

# Lower Thames Crossing

**Design refinement consultation**  
**14 July – 12 August 2020**

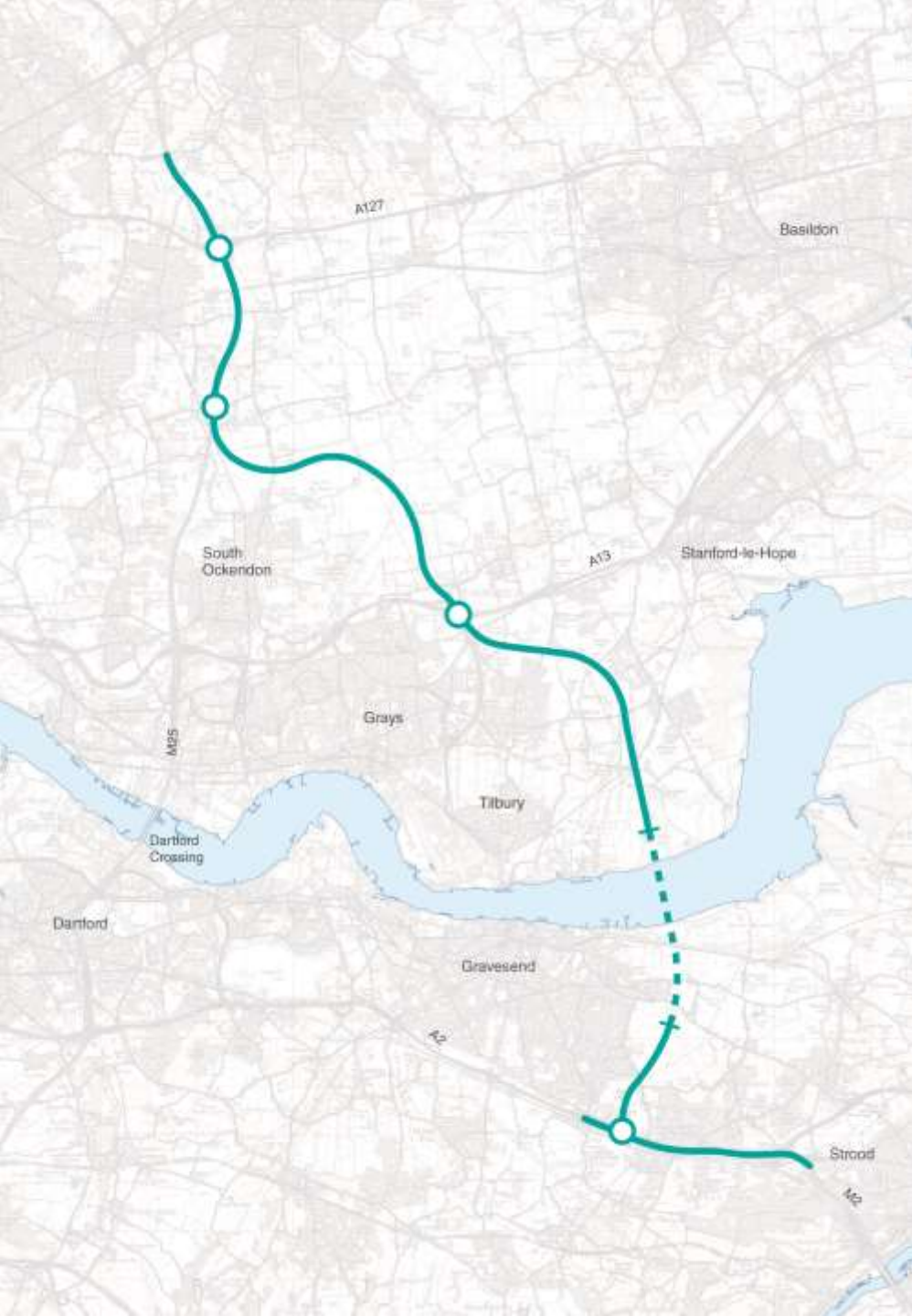
# Agenda

- Introduction
- Why are we consulting again?
- Overview of refinements
- How to find out more and have your say
- Q&A



# Lower Thames Crossing

- Most ambitious road scheme since M25, linking Kent, Thurrock and Essex
- Connects A2/M2, A13/A1089 and the M25
- Will cut congestion on approach roads to Dartford Crossing
- Will nearly double the capacity across the Thames east of London
- Will open new markets for local businesses



# Design refinement consultation



Reduction to the overall size of the development boundary



Minor changes to highways design



Updated paths for pedestrians, cyclists and horse riders



Fewer utilities diversions



More detailed landscaping proposals



Further developed ecological mitigation measures





## Impact of COVID-19

- No in-person consultation events
- Digital-first approach to consultation
  - Postal and telephone facilities for those without internet access
- Deposit locations and information points are dependent on government guidelines

Design refinement consultation revised development boundary



# Development boundary

- Overall, reduction of development boundary by 12.5 per cent
- Number of properties affected reduced by 45 per cent

	Development boundary size (km <sup>2</sup> )	# of properties affected (residential and business)	Overhead electricity wire works	# of properties requiring demolition
<b>Design refinement consultation</b>	22.89km <sup>2</sup>	150	70 of 150	40 of 150
<b>Supplementary consultation</b>	26.21km <sup>2</sup>	270	190 of 270	40 of 270



## Environmental impacts update

- Reduced impact on some ancient woodlands
- Improved species habitat and ecological connectivity at many green bridges
- Addition of 17 noise barriers along route



# Landscaping

- Proposals to mitigate visual impacts of the project's above-ground infrastructure
- Proposed ecological mitigation includes grassland, woodland and watercourses
- New proposed landforms and viewpoints

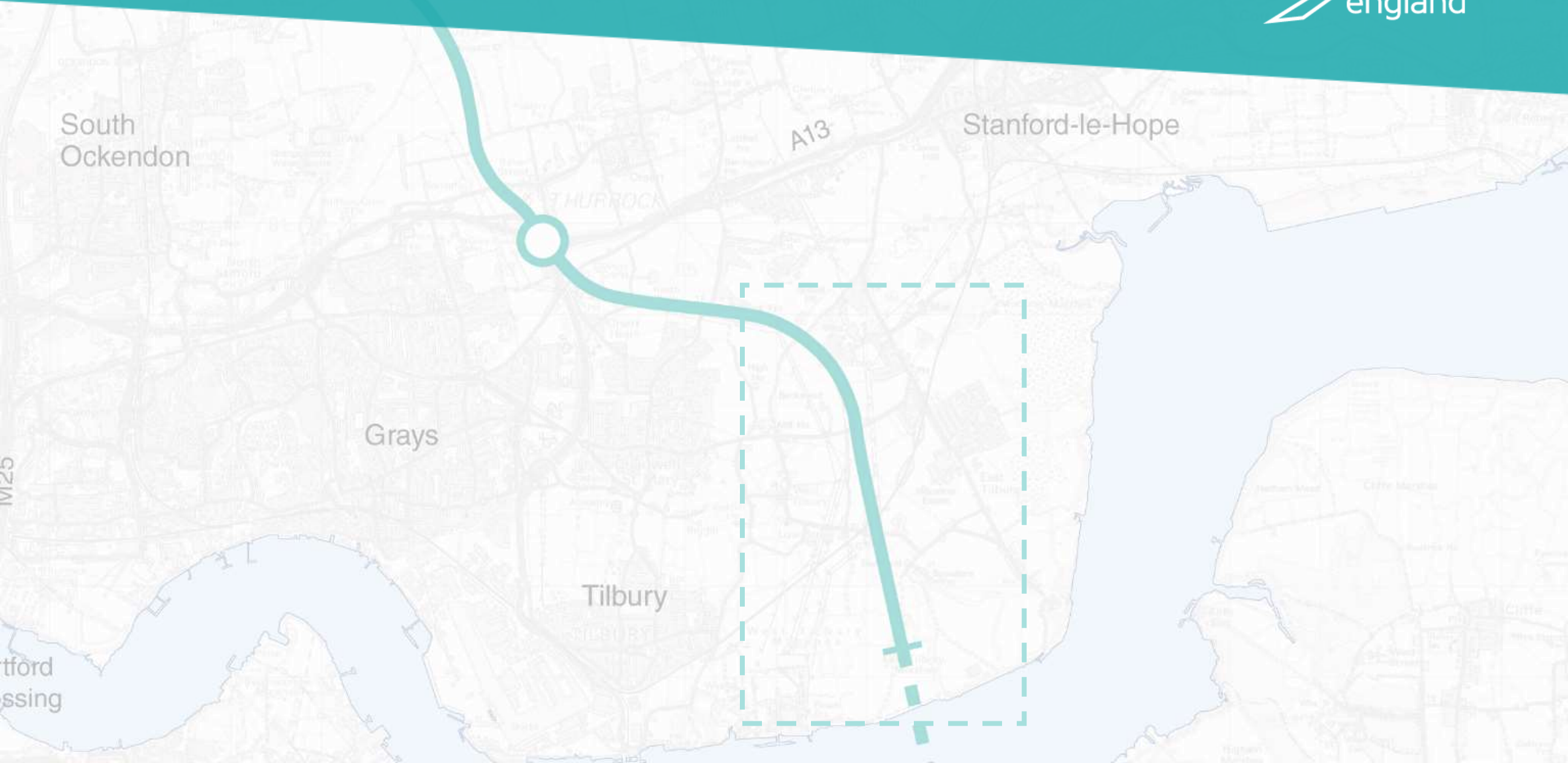




## Utilities

- A number of small permanent substations, approximately 3mx3m, would need to be installed across the route
- Various larger substations and a switching station
- Refinements to proposals to connect water mains providing supply for the tunnel boring machines (TBM) and construction sites
- Where possible, in sensitive locations, we would use trenchless technology for below ground utilities installation

# Northern tunnel entrance and Tilbury refinements

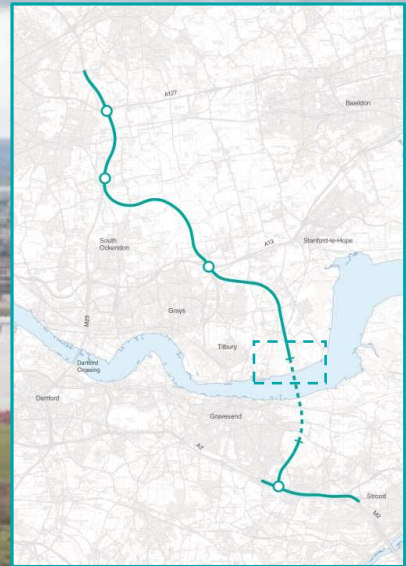




# Northern Tunnel entrance Supplementary consultation

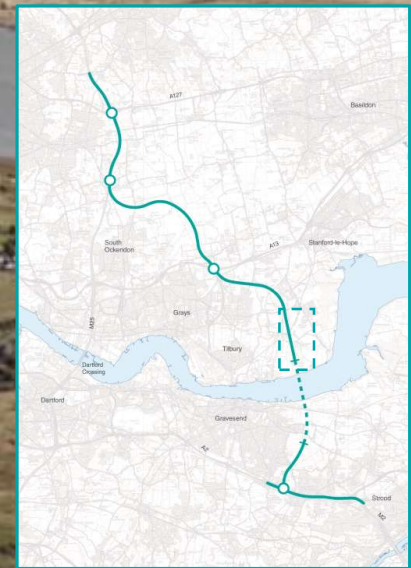


# Northern Tunnel entrance Design refinement consultation



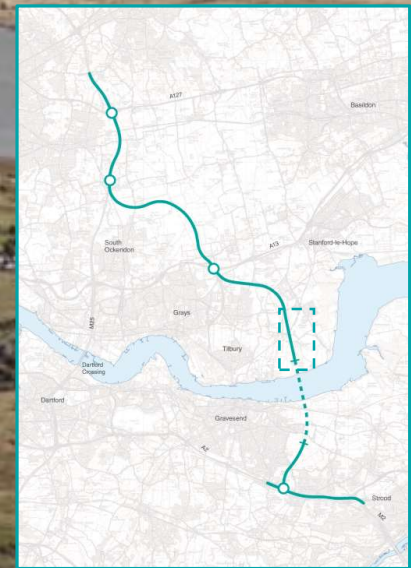
**1** **Landscaping**  
New earthworks proposed to provide wide ranging views overlooking the Thames Estuary

**Utilities**  
Works to install utilities to power the tunnel boring machines (TBM) and construction site in the area. This will also provide power when the tunnel is operational



# Tilbury | Supplementary consultation





# Tilbury | Design refinement consultation





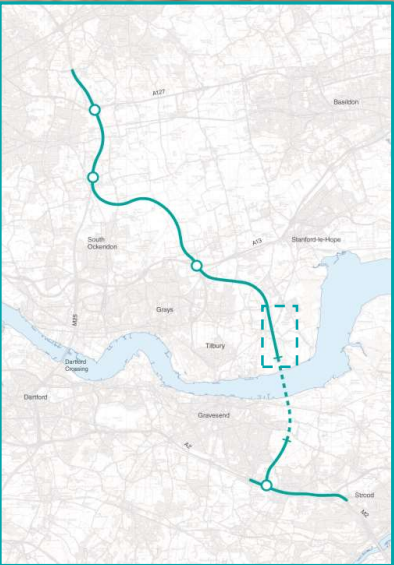
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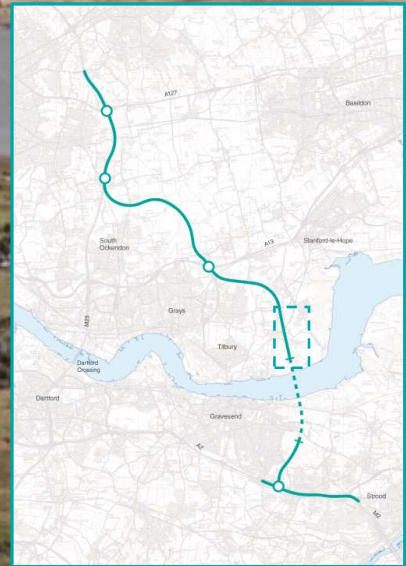
### Noise barriers

1 Four noise barriers, up to 700m long and 1-2m high in the Tilbury area between the northern tunnel entrance and Muckingford Road

### Walkers, cyclists and horse riders

2 Two footpaths in an area slightly realigned to allow better connectivity to Chadwell St Mary





## Utilities

New water supply from Linford borehole to assist with TBM excavation process

Potential upgrade of existing water network

Two small, permanent electricity substations

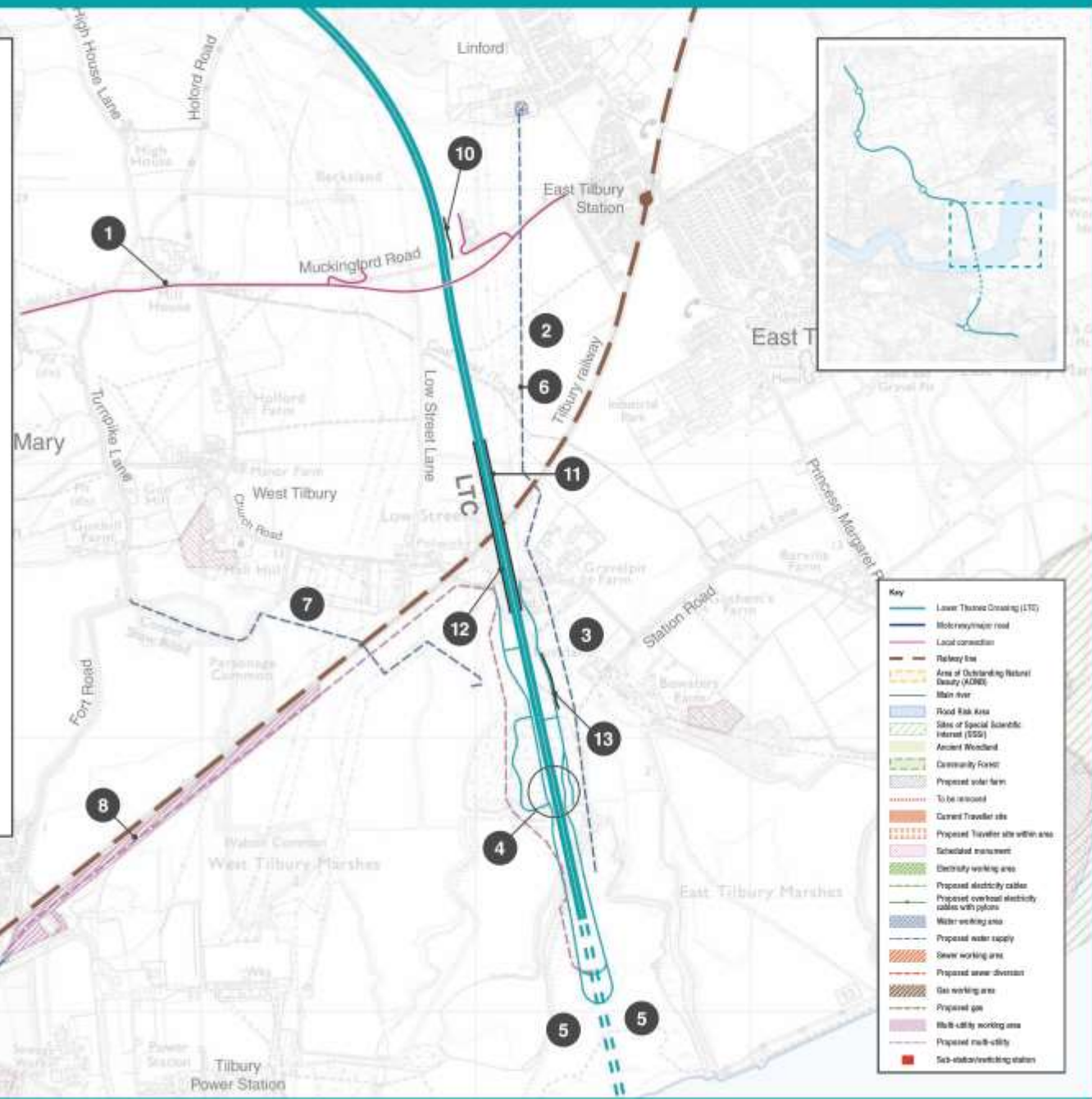
- 1 Muckingford Road would be realigned and widened to accommodate the new shared path route along the southern side.
- 2 The alignment of footpath 61 would be amended to use more of the existing footpath. See the diagram on the next page.
- 3 Footpath 200 would be diverted around the edge of the field. See the diagram on the next page.
- 4 Maintenance access tracks realigned closer to the LTC to allow for a shorter culvert.
- 5 A new landscaping proposal at the northern tunnel entrance.

**Utilities proposals**

- 6 A new indicative alignment to connect water supply from the Linford borehole to the TBM and construction site.
- 7 A new indicative alignment to connect water supply from a local water main to the TBM and construction site.
- 8 A revised indicative alignment for multi-utilities to the construction site and northern tunnel entrance.
- 9 A potential upgrade of the existing Tilbury water main to supply water to the TBM and construction site.

**Noise barriers are proposed in the locations shown to reduce road noise**

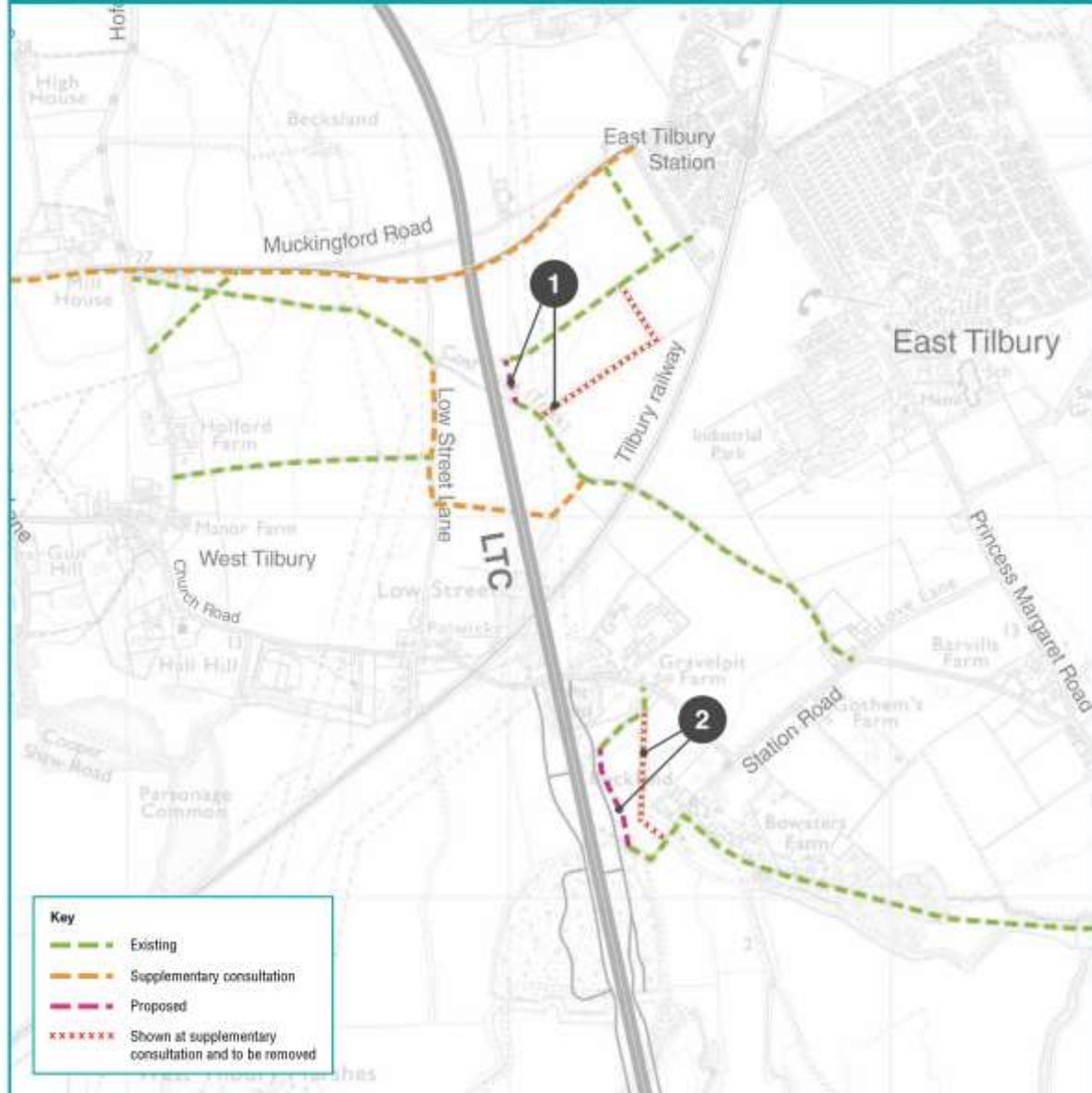
- 10 A noise barrier, approximately two metres high by less than 200 metres long.
- 11 A noise barrier, approximately one metre high by less than 700 metres long.
- 12 A noise barrier, approximately one metre high by less than 700 metres long.
- 13 A noise barrier, approximately two metres high by less than 250 metres long.



**Key**

- Lower Thames Crossing (LTC)
- Motorway/main road
- Local connection
- Railway line
- Area of Outstanding Natural Beauty (AONB)
- Main river
- Road Risk Area
- Sites of Special Scientific Interest (SSSI)
- Ancient Woodland
- Community Forest
- Proposed water farm
- To be reworked
- Current Traveler site
- Proposed Traveler site within area
- Scheduled monument
- Electricity working area
- Proposed electricity cables
- Proposed overhead electricity cables with pylons
- Water working area
- Proposed water supply
- Sewer working area
- Proposed sewer divertor
- Gas working area
- Proposed gas
- Bulk utility working area
- Proposed rail-safety
- Sub-station/traveler station

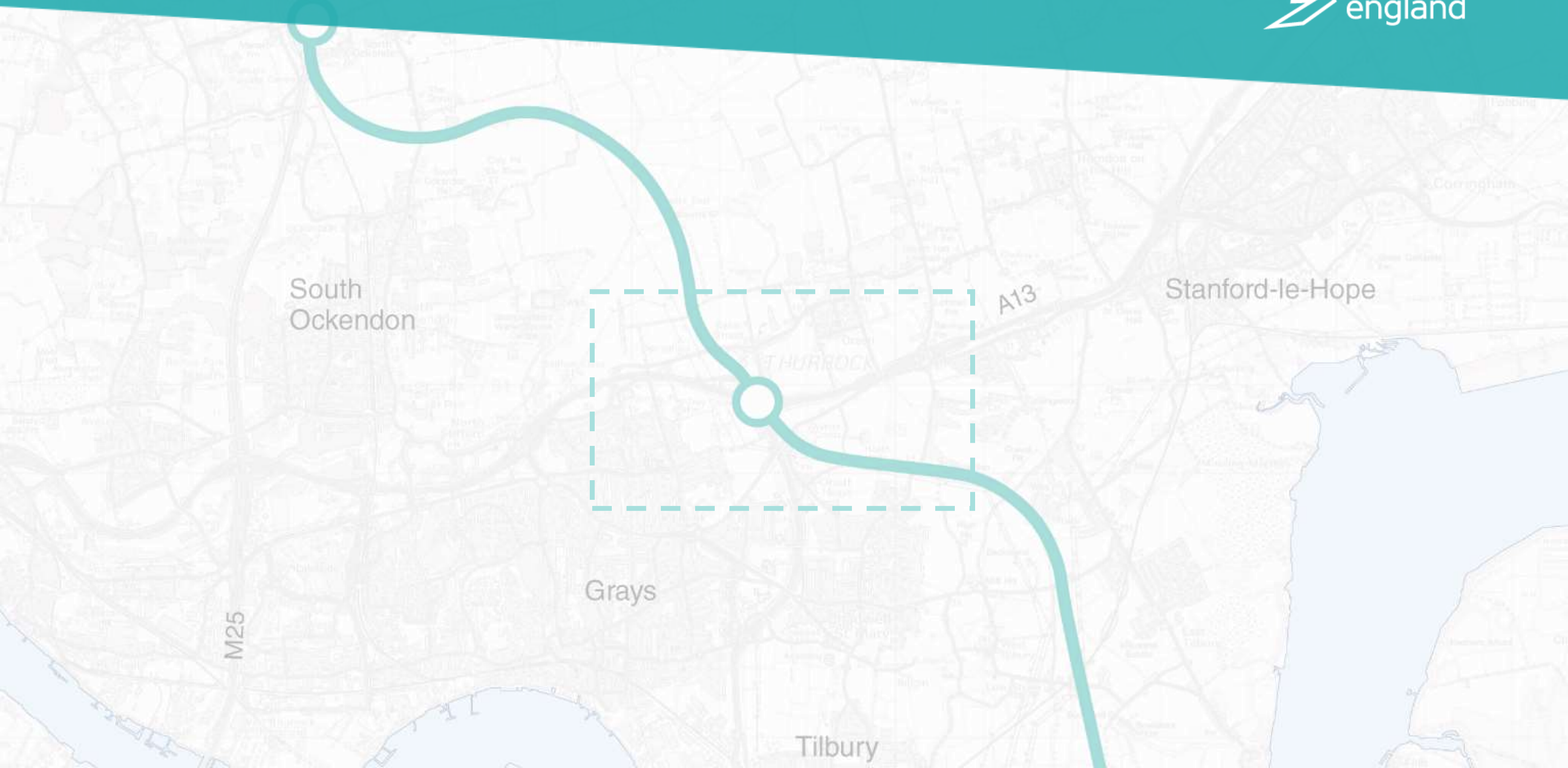
## Routes for walkers, cyclists and horse riders

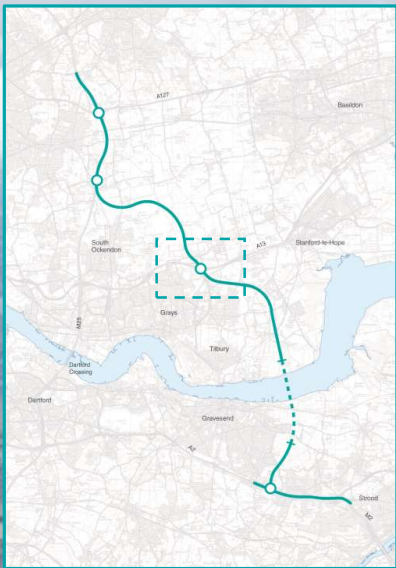


1 Realignment of footpath 61.

2 Realignment of footpath 200.

# A13/A1089 and Orsett Cock junction refinements





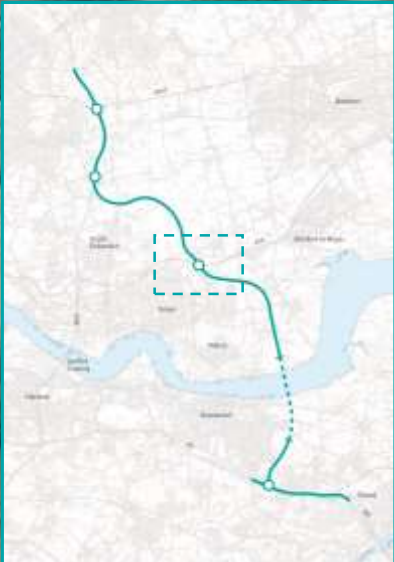
# A13/A1089 | Supplementary consultation





# A13/A1089 | Design refinement consultation





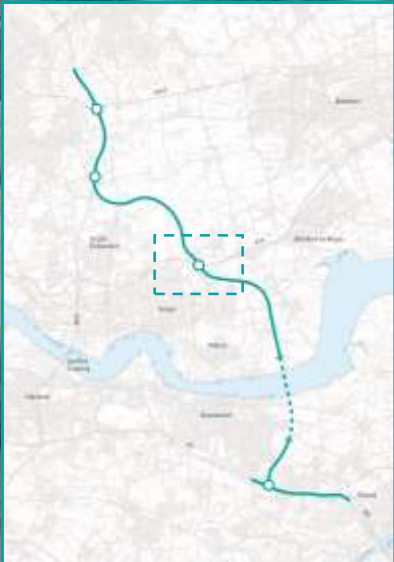
**Travellers site**

1 New area of land adjacent to its current location, access off Gammonfields Way

**Design**

2 Changes to A13 merge layouts

Removal of false cutting between A128 Brentwood Road and Hoford Road due to watercourse



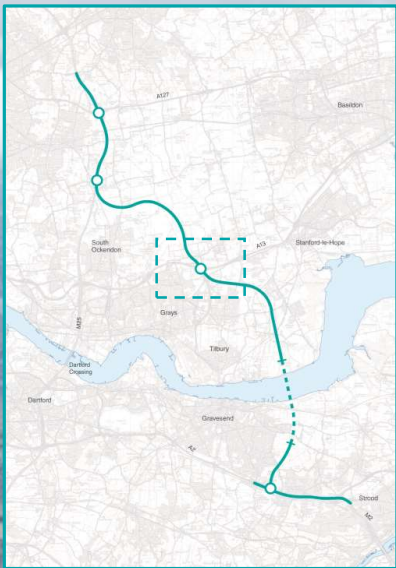
### **Utilities**

Seven small substations in various areas near the junction

### **Walkers, cyclists and horse riders**

Removal of a previously proposed shared path under A13





2

1

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### Woodland

Two separate woodland areas near Baker Street to be accessible to the public

### Noise barriers

Three noise barriers, up to 550m long and 1-2m high have been added to the A13/A1089 area

A noise barrier, less than 150m long and 6m high, near Brentwood Road



# Orsett Cock | Supplementary consultation



# Orsett Cock | Design refinement consultation





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### Noise barriers

- 1 Two noise barriers approximately 5m high and less than 500m long

### Utilities

- 2 Permanent fenced gas compound at Stanford Road, approximately 35m x 35m



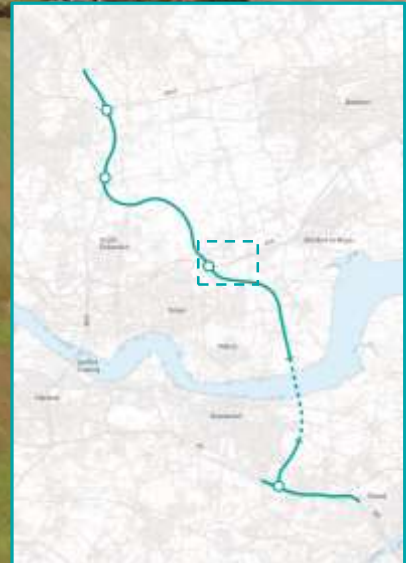
## Orsett Showground

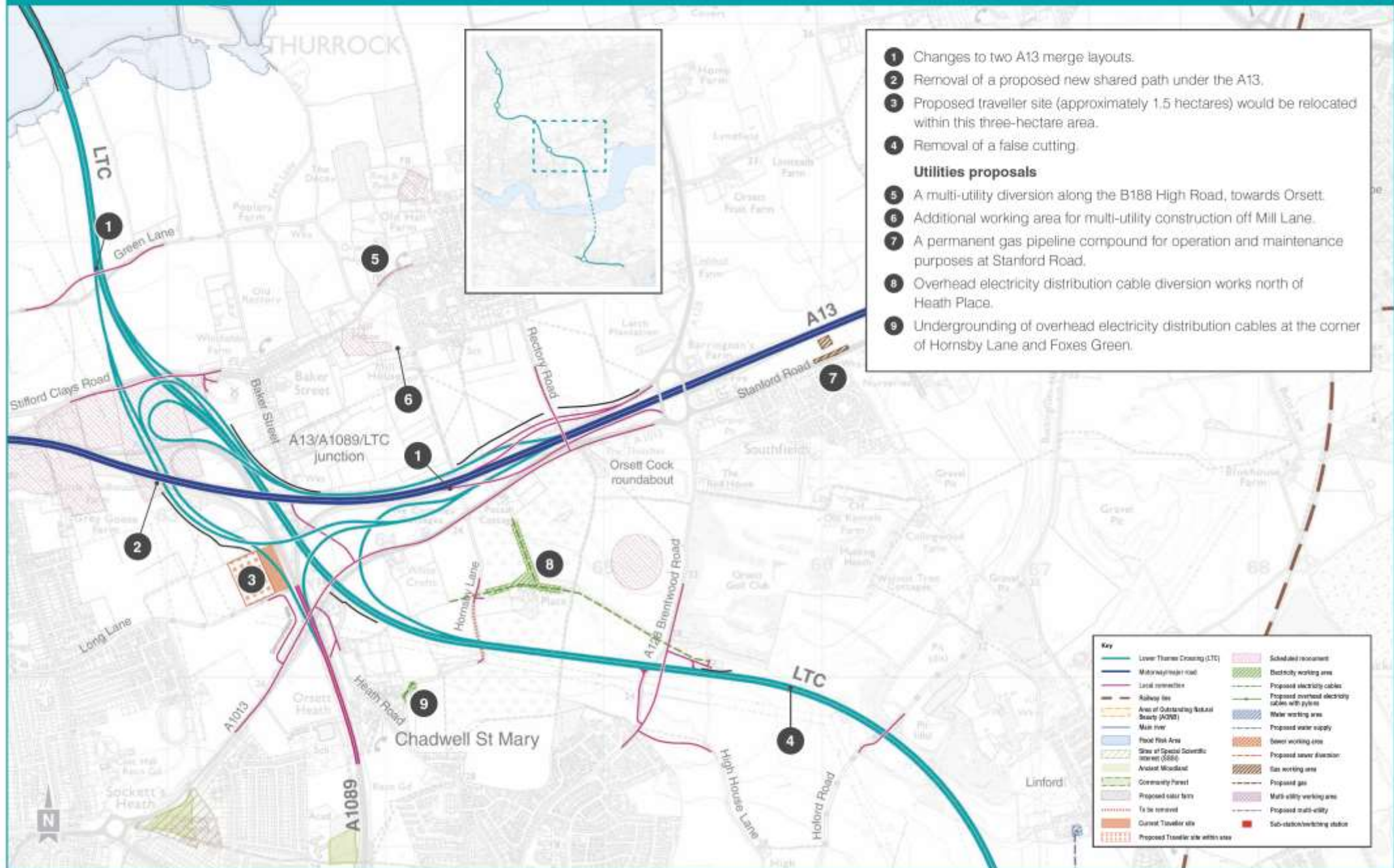
1 Part of this site is required permanently for construction of link roads to Orsett Cock junction and the A13

We propose to move a gas pipeline and permanent rights required over a limited corridor of land within the Showground to operate and maintain the pipeline

A replacement site has been proposed adjacent to existing showground

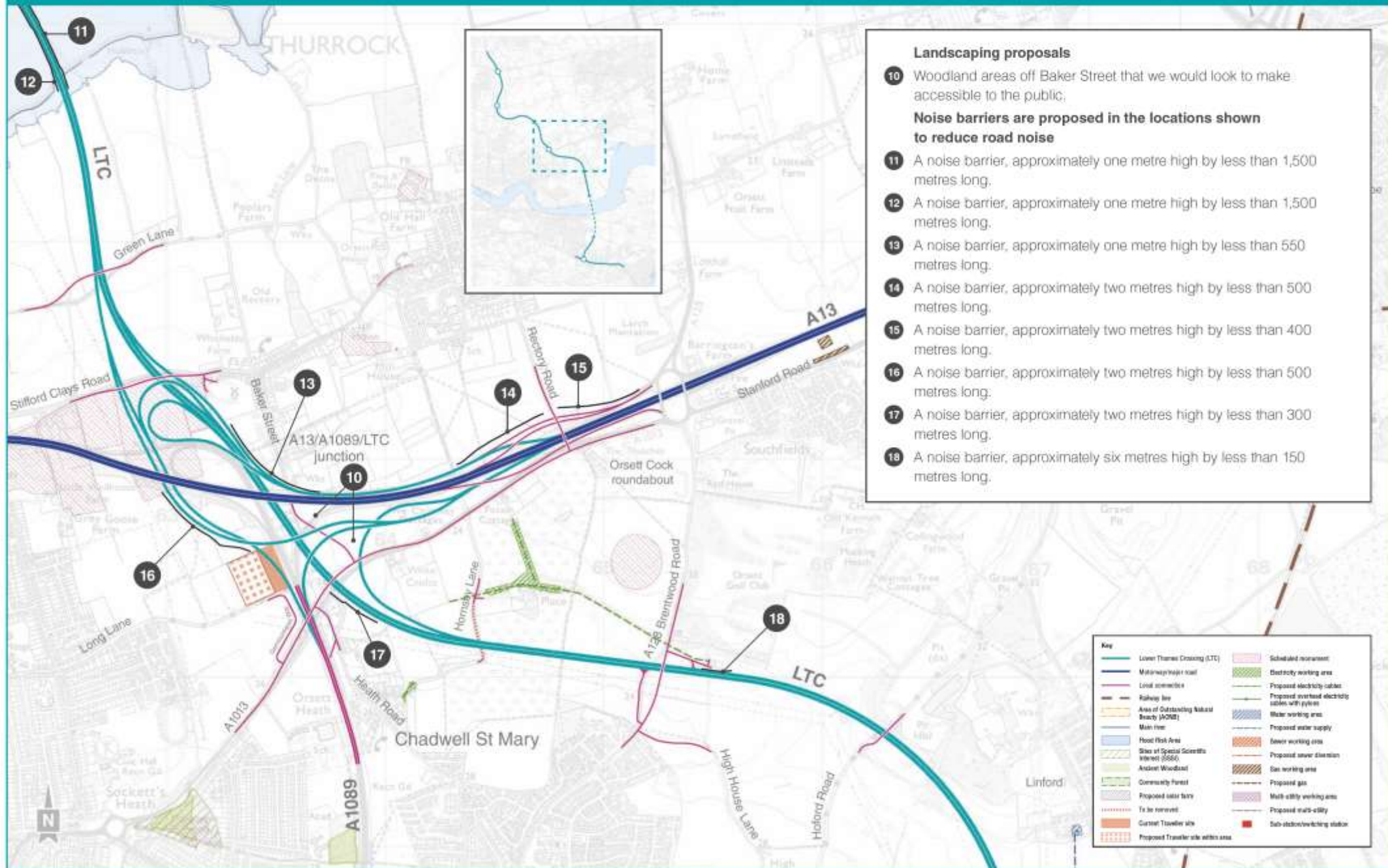
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- 1 Changes to two A13 merge layouts.
  - 2 Removal of a proposed new shared path under the A13.
  - 3 Proposed traveller site (approximately 1.5 hectares) would be relocated within this three-hectare area.
  - 4 Removal of a false cutting.
- Utilities proposals**
- 5 A multi-utility diversion along the B188 High Road, towards Orsett.
  - 6 Additional working area for multi-utility construction off Mill Lane.
  - 7 A permanent gas pipeline compound for operation and maintenance purposes at Stanford Road.
  - 8 Overhead electricity distribution cable diversion works north of Heath Place.
  - 9 Undergrounding of overhead electricity distribution cables at the corner of Hornsby Lane and Foxes Green.

Key	
	Lower Thames Crossing (LTC)
	Motorway/major road
	Local road
	Railway line
	Area of Outstanding Natural Beauty (AONB)
	Main river
	Flood Risk Area
	Site of Special Scientific Interest (SSSI)
	Arable Woodland
	Commonly Forest
	Proposed solar farm
	To be removed
	Current Traveller site
	Proposed Traveller site within area
	Scheduled monument
	Electricity working area
	Proposed electricity cables
	Proposed overhead electricity cables with pylons
	Water working area
	Proposed water supply
	Beer working area
	Proposed sewer diversion
	Gas working area
	Proposed gas
	Multi-utility working area
	Proposed multi-utility
	Sub-station/working station



**Landscaping proposals**

10 Woodland areas off Baker Street that we would look to make accessible to the public;

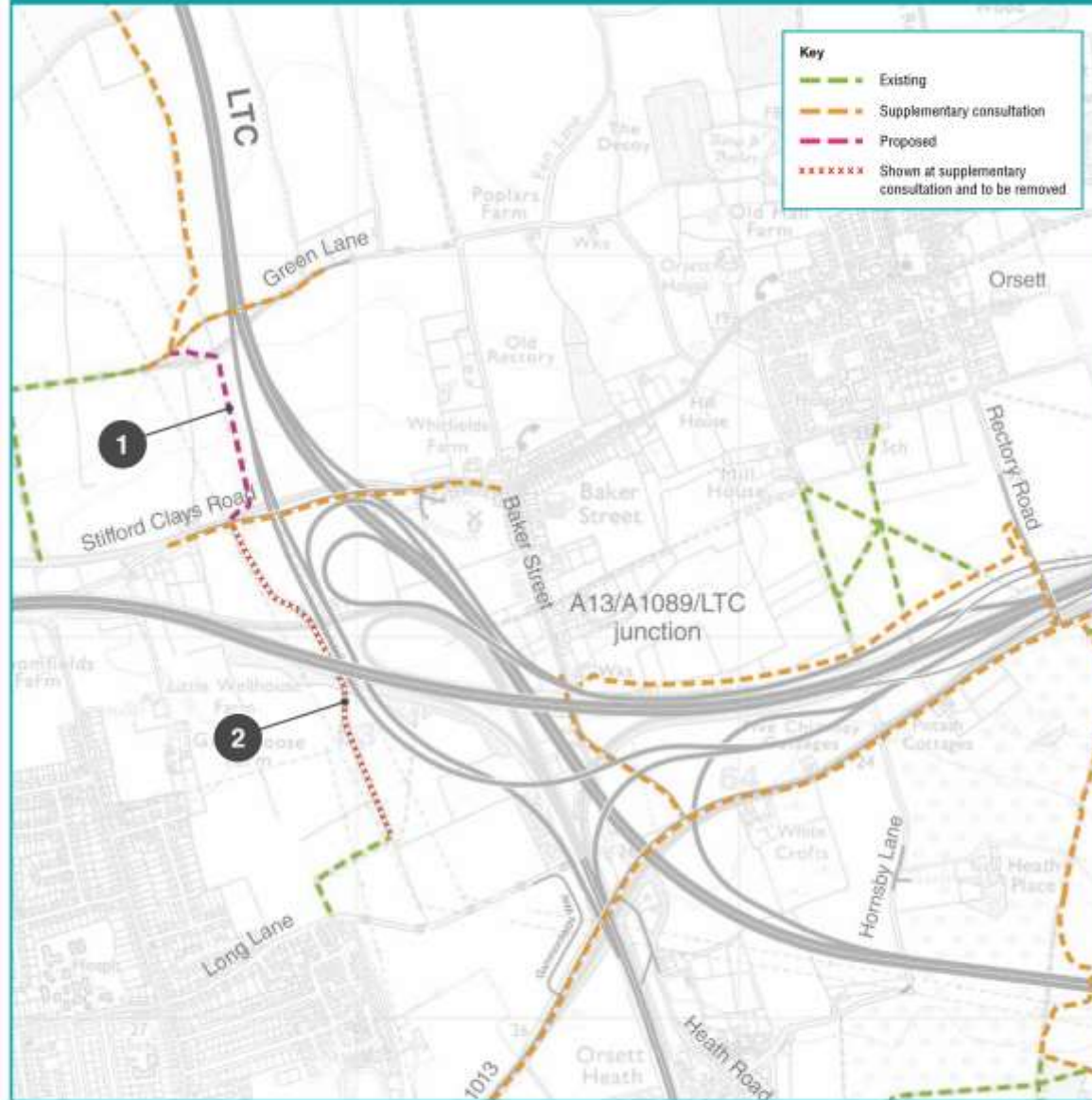
**Noise barriers are proposed in the locations shown to reduce road noise**

- 11 A noise barrier, approximately one metre high by less than 1,500 metres long.
- 12 A noise barrier, approximately one metre high by less than 1,500 metres long.
- 13 A noise barrier, approximately one metre high by less than 550 metres long.
- 14 A noise barrier, approximately two metres high by less than 500 metres long.
- 15 A noise barrier, approximately two metres high by less than 400 metres long.
- 16 A noise barrier, approximately two metres high by less than 500 metres long.
- 17 A noise barrier, approximately two metres high by less than 300 metres long.
- 18 A noise barrier, approximately six metres high by less than 150 metres long.

**Key**

	Lower Thames Crossing (LTC)		Scheduled monument
	Main railway/motor road		Electricity working area
	Local roads		Proposed electricity cables
	Railway line		Proposed overhead electricity cables with pylons
	Area of Outstanding Natural Beauty (AONB)		Water working area
	Main river		Proposed water supply
	Flood Risk Area		Sewer working area
	Site of Special Scientific Interest (SSSI)		Proposed sewer diversion
	Ancient Woodland		Gas working area
	Connectivity Forest		Proposed gas
	Proposed water fern		Multi-city working area
	To be removed		Proposed multi-city
	Current Transfer site		Sub-station/working station
	Proposed Transfer site within area		

## Routes for walkers, cyclists and horse riders

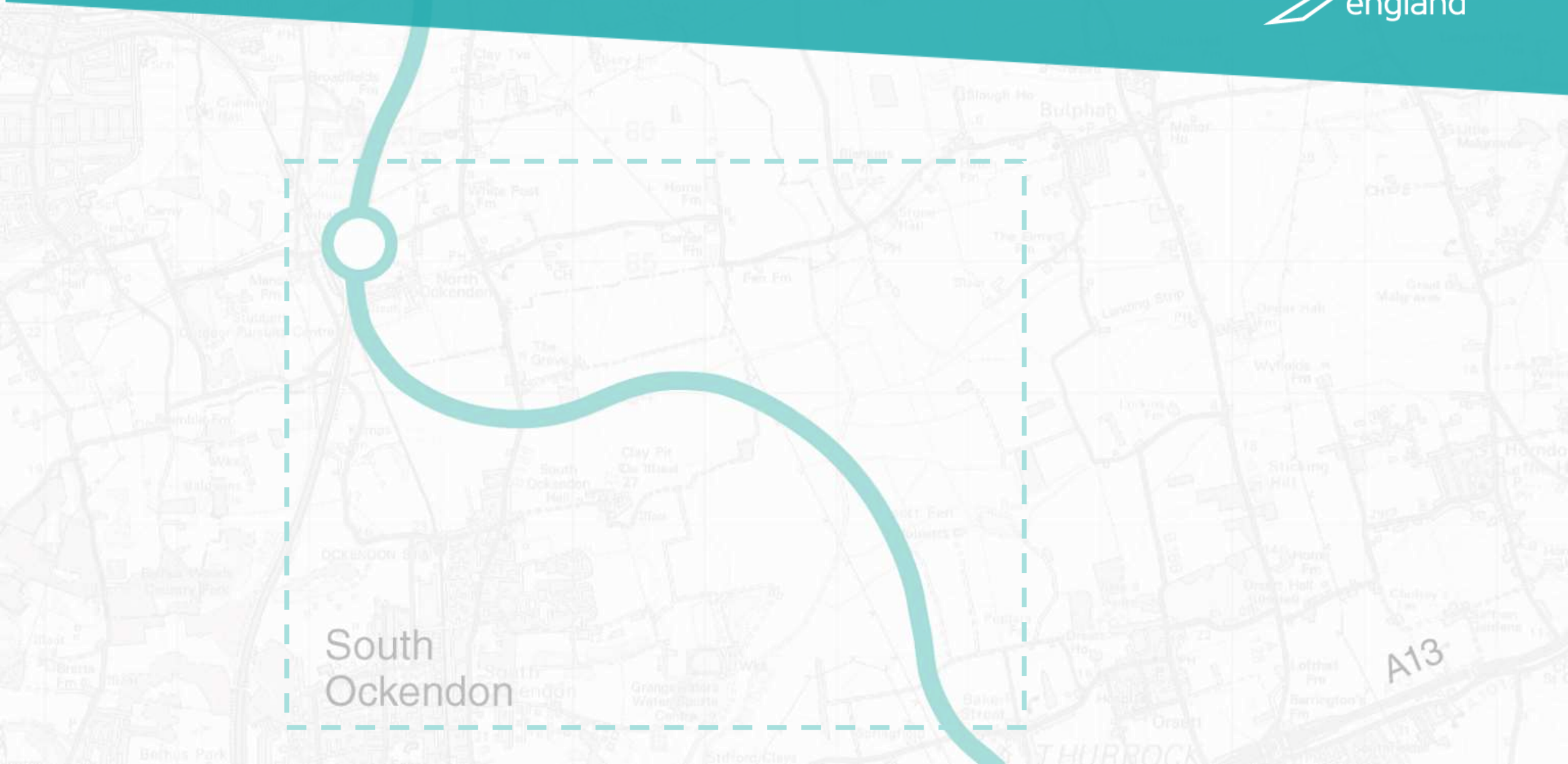


**1** Shared path amended to avoid impacting farmland.

**2** Removal of proposed shared path under the A13.

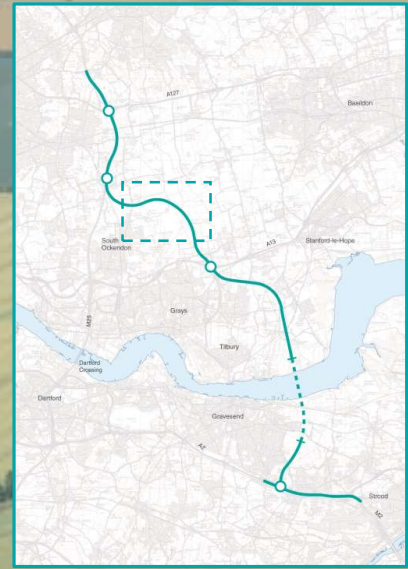


# Mardyke and LTC/M25 junction refinements



South  
Ockendon

A13



**Mardyke as presented at supplementary consultation**



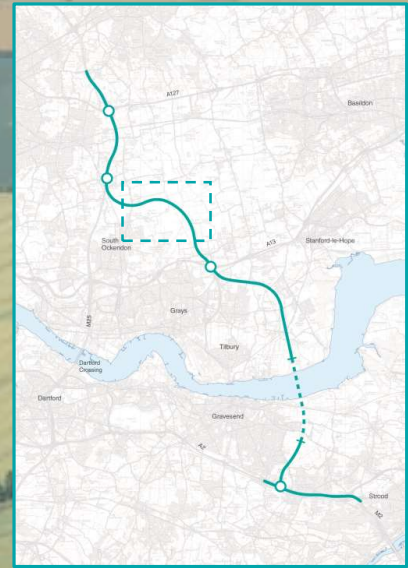
## Noise barriers

1 1,500m long and 1m high noise barriers to run along sections of viaducts and embankment through the Mardyke area

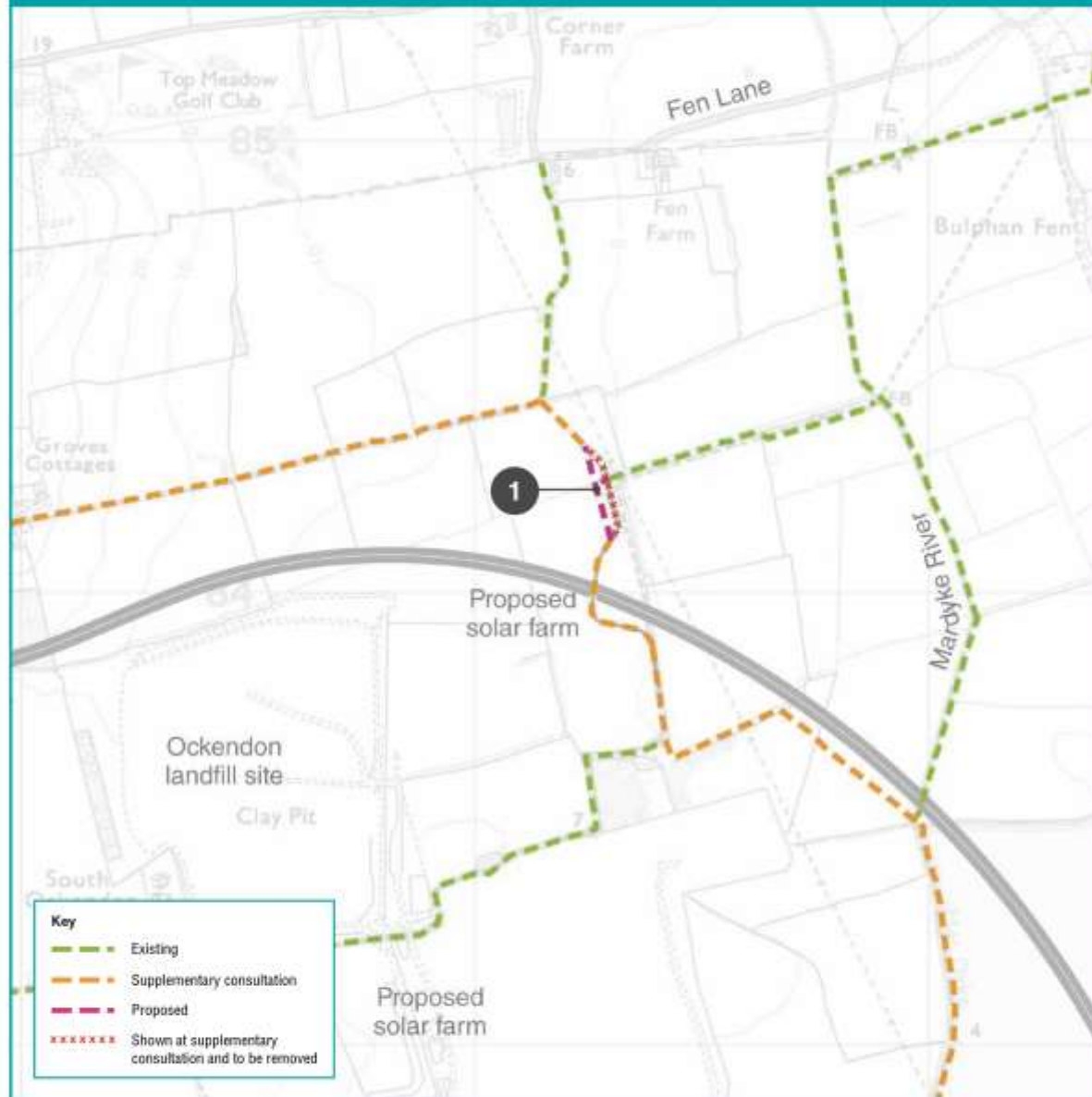
## Utilities

Works required in vicinity of Mardyke to create access off Green Lane for future National Grid maintenance works

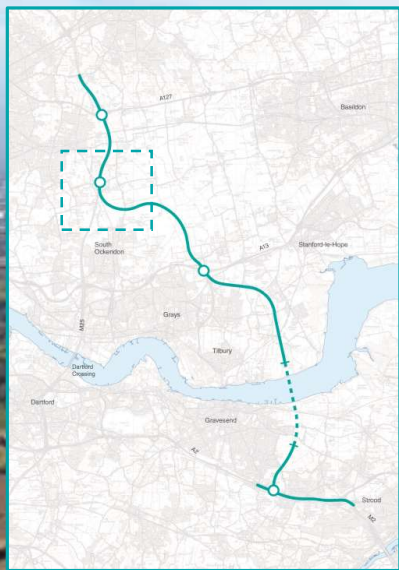
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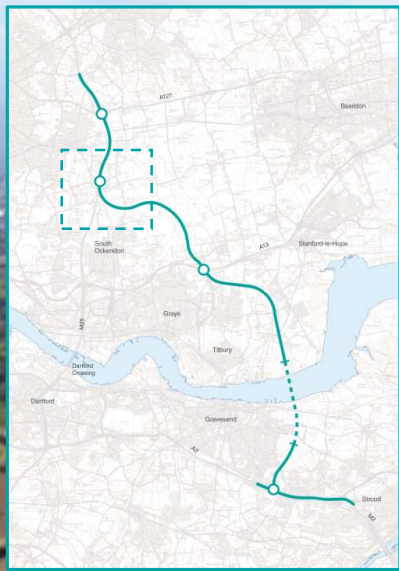
## Routes for walkers, cyclists and horse riders



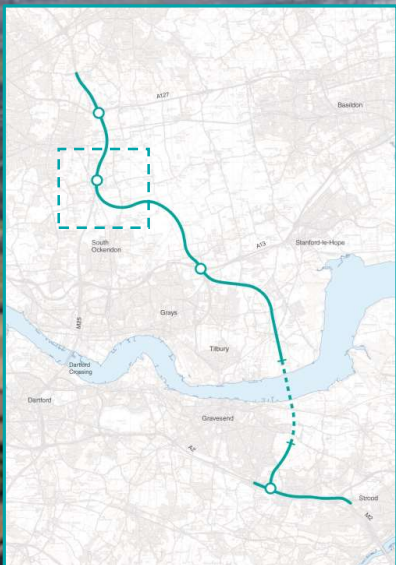
1 Realignment of footpath 136.



# LTC/M25 | Supplementary consultation



# LTC/M25 | Design refinement consultation

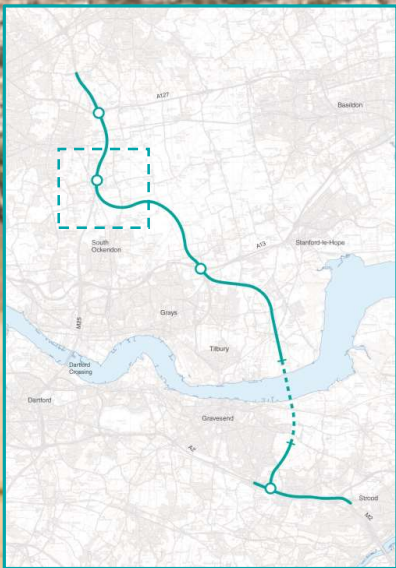


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**1 Noise barriers**  
Noise barrier up to 200m long and 2m high

**Woodland planting**  
**2** Reduced woodland planting in The Wilderness as a result of a watercourse diversion



1

2

### **Thames Chase Forest Centre (TCFC)**

1 Proposed new maintenance access track and a multi-utilities diversion North of TCFC. These are located in the same area to limit reduction in woodland compensation

2 Proposed footbridge over the M25 reconnecting the TCFC to the wider environment

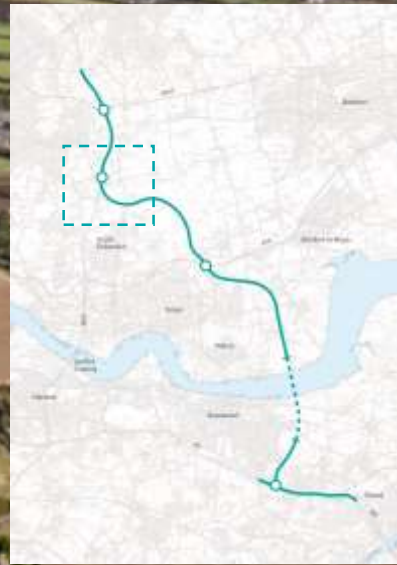


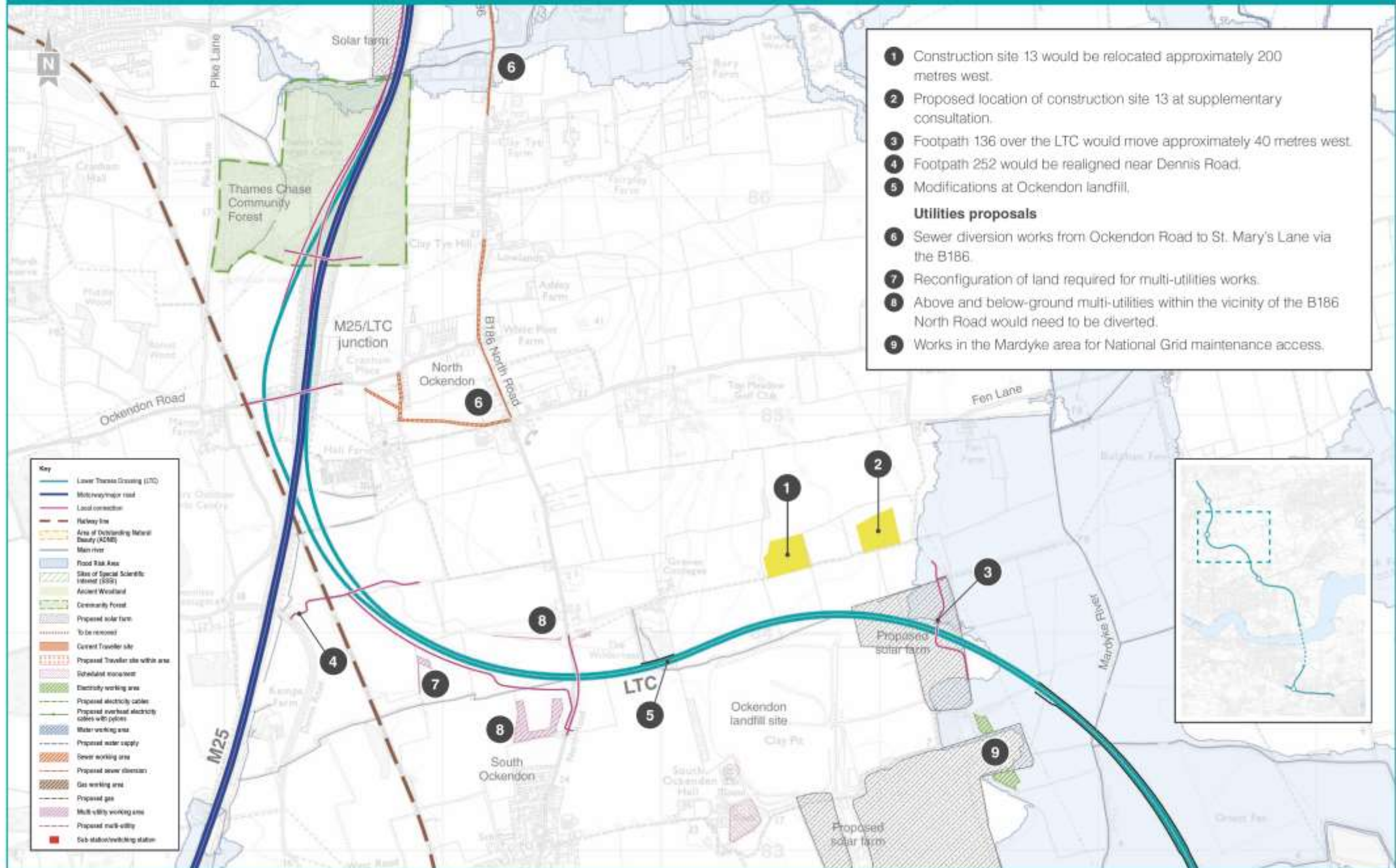
## Utilities

1 Sewer diversion works from Ockendon Road to St. Mary's Lane via the B186

Overhead electricity cable diversion works around B186 North Road

1





- 1 Construction site 13 would be relocated approximately 200 metres west.
  - 2 Proposed location of construction site 13 at supplementary consultation.
  - 3 Footpath 136 over the LTC would move approximately 40 metres west.
  - 4 Footpath 252 would be realigned near Dennis Road.
  - 5 Modifications at Ockendon landfill.
- Utilities proposals**
- 6 Sewer diversion works from Ockendon Road to St. Mary's Lane via the B186.
  - 7 Reconfiguration of land required for multi-utilities works.
  - 8 Above and below-ground multi-utilities within the vicinity of the B186 North Road would need to be diverted.
  - 9 Works in the Mardyke area for National Grid maintenance access.

**Key**

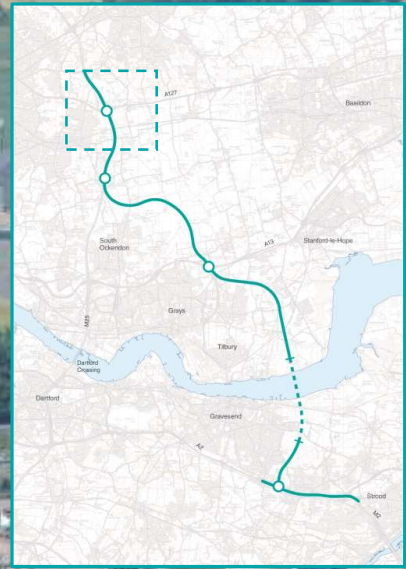
- Lower Thames Crossing (LTC)
- Motorway/major road
- Local road
- Railway line
- Area of Outstanding Natural Beauty (AONB)
- Main river
- Flood Risk Area
- Site of Special Scientific Interest (SSSI)
- Ancient Woodland
- Community Forest
- Proposed solar farm
- To be removed
- Current Traveller site
- Proposed Traveller site within area
- Scheduled monument
- Electricity working area
- Proposed electricity cables
- Proposed overhead electricity cables with poles
- Water working area
- Proposed water supply
- Sewer working area
- Proposed sewer diversions
- Gas working area
- Proposed gas
- Multi-utility working area
- Proposed multi-utility
- Sub-station/travelling station





# M25 junction 29 refinements





# M25 junction 29

As presented at supplementary consultation



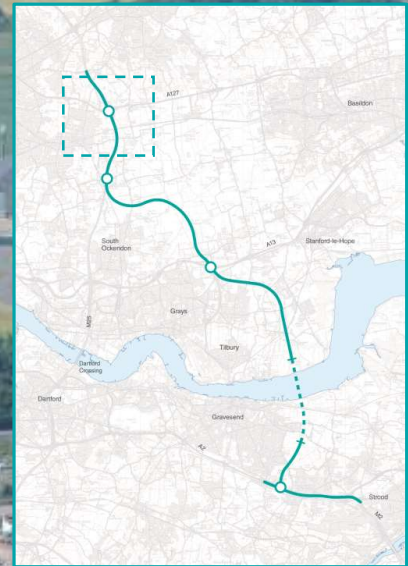
## Footbridge

Proposed new footbridge over the A127 to link existing footpaths

## Utilities

Gas diversion works near Folkes Lane

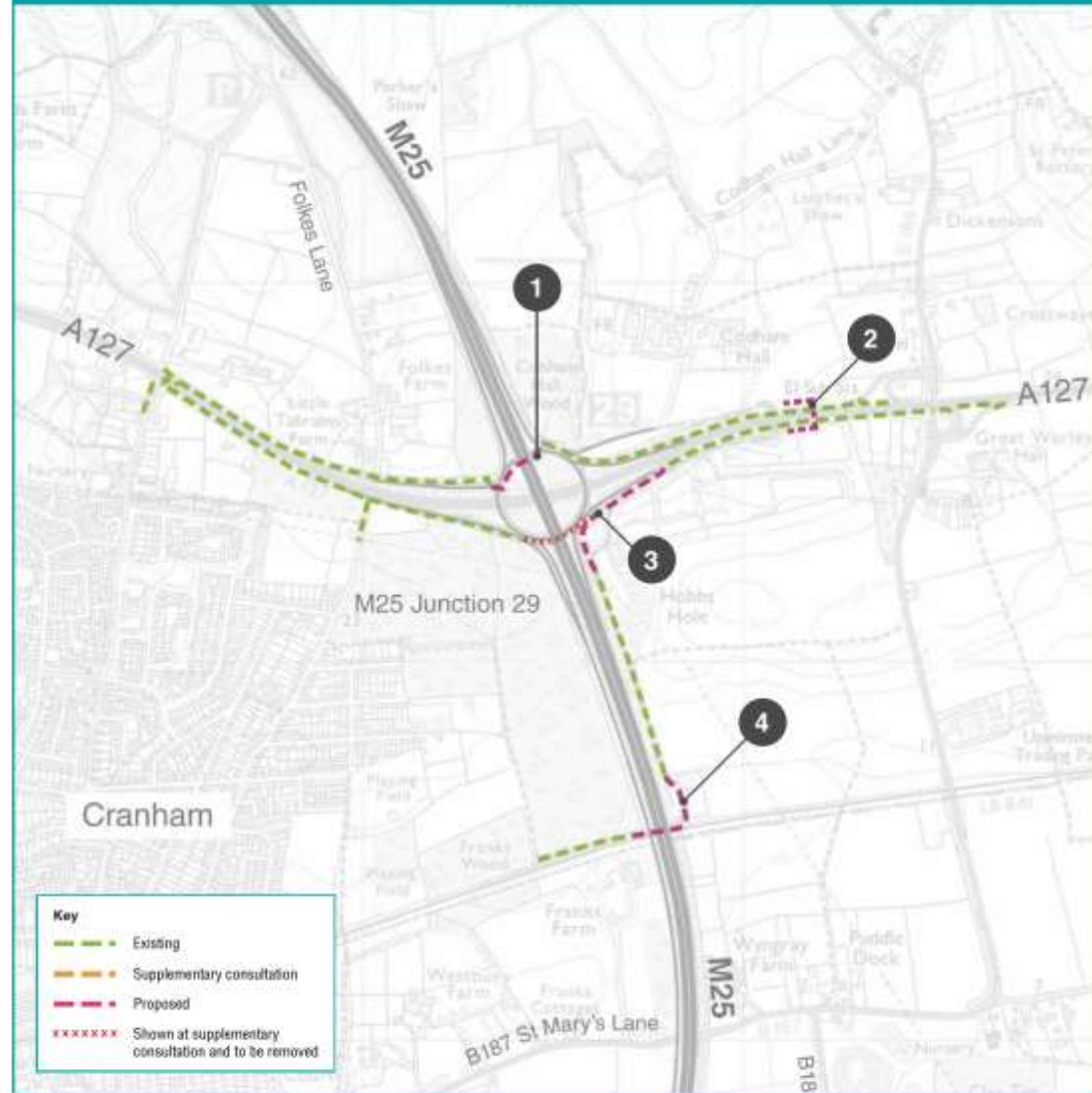
Moving overhead electricity cables underground to avoid the LTC route





- 1 A new footbridge over the A127 to link existing footpaths. See the diagram on the next page.
- Utilities proposals**
- 2 Additional land for gas diversion works near Folkes Lane.
  - 3 Additional land for maintenance of the overhead electricity transmission cables south-west of M25 junction 29.
  - 4 Additional land off the B186 for multi-utility works near junction 29 of the M25.
  - 5 Overhead electricity distribution cables repositioned underground near the B186 Warley Street.
  - 6 Additional land for underground electricity cable diversion works near Franks Farm.
  - 7 Sewer diversion works from Ockendon Road to St. Mary's Lane via the B186.

## Routes for walkers, cyclists and horse riders



- 1 A new route and signalised crossings.
- 2 A new footbridge over the A127.
- 3 Realigned bridleway adjacent to the A127 and M25 junction.
- 4 Bridleway amended to accommodate shared use with maintenance vehicles.



# About the Design refinement consultation

- 14 July – 12 August
- How to find out more:
  - Dedicated consultation website and online exhibition
  - Moderated webinar Q&A sessions
  - Telephone surgery
  - Consultation materials available online and by post
- How to have your say:
  - Visit [lowerthamescrossing.co.uk/design-consultation](https://lowerthamescrossing.co.uk/design-consultation)
  - By email – [LTC.Consultation@traverse.ltd](mailto:LTC.Consultation@traverse.ltd)
  - By telephone – **0300 123 5000**
  - By post using FREEPOST LTC Consultation



# Online exhibition

- Online exhibition space available throughout consultation period
- Online exhibition space will feature:
  - Interactive map
  - Exhibition boards
  - Explainer videos
  - Access to all consultation materials
  - A link to the online response form



# Telephone services

- Telephone surgery service
  - Scheduled call backs available throughout consultation period
- Telephone materials request service
  - Consultees can call us to request consultation materials
- Telephone consultation response service
  - Consultees can speak with a member of the project team to submit a response by phone
- All services available by contacting the Highways England Customer Contact Centre:  
**0300 123 5000**



# Moderated webinars

- Live webinars
  - Attendees will have opportunity to submit questions for our technical experts to answer
- Live events will be promoted across the project and stakeholder social media accounts





# Consultation promotion

- Consultation promoted via:
  - Leaflet drops within 2km radius of project – Approx. 135,000
  - Print advertising
  - Facebook advertising – Estimated reach of 464,000 impressions
  - Email campaign – Approx. 44,000 emails
  - Media engagement





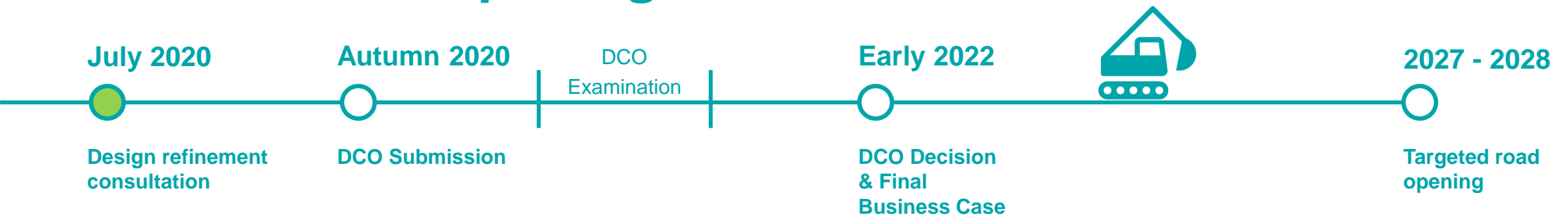
# Stakeholder engagement

- A comprehensive programme of engagement with stakeholders, including briefings, calls and detailed information for:
  - Community groups and parish councils
  - Councils and elected officials
  - Land and property owners
  - Those living within or close to our development boundary
  - Environmental groups
  - Statutory consultees and third parties (such as emergency services and utilities providers)

# Progress so far



# Route to road opening



# 2020 Supplementary consultation



**74,000**  
visitors to  
consultation  
website



almost  
**6,000**  
responses

consultation extended by  
**2 weeks**  
due to COVID-19



**11,000** engagements  
on Facebook



**17** events  
completed  
**2** telephone  
surgeries

almost  
**4,000**  
people attended events



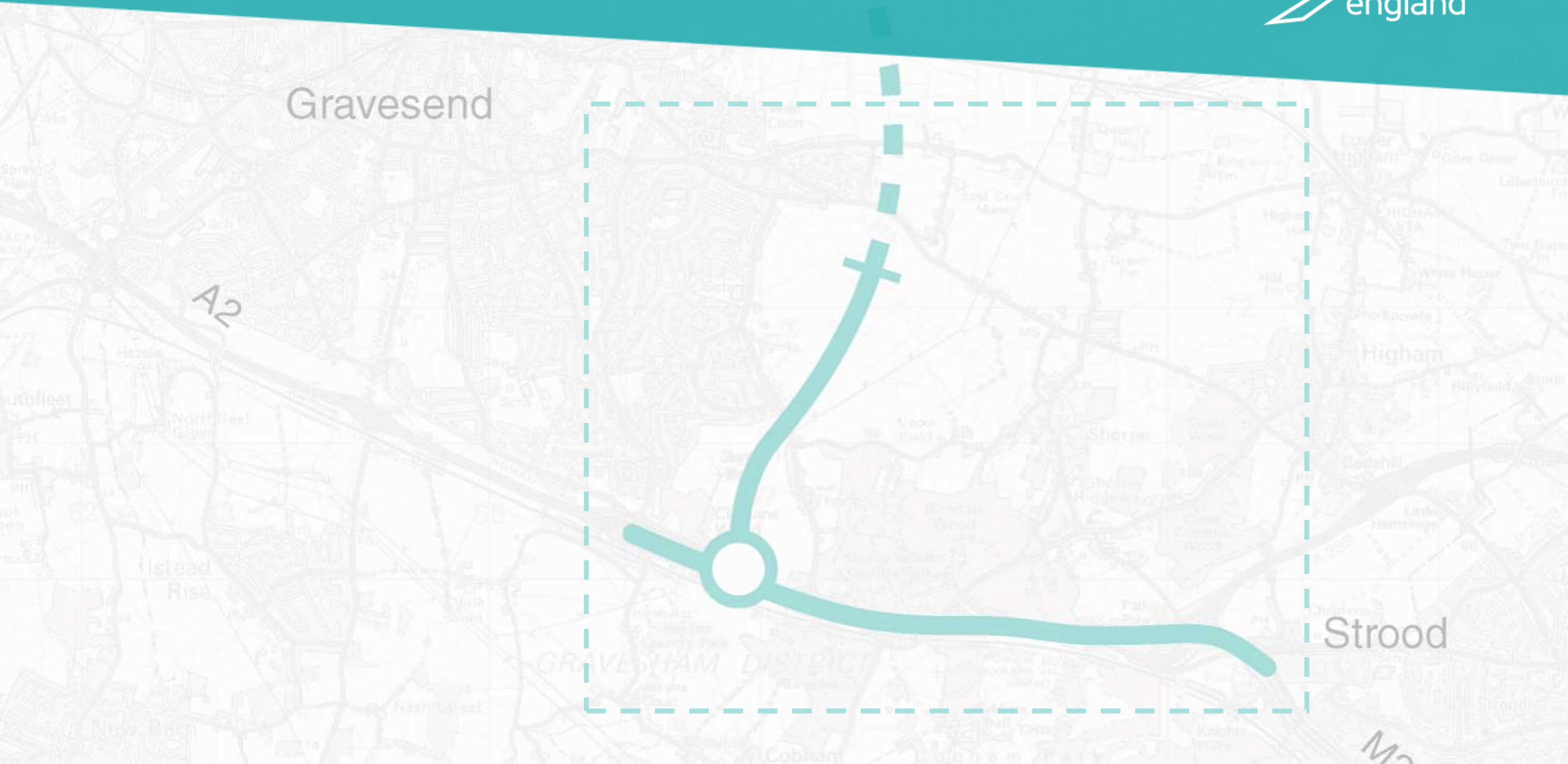
**44,000** emails to  
subscribers



# Q&A



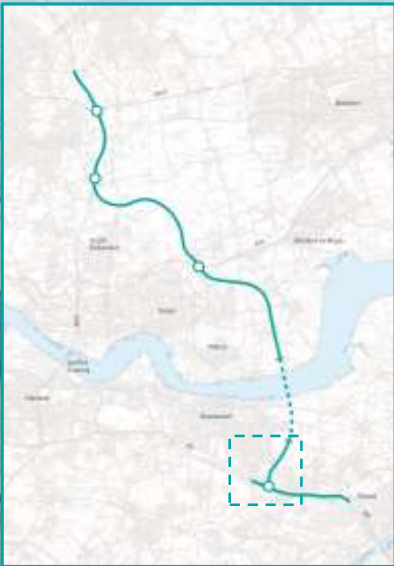
# Refinements south of the river





**M2/A2 | Supplementary consultation**





# M2/A2 | Design refinement consultation





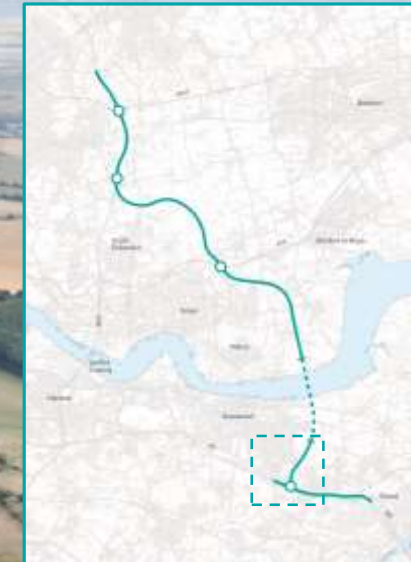
### Noise barriers

1 Four noise barriers, up to 600m long and 2m high

### Design

Thong Lane green bridge over A2 moving approximately 5m west

Green space will be amalgamated to improve species habitat, the landscape and ecological connectivity





### **Ancient woodland**

Proposed ancient woodland compensation between Claylane Wood and Shorne Woods has been refined

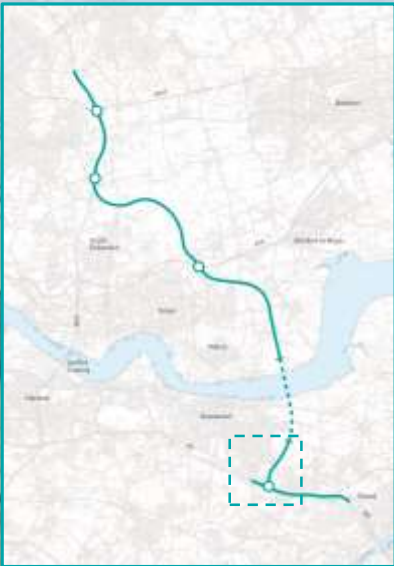
More detail on ancient woodland compensation between Brewers Wood and Great Crabbles Wood



### **Ancient woodland**

Reduction in proposed ancient woodland compensation south of HS1 due to cultural heritage building, to maintain open space and in response to fewer utility works required

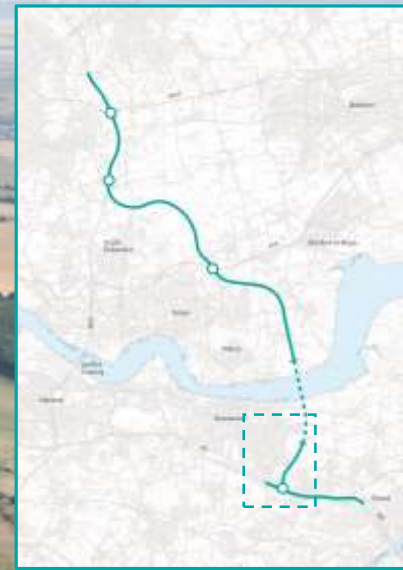
Redesign planting layout of ancient woodland compensation north of Shorne Woods to better reflect the landscape and accommodate proposed utilities works



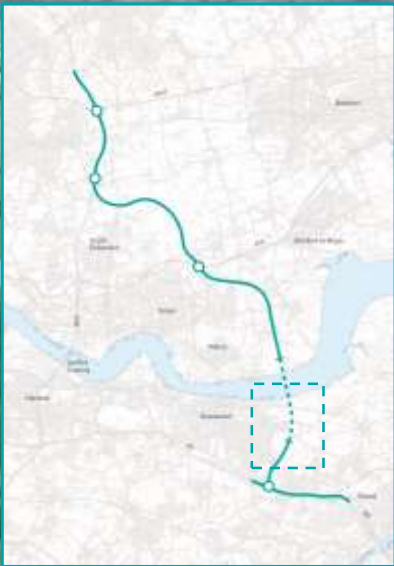
## Utilities

New 50m x 15m electricity switching station near the Thong Lane-M2/A2 green bridge

Refined utility diversions around the A2 area and reduced impacts on environmentally sensitive locations

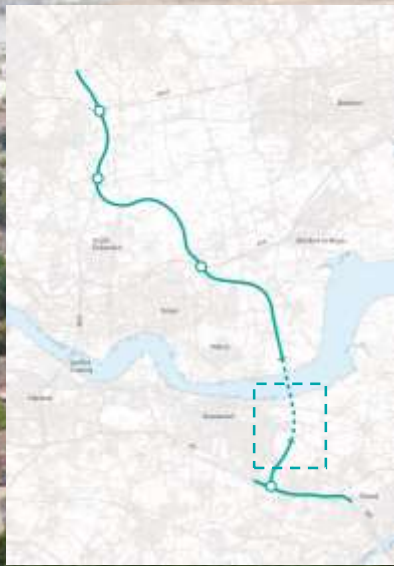






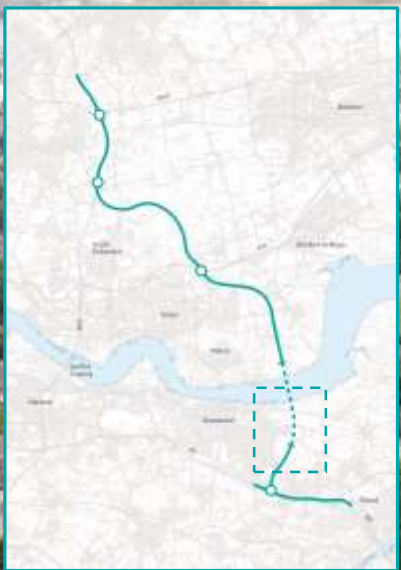
# Thong Lane and southern tunnel entrance Design refinement consultation





## Design

- 1 Thong Lane green bridge moving 20m north, resulting in enhanced green space on the bridge
- 2 LTC alignment raised 2-3m south of Thong Lane green bridge over LTC



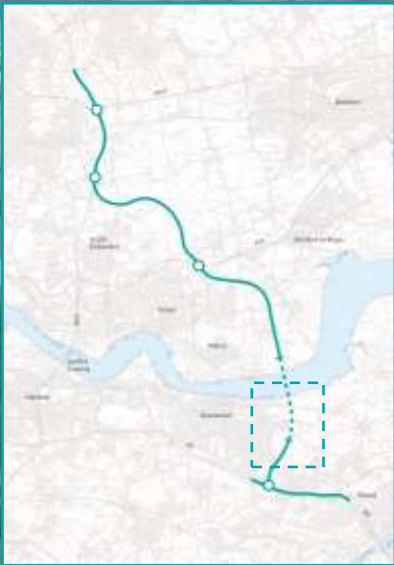
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### New Parking area

- 1 New informal parking area proposed for Thong Lane green bridge/LTC area

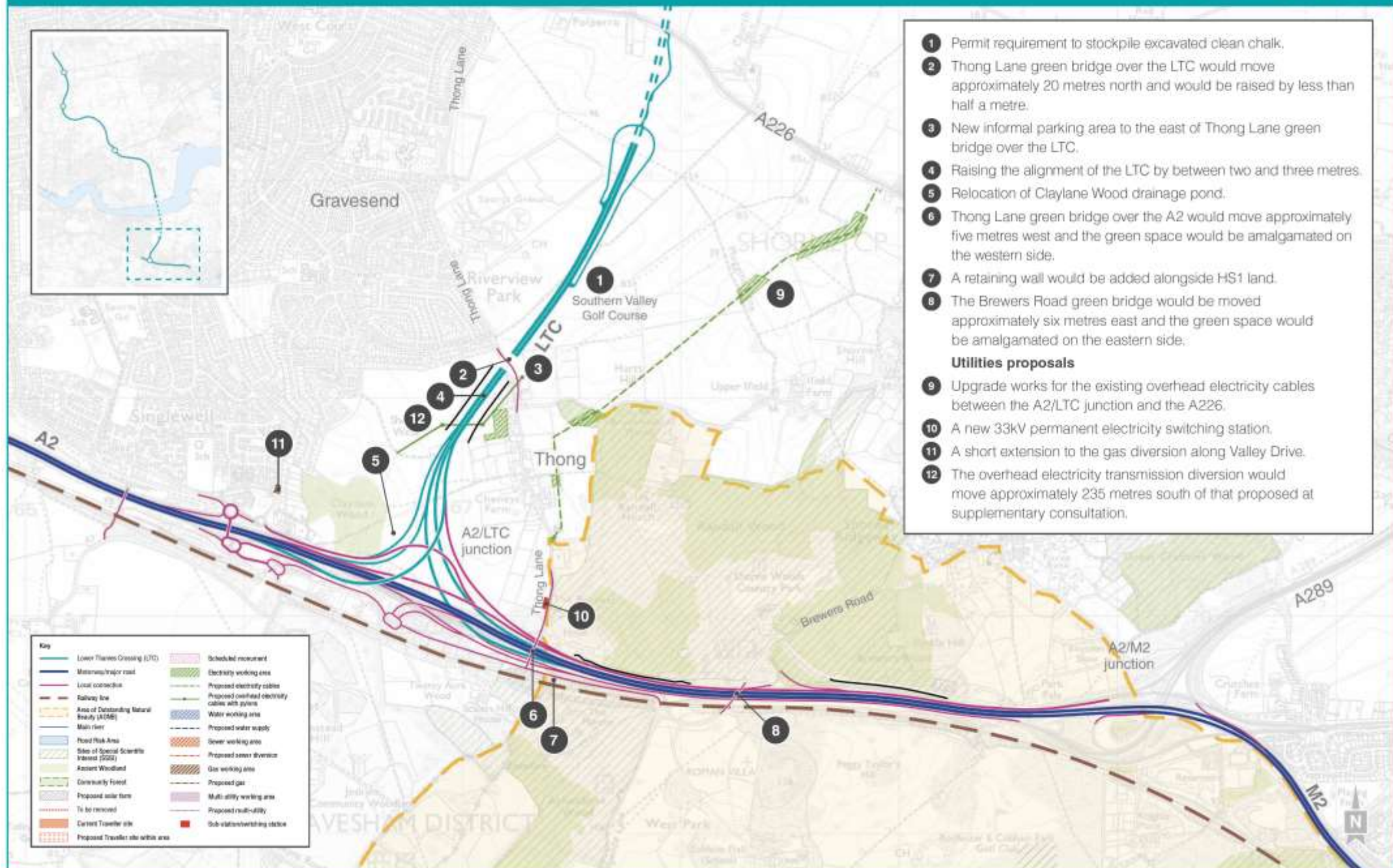
Parking area will help ease current parking issues along Brewers Road and Shorne Woods Country Park Visitor Centre

1



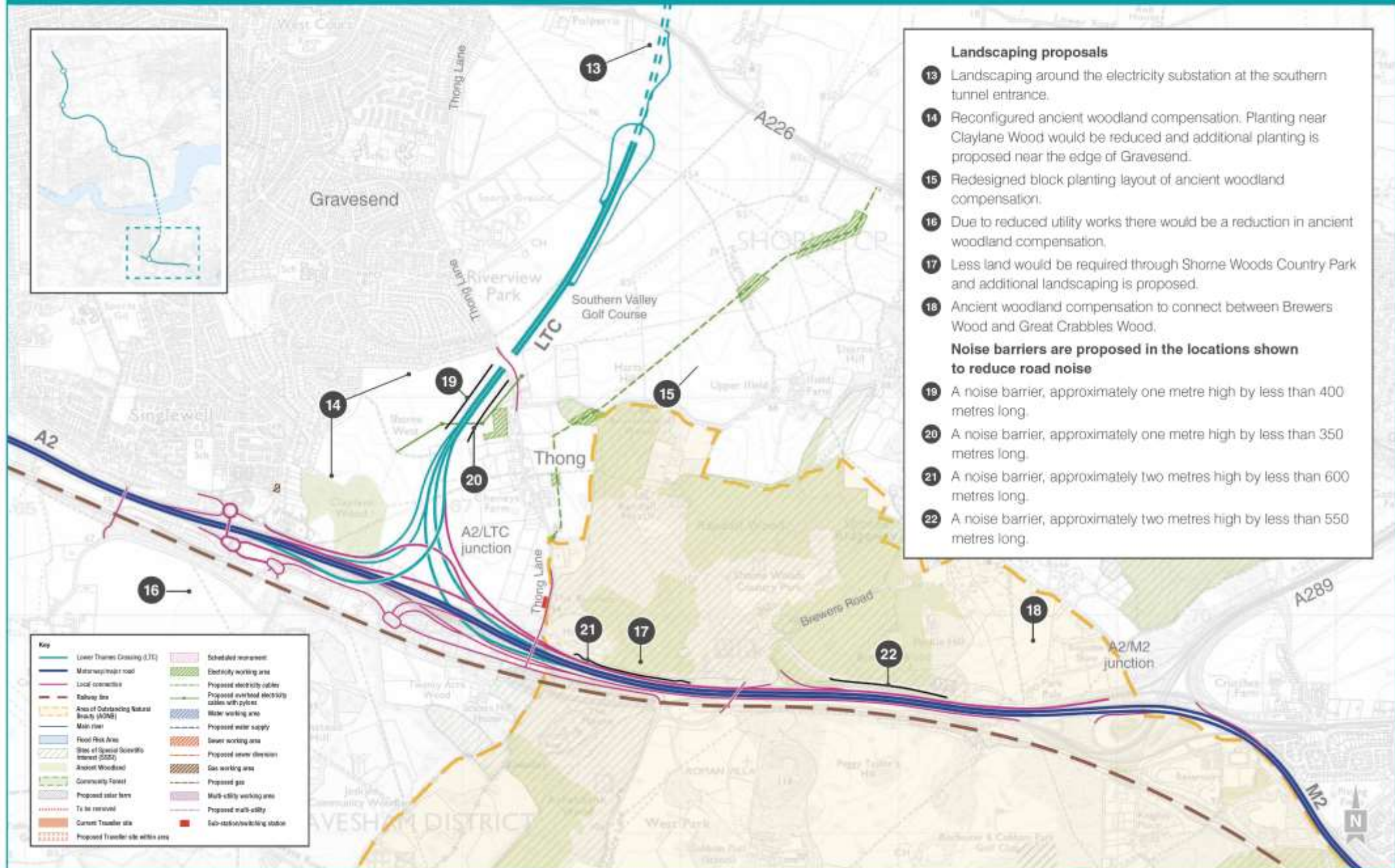
## Utilities

1 Landscaping proposals around the substation help to integrate the infrastructure into the existing landscape



- 1 Permit requirement to stockpile excavated clean chalk.
  - 2 Thong Lane green bridge over the LTC would move approximately 20 metres north and would be raised by less than half a metre.
  - 3 New informal parking area to the east of Thong Lane green bridge over the LTC.
  - 4 Raising the alignment of the LTC by between two and three metres.
  - 5 Relocation of Claylane Wood drainage pond.
  - 6 Thong Lane green bridge over the A2 would move approximately five metres west and the green space would be amalgamated on the western side.
  - 7 A retaining wall would be added alongside HS1 land.
  - 8 The Brewers Road green bridge would be moved approximately six metres east and the green space would be amalgamated on the eastern side.
- Utilities proposals**
- 9 Upgrade works for the existing overhead electricity cables between the A2/LTC junction and the A226.
  - 10 A new 33kV permanent electricity switching station.
  - 11 A short extension to the gas diversion along Valley Drive.
  - 12 The overhead electricity transmission diversion would move approximately 235 metres south of that proposed at supplementary consultation.

Key	
	Lower Thames Crossing (LTC)
	Motorway/trunk road
	Local road
	Railway line
	Area of Outstanding Natural Beauty (AONB)
	Main river
	Flood Risk Area
	Site of Special Scientific Interest (SSSI)
	Assent Woodland
	Greenbelt Forest
	Proposed solar farm
	To be removed
	Current Transfer site
	Proposed Transfer site within area
	Scheduled monument
	Electricity working area
	Proposed electricity cables
	Proposed overhead electricity cables with pylons
	Water working area
	Proposed water supply
	Sewer working area
	Proposed sewer diversion
	Gas working area
	Proposed gas
	Multi-utility working area
	Proposed multi-utility
	Sub-station/switching station



**Landscaping proposals**

- 13 Landscaping around the electricity substation at the southern tunnel entrance.
- 14 Reconfigured ancient woodland compensation. Planting near Claylane Wood would be reduced and additional planting is proposed near the edge of Gravesend.
- 15 Redesigned block planting layout of ancient woodland compensation.
- 16 Due to reduced utility works there would be a reduction in ancient woodland compensation.
- 17 Less land would be required through Shorne Woods Country Park and additional landscaping is proposed.
- 18 Ancient woodland compensation to connect between Brewers Wood and Great Crabbles Wood.

**Noise barriers are proposed in the locations shown to reduce road noise**

- 18 A noise barrier, approximately one metre high by less than 400 metres long.
- 20 A noise barrier, approximately one metre high by less than 350 metres long.
- 21 A noise barrier, approximately two metres high by less than 600 metres long.
- 22 A noise barrier, approximately two metres high by less than 550 metres long.

Key	
	Lower Thames Crossing (LTC)
	Motorway/main road
	Local connective
	Railway line
	Area of Outstanding Natural Beauty (AONB)
	Main river
	Flood Risk Area
	Site of Special Scientific Interest (SSSI)
	Ancient Woodland
	Community Forest
	Proposed solar farm
	To be removed
	Current Transfer site
	Proposed Transfer site within area
	Scheduled monument
	Electricity working area
	Proposed electricity cables
	Proposed overhead electricity cables with pylons
	Water working area
	Proposed water supply
	Sewer working area
	Proposed sewer diversion
	Gas working area
	Proposed gas
	Multi-utility working area
	Proposed multi-utility
	Sub-station/switching station

## Routes for walkers, cyclists and horse riders



1 Refinement to shared path at Thong Lane green bridge over the LTC.