A585 Windy Harbour to Skippool Improvement Scheme

TR010035

6.2 Environmental Statement Chapter 2: Description of the Scheme

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Volume 6

October 2018

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Infrastructure Planning

Planning Act 2008

The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009

A585 Windy Harbour to Skippool Improvement Scheme

Development Consent Order 201[ ]

ENVIRONMENTAL STATEMENT CHAPTER 2: DESCRIPTION OF THE SCHEME

Regulation Number:	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010035
Application Document Reference	TR010035/APP/6.2
Author:	A585 Windy Harbour to Skippool Improvement Scheme Project Team, Highways England

Version	Date	Status of Version
Rev 0	October 2018	DCO submission

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2 DESCRIPTION OF THE SCHEME

2.1 Background to the Scheme

2.1.1 The Department for Transport (DfT) outlined in its Road Investment Strategy (RIS) Statement 2014, its aims for the Strategic Road Network (SRN). Part of this was to identify key investment needs on the SRN so Highways England developed a Route Based Strategy (RBS) to focus on those routes in the greatest need of improvement. The A585 Windy Harbour to Skippool Improvement Scheme (the Scheme) was identified as a priority and included in the RIS for delivery in Road Period 1 (to start construction by Spring 2020).

2.1.2 In April 2014, the then Highways Agency produced the South Pennines Route Strategy (SPRS) document. The South Pennines route includes the whole of the A585 from the M55 through to Fleetwood. The SPRS reports on the planned growth for the area and the possible new uses for the Port of Fleetwood. This implies a significant increase in demand for the A585 route. Consequently, ensuring that the route would accommodate any future growth is a key priority.

2.2 Scheme Objectives

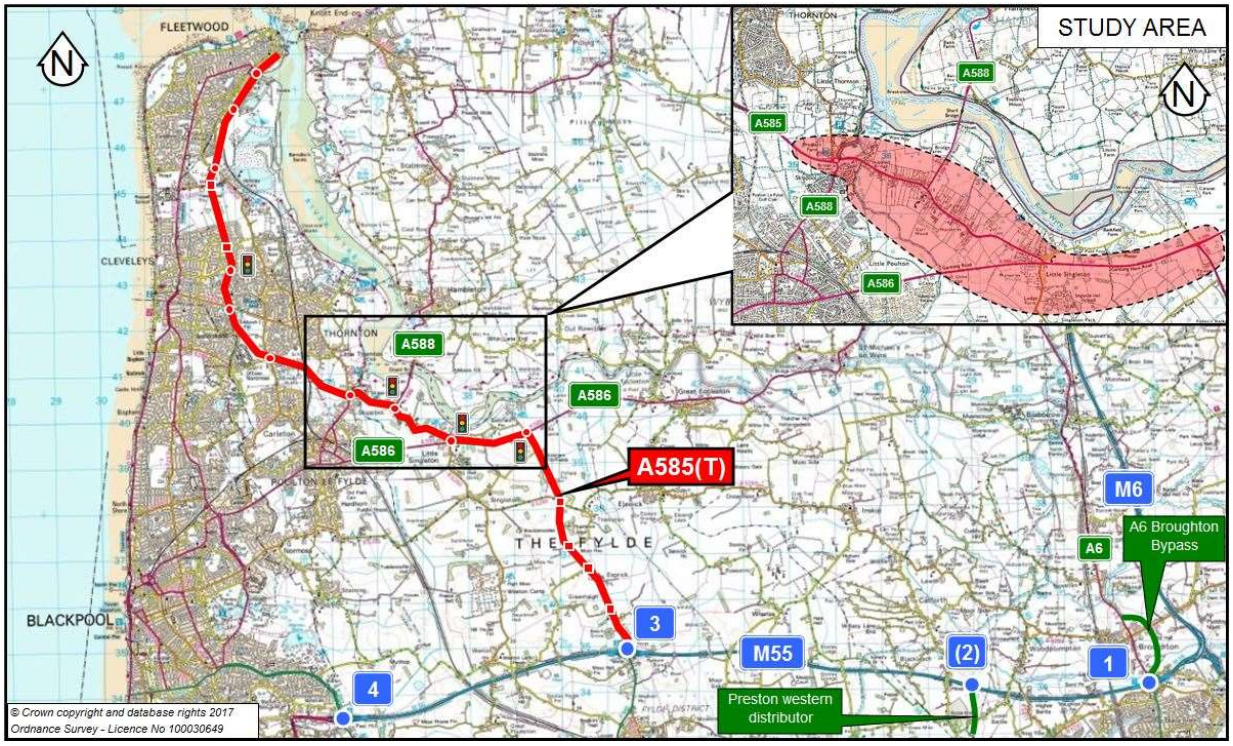
2.2.1 The Scheme objectives are listed below:

- Reduce congestion on the existing A585 through Little Singleton Junction, Shard Junction and Skippool Junction
- Reduce severance and Improve access across the A585 between Little Singleton and Skippool Junctions
- Improve connectivity and community cohesion
- Making the A585 route safer by reducing conflicts between users
- Improve journey time reliability by reducing congestion
- Deliver capacity enhancements to the SRN whilst supporting the use of sustainable modes
- Support employment and residential/commercial development and growth opportunities
- Support the removal of obstacles to economic growth potential in both Wyre and Fylde
- Reduce/minimise the impact on the wider environment particularly for air quality and noise
- Complement and realise the full benefits of other Operations Directorate schemes in the region

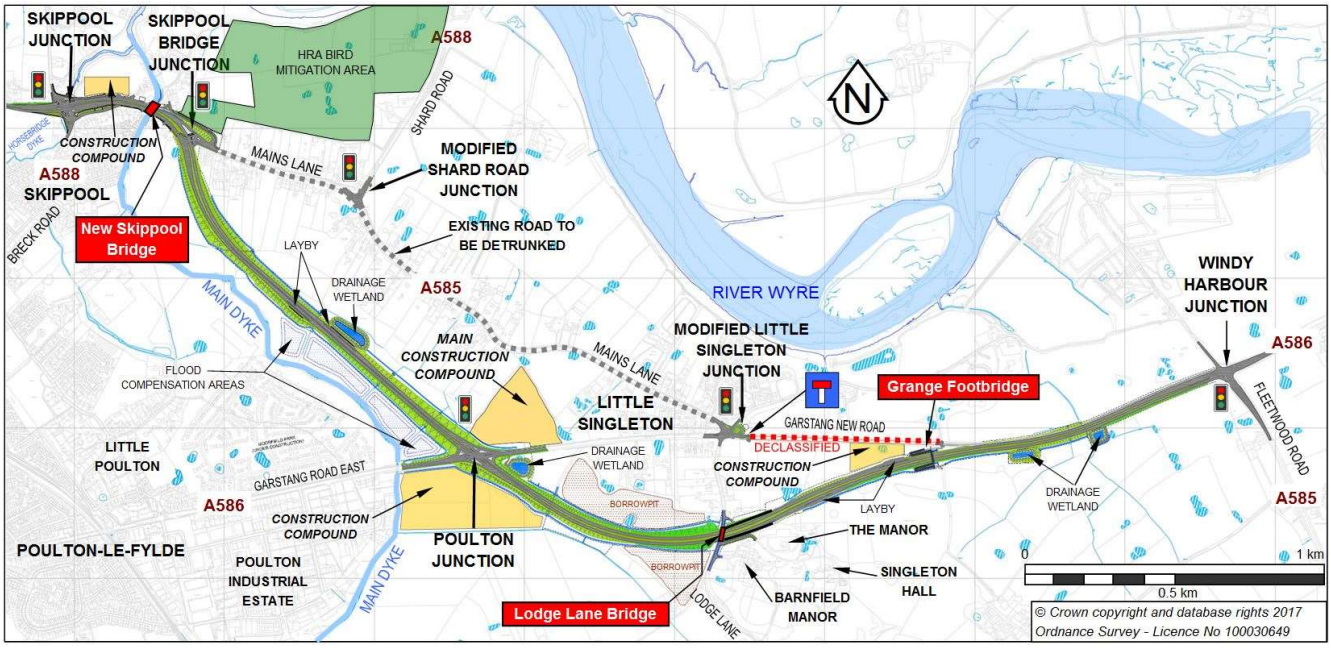
2.3 Overview

2.3.1 The A585 Windy Harbour to Skippool Improvement Scheme is to provide an improvement to 4.85km of the existing single carriageway A585 trunk road route that extends in a generally north west direction for approximately 19km between M55 Junction 3 and the Port of Fleetwood at the northern end of the Fylde Peninsula as shown on Insert 2-1 and in more detail on Figure 1.1 within Chapter 1: Introduction (document reference TR010035/APP/6.1). The study area presented on Insert 2-1 relates the engineering and design study area.

Insert 2-1: Description of the Scheme - A585(T) Route and Study Area



Insert 2-2: Description of the Scheme - The Scheme



2.3.2 The Scheme includes the following components (refer to Insert 2-2 and in more detail on Figure 2.1):

- 4.85km (3 miles) of new 2-lane, all-purpose, dual-carriageway bypass connecting Windy Harbour Junction and Skippool Junction
- Four new junctions comprising:
  - Conversion of Skippool Junction to a traffic signal-controlled crossroads

with A588 Breck Road and B5412 Skippool Road

- Skippool Bridge Junction in the form of a 3-arm traffic signal-controlled junction with the existing Mains Lane
- Poulton Junction in the form of a signal-controlled crossroads connecting the new bypass to A586 Garstang Road East
- Modification to Little Singleton Junction (also known as Five Lane Ends) to accommodate U-turning traffic including buses

- Three new major structures comprising:
  - Skippool Bridge
  - Lodge Lane Bridge
  - Grange Footbridge
- Four construction compounds at Chainage (Ch.) (Ch. presented on Figure 2.1) Ch.400, Ch.2100, Ch. 2250 and Ch.3650
- Alterations to the existing road network on completion of the bypass include: de-trunking the A585 between Skippool Bridge Junction and the end of Garstang New Road east of Little Singleton; applying a reduction in speed limit to 30mph and providing a combined footway/cycleway along Mains Lane between Shard Road Junction and Little Singleton; altering Garstang New Road east of Little Singleton to permit restricted access to farmers' fields and provide a shared footway/cycleway route between Windy Harbour Junction and Little Singleton; applying a reduced speed limit of 30mph along Garstang Road East between the proposed Poulton Junction and Little Singleton and upgrading the lighting along Mains Lane and Garstang Road East
- Associated works for temporary access, temporary lay-down and work areas and ancillary works

Note: the positions of features along the Scheme are identified as Ch. being a distance in metres running in a generally easterly direction and this is presented on Figure 2.1.

2.4 Scheme Alignment

Skippool Junction to Skippool Bridge Junction

2.4.1 Working from west to east, the Scheme would start with widening of Amounderness Way on the west approach to Skippool Junction. This junction (Ch.290) would be reconstructed from a priority roundabout to a 4-way traffic signal-controlled crossroads junction with designated turning lanes. There would be improved provision for pedestrians and cyclists through phased timings and an increased number of crossing points. To allow full use of existing frontage accesses east of this junction, its layout would also permit U-turns only from/to the east.

2.4.2 Passing under the existing footprint of Skippool Junction roundabout is Skippool Clough culvert carrying Horsebridge Dyke northwards towards the River Wyre. It has been identified that this culvert is approaching the end of its useful life and the culvert would be replaced by a new culvert immediately east of the existing location. However, the replacement culvert may be constructed either in advance of the Scheme or as part of the Scheme. In either case, the replacement works would

require temporary traffic management intervention and diversions of utilities apparatus affected by the replacement works. The existing culvert would either be demolished or backfilled on completion of the new culvert.

2.4.3 From the new Skippool Junction the alignment follows the same direction as the existing A585 Mains Lane but as a dual two-lane all-purpose carriageway across the Main Dyke watercourse (Ch.575) to a new traffic signal-controlled junction (Skippool Bridge Junction (Ch.730)) which is the start of the bypass section. The section of the alignment prior to Skippool Bridge is 350m in length with a low point of 6.2m Above Ordnance Datum (AOD). Through Skippool Junction to Skippool Bridge Junction the speed limit would be 40mph due to the closeness of the junctions and frontage accesses that would be retained on both sides of the road.

2.4.4 Pedestrian and cycling facilities would be provided between these junctions and they would connect to Mains Lane.

Skippool Bridge

2.4.5 The existing bridge supporting the A585 over Main Dyke would be demolished and a new wider twin-deck bridge would be constructed to accommodate the new dual-carriageway.

2.4.6 The existing bridge is made up of 2 joined masonry structures comprising a pair of 1.8m diameter culverts widened in the 1920s by the addition of a 6.25m single span arch on the south, upstream, side.

2.4.7 The construction of the new bridge would be undertaken in two main stages to maintain continual traffic usage. A new, deck would be constructed first on the north side of the existing bridge. The utilities apparatus would be diverted from the existing bridge into the new northern bridge deck followed by the traffic being diverted onto the new deck.

2.4.8 The existing bridge would then be demolished that would allow the new south deck to be constructed. All traffic management changes would be in conjunction with those required for the Skippool Bridge Junction.

Skippool Bridge Junction to Poulton Junction

2.4.9 Skippool Bridge Junction would form the connection between the new bypass and the existing Mains Lane including a realignment of Old Mains Lane eastwards to join Mains Lane clear of the main junction. This new junction would be traffic signal-controlled and would include designated turning lanes and provision for pedestrians and cyclists through phased timings and dedicated crossing points. Similar to the proposed Skippool Junction, its layout would also permit U-turns only from/to the west to allow full use of existing frontage accesses west of this junction.

2.4.10 East of Skippool Bridge Junction would be dual 2-lane bypass which would be subject to the national speed limit (70mph) and would head in a south easterly direction.

2.4.11 The bypass would have no specific provision for pedestrians or cyclists as the former Mains Lane and Garstang Road East would be safer to use once most of the through traffic has diverted to the bypass. In addition, the bypass would be designated as a clearway connecting to the existing clearway on A585 Amounderness Way to the west.

2.4.12 The route would locally reach a high point of 10.9mAOD (Ch.770) southeast of

Skippool Bridge Junction. From this high-point the bypass would be on an embankment up to about 3.8m high as this area is within the Main Dyke flood plain. The Scheme then descends at 0.67% gradient to cross over several ditches that would be culverted until it eventually reaches a low point at 6.9mAOD (Ch.1575) about 800m southeast of Skippool Bridge junction. The alignment then climbs gently at 0.67% gradient towards A586 Garstang Road East with the height of the embankment being a maximum of 5m high immediately north-west of Garstang Road East.

2.4.13 The existing ditches crossed by the bypass would be culverted to maintain connectivity for existing field drainage, allow floodwater to pass through the embankment in extreme conditions which would provide additional storage. Mammal ledges would also be installed in the culverts through the embankment to maintain connectivity for otters. Additionally, 2 further separate mammal underpasses would be provided for badgers.

2.4.14 Midway along the bypass between Skippool Bridge Junction and Poulton Junction, laybys would be provided on both carriageways. Near the eastbound layby a wetland area would be provided to receive and treat the highway drainage of this section of the bypass. The wetland would also limit discharge flows to Main Dyke via one of the existing retained ditches and maintenance access to the wetland would be from the layby.

2.4.15 West of the bypass embankment and east of Main Dyke, 4 temporary flood compensation areas would be provided to minimise the risk of flooding during the construction period. These would be constructed between the existing field boundaries and with shallow sloping sides which would allow them to continue to be used for agricultural purposes.

Poulton Junction

2.4.16 At Ch.2220, a new 4-arm skewed signalised crossroads (Poulton Junction) would provide a connection to the A586 Garstang Road East allowing access to/from Poulton-le-Fylde and Little Singleton. All roads on the immediate approach to the roundabout would be subject to a 50mph speed limit, except for the section between Poulton Junction and Little Singleton Junction which will be subject to a 30mph speed limit.

2.4.17 Controlled crossing facilities for pedestrians and cyclists would be provided across the north western (bypass) arm of the junction to connect the existing footway running along the north side of Garstang Road East.

2.4.18 Immediately south east of the Poulton Junction a wetland would be provided to deal with highway drainage water collected from the part of the bypass east of Poulton Junction and would be treated accordingly. Discharge flows from the wetland would pass under the bypass to connect to an existing field ditch south of Garstang Road East that then discharges to Main Dyke. Access to the wetland would be from the local road network.

Poulton Junction to Windy Harbour Junction

2.4.19 From Poulton Junction the bypass section would climb at up to 1.4% gradient in an eastward direction. Immediately east of Poulton Junction, the bypass would be on a short length of embankment before entering a deep cutting (8.5m at its deepest) for the route to pass under the B5260 Lodge Lane (Ch. 3090) that would be carried

over the bypass on a new bridge.

2.4.20 Additionally, 1 separate mammal underpasses would be provided for badgers to the east of the wetland area.

2.4.21 Lodge Lane would be temporarily diverted westwards for the on-line construction of the bridge but, on completion, the bridge would be along the line of the existing road.

2.4.22 To limit the land take of the bypass, the cutting passing near to Singleton Manor, Barnfield Manor and Singleton Hall (and its Grade II listed Ice House) would use lengths of retaining wall on both sides of the bypass extending for about 175m east of Lodge Lane. The retaining walls would consist of bored secant piles.

2.4.23 The Lodge Lane cutting would sever the existing access road to Singleton Hall, Singleton Manor and The Coach House. A replacement access road would be provided south of the bypass with a connection to Lodge Lane immediately south of the new Lodge Lane bridge.

2.4.24 About 200m east of the retained cutting at Lodge Lane Bridge, the Scheme would continue to rise on shallow embankment to the high point of the alignment (Ch. 3420) at 18.1mAOD and pass over an existing 24" asbestos cement water main. Laybys would be provided close to this location for both carriageways.

2.4.25 East of the high point the bypass would continue on shallow embankment on a gentle right-hand curve to join the alignment of the existing Garstang New Road (Ch. 4000) that would be converted to a dual-carriageway by the provision of an additional carriageway on the south side of the existing road for the remainder of the route to the existing Windy Harbour Junction.

2.4.26 A new steel truss footbridge (Grange Footbridge) would be provided at Ch. 3840 to maintain the connectivity of the existing public footpath (Singleton footpath No. 2) that crosses the route of the bypass.

2.4.27 The existing footway on the north side of Garstang New Road would be upgraded to provide safe provision for pedestrians and cyclists and would connect westwards to the declassified section of Garstang New Road.

2.4.28 Two drainage wetland areas would be provided in this section to contain and treat the highway drainage. These wetland areas would discharge to existing ditches about 500m west of Windy Harbour Junction. Those ditches drain northwards through culverts to connect with the River Wyre north of Pool Foot Lane near Bankfield Farm. Maintenance access to these wetland areas would be from the westbound carriageway.

2.4.29 The recently modified Windy Harbour Junction would be largely unchanged by the Scheme except for alterations on the western arm of the junction to suit the proposed dual carriageway arrangement and provision of a pedestrian/cyclist crossing of the western arm to allow those users to gain access to the improved footway/cycleway on the north side of the eastbound carriageway.

Little Singleton Junction and Garstang New Road

2.4.30 The existing Garstang New Road east of Little Singleton and west of the bypass alignment would become declassified and a no-through road, but would be retained to provide part of the route for pedestrians and cyclists between Windy Harbour Junction and Little Singleton, access to fields and a route for existing utilities apparatus to avoid the latter having to be diverted.

2.4.31 It is proposed that the existing traffic signal junction in Little Singleton would be modified to include a U-turn arrangement on the east side of the existing signals to ensure that all traffic movements can be accommodated (including buses) as a result of Garstang New Road becoming declassified and a no-through road. As part of those works, that would be carried out after the bypass was opened, improved crossing facilities of the existing roads would be provided.

2.4.32 The bypass dual-carriageway horizontal and vertical alignments has been designed to the Design Manual for Roads and Bridges (DMRB) TD 9/93 Table 3 for highway link design. The speed limit on the bypass would be de-restricted (70mph for the rural dual carriageway). In terms of TD9/93, the equivalent design speed would be 120km/h (equivalent to 70mph) for the dual 2-lane all-purpose road.

2.5 Mitigation Land

2.5.1 An area of land has been defined within the Draft Order Limits to provide mitigation for the potential disturbance / displacement impacts on certain birds during construction. The size and location of the area was determined as part of the Habitats Regulations Assessment (document reference TR010035/APP/5.4) in consultation with Natural England. The location of the mitigation area is shown on Insert 2-2.

2.5.2 The mitigation area would provide a combination of habitats suitable for pink-footed geese, lapwing and curlew.

2.5.3 The mitigation area would be under the control of Highways England for the duration of the construction period (2020 to 2022) and managed accordingly to deliver the required mitigation.

2.6 Limits of Deviation

2.6.1 The Scheme would be constructed in the lines and situations shown on the Works Plans (document reference TR010035/APP/2.3) and the levels shown on the engineering section drawings (document reference TR010035/APP/2.6) and within the limits described below:

- Deviate laterally from the lines or situations of the authorised development shown on the Works Plans (document reference TR010035/APP/2.3) to the extent of the limits of deviation shown on those plans
- Deviate vertically from the levels of the authorised development shown on the engineering section drawings (document reference TR010035/APP/2.6) to a maximum of 1.0 metres upwards or downwards, with the exception of the following:
    - (i) to maximum of 0.5 metres upwards or downwards at Little Singleton Junction as defined by Work No.84, 85, 86, 87, 88, and 89;
    - (ii) to maximum of 0.5 metres upwards or downwards at Lodge Lane as defined by Work No. 70; and
    - (iii) in respect of the excavation of the borrow pit 1 and borrow pit 2 south of Little Singleton and west of Lodge Lane from the existing ground levels to a maximum depth of 10 metres subject to the final restored levels being no more than 2.6m below existing ground levels as defined by Work Nos.63 and 78.

2.7 Earthworks Design

2.7.1 All junctions would be at-grade. Between the junctions, the existing ground levels rise and fall between approximately 4mAOD and 23mAOD. To achieve the required profile, there are various locations the route goes into cutting or requires fill. Details of these can be found in the Engineering Section drawings (document reference TR010035/APP/2.6).

2.7.2 Based on the results of the ground investigation carried out in early 2018, the embankment side slopes for the Scheme has generally been designed to be at a slope of 1 vertical to 2.5 horizontal. Similarly, the cutting slope near Lodge Lane has generally been designed to be 1 in 3 due to the soft nature of the ground. The lowest parts of the embankment between Skippool Bridge Junction and Poulton Junction would have to be constructed of granular material as this embankment is within the Main Dyke floodplain. This coarse, granular material is likely to be imported to the Scheme.

Borrow Pits

2.7.3 Analysis indicates that there would not be sufficient excavated material to form the proposed embankments. Consequently, 2 borrow pits (refer to Figure 2.1) could be utilised south of Little Singleton, west of Lodge Lane on both the north and south sides of the bypass. Additional material could be excavated up to 2.5m below existing ground level. As the majority of the material is required to construct the embankment north of Poulton Junction the location of the borrow pits has been chosen to avoid construction traffic having to pass through Little Singleton or having to cross the existing A585 road. Excavating the material locally from these borrow pits would reduce the amount of material that would have to be imported and therefore would reduce the number of lorry movements, further detail on movements is presented in Appendix 2.1: Construction Information (document reference TR010035/APP/6.2.1).

2.7.4 The existing topsoil within the field would be stripped and stored nearby. Excavation would be up to a maximum depth of 10 metres, subject to the restored levels being no more than 2.6m below existing ground level, which would allow for approximately 70,000 cubic metres (cu.m.) of material to be excavated before returning it to agriculture.

2.7.5 The design of the borrow pits would allow the land to be returned to agriculture on completion of the excavation works including regrading to a slope of between 1 in 10 and 1 in 15 by steepening the existing ground slope falling in a south-westerly direction. The excavation works would be limited to avoid affecting existing hedgerows and trees particularly along the northern and western boundaries of the field. The previously stored topsoil would be re-laid on the new ground profile, ponds within the northern part of the field would be reinstated in approximately the existing locations and new field drainage would be provided with an outfall into existing ditches west of the borrow pits. Further detail regarding the restoration of the borrow pits following construction is presented in the Restoration and Aftercare Plan in Appendix N of the Outline CEMP (document reference TR011135/APP/7.2). The final decision on whether to use the borrow pits would be left to the Contractor once appointed – refer to Section 2.22 for further detail.

2.8 Highways Structures

2.8.1 Table 2-1 below is a list of all the structures proposed for the Scheme.

Table 2-1: Description of the Scheme - List of structures

Name of Structure	Details of Proposed Works
Skippool Clough Culvert	Changes to highway alignment above the culvert Replacement of the existing culvert with a new culvert immediately east of the existing structure
Skippool Bridge and wing walls	Demolition of existing masonry structure and construction of a twin deck single span bridge and associated wing walls
Old Mains Lane Retaining Wall	Construction of a new retaining wall up to 3m high
Lodge Lane Overbridge	Construction of a 2-span bridge
Lodge Lane North Retaining Wall	Construction of approximately 179m new retaining wall
Lodge Lane South Retaining Wall	Construction of approximately 210m new retaining wall
Grange Footbridge	Construction of a new single span (approximately 36m) footbridge over the bypass with ramps and stair accesses

2.8.2 For details of construction sequences of these structures refer to Appendix 2.1: Construction Information (document reference TR010035/APP/6.2.1). For information about traffic management proposals refer to the Traffic Management Plan (document reference TR010035/APP/7.5).

Skippool Clough Culvert Replacement

2.8.3 The replacement culvert would be constructed on the east side of the existing culvert and would comprise of a single pipe laid in a straight line from the existing Horsebridge Dyke west of Breck Road under the existing road network to discharge into the tidal watercourse north of the A585. New headwalls would be constructed at both ends of the culvert with a new tidal flap valve being provided on the north headwall. The existing culvert would either be excavated and backfilled or filled with light-weight concrete.

2.8.4 The timing of the culvert replacement has not been decided at the moment as it could be replaced in advance of the start of the Scheme.

2.8.5 The method of construction has not been considered in detail at this time either being excavated from ground level and backfilled or using no-dig methods. The excavated method would require a number of traffic management changes at the existing Skippool Junction.

Skippool Bridge

2.8.6 The new Skippool Bridge would be constructed in 2 phases to ensure traffic continuity along the A585. The new north bridge would commence with construction

of piling platforms on both sides of Main Dyke using sheet piles. The existing width of Main Dyke watercourse would be maintained and the effects on the watercourse has been discussed with the Environment Agency.

2.8.7 The abutments would be formed of bored piles and reinforced concrete pile caps. The bridge deck would comprise precast concrete beams with an in-situ reinforced concrete deck and parapets. This deck would provide for the diversion of utilities apparatus. Wing walls would be formed on either side of the abutments being either piles or L-shaped walls depending on the ground conditions.

2.8.8 On completion of the north half of the bridge and diversion of the utilities apparatus, traffic would be diverted onto this half of the bridge. This would allow the existing Skippool Bridge to be demolished. The construction of the south half of the new bridge would follow a similar sequence to that for the north bridge.

Old Mains Lane Retaining Wall

2.8.9 The retaining wall would be located north of Skippool Bridge Junction and the Old Mains Lane link road and would extend for approximately 75m. The wall would be installed in 2 phases to maintain access to Old Mains Lane while the link road is constructed. The form of the wall would be precast concrete units to allow for speedy installation.

Lodge Lane Bridge

2.8.10 The bridge would comprise 2 continuous spans with a built-in central pier to create an integral structure. The use of 2 spans has been chosen to minimise the overall construction depth and lessen the depth of the bypass passing under Lodge Lane. The abutments and pier would be formed using bored piles working from ground level and would be topped by reinforced concrete pile caps. The bridge deck would comprise precast concrete beams with an in-situ reinforced concrete deck and parapets. The deck would provide for the diversion of utilities apparatus.

Lodge Lane Cutting Retaining Walls

2.8.11 The higher (western) sections of the retaining walls would be formed using bored piles working from ground level and would be topped by reinforced concrete pile caps. The lower (eastern) sections of the retaining wall may be formed using precast concrete units to allow for speedy installation.

Grange Footbridge

2.8.12 The footbridge would comprise a single span steel truss across the bypass with gently sloping ramps (1 in 20) and steps on both sides of the bypass. The bridge supports would be steel columns supported on concrete foundations. The bridge would be built away from Garstang New Road and would not affect traffic on the road or utilities apparatus.

2.9 Highways Drainage

2.9.1 All new highway drainage would be designed and constructed to meet the requirements of DMRB Volume 4, Section 2, Part 3, HD 33/06 Surface and Sub-Surface Drainage Systems for Highways. This standard requires that sealed carrier drains must be designed for a return period of 1 year without surcharge. The design is also checked against a 5-year storm intensity to ensure surcharge levels do not exceed the levels of chamber covers.

2.9.2 Highway surface water drainage would be drained slip formed concrete surface water channel along the bypass but kerbs and gulleys at the junctions. New sections of full depth carriageway would receive sub-surface drainage where applicable.

2.9.3 The current proposal to discharge surface water from the Scheme is to utilise existing outfalls where possible. Any existing catchments unaffected by the Scheme would be unaltered, whilst flows from existing roads would have attenuation and treatment on a 'nil detriment' basis.

2.9.4 Runoff from new roads would be attenuated up to the 100 year (+30%) event at approved greenfield runoff rate of 11.9l/s/ha (litres per second per hectare) through the construction of the new wetlands.

2.9.5 Any existing highway drainage networks severed by the Scheme would be either connected into the proposed drainage network or diverted accordingly.

2.9.6 Penstocks would be installed upstream and downstream of each attenuation pond to allow isolation in case of a spillage within the catchment. In addition, bypass oil interceptors would be installed upstream of the ponds.

2.9.7 Existing field ditches would be retained or diverted as part of the bypass construction and these are located at approximately Ch.1135, Ch.1495, Ch.1795, Ch.2005, Ch.2500, Ch. 4305 and Ch. 4360 crossing the bypass through new or extended culverts. The new culverts would be 1.5m diameter except at Ch.2500 where it would be 1.2m diameter with provision to allow mammals such as otters to pass through the culverts.

2.9.8 The highway wetland areas would be constructed to provide storage, containment and treatment of water run-off from the bypass. These would be provided at approximately Ch.1610, Ch.2340, Ch.4150 and Ch.4400. These wetland areas would discharge into adjacent watercourses.

2.10 Carriageway Surfacing

2.10.1 The surface of the roads for the Scheme would be black asphalt using a thin surface course material that would reduce traffic noise and spray. In addition, high skid resistant surfacing would be provided on the high-speed approaches to the traffic signal installations. During the detailed design stage of the Scheme, the specific types of road surfaces will be considered.

2.10.2 Hot Rolled Asphalt will be used on the bridge decks at Skippool Bridge and Lodge Lane.

2.11 Highways Lighting

2.11.1 Lighting along the Scheme is only proposed at the following junctions and their approaches:

- Skippool Junction through to Skippool Bridge Junction
- Poulton Junction
- Windy Harbour Junction
- Little Singleton Junction

2.11.2 The lighting would be mounted on 12m high columns (same height as existing columns along the A585) located at the back of verges or footways. Lighting would be provided by LED directional lanterns that would minimise light spill light pollution

which can cause sky glow and light trespass onto neighbouring properties as well as minimising adverse landscape and ecological effects.

2.11.3 In addition, the lighting would be provided with the facility to be part-night dimmed or part-night switched off via a central management system or photo-electric control units.

2.11.4 No lighting is proposed on the dual-carriageway link sections between Skippool Bridge Junction and Poulton Junction, and between Poulton Junction and Windy Harbour Junction.

2.12 Traffic Signals Operational Strategy

2.12.1 The proposed method of operation for the traffic signals junctions would be Microprocessor Optimised Vehicles Actuation (MOVA). MOVA is an adaptive method of control that reacts to the varying traffic flows in order to optimise the operation of the traffic signals. All the proposed junctions would include push-button activated demands for pedestrian and cyclist crossing points.

2.12.2 During detailed design, the traffic signal layout and / or timings at the existing Windy Harbour Junction would be modified as necessary to align with the revised traffic flows being predicted. The method of operation would also be reviewed as part of the detailed design and modified if required.

2.13 De-Trunking

2.13.1 De-trunking of the existing A585 would be undertaken as part of Scheme. The whole of the existing A585 road would be retained between Skippool Bridge and Windy Harbour and, by agreement, would be taken over by the local highway authority - Lancashire County Council. The following works may be required to be undertaken prior to adoption by Lancashire County Council (there are currently ongoing discussions being held with Lancashire County Council):

- Reduction in speed limit to 30mph (along Mains Lane between Shard Road Junction and Little Singleton and along Garstang Road East between the proposed Poulton Junction and Little Singleton)
- Enhancements to pedestrian and cycle provisions
- Alterations to Shard Road Junction
- Alterations to Little Singleton Junction
- Alterations to Garstang New Road east of Little Singleton to allow restricted access to farmers' fields
- Changes to the street lighting system (subject to age and condition) including possible upgrade to LED lighting or changes to the lighting along Garstang New Road if it is to be declassified but retained for pedestrians and cyclists
- Modifications to all road signing
- Detailed condition survey of all drainage assets
- Possible resurfacing of the carriageway subject to a detailed condition survey

2.14 Walkers, Cyclists and Horse Rider (WCH) Provision

2.14.1 It is not proposed to include specific provision for pedestrians and cyclists along the off-line sections of the bypass as it is considered that improvements to the facilities along the existing roads would better serve the expected demand between communities.

2.14.2 Where the proposed route would affect the existing footways and cycleways along the existing A585 and the Public Rights of Way (PRoW) network measures will be developed to ensure the route is available at all times during construction and the design will be developed to accommodate use of the footpaths in the Scheme. Two footpath routes are affected by the Scheme.

- Footpath 2 (Singleton) crosses the bypass route about 1km west of Windy Harbour Junction and a footbridge (Grange Footbridge) over the bypass is proposed as the permanent solution. During construction, a safe route thorough the construction site would be provided
- Footpath 1 (Poulton) becomes Footpath 8 (Singleton) and joins the existing A585 at Skippool running alongside the western bank of Main Dyke. It then joins Footpath 6 (Singleton) via Old Mains Lane on the north side of the A585. The permanent solution to link the footpaths will be to provide a short diversion at the south-west corner of the proposed New Skippool Bridge and then to use the pedestrian crossing facilities of the proposed Skippool Bridge Junction. During construction, a safe route using the existing and proposed footways within the construction site would be provided.

2.14.3 The recreational route “Wyre Way” that runs along the banks of the River Wyre is only close to the Scheme where it crosses the culvert carrying Horsebridge Dyke immediately north of Skippool Roundabout. The works may affect access over a 10m length of the route during construction and a temporary diversion would be provided along Wyre Road, Skippool Road and the north footway of Breck Road. For more details refer to the Traffic Management Plan (document reference TR010035/APP/7.5).

2.14.4 Additional cycleway / footway crossing provisions would be provided at the junctions. Improvements would also be made to the existing Mains Lane and Garstang New Road as part of the de-trunking.

2.15 Construction

2.15.1 Construction is anticipated to last for approximately 2 years and commence in Spring 2020. Construction staging would be determined by the Contractor in detail, however, the following paragraphs present possible arrangements during construction. Further detail can also be found at Appendix 2.1: Construction Information (document reference TR010035/APP/6.2.1 and the Traffic Management Plan (document reference TR010035/APP/7.5).

Skippool Junction

Phase 1

2.15.2 Traffic management for this first phase would reduce vehicle movements to narrow single lane running on the existing Westbound carriageway. Some local pavement widening would be required to allow safe running widths of the temporary layout. A smaller gyratory probably ghost Island type would be installed to maintain 4-way

movement of the junction. This would enable space for a safe works area to the North to carry out widening works. There would be a reduced speed limit of 30 mph while this phase is being constructed. Access to the works would be from the existing A585 via signed access and egress points.

Phase 2

2.15.3 For Phase 2 the narrow single lane running would switch from the Westbound carriageway over to the newly widened Eastbound carriageway. The smaller gyratory would still be in place to maintain all four movements of the junction. Safe working areas would now be at the South to carry out the contract widening works. There would be a reduced speed limit of 30 mph while this phase is being constructed. Access to the works would be from the existing A585 via signed access and egress points.

Phase 3

2.15.4 Phase 3 would change the TM layout from narrow lanes to, temporary and then permanent, traffic light control to all 4 Junction movements. Temporary Traffic lights would be installed maintaining four-way movement to the junction while the final splitter islands and central reservations are completed.

2.15.5 There would be a reduced speed limit of 30 mph while this phase is being constructed. Access to the works would be from the existing A585 and A588 via signed access and egress points that would generally avoid right turns into and from the site access points.

Skippool Bridge

Phase 1

2.15.6 Similar to Skippool Junction above the traffic management for this first phase would control vehicle movements to narrow single lane running on the existing Westbound carriageway refer to . Local access points and side roads are along this section of the scheme and TM modifications would be made to ensure full access and egress would be provided. Three work sites to the North and one to the South would be made available to carry out the new widening works but particularly in this section works can commence to Skippool Bridge replacement starting with the North Deck. Locally to the bridge works there would be high containment barrier to protect new bridge construction and deep excavation.

2.15.7 There would be a reduced speed limit of 30 mph while this phase is being constructed. Access to the works would be from the existing A585 and Mains Lane via signed access and egress points and an additional access would be available from the Poulton Junction when a suitable haul road is constructed.

2.15.8 The Petrol Station could remain open throughout this phase.

Phase 2

2.15.9 The phase 2 traffic management would still facilitate narrow single lane running on the existing Westbound carriageway as phase 1 above but would close the existing Old Mains Lane access and divert all vehicles onto the new permanent access.

2.15.10 Work areas to the North and South would still be available and ongoing to carry out widening works.

2.15.11 Access arrangement and speed restriction would be the same as phase 1 and the Petrol Station would remain open

Phase 3

2.15.12 The narrow single lane running would switch from the Westbound carriageway over to the newly widened Eastbound carriageway. Four work sites to the South would be made available to carry out the new widening works. The demolition works can commence to Skippool Bridge and a replacement bridge built. Locally to the bridge works there would be High Containment Barrier to protect new bridge construction and deep excavation. Local access points and side roads along this section of the scheme are maintained and TM modifications would be made to ensure full access and egress is provided. There would be a reduced speed limit of 30 mph while this phase is being constructed. Access to the works would be from the existing A585 and Mains Lane via signed access and egress points and an additional access would be available from the Poulton Junction when a suitable haul road is constructed.

2.15.13 Access to the petrol station would have to close when this phase is in place due to the works being carried out immediately in front of this facility.

Poulton Junction

Phase 1

2.15.14 Initial phase 1 is required to provide a safe means of access to the site and for plant vehicles to travel within the works boundary. A new Traffic Light controlled plant crossing and Junction is required for staff, labour and delivery vehicles to access the main compound area located just to the north of Poulton Junction.

2.15.15 Work areas to the north-west and south-east would be available to carry out new bypass construction.

2.15.16 Advanced signing and traffic calming on approach to temporary junction would be required to inform advancing vehicles that a plant crossing is close and there is a high likelihood that slow-moving vehicles would be crossing or turning near the junction.

2.15.17 A reduced speed limit of 30 mph would be enforced to slow traffic in this high-risk area.

Phase 2

2.15.18 Towards the end of the contract the new traffic signals junction would have to be completed and a relatively simple diversion of the A586 would be made to the south which enables a work site to the North for 60 – 70 % of the new junction to be completed. Works traffic would still need to access the site to the East and West, so a traffic light-controlled crossing / access would be maintained.

2.15.19 Advanced signing and traffic calming on approach to temporary junction would be required to inform road users that a plant crossing is close and slow-moving vehicles would be crossing or turning near the junction.

2.15.20 A reduced speed limit of 30 mph would be enforced to slow traffic in this high-risk area.

Phase 3

2.15.21 The final phase 3 would be to complete the southern section of the junction so traffic would be routed through the new signal junction layout.

2.15.22 The temporary traffic Light controlled crossing of A586 Garstang Road would no longer be required and would be removed and would utilise the permanent traffic signals for any works traffic along the bypass route.

Lodge Lane Bridge

Phase 1

2.15.23 The new Lodge Lane overbridge is designed to be built on the same line as the existing road. To enable the works to commence, traffic management would require a full chicane type diversion to control and route existing traffic through the works passing the new bridge site on the West. For general traffic safety, temporary lighting would probably be required on the diversion

2.15.24 The access road leading to Singleton Hall would be retained throughout this phase while the construction of the new access road on the south side of the bypass is constructed.

2.15.25 A reduced speed limit of 30 mph would be enforced

Phase 2

2.15.26 Phase 2 is a similar phase as above but the new connection to the Singleton Hall access road can be made and the existing road removed. The new bridge would be built top – down to avoid the temporary works involved with deep excavations.

2.15.27 There would be a period when a traffic Light controlled crossing can be used for plant and machinery movements, but this facility would be lost when works start on the new bridge deck.

2.15.28 A reduced speed limit of 30 mph would be enforced.

Phase 3

2.15.29 This final phase the diverted traffic would be re-routed back on the mainline and over the completed Bridge. All TM restrictions would be removed, and the works would proceed beneath the overbridge. Side road access would be made through the new connection to Singleton Hall access road.

Grange Footbridge to Windy Harbour Junction

Phase 1

2.15.30 Phase 1 traffic management would consist of narrow lanes on the existing A586 moving traffic to the North to enable the widening works to be constructed on the South. There would be a reduced speed limit of 40 mph while this phase is being constructed as the restriction is very linear and not so onerous as the previous installations. Access to the works would be from the Westbound direction of the existing A586 via signed access and egress points.

2.15.31 A segregated public footpath across site would be maintained and manned at work times giving priority to the public.

2.15.32 The Grange Footbridge would require very little TM (maybe some widening of the existing access) as it would be constructed within the site boundaries and can be

delivered from the Poulton Junction end if needed.

Phase 2

2.15.33 The second phase has the Existing A586 diverted in Narrow lanes onto new Westbound Carriageway.

2.15.34 The Public footpath still crosses the work site for a small section on the North which would be manned, and access priority given to the public. Pedestrians can then use the new Grange footbridge to gain access over the diverted road. The work area is made available to the North for the New Bypass widening works.

2.15.35 Due to the relatively acute chicane in the temporary carriageway a reduced speed limit of 30 mph would be enforced.

Phase 3

2.15.36 The final traffic management phase would be for diversion of traffic onto the new live Westbound Carriageway and provide two Narrow lanes for a short section until the last section of the works can be completed. Public footpath across the works site would still be manned and then follow over the new Grange footbridge.

2.15.37 The TM would enable work area to the North to construct new Bypass widening and then decommission the redundant Garstang New Road.

2.15.38 A reduced speed limit of 30 mph would be enforced.

Construction Compounds

2.15.39 For the western (Skippool) section a site compound is proposed on the north side of Breck Road at about Ch.370 to Ch.470.

2.15.40 A main compound is proposed on the north-east side of the proposed Poulton Junction with access off A586 Garstang Road East (around Ch.2100 to Ch 2300).

2.15.41 A further compound is proposed on the south-west side of the proposed Poulton Junction with access off A586 Garstang Road East (around Ch. 2150 to 2450).

2.15.42 For the eastern (Little Singleton) sections of the Scheme it is proposed to have site a compound around Ch.3600 to Ch.3700. This would allow site vehicles to come from the Windy Harbour junction and access the offline haul road. The site compounds would be used for plant and material storage and welfare facilities for staff and would include:

- Strip off topsoil (set aside for re-topsoiling) and then build up with stone / crushed concrete
- Hoarding or security fencing around the perimeter
- Screen mounding where required for the benefit of neighbouring properties
- Bunds around fuel tanks to contain spillages
- Various temporary office and welfare facilities
- Security lighting normally with mains power but silenced generators may be required if no mains power supply is available locally

2.15.43 Approximately one year after construction the temporary construction compounds will be restored to the condition it was in on the date on which possession the land was first taken, or such condition as may be agreed with the owner. Refer to Article

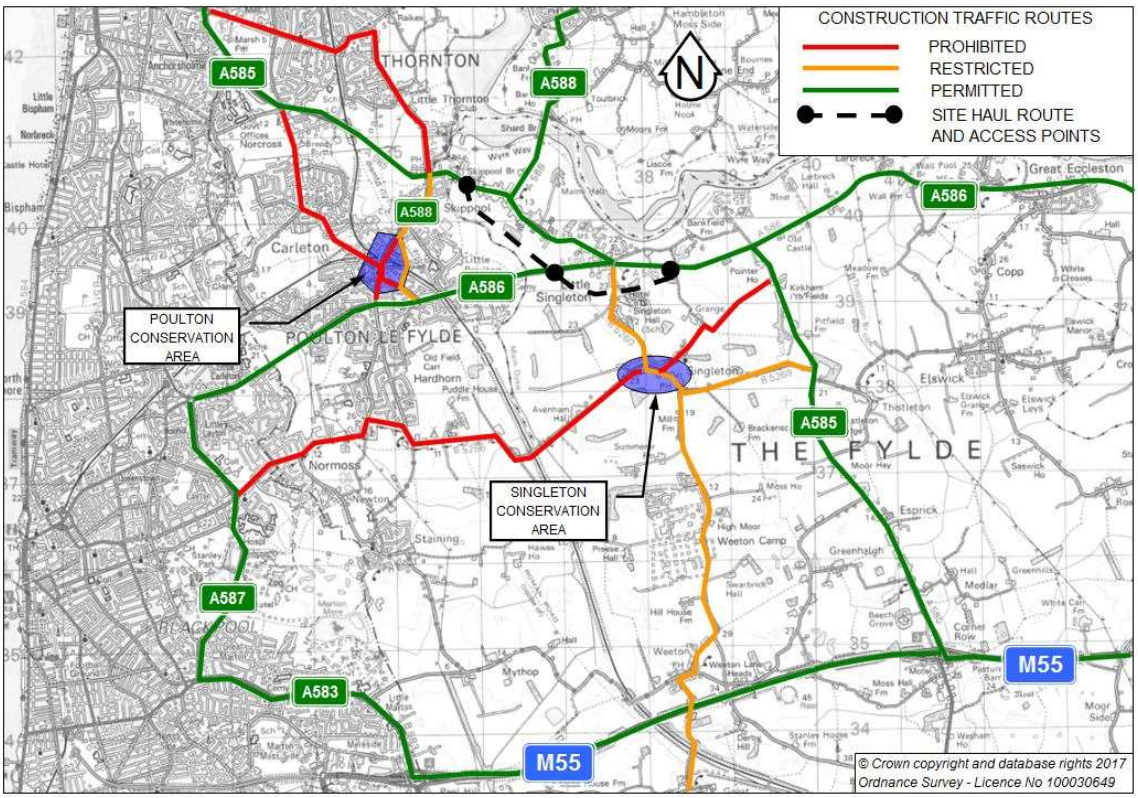
29 of the draft Development Consent Order (document reference TR010035/APP/3.1).

Haulage Routes and Construction Traffic Management

2.15.44 Access for construction vehicles to and from the site would be primarily from the trunk road network and other designated routes that would be clearly signposted. The likely routes are shown in green on Insert 2-3. Construction traffic over 7.5 tonnes would be prohibited from using the routes shown in red but construction traffic less than 7.5 tonnes would be permitted to use the routes shown in yellow. Those yellow routes would also be available for construction traffic in the event of a blockage on the designated routes.

2.15.45 Further detail on traffic management can be found in the draft Traffic Management Plan (document reference TR010035/APP/7.5).

Insert 2-3: Description of the Scheme - Construction access routes



2.15.46 Haul routes within the Scheme area would be dictated by the balance of cut and fill material within the site areas but would primarily be along the route of the bypass. This itself would be dictated by the design of the new roads and the suitability of the materials arising and its suitability for beneficial re-use.

2.15.47 The main areas where the construction sites would interface with the travelling public would be at locations where connections to the existing network would be created. In these locations, extensive traffic management and control would be required to segregate the construction sites from road vehicles.

2.16 Demolition

2.16.1 The property named West Wynds, Old Mains Lane ~Ch.610 north of Skippool Bridge junction would require demolition prior to the construction of the new Skippool Bridge and the Old Mains Lane link. For more details refer to the Statement of Reasons

(document reference TR010035/APP/4.1).

2.16.2 Similarly, an existing derelict barn (Ch. 720) south of Mains Lane and east of Skippool Petrol Station would require demolition prior to construction of Skippool Bridge Junction and the bypass.

2.16.3 The whole of the property known as The Beeches, 205 Mains Lane, (Ch 670) is included within the Draft Order Limits but, at this stage, it not clear if this would have to be demolished. As described in 2.22 (Rochdale Envelope), the Environmental Statement assumes that the worst case is for this building to be demolished.

2.16.4 The existing Skippool Bridge would be demolished as part of the widening between Skippool Junction and Skippool Bridge junction.

2.16.5 As described above, it is proposed that the existing Skippool Clough culvert would be replaced by a new culvert. A decision on whether the existing culvert would be demolished and backfilled or just filled with lightweight concrete has not been made at this stage.

2.17 Services and Utility Diversions

2.17.1 There is a number of third-party equipment which may be potentially affected by the Scheme belonging to:

- Electricity North West - underground and overhead cables
- Cadent (formerly National Grid) – underground gas distribution
- GTC – an underground gas supply to Singleton Hall and Manor
- BT Openreach – underground and overhead cables
- United Utilities – underground water supply and sewers
- Thornton Facilities Management Ltd – former ICI ethylene pipeline to Hillhouse site in Thornton Cleveleys

2.17.2 Where necessary, diversions to the services have been investigated in conjunction with the utility companies. Appropriate diversions would need to be incorporated into the detailed Scheme design and construction programme including diversions possibly carried out in advance of the main works. A statutory undertaker schedule is provided in Appendix 2.1: Construction Information (Appendix B) (document reference TR010035/APP/6.2.1) and the indicative diversion routes are shown on the Works Plans (document reference TR010035/APP/2.3).

2.18 Waste Management

2.18.1 A Site Waste Management Plan and a Materials Management Plan (MMP) would be prepared following the protocols within the Contaminated Land: Applications in Real Environments (CL:AIRE) Definition of Waste: Development Industry Code of Practice to ensure that excavated material are re-used appropriately, sustainably and remain outside the waste hierarchy. These documents would be prepared prior to construction, drafts are provided within the Outline CEMP (document reference TR010035/APP/7.2).

2.19 Maintenance

2.19.1 Meetings have been held with key stakeholders, including the Highways England maintenance team, Lancashire County Council and Statutory Undertakers during the

development of the Scheme to ensure that those with the experience of operation, maintenance and repair of roads affected by the Scheme have been fully engaged.

2.19.2 The maintenance responsibility for A585 Amounderness Way, the Scheme and A585 Fleetwood Road would rest with Highways England.

2.19.3 The maintenance responsibility for the following roads would be transferred from Highways England to Lancashire County Council as part of the Scheme and the de-trunking process:

- Mains Lane from its junction with Skippool Bridge Junction to Little Singleton Junction including the changes to Shard Road Junction and Little Singleton Junction
- Old Mains Lane link road
- Garstang New Road east of Little Singleton Junction

2.19.4 The maintenance responsibility for the following roads would remain with Lancashire County Council:

- B5412 Skippool Road north of Skippool Junction, A588 Breck Road and the service road south of Skippool Junction
- A586 Garstang Road East both east and west of the proposed Poulton Junction
- B5260 Lodge Lane including the surfacing on the deck of the new Lodge Lane bridge
- A586 Garstang Road east of Windy Harbour Junction
- Windy Harbour Road north of Windy Harbour Junction

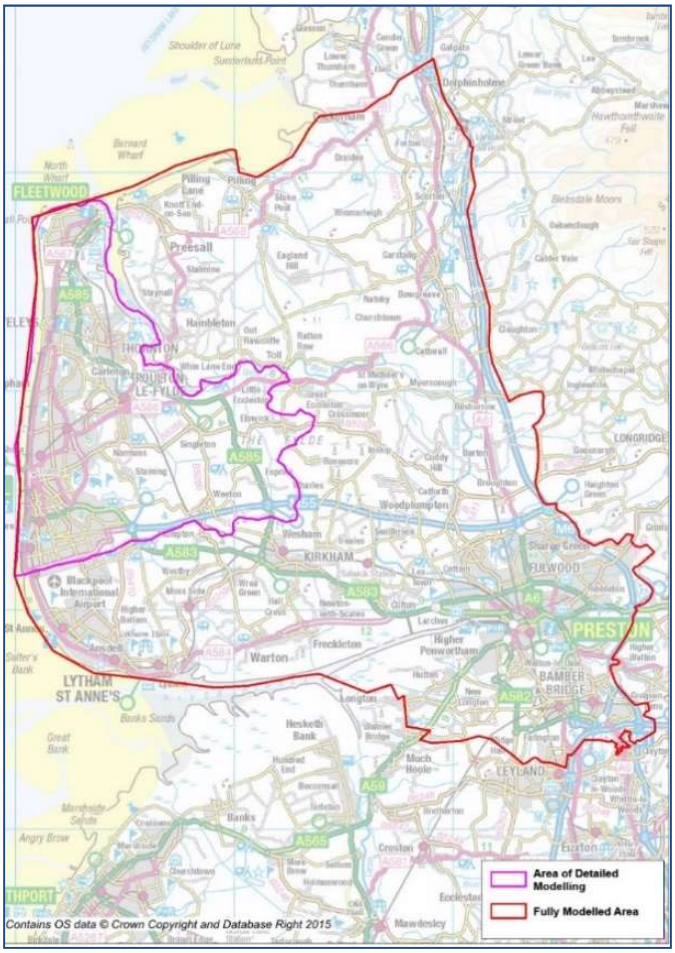
2.19.5 Various assets of the Scheme would be repaired or replaced as they approach their normal design life, for example:

- Road surfacing would be removed and replaced after between 10 to 20 years with the removed material being recycled
- Steel safety fence would be replaced after typically 25 years and would be recycled offsite
- Lighting columns, road signs and traffic signals would be replaced after between 25 and 30 years and would be recycled offsite
- Electrical cables for lighting, signs and traffic signals would be replaced after typically 30 years and would be recycled offsite
- Drains, chambers and culverts may need repairs after 40 years but these would normally not require full replacement
- Structural concrete and steelwork for bridges and retaining wall have extended design lives of up to 120 years

2.20 Traffic Forecasting

2.20.1 The A585 Windy Harbour to Skippool Scheme's traffic model covers the Wyre, Fylde and Blackpool area. The model is bound by the M6 to the east and by the coastal edges of the Fylde Peninsula to the north, west and south – see Insert 2-4.

Insert 2-4: Description of the Scheme - Geographic Traffic Model Extent



2.20.2 The future demand for travel within the model study area is affected by several key factors. These include:

- Change in population and employment levels
- Change in the number of households
- Change in the level of car ownership

2.20.3 The impacts of these factors and the effect that they have on future year travel demand are modelled at a national level through the National Transport Model (NTM) developed by the Department for Transport, which itself incorporates the National Trip End Model (NTEM). The NTEM is fully integrated within the NTM and provides the future year demand growth inputs to the NTM, forming the starting point for national travel demand forecasting work.

2.20.4 Use of the TEMPRO database allows for the information contained within the NTM to be output in the form of forecast year trip end growth projections for car travel, thus allowing for local area traffic models to be developed on a consistent basis with regard to future year growth. However, it should be noted that forecast demands calculated using TEMPRO are reference case forecasts. For actual or 'equilibrium' demand to be determined, a subsequent process known as Variable Demand Modelling (VDM) is required.

2.20.5 Forecasts such as NTEM datasets are always subject to uncertainty and the Core Scenario is supplemented at a local level in the vicinity of the Scheme by local development growth assumptions.

2.20.6 NTEM in conjunction with the local planning data / local development contained in the Uncertainty Log have been used as the basis of the forecasts.

2.20.7 The categorisation of the local developments identifies the developments included in the core scenario and hence has influenced the level of forecast demand the Scheme has been designed to accommodate. The categorisation of local developments has been prepared in consultation with the Local Authorities in the area.

2.20.8 Traffic forecasts undertaken for the core scenario have been used as the primary basis of evidence for the transport scheme.

2.20.9 The results of this traffic modelling has been used to inform the specific environmental topic assessments.

2.20.10 The A585 model validation base year is 2015 and model forecast years are:

- Opening year of 2022
- Design year of 2037
- Horizon year of 2051

2.20.11 Future year traffic flows have been extracted from the model for the purposes of the different environmental assessment topics, for example, Chapter 6: Air Quality (document reference TR010035/APP/6.6) and Chapter 11: Noise and Vibration (document reference TR010035/APP/6.11).

2.20.12 The scenarios modelled and assessed in the ES include the following:

- 2015 Base model validation year (reflecting the existing situation)
- 2022 (Opening Year) Without Scheme (Do-Minimum) (but including any committed schemes that would open between 2015 and 2022)
- 2022 (Opening Year) With Scheme (Do-Something) (and committed schemes that would open between 2015 and 2022)
- 2037 (Design Year) Without Scheme (Do-Minimum) (but including any committed schemes that would open between 2015 and 2037)
- 2037 (Design Year) With Scheme (Do-Something) (and committed schemes that would open between 2015 and 2037)

2.20.13 Any environmental data required for years other than the specific modelled years has been derived via interpolation or extrapolation of the modelled years. If there are changes to the project programme (for example a change in opening year), the modelled years would be modified accordingly.

(a) Population and employment forecasts included within the models reflect the latest NTEM, National Freight Forecasts supplemented by travel demands arising from local developments. Local developments are categorised in the Uncertainty Log as either near certain, more than likely, reasonably foreseeable or hypothetical. The near certain and more than likely provide the basis for the central (core) forecasting work. Sensitivity tests have been conducted which reflect low growth and high growth scenarios, incorporating different combinations of the possible future developments.

2.21 Environmental Design

2.21.1 One of the key functions of undertaking an Environmental Impact Assessment (EIA) for a scheme is to inform the design. The Scheme design is an iterative process and takes into consideration key significant effects on environmental receptors and the mitigation proposed. During the options phase, the Scheme was designed to minimise its impact on the local environment, for example through minimising the number of structures over watercourses.

2.21.2 DMRB suggests design measures, which can be incorporated within highways design, to mitigate impacts arising from highways development. Environmental measures outlined in Table 2-2 have been incorporated into the Scheme design and are considered to be 'embedded' and part of the Scheme design.

Table 2-2: Description of the Scheme – Embedded Environmental Design Measures

Embedded Design Measures	Description
Earthwork False Cuttings	Proposed earthwork false cuttings (earthworks), located adjacent to the highway which are typically 2m higher than the proposed carriageway ground level (with typically 1(v)3(h) facing slopes). These features help provide visual screening of the Scheme, and its lower level features, and integrate the Scheme into the surrounding landscape.
Low road noise surfacing	Low road noise surfacing in the form of a thin surfacing system in accordance with the DMRB has been incorporated into the offline Scheme design.
Replacement of Culvert at Skippool Bridge	Replacement of the restrictive twin-culvert with a clear span bridge removes a restriction to flow conveyance resulting in a reduction in floodplain extent and flood risk along the Main Dyke upstream of the structure.
Drainage Design	Provision of attenuation and treatment of operational highway runoff as well as spillage containment, using vegetated wetlands and other components, inclusive of an allowance for climate change resilience. The drainage design therefore prevents pollution of watercourses receiving road drainage discharges as well as increases in surface water (rainfall runoff) flood risk.
Lighting Design	The lighting design has been focused around the junctions (Skippool Junction and Poulton Junction). The lighting design will also use LED directional lighting to all fixtures within the Scheme to avoid light spill and trespass beyond the Scheme alignment.
Combined Highway Boundary and Otter/Badger Fencing	To minimise the amount of clutter associated with providing separate post and rail and otter and badger fencing. It is proposed to combine the fencing where possible.

2.21.3 Highways England's Biodiversity Plan, published in June 2015, details the aims and obligations it has to deliver as part of the Government's RIS in terms of biodiversity. Highways England is expected to ensure the design of their road schemes reduce impacts on the environment by delivering a reduction in habitat fragmentation and enhancing biodiversity value. They should also actively manage habitats to ensure high species diversity and reduced fragmentation. This is further supported by Highways England's Licence (April, 2015) within its paragraphs 4.2g, 4.2h (principles of sustainable development) and the road to good design.

2.22 The Rochdale Envelope

2.22.1 PINS Advice Note 9: 'Using the 'Rochdale Envelope' provides guidance regarding the degree of flexibility that may be considered appropriate within an application for development consent under the Planning Act 2008. The advice note acknowledges that there may be parameters of a Scheme's design that are not yet fixed and, therefore, it may be necessary for the Environmental Statement to assess likely worst-case variations to ensure that the likely significant environmental effects of the Scheme have been assessed.

- Grange Footbridge and alternatives for crossing points and / or bus-only junction
    - There remains a number of options and alternatives for the pedestrian crossing point at Grange Junction 1) To provide a footbridge 2) To provide an at grade crossing. This ES assesses the provision of a footbridge at Grange Junction.
- Skippool Clough Culvert
    - There remains a number of options regarding the replacement of Skippool Clough culvert: 1) To replace it as part of the Development Consent Order (DCO) application; 2) To replace the culvert prior to the DCO works commencing under a separate consent. This ES, where relevant, assesses the replacement of Skippool Clough culvert as part of the DCO application.
- The Beeches 205 Mains Lane
    - There remain 2 options regarding the Beeches property which lies within the Draft Order Limits; 1) Demolish it; 2) Retain it. This ES where relevant assesses the worst-case option which is to assume the Beeches property would be demolished.
- Source of imported material and use of borrow pits
    - There are 2 options for addressing the Scheme's material deficit: 1) Importing all required deficit material; 2) A combination of using the borrow pits and importing the remaining deficit material to site (as only a certain amount of material could be sourced from the borrow pits). The ES where relevant assesses both importing all required material to site along with using the borrow pits.

2.23 References

2.23.1 The following are the main standards used in the development of the Scheme's design and were published by Highways Agency / Highways England as part of the DMRB and can be found at:

http://www.standardsforhighways.co.uk/ha/standards/dmrb/

- TD 9/93 Highway Link Design
- TD 27/05 Cross sections and headroom
- TD 19/06 Requirement for Road Restraint Systems
- TD 50/04 The Geometric Layout of Signal-Controlled Junctions and Signalised Roundabouts
- BD 2/12 Technical approval of structures
- BD 29/17 Design Criteria for Footbridges
- HD 33/16 Design of Highway Drainage Systems
- HD 26/06 Pavement Design

The Planning Inspectorate (2018) *Advice Note Nine: Rochdale Envelope*

2.24 Figures

INSET 1
SCALE 1:10 000

INSET 2
SCALE 1:10 000

SCHEME LOCATION

RIVER WYRE

Temporary Site Compound

Temporary Bird Mitigation Land

Skippool Bridge to be replaced

Skippool

New Skippool Junction

New Skippool Bridge Junction

Alteration to Shard Road Junction

Existing Road To Be De-Trunked

Temporary Site Compound

Little Singleton

Temporary Flood Compensation Land

Main Dyke

HOUSING DEVELOPMENT (UNDER CONSTRUCTION)

Alteration to Junction

Existing Road To Be De-Classified

Temporary Site Compound

Windy Harbour Junction

A585 Garstang New Road

Garstang Road East

New Poulton Junction

Temporary Site Compound

New Lodge Lane Bridge

The Manor

Singleton Hall

Barnfield Manor

New Grange Foot Bridge

Existing Road to be Upgraded to Dual Carriageway

A586 Garstang Road East

A585 Fleetwood Road

A588 Shard Road

B5412 Skippool Road

A585 Brock Road

Mains Lane

Lodge Lane

B5260

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0 250 500m
1 : 12 500

KEY:

- Draft Order Limits
- The Scheme
- Area not included within Draft Order Limits
- A Existing Field Ditches

Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
0	S8	OCT18	S8 - DCO SUBMISSION	JN	KB	NH

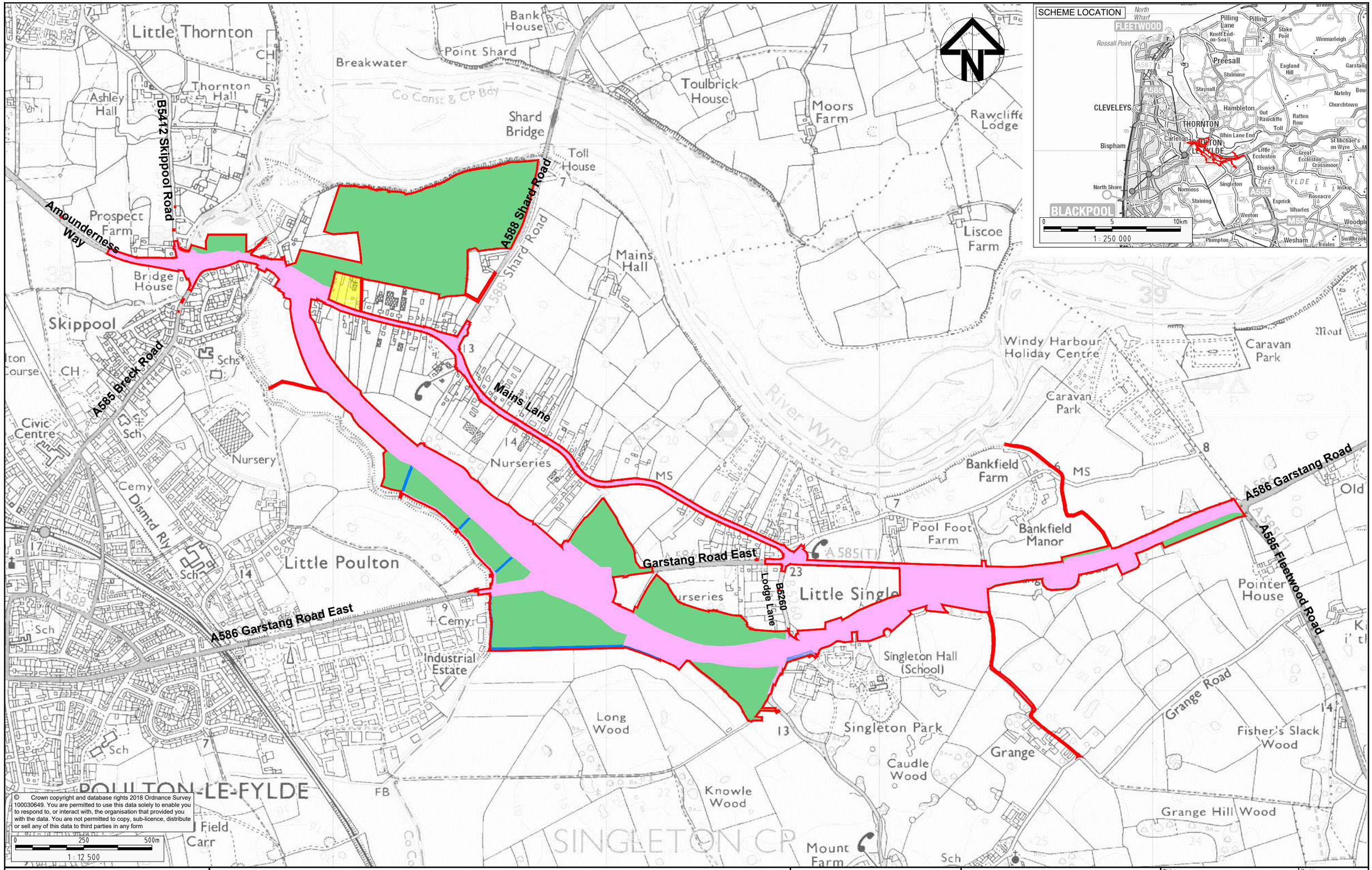
Client: highways england

Project: A585 WINDY HARBOUR TO SKIPPOOL IMPROVEMENT SCHEME

Drawing Title: ENVIRONMENTAL STATEMENT REGULATION 5(2)(a) DESCRIPTION OF THE SCHEME: THE SCHEME

Status	S8 - DCO SUBMISSION
Revision	0
Scale	1:12 500 @ A3
Date	OCT 2018
Drawn By	J.NORMAN
Checked By	K.BURROWS
Approved By	N.HENDERSON
PINS No.	TR010035
	FIGURE 2.1

Drawing number: HE548643-A585-EAC-SZ_GN000-DR-L-3005



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0 250 500m
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KEY:

- Draft Order Limits
- Indicative Permanent Land Take
- Indicative Temporary Land Take (Will include land for site compounds and environmental mitigation)
- Area not included within Draft Order Limits
- Temporary Rights for Drainage

Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
0	S8	OCT18	S8 - DCO SUBMISSION	JN	KB	NH

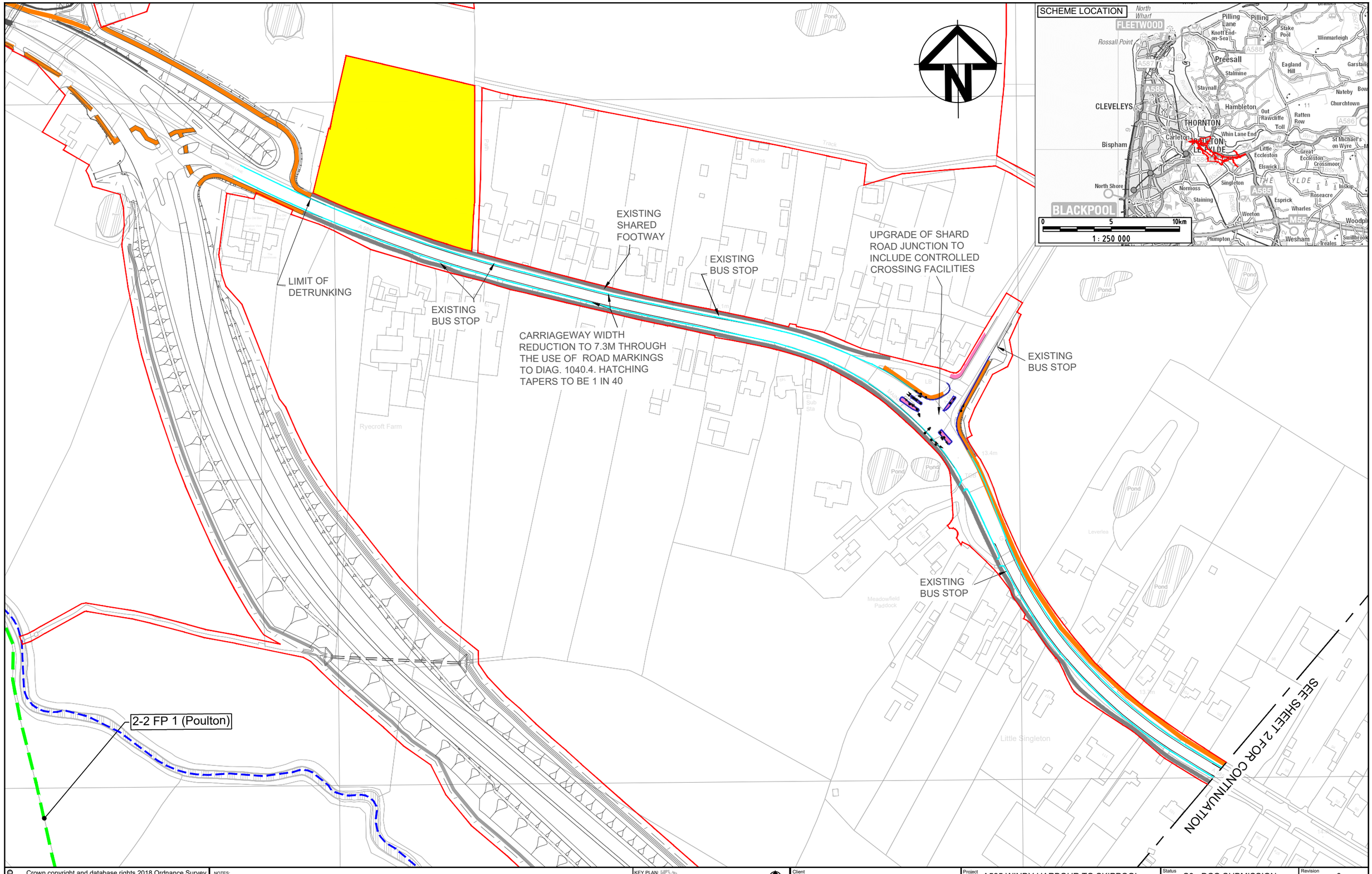
Client: highways england

Project: A585 WINDY HARBOUR TO SKIPPOOL IMPROVEMENT SCHEME

Drawing Title: ENVIRONMENTAL STATEMENT REGULATION 5(2)(a) DESCRIPTION OF THE SCHEME: PERMANENT AND TEMPORARY LAND TAKE RE□UIRED FOR THE SCHEME

Status	S8 - DCO SUBMISSION
Revision	0
Scale	1:12 500 @ A3
Date	OCT 2018
Drawn By	J.NORMAN
Checked By	K.BURROWS
Approved By	N.HENDERSON
PINS No.	TR010035
	FIGURE 2.2

Drawing number: HE548643-A585-EAC-SZ_GN000-DR-L-3006



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0 50 100
SCALE 1:2500 (A3) METRES

Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
0	S8	OCT 2018	DCO SUBMISSION	GH	SP	NH

NOTES:
1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL PLANS AND DOCUMENTS IN THE DCO APPLICATION
2. ALL LIGHTING COLUMNS ALONG THE DE TRUNKED ROAD WILL BE LED'S AT A REDUCED HEIGHT (8M)

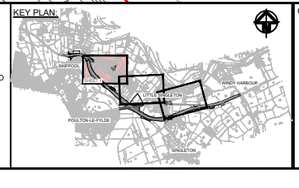
KEY:
- DRAFT ORDER LIMITS
- LOCAL AUTHORITY BOUNDARY
- THE SCHEME (SHOWN FOR ILLUSTRATIVE PURPOSES)
- AREA NOT INCLUDED WITHIN THE DCO BOUNDARY

EXISTING
- EXISTING KERB LINE TO BE RETAINED
- EXISTING FOOTWAY TO BE RETAINED

PUBLIC RIGHTS OF WAY
- EXISTING RIGHT OF WAY
- NEW RIGHT OF WAY

PROPOSED
- PROPOSED KERB LINE
- PROPOSED FOOTPATH
- PROPOSED NON-SEGREGATED FOOTWAY / CYCLEWAY
- TRAFFIC SIGNAL

KEY PLAN:



Client: highways england

Project: A585 WINDY HARBOUR TO SKIPPOOL IMPROVEMENT SCHEME

Drawing Title: ENVIRONMENTAL STATEMENT REGULATION 5(2)(a) DESCRIPTION OF THE SCHEME: DE-TRUNKING PLANS SHEET 1 OF 3

Status	S8 - DCO SUBMISSION
Revision	0
Scale	1 :2500 @ A3
Date	OCT 2018
Drawn By	G.HERRING
Checked By	S.PANESAR
Approved By	N.HENDERSON
PINS No.	TR010035
	FIGURE 2.3

Drawing number: HE548643-ARC-HGN-SZ_ZZ_000-DR-D-30833

HE PIN | Originator | Volume | Location | Type | Role | Number

SEE SHEET 1 FOR CONTINUATION

EXISTING SAFETY CAMERA TO BE REMOVED

EXISTING BUS STOP

EXISTING "SLOW" TO DIAG. 1024, 2800MM HIGH, TO BE REFRESHED

EXISTING "SLOW" TO DIAG. 1024, 2800MM HIGH, TO BE REFRESHED

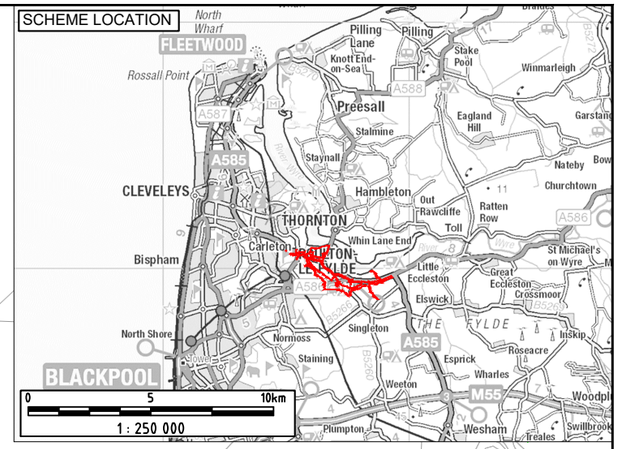
EXISTING BUS STOP

EXISTING BUS STOP

FP 6 (Singleton)

SEE SHEET 3 FOR CONTINUATION

SCHEME LOCATION



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0 50 100
SCALE 1:2500 (A3) METRES

Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
0	S8	OCT 2018	DCO SUBMISSION	GH	SP	NH

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PROPOSED
- PROPOSED KERB LINE
- PROPOSED FOOTPATH
- PROPOSED NON-SEGREGATED FOOTWAY / CYCLEWAY
- TRAFFIC SIGNAL

KEY PLAN:

Client: highways england

Project: A585 WINDY HARBOUR TO SKIPPOOL IMPROVEMENT SCHEME

Drawing Title: ENVIRONMENTAL STATEMENT REGULATION 5(2)(a) DESCRIPTION OF THE SCHEME: DE-TRUNKING PLANS SHEET 2 OF 3

Status	S8 - DCO SUBMISSION	Revision	0
Scale	1 :2500 @A3	Date	OCT 2018
Drawn By	G.HERRING		
Checked By	S.PANESAR		
Approved By	N.HENDERSON		
PINS No.	TR010035		FIGURE 2.3

Drawing number: HE548643-ARC-HGN-SZ_ZZ_000-DR-D-3084
(HE PIN | Originator | Volume | Location | Type | Role | Number)

SEE SHEET 2 FOR CONTINUATION

FP 6 (Singleton)

CONVERSION OF LITTLE SINGLETON JUNCTION TO INCLUDE U TURN PROVISION

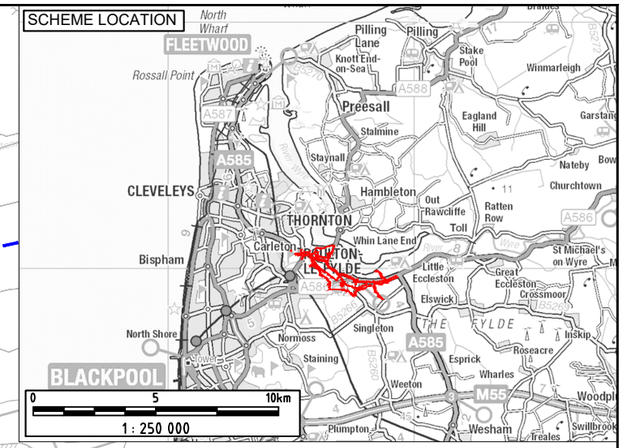
EXISTING BUS STOP

EXISTING ROAD TO BE NO THROUGH ROAD ACCESS TO FIELDS AND USE FOR PEDESTRIANS AND CYCLISTS ONLY

FP 2 (Singleton)

LIMIT OF DETRUNKING

SCHEME LOCATION



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0 50 100
SCALE 1:2500 (A3) METRES

0	S8	OCT 2018	DCO SUBMISSION	GH	SP	NH
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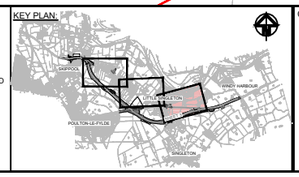

Client: highways england

Project: A585 WINDY HARBOUR TO SKIPPOOL IMPROVEMENT SCHEME

Drawing Title: ENVIRONMENTAL STATEMENT REGULATION 5(2)(a) DESCRIPTION OF THE SCHEME: DE-TRUNKING PLANS SHEET 3 OF 3

Status	S8 - DCO SUBMISSION	Revision	0
Scale	1 :2500 @A3	Date	OCT 2018
Drawn By	G.HERRING		
Checked By	S.PANESAR		
Approved By	N.HENDERSON		
PINS No.	TR010035		FIGURE 2.3

Drawing number: HE548643-ARC-HGN-SZ_ZZ_000-DR-D-3085
(HE PIN | Originator | Volume | Location | Type | Role | Number)