



THE DEPARTMENT
OF TRANSPORT

THE A249 TRUNK ROAD. M2 to Bobbing Improvement

ENVIRONMENTAL STATEMENT

October 1990

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A249, TRUNK ROAD M2 TO BOBBING IMPROVEMENT

ENVIRONMENTAL STATEMENT

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*which may be expected
to fully cover
plus outline of construction effects*

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INTRODUCTION

This document summarises the environmental effects of the proposed improvement to the A249 Stockbury to Sheerness Trunk Road between Stockbury (M2) and Bobbing, and has been prepared in accordance with sub-section 105A(2) of the Highways Act 1980.

The M2 to Bobbing improvement forms the southern length of the trunk road and joins the Iwade Bypass scheme at Bobbing roundabout. Line, Side and Slip Road Orders for the Iwade Bypass were published in March 1990. Compulsory Purchase Orders for the necessary land were published for the Iwade scheme in June 1990.

The document also includes, as an Appendix, a Non-Technical Summary. Copies of this summary are available, free of charge, from the Department of Transport, South East Construction Programme Division, Federated House, London Road, Dorking.

1. THE EXISTING A249 AND ITS SURROUNDING AREA

1.1 Regional Context

1.1.1 The A249 is an important north-south link between Maidstone, the county town of Kent, and the expanding port of Sheerness, on the Isle of Sheppey. It has important junctions with the M2, M20 and A2 and is a trunk road between the M2 at Stockbury roundabout and Sheerness. The A249 is the only road link to the Isle of Sheppey with a lifting bridge at Kingsferry over the Swale. The primary function of the route is to provide highway access to the port of Sheerness, to the industrial development on the Isle of Sheppey and to Ridham Dock. It also serves the industrial and residential areas of Sittingbourne. Figure 1 shows the A249 in its regional context.

1.2 Area of Study

1.2.1 The study area comprises the corridor through which the A249 runs from Stockbury roundabout, Junction 5 on the M2, passed the settlements at Danaway, Chestnut Street and Key Street to the area immediately east of Bobbing where it joins a new roundabout constructed with the proposed A249 Iwade Bypass scheme. The section under consideration is approximately 5.2km long.

1.3 The Existing Road

1.3.1 This section of the A249 is a fairly typical single carriageway rural road bounded by fields, sections of ribbon development and isolated single properties. Several minor side roads, lanes and tracks join the road.

1.3.2 From Key Street through Danaway the road is of reasonable alignment and generally 7.3m wide. This section has a 1-2m wide footway on the east side except alongside the layby. South of Danaway, from the Gleneagles Garage to the M2 viaduct, the right-hand bend has poor visibility and the carriageway is only about 6m wide without footways.

1.3.3 The speed limit is the current national one for single carriageways, i.e 60 mph.

1.4 Iwade Bypass

1.4.1 The A249 Iwade Bypass scheme which extends from Bobbing to the Kingsferry Bridge approach is more advanced in the programme than the M2 to Bobbing section and is due to commence construction before the M2 to Bobbing scheme. The Iwade scheme is a dual 2 lane all purpose road which terminates at its southern end in a new roundabout at Bobbing. The roundabout would be linked to the existing A249, Sheppey Way, and the Staplehurst Link Road, promoted by Kent County Council, which would connect into north Sittingbourne.

1.5 Planning Designations

1.5.1 Figure 2 shows the planning considerations concerning the study area.

1.5.1.1 Agriculture

Most of the study site falls within the North Kent Horticultural Belt Area of Special Significance for Agriculture (ASSA), where there is a strong presumption for the protection of agricultural land. Most of the land falls within grades 1 and 2 of the Ministry of Agriculture Fisheries and Food (MAFF) Agricultural Land Classification.

1.5.1.2 Landscape Classification

The North Downs Special Landscape Area (SLA) was designated by Kent County Council. Within the study area, the northern boundary of the North Downs SLA is formed by the M2. The SLA incorporates the North Downs Area of Outstanding Natural Beauty (AONB), which was designated by the Countryside Commission. Within both of these areas, long-term protection to the landscape is normally given priority over other planning considerations.

There are no Sites of Special Scientific Interest (SSSI) within the study area.

1.5.1.3 Conservation Areas and Listed Buildings

An area which includes approximately 12 properties at the northern end of Chestnut Street is designated as a Conservation Area. Two of these properties are Grade II* listed buildings and two are Grade II listed buildings. One Grade II listed building is also situated in south Chestnut Street. At the northern end of the scheme Bobbing Court and Sole Place in Bobbing are Grade II listed buildings and St Bartholomews Church is a Grade I listed building.

1.5.1.4 Tree Preservation Orders

The mature trees situated between the Electricity Sub-Station north of Chestnut Street and the existing A249 are subject to a Tree Preservation Order (TPO). No other TPOs exist within the study area.

1.5.1.5 Brickearth Extraction

There are two proposed Brickearth sites with planning permission north of Key Street.

1.6 **Geology and Topography**

1.6.1 The A249 lies in an area of rolling chalk downland.

1.6.2 Within the study area, the A249 lies at the base of a dry valley, which is fairly wide and open. The valley runs south-west to north-east and is narrower in the south than in the north. The A249 runs hard against the north-western side of the valley so that the land rises more steeply away from the road on its north western side, but remains relatively flat for a wider distance on the south-eastern side, before rising.

- 1.6.3 The valley floor slopes gradually downwards from 64m Above Ordnance Datum (AOD) at Stockbury roundabout to about 29m AOD at Key Street. The higher parts of the enclosing downland reach over 100m AOD in Church Wood at the southern end and 56m AOD near Keycol on the A2.
- 1.6.4 South of Key Street roundabout there is a distinct valley formation with defined ridgelines on both sides. On the western side of the valley the land falls away from the ridge leading to further rolling hills. On the eastern side of the valley the land forms a plateau. Figure 3 shows the general topography and ridge lines in the study area.
- 1.6.5 North of Key Street roundabout, the valley turns to the east, so that the roundabout has a backdrop of steeply rising ground to the north. This has been cut through to form Sheppey Way.
- 1.6.6 Along Sheppey Way, the land rises gradually to St Bartholomew's Church at Bobbing, becoming relatively flat and plateau like.
- 1.7 **Description of Built-up Areas**
- 1.7.1 Four built-up areas lie within the study corridor. They are Danaway, Chestnut Street, Key Street and Bobbing.
- 1.7.2 The settlement at Danaway is a small ribbon development situated mostly along the eastern side of the existing A249. The community is primarily residential but also includes two petrol filling stations, a cold store, a cafe and a small timber business. The dwellings are mainly large and have substantial gardens with, overall, a moderate level of tree and shrub growth. The population of Danaway in 1984 was 96.
- 1.7.3 Chestnut Street is a hamlet with a population of 166 in 1984. It is now situated east of the A249 with access points to the A249 at the north and south ends of the community. Chestnut Street itself was originally the main road, the present A249 having been constructed as a bypass. Chestnut Street is a long established community and includes a Conservation Area and five Listed Buildings. As with Danaway, private gardens tend

to be large, but there is a fairly low level of tree cover. Chestnut Street is almost entirely residential, with a small store, a coachworks and one Public House to the north of the settlement.

1.7.4 Key Street roundabout is the intersection of the A2 and the A249. Both Bobbing Hill and the A2 Keycol Hill towards Chatham rise quite steeply from the roundabout with ribbon development lining each road forming the Bobbing Hill community. Towards the east the A2 Key Street leads into the centre of Sittingbourne becoming gradually more built up with petrol filling stations and small businesses mingling with dwellings.

1.7.5 Bobbing consists of a small ribbon development. It is primarily residential with a village hall, Primary School, St Bartholomews Church and Glen-a-Moy residential home. There are six listed buildings in Bobbing.

1.8 Land Use

1.8.1 The A249 study area is predominantly rural, with an urban/rural fringe at Key Street. The major urban concentration is at Sittingbourne, with the existing industrial area at its centre. Figure 4 shows the land use, existing footpath network and nature conservation along the line of the route.

1.8.2 The agricultural land is a patchwork of grazing and arable fields, interspersed with woodland and orchards. In the south of the study area, sheep pasture is the most frequent land use, giving way to root and grain crops further north. All of the land falling within the ASSA is MAFF classified Grade 1, 2 or 3 agricultural land. Figure 5 shows the agricultural land classification.

1.8.3 Although the area lies within the North Kent Horticultural Belt, the once prevalent orchards have largely declined within the study area, particularly north of Key Street. Large commercial orchards remain south of Keycol Hill and north of Danaway. Old, remnant orchards also cover a substantial area, mostly south of Key Street and east of the A249. These are mainly grazed. In the south of the area, the woodlands are mainly Chestnut coppice remnants, with some species-rich woodlands and remnant orchard and

woodland mixes. There are no woodlands north of Rose Hill near Key Street. In addition, lines of poplars used as windbreaks form a dominant feature in the landscape and there are many substantial hedgerows.

1.8.4 There are two major recreation areas near to the A249. West of Danaway lies the 18 hole Sittingbourne and Milton Regis Golf Club and Grove Park is situated on the A2 between the Key Street roundabout and Sittingbourne. Grove Park is a public recreation ground and is designated Public Open Space.

1.9 Public Rights of Way

1.9.1 There are thirteen Public Rights of Way (PROWs) which connect with the present A249. Two of these are bridleways and the remainder are footpaths, including two Roads Used as Public Paths (RUPP).

1.10 Wildlife and Conservation

1.10.1 Church Wood west of Stockbury roundabout has been identified by the Nature Conservancy Council (NCC) as an Ancient Woodland.

1.10.2 No further sites have been designated by the NCC, Kent Trust for Nature Conservation (KTNC) or other conservation bodies.

1.10.3 A preliminary ecological survey has shown that most of the study area is of very little interest. The most important sites are on rough and unimproved grassland adjacent to the existing road. These include the M2 sliproads to the west of the Stockbury roundabout and the neglected area, pasture and bridleway gully opposite the Cold Store and Gravelpit Wood. The most important area of all was identified as the cutting slope running the length of the A249 opposite Chestnut Street. This contains several interesting flowering plants and insect species, including a colony of nationally rare bush crickets.

1.11 Archaeological Interest

1.11.1 Kent Archaeological Rescue Unit (KARU) have identified five sites of archaeological interest within the study area. One of these sites which includes the foundations of a Medieval Manor House at Bobbing would be affected by the scheme. Every effort would be made to allow KARU access to this site prior to the starting of construction.

2. THE PUBLISHED SCHEME

2.1 General

2.1.1 The Published Scheme will provide a new dual carriageway road between Stockbury roundabout, Junction 5, on the M2 to the south and Bobbing roundabout the termination of the proposed Iwade Bypass scheme to the north. Figure 6 shows the scheme in detail. Orders have already been published for the Iwade Bypass in March 1990.

2.2 Description of the Scheme

2.2.1 The proposed 3.25 miles (5.2km) length of new dual two-lane road starts at an enlarged 5 arm roundabout at Stockbury and runs north-east under the M2 viaduct to the west of the existing A249. It then bypasses Danaway passing through the eastern edge of the Sittingbourne and Milton Regis Golf Course. The carriageways would be split level to suit the sloping sidelong ground from the viaduct to the golf course.

2.2.2 North-east of the Cold Store the route runs parallel and adjacent to the existing road passing to the west of Chestnut Street before descending to pass under the A2 at Key Street. South facing slip roads would be provided at the new Key Street junction providing access to and from the A2.

2.2.3 The road then cuts into the high ground to the north of Key Street before crossing over the London-Sittingbourne railway line and continuing north on 6 metre high embankment crossing over the new Bobbing roundabout. The road then merges with the proposed Iwade Bypass approximately 400 metres north of the roundabout. South facing slip roads would be provided at the new roundabout to allow access to and from the local road network.

2.2.4 The proposed roundabout at Bobbing will be constructed as part of the Iwade Bypass. The roundabout would be constructed in cutting and some 5 to 6 metres below the existing ground level on its western side.

The "Staplehurst Road" link would also join this new roundabout and run eastward into Sittingbourne.

2.3 Road Standards

2.3.1 It is proposed that this section of the A249 should be an all purpose road having 7.3m (24ft), two lane, carriageways. The verges in general would be 3.5m wide including 1m hard strips but would be wider over certain sections to allow for the necessary sightlines.

2.3.2 Key Street and Stockbury roundabouts are lit at present. New lighting would be provided to suit the new junction layouts. It is not proposed to light the carriageway between junctions.

2.4 Side Roads

2.4.1 The proposed A249 has no direct access to the settlements of Danaway or Chestnut Street. The existing A249 would be realigned and linked to the new Stockbury roundabout at the south and a new link would be provided to connect Chestnut Street and the new Key Street roundabout at the north. The existing A249 would then become a local road serving the Danaway and Chestnut Street communities.

2.4.2 The line of the proposed scheme crosses two roads, namely Wormdale Hill and the A2. A bridge would carry the realigned Wormdale Hill over the proposed A249. The bridge would be some 6m above the new road to allow for the continued use of this section of the A249 as a high load route. The existing alignment of Wormdale Hill would be modified to join into the proposed local road network further to the south in Danaway.

2.4.3 An enlarged at grade roundabout would be constructed at Key Street with the A249 passing under the new roundabout in cutting. All the existing roads joining the roundabout are to be maintained, and a new local access road would be provided from the roundabout to Chestnut Street.

2.5 Footpaths and Bridleways

2.5.1 The line of the proposed scheme crosses eight public footpaths or bridleways. Details of the existing rights of way in the area of the scheme are shown on Figure 4. A pedestrian/equestrian survey was carried out in early November 1989 which showed light to moderate footpath usage.

2.5.2 Rights of Way ZR66, ZR67, ZR71, ZR72, ZR115 all cross the line of the proposed A249 between Stockbury and Chestnut Street. During the survey usage of these rights of ways varied from none recorded on ZR71 to moderate usage of ZR67. It is proposed along this length that the footpaths/bridleway be diverted to run along the top of the cutting slope on the western side of the proposed route. Crossing points of the A249 would be via Wormdale Hill overbridge and a proposed pedestrian/equestrian bridge at the south end of Chestnut Street.

2.5.3 ZR117 meets the existing A249 at Key Street roundabout. The proposed new alignment and the enlarged junction cross the end of the footpath which would therefore end at the new junction.

2.5.4 North of the railway line at Bobbing ZR109 and ZR112 are cut by the new scheme. Both footpaths would be diverted under the new route adjacent to the railway under the rail bridge. ZR109 would then run parallel to the northbound slip road to the new roundabout and ZR112 would run west to Sheppey Way along its existing line.

2.6 Cyclists

2.6.1 The existing A249 with the link onto the new Stockbury roundabout at the south and into Chestnut Street and the new Key Street junction at the north would provide a quiet rural side road parallel to the new road suitable for cyclists. The traffic flows on this local road would be very significantly below those on the existing road at present.

2.7 Traffic

2.7.1 The scheme would provide significant benefits for the communities at Danaway, Key Street and Bobbing by diverting substantial traffic flows away from the existing road. Congestion at Key Street roundabout would be considerably reduced with the removal of the A249 through traffic by the grade separation of the interchange. Access to Wormdale Hill would be maintained with a connection onto the local road which would carry significantly less traffic than at present. The effects of the scheme on traffic flows are shown on Figure 7.

3. ENVIRONMENTAL EFFECTS

3.1 Appraisal Framework

3.1.1 The effects of the Published Scheme on the environment are shown in the Appraisal Framework (Appendix A). This has been prepared in accordance with the guidelines given in the Department of Transport's "Manual of Environmental Appraisal" (MEA). The two options compared in the framework are:-

- (a) The Published Scheme as described in this report.
- (b) - The "Do Minimum" scheme including the completed Iwade Bypass scheme and involving the construction of an enlarged roundabout at Key Street with a left turn lane from the A2 Sittingbourne to the A249 southbound.

3.2 Summary of Major Environmental Effects

- 3.2.1 The proposed route would alter the landscape in some areas. New cutting slopes would be constructed in the region of Sittingbourne and Milton Regis Golf Course, adjacent to Chestnut Street and just north of Key Street roundabout. Embankments would be constructed to accommodate the Wormdale Hill diversion in the centre of Danaway and to raise the route to the proposed bridge over the railway south of Bobbing.
- 3.2.2 The major visual effects will be caused by the cutting at Key Street and the embankment at Danaway.
- 3.2.3 The main area of vegetation to be affected would be the woodland ridge to the north of Key Street where a considerable number of semi-mature native trees would be lost from the slope immediately to the north of the roundabout. Some hedgerows would also be lost at Wormdale Hill. The proposed route would cross footpaths ZR71, ZR72 and ZR117 and the junctions of ZR116 and ZR67 with the existing A249 would be affected.

- 3.2.4 Junction construction would cause the demolition of two houses in Danaway, "Danaway House" and "Renfrew". These are both currently owned by the Department of Transport. However the high degree of community severance currently experienced by fourteen properties in south Danaway from the "Gleneagle Garage" northwards to "Meadvale" would be substantially reduced by the down grading of the existing A249 from trunk road to local road.
- 3.2.5 Six farms would be affected by the scheme but it is felt that the scheme would not have a significant affect on the viability of the farms.

The above section should be expanded
and a short section on 'Construction'
ie. how much material on to/from site
how long would it last under

4. MITIGATION MEASURES

4.1 General

- 4.1.1 The proposed improvement to the A249 would provide a new dual carriageway highway running to the west of the communities of Danaway and Chestnut Street and joining the Iwade Bypass east of Bobbing.
- 4.1.2 From Stockbury roundabout northwards to Wormdale Hill the two carriageways would have a widened central reserve and be split level to reduce earthwork on sloping ground.
- 4.1.3 At Danaway the new road would pass to the rear of eight properties at the south west end of the community. Visual and acoustic intrusion would be low due to the screening of the houses by the existing ancient hedgerow and the topography. The new carriageway would be kept low in cutting to reduce its impact.
- 4.1.4 In central Danaway around Wormdale Hill the trunk road through traffic would be moved away from the properties. The Wormdale Hill road embankment and landscape mounding to the north would provide a degree of screening of the through traffic. The sympathetic use of mounding and planting with off-site planting by agreement would be undertaken to minimise the impact of the Wormdale embankment on the community.
- 4.1.5 As the existing road passes west of Chestnut Street it is in cutting. The new alignment would place both new carriageways at a similar level to the existing road with the cutting widened westwards to accommodate the new road.
- 4.1.6 The grade separation of Key Street A2 junction with the A249 passing under the new enlarged at grade roundabout would provide environmental benefits such as reduced noise and less visual obstruction to the community.

4.2 Noise

4.2.1 The proposed geometric alignment of the scheme with extensive earth mounding and grading of side slopes would substantially help to limit the acoustic impact of the road on the existing residences.

4.2.2 A landscape mound would be provided to screen the new road from the properties north of Wormdale Hill in Danaway thereby reducing the visual and acoustic impact on these dwellings.

4.2.3 At Chestnut Street where the existing A249 is in cutting the new road would involve the widening of the cutting westwards away from the settlement. Earthmounding and planting would be provided on top of the existing cut backing onto Chestnut Street to reduce the noise impact on the properties.

4.2.4 Dwellings which meet the criteria imposed in the Noise Insulation Regulations 1975 will be provided with insulation against construction noise, or traffic noise, or both.

4.3 Landscape and Visual

4.3.1 The landscape proposals have been designed to integrate the proposed route as much as possible into the existing landscape and to reduce its visual effect from residential areas and other important viewpoints.

4.3.2 This would be achieved by utilising a variety of landscape techniques:-

4.3.2.1 Dense native tree and shrub planting on cuttings and embankments.

This technique has been proposed along most of the new road especially where the planting can be related to existing vegetation. In some areas, gaps would be designed into the planting belt where this is locally more appropriate.

4.3.2.2 Acquisition of additional land for dense native tree and shrub planting.

Acquisition of additional land has been proposed locally where embankment and cutting planting is insufficient or not suitably located to satisfactorily screen the road. Small parcels of land which would be severed or which would be inaccessible have largely been utilised for this purpose, particularly at Danaway and Stockbury.

4.3.2.3 Dense planting of native trees and shrubs on soil mounds.

Mounds would be utilised in conjunction with additional land acquisition where it would be important to screen the road immediately after construction.

4.3.2.4 Offsite planting by agreement with the land owner.

This solution would be employed where planting outside of the immediate vicinity of the road would further mitigate the visual effects of the new road.

4.3.2.5 Extensive land grading to achieve an apparently natural downland profile

This would be applied in areas where cutting slopes can be satisfactorily graded to merge with local topography. This technique has the advantage of being immediately effective. The landscape proposals drawings show the location and extent of the planting techniques to be employed.

4.3.2.6 Further landscape techniques are proposed for areas with special circumstances which require individual treatment, particularly where visual intrusion would be severe. These are as follows:-

- (i) **Field South of Danaway**
Extensive mounding is proposed to create a false cutting and create a natural downland profile to the field between the existing and proposed A249.
- (ii) **Wormdale Hill**
Embankment slopes to the Wormdale Hill diversion would be constructed to as shallow a gradient as possible, to minimise the visual effect on Danaway. Dense native tree and shrub planting would screen traffic from nearby housing.
- (iii) **North of Key Street**
Proposed cutting slopes would be married into existing steep slopes as far as possible to maximise retention of existing vegetation. Mounds and dense native tree planting are proposed for long-term screening of the road.
- (iv) **Bridge Over Railway Line and Bobbing Roundabout**
Dense native tree and shrub planting would be employed in elevated positions on highway embankments to enable early screening. New planted mounds are also proposed to the south of Bobbing roundabout to reduce the visual impact of vehicles from low level viewpoints. Off site planting by agreement is also suggested to further reduce the visual impact.

4.4 **Wildlife and Conservation**

- 4.4.1 The areas of ecological interest which would be affected by the proposals are those lying to the west of the existing A249 on the cutting slopes from the Cold Store to the northern end of Chestnut Street.
- 4.4.2 The proposed road alignment would necessitate the removal of all the existing cutting slopes along this stretch.

4.4.3 The new cuttings would be constructed at a gradient of 1 : 1 on the lower chalk slopes. The upper slopes of Thanet Beds are less stable and would be constructed at a gradient of 1 : 3. The chalk slopes would be given a rough and uneven surface to encourage the invasion of native chalkland plant species. The upper slopes would be revegetated with appropriate species to resemble as closely as possible the present ground flora. If feasible patches or "turves" of the existing roadside vegetation would be removed prior to road construction and reintroduced on to the new upper slopes. This has proved to be of some use in conserving existing ground flora in similar situations, the aim being that the species present in the implanted turves will eventually recolonize and spread to the surrounding area.

4.4.4 Elsewhere on the site, native wild flora species would be sown where appropriate and native tree and shrub species will be used except in situations where ornamental species are more appropriate.

5. ALTERNATIVE SCHEMES CONSIDERED

5.1 General

- 5.1.1 A public consultation exercise was undertaken in 1987 for the A2 to M2 section of the A249. During the consultation two alternative routes and two alternative junction options were presented to the public at exhibitions held during February. Both schemes, the red and blue routes, commenced at Stockbury roundabout and terminated in an at grade roundabout with the A2 at Key Street.
- 5.1.2 During the consultation exercise a third route was suggested by the public passing to the east of Danaway.
- 5.1.3 Following consideration of the responses from the public consultation exercise and work on the "East of Danaway" route in August 1988 the Red Route was announced as the Preferred Route. During the consultation a number of interested bodies had suggested that Key Street roundabout should be developed as a grade separated junction on traffic and safety grounds. The Preferred Route announcement stated that further work would be carried out on the possibility of grade separation at Key Street.
- 5.1.4 During 1986 three alternative routes for the Iwade bypass had been presented to the public. Each of the three routes which extended from Key Street roundabout to the Kingsferry Bridge, were given a colour code of Red, Blue and Yellow. The concept of the red route was to bypass Bobbing and Howt Green to the west and then pass east of Iwade to use much of the existing Sheppey Way north of the village. The route would cross the London-Sittingbourne railway, near Bobbing, approximately 70 metres west of the existing railway bridge. The Blue route is similar in concept to the red route over the southern length of the Iwade scheme and followed the Yellow route to the north. The Yellow route which was announced as the preferred route, is the one that has been developed as the "Published Scheme" for the Iwade bypass. This route leaves the existing roundabout at Key Street and passes east of Bobbing and Howt Green and then runs parallel and adjacent to the Sittingbourne - Sheerness railway line to Kingsferry

Bridge. The alternative schemes considered for the A2 to M2 scheme and the Iwade Bypass are shown on Figure 8.

5.1.5 Following the preferred route announcements for both the Iwade Bypass and the A2 to M2 sections of the A249, the grade separation of the Key Street junction where the A2 and the A249 meet was considered further. Kent County Council at this time had brought forward proposals for the Staplehurst Road Link which would connect into the Iwade Bypass at a new roundabout at Bobbing. In 1989 revised National Road Traffic Forecast figures were published by the Department of Transport which indicated grade separation would be essential at Key Street on traffic grounds. The development of the junction arrangements at Key Street was added to the A2-M2 proposals using the alignment-chosen for the preferred route for Iwade Bypass.

5.1.6 Further work was carried out on the Key Street junction with underpass and viaduct solutions given consideration together with combinations of slip roads connecting with the roundabouts at Bobbing and at Key Street. This scheme now extends from the M2 at Stockbury to the proposed new roundabout at Bobbing.

5.1.7 The schemes presented at the public consultation exercise and subsequently developed for the M2 to Bobbing improvement are as follows:-

5.2 The Red Route

5.2.1 The Red Route would involve the construction of a new dual 2 lane carriageway running north from Stockbury roundabout to the west of the existing A249. The new road having passed under the M2 viaduct would cross a field and pass through the edge of Sittingbourne and Milton Regis Golf Course passing behind the Danaway properties on the western side of the existing A249. Having crossed Wormdale Hill the road would curve right to join the line of the existing road in the region of the Cold Store. From the Cold Store north to Key Street the existing carriageway would remain as the southbound carriageway with the northbound carriageway constructed adjacent to it. Wormdale Hill would cross the new A249 on an overbridge and then descend on embankment to join the existing downgraded A249 in central Danaway.

5.2.2 Local access would be provided to Danaway via slip roads on the northbound carriageway and over the Wormdale bridge with left turn on and off slip roads from the southbound carriageway. The existing road link from Danaway to Stockbury roundabout would be removed. Access to Chestnut Street would be via a one-way link road onto the A2 just east of Key Street roundabout. On and off slip roads would be provided to and from the A249 southbound carriageway.

5.2.3 The "Published Scheme" in this document is principally the development of this Red Route. The line of the scheme remains basically unaltered with the access arrangements amended, the incorporation of a grade separated junction with the A2 at Key Street and the extension of the scheme northwards to the Bobbing roundabout.

5.3 The Blue Route

5.3.1 The principle of the Blue route was basically on-line dualling retaining the existing carriageway and providing a new carriageway adjacent to it on its western side.

5.3.2 The new road would deviate from the existing line over an 800m length through Danaway to provide a grade separated junction with Wormdale Hill. This would entail the new road departing from the existing line at the southern end of Danaway and passing under Wormdale Hill approximately 60m west of the existing road.

5.3.3 Access to Danaway would be provided by slip roads off the northbound carriageway onto Wormdale Hill passing over the new A249 on a bridge and running down an embankment to the existing road. Access from the southbound carriageway would be from left turn slip roads onto the existing A249.

5.4 East of Danaway Route

5.4.1 Following the public consultation a third route was considered called the East of Danaway route. This route commences with an enlarged roundabout at Stockbury and runs north under the M2 viaduct and climbs the eastern valley side first on embankments and then cutting before passing east of Danaway. The route would then curve back and

descend the valley side passing east of the Cold Store before going onto embankment and rejoining the existing road alignment at Chestnut Street. The route then continues north following the existing road from Chestnut Street to Key Street.

5.4.2 An additional arm would be provided on Stockbury roundabout for the connector road which would run to the west of and parallel to the new alignment and join up with the existing A249 just south of Gleneagles Garage. This would provide the southern access to Danaway. Woodgate Lane would pass under the new scheme in an underpass.

5.4.3 Access to the southbound carriageway from Chestnut Street would be provided by a left-in, left-out turning at Chestnut Street north.

5.4.4 The existing road would join the northbound carriageway of the new road at the south end of Chestnut Street. A new length of road would be constructed connecting the south end of Chestnut Street with the existing road in the area of Gravelpit Wood and passing under the new road via an underbridge.

5.5 Choice of Published Scheme

5.5.1 The published scheme was chosen because:-

1. It was the most favoured by the general public, local authorities and other bodies.
2. It significantly reduced community severance at Danaway.
3. It was best in economic terms.
4. It would have a less severe effect upon the environment.

FIGURES

APPENDIX A

THE A249 TRUNK ROAD M2 TO BOBBING IMPROVEMENT

Group 1: Travellers

Sub-Group	Effect	Units	Proposed Scheme	Do Minimum	Comments	
All Vehicle Travellers	Value of Time Savings	£m (PVB)	High 27.60	0	<p>Present value of benefits (PVB) are for a 30 year period from the opening of the road discounted to 1988 prices.</p> <p>Savings show the improvement over the Do Minimum Situation</p> <p>LOW and HIGH values are calculated using the predicted traffic growths from the June 1989 National Forecasts of Vehicle Kilometres</p> <p>The figures indicate the probable total reduction in casualties over the whole of the 30 year assessment period if national average accident rates apply.</p>	
	Vehicle operating cost Savings	£m (PVB)	1.30	0		
	Value of accident Savings	£m (PVB)	5.44	4.36		0
	Reduction in casualties	Fatal	Number	18		18
		Serious	Number	141		141
		Slight	Number	332		332
	Traffic Delay During Construction			Slight		-
	Driver Stress			Low		High

THE A249 TRUNK ROAD N2 TO BOBBING IMPROVEMENT

Group 2: Occupiers

Sub-Group	Effect	Units	Proposed Scheme	Do Minimum	Comments
Residential	Demolition	No of Residences Demolished	2	0	Properties already owned by DTP.
	Noise	Number of houses experiencing an increase of over 10 dB(A) 5-10 dB(A) 3-5 dB(A) 0-3 dB(A)	0 0 1 75	0 0 0 0	The changes in the noise are the difference between the forecast for each option including any mounding for the year 2010 and existing levels. The units are dB(A) 18 hour - 6 am to midnight. The National Survey of exposure to traffic noise did not identify different levels of general dissatisfaction until noise levels were at least 3dB(A) apart. For the 'Do Minimum' scheme houses adjacent to the existing A249 would experience an increase of 2dB(A).
	Visual Obstruction	No of houses experiencing a decrease of over 10 dB(A) 5-10 dB(A) 3-5 dB(A) 0-3 dB(A) Number of Properties subject to Severe Significant Slight	33 13 3 62 4 17 16	0 0 0 0 No Change No Change No Change	

THE A249 TRUNK ROAD M2 TO BOBBING IMPROVEMENT

Group 2: Occupiers (Cont'd)

Sub-Group	Effect	Units	Proposed Scheme	Do Minimum	Comments
Residential (Cont'd)	Visual Intrusion	Number of properties subject to High Medium Low	21 17 35	No Change	Visual intrusion is reduced by mounding and dense planting at Danaway.
	Severance (a) Relief of existing severance		Significant reduction in community severance at Danaway	None	
	b) Imposition of new severance Disruption during construction		None 71 homes within 100m of the main alignment 58 houses within 100m of side road works.	An increase in traffic would increase severance at Danaway None	Houses affected by side roads mainly in Key Street area.

THE A249 TRUNK ROAD N2 TO BOBBING IMPROVEMENT

Group 2: Occupiers (Cont'd)

Sub-Group	Effect	Units	Proposed Scheme	Do Minimum	Comments
Commercial Premises (a) Cold Store	Noise decrease Access	dB(A) L10	1.2 Improved access onto connector road	0 Moderate deterioration due to increases in traffic on A249	
b) Chestnut Street Coachworks	Any		None	- None	
c) Tudor Rose Public House and Restaurant	Access		Improved access onto connector road	Moderate deterioration due to increase in traffic on A249	Connector road may reduce on street parking
d) Danaway Filling Station	Disruption during construction Access		Slight Isolation from through traffic	- -	
e) Gleneagles Garage	Access		Isolation from through traffic	-	

THE A249 TRUNK ROAD M2 TO BOBBING IMPROVEMENT

Group 2: Occupiers (Cont'd)

Sub-Group	Effect	Units	Proposed Scheme	Do Minimum	Comments
Shops f) Chestnut Street Store	Access		Slightly increased passing trade	None	
	Disruption during construction		None	-	
	Access		Isolation from passing traffic	-	
g) Danaway Cafe	Disruption during construction		Slight	-	
	Access		Loss of access		
Industrial Premises Kent County Council Depot					
Schools a) Bobbing County Primary School (28 pupils)	Noise	dB(A) L10	+1.7	0	Noise reduction at Bobbing County Primary School assumes the A249 Iwade Bypass is completed for the Do-minimum scheme.
	Construction noise	dB LAeq 12 hr	77.5 - 82.0		BS 5228 refers.
	Access		Moderate benefit to the children attending the school	Moderate deterioration due to increased traffic on A249	

THE A249 TRUNK ROAD M2 TO BOBBING IMPROVEMENT

Group 2: Occupiers (Cont'd)

Sub-Group	Effect	Units	Proposed Scheme	Do Minimum	Comments
b) Grove Park County Primary School (480 pupils)	Noise	dB(A) L10	+2.4		
	Construction noise	dB LAeq 12 hr	77.5		
Recreational Sittingbourne and Milton Regis Golf Course	Noise	dB(A) L10	+4.7	0	
	Access Disruption during construction		Substantial improvement with access onto connector road Moderate	Moderate deterioration due to increased traffic on A249 -	
Farming	Land take	Number of farms affected	6	0	
		Hectares of Land			
		Grade 1 Grade 2 Grade 3	13.6 1.8 6.7		Based on broad MAFF classification. All land within Area of Special Significance for Agriculture (ASSA)

THE A249 TRUNK ROAD M2 TO BOBBING IMPROVEMENT

Group 3: Users of Facilities

Sub-Group	Effect	Units	Proposed Scheme	Do Minimum	Comments
a) Danaway Hamlet {96 population 1984}	Noise	dB(A) L10 18 hr	-2.2	0	
	Access		Substantially improved	Moderate deterioration due to increased traffic	
b) Chestnut Street Hamlet {166 population 1984}	Noise	dB(A) L10 18hr	+1.1	0	
	Access		improved	Moderate deterioration due to increased traffic	
c) St. Bartholomeus Church Bobbing {AVERAGE congregation 24}	Noise	dB(A) L10 18 hr	+1.7	0	Noise reduction assumes the A249 Iwade Bypass is completed for the Do-minimum scheme.
	Disruption due to construction		100m from edge of site		

THE A249 TRUNK ROAD N2 TO BOBBING IMPROVEMENT

Group 3: Users of Facilities (Cont'd)

Sub-Group	Effect	Units	Proposed Scheme	Do Minimum	Comments
d) Users of Sittingbourne and Milton Regis Golf Course. (650 members in 1990)	Reduction in amenity through landtake.	Hectares	5.34	No effect	Agreement has been reached in principle for land purchase and compensation with the Golf Course
	Access		Slight improvement with access onto connector road	Moderate deterioration due to increased traffic	
	Disruption during construction		Moderate	-	

THE A249 TRUNK ROAD M2 TO BOBBING IMPROVEMENT

Group 4: Policies for conserving and enhancing the area

POLICY	AUTHORITY	INTEREST	PROPOSED SCHEME	DO MINIMUM	COMMENTS
a) To protect and preserve listed buildings (including building related space, topography and vegetation) and conservation area.	Department of Environment Kent County Council Swale Borough Council	Control of Development	Increased Traffic on Chestnut Street due to Link with Key Street	No Change	Structure plan policy BE3
b) The preservation and improvement everywhere of urban areas and rural settlements	Kent County Council	To reduce the rate and amount of new development in rural Kent	Removes most through traffic at Danaway. Slight increase in through traffic at Chestnut Street.	No Change	Structure plan policy BE1 and RS1 -4
c) To conserve the existing countryside (open countryside policies of restraint).	Kent County Council	To maintain rural land use and character, preserving the valuable land resources of Kent	Majority of route within the area of special significance for agriculture. Most impact at Danaway - Golf Course and arable field. Also arable field south of Bobbing.	No Change	Structure plan policies CCI, CC2, CC3, CC7 and SP4. Kent Countryside Plan KCPI and 2.
d) To protect the North Kent Horticultural belt area of Special significance for agriculture	MAFF Kent County Council	To preserve high grade agricultural land and prevent its loss to other uses.	Loss of agricultural land mainly at Danaway, south of Key Street and south of Bobbing. Mostly grade 1 or 2.	No Change	Structure Plan Policy CC3.

THE A249 TRUNK ROAD M2 TO BOBBING IMPROVEMENT

Group 4: Policies for conserving and enhancing the area (cont'd)

Policy	Authority	Interest	Proposed Scheme	Do Minimum	Comments
e) To protect the North Downs area of outstanding natural beauty and special landscape area	Countryside Commission Kent County Council	To preserve visual amenity and rural character	Enlarged and more elevated roundabout at Stockbury	No Change	Structure Plan Policy CC7
f) To conserve existing trees	Kent County Council	To prevent loss of trees	Minor tree loss at golf course. Tree loss north of Key Street.	No Change	Structure Plan Policy CC5
g) To protect habitats features important for nature conservation	Kent County Council	To preserve native flora and fauna.	Loss of ancient hedges at Wормdale Hill	No Change	Structure Plan Policy CC10

THE A249 TRUNK ROAD M2 TO BOBBING IMPROVEMENT

Group 5: Transport, Development and Economic Policies

Policy	Authority	Interest	Proposed Scheme	Do Minimum	Comments
Transport a) To improve Trunk Roads to ports b) To maintain a viable rural bus transport system in Kent	Department of Transport	Industry and Commerce, movement of freight to and from ports	Significant improvement	Increasing delay expected	Government White Paper ' Policy for Roads in England 1983.
	Kent County Council	Maintenance of existing level of service	Improvement to all services by the removal of through traffic from the connector road		
Development and Economic c) To assist economic growth by reducing transport costs d) To encourage the growth of Industry, Commerce and employment in Kent	Department of Transport	Road Construction Programme	Significant improvement	Little change	Roads for Prosperity 1989
	Kent County Council	Sheerness/Queenborough area identified as an area where a supply of sites will be available	Significant improvement. Improved access to Sheerness/Queenborough area	Little change	Structure Plan Strategic Policy S1

THE A249 TRUNK ROAD M2 TO BOBBING IMPROVEMENT

Group 5: Transport, Development and Economic Policies (Cont'd)

Policy	Authority	Interest	Proposed Scheme	Do Minimum	Comments
e) To encourage and support the growth of Port Development	Kent County Council	Continued expansion of trade in addition to cross channel traffic at Sheerness	Improved access to Sheerness	Little change	Structure Plan Ports Policy P07
f) To encourage Port Development for import of marine aggregates	Kent County Council	Sheerness Docks and Richam Dock identified as sites for the import of aggregates	Improved access to Sheerness and Richam	Little change	Structure Plan Minerals Policy MWD2
g) To facilitate Mineral Extraction	Kent County Council	Existing, proposed and possible sites for extraction of brickearth	Moderate Effect	No Effect	Structure Plan Minerals Policy MWD4 and Kent Minerals Subject Plan Policies B1, B2 & B9 (ii)

THE A249 TRUNK ROAD M2 TO BOBBING IMPROVEMENT

Group 6: Financial Effects

Sub-Group	Interest	Units	Proposed Scheme	Do Minimum	Comments
Department of Transport	Construction Costs	£m (PVC)	15.62	0.03	Costs discounted to 1988 prices Includes compensation
	Land Costs	£m (PVC)	0.730	0.498	
	Maintenance Costs	£m (PVC)	16.35	0.528	
	Total Cost	£m (PVC)			
Total Quantified Monetary Benefit			High	0	Includes savings in time, vehicle operating costs, accidents and maintenance savings from Group 1.
		£m (PVB)	35.55	27.38	
Net Present Value Compared to Do-Minimum			Low	0	P.V.C. = Present Value Cost P.V.B. = Present Value Benefits N.P.V. = Net Present Value 1988 Price discounted to 1988
		£m (MPV)	19.93	11.76	

APPENDIX B

NON-TECHNICAL SUMMARY

The Existing Situation

The A249 is an important north-south link between the M20, the M2 and the A2. It also forms the only link between the main land and the Isle of Sheppey, which includes the port of Sheerness. The road is heavily trafficked and carries a high proportion of heavy goods vehicles. In the region of the proposed scheme, the existing road passes through the ribbon development of Danaway, bypasses Chestnut Street and crosses the A2 at Key Street in an at grade roundabout.

The Scheme

The proposed scheme would involve the construction of a new dual two lane carriageway passing to the west of Danaway and Chestnut Street along the line shown on Figure A. The scheme would commence at a new enlarged 5 arm roundabout at Stockbury and run north-east under the M2 viaduct to the west of the existing A249. The new route would bypass the Danaway settlement, travelling through the edge of Sittingbourne and Milton Regis Golf Course and rejoin the existing road adjacent to the Cold Store. North of the Cold Store the road would follow the line of the existing A249 to Key Street, bypassing Chestnut Street. The new road would then descend between retaining walls south of Key Street and pass under a new enlarged roundabout at the junction with the A2. The new road would climb in cutting up the escarpment north of Key Street before emerging on embankment to pass over the London-Sittingbourne railway line at Bobbing. The road would then continue north on a 6m embankment over the new Bobbing roundabout and merge with the line of the proposed Iwade Bypass scheme approximately 400m further north.

The Side Roads

There would be no direct access from the new A249 to the settlements of Danaway or Chestnut Street. The existing A249 would become a local access road with connections to the new roundabout at Stockbury in the south and the enlarged Key Street roundabout in the north.

The line of the proposed scheme crosses two roads namely Wormdale Hill and the A2. A bridge would carry a realigned Wormdale Hill over the new A249. Having crossed the A249, Wormdale Hill would descend on embankment to meet the local road in Danaway.

At Key Street the proposed underpass would remove the A249 through traffic from the enlarged roundabout.

Benefits of the Scheme

Traffic through Danaway would be substantially reduced. There would be a significant reduction in community severance at Danaway.

Access to properties in Danaway, the Cold Store and the golf course would be eased due to the provision of a local access road. Buses, cyclists and pedestrians can use the local road.

The removal of the A249 through traffic at Key Street roundabout would reduce congestion and delay at this junction.

Noise to properties fronting the existing A249 in Danaway would be greatly reduced.

Impact of the Scheme

Two properties would be demolished at Danaway due to the construction of the scheme. Both properties are owned by the Department of Transport.

The new road and structures would be visible from a number of locations although much of the road would be in cutting and ameliorated by landscape treatment.

The majority of the scheme lies within the North Kent Horticultural Belt "Area of Special Significance" for agriculture and six farms would be affected.

The southern 300m of the scheme and Stockbury roundabout lies within the Kent Downs Area of Outstanding Natural Beauty and North Downs Special Landscape Area.

There would be a slight increase in traffic noise to the rear of properties on the western side of Chestnut Street.

Mitigation Measures

Extensive mounding and planting proposals have been designed to integrate the proposed route as much as possible into the existing landscape and to reduce its visual effect from residential areas and other viewpoints. Various techniques would be used to integrate the new road into the landscape. These would include dense native tree and shrub planting on cuttings and embankments, extensive land grading to achieve an apparent natural downland profile and offsite planting by agreement with land owners.

Earthmounding would be used to limit the impact of noise on the most affected properties.

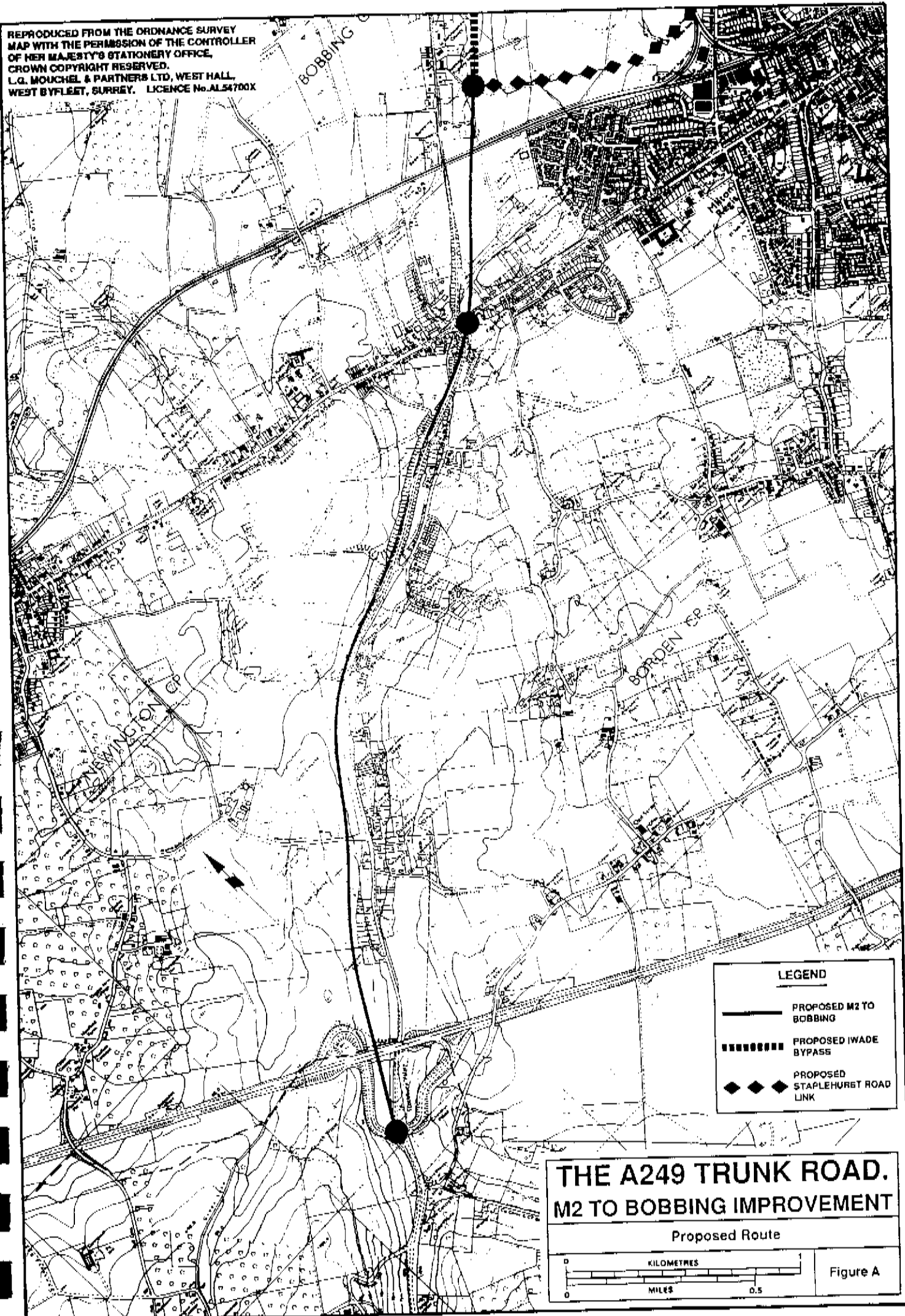
Alternatives Considered

At the public consultation held in February 1987 two route options and two junction options were presented to the public for the A2 to M2 section of the proposals. Further to the public consultation exercise and following a suggestion from the public a third route called the East of Danaway route was also investigated (Figure B). In late 1986 route options for the Iwade Bypass had been presented to the public from the A2 north to Kingsferry Bridge and the preferred route alignment chosen from these options formed the basis of the A2 Key Street to Bobbing section of these proposals.

The scheme based on the A2-M2 red route was preferred because:-

1. It was the most favoured by the general public, local authorities and other bodies.
2. It significantly reduced community severance at Danaway.
3. It was best in economic terms.
4. It would have a less severe effect upon the environment.

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LEGEND

- PROPOSED M2 TO BOBBING
- - - - - PROPOSED IWADE BYPASS
- ◆◆◆ PROPOSED STAPLEHURET ROAD LINK

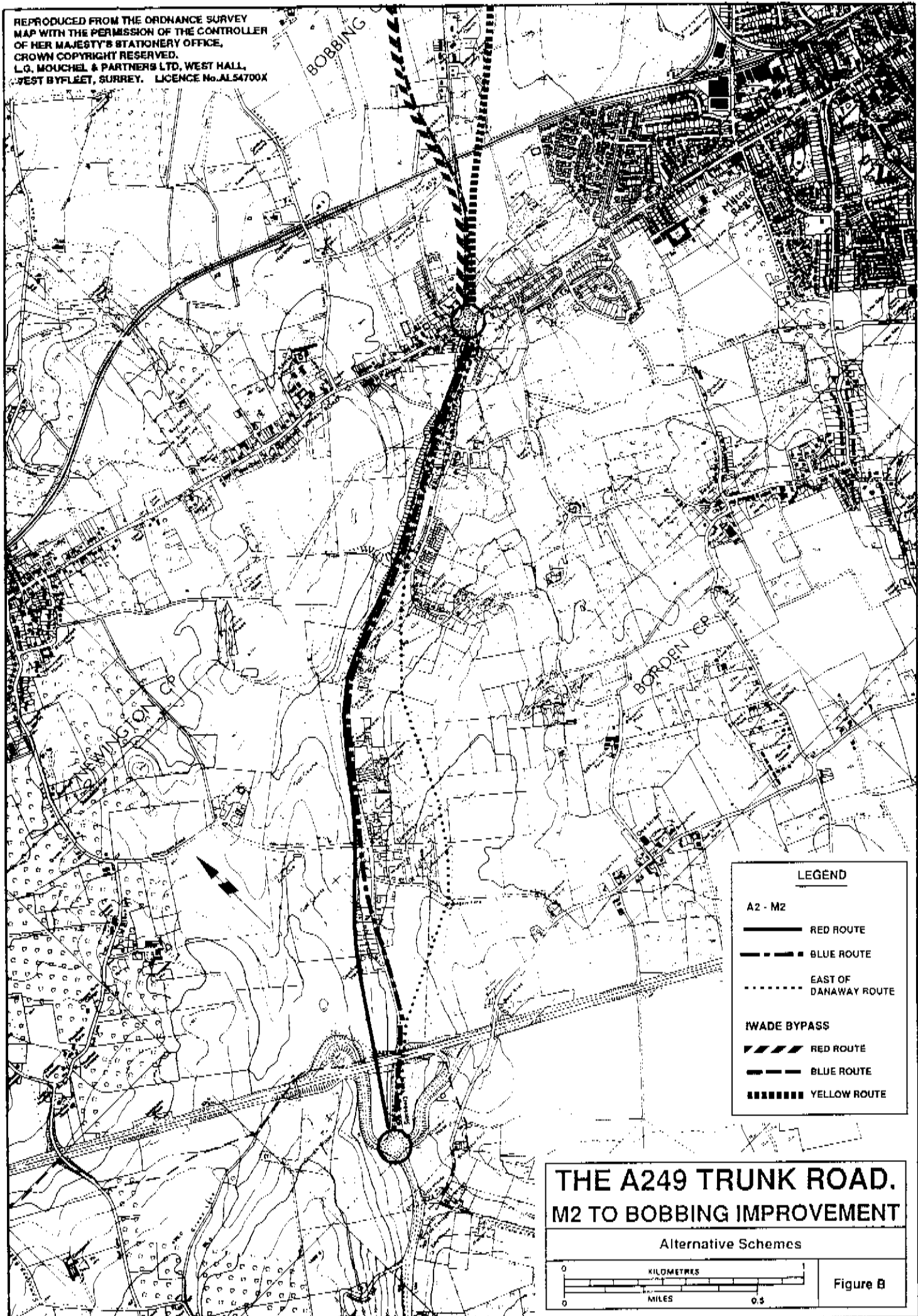
**THE A249 TRUNK ROAD.
M2 TO BOBBING IMPROVEMENT**

Proposed Route



Figure A

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LEGEND

A2 - M2

- RED ROUTE
- - - BLUE ROUTE
- EAST OF DANAWAY ROUTE

WAIDE BYPASS

- //// RED ROUTE
- - - BLUE ROUTE
- YELLOW ROUTE

**THE A249 TRUNK ROAD,
 M2 TO BOBBING IMPROVEMENT**

Alternative Schemes

0 ————— 1
 KILOMETRES

0 ————— 0.5
 MILES

Figure B



UNCLASSIFIED

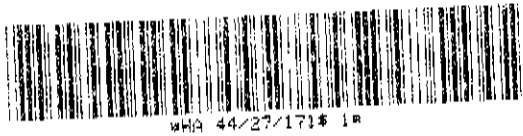
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HA 044/027/000171 1

ENVIRONMENT & LANDSCAPE
Environmental Statement

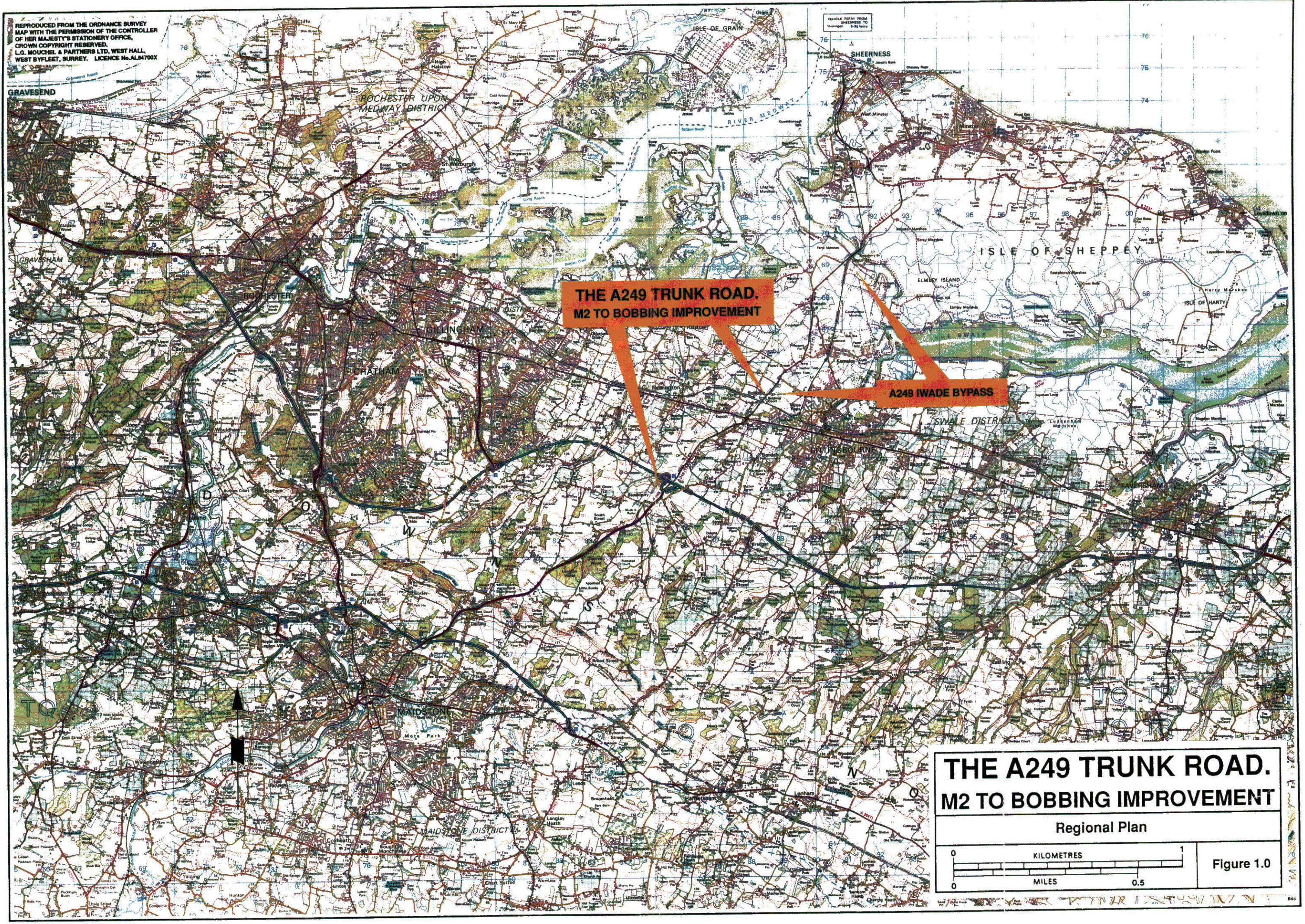
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**A249 M2 TO BOBBING IMPROVEMENT -
ENVIRONMENTAL STATEMENT 10/90**



MHA 44/27/1715 1R

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**THE A249 TRUNK ROAD.
M2 TO BOBBING IMPROVEMENT**

A249 IWADE BYPASS

**THE A249 TRUNK ROAD.
M2 TO BOBBING IMPROVEMENT**

Regional Plan

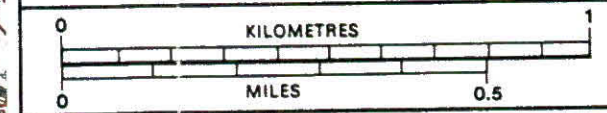
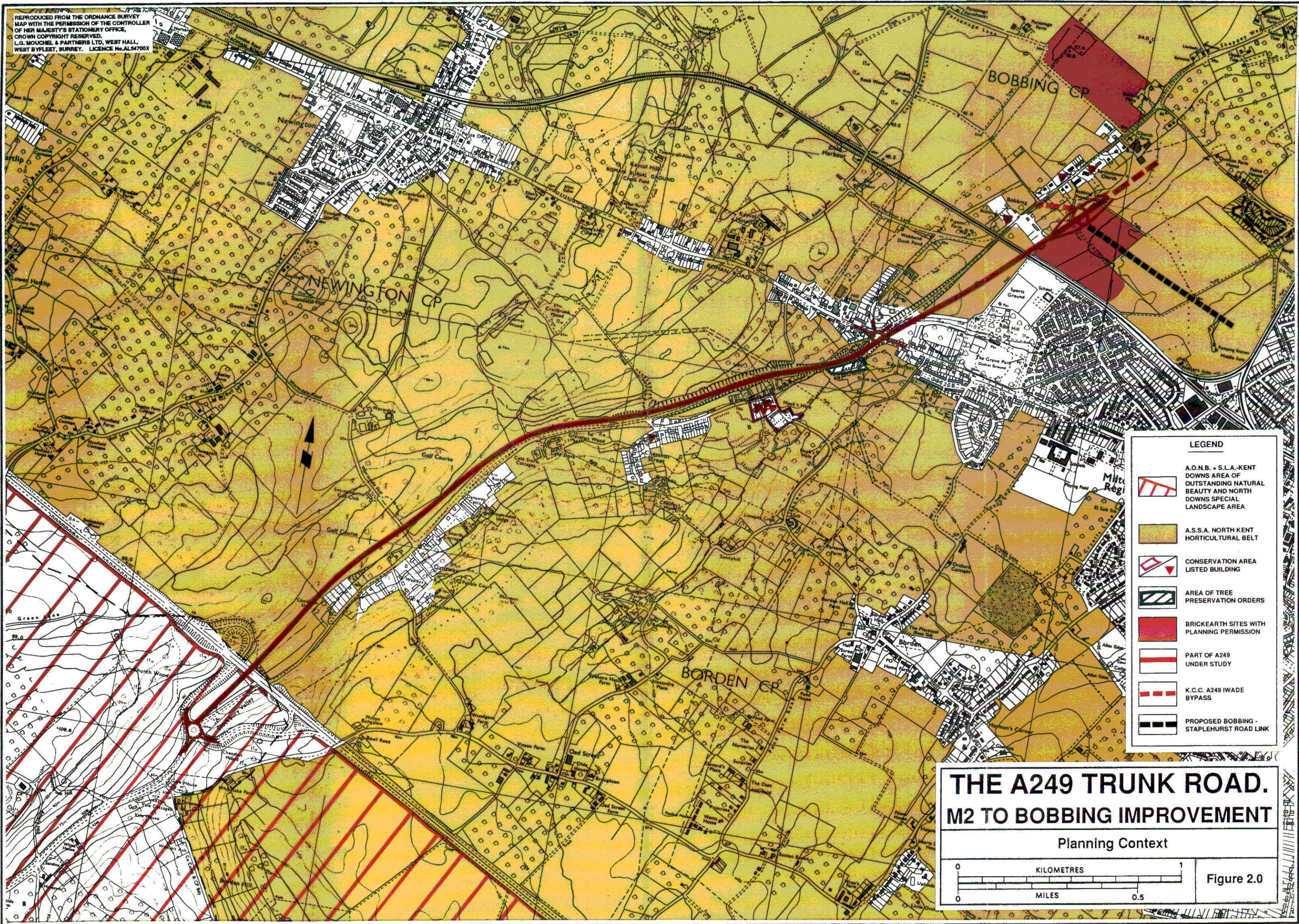










Figure 1.0

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LEGEND

-  A.O.N.B. + S.L.A. KENT DOWNS AREA OF OUTSTANDING NATURAL BEAUTY AND NORTH DOWNS SPECIAL LANDSCAPE AREA
-  A.S.S.A. NORTH KENT HORTICULTURAL BELT
-  CONSERVATION AREA LISTED BUILDING
-  AREA OF TREE PRESERVATION ORDERS
-  BRICKEARTH SITES WITH PLANNING PERMISSION
-  PART OF A249 UNDER STUDY
-  K.C.C. A249 IWADE BYPASS
-  PROPOSED BOBBING - STAPLEHURST ROAD LINK

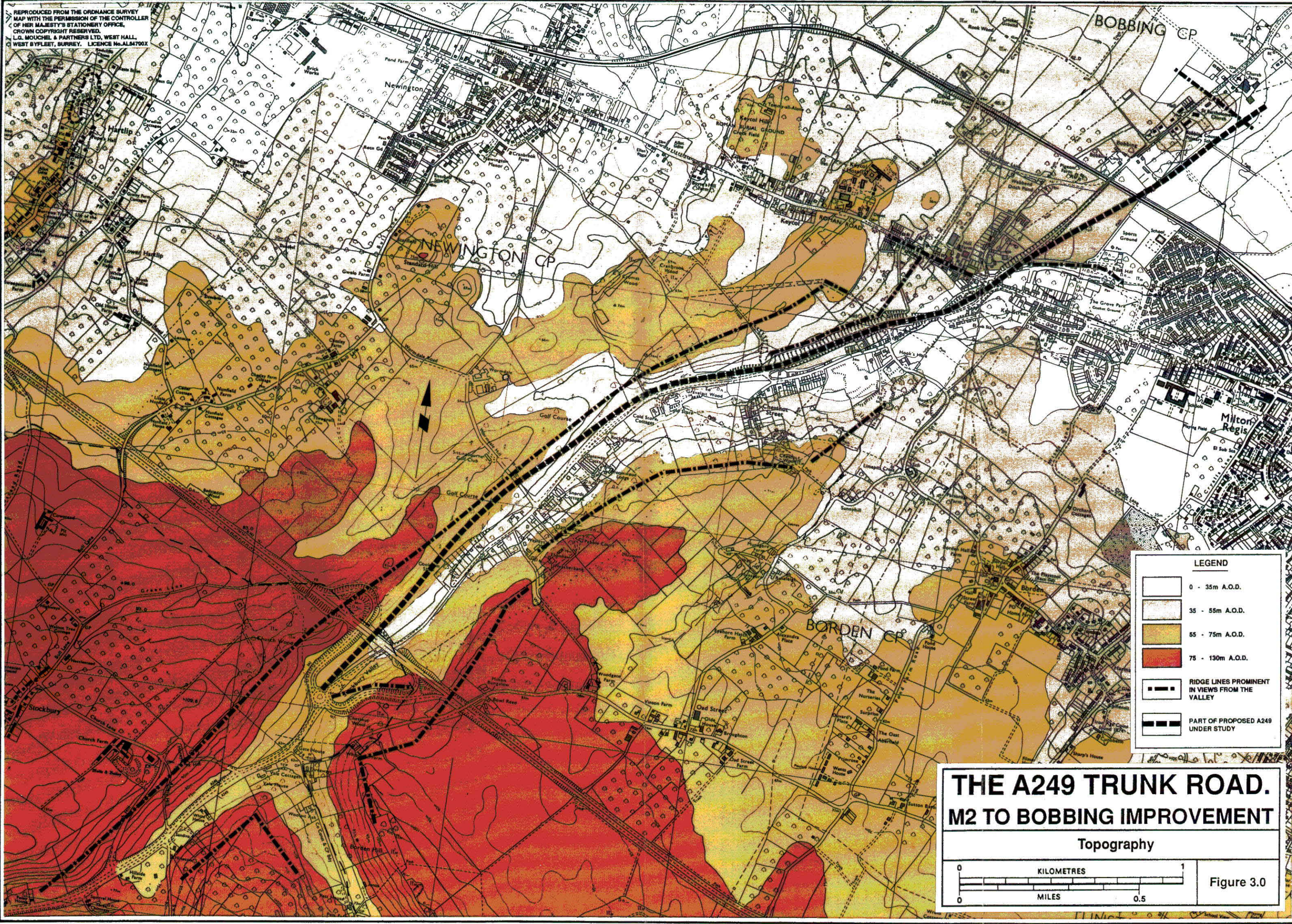
THE A249 TRUNK ROAD. M2 TO BOBBING IMPROVEMENT

Planning Context



Figure 2.0

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LEGEND

- 0 - 35m A.O.D.
- 35 - 55m A.O.D.
- 55 - 75m A.O.D.
- 75 - 130m A.O.D.
- RIDGE LINES PROMINENT IN VIEWS FROM THE VALLEY
- PART OF PROPOSED A249 UNDER STUDY

**THE A249 TRUNK ROAD.
M2 TO BOBBING IMPROVEMENT**

Topography

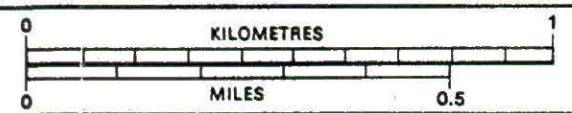
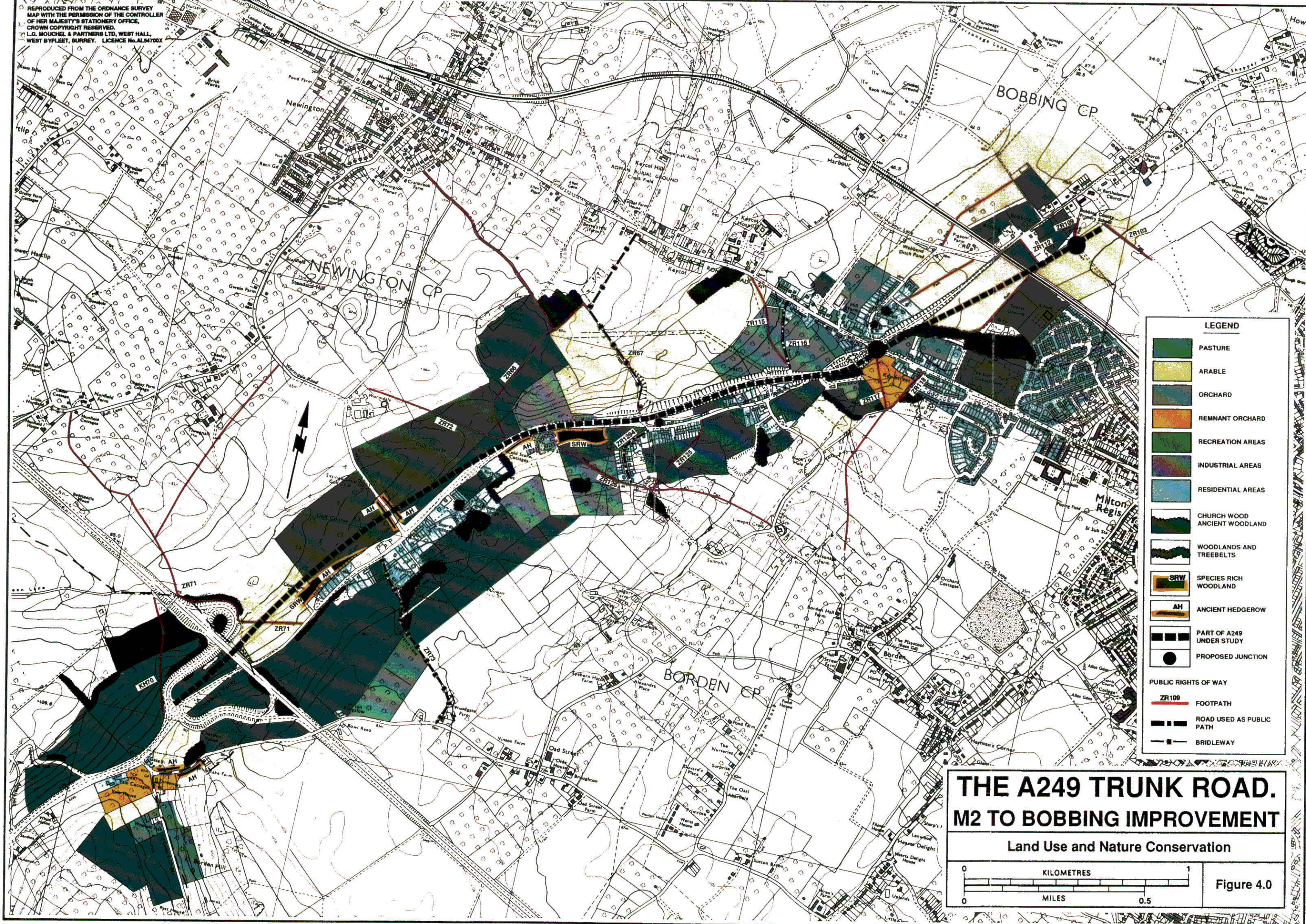


Figure 3.0

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LEGEND

- PASTURE
- ARABLE
- ORCHARD
- REMNANT ORCHARD
- RECREATION AREAS
- INDUSTRIAL AREAS
- RESIDENTIAL AREAS
- CHURCH WOOD
- ANCIENT WOODLAND
- WOODLANDS AND TREEBELTS
- SRW SPECIES RICH WOODLAND
- AH ANCIENT HEDGEROW
- PART OF A249 UNDER STUDY
- PROPOSED JUNCTION

PUBLIC RIGHTS OF WAY

- ZR109 FOOTPATH
- ROAD USED AS PUBLIC PATH
- BRIDLEWAY

**THE A249 TRUNK ROAD.
M2 TO BOBBING IMPROVEMENT**

Land Use and Nature Conservation

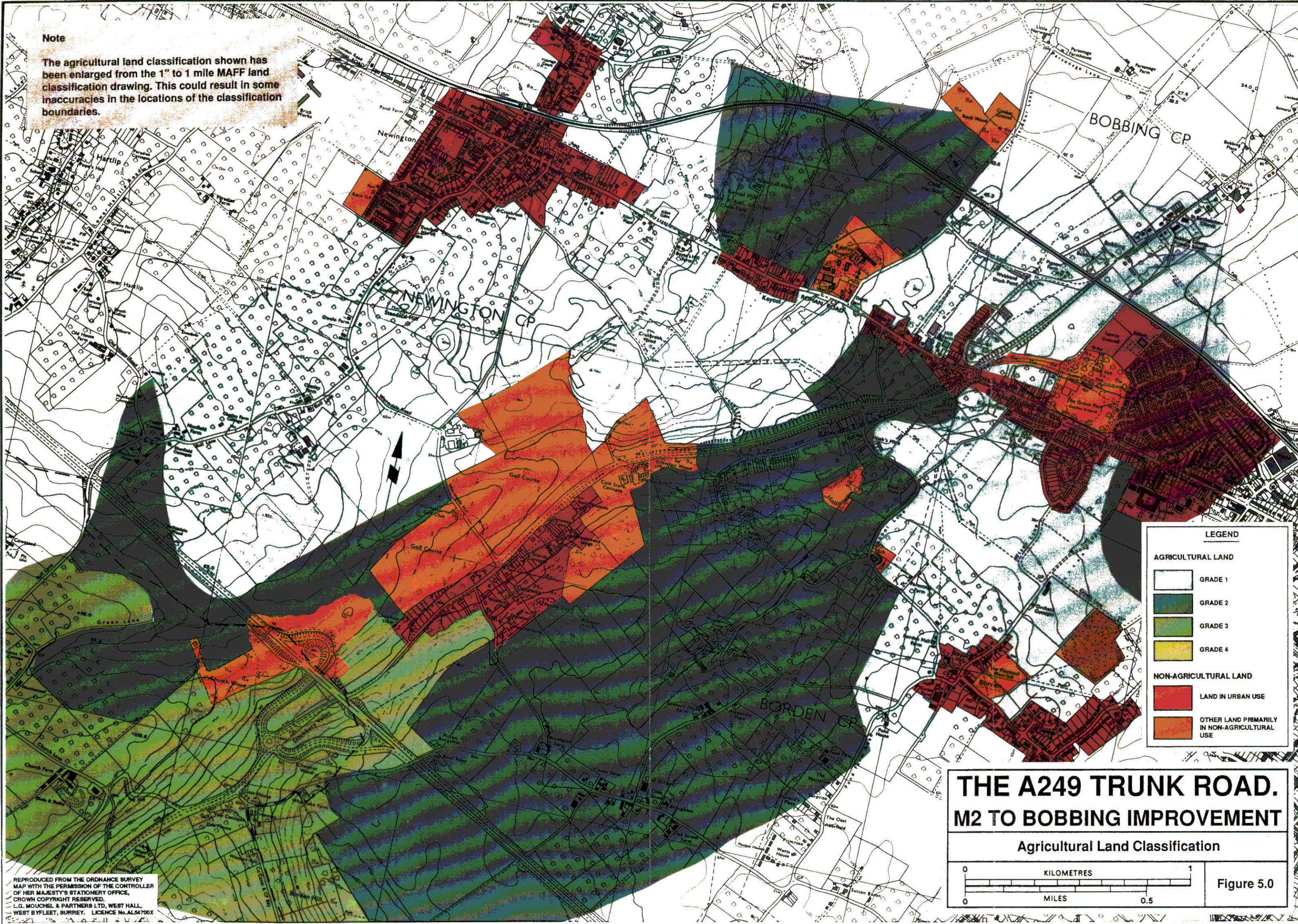
0 1
KILOMETRES

0 0.5
MILES

Figure 4.0

Note

The agricultural land classification shown has been enlarged from the 1" to 1 mile MAFF land classification drawing. This could result in some inaccuracies in the locations of the classification boundaries.



LEGEND

AGRICULTURAL LAND

- GRADE 1
- GRADE 2
- GRADE 3
- GRADE 4

NON-AGRICULTURAL LAND

- LAND IN URBAN USE
- OTHER LAND PRIMARILY IN NON-AGRICULTURAL USE

**THE A249 TRUNK ROAD.
M2 TO BOBBING IMPROVEMENT**

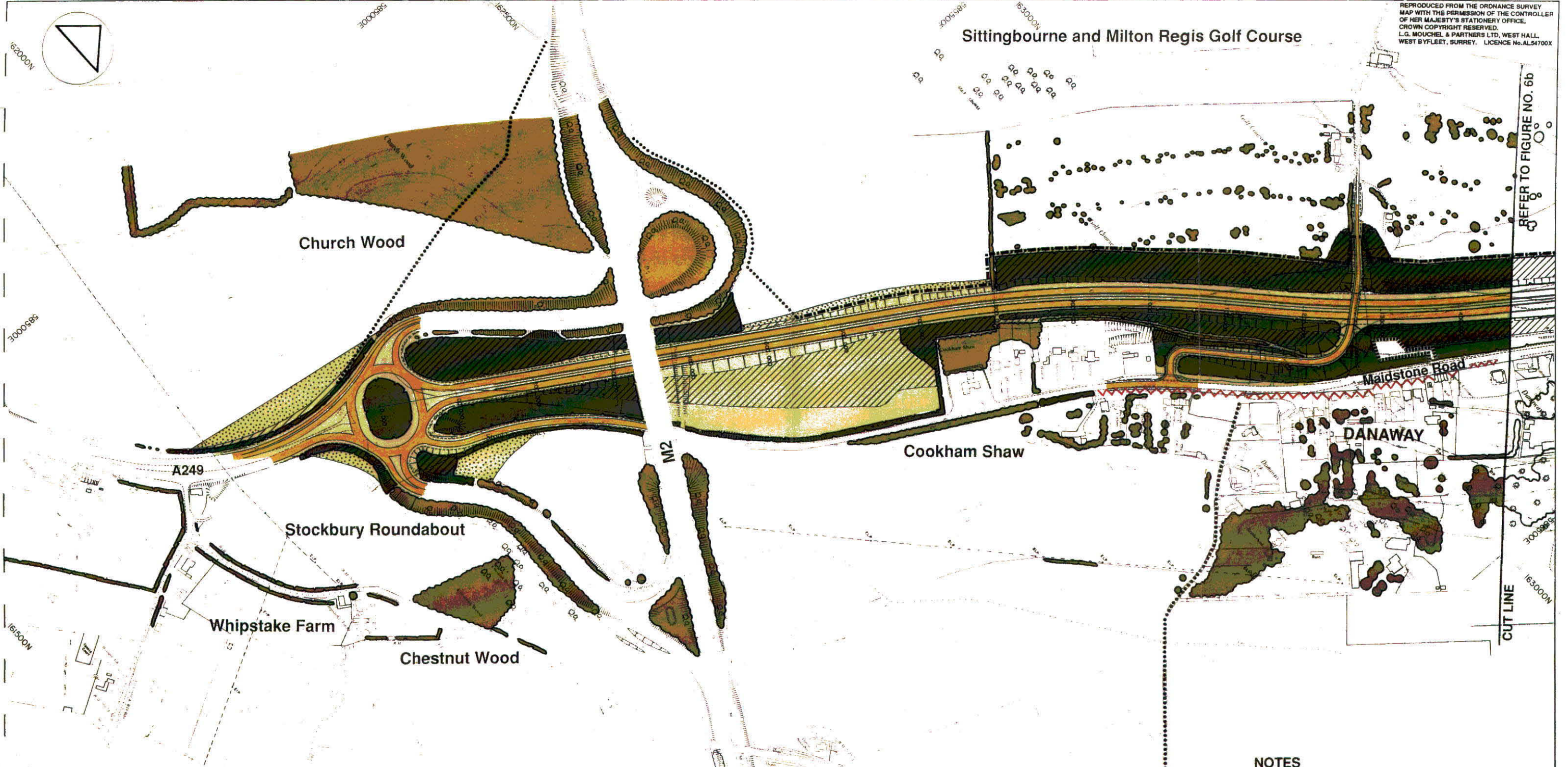
Agricultural Land Classification

0 1
KILOMETRES
0 0.5
MILES

Figure 5.0

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Sittingbourne and Milton Regis Golf Course



LEGEND

	NEW CARRIAGEWAY		EXISTING VEGETATION		LAND TO BE ACQUIRED UNDER LICENCE FOR THE MITIGATION OF ADVERSE EFFECTS
	RETAINING WALL		PROPOSED DENSE TREE AND SHRUB PLANTING		AREAS CONSIDERED APPROPRIATE FOR OFFSITE "PLANTING BY AGREEMENT" CARRIED OUT UNDER SECTION 253 OF THE HIGHWAYS ACT 1980
	DIVERTED PUBLIC RIGHTS OF WAY		LANDSCAPE TREATMENT OTHER THAN TREE AND SHRUB PLANTING - TO INCLUDE GRADING AND SCREEN MOUNDING		ENGLISH HERITAGE CONSERVATION AREA
	PUBLIC FOOTPATH TO REMAIN		LAND COMPULSORILY ACQUIRED FOR THE MITIGATION OF ADVERSE EFFECTS		LISTED BUILDING

NOTES

- PLANS SHOW ENGINEERING EARTHWORKS ONLY OTHER THAN AT JUNCTIONS THE ROUTE WILL NOT BE LIT
- AREA TO THE NORTH OF THE M2 FORMS PART OF THE NORTH KENT HORTICULTURAL BELT - AREA OF SPECIAL SIGNIFICANCE FOR AGRICULTURE
- AREA SOUTH OF THE M2 LIES IN THE KENT DOWNS AREA OF OUTSTANDING NATURAL BEAUTY AND KENT DOWNS SPECIAL LANDSCAPE AREA

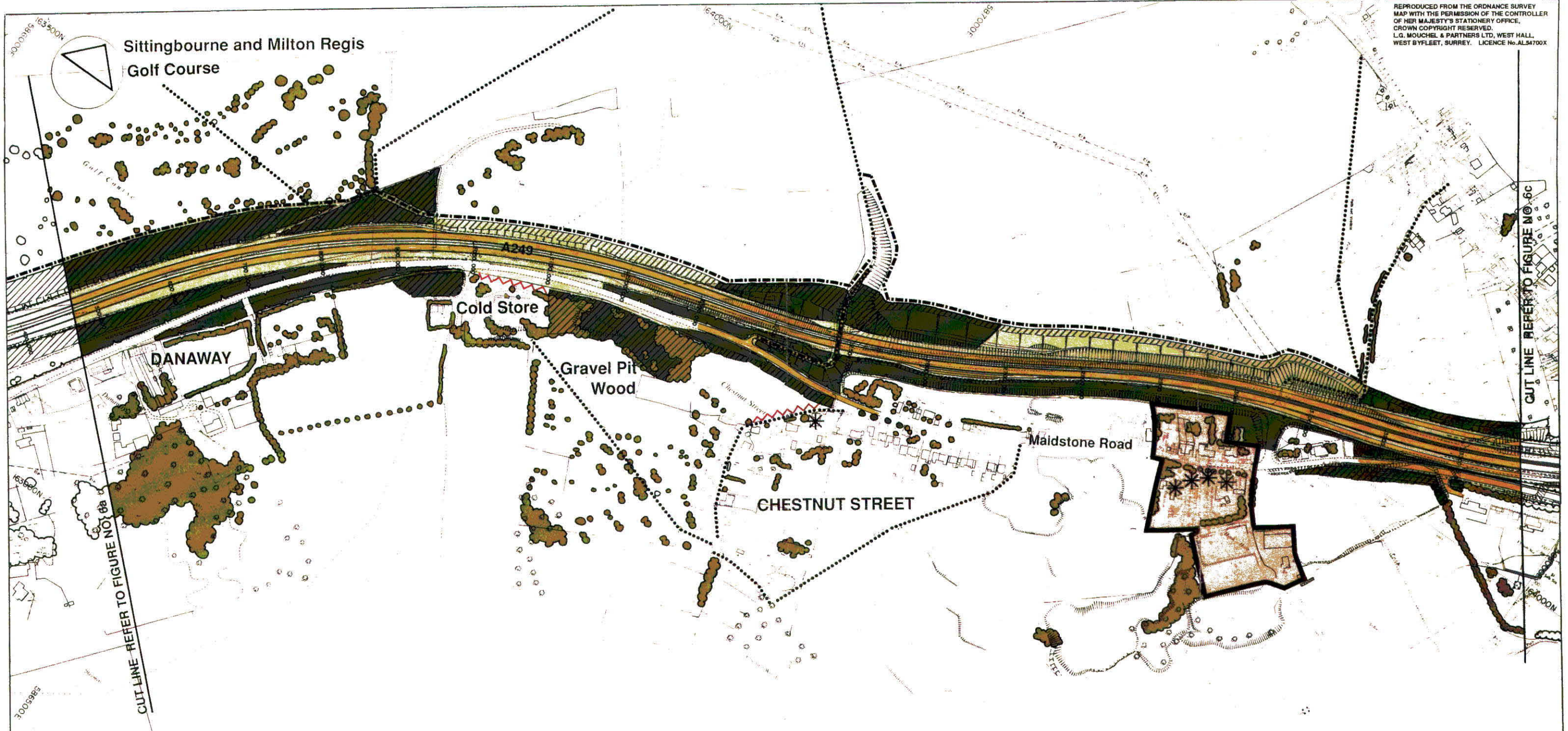
**THE A249 TRUNK ROAD.
M2 TO BOBBING IMPROVEMENT**
Published Scheme and Landscape Proposals

0 METRES 200
0 MILES 0.1

FIGURE 6a
sheet 1 of 3

REFER TO FIGURE NO. 6b

CUT LINE



LEGEND

- | | | | | | |
|--|-------------------------------|--|---|--|---|
| | NEW CARRIAGEWAY | | EXISTING VEGETATION | | LAND TO BE ACQUIRED UNDER LICENCE FOR THE MITIGATION OF ADVERSE EFFECTS |
| | RETAINING WALL | | PROPOSED DENSE TREE AND SHRUB PLANTING | | AREAS CONSIDERED APPROPRIATE FOR OFFSITE "PLANTING BY AGREEMENT" CARRIED OUT UNDER SECTION 253 OF THE HIGHWAYS ACT 1980 |
| | DIVERTED PUBLIC RIGHTS OF WAY | | LANDSCAPE TREATMENT OTHER THAN TREE AND SHRUB PLANTING - TO INCLUDE GRADING AND SCREEN MOUNDING | | ENGLISH HERITAGE CONSERVATION AREA |
| | PUBLIC FOOTPATH TO REMAIN | | LAND COMPULSORILY ACQUIRED FOR THE MITIGATION OF ADVERSE EFFECTS | | LISTED BUILDING |

NOTES

- PLANS SHOW ENGINEERING EARTHWORKS ONLY
- OTHER THAN AT JUNCTIONS THE ROUTE WILL NOT BE LIT
- AREA TO THE NORTH OF THE M2 FORMS PART OF THE NORTH KENT HORTICULTURAL BELT - AREA OF SPECIAL SIGNIFICANCE FOR AGRICULTURE

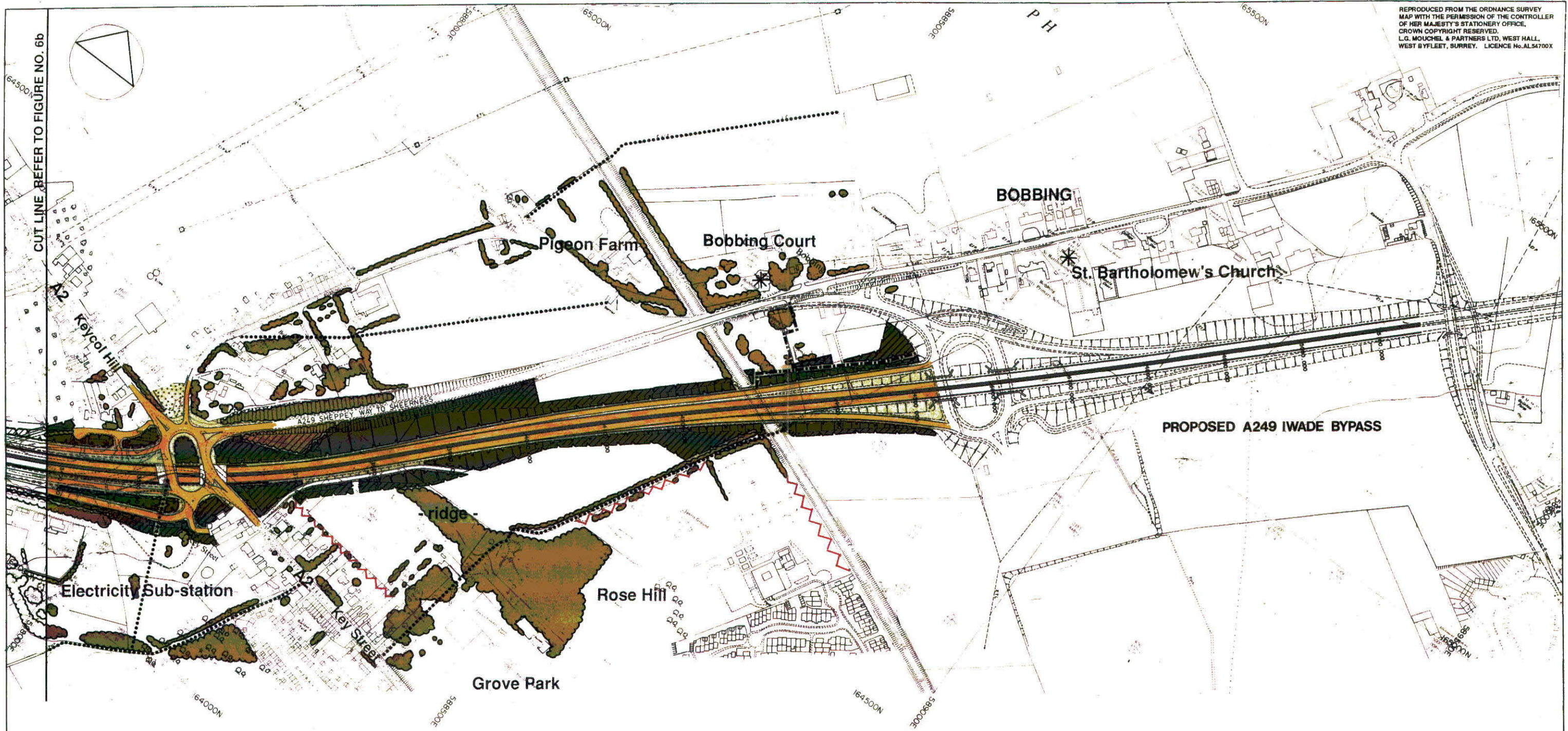
THE A249 TRUNK ROAD. M2 TO BOBBING IMPROVEMENT

Published Scheme and Landscape Proposals



FIGURE 6b
sheet 2 of 3

CUT LINE REFER TO FIGURE NO. 6b



LEGEND

	NEW CARRIAGEWAY		EXISTING VEGETATION		LAND TO BE ACQUIRED UNDER LICENCE FOR THE MITIGATION OF ADVERSE EFFECTS
	RETAINING WALL		PROPOSED DENSE TREE AND SHRUB PLANTING		AREAS CONSIDERED APPROPRIATE FOR OFFSITE "PLANTING BY AGREEMENT" CARRIED OUT UNDER SECTION 253 OF THE HIGHWAYS ACT 1980
	DIVERTED PUBLIC RIGHTS OF WAY		LANDSCAPE TREATMENT OTHER THAN TREE AND SHRUB PLANTING - TO INCLUDE GRADING AND SCREEN MOUNDING		ENGLISH HERITAGE CONSERVATION AREA
	PUBLIC FOOTPATH TO REMAIN		LAND COMPULSORILY ACQUIRED FOR THE MITIGATION OF ADVERSE EFFECTS		LISTED BUILDING

NOTES

- PLANS SHOW ENGINEERING EARTHWORKS ONLY
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**THE A249 TRUNK ROAD.
M2 TO BOBBING IMPROVEMENT**
Published Scheme and Landscape Proposals

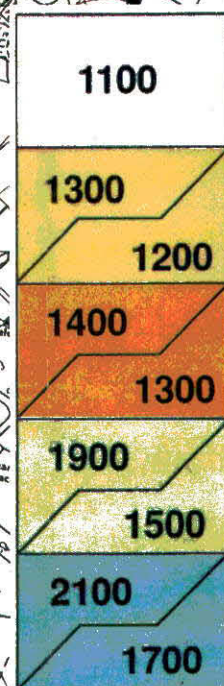
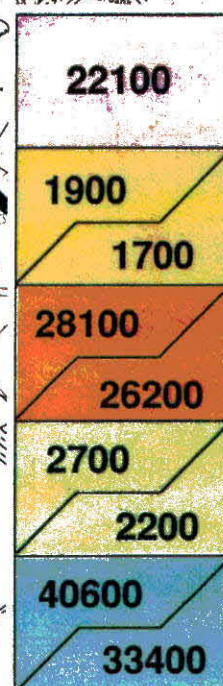
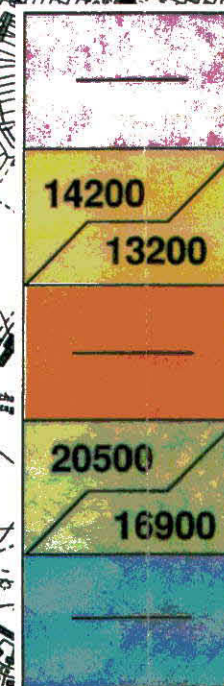
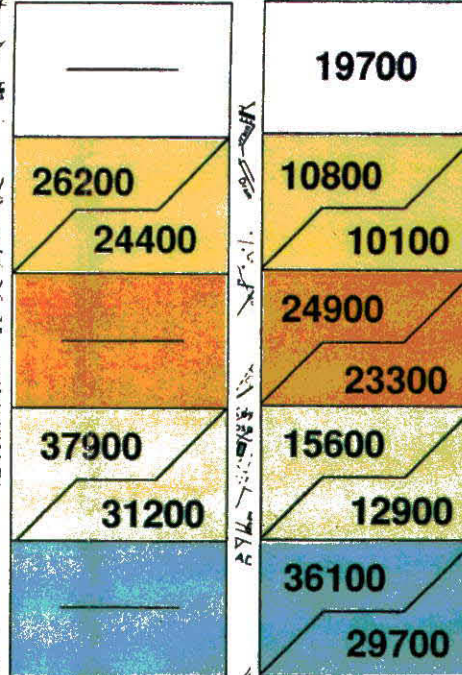
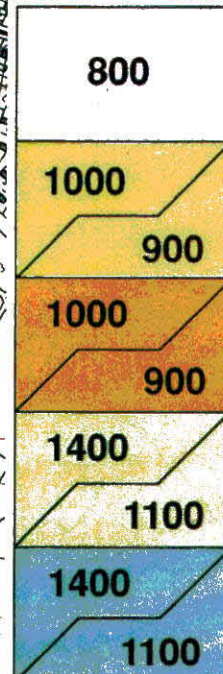
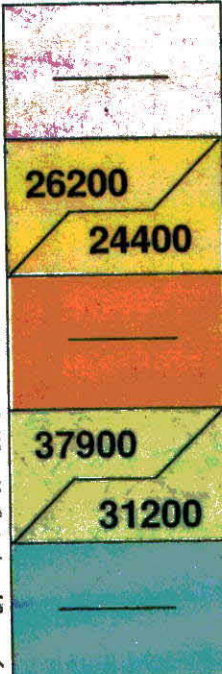
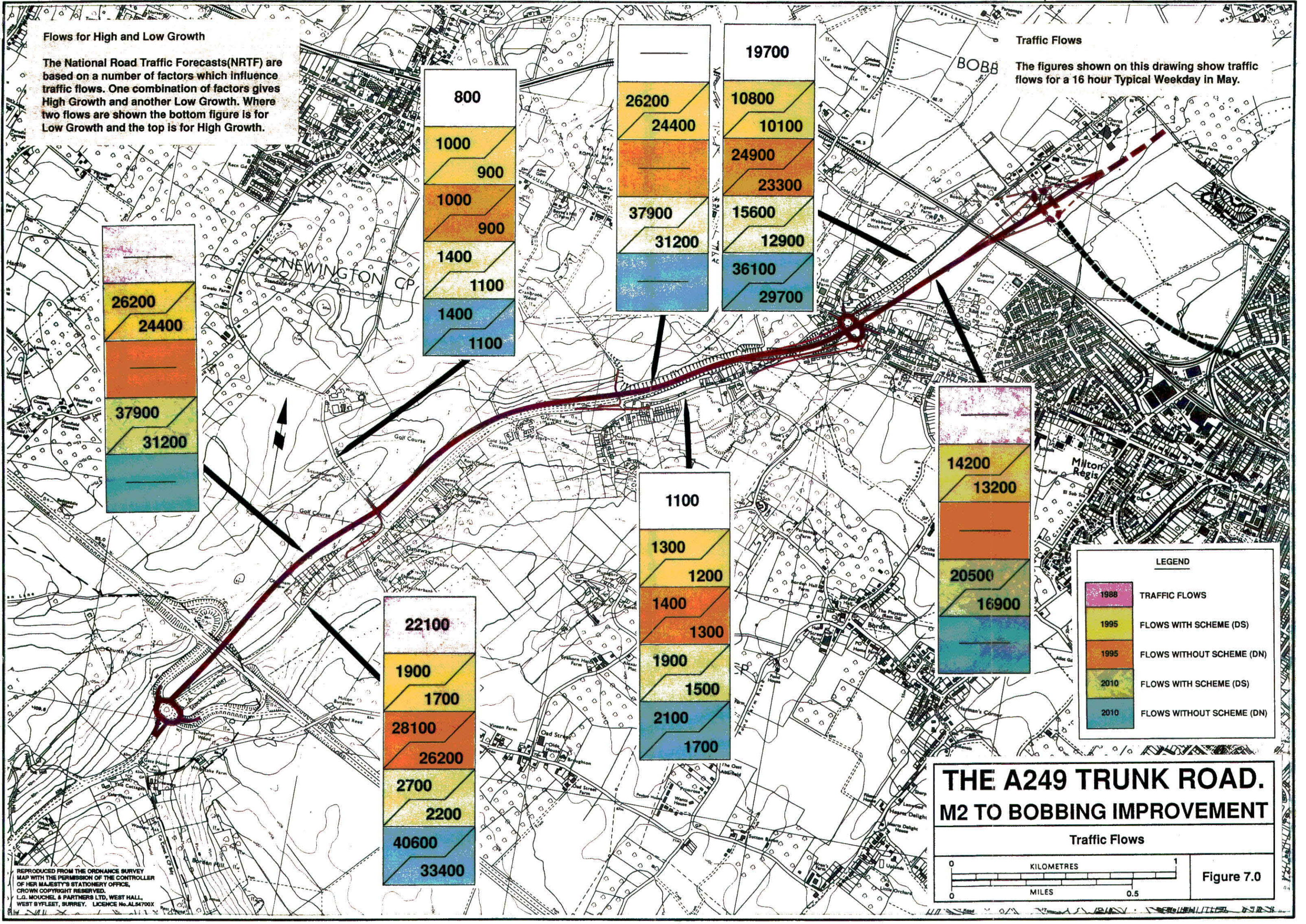
FIGURE 6c
sheet 3 of 3

Flows for High and Low Growth

The National Road Traffic Forecasts (NRTF) are based on a number of factors which influence traffic flows. One combination of factors gives High Growth and another Low Growth. Where two flows are shown the bottom figure is for Low Growth and the top is for High Growth.

Traffic Flows

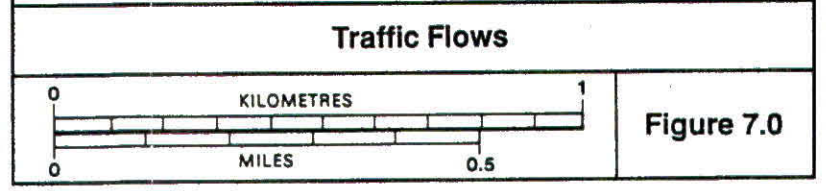
The figures shown on this drawing show traffic flows for a 16 hour Typical Weekday in May.



LEGEND

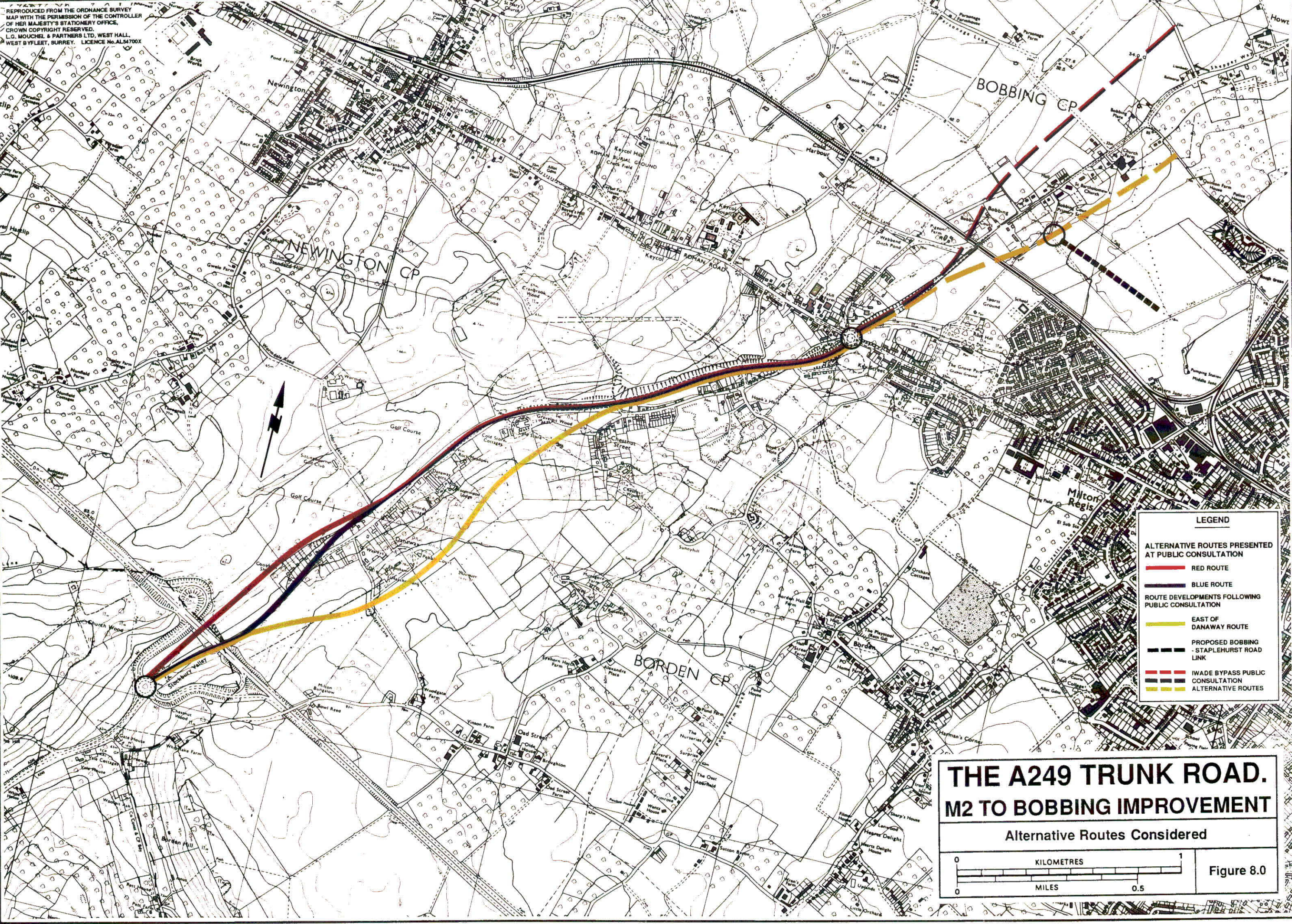
1988	TRAFFIC FLOWS
1995	FLOWS WITH SCHEME (DS)
1995	FLOWS WITHOUT SCHEME (DN)
2010	FLOWS WITH SCHEME (DS)
2010	FLOWS WITHOUT SCHEME (DN)

THE A249 TRUNK ROAD. M2 TO BOBBING IMPROVEMENT



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LEGEND

ALTERNATIVE ROUTES PRESENTED AT PUBLIC CONSULTATION

- RED ROUTE
- BLUE ROUTE

ROUTE DEVELOPMENTS FOLLOWING PUBLIC CONSULTATION

- EAST OF DANAWAY ROUTE
- - - PROPOSED BOBBING - STAPLEHURST ROAD LINK
- - - WADE BYPASS PUBLIC CONSULTATION
- - - WADE BYPASS ALTERNATIVE ROUTES
- - - WADE BYPASS ALTERNATIVE ROUTES

THE A249 TRUNK ROAD. M2 TO BOBBING IMPROVEMENT

Alternative Routes Considered

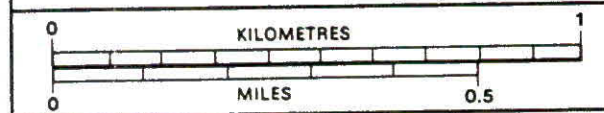


Figure 8.0