should contact them before proceeding. Please be aware that this list is not exhaustive and that **IT IS YOUR RESPONSIBILITY TO IDENTIFY AND CONTACT ALL ASSET OWNERS WITHIN YOUR SEARCH AREA.**

Not Notified			
Asset Owner	Preferred contact method	Phone	Status
BskyB Telecommunications	nrswa@bskyb.com	02070323234	Not Notified
BT	https://www.swns.bt.com/pls/mbe/welcome.home	08009173993	Not Notified
Colt	plantenquiries@catelecomuk.com	01227768427	Not Notified
Energetics Electricity	plantenquiries@energetics-uk.com	01698404646	Not Notified
Fulcrum	FPLplantprotection@fulcrum.co.uk	03330146455	Not Notified
GTC	https://pe.gtc-uk.co.uk/PlantEnqMembership	01359240363	Not Notified
Instalcom	plantenquiries@instalcom.co.uk	02087314613	Not Notified
Interoute	interoute.enquiries@plancast.co.uk	02070259000	Not Notified
Southern Gas Networks	plantlocation@sgn.co.uk	01414184093	Not Notified
Southern Water	searches@southernwater.co.uk	08452700212	Not Notified
Tata, KPN (c/- McNicholas)	plantenquiries@mcnicholas.co.uk	03300558469	Not Notified
Teliasonera	telentelia.plantenquiries@telent.com	0800526015	Not Notified
UK Power Networks	plans@ukpowernetworks.co.uk	08000565866	Not Notified
Verizon Business	osp-team@uk.verizonbusiness.com	01293611736	Not Notified
Virgin Media	http://www.digdat.co.uk	08708883116	Not Notified
Vodafone	osm.enquiries@atkinsglobal.com	01454662881	Not Notified
Vtesse Networks	https://vtplant.vtesse.com	01992532100	Not Notified

Disclaimer

The results of this Enquiry have been provided for the sole use of the Enquirer and no other party. The asset information on which the Enquiry results are based has been provided by LineSearchbeforeUdig members, LineSearchbeforeUdig will provide no guarantee that such information is accurate or reliable nor does it monitor such asset information for accuracy and reliability going forward. There are also asset owners which do not participate in the enquiry service operated by LineSearchbeforeUdig, including but not exclusively those set out above. Therefore, LineSearchbeforeUdig cannot make any representation or give any guarantee or warranty as to the completeness of the information contained in the enquiry results.

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