



## **ESHER GREEN JUNCTION IMPROVEMENT**

**SURREY COUNTY COUNCIL  
LOCAL COMMITTEE (ELMBRIDGE)  
26 SEPTEMBER 2005**

### **KEY ISSUE**

To approve the detailed design for the road safety improvement scheme at the junction of A244 Lammas Lane with Church Street and More Lane, Esher Green, and agree the Statutory Procedures necessary to progress it.

### **SUMMARY**

Following a public exhibition in September 2003, the Committee agreed at its meeting on 15 March 2004 that the preferred layout for the Esher Green Junction should be developed in further detail to address the serious accident problem at the junction. The detailed design of the scheme has been completed and a traffic model has been used to optimise the design of the junction and to enable a comparison to be made with the existing situation. The traffic model shows that the overall delay to traffic on the road network would be expected to reduce with the recommended proposals.

Exchange land would need to be provided to replace common land required for the scheme. The original scheme was developed on the basis that Esher Place Avenue would provide part of the required exchange land upon its diversion to More Lane. The Department for Environment, Food and Rural Affairs (DEFRA) have indicated that Esher Place Avenue would not be valid as exchange land and Officers have concluded that the original scheme is no longer viable without further modifications.

The report recommends an amendment to the original scheme whereby Esher Place Avenue is retained on its existing alignment and a section of proposed footway is removed on the north side of Lammas Lane. This would enable a balance to be achieved between land taken from Esher Green and that provided in exchange. The amended scheme does not provide as complete a solution as the original, but does combine the benefits of the main junction improvement with turning restrictions at Esher Place Avenue which would help to simplify the overall layout. The diversion of Esher Place Avenue to More Lane could be re-evaluated at a future date, should accidents continue following the implementation of the overall scheme.

Planning Permission would be required for the provision of a footway across Esher Green and for the relocation of the War Memorial. A Side Roads Order is recommended to deal with the stopping up of side roads and their modification. Common land would need to be acquired for the scheme and a Compulsory Purchase Order is recommended to manage this process. The Executive would need to approve the use of a Compulsory Purchase Order.

The estimated budget cost for the overall scheme is £830,000. Funding for the major realignment works is principally being sought centrally through the Local Transport Plan capital allocation for Intermediate Schemes, with a recommendation that initial phased works are funded from the locally devolved LTP budget. Phase 1 works would incorporate the pedestrian crossing on Lammas Lane and the amendments to Esher Place Avenue, both of which may have some beneficial effect on the current accident record. The crossing would also serve an existing need for improved pedestrian facilities at the junction. The crossing on Church Street could also be introduced as a second phase, ahead of the main scheme.

**ELECTORAL DIVISION AND MEMBER:** Esher – Tim Oliver

**OFFICER RECOMMENDATIONS:**

The Committee is asked to:

- (i) Approve the scheme for the junction of A244 Lammas Lane with Church Street and More Lane shown on Drawing No.5477/15, Annexe A.
- (ii) Agree that the construction of signal controlled pedestrian crossings on both Lammas Lane and Church Street be considered for early phased implementation, funded from the Local Transportation Service devolved LTP budget, and that the LTD be authorised to carry out the statutory notification procedures when appropriate.
- (iii) Agree the progression of a Traffic Regulation Order and any necessary adjustments to kerb layouts required for the implementation of banned right-turn movements at the junction of Lammas Lane with Esher Place Avenue, as part of initial Phase 1 works.

- (iv) Approve the promotion of any other Traffic Regulation Orders considered necessary for the scheme, with any objections received being reviewed initially with the Chairman and Divisional Member.
- (v) Agree the submission of an application for Planning Permission for the footway across Esher Green and for the relocation of the War Memorial, working in partnership with Elmbridge Borough Council.
- (vi) Recommend that the Executive be asked to approve the use of Statutory Procedures to:
  - a) acquire the common land necessary for the scheme using Compulsory Purchase powers;
  - b) undertake alterations to the affected side roads using a Side Roads Order;
  - c) allow the promotion of any other Orders, permissions and consents necessary for the scheme.
- (vii) Approve the funding of 25% of the main scheme costs (not including any earlier phased works) from the Local Transportation Service devolved budget, spread over a two-year period.

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**LEAD/CONTACT OFFICER:** Chris Smith, Local Transportation Director

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**BACKGROUND PAPERS:** Esher Green Junction Improvement, Local Committee Report dated 15 March 2004.

Annexe A Detailed Scheme Plan, Drawing No.5477/15  
Annexe B Outline Scheme Plan, agreed on 15 March 2004  
Annexe C Proposed works in advance of main scheme, Drawing No.5477/28  
Annexe D Extent of traffic model  
Annexe E Summary of traffic model results

## **1 INTRODUCTION**

- 1.1 The junction of A244 Lammas Lane with Church Street and More Lane is recognised by the Police as having the highest number of personal injury accidents at a single site in North Surrey. During the 6-year period between 01/07/99 and 30/06/05, 41 personal injury accidents have occurred at the junction. 35 of these accidents can be attributed to the Church Street to More Lane straight across manoeuvre. The incidence of accidents at the junction is continuing at a rate of approximately one personal injury accident per month.
- 1.2 Following a public exhibition in September 2003, a report was submitted to this Committee on 15 March 2004 describing various options that had been considered to address the serious accident problem at the junction, the consultation exercise, and the preferred option that had been established. The Committee resolved that further work should be undertaken to develop the design of the preferred option shown in Annexe B and to investigate the land issues and procedures required to progress the scheme.
- 1.3 The detailed design of the scheme has been completed and a traffic model has been used to optimise the design of the junction and to enable a comparison to be made with the existing situation. Due to problems encountered in finding sufficient "exchange common land" for the scheme (to satisfy DEFRA criteria), it is proposed to amend the original scheme to retain Esher Place Avenue on its existing alignment and remove a section of footway on the north side of Lammas Lane. The amended scheme does not provide as complete a solution as the original, but does combine the benefits of the main junction improvement with turning restrictions at Esher Place Avenue, which would help to simplify the overall layout.
- 1.4 The report describes the legal issues associated with the original scheme, the proposed modifications to it and the detailed design proposals. The Statutory Procedures necessary to progress the scheme are also identified for approval.

## **2 BACKGROUND**

- 2.2 As the scheme requires the acquisition of common land, there is a legal requirement to provide at least the same area in replacement "exchange land". The original scheme was developed on the basis that Esher Place Avenue, which is currently adopted highway, would provide part of the required exchange common land upon its diversion to More Lane. This enabled a balance to be achieved between the land being taken from the common and that returned.
- 2.3 Further investigations have established that although Esher Place Avenue is shown on the Highways Register, it also appears on the Register of Common Land. The County Council's legal team were of the opinion that as the road was shown on the Highways Register prior to the Commons

Registration Act of 1965, its inclusion in the Commons Register was an oversight and may therefore be void. Advice was therefore sought from DEFRA on this issue.

- 2.4 Without the progression of the Statutory Procedures for the scheme, and a full application, DEFRA will not provide a formal, definitive response. However, they have stated that the Commons Register is conclusive and have advised, albeit informally, that proposing Esher Place Avenue as exchange common land would not be considered favourably.
- 2.5 The County Council's legal team have sought Queen's Counsel opinion, and despite the presentation of further sound arguments, DEFRA have again indicated, informally, that such an application would be unsuccessful. It appears that their decision would be based solely on their interpretation of legal status, rather than the opportunity to improve the overall amenity of the Green.
- 2.6 Officers consider that pursuing the associated Statutory Procedures would be ill-advised, as the process would be both time-consuming and costly, with ultimately little chance of being successful. Officers have therefore concluded that the original scheme is no longer viable without further modifications.
- 2.7 It is therefore proposed to retain Esher Place Avenue on its existing alignment and remove a section of proposed footway on the north side of Lammas Lane, in order that an appropriate balance can be achieved between land taken from Esher Green and that provided in exchange. The amended scheme combines most of the benefits of the original junction improvement proposals, with turning restrictions at the junction of Lammas Lane with Esher Place Avenue to simplify the overall junction. It should be noted, however, that the relocation of this junction would certainly have simplified the overall junction further, and presumably maximised safety improvements as a result.

### **3 PROPOSALS (Drawing No. 5477/15, Annexe A)**

#### **The Main Junction**

- 3.1 The proposals are shown in Annexe A and are based on the scheme shown in Annexe B, as approved for further development by the Committee on 15 March 2004. The design philosophy is similar to that of a roundabout with traffic to the right having priority. As with the existing situation, the right-turn movement from More Lane is banned and the priority is changed such that Church Street has priority over Lammas Lane. The proposals therefore seek to address the primary cause of accidents, the existing conflict caused by the Church Street to More Lane manoeuvre.
- 3.2 In order to minimise the impact of the scheme on common land, the loop from Church Street to A244 Esher Green has been designed to the

minimum standards required to accommodate a heavy goods vehicle turning. Similarly, the junction layout has been optimised for all other turning movements in order to minimise the size of the junction. On the approach to the junction from Lammas Lane, two 3 metre wide traffic lanes have been provided and the width of the carriageway through the junction enables two lanes of traffic to travel from Lammas Lane into A244 Esher Green. The proposed layout also adopts the principles of roundabout design by deflecting the path of vehicles through the junction to reduce vehicle speeds. At the access onto Church Street from the Adult Education Centre, visibility to the left into Church Street would be significantly improved due to the realignment of the carriageway.

#### **4 Pedestrian and Cyclist Facilities**

- 4.1 Puffin crossings are proposed in Lammas Lane and Church Street to the west and south sides of the junction respectively. The existing footway on the west side of More Lane would be diverted at its southern end to the Puffin crossing in Lammas Lane. For safety reasons, no uncontrolled pedestrian crossings are proposed within the junction itself.
- 4.2 The realigned footway across Esher Green, between Lammas Lane and More Lane, would provide a shared facility for both pedestrians and cyclists. The existing footways on the west side of More Lane and on the north side of A244 Esher Green would be converted to shared use for both pedestrians and cyclists. A two-way cycle route would be created between Lammas Lane and Portsmouth Road by using these facilities and D6897 Esher Green, known locally as Cato Hill. Cyclists travelling between Church Street and More Lane, and from More Lane to Lammas Lane would be able to use the Puffin crossing in Lammas Lane and the cycle facilities linking to this crossing.
- 4.3 A short length of footway would be provided on the east side of More Lane, just south of its junction with Cato Hill. This would provide improved access to the bus stop on this side, which would be relocated northwards adjacent to the new footway. The bus stop on the west side of More Lane would also be relocated further northwards.

#### **5 Esher Place Avenue**

- 5.1 Esher Place Avenue would be retained on its existing alignment and a new junction would be created with the widened Lammas Lane. Both the right-turn in and right turn out manoeuvres at Esher Place Avenue would be banned in order to further simplify the junction and reduce the risk of accidents.
- 5.2 Waiting restrictions could still be introduced on Esher Place Avenue, as originally planned for the realigned road. However, rather than waiting for the implementation of the main scheme, this could be implemented as part of the proposed Esher Controlled Parking Zone, to be considered in early 2006.

## **6 D6897 Esher Green (Cato Hill)**

- 6.1 The existing access road that runs perpendicular to Cato Hill, north to south between the main junction and Tellisford, would be stopped up to improve safety and reinstated as common land. At the junction of Cato Hill with More Lane, the junction would be widened slightly on the south side to improve access for refuse and emergency vehicles. At the junction of Cato Hill with A244 Esher Green, the approach from the side road would be realigned to improve visibility turning onto the A244. 'Keep Clear' markings would be provided on A244 Esher Green, opposite the side road, to make it easier for vehicles to join the A244 and to discourage side road traffic from queuing across, and obstructing, the traffic lanes approaching the Portsmouth Road traffic signals.

## **7 War Memorial**

- 7.1 The War Memorial would need to be relocated to accommodate the scheme. Currently, the Memorial is located immediately adjacent to the junction and access both to and around it is poor. The opportunity would be taken to enhance its setting by moving it further onto Esher Green, with its final position determined in consultation with Elmbridge Borough Council. The proposed Puffin crossing on Lammas Lane and footpath across Esher Green would improve access between Christ Church and the Memorial. Previous consultations have confirmed strong support for its relocation.

## **8 Landscaping**

- 8.1 Four trees would be removed to accommodate the new layout of the main junction. A landscaping scheme would be developed with Elmbridge Borough Council to replace the removed trees and to enhance the revised areas of green space on Esher Green, including the area created outside the Adult Education Centre.

## **9 DESIGN CONSIDERATIONS**

### **Traffic Model**

- 9.1 The behaviour of traffic at the Esher Green junction is complex due to the close proximity and interaction of the traffic signals at the junctions of High Street with Church Street and A244 Esher Green. In Church Street, traffic is released from the signals in waves and, during peak periods, vehicles on A244 Esher Green frequently queue back from the traffic signals through the Esher Green junction.
- 9.2 In order to optimise the design of the proposed layout for the Esher Green junction, and to assess the impact of the proposals on the surrounding road network, a computerised traffic model has been developed using the Paramics modelling program. This program models traffic flows and congestion on a road network and presents its output as a real-time visual

display. The model also enables journey times and delays on the road network to be established. The area of the road network modelled is shown in Annexe D and includes the two traffic signal controlled junctions in the High Street. The effects of proposed signalised pedestrian crossings are also included in the model.

- 9.3 To assess the likely effect of changing the priority of traffic at the Esher Green junction, with Church Street having priority over Lammas Lane, two options have been tested comprising a single-lane and two-lane approach to the junction on Lammas Lane.

## **10 Results and Conclusions from Traffic Model**

- 10.1 Predicted changes in traffic flows, journey times and queue lengths on the modelled road network for the 2004 AM and PM peak periods are summarised in Annexe E. From this analysis it has been concluded that a two-lane approach to the junction should be provided on Lammas Lane. The key conclusions drawn from the traffic model are summarised below:

### Lammas Lane, A244 Esher Green and Portsmouth Road

- 10.2 A single-lane approach to the junction on Lammas Lane would cause an increase in delays and queuing of traffic on this approach compared to the existing situation. Queues are predicted to extend back from the junction to beyond the Princess Alice Hospice roundabout. Insufficient traffic would be able to pass through the junction from Lammas Lane and the capacity of the four-lane approach to the traffic signals at the junction of A244 Esher Green with High Street would be under-utilised.
- 10.3 A two-lane approach to the junction on Lammas Lane would enable more traffic to pass through the junction, resulting in more efficient use of the road capacity on A244 Esher Green at its junction with High Street. Journey times between Lammas Lane and Portsmouth Road are predicted to reduce significantly during peak hours, as are the maximum queue lengths on Lammas Lane. Journey times between Portsmouth Road and Lammas Lane are predicted to reduce, together with the maximum queue lengths on Portsmouth Road. During the peak hours, it is predicted that the sum total of journey times for all traffic on the modelled network would reduce.

### Church Street

- 10.4 Queuing of traffic in Church Street is predicted to occur only when the signal controlled Puffin crossings are activated. The change of priority has a beneficial effect on the operation of the traffic signals at the junction of Church Street with High Street and this in turn is beneficial in reducing congestion at the other traffic signal controlled junctions in Esher town centre.



### More Lane

- 10.5 The proposed junction layout is predicted to make it easier for traffic to join A244 Esher Green from More Lane resulting in a reduction in maximum queue lengths on More Lane. The activation of the two signal controlled Puffin crossings would also assist this manoeuvre.

### Esher Place Avenue

- 10.6 Both the right-turn in and right-turn out movements at Esher Place Avenue would be banned as it would not be safe to allow these vehicles to turn across two lanes of traffic on Lammas Lane. Drivers wishing to travel west towards Hersham from Esher Place Avenue would be able to re-route through the private Esher Place estate via Esher Place Avenue/Pelhams Walk to join Lammas Lane. Similarly, those wishing to access the estate from Church Street could also use the Pelhams Walk access.

## **11 Phased implementation of scheme (Drawing No. 5477/28, Annexe C)**

- 11.1 A major benefit of this scheme is that it can be developed and implemented in stages. The proposed signal controlled pedestrian crossing facilities address an existing need for improved accessibility. These can be included in the local LTP construction programme for implementation in advance of the main junction improvement works. Both would remain integral to any subsequent works as part of the overall scheme and could assist the Church Street to More Lane straight ahead manoeuvre by creating breaks in traffic flows and improving visibility.
- 11.2 The proposed banned right-turn manoeuvres at the junction of Lammas Lane with Esher Place Avenue can and should also be implemented in advance of the main scheme, along with the Lammas Lane pedestrian crossing. It is recognised that this may create a minor inconvenience for the residents and users of the private Esher Place Estate, but improved safety at this junction remains an absolute priority, and this opportunity for action in the short term is a major benefit of these proposals.

## **12 CONSULTATION**

- 12.1 The scheme has received the full support of Surrey Police.
- 12.2 As agreed at the Committee meeting of March 2004, Officers have held a series of meetings with both Members and Officers of Elmbridge Borough Council, whose views have been incorporated into the scheme where appropriate.
- 12.3 Public consultation on the original preferred scheme included direct correspondence with groups representing the residents of those areas immediately adjacent to Esher Green and those directly affected by the proposals, specifically Esher Place Estate, More Lane, 'Cato Hill' and Tellisford.

- 12.4 Residents of More Lane and Esher Green were concerned about the impact the original scheme would have on the parking situation in the area, particularly as the proposals included the stopping up of the Tellisford access road and the implementation of waiting restriction on the realigned Esher Place Avenue. Both are areas which are heavily parked at present. Residents have been assured that prior to the full scheme going ahead, a major review of parking would be undertaken, which may include the introduction of controlled parking zones. This is currently programmed for the latter part of 2005/06.
- 12.5 Residents of Esher Place Estate have written independently and through a petition to voice their concerns about the original proposal to realign Esher Place Avenue onto More Lane. The main concern was that rat-running through the private estate would occur as a result, and they therefore requested that if Esher Place Avenue is realigned, that it be realigned to join Lammas Lane near Park Road. As the modified scheme recommended in this report now retains Esher Place Avenue on its existing alignment, these concerns are no longer valid.
- 12.6 Initial investigations into the likelihood of rat-running using the traffic model lead Officers to believe that residents fears were unfounded. However, if following the implementation of the overall scheme, accidents are found to continue, the diversion of Esher Place Avenue to More Lane could be re-evaluated. Any traffic increase resulting from a subsequent diversion would be mitigated.

## **13 STATUTORY PROCEDURES**

### **Planning consent**

- 13.1 Planning Permission would be required for the provision of a footpath across Esher Green and for the relocation of the War Memorial.

### **Common Land**

- 13.2 Common land is required from Esher Green for the new junction layout, the new footway on the north side of Lammas Lane and on the east side of More Lane, and for the modified junction of Esher Place Avenue with Lammas Lane.
- 13.3 The original scheme presented to the Committee on 15 March 2004 included the widening of the southern footway on Lammas Lane. However, in order to provide a two-lane approach on Lammas Lane, it is now proposed that the footway is retained at its existing width in order to minimise the amount of land required.
- 13.4 Where common land is required to accommodate highway improvement schemes, there is a requirement under the Acquisition of Land Act 1981 (Section 19) that an area of land of comparable character and amenity,

and of at least the same area, is returned to common. This is known as Exchange Land.

- 13.5 Applications for the exchange of common land must be submitted to the Department for Environment, Food & Rural Affairs (DEFRA) for consideration and approval. This process may well involve a Public Inquiry should sufficient interest or opposition to the proposed scheme occur.
- 13.6 With the proposals, the access road from Esher Green to Cato Hill would be returned to common, as would a redundant section of footway on the west side of More Lane. By also including the area of land enclosed by the loop of the junction (outside the Adult Education Centre) as exchange land, a net surplus of exchange common land can be achieved. As a result of informal advice from DEFRA, Officers anticipate that this area will meet the requirement of Section 19 of the Acquisition of Land Act 1981.

#### **14 Compulsory Purchase Order (CPO)**

- 14.1 Due to the complexity of the scheme, it is recommended that a Compulsory Purchase Order should be used for the acquisition of common land. A CPO would provide a well-recognised procedure for dealing with the acquisition of common land and providing exchange land.
- 14.2 Any CPO application would be required to demonstrate that there are unlikely to be any impediments, be they legal, financial or physical, to the schemes implementation. All planning applications and related Public Inquires would therefore need to be resolved prior to application.
- 14.3 The Executive would be required to approve the use of a Compulsory Purchase Order.

#### **15 Traffic Regulation Orders**

- 15.1 A Side Roads Order would be required to deal with the stopping up of the access road to Tellisford and for the modification of other side roads.
- 15.2 Traffic Regulation Orders would be required for waiting restrictions and for the implementation of banned right-turn movements at the junction of Esher Place Avenue with Lammas Lane.

#### **16 FINANCIAL IMPLICATIONS**

- 16.1 The estimated budget cost of the scheme, including Statutory Procedures, is beyond the scope of the locally devolved LTP budget. The scheme has therefore been submitted for central funding through the LTP capital allocation for Intermediate Schemes. In accordance with current LTP Group funding procedures, 25% of the cost of the scheme would need to be provided from the locally devolved LTP budget.

16.2 The budget estimate for the scheme is shown in Table 1 below:

**Table 1: Budget Estimate**

<b><u>Phase 1: Advance Works (funded via LTP)</u></b>	
Signal controlled pedestrian crossing on Lammas Lane	£70,000
Kerb extension on Lammas Lane at junction with Esher Place Avenue to ban right-turn movements	£25,000
Phase 1 Works sub-total	<b>£95,000</b>
<b><u>Phase 2: Advance Works (funded via LTP)</u></b>	
Signal controlled pedestrian crossing on Church Street	£70,000
Phase 2 Works sub-total	<b>£70,000</b>
<b><u>Phase 3: Main Junction Improvement</u></b>	
Roadworks	£380,000
Statutory Undertakers	£70,000
Relocation of War Memorial	£25,000
Soft Landscaping	£30,000
Main Scheme Works sub-total	<b>£505,000</b>
<b><u>Statutory Procedures</u></b>	
Planning Permission, Compulsory Purchase Order, Side Roads Order, Traffic Regulation Orders and Public Inquiry	<b>£100,000</b>
<b>Contract documents and tender</b>	<b>£60,000</b>
<b><u>Overall Scheme Total</u></b>	<b><u>£830,000</u></b>

## **17 PROGRAMME**

17.1 Subject to funding, the provisional programme could be as follows:

<i>(November 2004:</i>	<i>Bid submitted for central 'intermediate scheme' funding)</i>
November 2005:	Commence Statutory Procedures for Planning Permission, Compulsory Purchase Order and Side Roads Order
05/06 & 06/07	Implement Phase 1 and Phase 2 works (Puffin crossings and banned right-turn movements at Esher Place Avenue)
February 2006:	Parking review to commence
April 2007:	Public Inquiry (assuming required)
October 2007:	Inspectors report (assuming required)
November 2007:	Prepare contract documents
March 2008:	Invite tenders
July 2008:	Start construction (Completion in 2009/10)

## **18 SUSTAINABLE DEVELOPMENT IMPLICATIONS**

- 18.1 The scheme is predicted to reduce overall delays on the road network. The provision of improved facilities for pedestrians and cyclists seeks to encourage more walking and cycling. The scheme would facilitate a safer route to Esher High School from Esher town centre, encouraging less dependence on the car for journeys to school.
- 18.2 Careful consideration would be given to the use of appropriate materials that are in keeping with the Conservation Area. A landscaping scheme would be developed to replace removed trees and to enhance the revised areas of green space on Esher Green and within the loop of the junction.

## **19 CRIME & DISORDER IMPLICATIONS**

- 19.1 Crime and disorder implications are being given careful consideration as the scheme develops, particularly with respect to alterations to street lighting, visibility and measures for vulnerable users.

## **20 EQUALITIES IMPLICATIONS**

- 20.1 Equalities implications are being given careful consideration as the scheme develops, particularly with respect to providing for those with mobility and accessibility needs.

## **21 CONCLUSION AND REASONS FOR RECOMMENDATIONS**

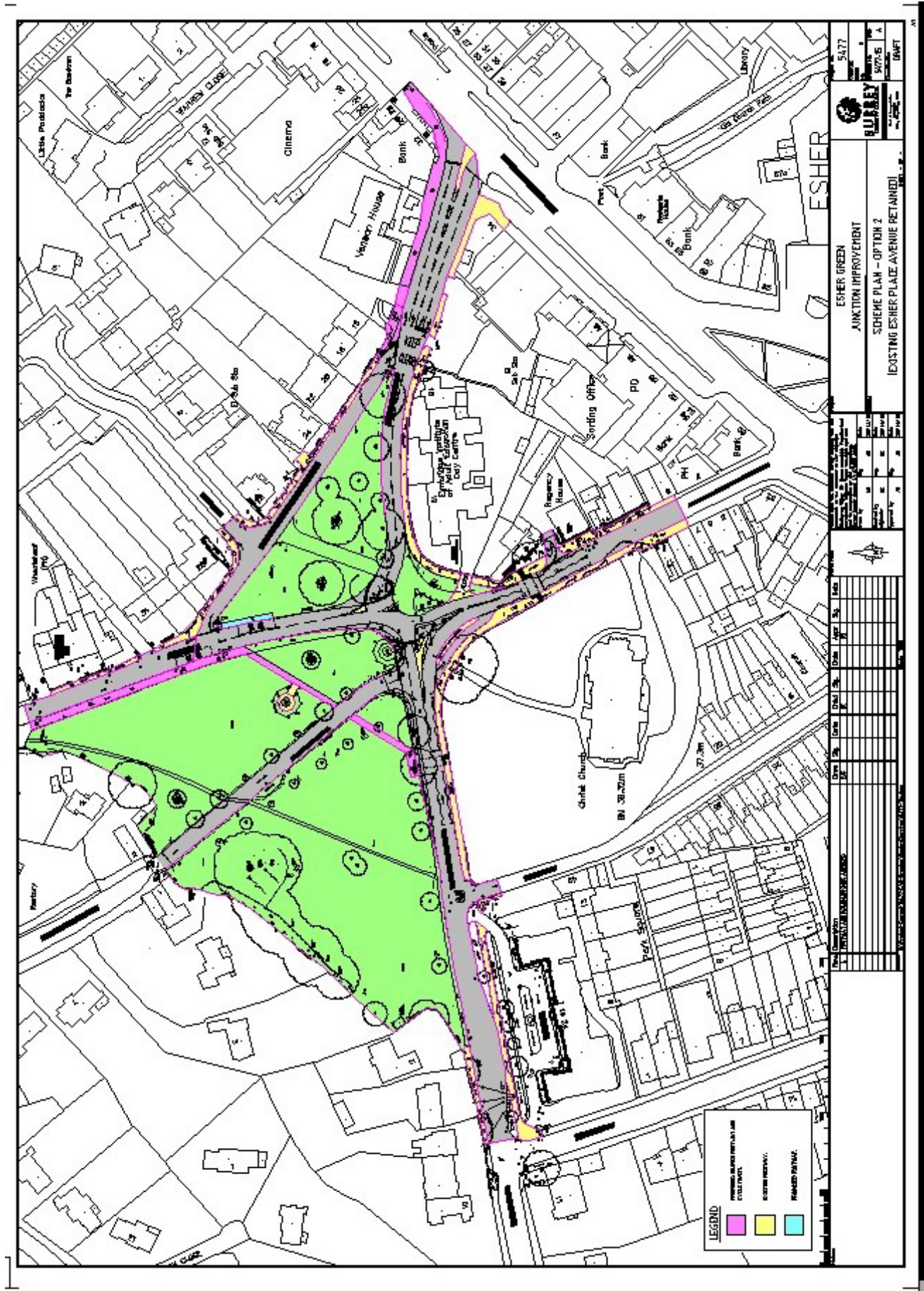
- 21.1 The modified scheme, retaining Esher Place Avenue on its existing alignment, provides the original main junction improvement whilst also providing sufficient replacement common land. The scheme is considered to provide the most effective, viable improvement to address the serious

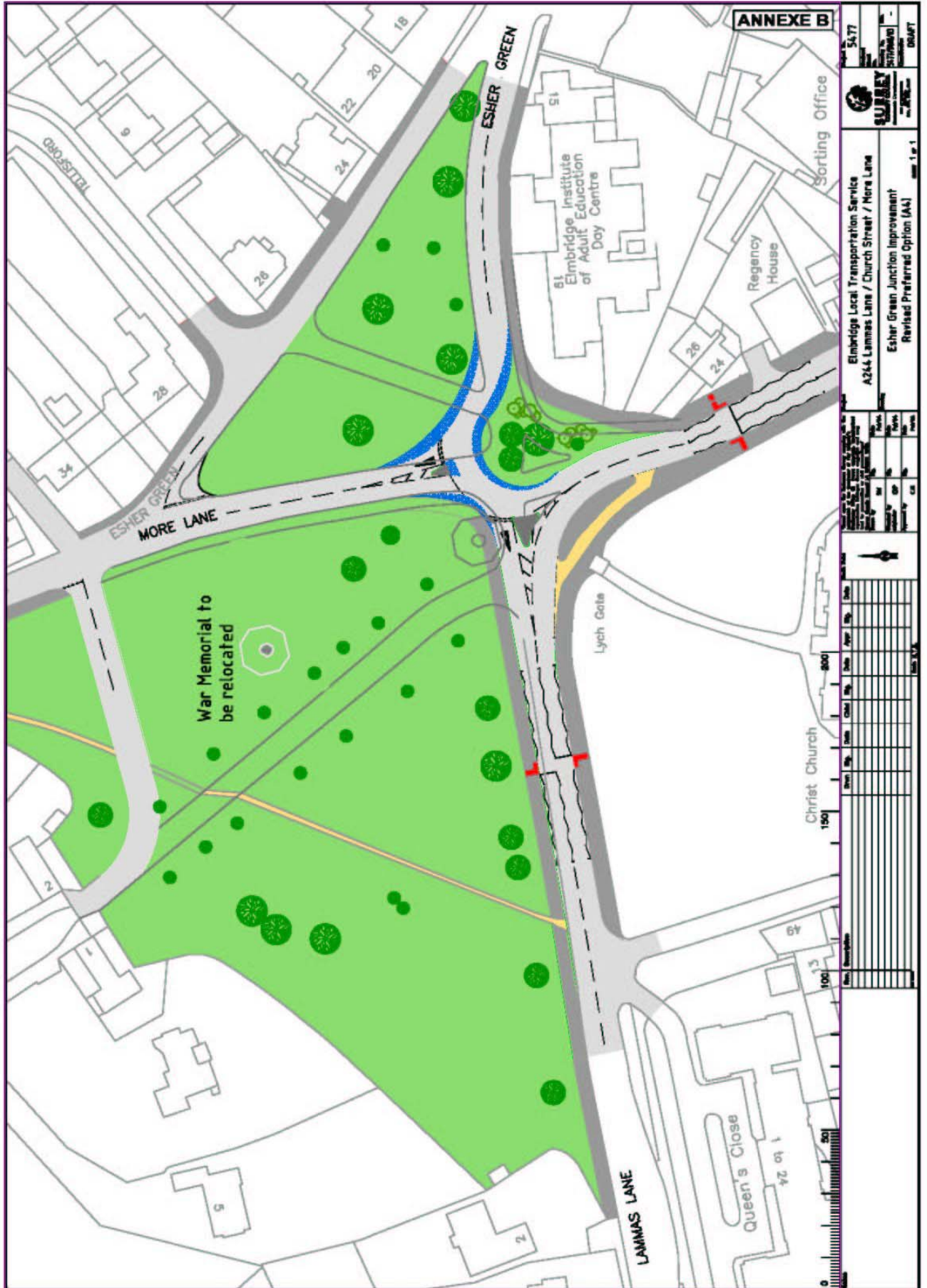
accident problem at the junction. In addition, turning restrictions at Esher Place Avenue would further simplify the overall junction.

- 21.2 The scheme would improve facilities for pedestrians and cyclists as well as providing a more appropriate setting for the War Memorial. The traffic model shows that a reduction in overall delays on the road network can also be expected.
- 21.3 The scheme can be developed and implemented in stages with both the signal controlled pedestrian crossings on Lammas Lane and Church Street, and the banned right-turn movements at Esher Place Avenue, being implemented in advance of the main junction improvement scheme. These initial improvements would enable safety improvements to be made at the junction in the short-term whilst the Statutory Procedures are being progressed for the main junction improvement. Both of these initial improvements would be incorporated into the main junction improvement works and would not become redundant.
- 21.4 Planning Permission would be required for the relocation of the War Memorial and for the provision of a footpath across Esher Green. A Compulsory Purchase Order would provide the best means of progressing the scheme as it affords a well-recognised procedure for dealing with the acquisition of Common Land and providing exchange land. The Executive would be required to approve the use of a Compulsory Purchase Order.
- 21.5 In conclusion, the recommended scheme, with a phased approach to construction, provides a practical and effective way to implement improvements at the earliest opportunity at what is considered to be the worst single accident site in the north of Surrey.

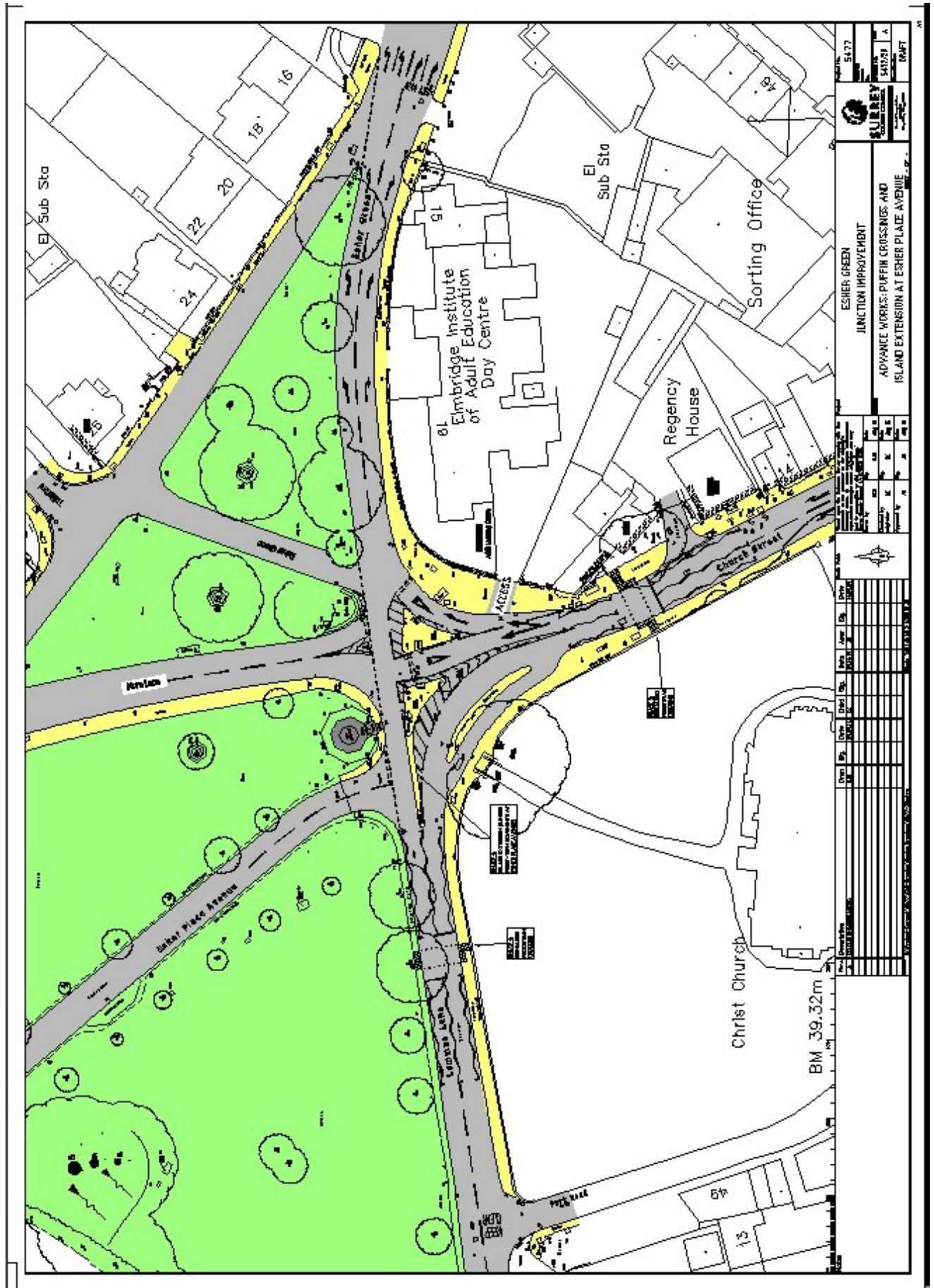
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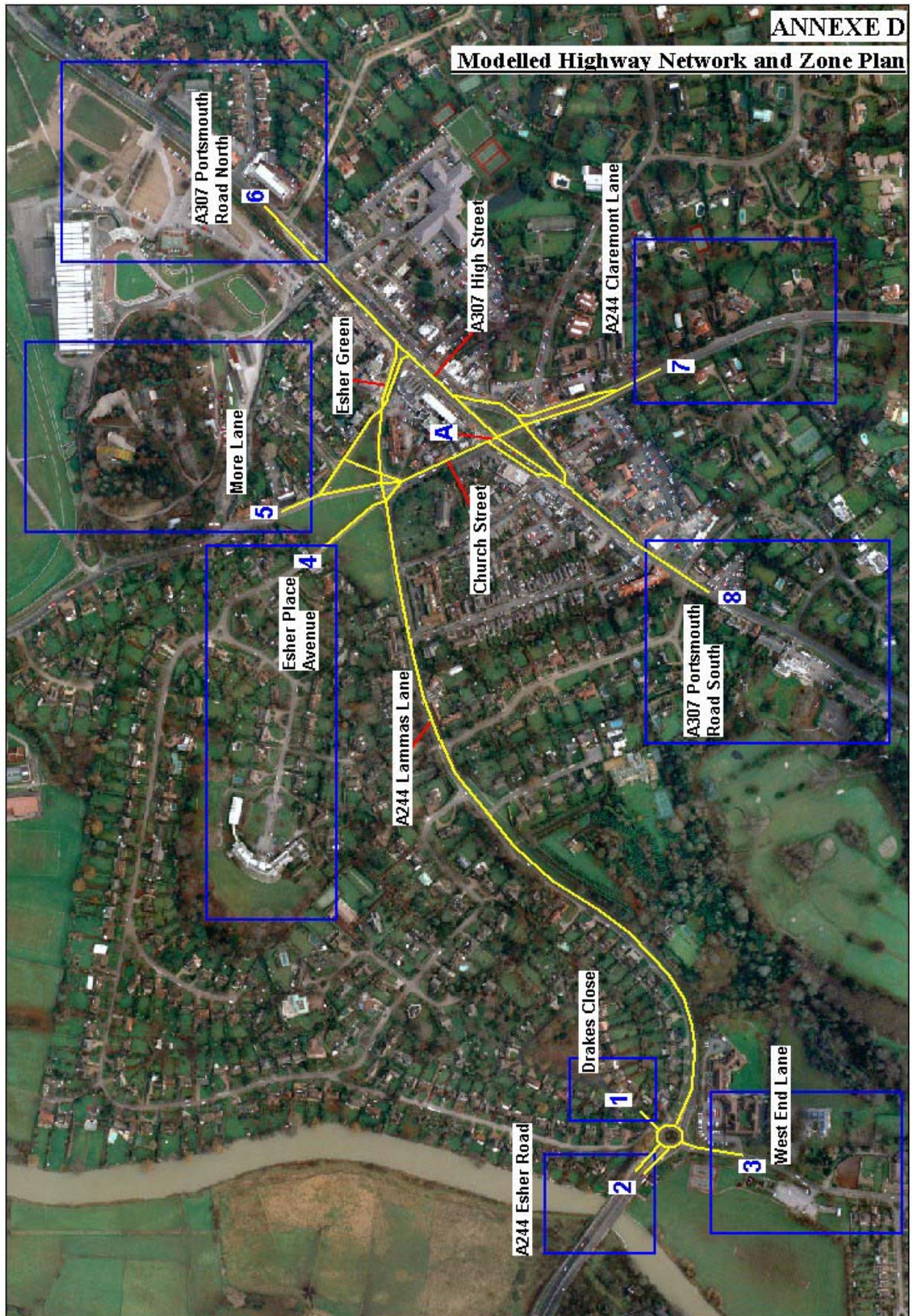
Annexe A	Detailed Scheme Plan, Drawing No.5477/09
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**SUMMARY OF TRAFFIC MODEL RESULTS:  
COMPARISON OF ONE-LANE AND TWO-LANE APPROACH ON LAMMAS LANE**

(Note: "Base Model" refers to the existing highway layout)

**TRAFFIC FLOWS (number of vehicles)**

Junction Arm	Base Model		One-Lane Approach		Two-Lane Approach	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Lammas Lane	888	1003	840	802	1002	1078
Church Street	1315	1232	1378	1217	1397	1247
Esher Green	1182	1269	1239	1065	1404	1315
More Lane	277	317	419	327	435	326
Portsmouth Road Southbound	942	886	959	954	944	1039

**AVERAGE JOURNEY TIMES (minutes & seconds)**

\* These figures relate to the time taken for the complete journey between the entry/exit zones in the computer model, as shown on the plan in Annex D.

Journey	Base Model		One-Lane Approach		Two-Lane Approach	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Lammas Lane to Portsmouth Rd North (Zone 2 to 6)*	6m 26s	4m 16s	6m 43s	6m 47s	2m 41s	2m 26s
Portsmouth Road North to Lammas Lane (Zone 6 to 2)*	4m 49s	4m 27s	6m 23s	4m 13s	4m 04s	3m 46s
Church St to Claremont Lane (Site A to Zone 7 via High Street)*	2m 37s	2m 58s	2m 02s	3m 03s	2m 04s	2m 48s
More Lane to Claremont Lane (Zone 5 – 7)*	6m 03s	3m 28s	2m 09s	1m 48s	3m 28s	1m 58s

**MAXIMUM QUEUE LENGTHS (metres)**

Junction Arm	Base Model		One-Lane Approach		Two-Lane Approach	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Lammas Lane	927m	897m	967m	957m	668m	488m
Church Street	122m	122m	125m	115m	123m	97m
More Lane	196m	191m	162m	54m	172m	100m
Portsmouth Road Southbound*	559m	563m	510m	510m	476m	488m

\*Measured back from the junction of A307 Portsmouth Road with A244 Esher Green.