HIGHWAYS AGENCY

Safe roads, reliable journeys, informed travellers

Consultation Document
Public consultation • December 2013 to January 2014

A556 Knutsford to Bowdon Improvement

An executive agency of the
Department for Transport

Contents

Appendices

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1 Introduction

1.1 The Scheme

1.1.1 The Highways Agency (HA) intends to improve the A556 trunk road between Junction 19 of the M6 motorway, near Knutsford, and Junction 7 of the M56 motorway, near Bowdon. The scheme forms part of a strategic programme of infrastructure projects confirmed by the government as part of the Comprehensive Spending Review in 2010.

1.1.2 The A556 is a major strategic route, heavily used by traffic travelling between south Manchester and northern Cheshire going to the West Midlands via the M6. It is the only non-motorway section on the route between Manchester and Birmingham.

1.1.3 The key objectives of the scheme are:

- to improve the local environment in Bucklow Hill and Mere;
- to improve road safety and journey time reliability;
- to reduce conflicts between local and long distance traffic; and,
- to minimise the environmental impacts of the proposed scheme both during construction and once the scheme is open.

2 The purpose of this consultation document

2.1.1 Capita and Jacobs Engineering have been commissioned by Costain Limited, on behalf of the Highways Agency, to prepare a Consultation Document, to inform the public of required changes to the A556 Knutsford to Bowdon Improvement Scheme.

2.1.2 An Environmental Statement (ES; March 2013) for the A556 Knutsford to Bowdon Improvement scheme formed part of the Development Consent Order (DCO) application submission in April 2013. An Environmental Statement Addendum was produced in September 2013 to take into account changes to predicted traffic flows, and submitted to the Planning Inspectorate to inform the ongoing Examination of the DCO application in early October 2013.

2.1.3 As a result of impacts upon local air quality predicted in both the ES and the ES Addendum, it is necessary to introduce an air quality mitigation measure in the form of a 60 mph speed limit

2.1.4 The reduced speed limit would be in place for only a short period of between two and five years, after which the national speed limit would be restored. This is because the long-term trend towards reduction in the emissions of air pollutants from vehicles means that after that period the speed limit would no longer be required.

2.1.5 As part of the design development of the scheme there has also been a change to the temporary land requirements for diversion of a National Grid Pipeline and realignment in the permanent easement area. This would result in a small change to the DCO boundary which is detailed on drawing A556-CAP-0000-PJW-SK-C-0161 which is included in Appendix A.

2.1.6 Following discussions with affected landowners there are also a number of small changes to turning heads, private accesses, a new field access along Chapel Lane and potential relocation of some environmental mitigation areas. These changes are detailed on drawings A556-CAP-0000-PJW-SK-C-0160 to 166 which are included in Appendix A.

2.1.7 This consultation document details the changes and the likely impacts of these changes upon the key topics in the previous ES documents, as follows:

- Air Quality
- Noise
- Cultural Heritage
- Landscape
- Ecology
- Road Drainage and the Water Environment
- Materials
- Geology and Soils
- People and Communities
- Effects on all Travellers

2.2 The scope of environmental assessment required

2.2.1 In order to demonstrate the environmental effects of the proposed air quality mitigation measure (i.e. the introduction of a reduced speed limit for a period of between two and five years), it is necessary to re-run the computer modelling of the impacts of the scheme on air quality and noise. This is because these topics are

principally dependent on the traffic forecasts for the prediction of environmental impacts, and they consider impacts that would occur within the timescale during which the reduced speed limit would apply. This work is in progress and will be fully reported in January 2014. At this stage, the work is partly complete and the initial results are reported below.

2.2.2 Some other environmental topics, such as the water environment and effects on all travellers, also draw on traffic forecasts for parts of their assessment. Remodelling/ recalculation has not been necessary in these cases, principally because the standard modelling and assessment techniques applied in line with published guidance relate to longer time-scales, outside the time-frame during which the reduced speed limit would be in place. However, professional judgement has been applied to consider the potential for impacts in the shorter term and the outcome is discussed in the following sections.

2.2.3 The remaining environmental topics do not rely on traffic forecasts for their assessment process, or make only very minor use of them. These topics include Cultural Heritage, Landscape, Ecology, Materials, Geology and Soils, and People and Communities. There has been no requirement to carry out any remodelling or recalculation in respect of any of these topics in respect of the 60mph speed limit, and professional judgement has been used to determine whether there is a risk of any significant impacts occurring. The outcome of this process is discussed in the following sections.

2.2.4 The minor change to the temporary land required for the diversion of National Grid Pipeline and the minor changes to turning heads, accesses and the mitigation area is not considered to have any significant environmental impact that would change any of the topic conclusions. The change in location for an environmental mitigation area is discussed in the ecology section 6.3.

3 Air Quality

3.1 Scope of the original air quality impact assessment

3.1.1 The air quality impact assessment presented air quality impacts during construction and operation of the new road.

3.1.2 The text makes reference to the 'do-something' and 'do-minimum' models and scenarios. The 'do-something' scenario is the situation in which the scheme is built; the 'do-minimum' scenario is the situation in which the proposed new A556 is not built.

3.1.3 The air quality impact in the Environmental Statement (ES) Addendum (September 2013), assessment included the following:

- Local Air Quality - An assessment of changes in air quality at individual properties and sensitive habitats with the operation of the scheme. The outcomes are also compared with the relevant legislative air quality thresholds.
- Greenhouse Gas Emissions – Predicted changes in mass emissions of carbon dioxide (CO2) as a result of the operation of the scheme.
- Construction dust – Assessment of the construction impacts on dust.

3.1.4 The outcomes of the air quality assessment in the ES Addendum concluded:

- Large air quality benefits along the existing A556 due to the realignment of the scheme away from these properties
- Small worsening in air quality as properties close to the M56 between Junctions 2 to 6 due to increases in traffic flows along the M56 as a result of the scheme.
- Overall there is a significant adverse local air quality effect
- An overall increase in CO2 emissions
- Construction dust control measures would minimise any adverse construction dust impacts so as not to cause statutory nuisance.

3.2 Changes since the ES Addendum

3.2.1 Since the publication of the ES Addendum revisions to Department for Transport (DfT) traffic guidance and Highways Agency (HA) air quality advice have been published. This information has been incorporated into a further revision of the air quality assessment.

3.2.2 Table 1 summarises the updated results for the A556 scheme in the opening year (2017) based on this published guidance. The modelled pollutant concentrations at receptor locations are compared against UK Air Quality Objective (AQO) for annual average nitrogen dioxide concentration (40µg/m³); which are set at a level to protect health.

Table 1: Updated Local Air Quality Receptors Informing Scheme Significance

	Total Number of Receptors with:	
Magnitude of Change in Annual Average NO_2 or PM_{10} (µg/m³)	**Worsening of air quality objective already above objective or creation of a new exceedance**	**Improvement of an air quality objective already above objective or the removal of an existing exceedance**
Large (>4)	0	14
Medium (>2 to 4)	0	0
Small (>0.4 to 2)	97	0

3.2.3 Table 1 summarises the updated air quality assessment and the location of the impacts is presented in Figure AQ1 in Appendix B. These results are considered to represent a significant air quality effect.

- Large air quality benefits continue to occur along the existing A556 due to the realignment of the scheme away from these properties (See Figure AQ1).
- A large worsening occurs at Mereside Farm where the new A556 alignment re-joins the existing A556.
- Small worsening in air quality as properties still occur along M56 at a reduced number of properties between junctions 2 to 5 due to increases in traffic flows along the M56 as a result of the scheme (Figure AQ1).
- Overall there is still a significant adverse local air quality effect.
- A mitigation measure has therefore been developed.

3.2.4 The mitigation measure is a 60mph speed limit on the proposed A566 scheme recommended for 2 to 5 years, which results in smaller increases in traffic flows along the M56. The air quality assessment incorporating the 60mph speed limit has concluded that there would not be a significant air quality effect as a result of the mitigation measure, due to the smaller increases in traffic flows compared to those anticipated with the scheme operating at 70mph.

3.2.5 Air quality is anticipated to improve over time across the UK. Therefore 2 to 5 years after opening of the scheme, air quality is expected to improve sufficiently to allow the A556 scheme to operate at 70mph.

3.2.6 Table 2 summarises the results for the A556 scheme operating at 70mph when opened in 2022, and this identifies that the air quality impacts would not be significant.

Table 2: A556 Scheme with 70mph in 2022 - Local Air Quality Receptors Informing Scheme Significance

	Total Number of Receptors with:	
Magnitude of Change in Annual Average NO_2 or PM_{10} (µg/m³)	**Worsening of air quality objective already above objective or creation of a new exceedance**	**Improvement of an air quality objective already above objective or the removal of an existing exceedance**
Large (>4)	0	5
Medium (>2 to 4)	0	0
Small (>0.4 to 2)	31	0

3.3 Air Quality Monitoring

3.3.1 Air quality monitoring will be installed as part of the scheme and will be used to help identify when ambient air quality has improved sufficiently to allow for the speed restrictions on the A556 to be removed.

3.4 Summary

3.4.1 The air quality assessment has been revised since the ES Addendum was published in October 2013 to take of updated Government guidance.

3.4.2 The air quality assessment concluded a significant air quality effect. A 60mph speed limit on the A566 mitigation solution for 2 to 5 years has been developed which results in no significant air quality effects.

3.4.3 A revision to the ES Addendum will be released in January which provides further information on the local air quality results following the updates to published guidance, and for the mitigation modelling and duration calculations.

4 Noise

4.1 Scope of the original noise impact assessment

4.1.1 The noise impact assessment is divided between the noise impacts during construction and during operation of the new road. Construction impacts would not be altered by the introduction of the 60mph speed limit, which is a purely operational matter, so this section focuses solely on operational impacts.

4.1.2 In the Environmental Statement (March 2013) and the Environmental Statement Addendum (September 2013), the operational noise impact assessment included the following:

- An assessment of noise impacts on every sensitive receptor, including every dwelling, within 600m of the scheme, and for receptors on those roads on the existing road network within 1km of the scheme that meet certain qualifying criteria (together, these areas form the 'calculation area');
- Prediction of changes in the 'basic noise level' on the wider road network beyond the calculation area;
- The results are presented as tables of changes in noise levels for individual properties in the daytime and at night, for all properties in the appendices and for 33 selected 'sample receptors' deemed to be representative of different areas within the study area in the main text;
- Summary tables are presented showing the numbers of properties experiencing increases or decreases in noise, divided into bands according to the scale of change, with separate tables illustrating showing changes in noise nuisance;
- The tables show both the short-term effect (i.e. the impact of the scheme on noise in 2017, the year it opens) and the long-term effect (i.e. the impact as it is predicted to be in 2032, 15 years after the scheme has opened).

4.1.3 The text and tables make reference to the 'do-something' and 'do-minimum' models and scenarios. The 'do-something' scenario is the situation in which the scheme is built; the 'do-minimum' scenario is the situation in which the proposed A556 is not built, but the computer modelling of both traffic and noise does take account of other planned changes in the highway network and planned developments in the surrounding region .

4.2 Changes since the ES Addendum

4.2.1 Since the ES Addendum produced in September 2013, we have updated the traffic modelling to take account of changes in guidance affecting the way growth in HGV traffic is calculated. A sensitivity test in the noise model showed that the effect of these changes on noise would be neutral.

4.2.2 The original traffic model was based on the assumption that the new A556 would have a speed limit of 70mph. Traffic flows have now been remodelled to take account of a proposed speed limit of 60mph.

4.2.3 The noise model has already been updated to take account of the HGV traffic modelling changes; we are currently updating it to take account of the proposed

60mph speed limit. The results to be published in January 2014 will update the following information:

- The daytime and night-time noise impact assessment for the 33 sample receptors;
- The daytime and night-time noise impact summary tables;
- The noise nuisance summary tables;
- The noise plans.

4.2.4 The results of the noise model completed to date is presented in this consultation document.

4.3 Changes at the sample receptors

4.3.1 The 33 sample receptors were selected to be representative of groups of properties or areas affected by the scheme, 17 properties near the existing A556 and 16 properties in the countryside to the west of the existing A556, near the proposed new route. In general, the sample receptors were selected to be the properties most affected by the scheme in each area.

4.3.2 We already know from previous assessments how much noise would increase or decrease at each sample receptor as a result of the scheme if the speed limit is 70mph, taking into account the previous HGV-related changes. We can now compare that with the noise increases and decreases that would occur if the speed limit is 60mph, in both the short term (i.e. in 2017) and in the long term (i.e. in 2032). The conclusions were as follows:

- None of the sample receptors would have a higher noise level with the 60mph limit than they would have had with the 70mph speed limit;
- In general, most of the sample receptors had noise levels that were marginally lower with the 60mph limit than with the 70mph limit;
- For properties on the wider road network, noise levels are generally between 0.1dB and 0.7dB lower with the 60mph limit than with the 70mph limit.

4.3.3 In relation to noise impacts at the sample receptors, therefore, the introduction of the 60mph speed limit would have a beneficial impact, although only to a marginal degree as differences in noise of less than 1dB are considered imperceptible.

4.4 Noise summary tables

4.4.1 The noise summary tables quantify the total numbers of properties affected by changes in noise within the calculation area. They don't identify specific properties, but rather illustrate how many properties would have an increase in noise as a result of the scheme, how many would have a decrease, and how many would have no change.

4.4.2 The increases and decreases are divided into five bands of magnitude, which vary between the short-term and long-term assessments because of the way in which people experience noise, according to the following standard scheme:

Magnitude of impact category	Short term (dB)	Long term (dB)
No change	0	0
Negligible	0.1 - 0.9	0.1 – 2.9
Minor	1 - 2.9	3 – 4.0
Moderate	3 - 4.9	5 – 9.9
Major	5+	10+

4.4.3 The outcome of the comparison is shown in the following tables, which show the change in the number of properties affected in each impact category, first in the short-term and then in the long-term.

Short-term Traffic Noise Comparison

Scenario/Comparison: Do Minimum 2017 against Do Something 2017			
		Daytime	
Change in noise level		Number of dwellings	Number of other sensitive receptors
Increase in noise level LA10,18h	0.1 – 0.9	-93	0
	1.0 – 2.9	-14	0
	3.0 – 4.9	-2	0
	5+	-3	0
No Change	0	-33	0
Decrease in noise level LA10,18h	0.1 – 0.9	+137	0
	1.0 – 2.9	+5	0
	3.0 – 4.9	-1	0
	5+	+4	0

Long-term Traffic Noise Comparison

Scenario/Comparison: Do Minimum 2017 against Do Something 2032			
		Daytime	
Change in noise level		Number of dwellings	Number of other sensitive receptors
Increase in noise level LA10,18h	0.1 – 2.9	-136	0
	3.0 – 4.9	-19	0
	5.0 – 9.9	-3	0
	10+	0	0
No Change	0	+37	0
Decrease in noise level LA10,18h	0.1 – 2.9	+121	0
	3.0 – 4.9	-6	0
	5.0 – 9.9	+6	0
	10+	0	0

4.4.4 In both the short-term and the long-term traffic noise comparison tables, the overall number of properties experiencing an increase in noise levels is reduced, while the

number of properties experiencing a reduction in noise levels is increased. This means that the overall effect of running the scheme with a 60mph speed limit is beneficial in relation to noise impacts.

4.4.5 The majority of these changes are in the 'negligible' category; however, there are a significant number of beneficial changes in the minor to major magnitude categories.

4.5 Summary

4.5.1 The information provided above shows the 60 mph speed limit would result in a large net movement in property numbers from noise increase to noise reduction. In terms of perceptible changes in noise, the revised traffic shows a moderate improvement in the short-term and long-term. Overall, it is considered that a 60 mph speed limit on the proposed A556 would result in a benefit on the assessment.

5 Other traffic-dependent topics

5.1 Road drainage and the water environment

Introduction

5.1.1 Impacts upon the Water Environment from road drainage occur from contaminants left on the road surface during its use. The main sources of these contaminants include spillages of oil, fuel and other pollutants following road accidents, and deposition of contaminants from incomplete fuel combustion, general vehicle, tyre and road degradation and small oil or fuel leaks.

5.1.2 Chapter 11 of the ES and the September 2013 ES addendum detail the results from the assessment of the pollution impacts from spillages arising from the proposed scheme.

5.1.3 These documents concluded that;

- The scheme would have beneficial impacts on water quality in Rostherne Brook (which feeds Rostherne Mere), The Mere and Little Mere as a result of diverting traffic from the existing A556 onto the new road.
- There would be adverse impacts on Tabley Brook as a result of introducing new discharges to this watercourse.
- The accidental spillage risk assessment concluded that no measures would be required to mitigate spillage risk.
- The Flood Risk Assessment concluded that the development is not at risk from any source of flooding and does not increase flooding elsewhere.

The Revised Assessment

5.1.4 The revised scheme will introduce a speed limit of 60mph instead of the 70mph which will be in place for 2-5 years.

5.1.5 When assessing impacts upon Water Quality, there are three key elements that are assessed in Water Quality Assessment;

1. Impacts upon Routine Run-off (i.e. the amount of pollution in water routinely draining off the road when it rains);
2. Spillage risk (i.e. the risk of accidents, such as major traffic accidents, that could lead to spillages of fuels or chemicals that would enter the road drainage system);
3. Flood Risk.

5.1.6 There will be no change to the impact assessment on Flood Risk as a result of the speed limit change, because the speed limit would not change the design any of the physical infrastructure of the scheme. This aspect is therefore not considered further.

5.1.7 The published guidance to which we work specifies that assessments for impacts upon routine run-off and spillage risk are applied to the scheme in the design year only (i.e. 15 years after the scheme opens). By this time, the reduced speed limit will have been lifted and traffic will have been running at 70mph for at least 10 years. The existing impact assessment is therefore still valid.

5.1.8 Notwithstanding the above, professional judgement has been applied, taking into account the following:

- Traffic travelling at lower speed would result in slightly reduced wear on tyres;
- Traffic forecasts show slightly reduced traffic flows as a result of the reduced speed limit.

5.1.9 In the light of these factors, both the pollution carried in routine run-off and spillage risk would be slightly reduced during the period that the speed limit is in place.

Conclusion

5.1.10 It is therefore anticipated that the change in speed limit will result in a Neutral impact in the long term.

5.1.11 If any marginal changes to Water Quality do occur in the short term, it is likely that these changes will be beneficial for the following reasons:

- A reduced speed limit should reduce the likelihood of an accident occurring, thus reducing the likelihood of a spillage.

5.1.12 A reduced speed limit may reduce flows therefore reducing impacts upon run-off from vehicles.

5.2 Effects on all travellers

Introduction

5.2.1 This topic assesses the impacts of the scheme on travellers in the study area – both drivers and passengers in vehicles, and pedestrians, horse riders and cyclists.

5.2.2 For the purpose of this consultation document, only the impacts upon travellers in vehicles are considered as a result of the reduced speed limit, as impacts upon pedestrians, horse riders and cyclists will remain unchanged.

5.2.3 The assessment in respect of vehicle travellers addresses two main themes – journey ambience, which affects both drivers and passengers; and driver stress. Of the two, only driver stress could potentially be affected by the change in speed limit, and therefore only that theme is addressed here.

5.2.4 Assessment for impacts upon Driver Stress is calculated by comparing two key aspects;

1. Average peak hourly flow per lane for average AM and PM peak hours;
2. Average vehicle speed for single carriageways, dual carriageways and motorways.

The Original Assessment

5.2.5 Chapter 15 of the ES and the September 2013 ES addendum detail the results from the assessment of the impacts upon the scheme upon travellers.

5.2.6 These documents conclude;

- During the construction phase, there would be a short-term rise in driver stress due to the temporary short-term disruption in access to certain roads as the new road is built and the disruption to traffic, which would still be obliged to use the existing A556 during construction.

- Although there are a number of locations where driver stress would remain high after opening, for most drivers on the A556 and de-trunked Chester Road, there would be a reduction in stress after the scheme has opened. The overall effect of the scheme is therefore significantly beneficial.

5.2.7 The impact of the scheme on Driver Stress will be 'Significant Beneficial'.

The Revised Assessment

5.2.8 The revised scheme will introduce a speed limit of 60mph instead of the 70mph, which will be in place for 2-5 years.

5.2.9 In accordance with DMRB, assessment of the impacts of the scheme on Driver Stress is required to be applied in design year only. Therefore, as there is no assessment in the opening year, by the time you apply the results of the traffic flow analysis, the speed limit will no longer be in place and the existing assessment will still be valid.

5.2.10 However, on a professional judgement basis, the following comments can be made:

- The speed limit would result in both reduced speed and reduced traffic flows on the majority of road links covered by the assessment;
- Because the relevant parameters are both affected in the same way, the resulting effect on driver stress for the period that the reduced speed limit is in force is likely to be neutral.

Conclusion

5.2.11 The speed limit change will have a 'neutral' impact on Driver Stress

6 Non-traffic dependent topics

6.1 Cultural Heritage

6.1.1 There are no changes to the physical design, land-take or appearance of the scheme or to the environmental masterplan as a result of the speed limit change. There is no change to the impact assessment as a result of the speed limit change.

6.1.2 Speed-related factors that could have affected the impact assessment would be adverse effects on noise or changes in the location or design of signs or gantries, both of which could have affected the setting of listed buildings or other heritage sites. Neither of these would occur.

6.2 Landscape

6.2.1 There are no changes to the physical design, land-take or appearance of the scheme or to the environmental masterplan as a result of the speed limit change. There is no change to the impact assessment as a result of the speed limit change.

6.2.2 The only speed-related factor that could have affected the impact assessment would have been changes in the location or design of signs or gantries, which could have affected the visual impact assessment. It has been confirmed that this would not occur.

6.3 Ecology

6.3.1 There is no change to the impact assessment as a result of the speed limit change.

6.3.2 The only factor that could have affected the original impact assessment is if the speed limit change had the potential to impact upon Nitrogen Oxide (NOx) concentrations as a result of changes in the emissions of NOx from vehicles and consequent deposition in designated nature conservation sites within the vicinity of the site.

6.3.3 If there was a change it would be a marginal reduction in NOx concentrations and deposition, due to reduced speed and reduced flows. The existing impact assessment already demonstrates no significant adverse impact, so any change would be a reduction on a situation with no significant impact.

6.3.4 Discussions with landowners have resulted in consideration of the relocation of environmental mitigation areas west and east of Bucklowhill Lane and south of Chapel Lane. These areas have been included in the scheme as essential mitigation for loss of great crested newt habitat and fragmentation that will be caused by construction of the road. These changes in land requirements are detailed on A556-CAP-0000-PJW-SK-C-0165 and 166.

6.3.5 The proposals increase the size of great crested newt habitat adjacent to existing newt ponds west of the proposed new road. This would create one large area for great crested newt conservation on the west side of the proposed road in an arable field. This will provide a long term, sustainable habitat for great crested newts. In addition an area to the east of the proposed new A556 will provide newt habitat on this side of the road to offset fragmentation and compensate for habitat loss on the eastern side. This option and the design of the habitats in these areas will provide better quality habitat specifically designed for great crested newts, with the western section being designed to connect to an existing hedgerow and an existing cluster of ponds which provides habitat connectivity to facilitate migration of newts across the landscape.

6.4 Materials

6.4.1 The speed limit would result in no change to the physical design of the scheme, and therefore no change to material requirements or waste-related impacts.

6.5 Geology and Soils

6.5.1 The speed limit would result in no change to the physical design of the scheme, and therefore no change to the impacts on geology and soils.

6.6 People and Communities

6.6.1 Most aspects of this topic are unrelated to speed and traffic flows and it is considered that there would be no change in the assessment as a result of the speed limit change.

6.6.2 The assessment does include an assessment of the impact on commuter journeys. The existing assessment identifies a balance of both adverse and beneficial impacts on commuter journeys. On a professional judgement basis, it is considered that on balance the speed limit would change this balance only in detail and not in terms of its overall effect.

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Appendix A:

Proposed Changes to DCO Boundary drawings associated with National Grid

Proposed Changes to DCO Boundary drawings associated with accommodation works proposals.

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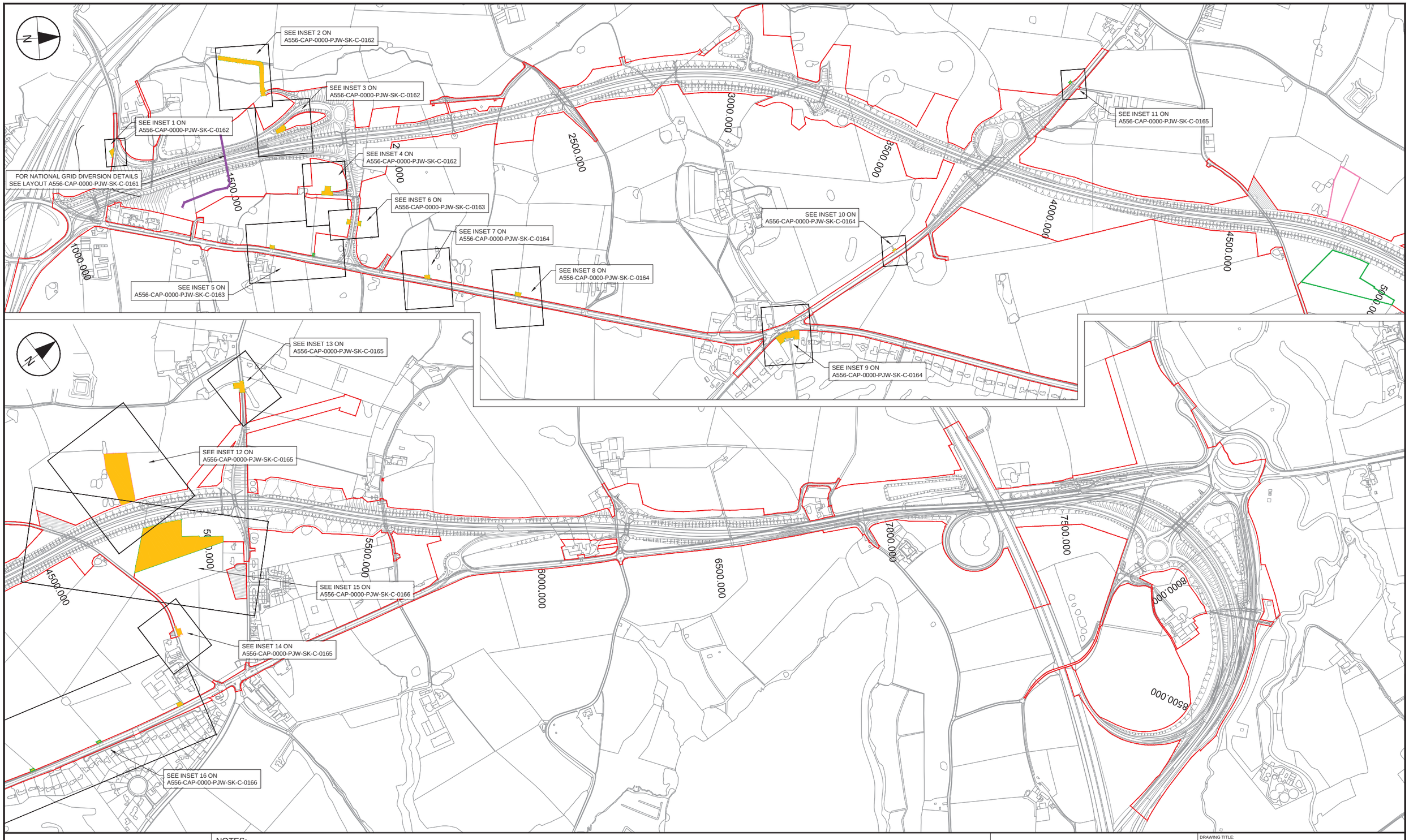

NOTES:

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KEY:

EXISTING DCO BOUNDARY

AREA REQUIRING CHANGES TO DCO BOUNDARY

REV	DATE	DESCRIPTION	DRWN	CHK'D	REV'D	APR'D
P01	11.12.2013	FIT FOR INFORMATION	PAW	DJL	DJL	AMB

PLOTTED ON 13-12-2013 9:32 AM BY DARREN LITTLER

COSTAIN CAPITA

CLIENT: HIGHWAYS AGENCY

PROJECT: A556 KNUTSFORD TO BOWDON IMPROVEMENT SCHEME

DRAWING TITLE: DCO AMENDMENTS KEY PLAN SHEET 1 OF 7

SUITABILITY: FIT FOR INFORMATION

DRAWN:	CHECKED:	REVIEWED:	APPROVED:
PAW	DJL	DJL	AMB
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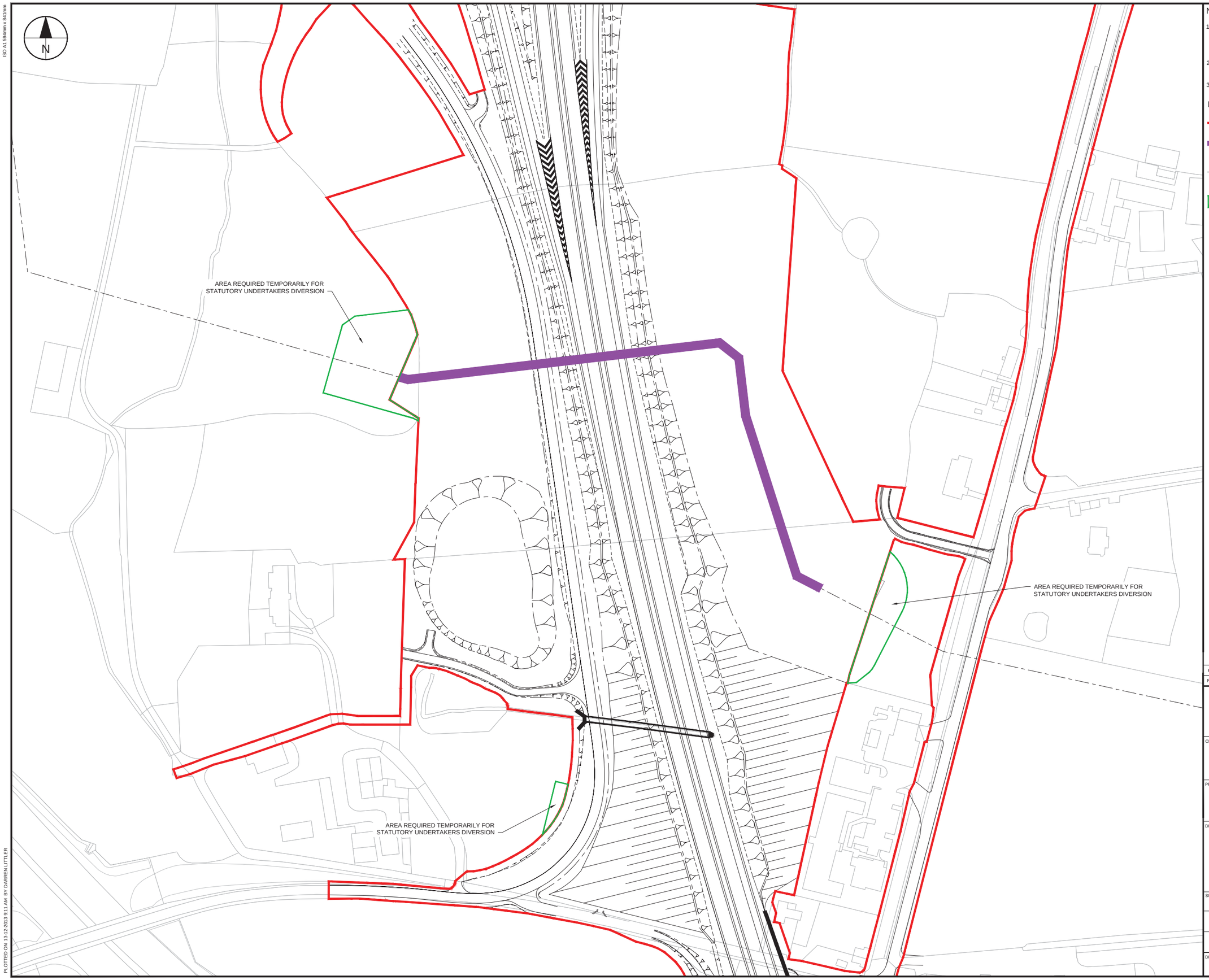
DRAWING NUMBER: A556-CAP-0000-PJW-SK-C-0160

ISO A1 594mm x 841mm



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KEY:

- DEVELOPMENT CONSENT ORDER BOUNDARY
- PROPOSED REVISED ROUTE AND CENTRE LINE OF EASMENT OF NATIONAL GRID PIPE
- CENTRE LINE OF EXISTING NATIONAL GRID GAS PIPE
- PROPOSED CHANGE TO THE DEVELOPMENT CONSENT BOUNDARY FOR THE TEMPORARY WORKS AREA REQUIRED FOR DIVERSION WORKS FOR NATIONAL GRID PIPELINE

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COSTAIN CAPITA

CLIENT: HIGHWAYS AGENCY

PROJECT:

A556 KNUTSFORD TO BOWDON IMPROVEMENT SCHEME

DRAWING TITLE:

DCO AMENDMENTS SHEET 2 OF 7 (NATIONAL GRID GAS PIPELINE DIVERSION)

SUITABILITY: FIT FOR INFORMATION

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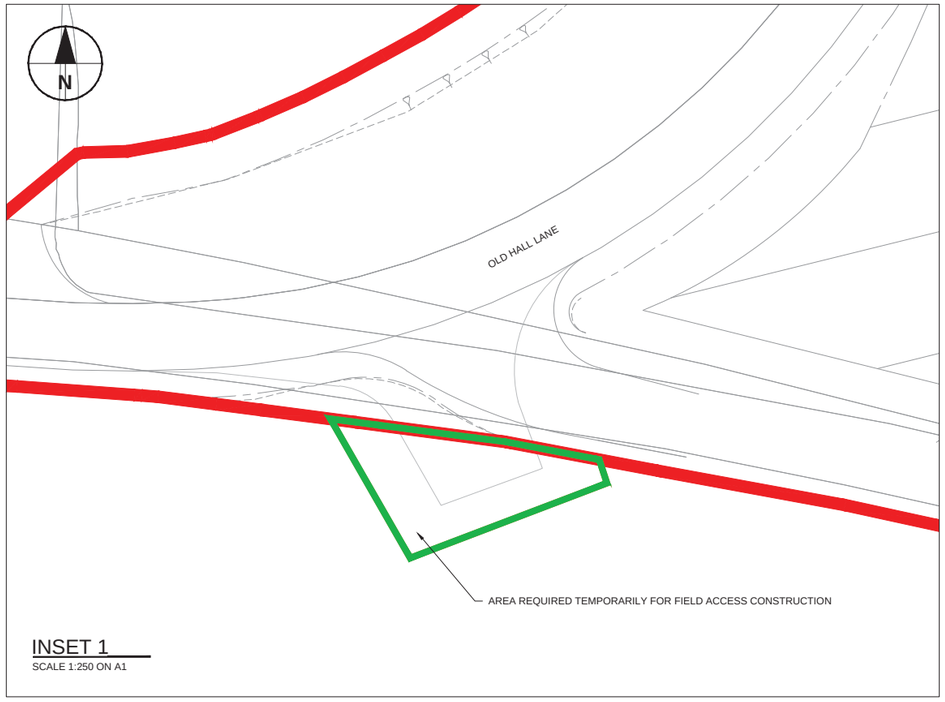
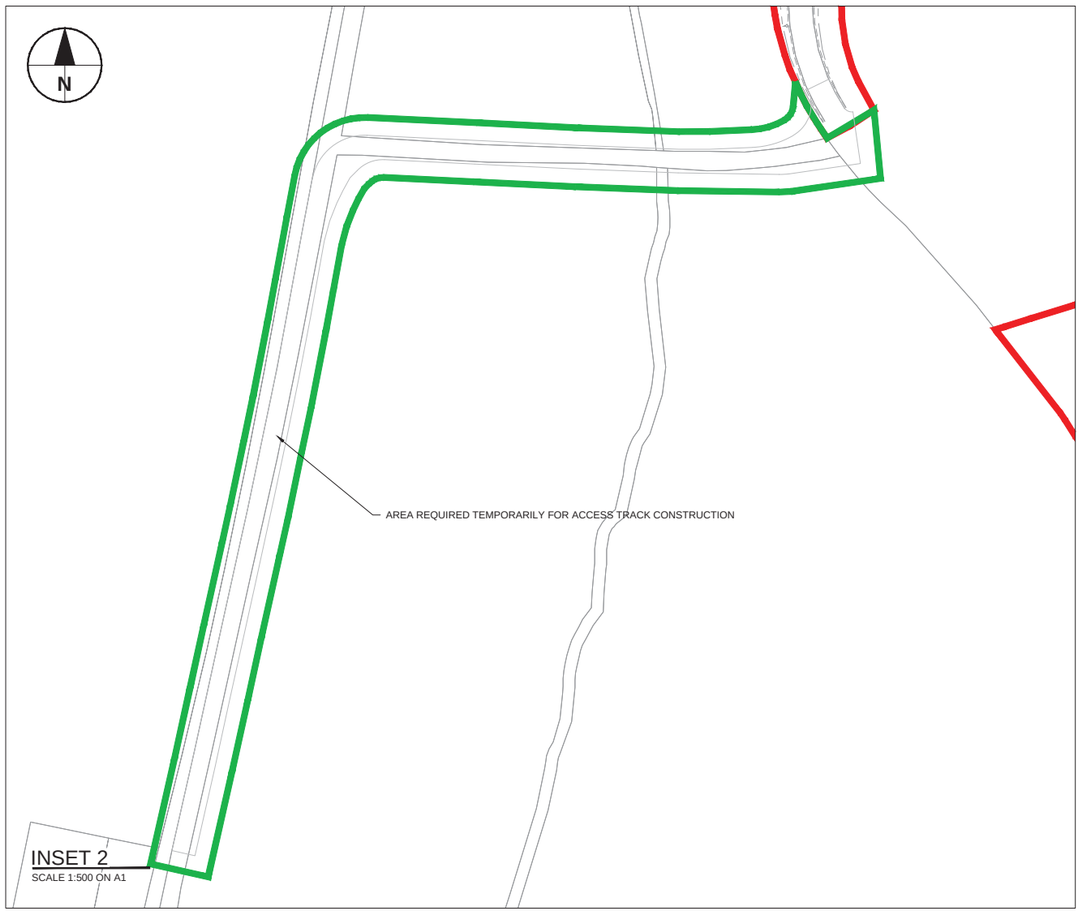
DRAWING NUMBER: A556-CAP-0000-PJW-SK-C-0161

PLOTTED ON 13-12-2013 9:11 AM BY DARREN LITTLER



INSET 1
SCALE 1:250 ON A1



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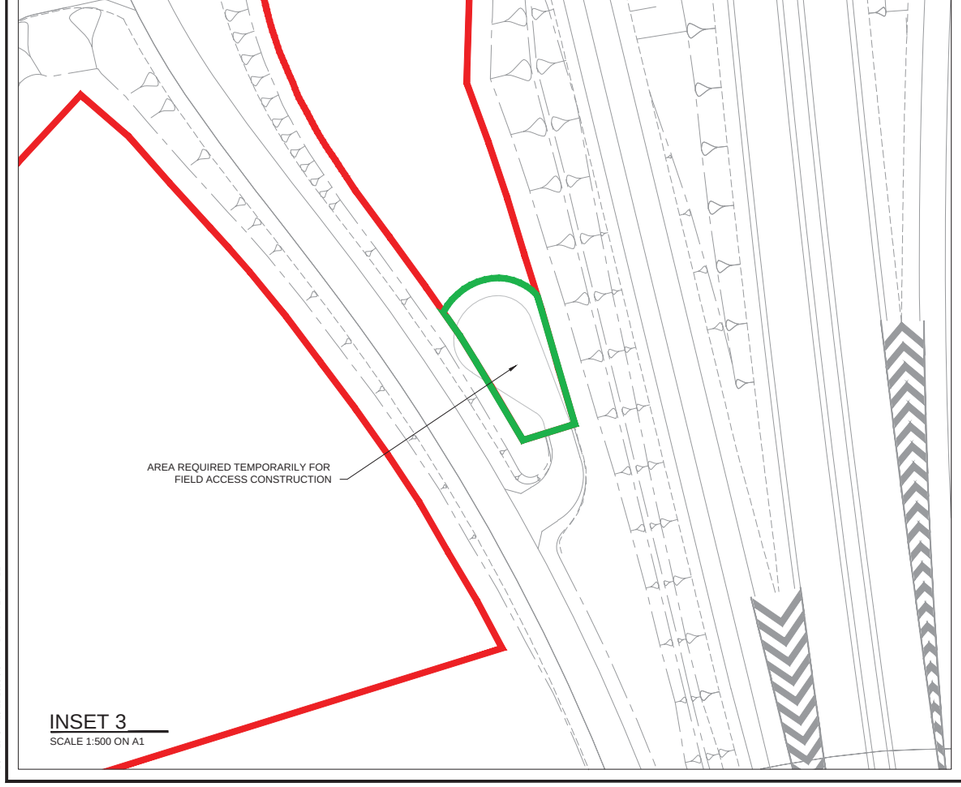

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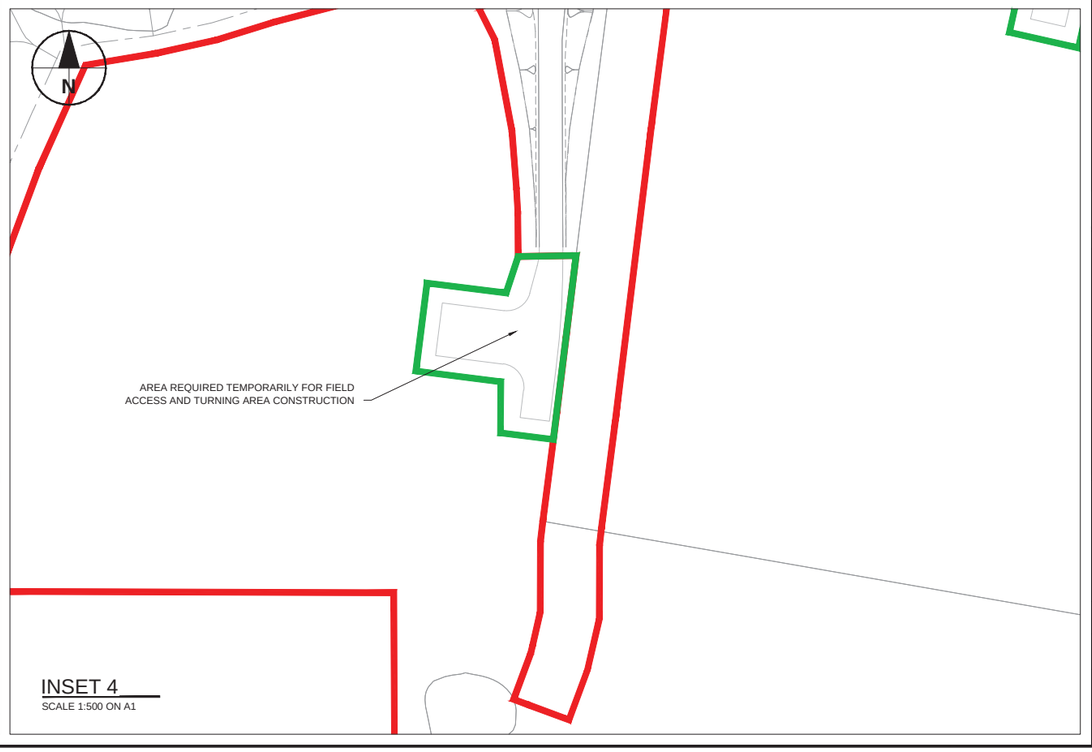


INSET 4
SCALE 1:500 ON A1

NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS, ANY DISCREPANCIES, ERRORS OR OMISSIONS TO BE BROUGHT TO THE ATTENTION OF CAPITA.
2. ALL DIMENSIONS TO BE CHECKED BEFORE COMMENCEMENT OF WORK ON SITE.
3. ALL DIMENSIONS IN METRES UNLESS OTHERWISE STATED.
4. ALL AREAS HIGHLIGHTED ON THIS PLAN ARE SUBJECT POTENTIALLY REQUIRED FOR TEMPORARY OR PERMANENT CONSTRUCTION SUBJECT TO CONSULTATION AND AGREEMENT WITH RELEVANT STAKEHOLDERS.
5. DRAWING TO BE READ IN CONJUNCTION WITH DRAWING SHEETS A556-CAP-0000-PJW-SK-C-0160 TO 0165

KEY:

- DCO BOUNDARY
- ADDITIONAL TEMPORARY AREA REQUIRED AS PART OF DEVELOPMENT CONSENT ORDER BOUNDARY
- ADDITIONAL PERMANENT AREA REQUIRED AS PART OF DEVELOPMENT CONSENT ORDER BOUNDARY

REV	DATE	DESCRIPTION	DRWN	CHK'D	REV'D	APR'D

COSTAIN CAPITA

CLIENT: HIGHWAYS AGENCY

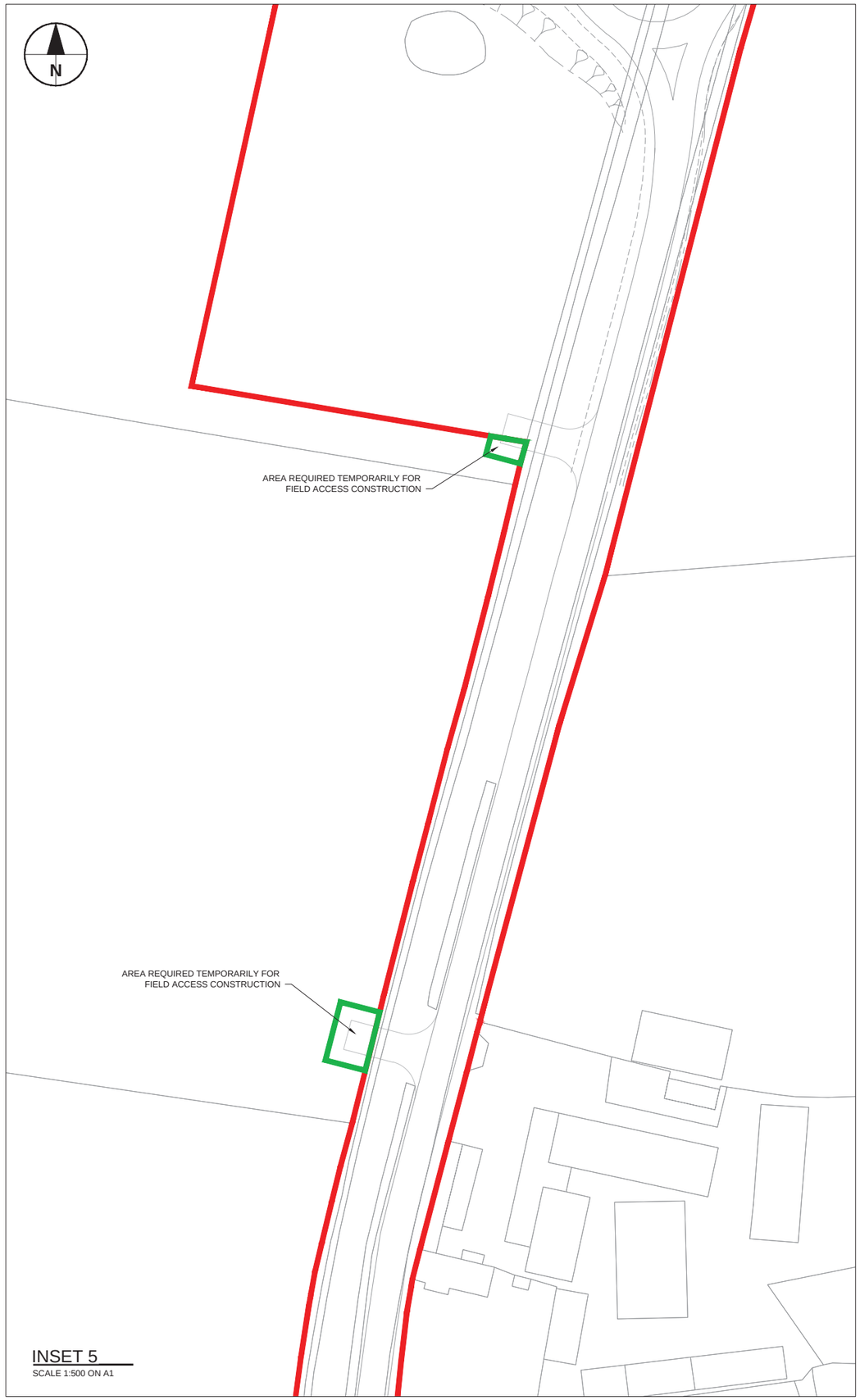
PROJECT:
A556 KNUTSFORD TO BOWDON IMPROVEMENT SCHEME

DRAWING TITLE:
DCO AMENDMENTS
SHEET 3 OF 7

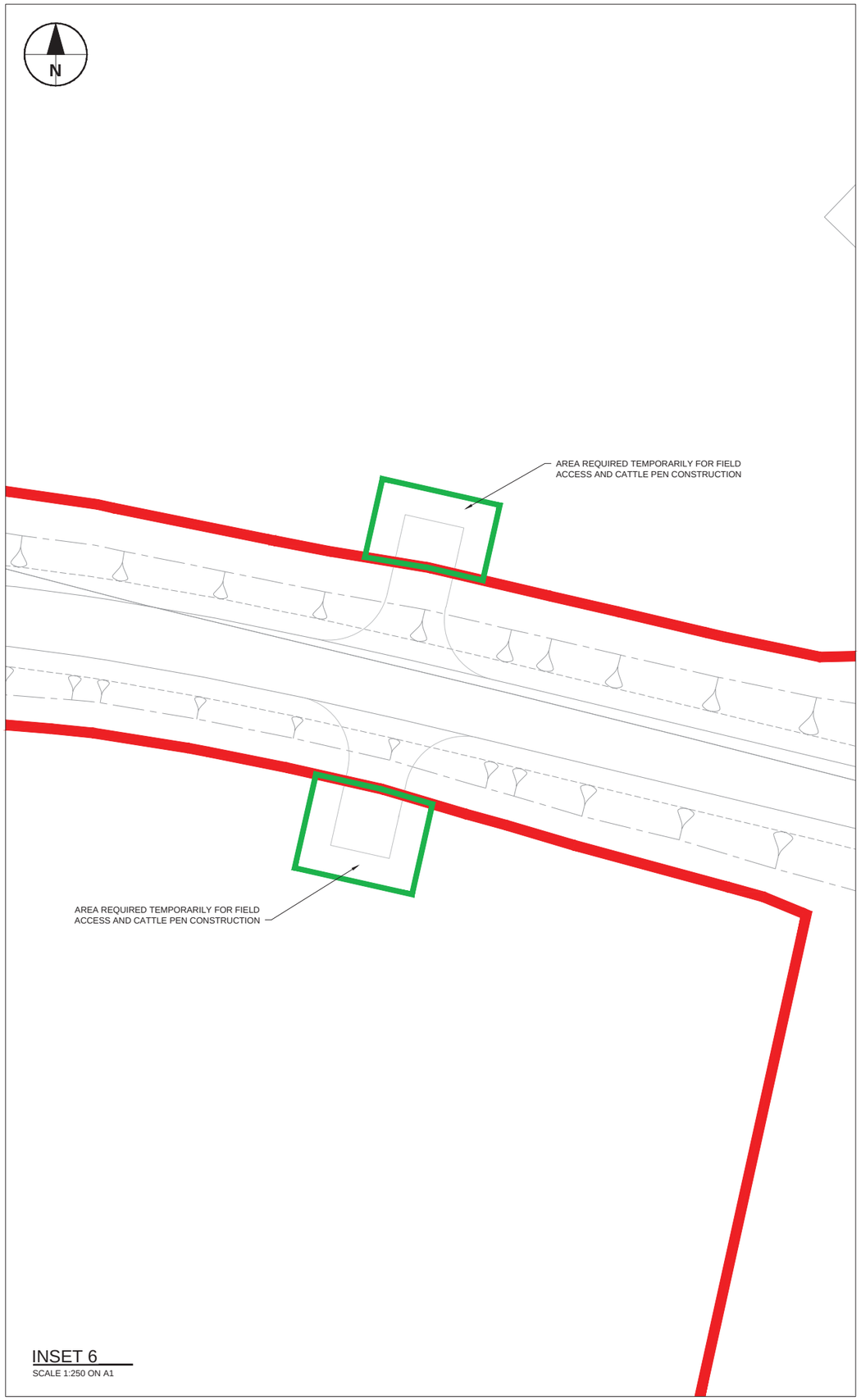
SUITABILITY:
FIT FOR INFORMATION

DRAWN:	CHECKED:	REVIEWED:	APPROVED:
DJL	DJL	PAW	AMB
SCALE:	DATE:	SUITABILITY CODE:	REVISION:
AS SHOWN	11.12.2013	S2	P01.1

DRAWING NUMBER:
A556-CAP-0000-PJW-SK-C-0162



INSET 5
SCALE 1:500 ON A1



INSET 6
SCALE 1:250 ON A1

NOTES:

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- ADDITIONAL PERMANENT AREA REQUIRED AS PART OF DEVELOPMENT CONSENT ORDER BOUNDARY

REV	DATE	DESCRIPTION	DRWN	CHK'D	REV'D	APR'D

COSTAIN CAPITA

CLIENT: HIGHWAYS AGENCY

PROJECT:
A556 KNUTSFORD TO BOWDON IMPROVEMENT SCHEME

DRAWING TITLE:
DCO AMENDMENTS
SHEET 4 OF 7

SUITABILITY: FIT FOR INFORMATION

DRAWN:	CHECKED:	REVIEWED:	APPROVED:
DJL	DJL	PAW	AMB
SCALE:	DATE:	SUITABILITY CODE:	REVISION:
AS SHOWN	11.12.2013	S2	P01.1

DRAWING NUMBER:
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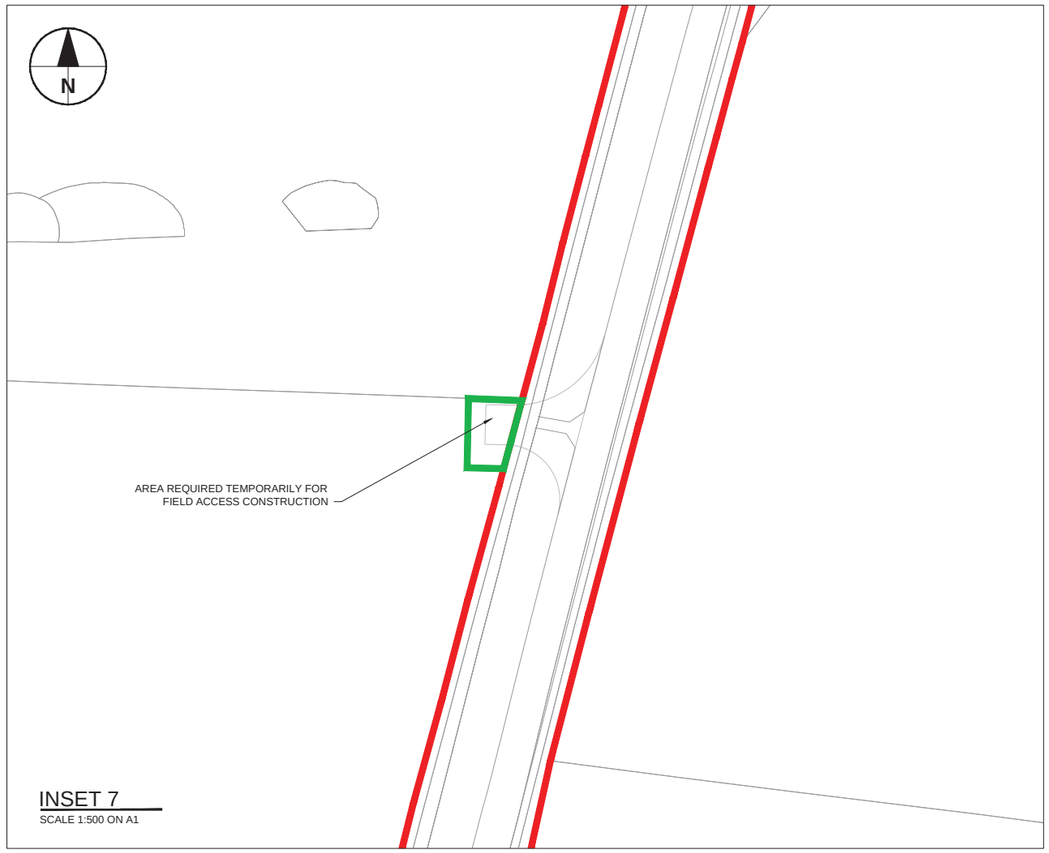
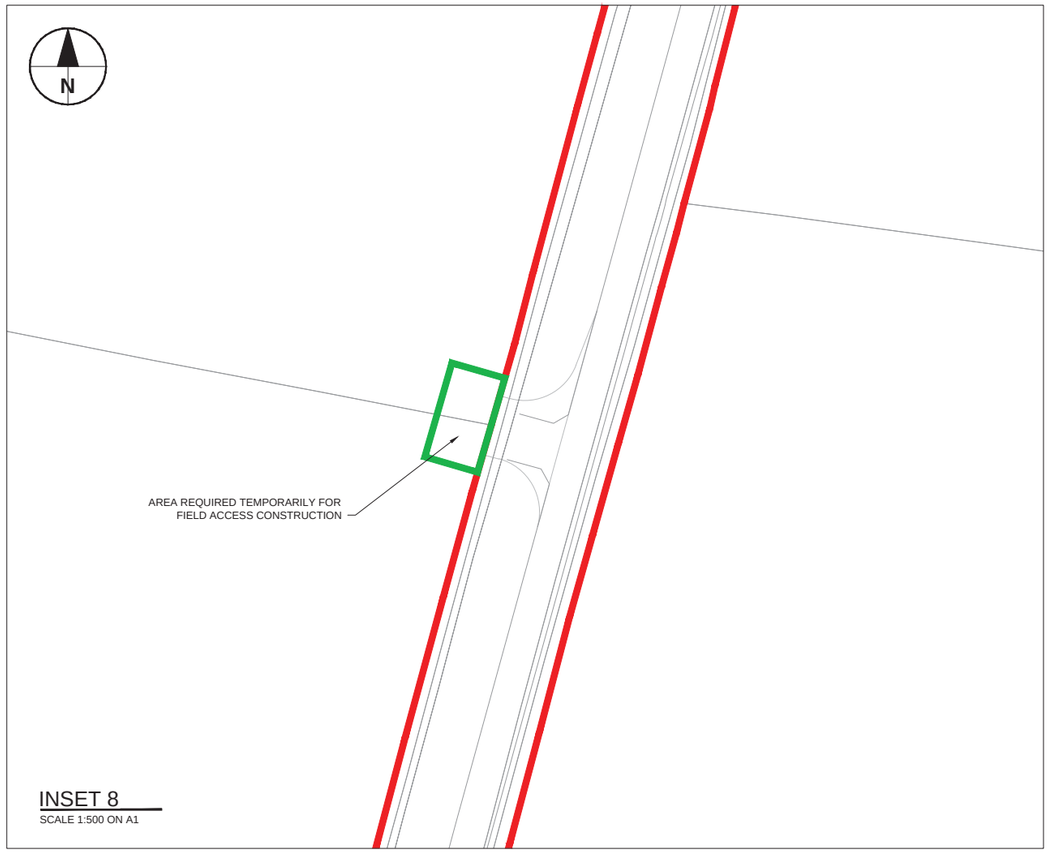
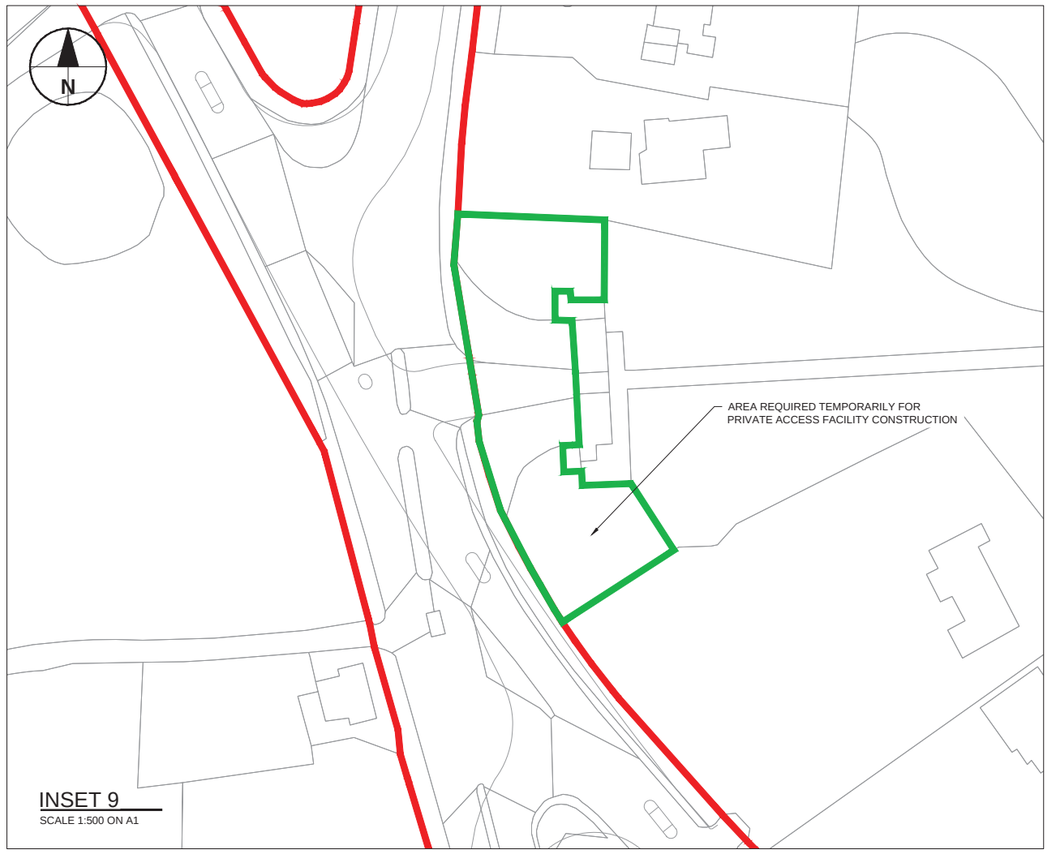


INSET 7
SCALE 1:500 ON A1



INSET 8
SCALE 1:500 ON A1



INSET 9
SCALE 1:500 ON A1

INSET 10
SCALE 1:250 ON A1

NOTES:

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5. DRAWING TO BE READ IN CONJUNCTION WITH DRAWING SHEETS A556-CAP-0000-PJW-SK-C-0160 TO 0165

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- ADDITIONAL PERMANENT AREA REQUIRED AS PART OF DEVELOPMENT CONSENT ORDER BOUNDARY

REV	DATE	DESCRIPTION	DRWN	CHK'D	REV'D	APR'D

COSTAIN CAPITA

CLIENT: HIGHWAYS AGENCY

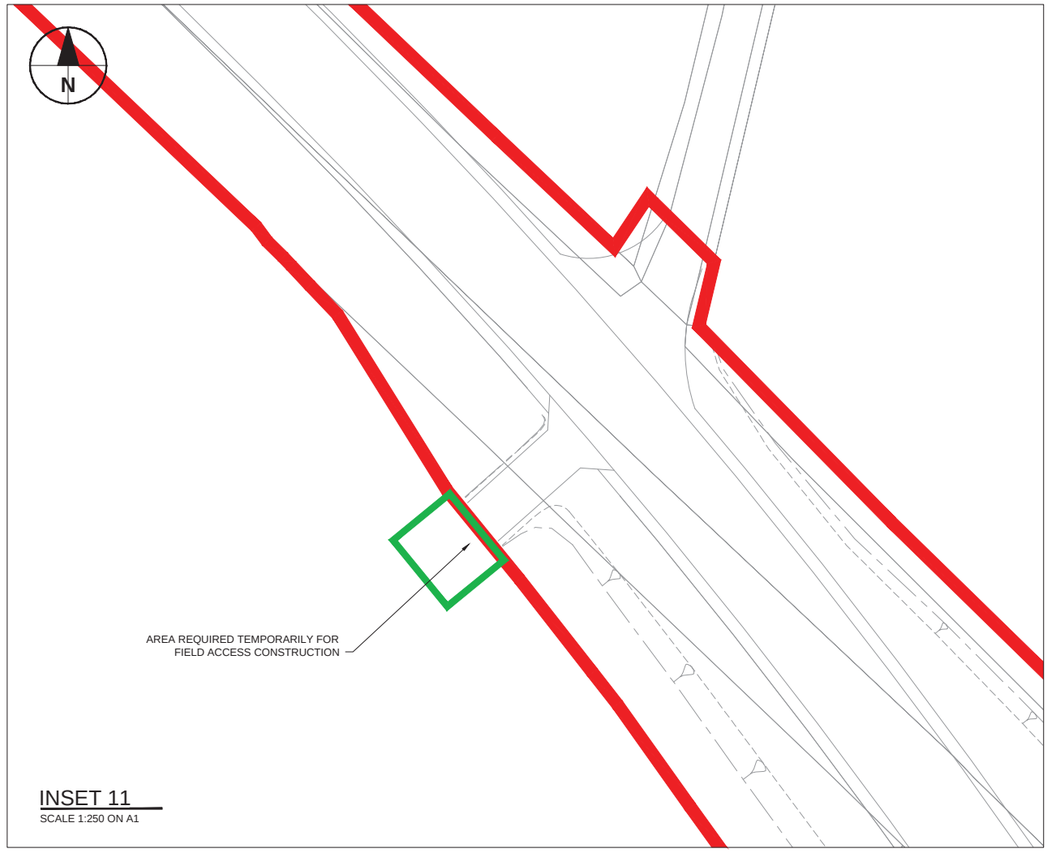
PROJECT:
A556 KNUTSFORD TO BOWDON
IMPROVEMENT SCHEME

DRAWING TITLE:
DCO AMENDMENTS
SHEET 5 OF 7

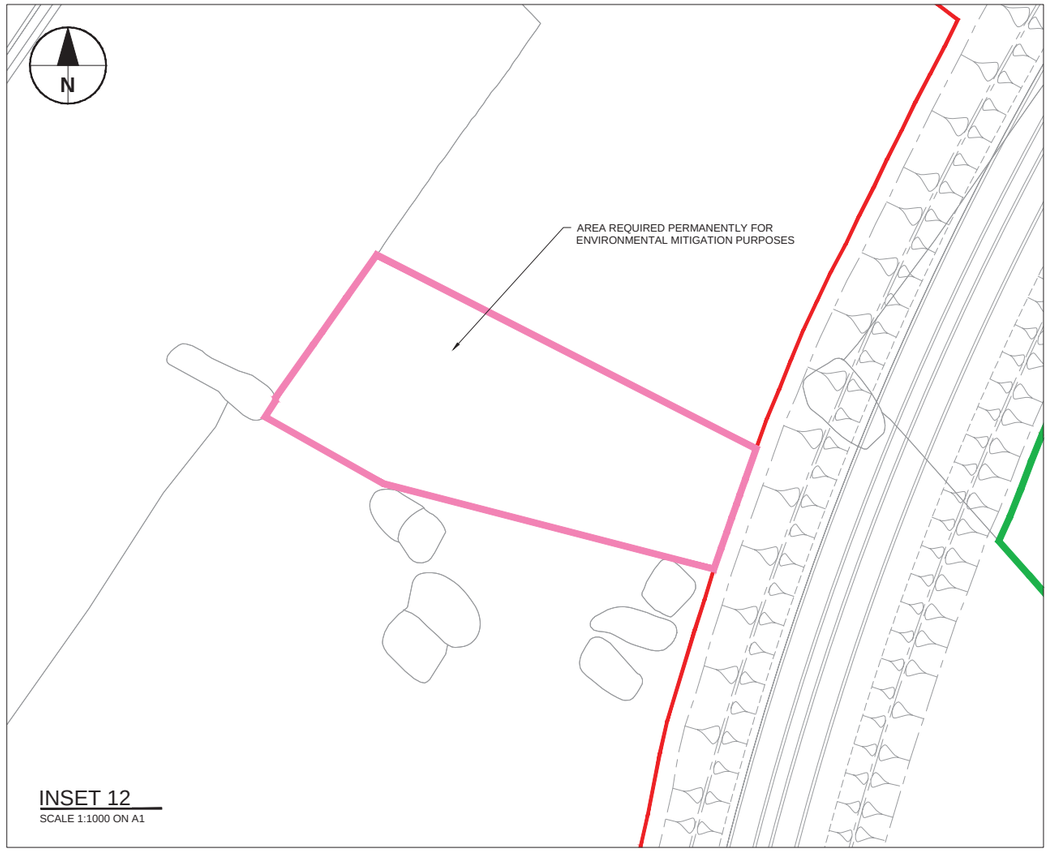
SUITABILITY:
FIT FOR INFORMATION

DRAWN:	CHECKED:	REVIEWED:	APPROVED:
DJL	DJL	PAW	AMB
SCALE:	DATE:	SUITABILITY CODE:	REVISION:
AS SHOWN	11.12.2013	S2	P01.1

DRAWING NUMBER:
A556-CAP-0000-PJW-SK-C-0164



INSET 11
SCALE 1:250 ON A1



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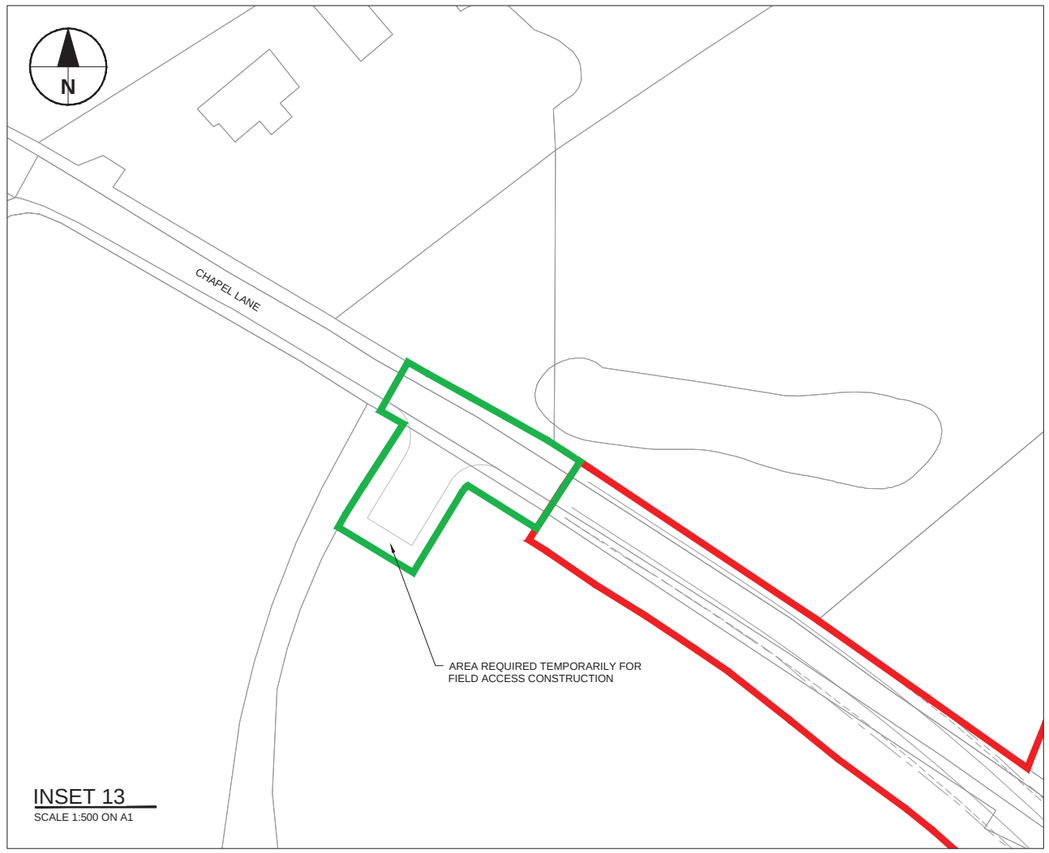
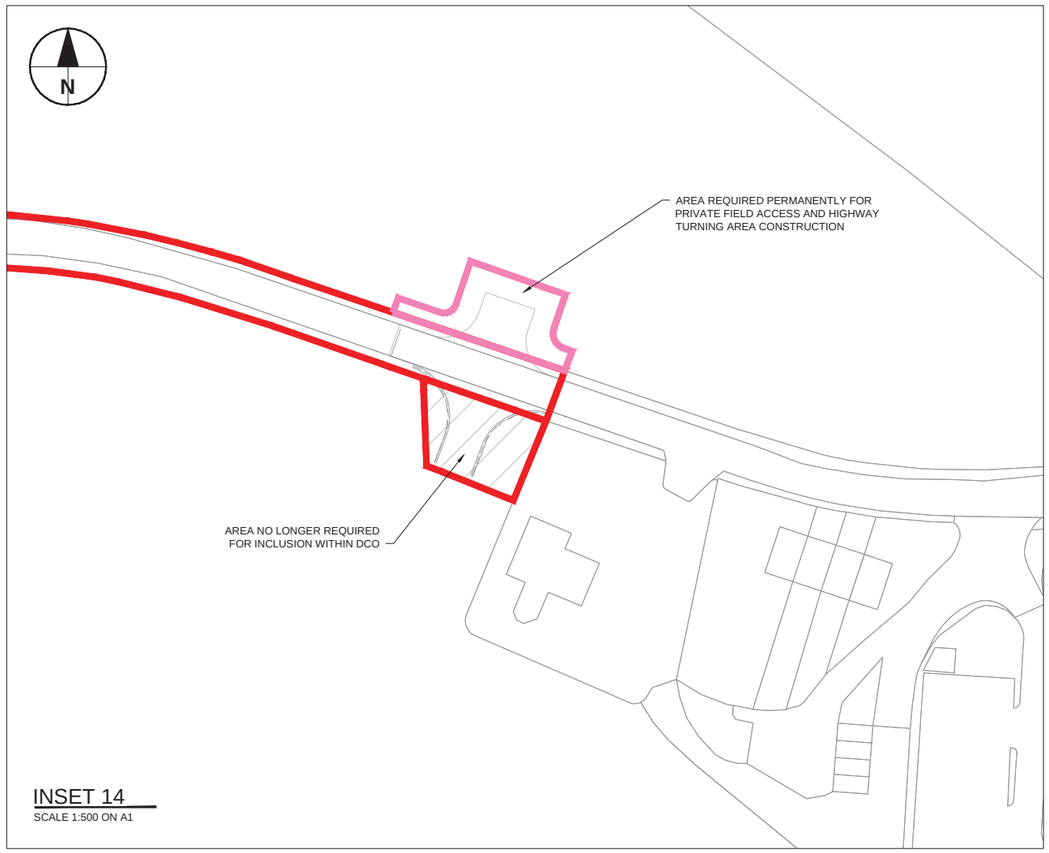
SCALE 1:1000 ON A1



INSET 13
SCALE 1:500 ON A1



INSET 14
SCALE 1:500 ON A1

NOTES:

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REV	DATE	DESCRIPTION	DRWN	CHK'D	REV'D	APR'D

COSTAIN CAPITA

CLIENT: HIGHWAYS AGENCY

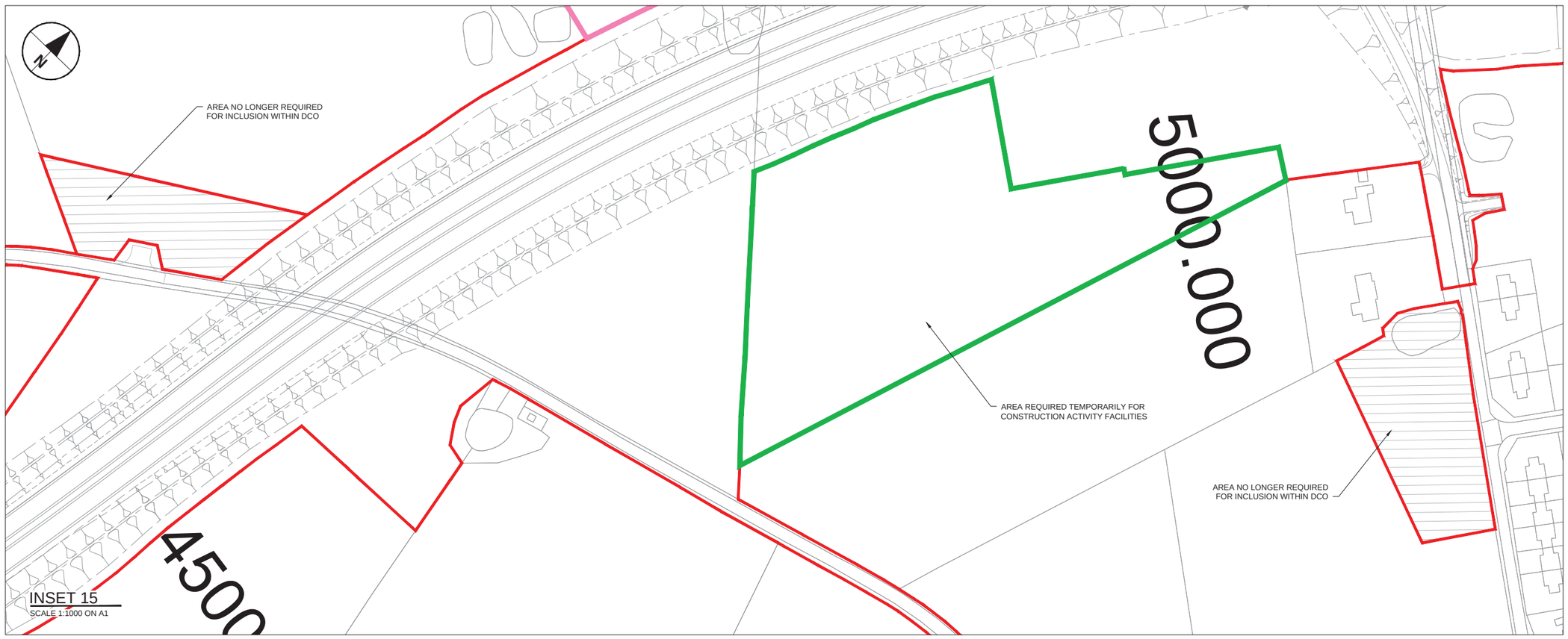
PROJECT:
A556 KNUTSFORD TO BOWDON
IMPROVEMENT SCHEME

DRAWING TITLE:
DCO AMENDMENTS
SHEET 6 OF 7

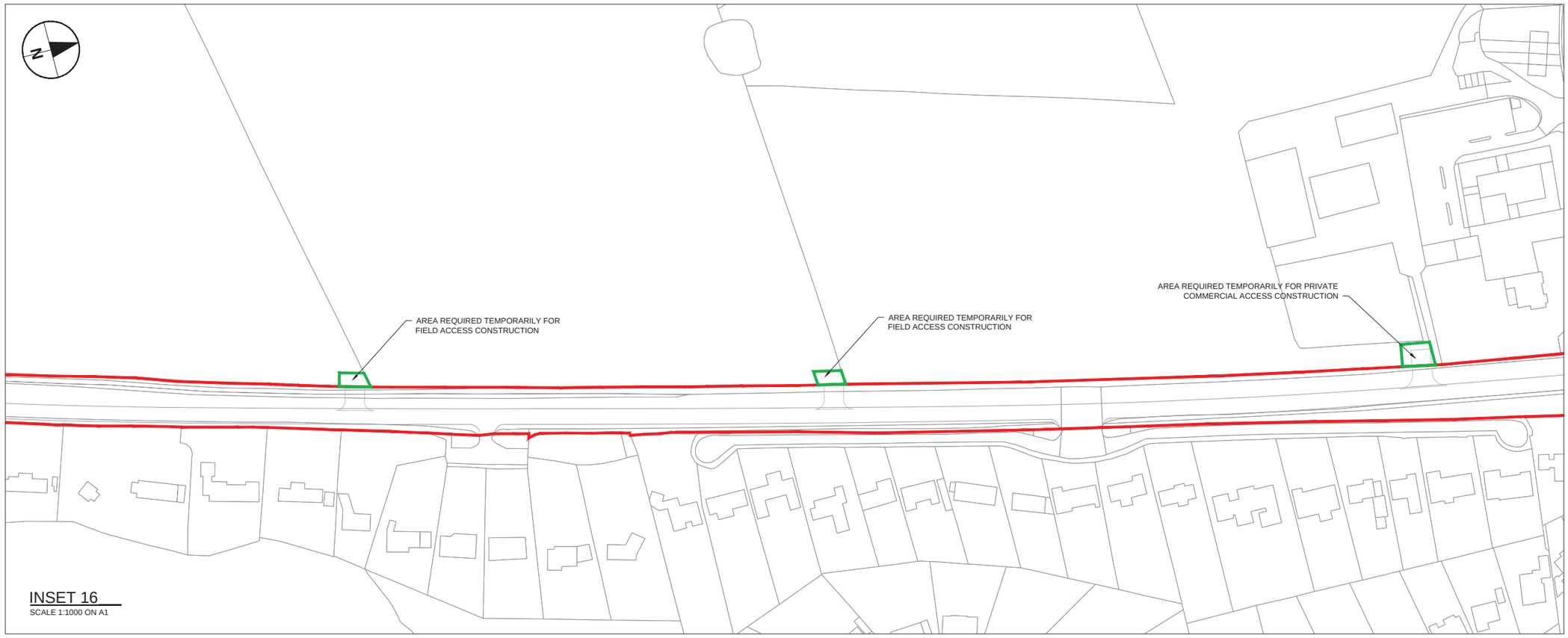
SUITABILITY: FIT FOR INFORMATION

DRAWN:	CHECKED:	REVIEWED:	APPROVED:
DJL	DJL	PAW	AMB
SCALE:	DATE:	SUITABILITY CODE:	REVISION:
AS SHOWN	11.12.2013	S2	P01.1

DRAWING NUMBER:
A556-CAP-0000-PJW-SK-C-0165



INSET 15
SCALE 1:1000 ON A1



INSET 16
SCALE 1:1000 ON A1

NOTES:

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REV	DATE	DESCRIPTION	DRWN	CHK'D	REV'D	APR'D

COSTAIN CAPITA

CLIENT: HIGHWAYS AGENCY

PROJECT:
A556 KNUTSFORD TO BOWDON IMPROVEMENT SCHEME

DRAWING TITLE:
DCO AMENDMENTS
SHEET 7 OF 7

SUITABILITY: FIT FOR INFORMATION

DRAWN:	CHECKED:	REVIEWED:	APPROVED:
DJL	DJL	PAW	AMB
SCALE:	DATE:	SUITABILITY CODE:	REVISION:
AS SHOWN	11.12.2013	S2	P01.1

DRAWING NUMBER:
A556-CAP-0000-PJW-SK-C-0166

Appendix B: Air Quality Figure AQ1

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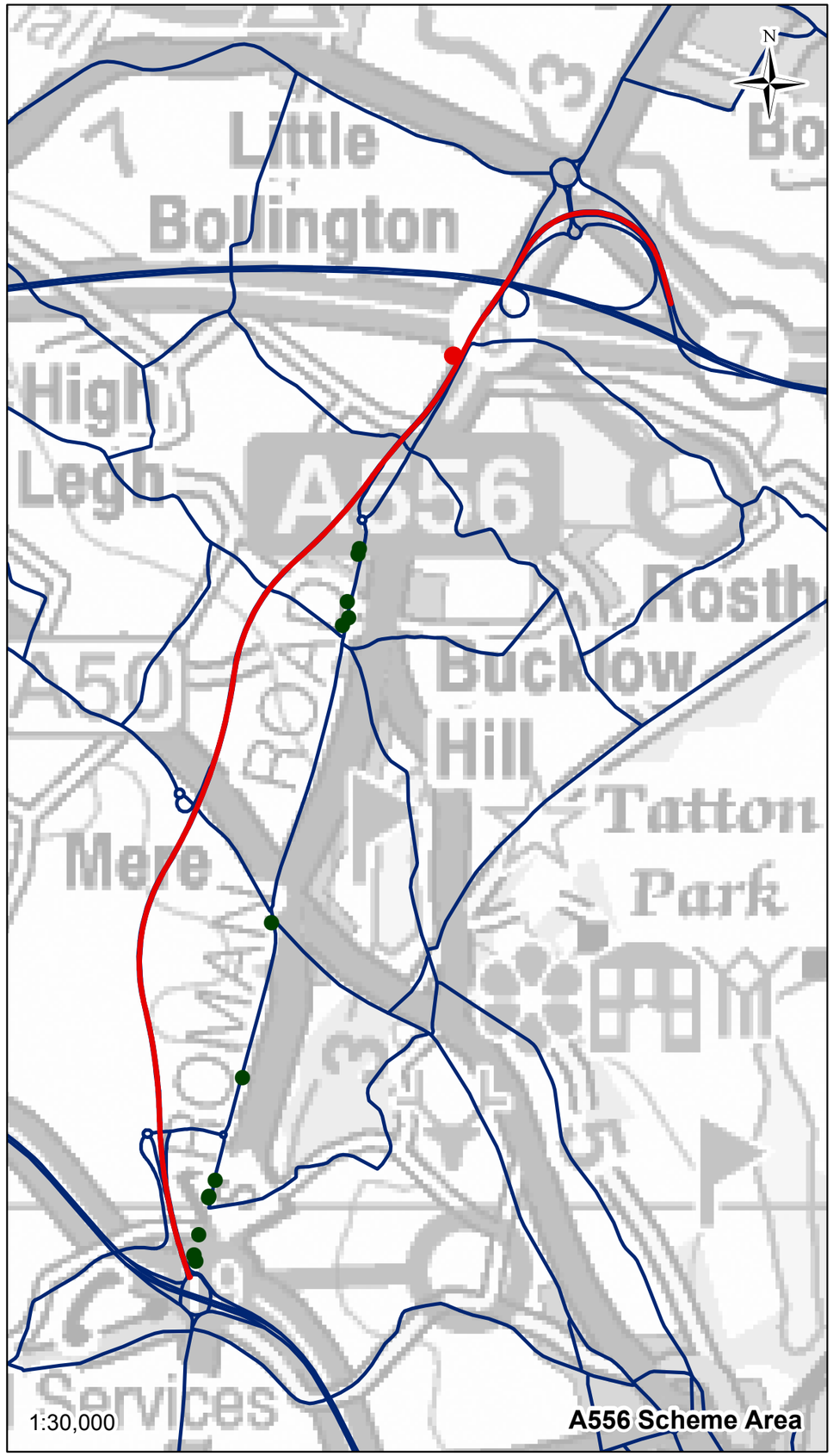


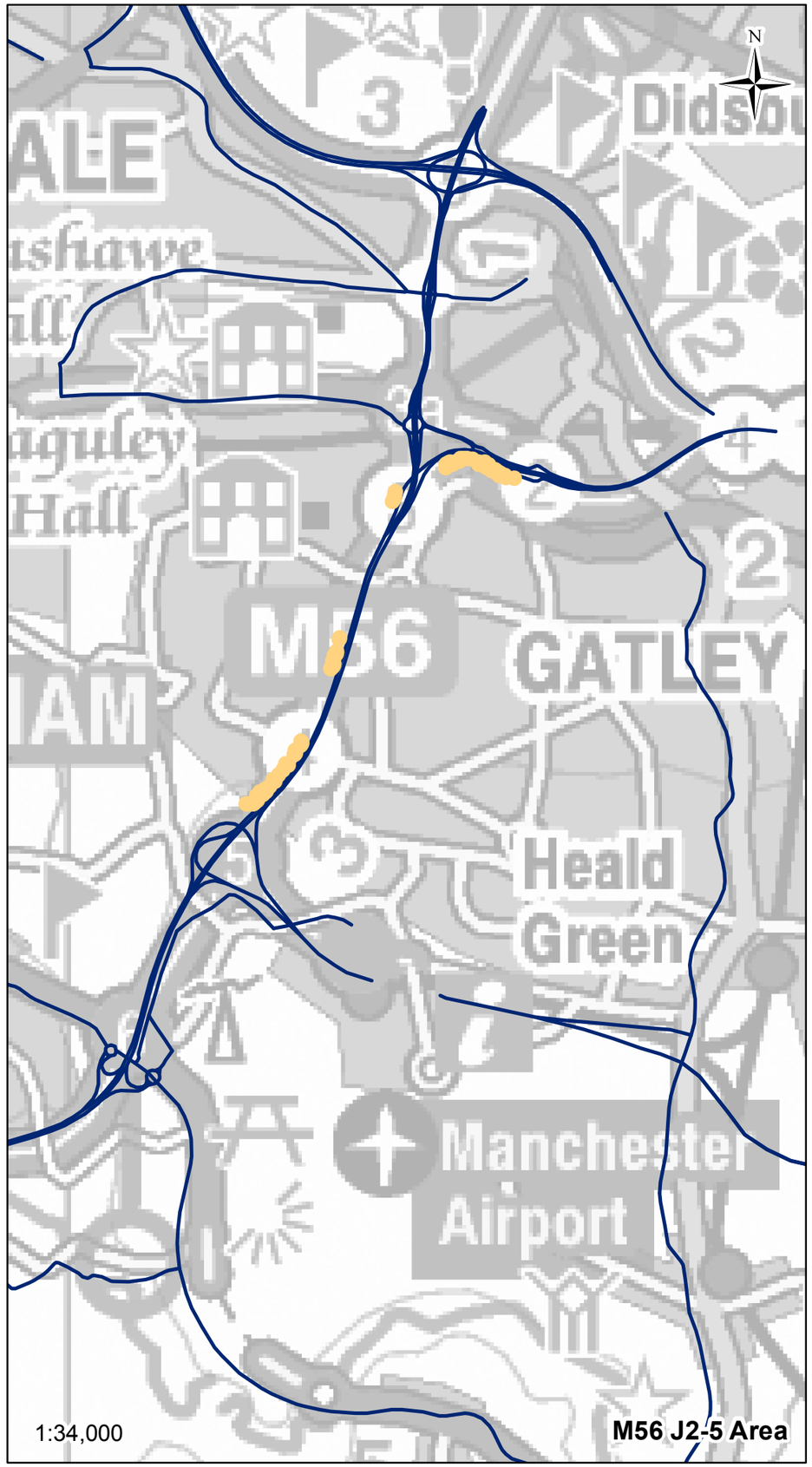


FIGURE AQ1

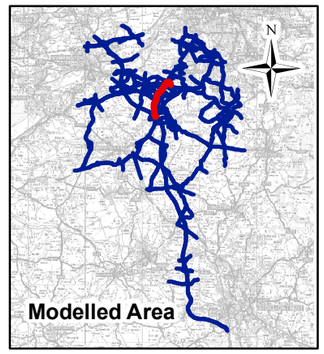
Legend

Properties Informing A Judgement of Significant AQ Effects (Change in NO_2 Conc)

- < -10
- < -4 to -10
- < -2 to -4
- < -1 to -2
- < -0.4 to -1
- < -0.4 to +0.4
- > +0.4 to +1
- > +1 to +2
- > +2 to +4
- > +4 to +10
- > +10

Proposed A556 Scheme Centreline

Modelled DS Road Network



Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	NOV13	ES Addendum	ALS	NJB	KW	GW
0	OCT12	Initial Issue	ALS	NJB	DJ	KP

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Tel: +44 (0)2476 253500 Fax:+44 (0)2476 253501
www.jacobs.com

Client: HIGHWAYS AGENCY

Project: A556 Knutsford to Bowdon Improvement
Air Quality Update : Technical Note

Drawing Title: Locations of Properties Informing Judgement of Significant Air Quality Effects

Drawing Status: **FINAL**

Scale @A3	As Shown	DO NOT SCALE
Jacobs No.	B1076602	
Client No.		

Drawing No.: B1076602_ES_AQ