



## **List of Appendices**

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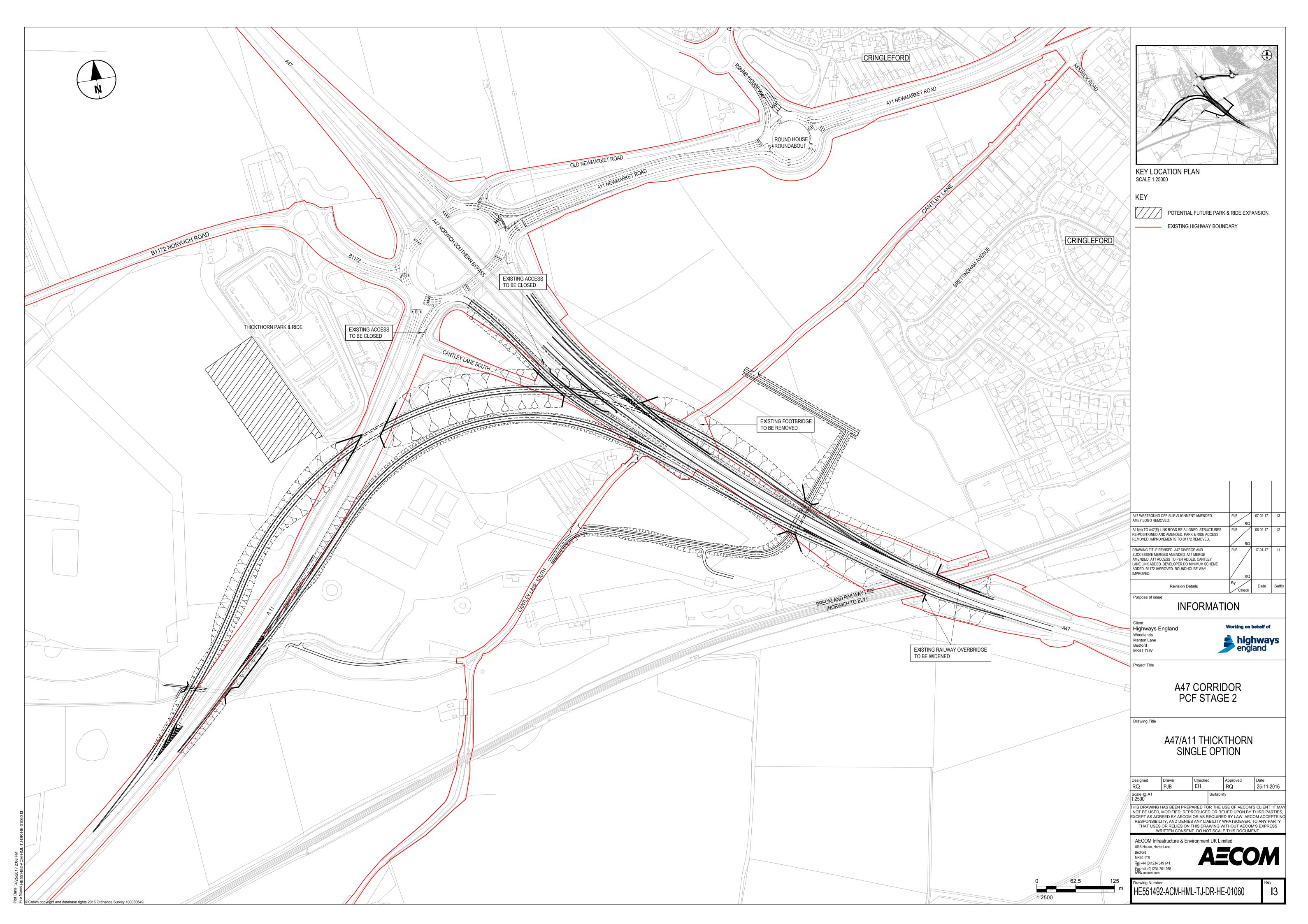
Appendix K - Land Take/Ownership Drawing

Appendix L – Structures Drawings – Single Option





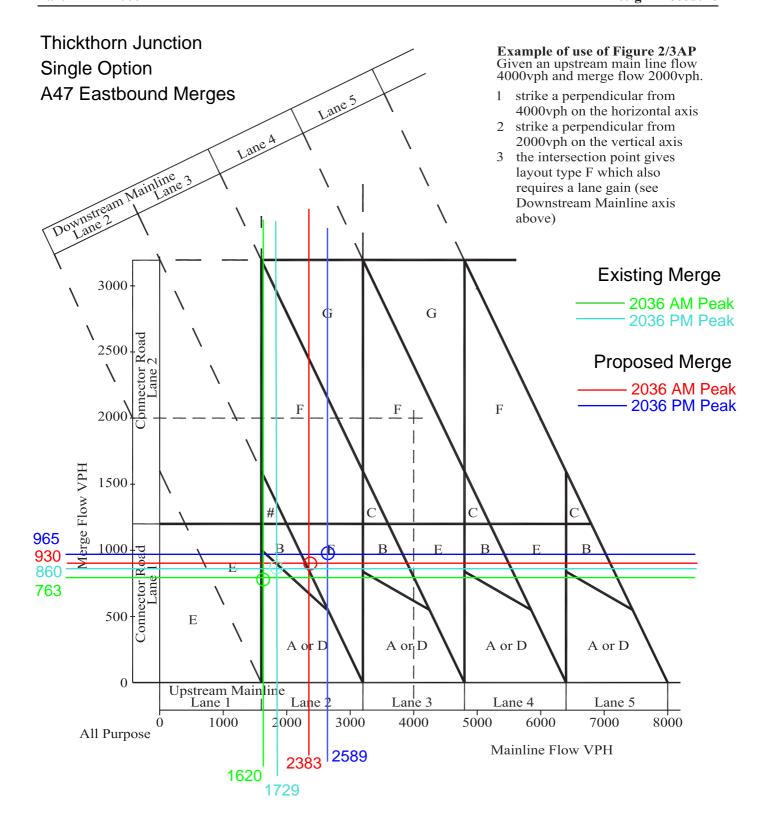
## **Appendix G – Single Option Drawing**







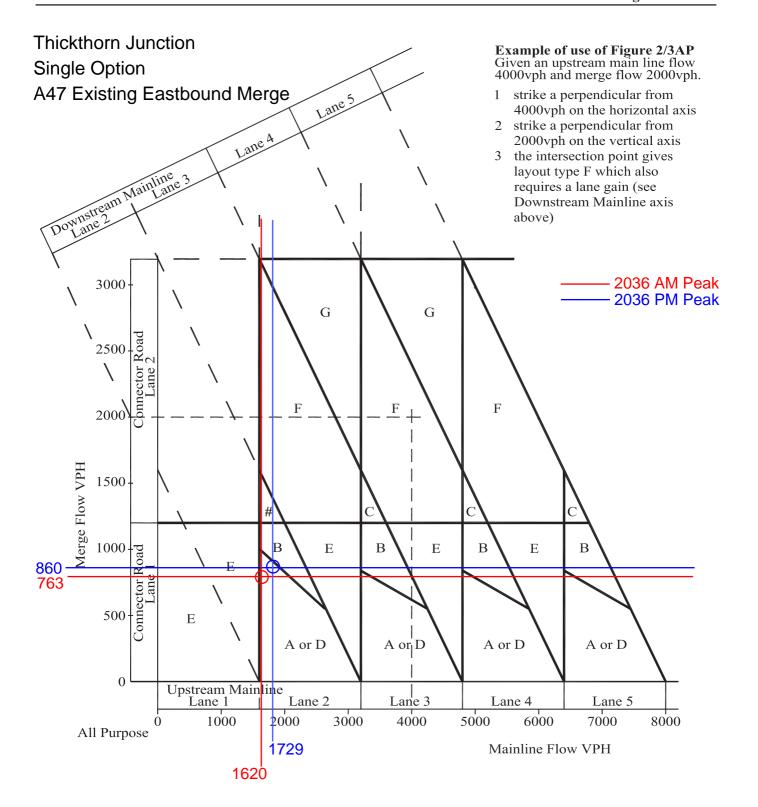
Appendix H - Output of Analysis Merge/Diverge Single Option



# Area of uncertainty – In this area the choice will depend on the downstream provision. If there is a lane gain then use Layout E or F.

See paragraph 2.29 and the example above, for explanation of the usage of this diagram.

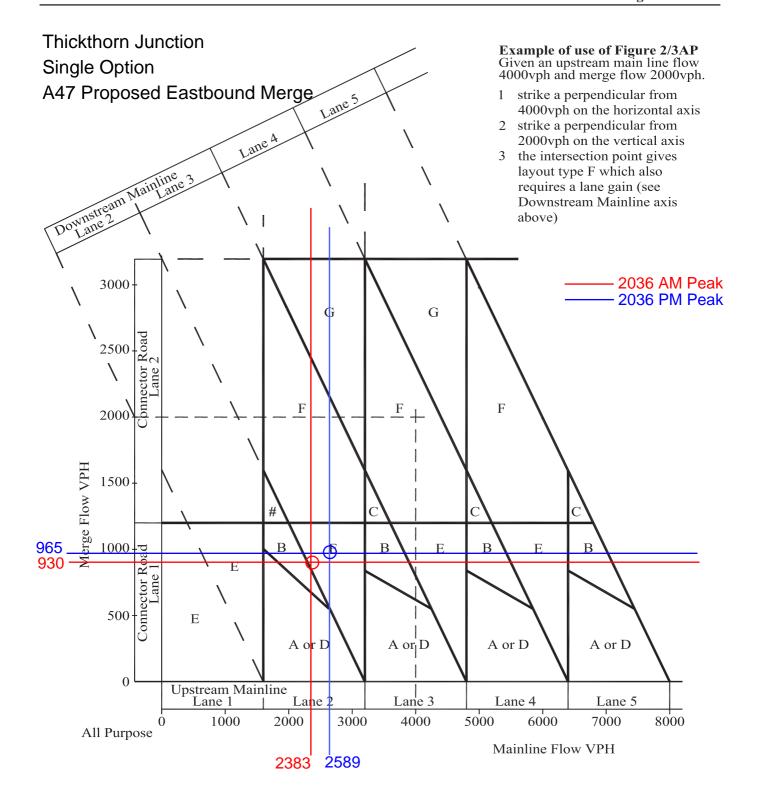
Figure 2/3 AP All-Purpose Road Merging Diagram



# Area of uncertainty – In this area the choice will depend on the downstream provision. If there is a lane gain then use Layout E or F.

See paragraph 2.29 and the example above, for explanation of the usage of this diagram.

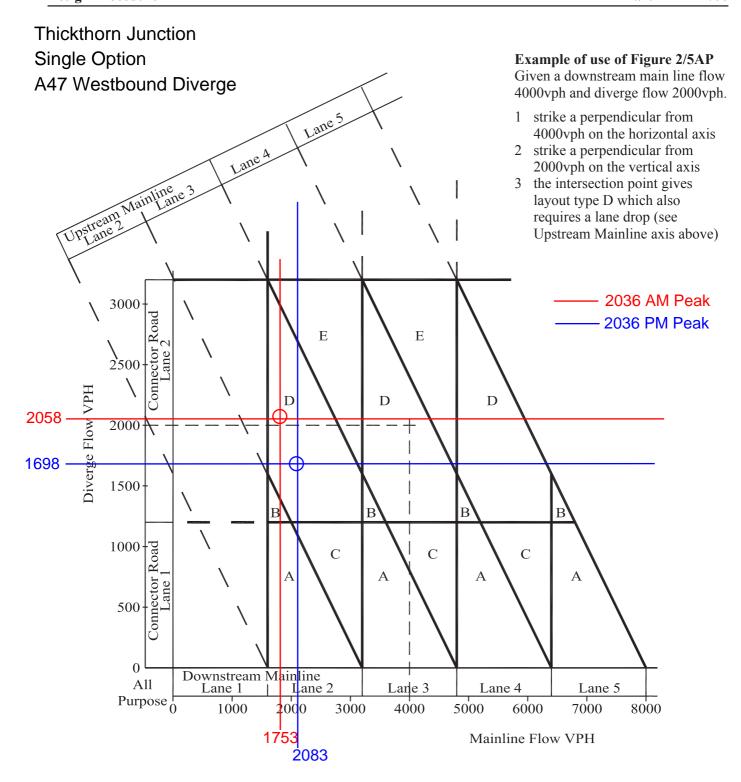
Figure 2/3 AP All-Purpose Road Merging Diagram



# Area of uncertainty – In this area the choice will depend on the downstream provision. If there is a lane gain then use Layout E or F.

See paragraph 2.29 and the example above, for explanation of the usage of this diagram.

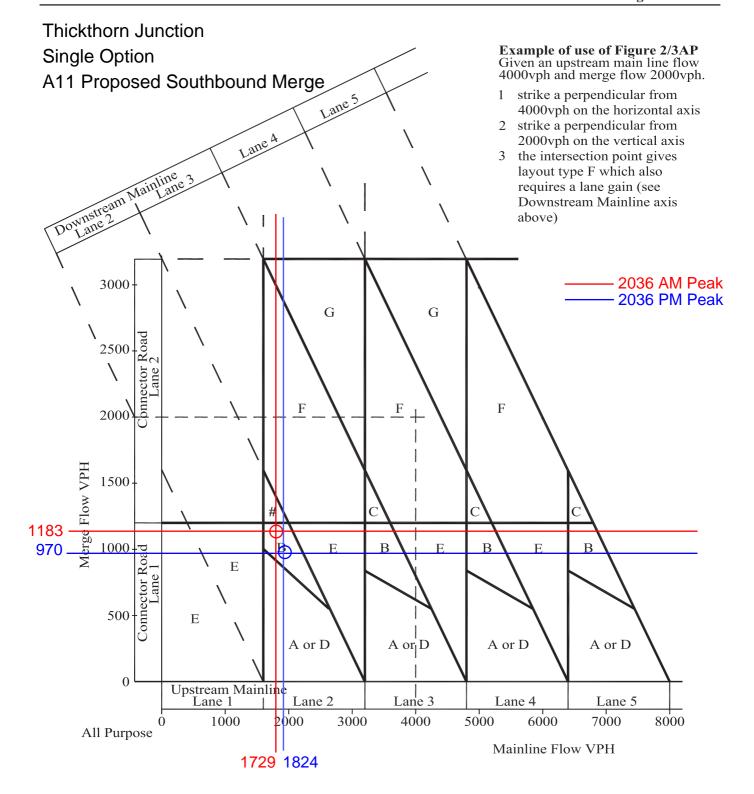
Figure 2/3 AP All-Purpose Road Merging Diagram



See paragraph 2.43 and the example above, for explanation of the usage of this diagram.

Figure 2/5 AP All-Purpose Road Diverging Diagram

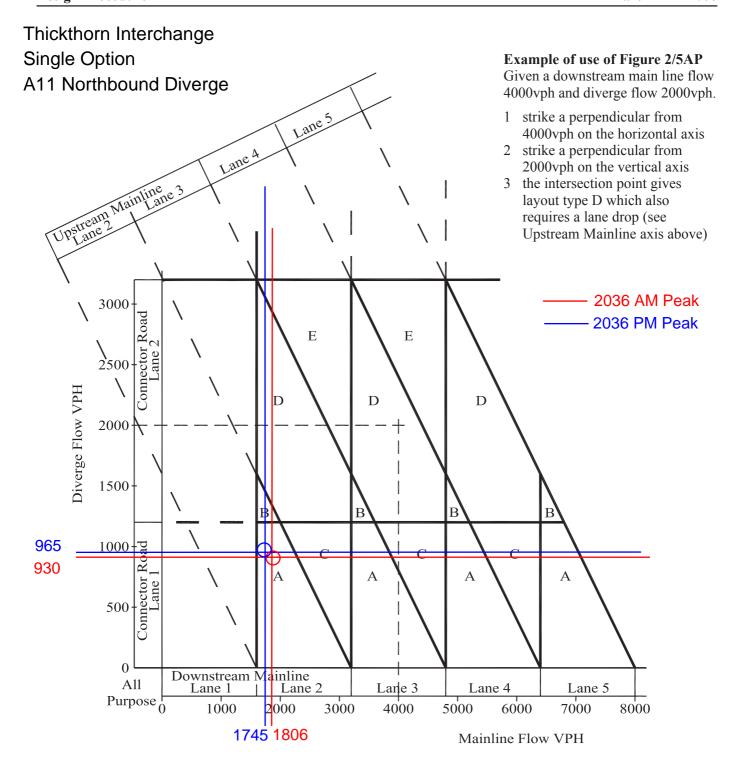
2/16 February 2006



# Area of uncertainty – In this area the choice will depend on the downstream provision. If there is a lane gain then use Layout E or F.

See paragraph 2.29 and the example above, for explanation of the usage of this diagram.

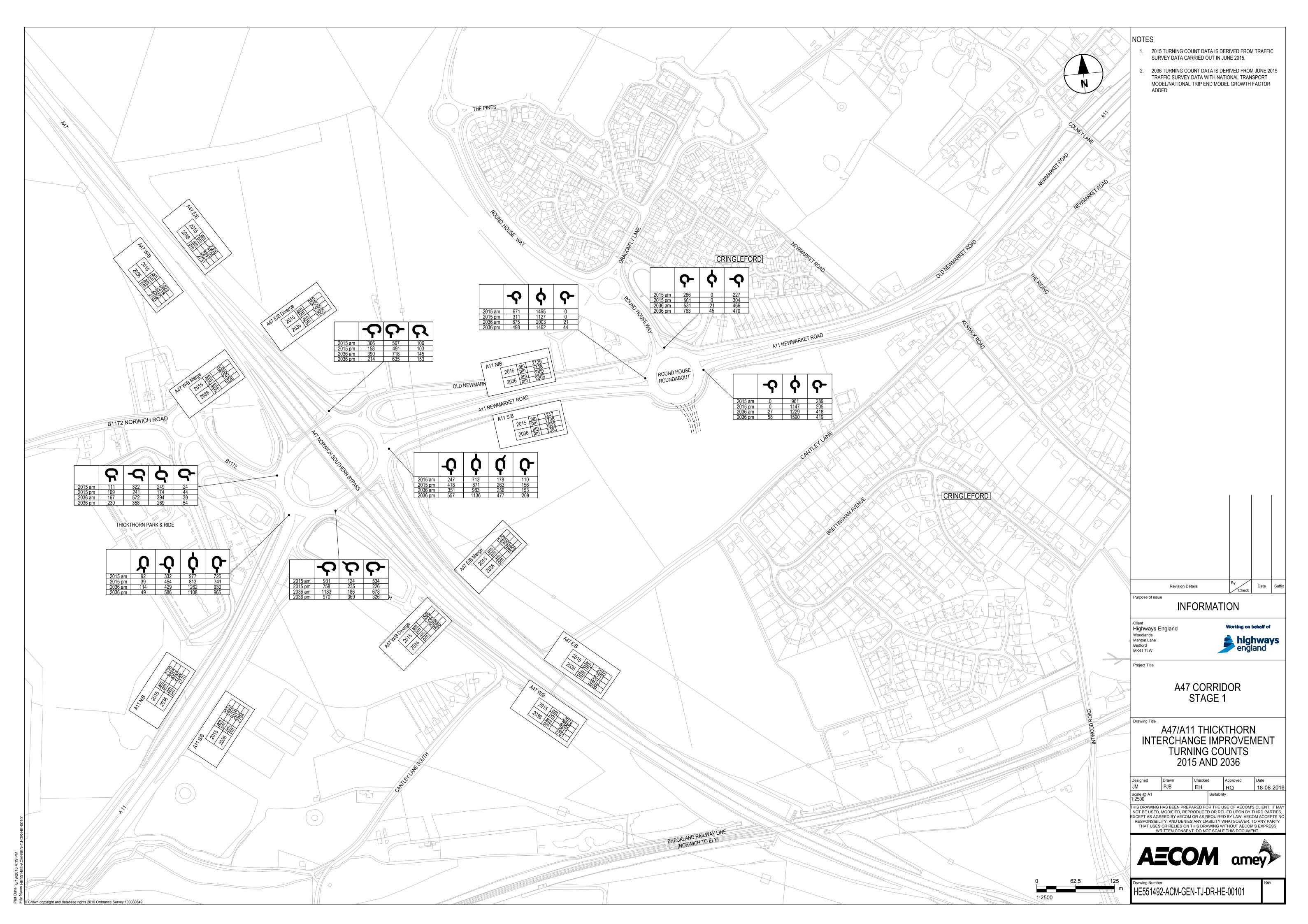
Figure 2/3 AP All-Purpose Road Merging Diagram



See paragraph 2.43 and the example above, for explanation of the usage of this diagram.

Figure 2/5 AP All-Purpose Road Diverging Diagram

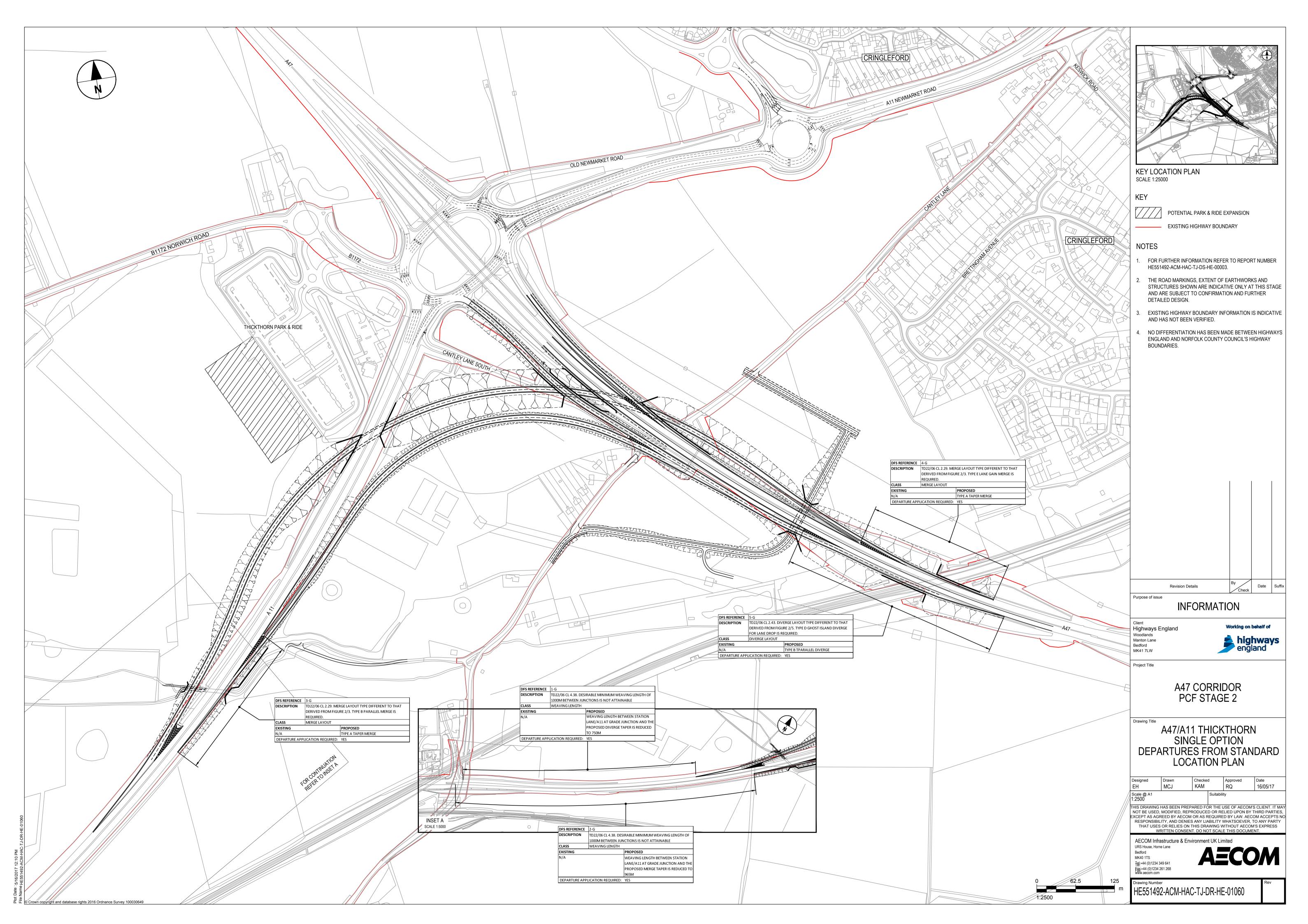
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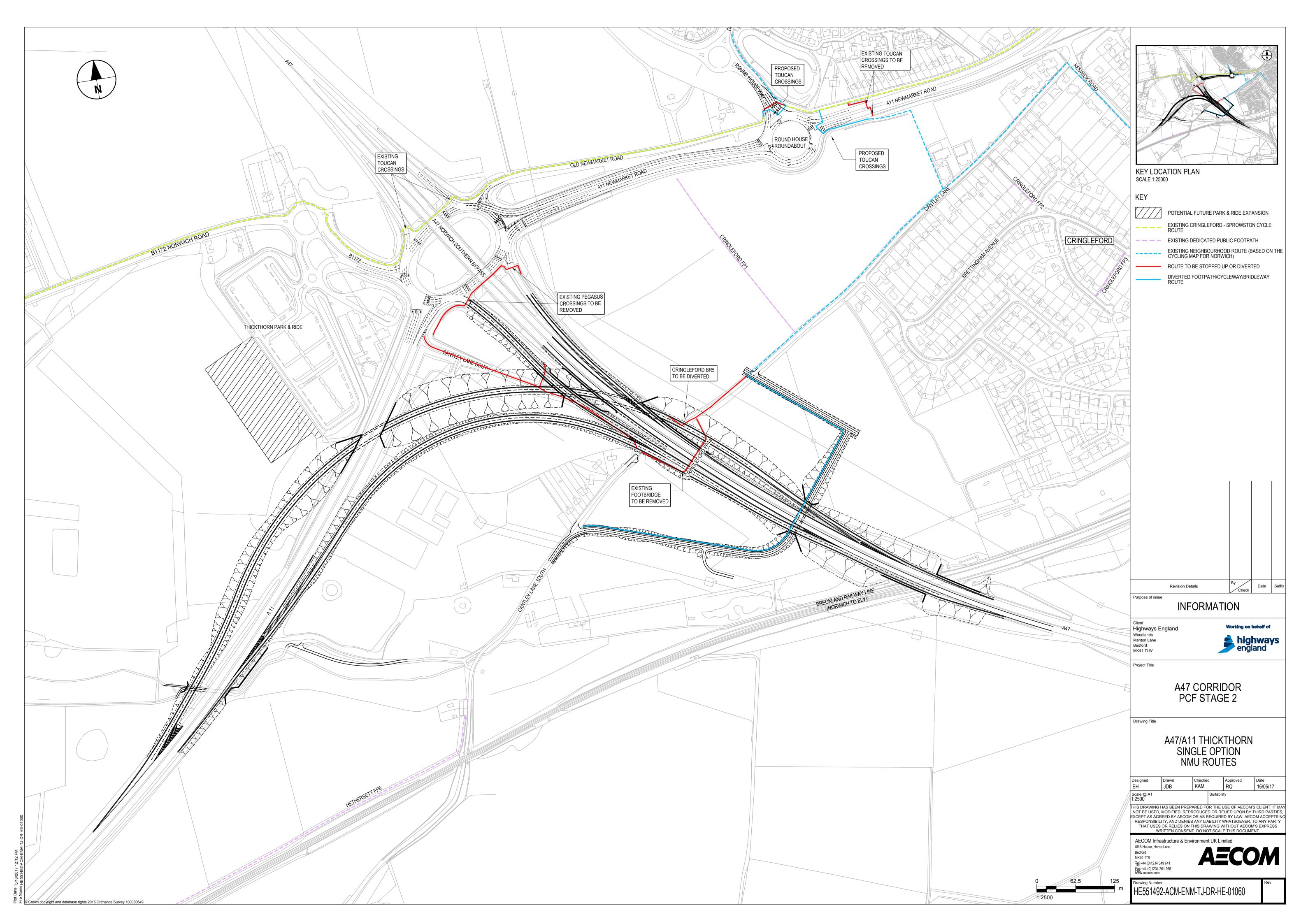
## Appendix I – Departures from Standards Location Plan







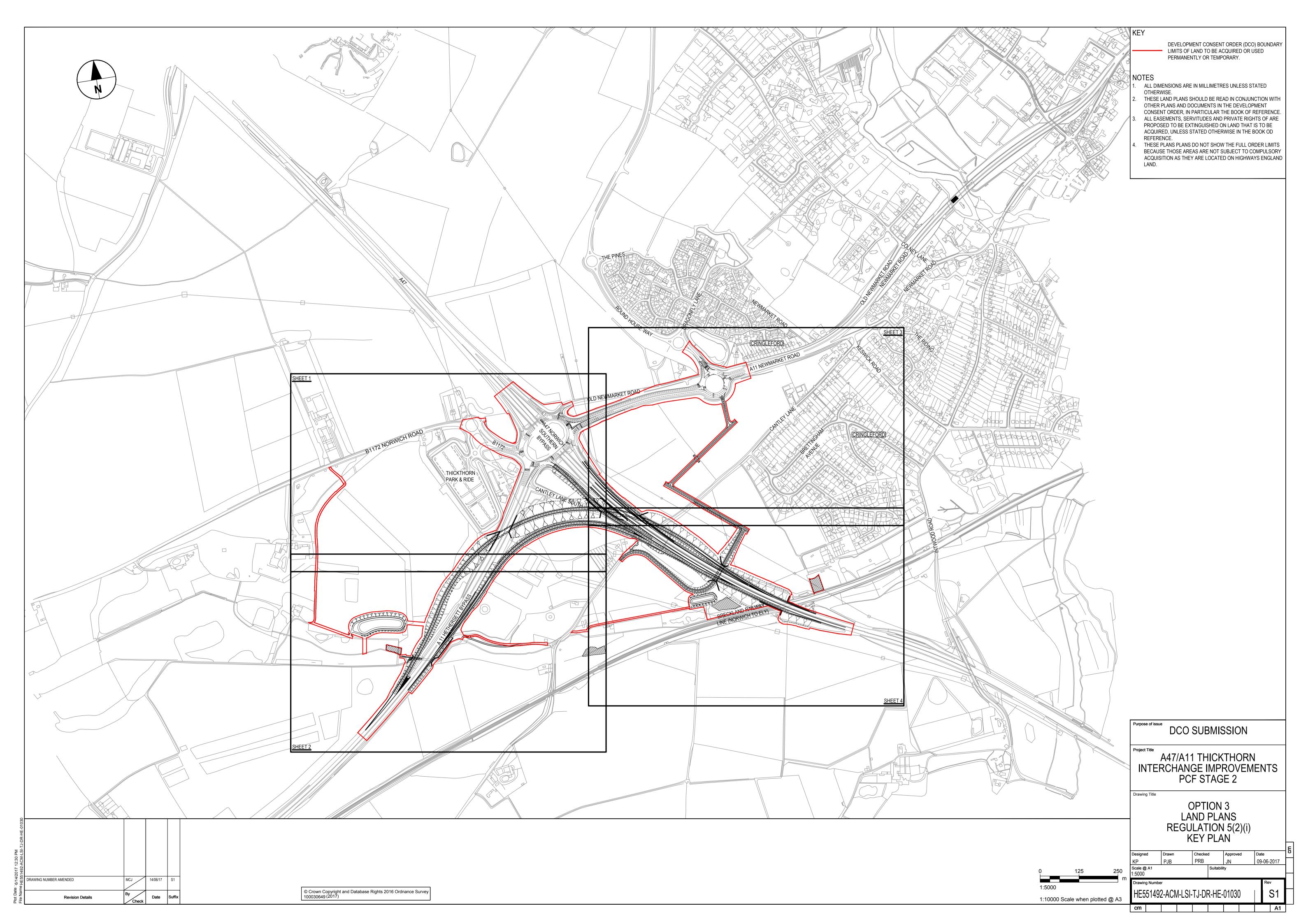
## Appendix J - NMU Routes Plan

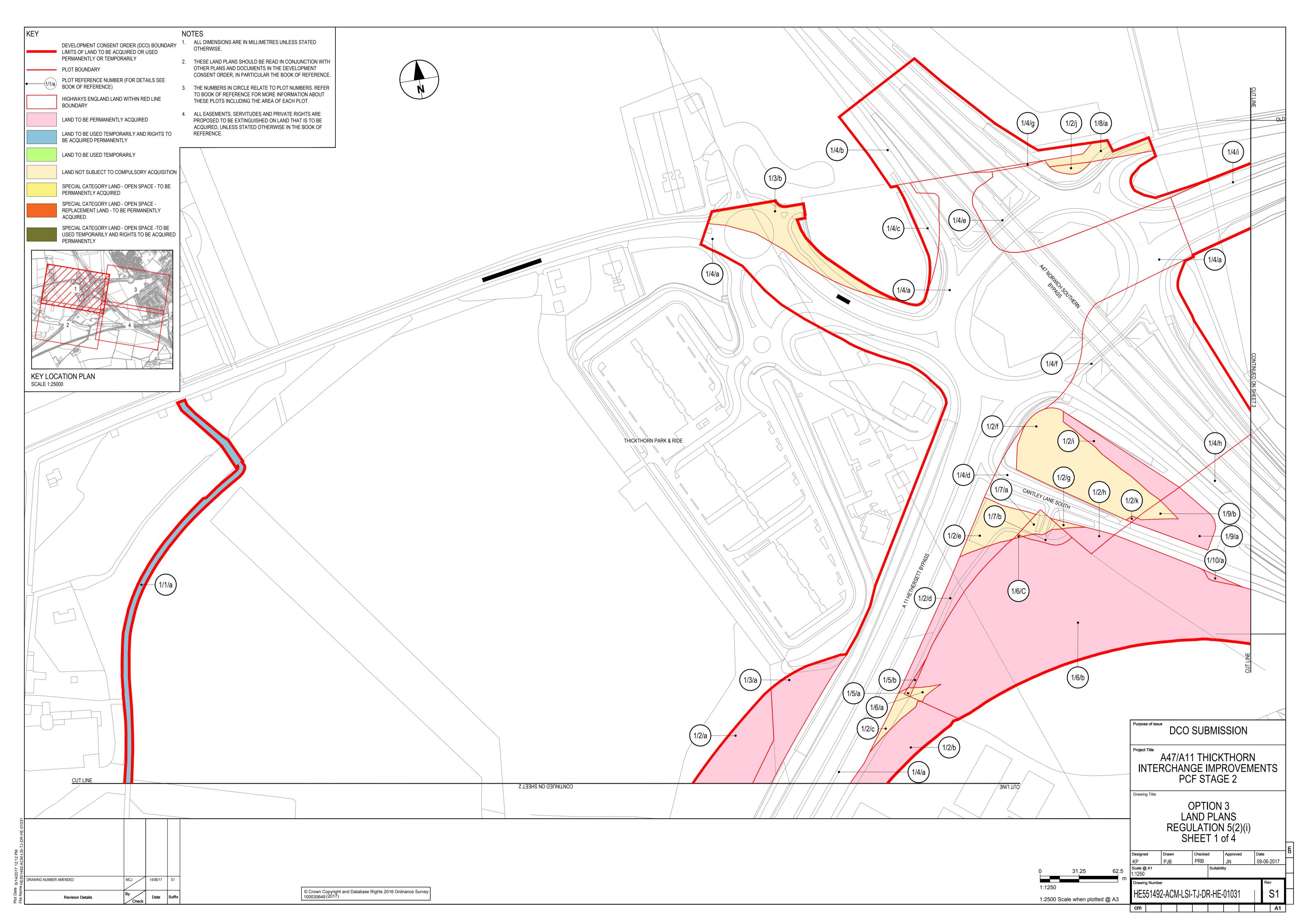


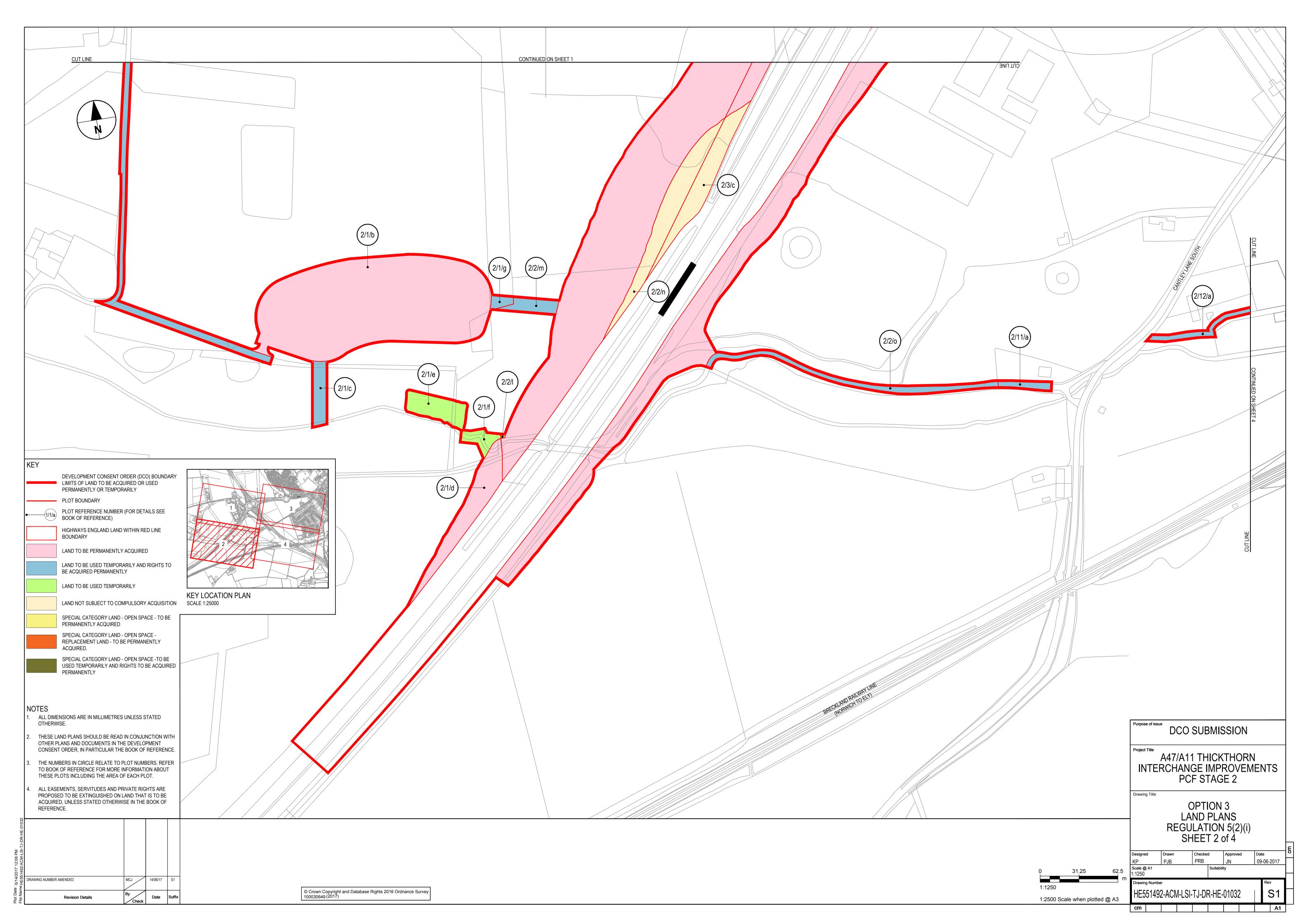


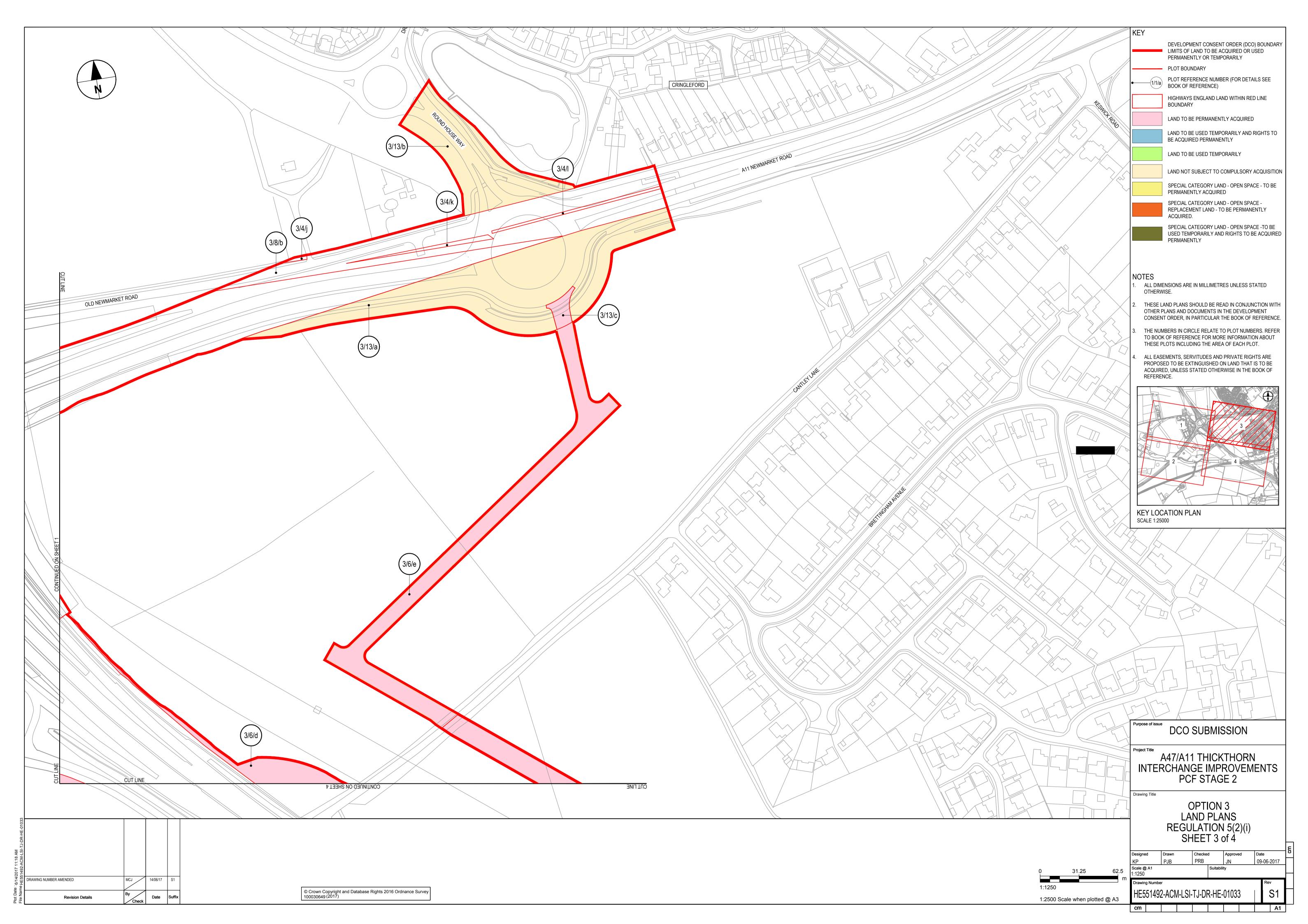


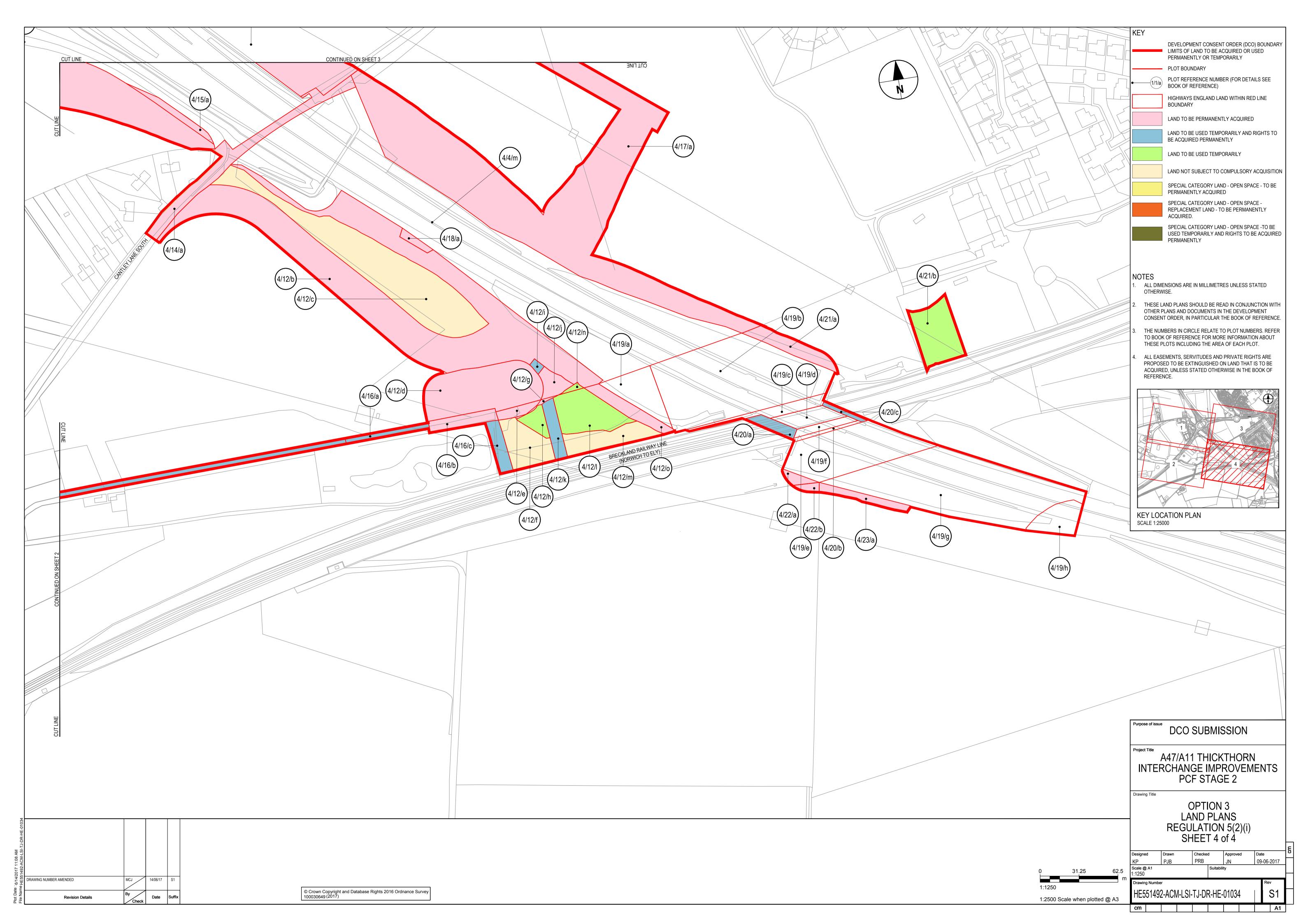
## Appendix K - Land Take/Ownership Drawing

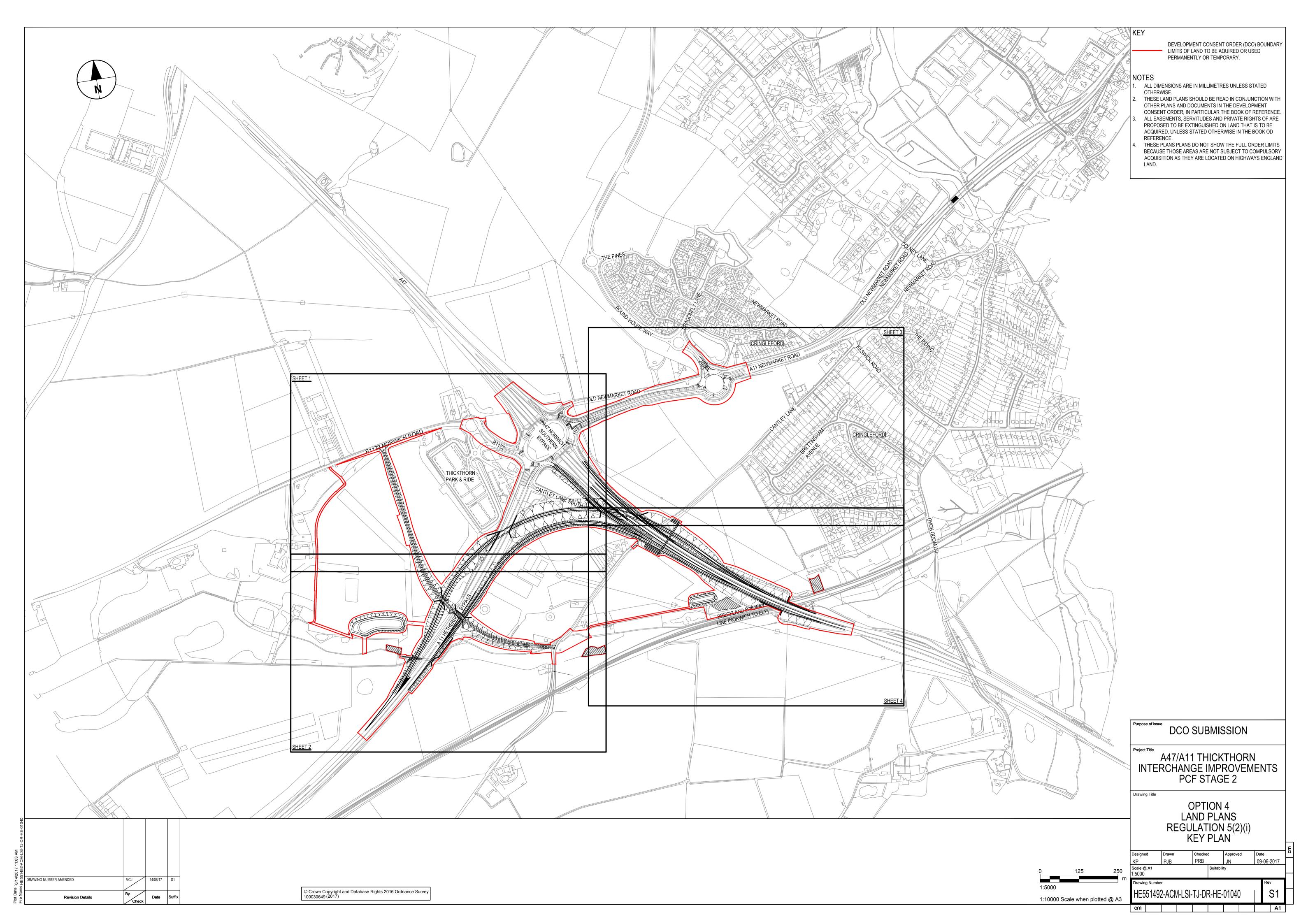


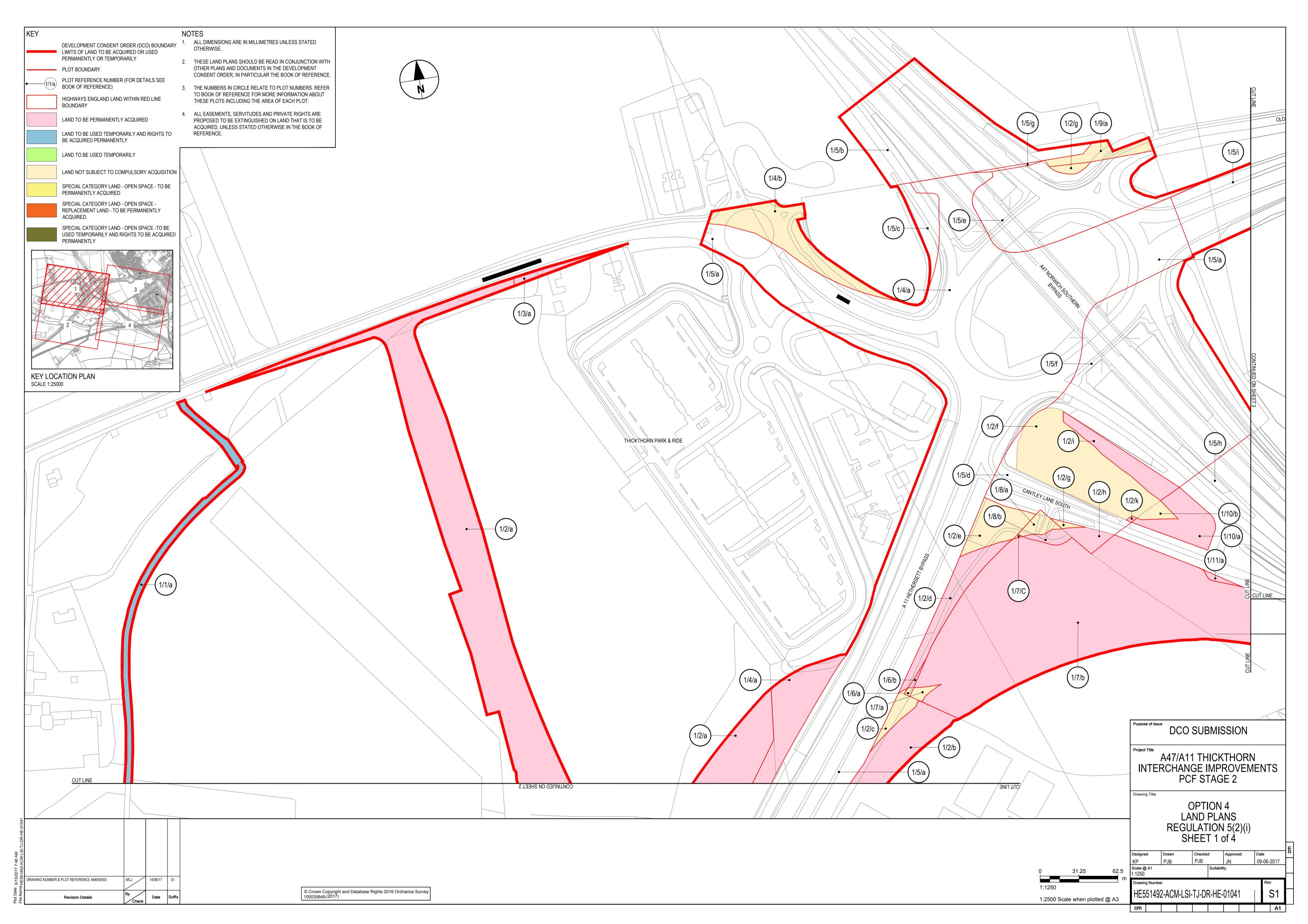


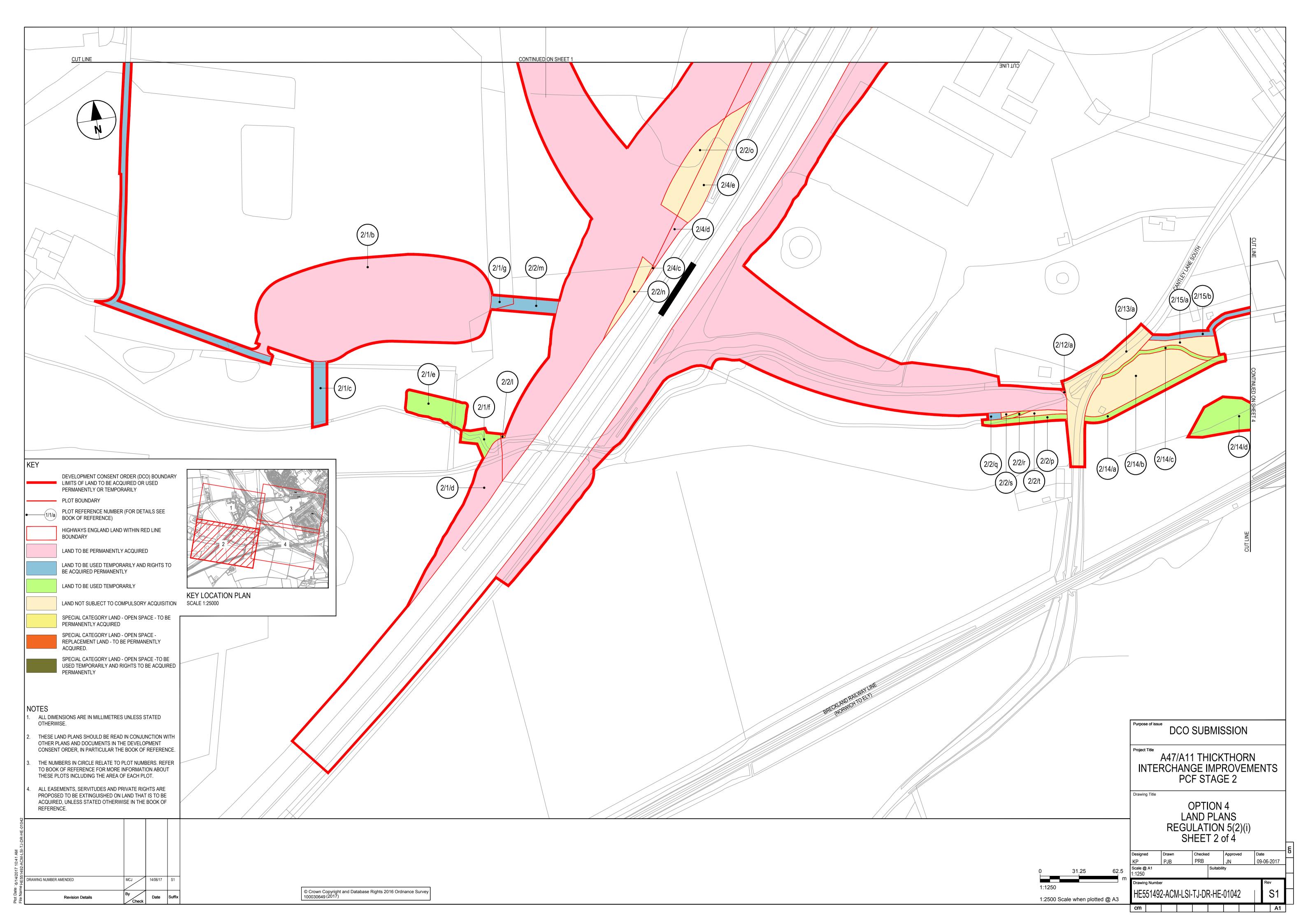


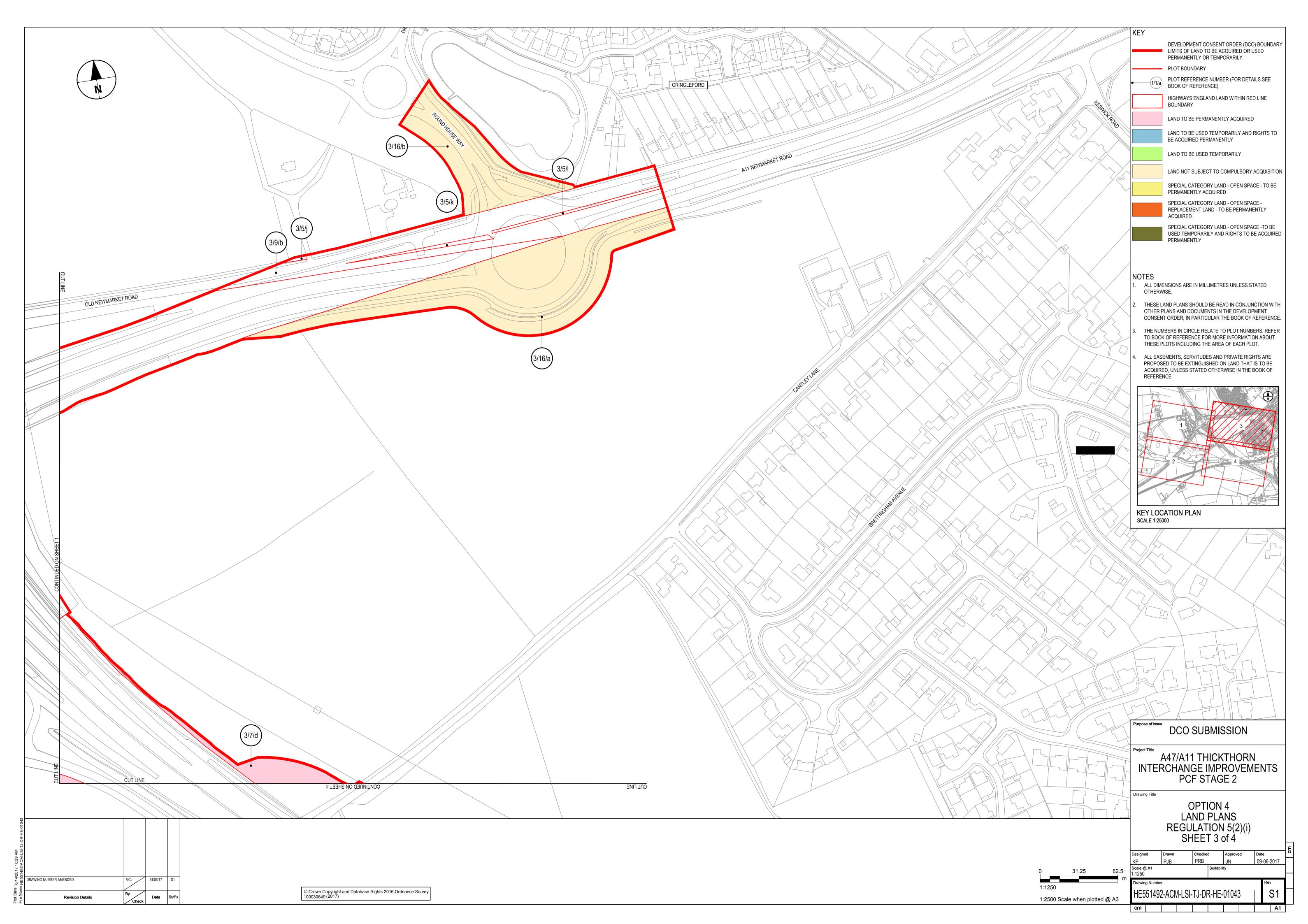


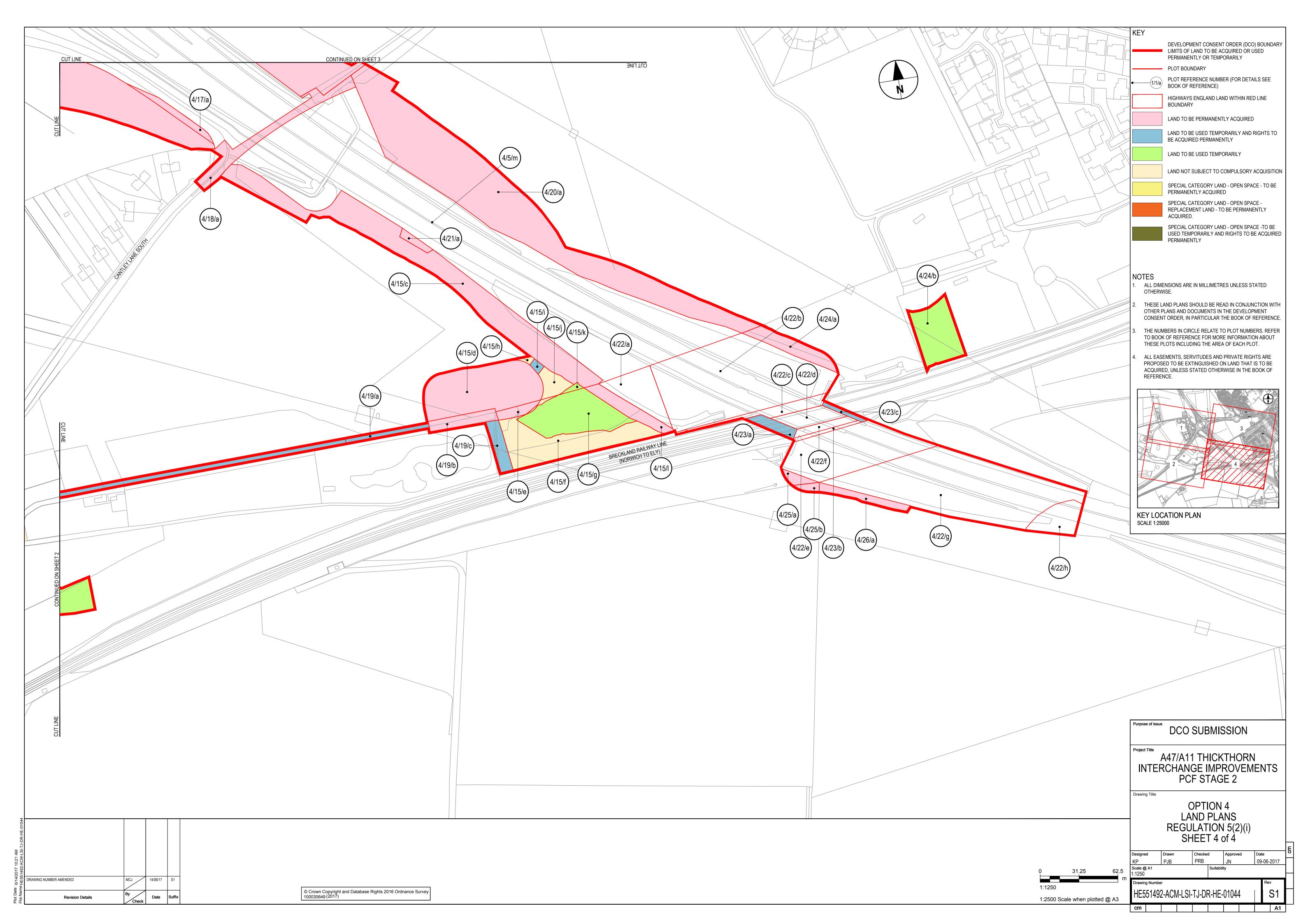








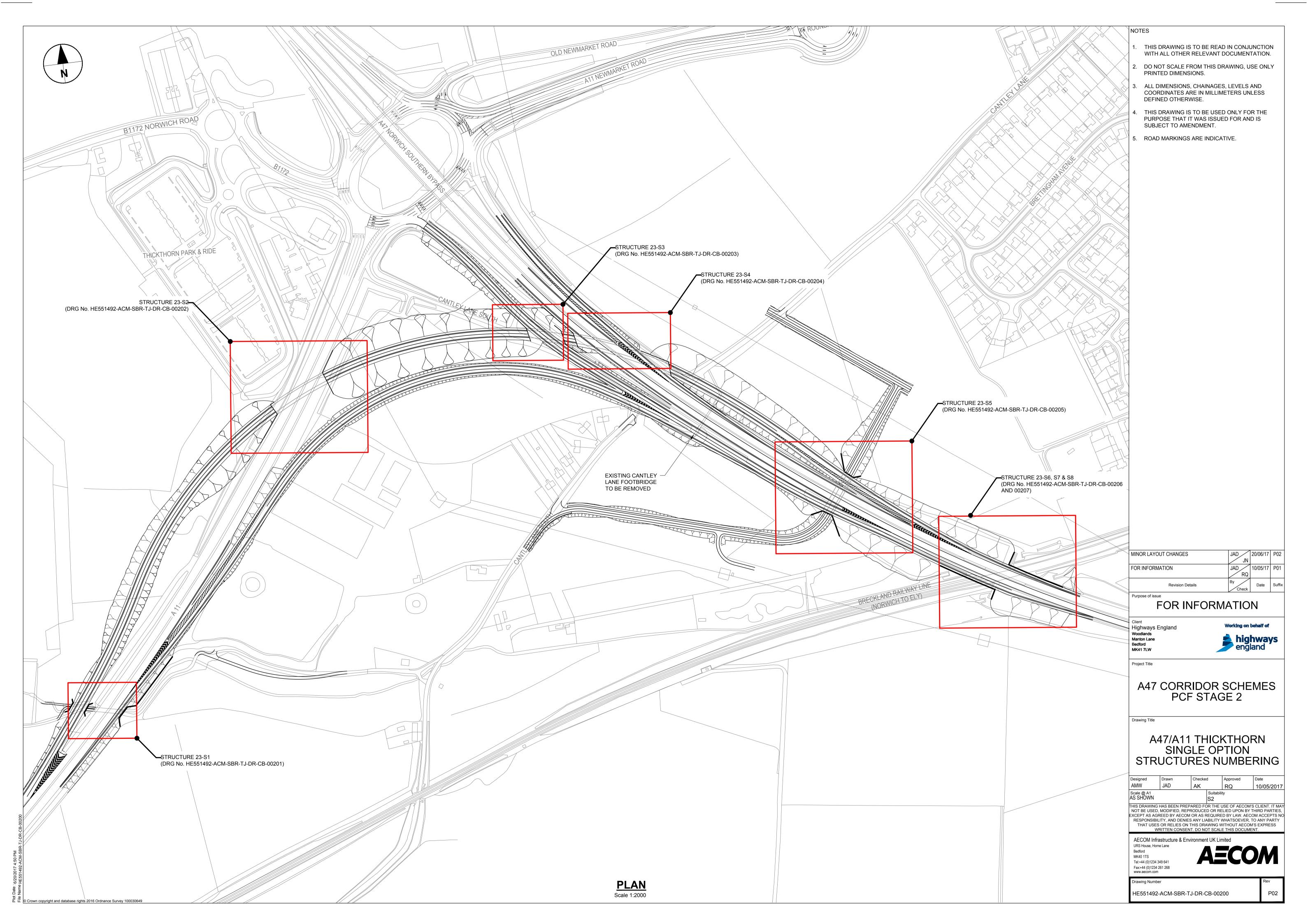


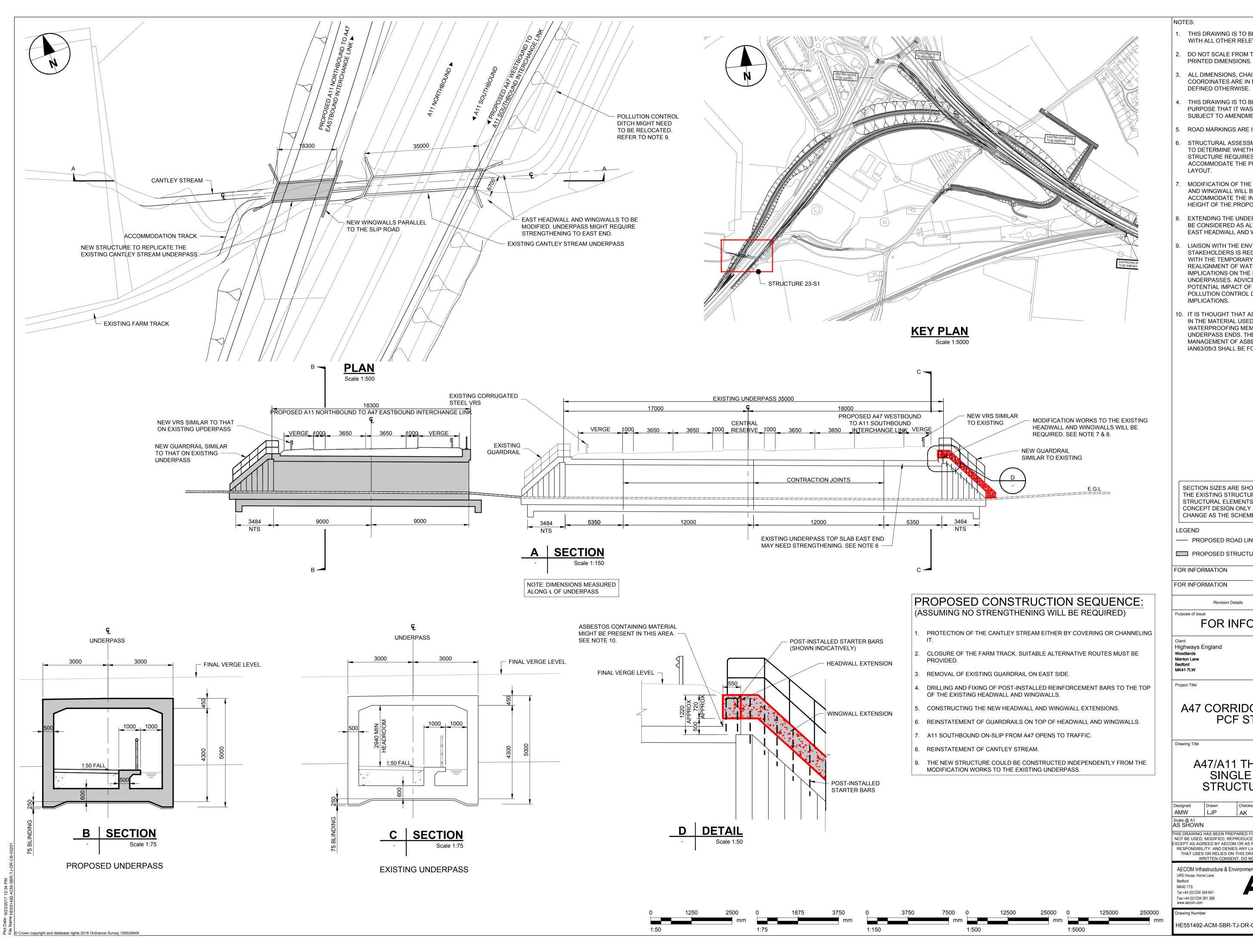






## Appendix L - Structures Drawings - Single Option



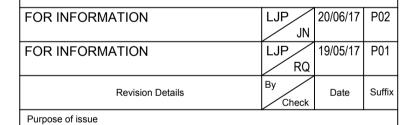


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  - 5. ROAD MARKINGS ARE INDICATIVE.
  - STRUCTURAL ASSESSMENT IS NEEDED IN ORDER TO DETERMINE WHETHER THE EXISTING STRUCTURE REQUIRES STRENGTHENING TO ACCOMMODATE THE PROPOSED CARRIAGEWAY
  - MODIFICATION OF THE EXISTING EAST HEADWALL AND WINGWALL WILL BE REQUIRED IN ORDER TO ACCOMMODATE THE INCREASED RETAINED HEIGHT OF THE PROPOSED ALIGNMENT.
  - EXTENDING THE UNDERPASS TO THE EAST COULD BE CONSIDERED AS ALTERNATIVE TO RAISING THE EAST HEADWALL AND WINGWALLS.
  - LIAISON WITH THE ENVIRONMENT AGENCY AND STAKEHOLDERS IS RECOMMENDED IN RELATION WITH THE TEMPORARY OR PERMANENT REALIGNMENT OF WATERCOURSES AND ITS IMPLICATIONS ON THE DESIGN OF AND WORKS TO UNDERPASSES. ADVICE SHALL BE SOUGHT ON THE POTENTIAL IMPACT OF THE PROJECT ON THE POLLUTION CONTROL DITCH AND ITS
  - 10. IT IS THOUGHT THAT ASBESTOS MAY BE PRESENT IN THE MATERIAL USED TO SEAL THE WATERPROOFING MEMBRANE TO THE EXISTING UNDERPASS ENDS. THE PROCEDURE FOR MANAGEMENT OF ASBESTOS SET OUT IN DMRB IAN63/05r3 SHALL BE FOLLOWED.

SECTION SIZES ARE SHOWN BASED ON THOSE OF THE EXISTING STRUCTURE. ALL DIMENSIONS OF STRUCTURAL ELEMENTS ARE INDICATIVE FOR CONCEPT DESIGN ONLY AND ARE SUBJECT TO CHANGE AS THE SCHEME IS DEVELOPED.

— PROPOSED ROAD LINE

PROPOSED STRUCTURE EXTENSION



## FOR INFORMATION



## A47 CORRIDOR SCHEMES PCF STAGE 2

## A47/A11 THICKTHORN SINGLE OPTION STRUCTURE 23-S1

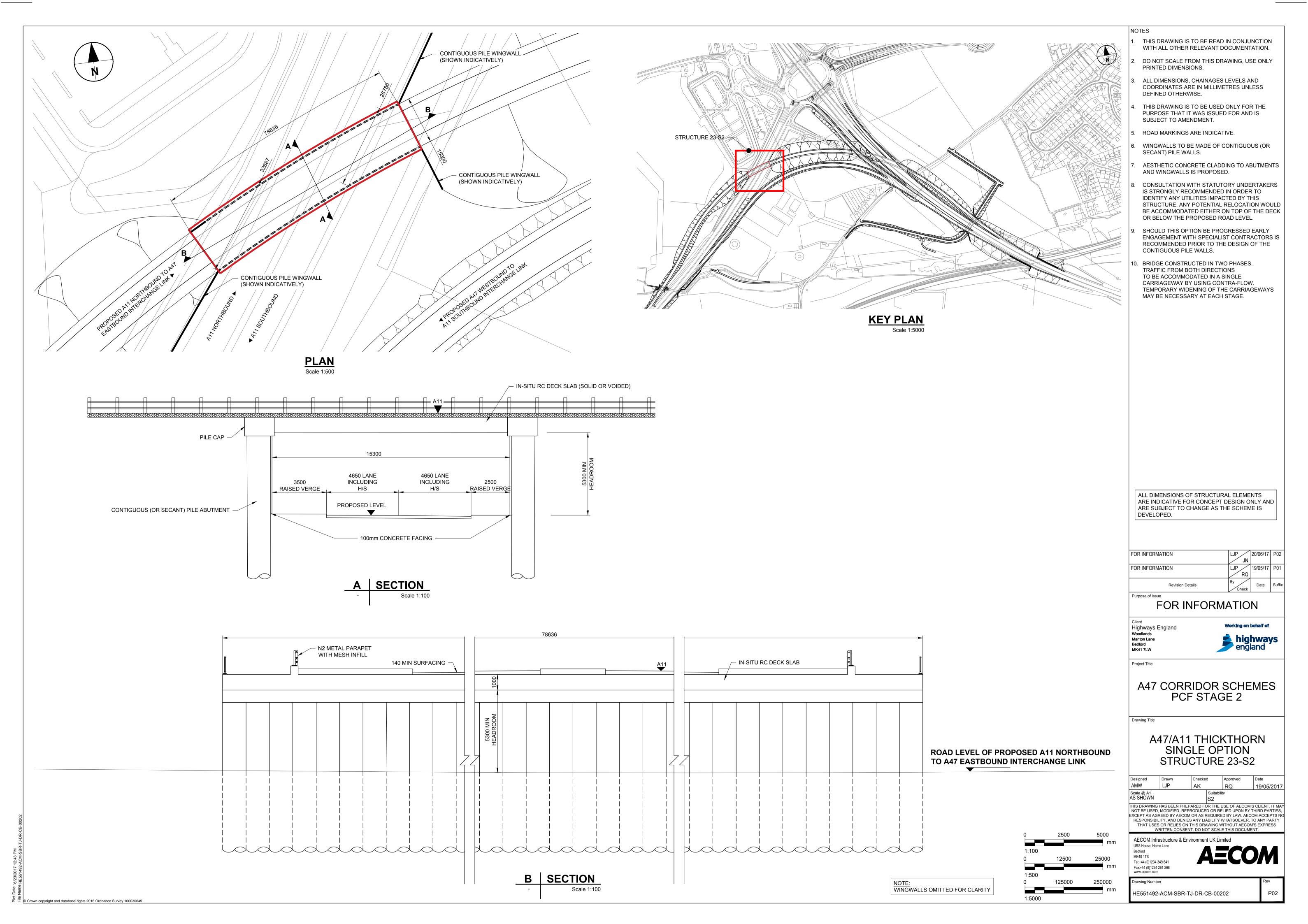
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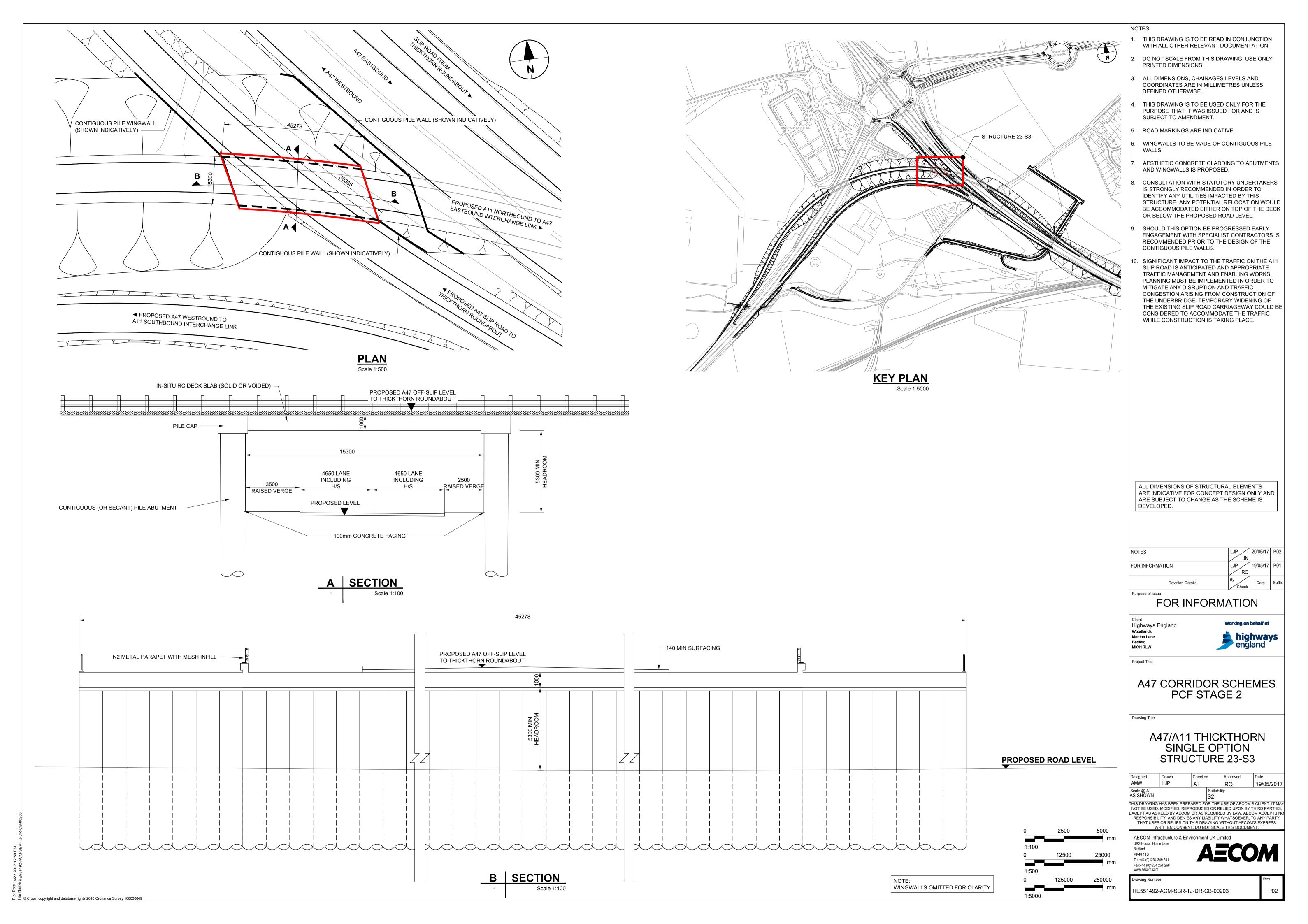
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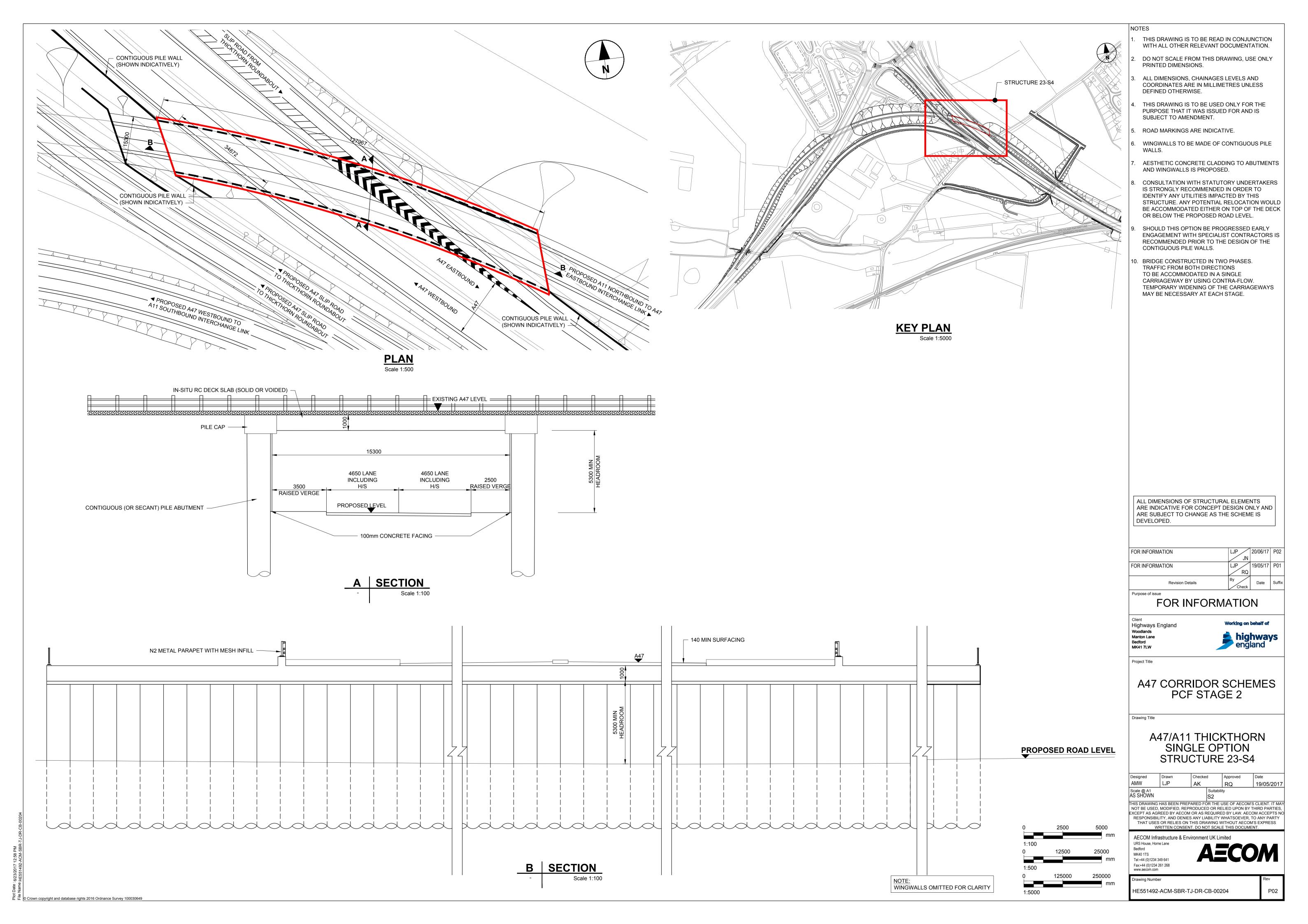
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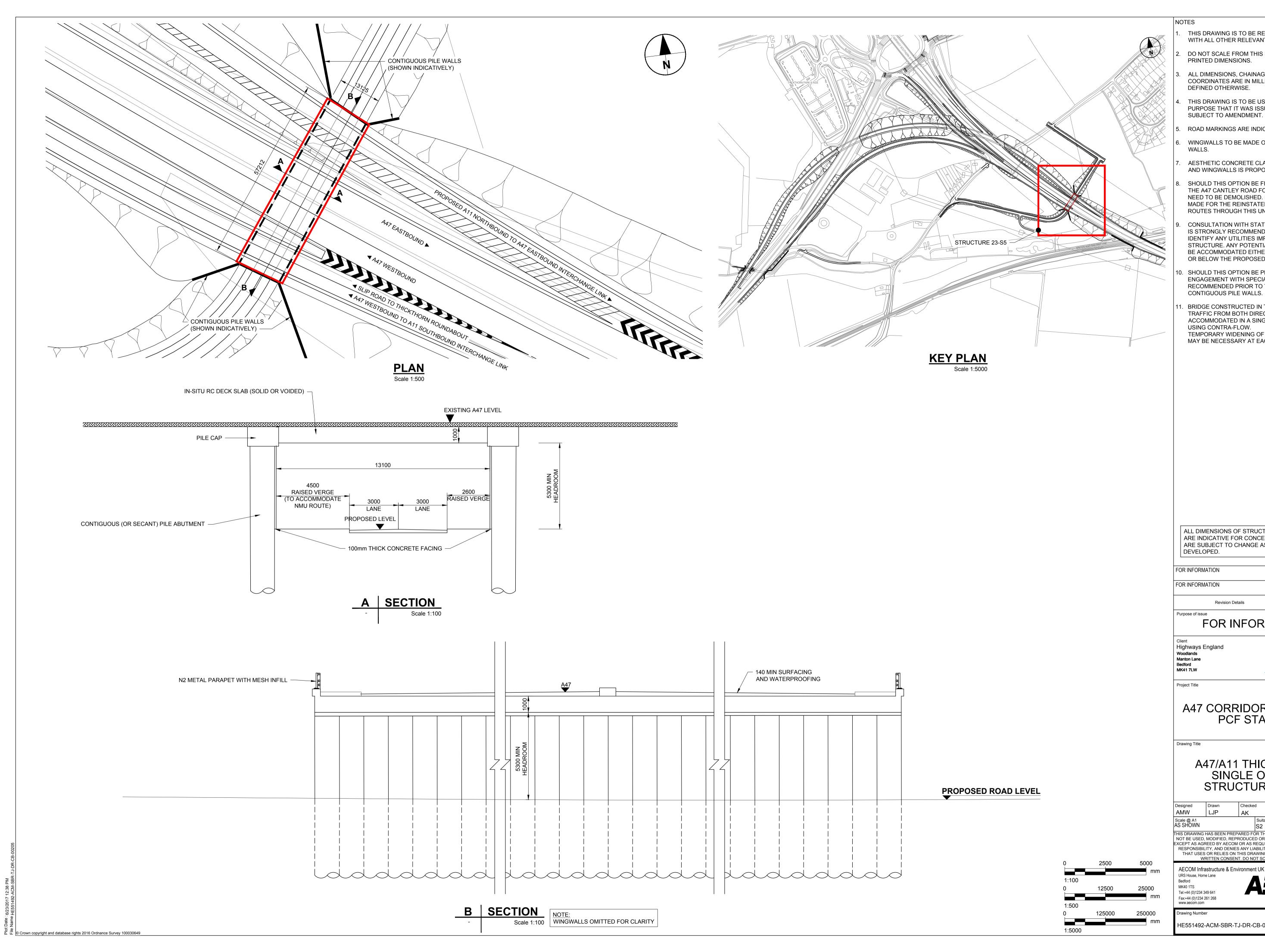
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- DEFINED OTHERWISE. THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE THAT IT WAS ISSUED FOR AND IS
- ROAD MARKINGS ARE INDICATIVE.
- WINGWALLS TO BE MADE OF CONTIGUOUS PILE
- AESTHETIC CONCRETE CLADDING TO ABUTMENTS AND WINGWALLS IS PROPOSED.
- SHOULD THIS OPTION BE FINALLY PROGRESSED THE A47 CANTLEY ROAD FOOTBRIDGE WOULD NEED TO BE DEMOLISHED. PROVISION HAS BEEN MADE FOR THE REINSTATEMENT OF ANY SEVERED ROUTES THROUGH THIS UNDERPASS.
- CONSULTATION WITH STATUTORY UNDERTAKERS IS STRONGLY RECOMMENDED IN ORDER TO IDENTIFY ANY UTILITIES IMPACTED BY THIS STRUCTURE. ANY POTENTIAL RELOCATION WOULD BE ACCOMMODATED EITHER ON TOP OF THE DECK OR BELOW THE PROPOSED ROAD LEVEL.
- 10. SHOULD THIS OPTION BE PROGRESSED EARLY ENGAGEMENT WITH SPECIALIST CONTRACTORS IS RECOMMENDED PRIOR TO THE DESIGN OF THE CONTIGUOUS PILE WALLS.
- 11. BRIDGE CONSTRUCTED IN TWO PHASES. TRAFFIC FROM BOTH DIRECTIONS TO BE ACCOMMODATED IN A SINGLE CARRIAGEWAY BY USING CONTRA-FLOW. TEMPORARY WIDENING OF THE CARRIAGEWAYS MAY BE NECESSARY AT EACH STAGE.

ALL DIMENSIONS OF STRUCTURAL ELEMENTS ARE INDICATIVE FOR CONCEPT DESIGN ONLY AND ARE SUBJECT TO CHANGE AS THE SCHEME IS DEVELOPED.

LJP 20/06/17 P02 FOR INFORMATION LJP 19/05/17 P01 FOR INFORMATION FOR INFORMATION

Highways England
Woodlands
Manton Lane
Bedford

highways england

## A47 CORRIDOR SCHEMES PCF STAGE 2

# A47/A11 THICKTHORN SINGLE OPTION STRUCTURE 23-S5

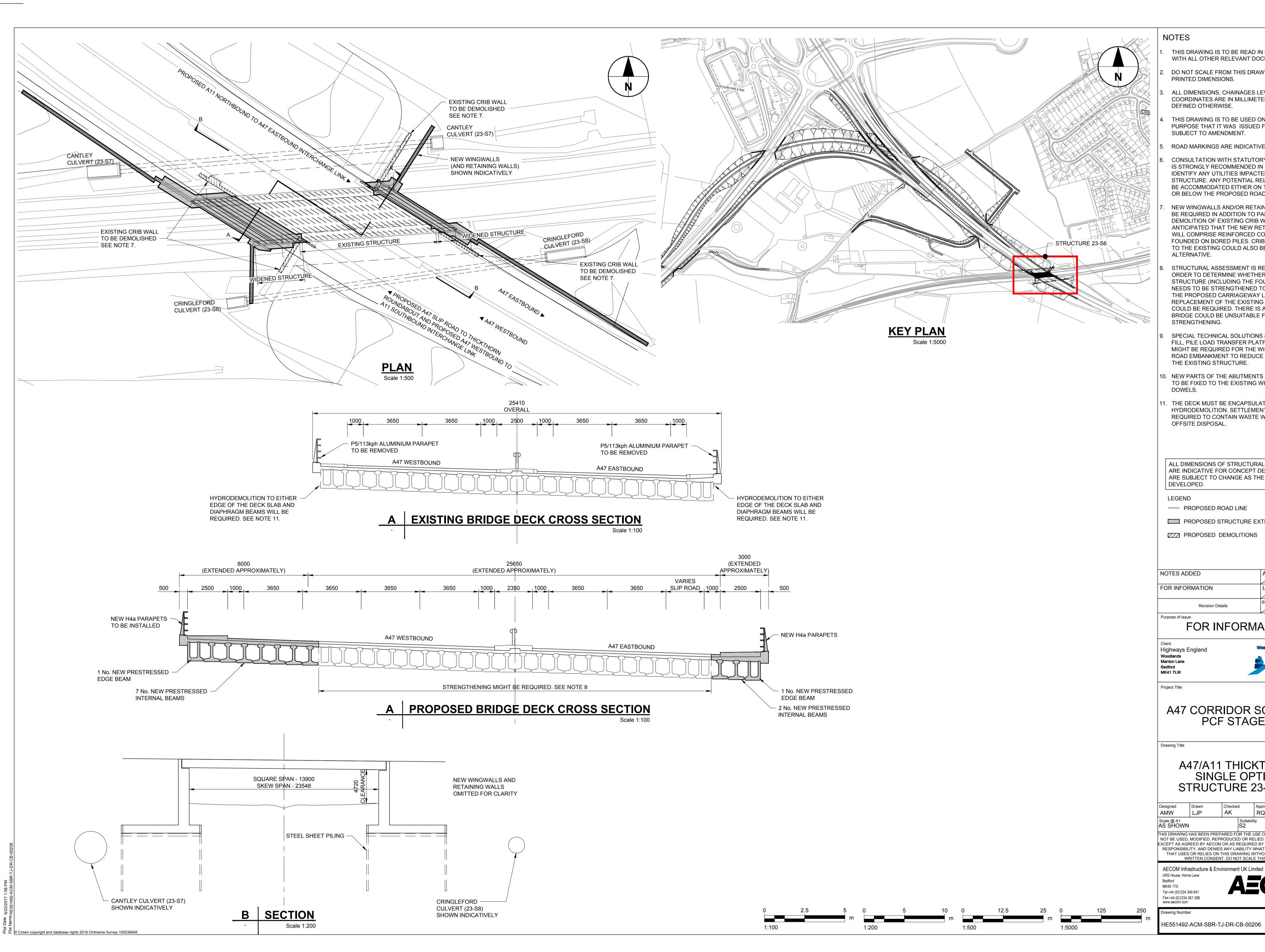
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- ROAD MARKINGS ARE INDICATIVE.
- CONSULTATION WITH STATUTORY UNDERTAKERS IS STRONGLY RECOMMENDED IN ORDER TO IDENTIFY ANY UTILITIES IMPACTED BY THIS STRUCTURE. ANY POTENTIAL RELOCATION WOULD BE ACCOMMODATED EITHER ON TOP OF THE DECK OR BELOW THE PROPOSED ROAD LEVEL.
- NEW WINGWALLS AND/OR RETAINING WALLS WILL BE REQUIRED IN ADDITION TO PARTIAL/ TOTAL DEMOLITION OF EXISTING CRIB WALLS. IT IS ANTICIPATED THAT THE NEW RETAINING WALLS WILL COMPRISE REINFORCED CONCRETE WALLS FOUNDED ON BORED PILES. CRIB WALLS SIMILAR TO THE EXISTING COULD ALSO BE CONSIDERED AS ALTERNATIVE.
- STRUCTURAL ASSESSMENT IS REQUIRED IN ORDER TO DETERMINE WHETHER THE EXISTING STRUCTURE (INCLUDING THE FOUNDATIONS) NEEDS TO BE STRENGTHENED TO ACCOMMODATE THE PROPOSED CARRIAGEWAY LAYOUT. REPLACEMENT OF THE EXISTING EDGE BEAMS COULD BE REQUIRED. THERE IS A RISK THAT THE BRIDGE COULD BE UNSUITABLE FOR STRENGTHENING.
- SPECIAL TECHNICAL SOLUTIONS (e.g. LIGHTWEIGHT FILL, PILE LOAD TRANSFER PLATFORMS, ETC) MIGHT BE REQUIRED FOR THE WIDENING OF THE ROAD EMBANKMENT TO REDUCE ANY EFFECT ON THE EXISTING STRUCTURE.
- 10. NEW PARTS OF THE ABUTMENTS AND FOUNDATION TO BE FIXED TO THE EXISTING WITH RESIN FIXED
- 1. THE DECK MUST BE ENCAPSULATED DURING HYDRODEMOLITION. SETTLEMENT TANKS WILL BE REQUIRED TO CONTAIN WASTE WATER PRIOR TO OFFSITE DISPOSAL.

ALL DIMENSIONS OF STRUCTURAL ELEMENTS ARE INDICATIVE FOR CONCEPT DESIGN ONLY AND ARE SUBJECT TO CHANGE AS THE SCHEME IS DEVELOPED.

PROPOSED ROAD LINE

PROPOSED STRUCTURE EXTENSION

PROPOSED DEMOLITIONS

APM 20/06/17 P02
JN
LJP 19/05/17 P01
RQ
By Date Suffix

## FOR INFORMATION

Highways England



## A47 CORRIDOR SCHEMES PCF STAGE 2

## A47/A11 THICKTHORN SINGLE OPTION STRUCTURE 23-S6 1/2

Designed	Drawn	Checke	d	Approved	Date
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