



Gatwick Airport Northern Runway Project

Environmental Statement

Appendix 5.3.1: Buildability Report - Part B - Part 2

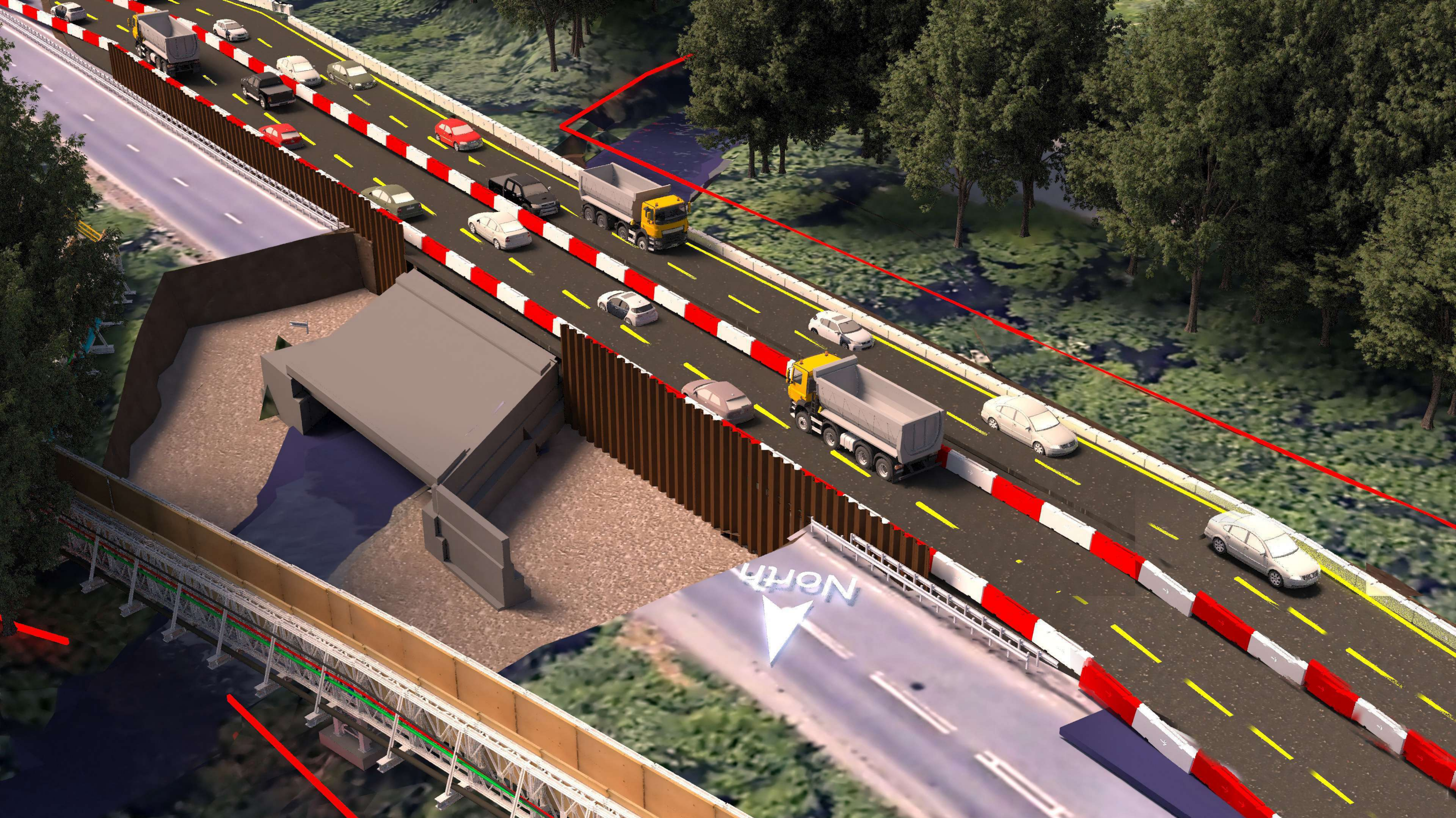
Book 5

VERSION: 1.0

DATE: JULY 2023

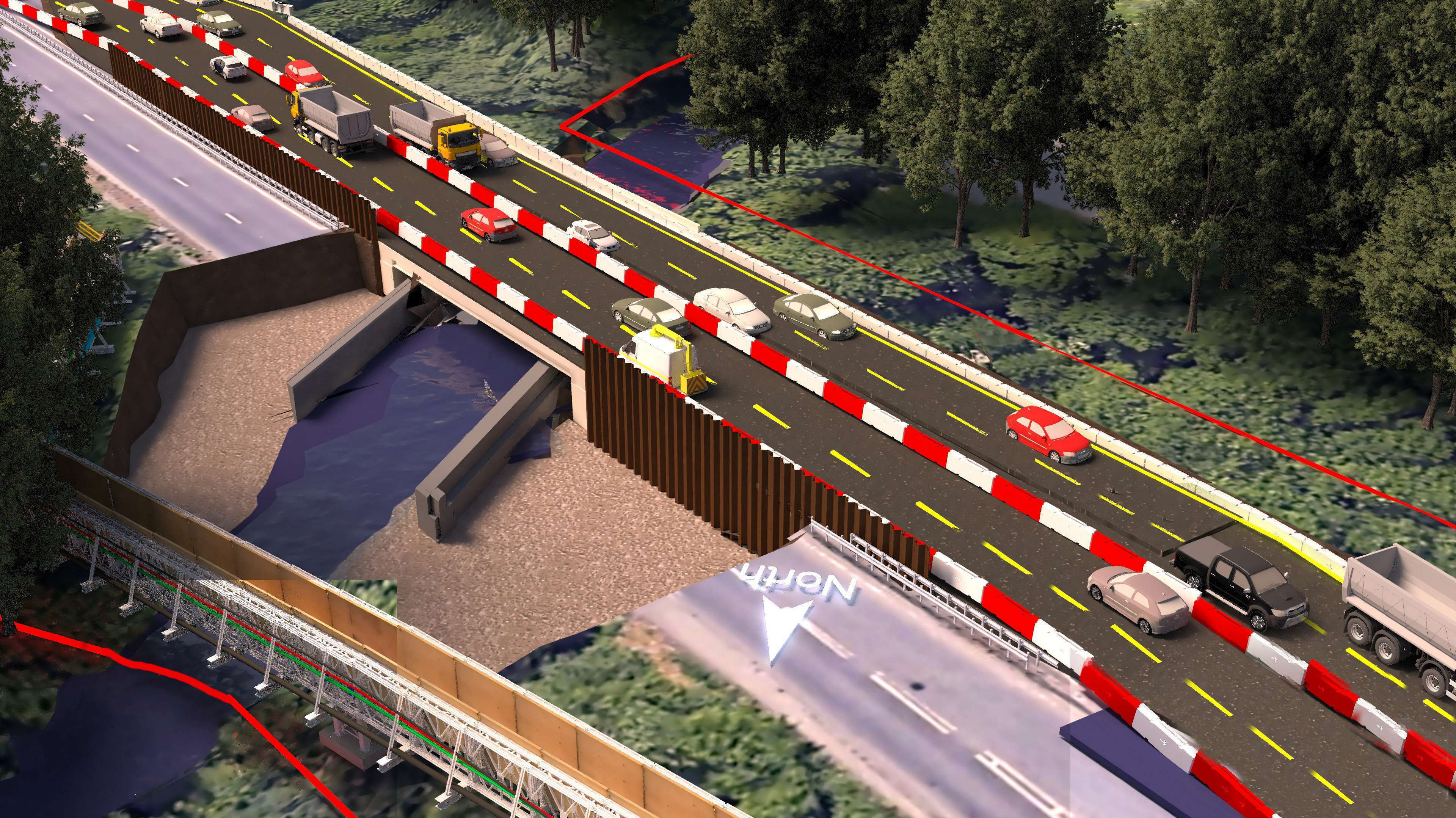
Application Document Ref: 5.3

PINS Reference Number: TR020005



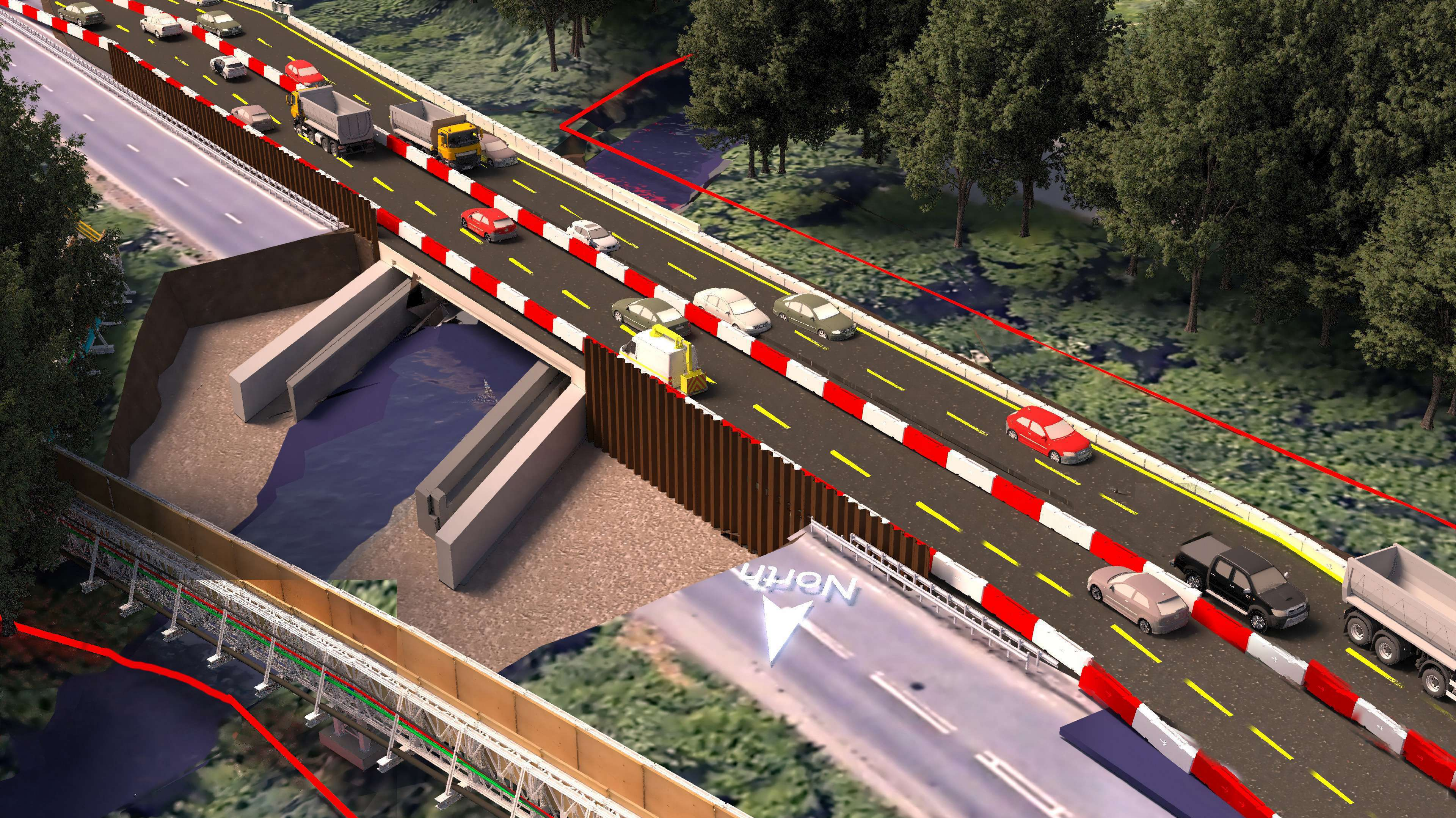
A23 London Road Bridge over River Mole

Stage 12: Bulk excavation, reduce level - expose existing bridge, north side



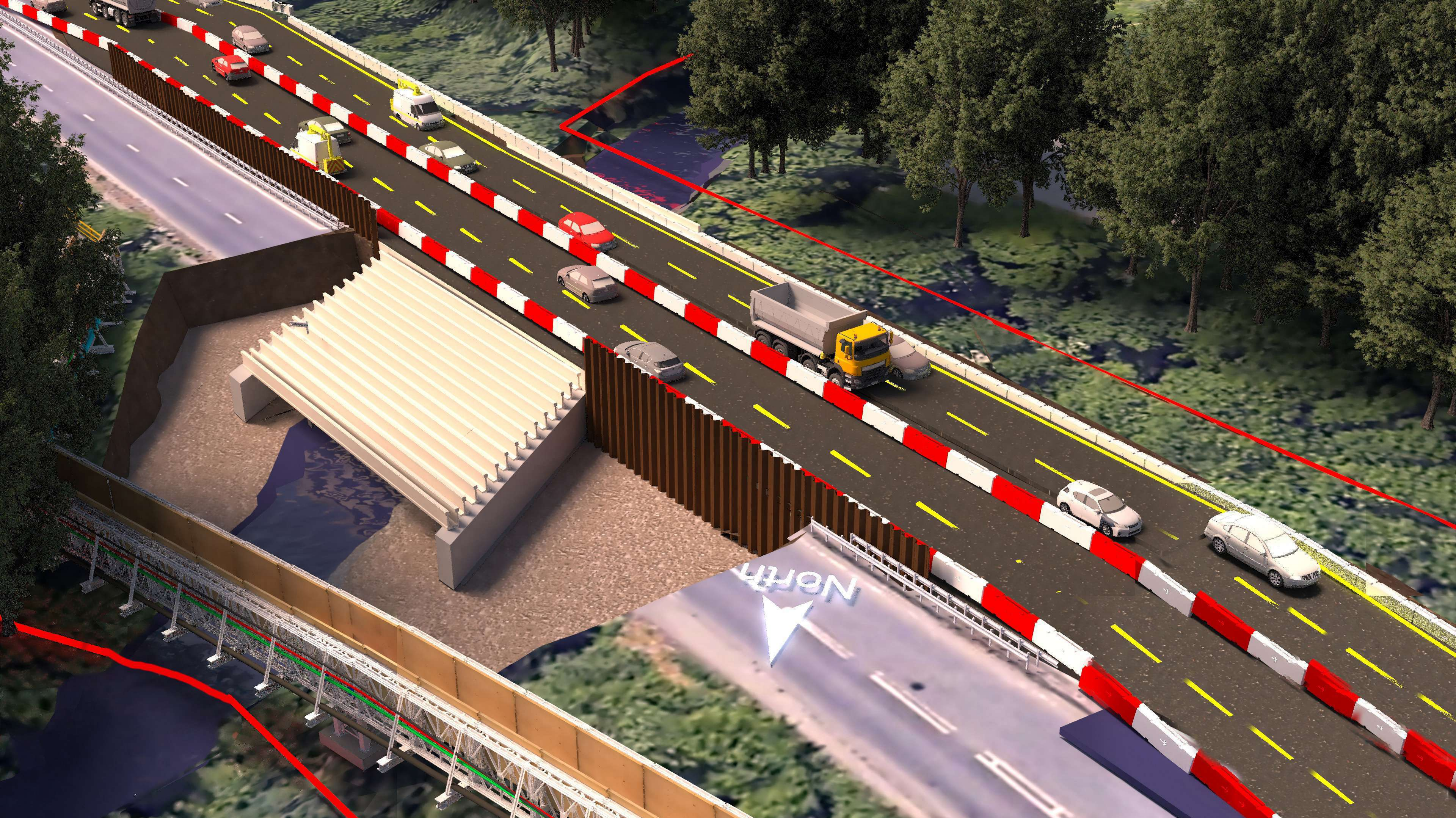
A23 London Road Bridge over River Mole

Stage 13: Demolish existing bridge, north side - expose new bridge, south side



A23 London Road Bridge over River Mole

Stage 15: Build new abutments, north side



A23 London Road Bridge over River Mole

Stage 15: Install deck beams, north side - lift from closed east bound.



A23 London Road Bridge over River Mole

Stage 16: Install deck, embankments, widening, landscaping - open for traffic



River Mole

A23 London Road Bridge over River Mole

Stage 16: View from west bound, wider angle

Appendix E - Method Visual: North Terminal Roundabout Flyover



Buildability Report - Part B

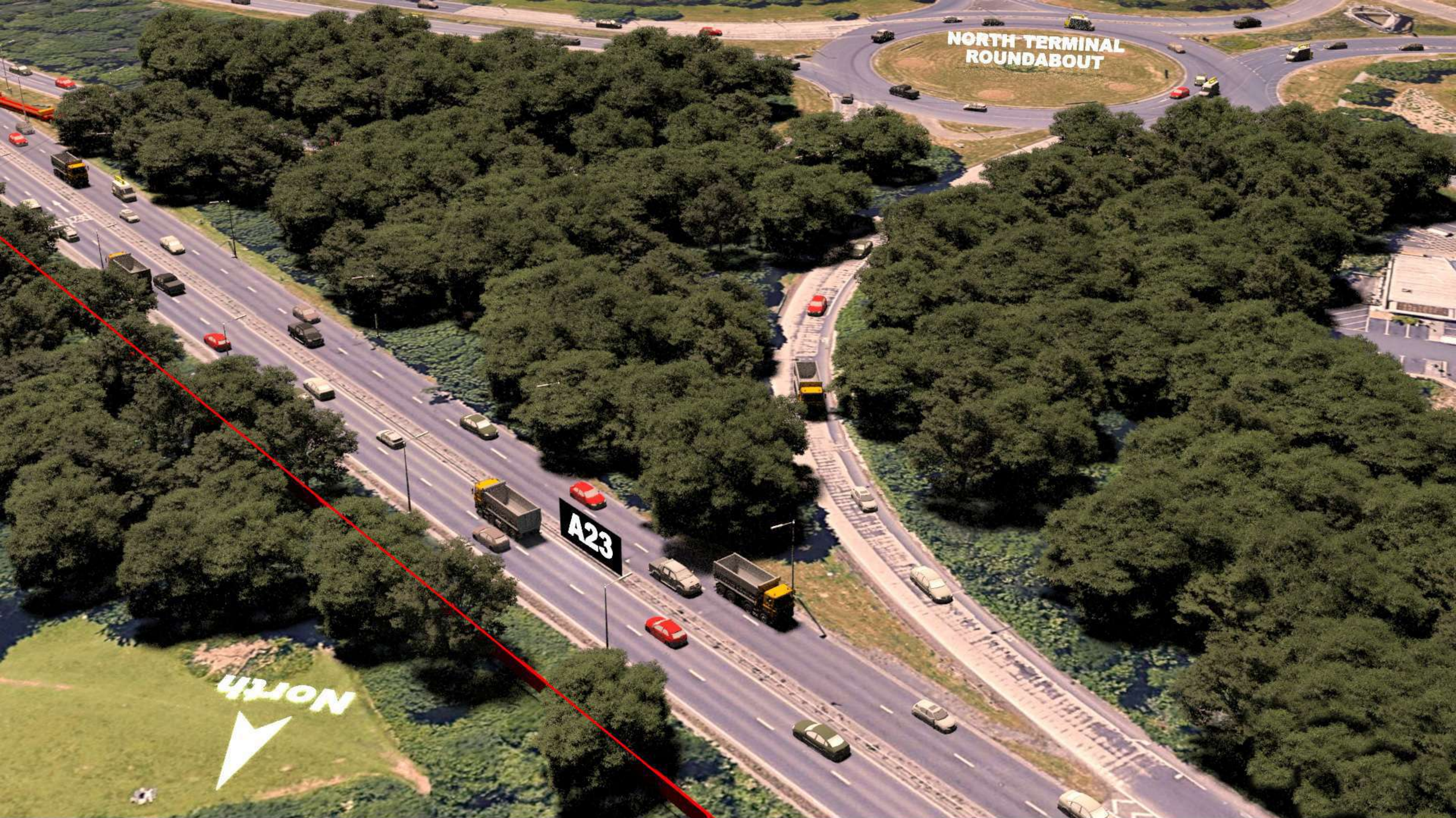
Method visuals - Structures

Appendix E:
North Terminal Roundabout Flyover



LONDON GATWICK





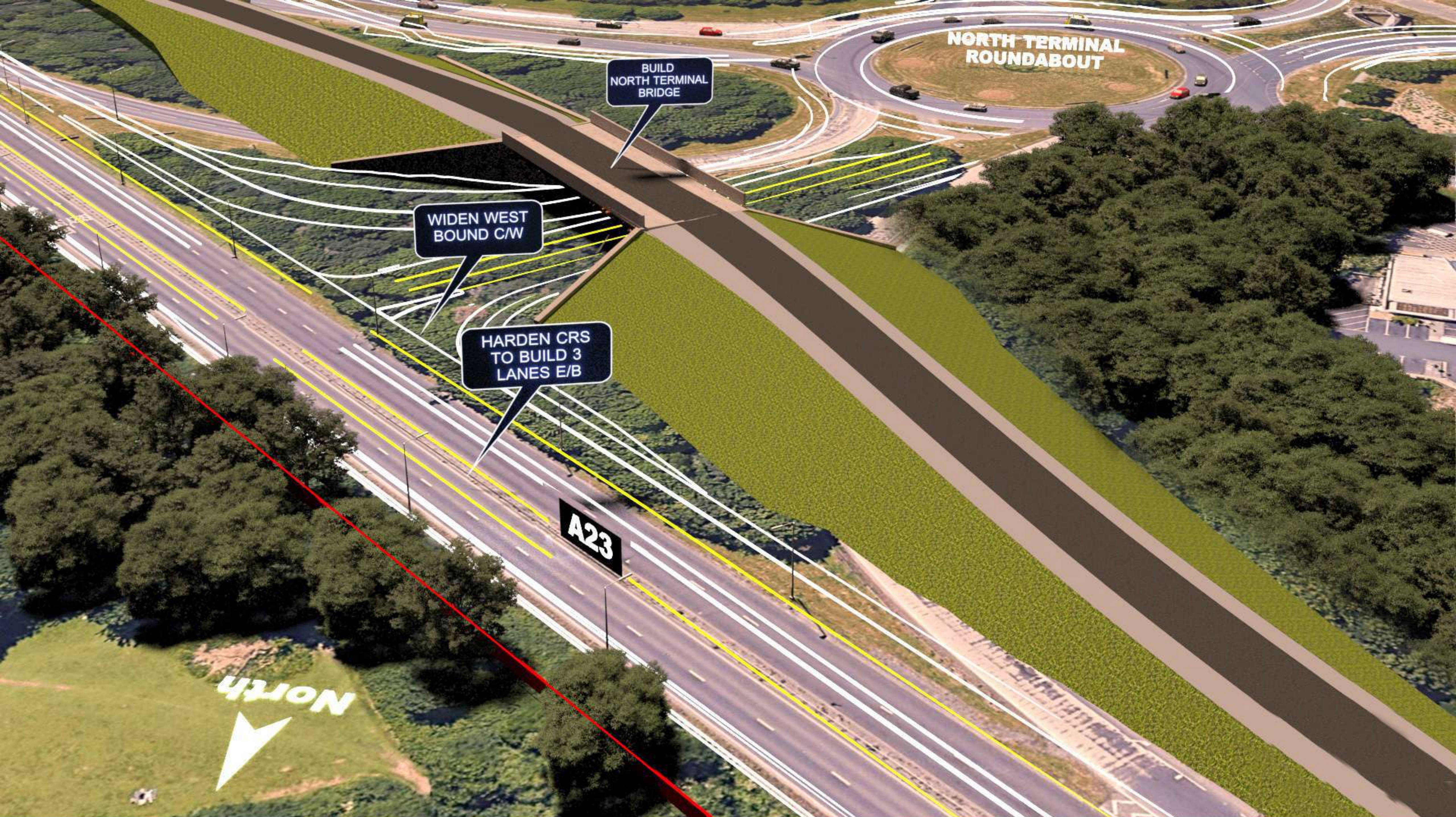
NORTH TERMINAL
ROUNDABOUT

A23

NORTH

North Terminal Flyover

Stage 0: Existing



**NORTH TERMINAL
ROUNDBOUT**

**BUILD
NORTH TERMINAL
BRIDGE**

**WIDEN WEST
BOUND C/W**

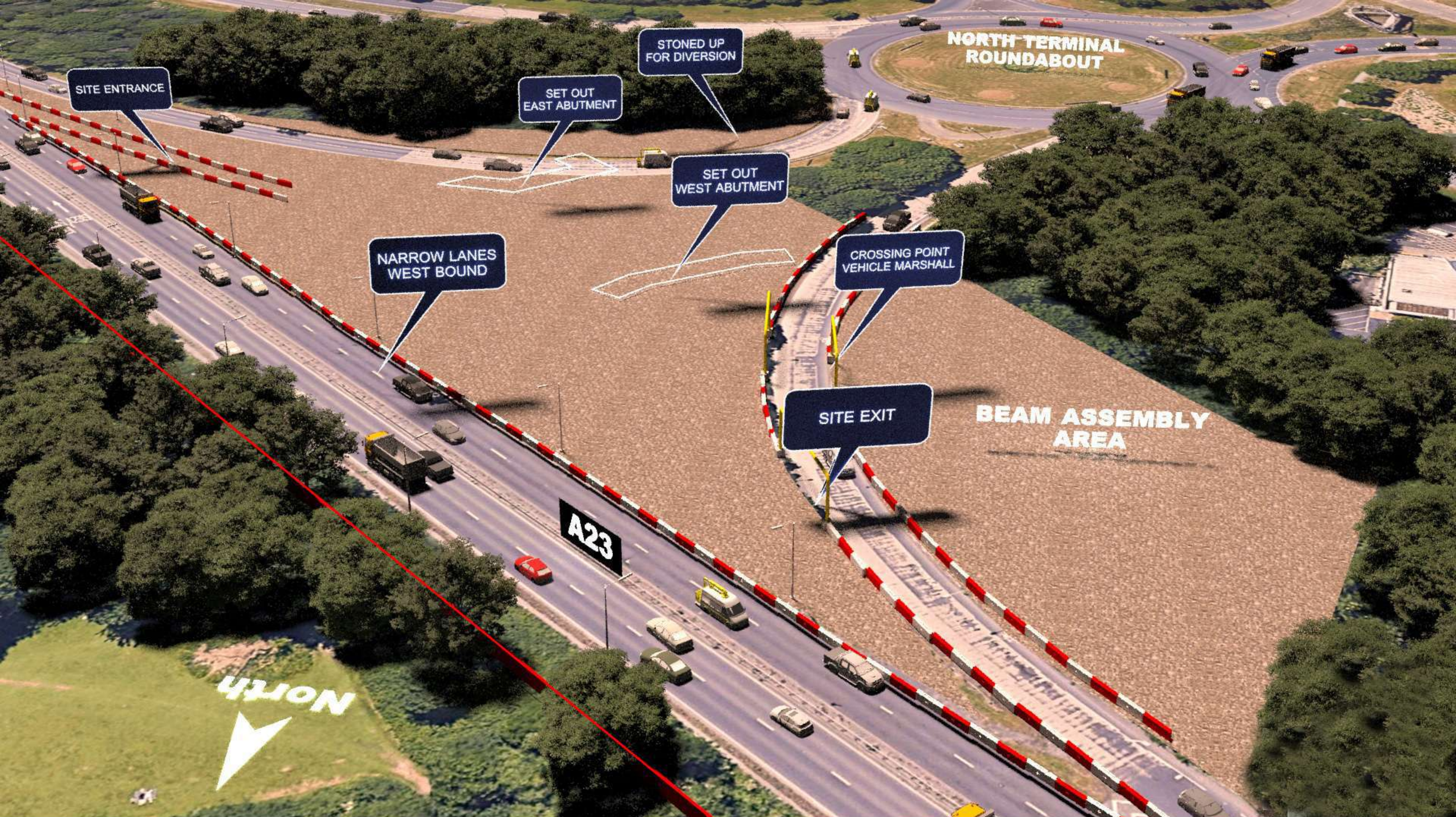
**HARDEN CRS
TO BUILD 3
LANES E/B**

A23

North

North Terminal Flyover

Stage 0: Design overlay



SITE ENTRANCE

SET OUT EAST ABUTMENT

STONED UP FOR DIVERSION

SET OUT WEST ABUTMENT

NARROW LANES WEST BOUND

CROSSING POINT VEHICLE MARSHALL

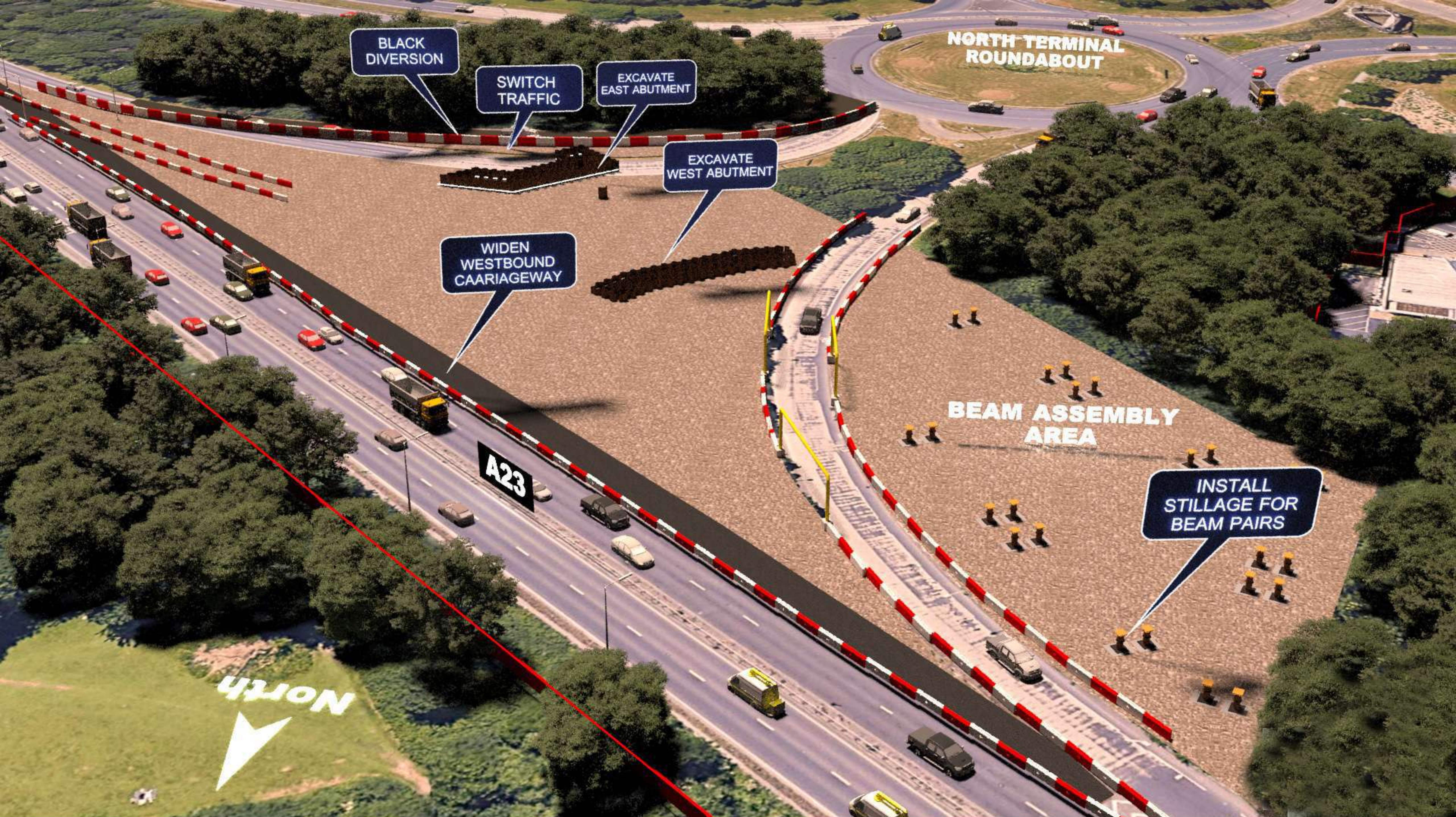
SITE EXIT

NORTH TERMINAL ROUNDABOUT

BEAM ASSEMBLY AREA

A23

NORTH



BLACK DIVERSION

SWITCH TRAFFIC

EXCAVATE EAST ABUTMENT

EXCAVATE WEST ABUTMENT

WIDEN WESTBOUND CAARRIAGEWAY

NORTH TERMINAL ROUNDABOUT

BEAM ASSEMBLY AREA

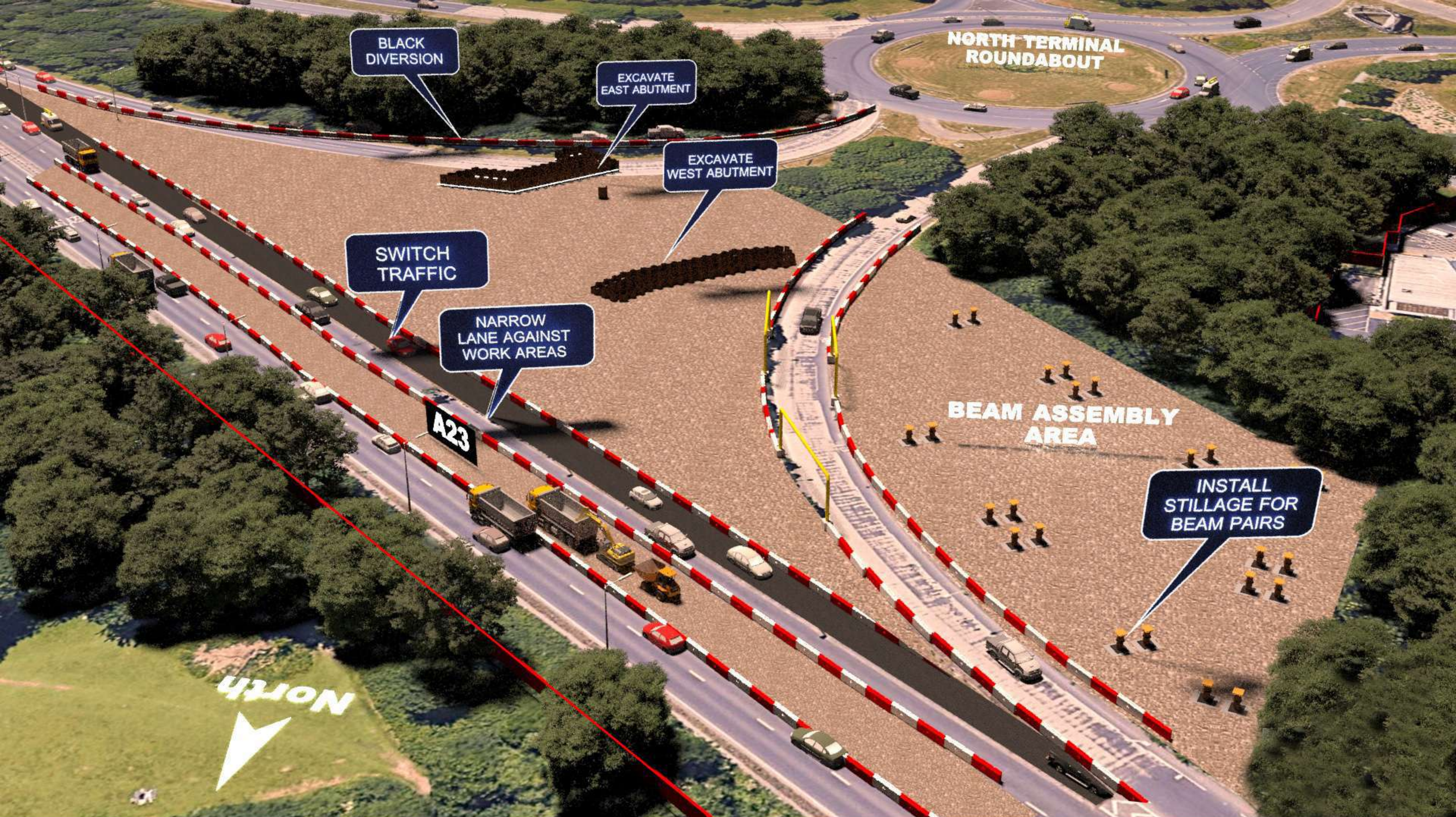
INSTALL STILLAGE FOR BEAM PAIRS

A23

NORTH

North Terminal Flyover

Stage 2: Switch traffic to temp WB offslip, excavate abutments, set up stillage



BLACK DIVERSION

EXCAVATE EAST ABUTMENT

EXCAVATE WEST ABUTMENT

SWITCH TRAFFIC

NARROW LANE AGAINST WORK AREAS

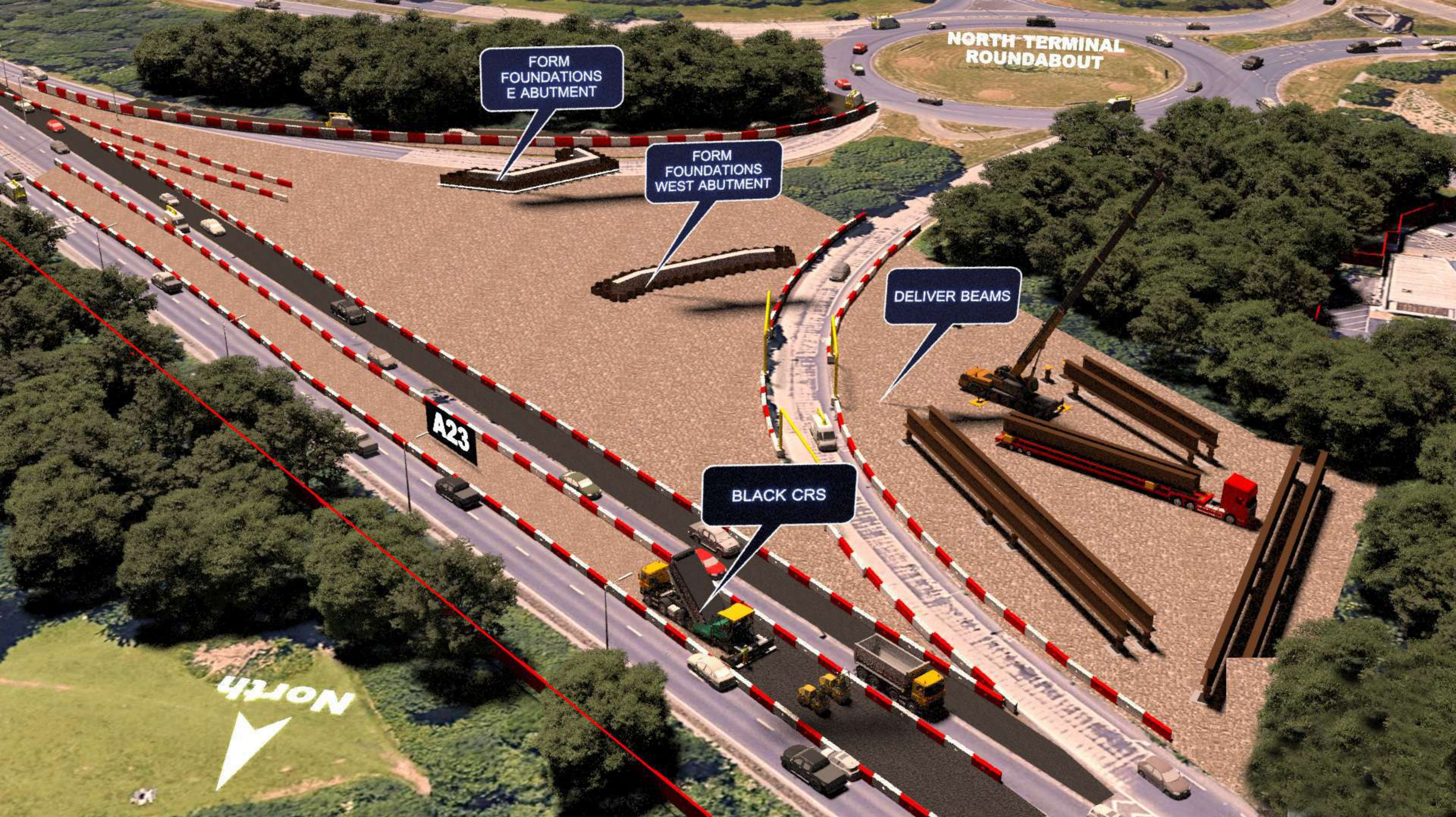
A23

NORTH TERMINAL ROUNDABOUT

BEAM ASSEMBLY AREA

INSTALL STILLAGE FOR BEAM PAIRS

North



FORM FOUNDATIONS E ABUTMENT

FORM FOUNDATIONS WEST ABUTMENT

DELIVER BEAMS

BLACK CRS

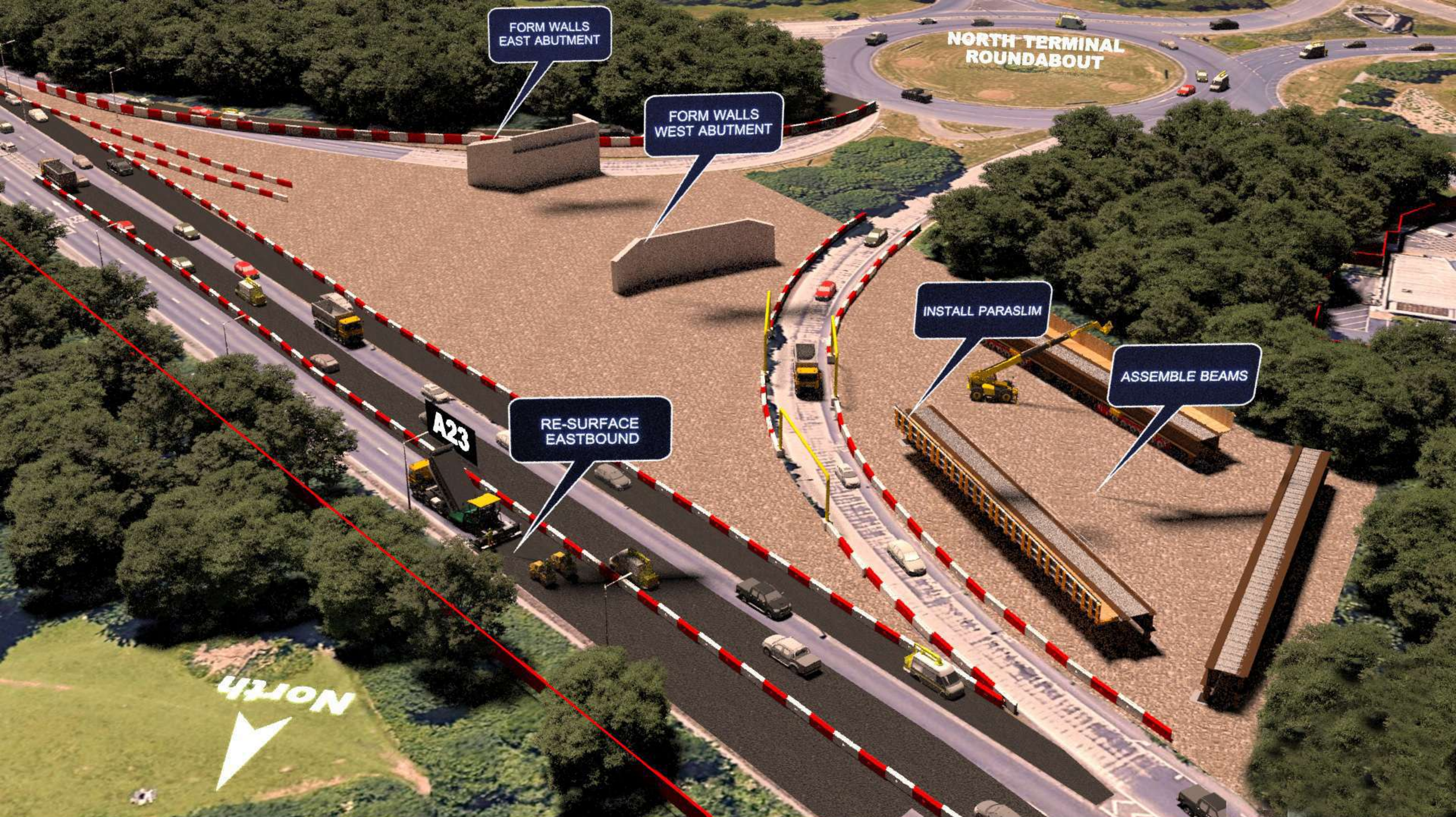
NORTH TERMINAL ROUNDABOUT

A23

NORTH

North Terminal Flyover

Stage 4: Form abutment foundations, deliver beam pairs, asphalt CRS



FORM WALLS
EAST ABUTMENT

FORM WALLS
WEST ABUTMENT

INSTALL PARASLIM

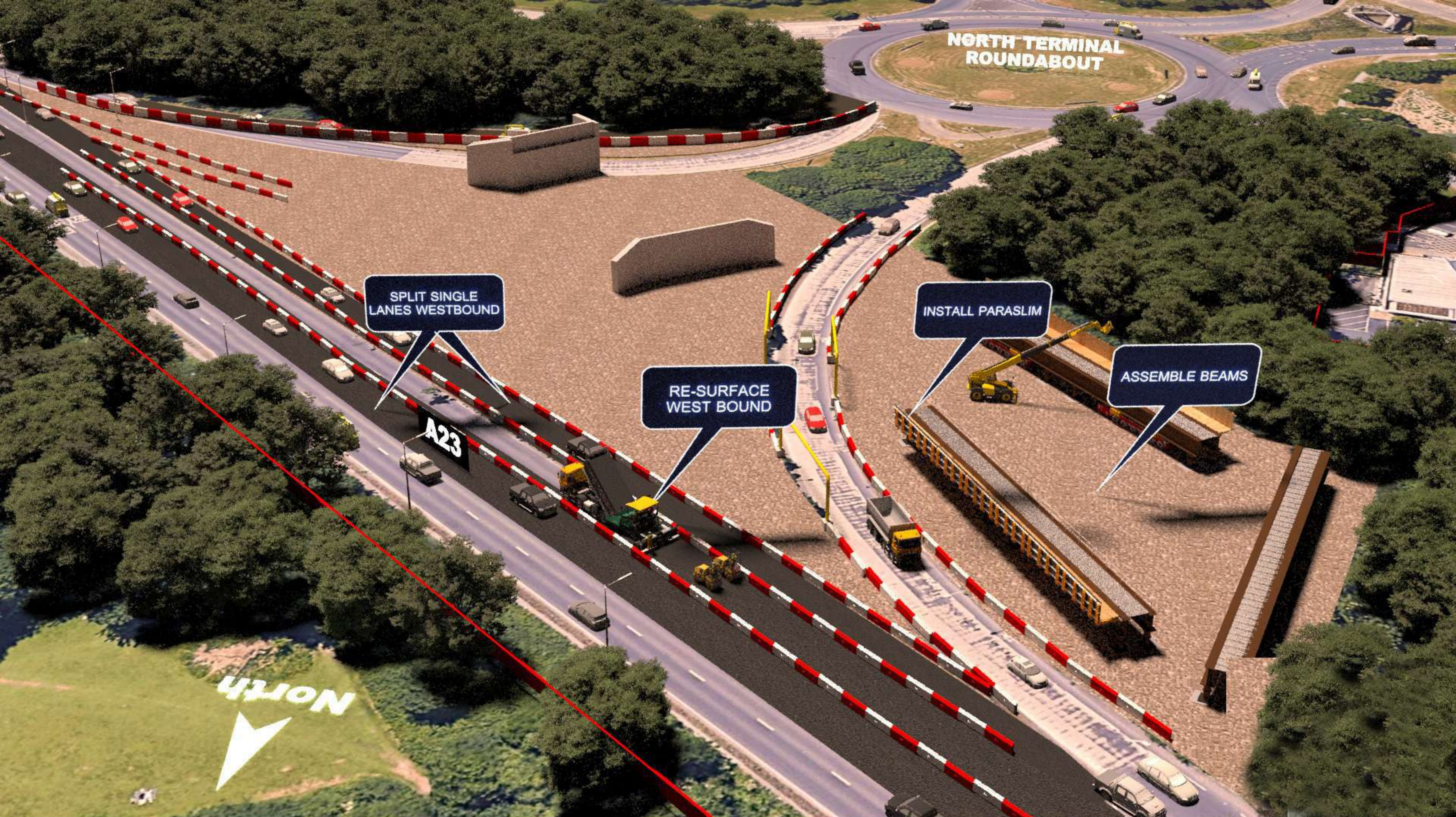
ASSEMBLE BEAMS

RE-SURFACE
EASTBOUND

A23

NORTH TERMINAL
ROUNDABOUT

North



SPLIT SINGLE LANES WESTBOUND

RE-SURFACE WEST BOUND

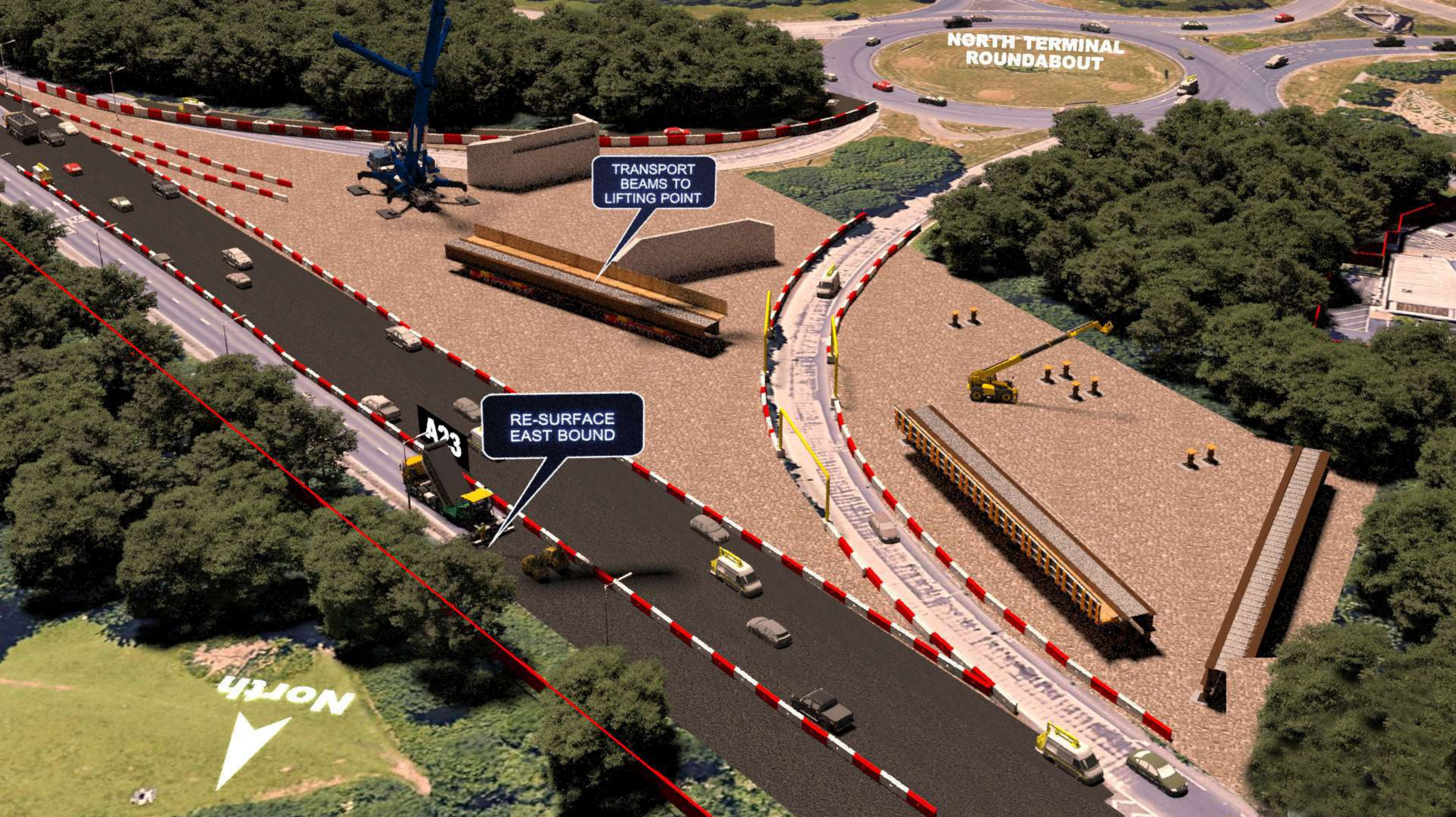
INSTALL PARASLIM

ASSEMBLE BEAMS

A23

NORTH TERMINAL ROUNDABOUT

NORTH



NORTH TERMINAL ROUNDABOUT

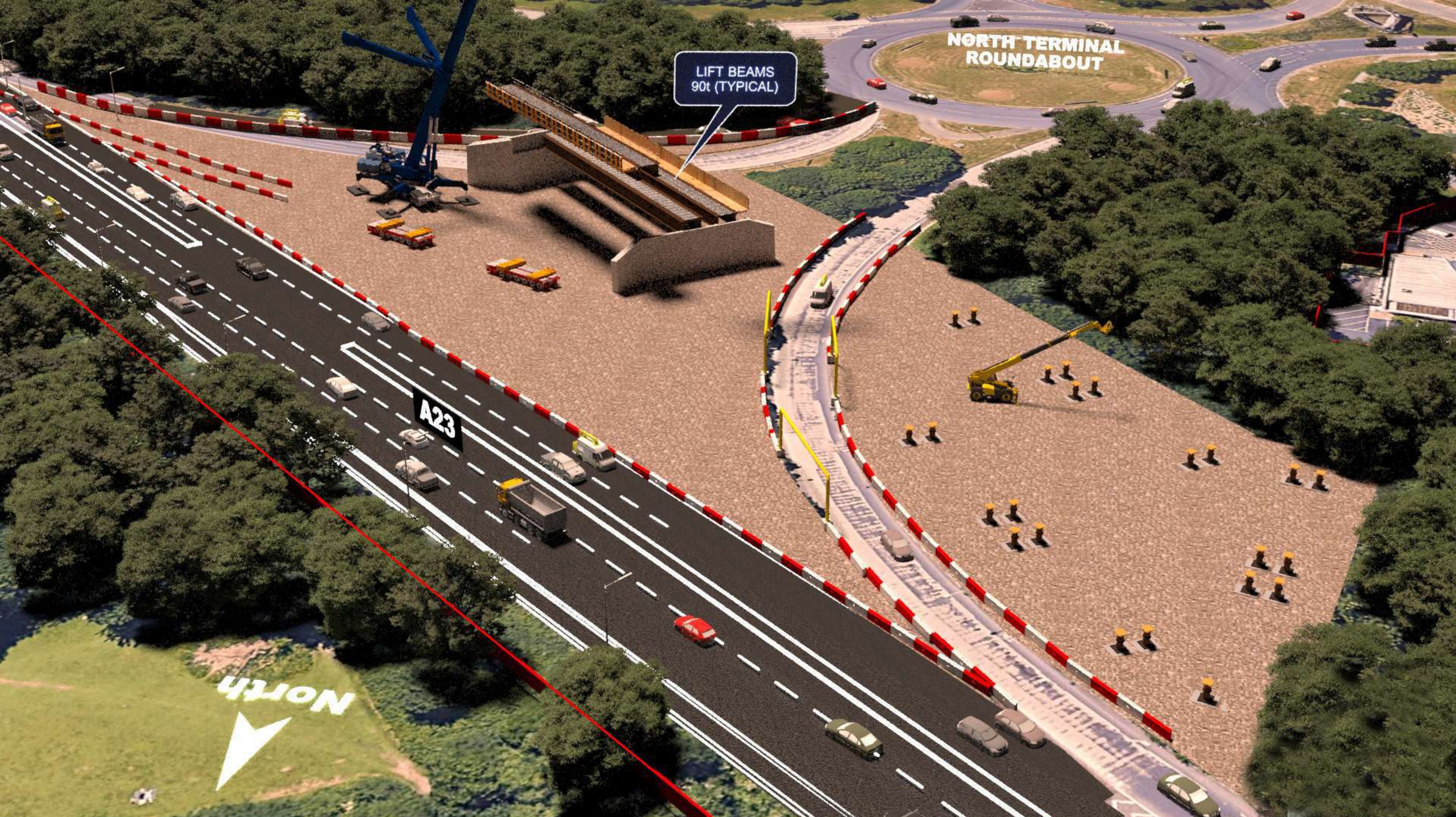
TRANSPORT BEAMS TO LIFTING POINT

RE-SURFACE EAST BOUND

NORTH

Stage 7: Transport beams to lifting point, Re-surface east bound

North Terminal Flyover



LIFT BEAMS
90t (TYPICAL)

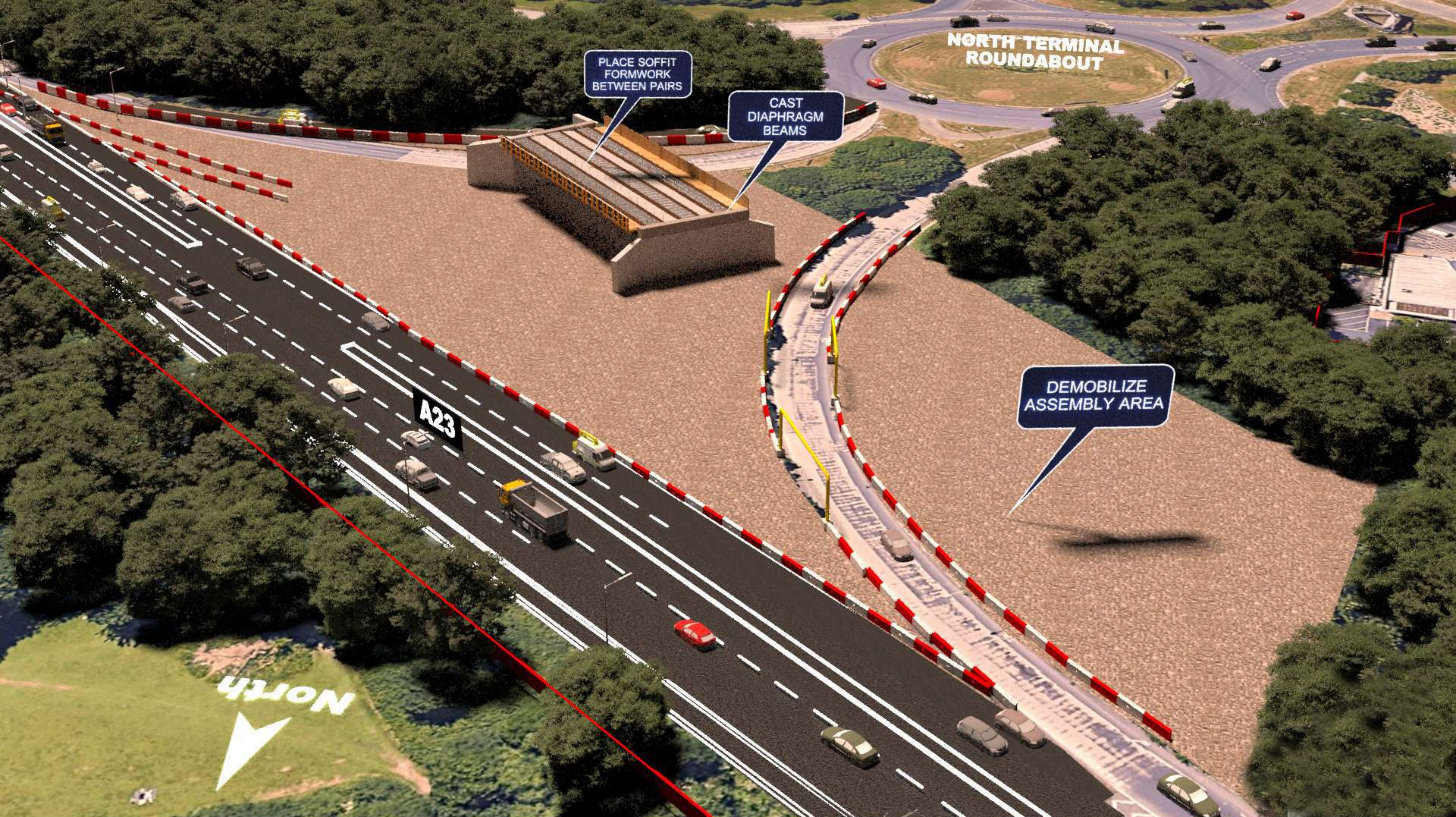
NORTH TERMINAL
ROUNDABOUT

A23

NORTH

North Terminal Flyover

Stage 8: Lift beams onto new abutments, demobilise fabrication area



PLACE SOFFIT FORMWORK BETWEEN PAIRS

CAST DIAPHRAGM BEAMS

NORTH TERMINAL ROUNDABOUT

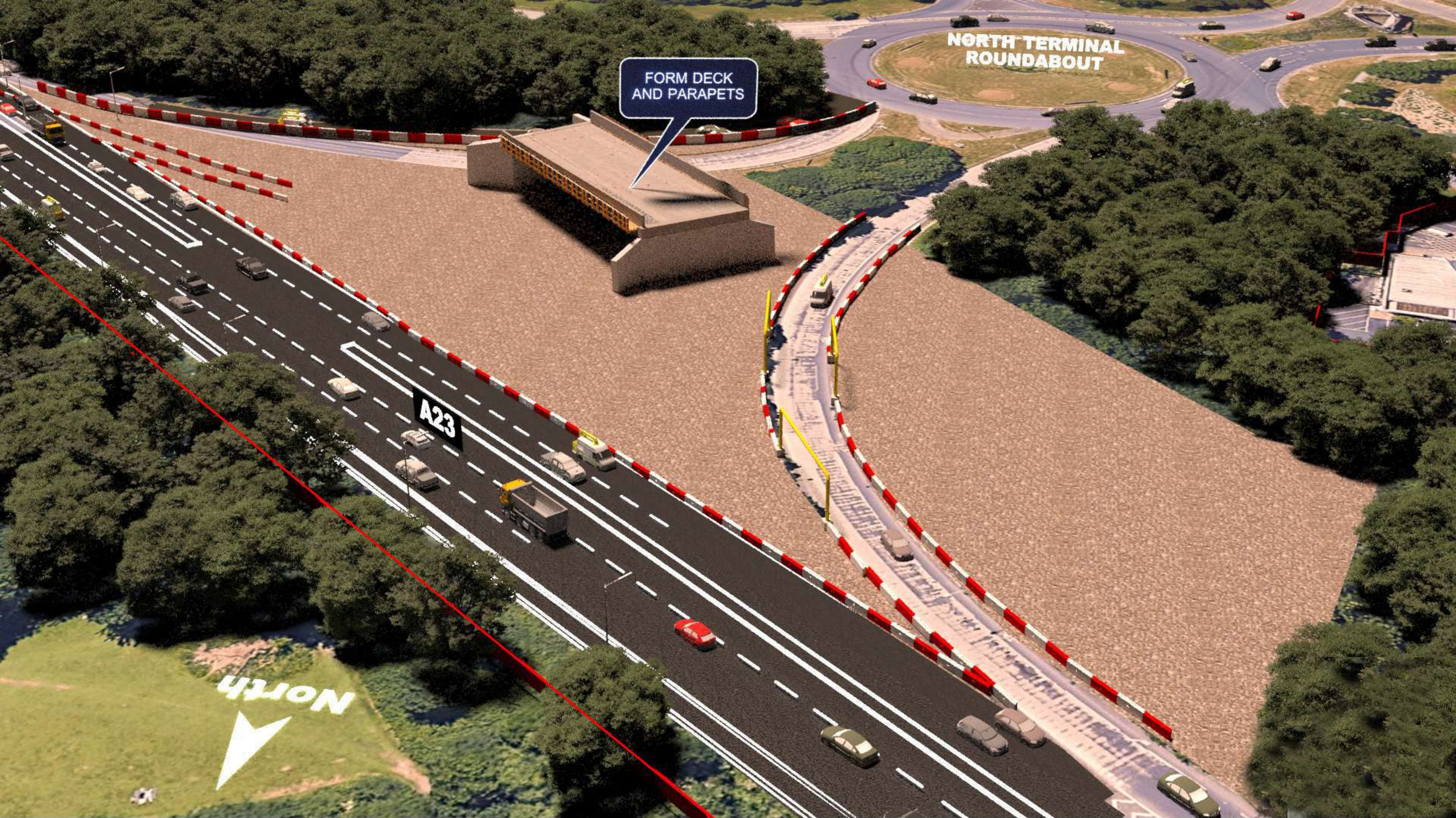
DEMOBILIZE ASSEMBLY AREA

A23

NORTH

North Terminal Flyover

Stage 9: Install deck soffit formwork, cast diaphragm beams

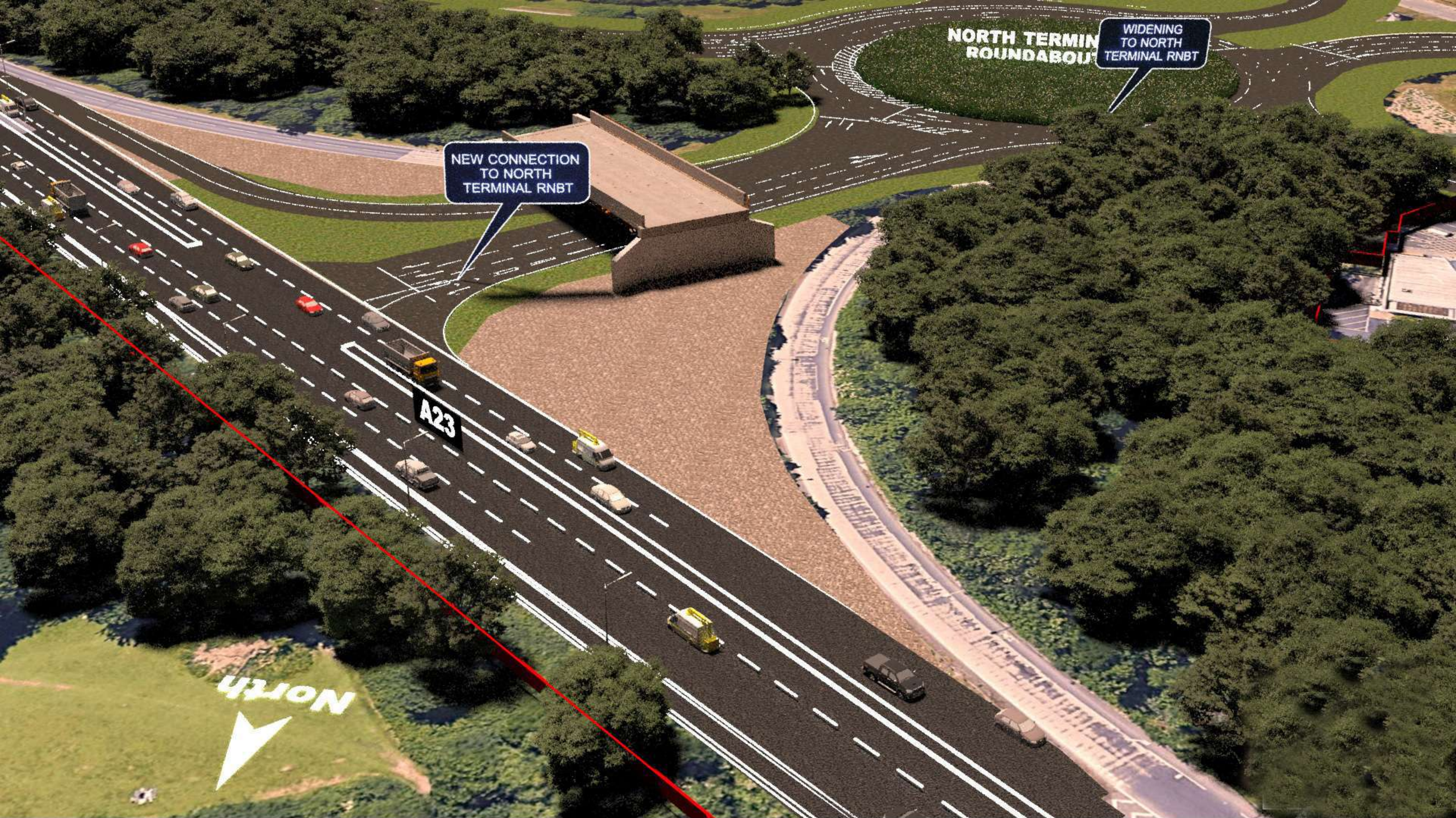


FORM DECK
AND PARAPETS

NORTH TERMINAL
ROUNDABOUT

A23

NORTH



NEW CONNECTION TO NORTH TERMINAL RNBT

NORTH TERMINAL ROUNDABOUT

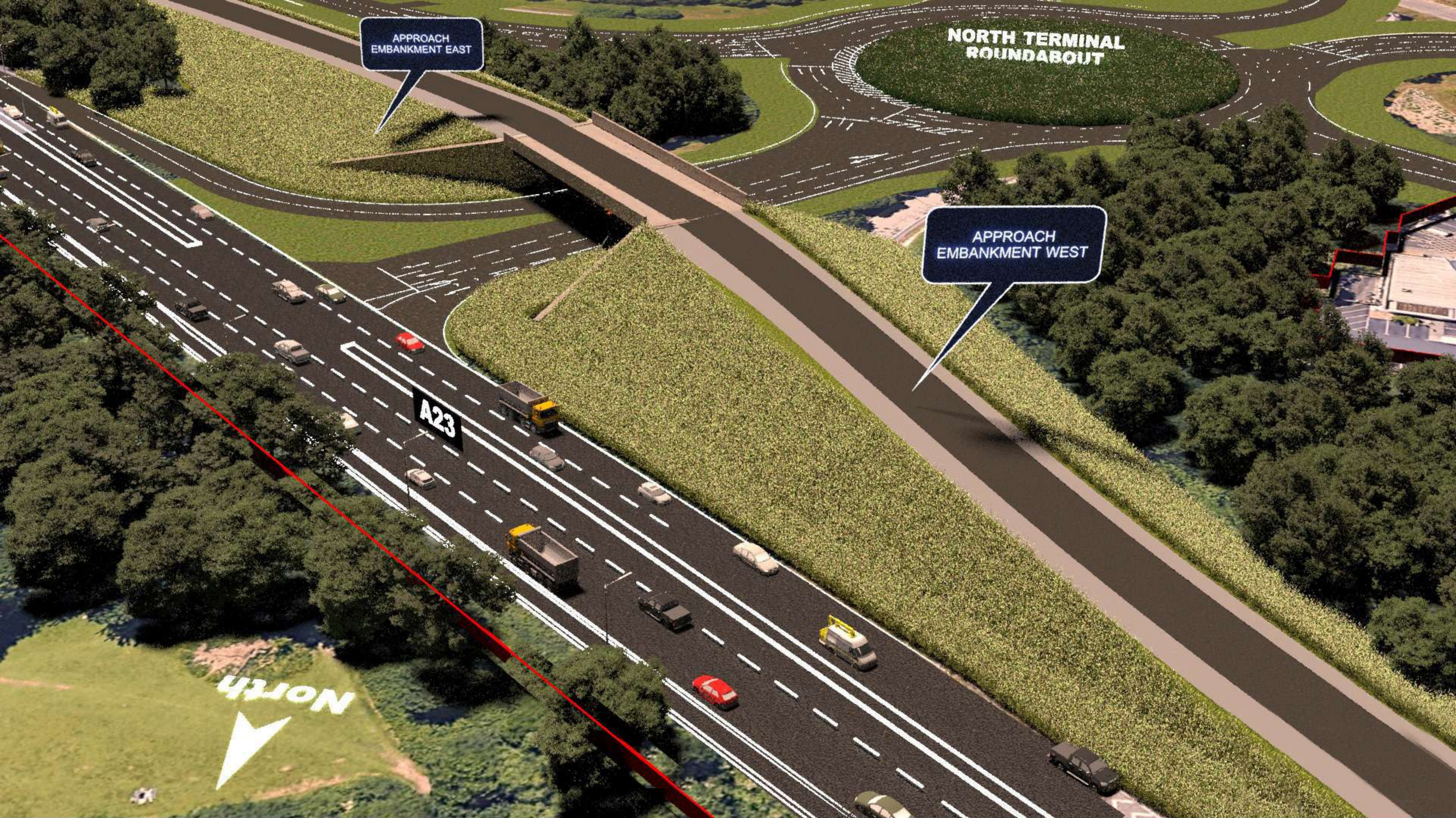
WIDENING TO NORTH TERMINAL RNBT

A23

North

North Terminal Flyover

Stage 11: Widen north terminal roundabout, complete new connection to A23



APPROACH
EMBANKMENT EAST

NORTH TERMINAL
ROUNDABOUT

APPROACH
EMBANKMENT WEST

A23

NORTH

Appendix F – Method Visual: Airport Way Railway Bridge



Buildability Report - Part B

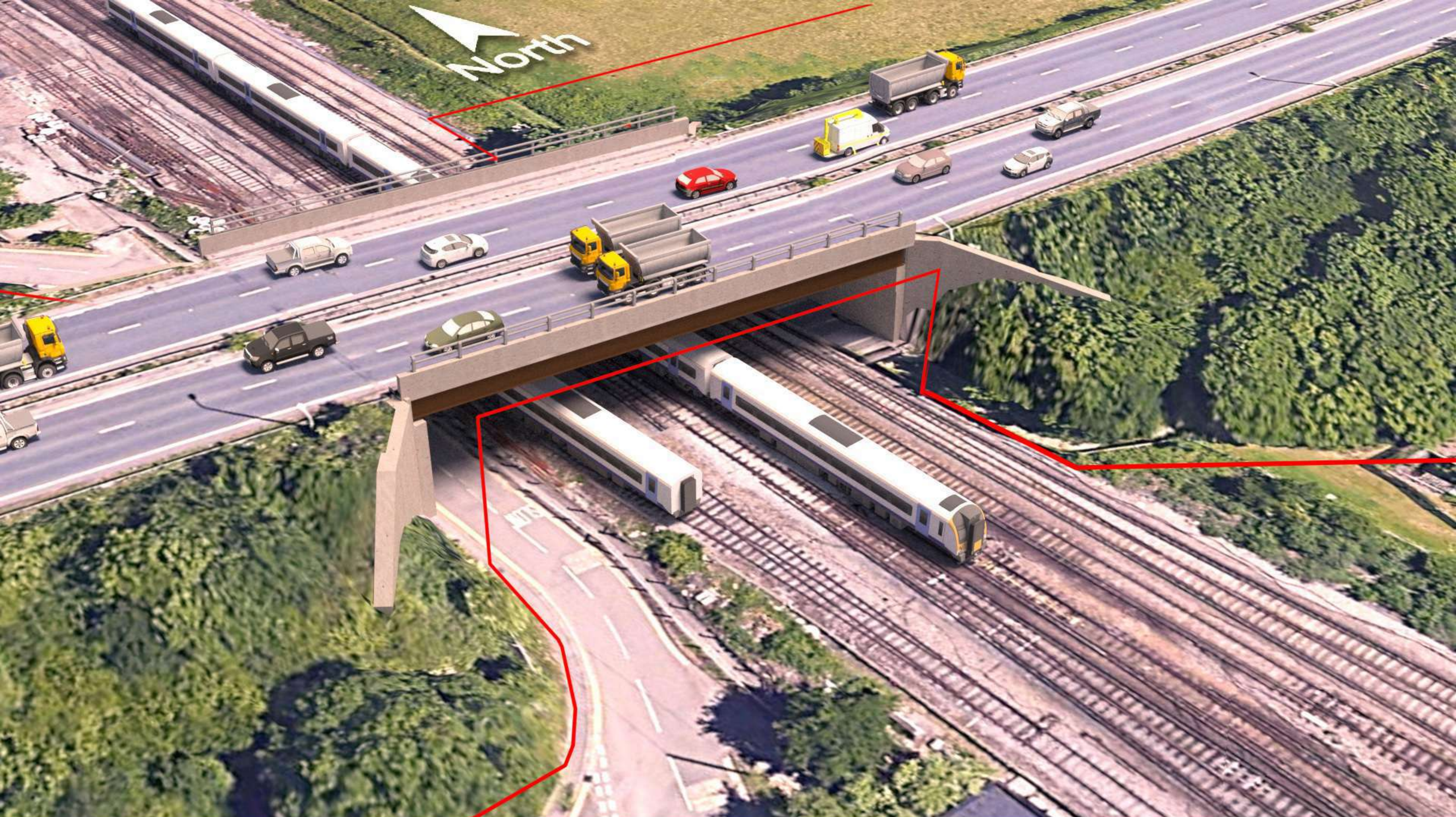
Method visuals - Structures

Appendix F:
Airport Way rail bridge



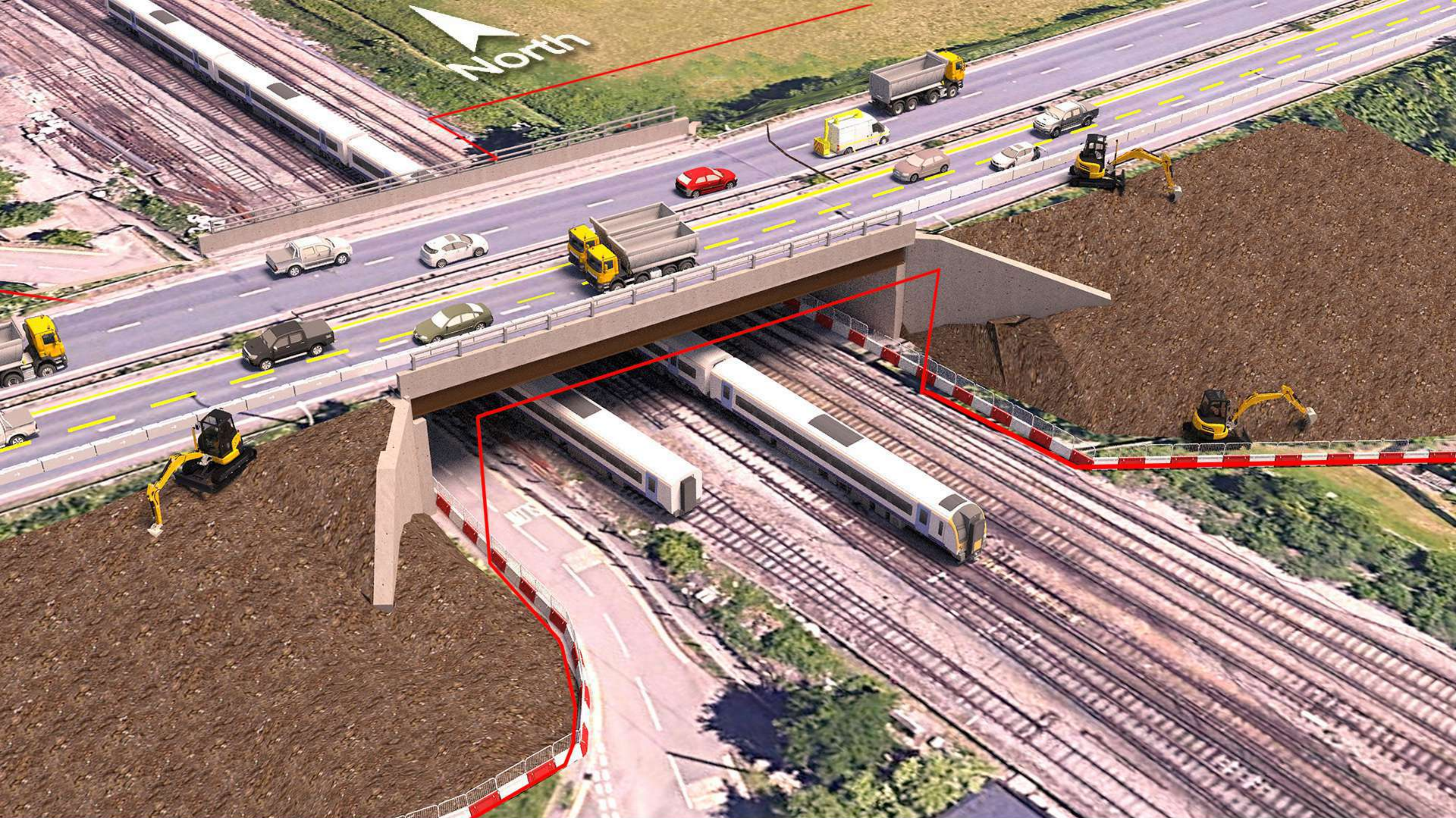
LONDON GATWICK





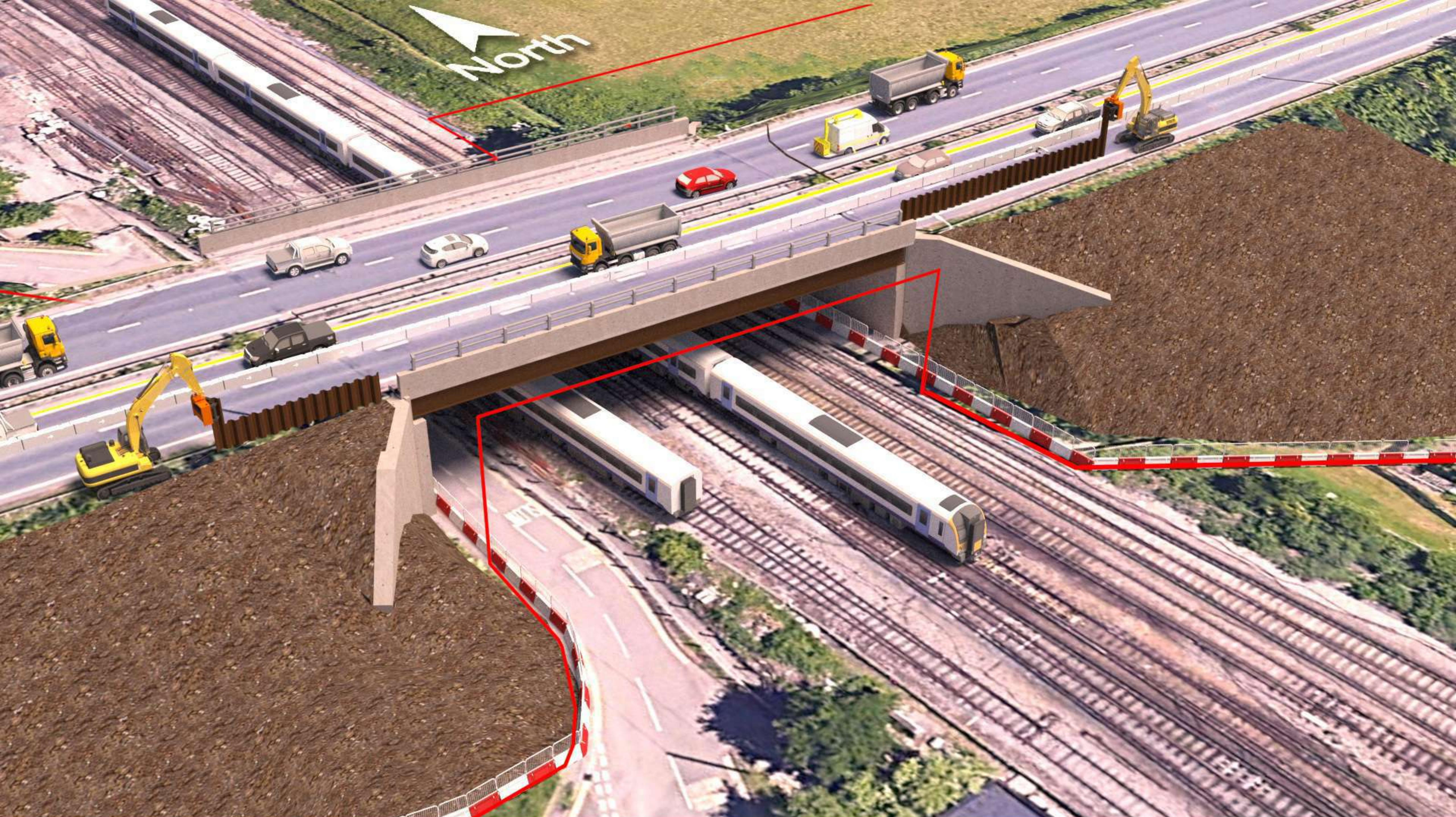
Airport Way Rail Bridge

Stage 0; Existing



Airport Way Rail Bridge

Stage 1; Establish site, strip topsoil



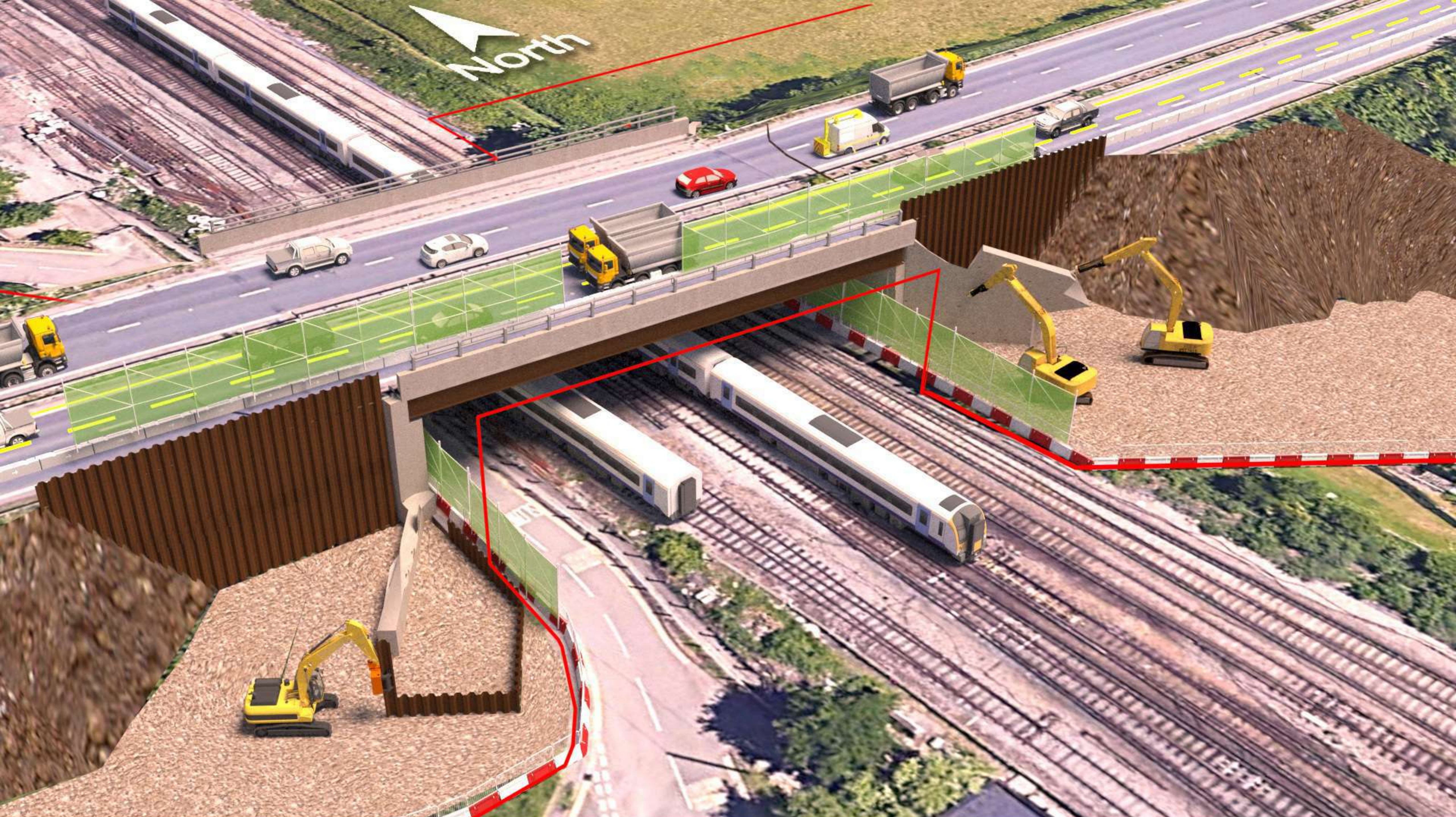
Airport Way Rail Bridge

Stage 2: Close lane 1 west bound, drive sheet piles using vibratory, 'movax' unit



Airport Way Rail Bridge

Stage 3: Reduce level bulk excavation, expose existing wingwalls



Airport Way Rail Bridge

Stage 4: Demolish existing wingwalls to reduced site level, drive sheet piles for foundation works.



Airport Way Rail Bridge

Stage 5: Extend existing abutment foundations, south side, to accommodate new wider bridge deck.



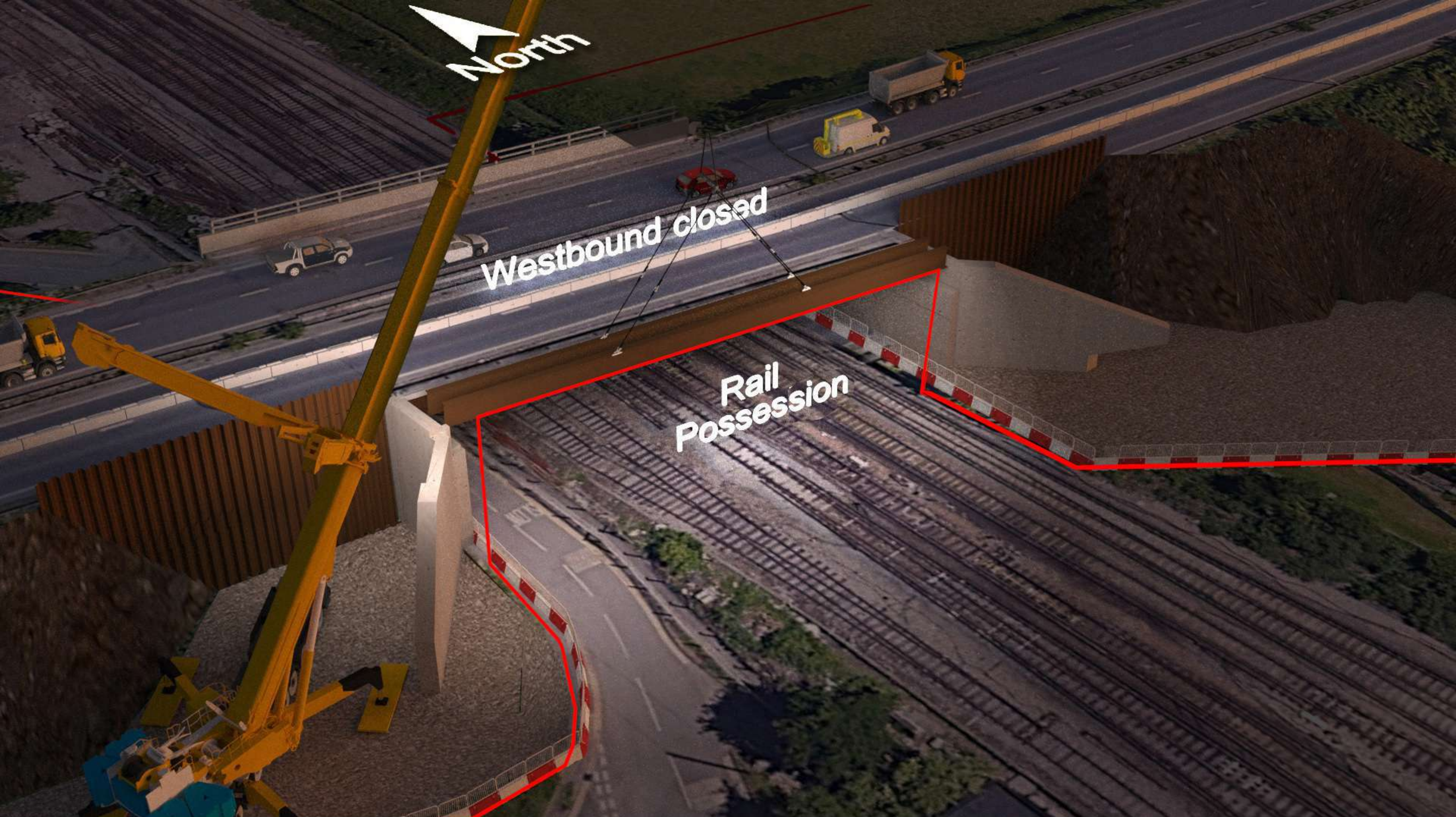
Airport Way Rail Bridge

Stage 6: Construct new abutment wall extension.



Airport Way Rail Bridge

Stage 7: Concrete abutment walls



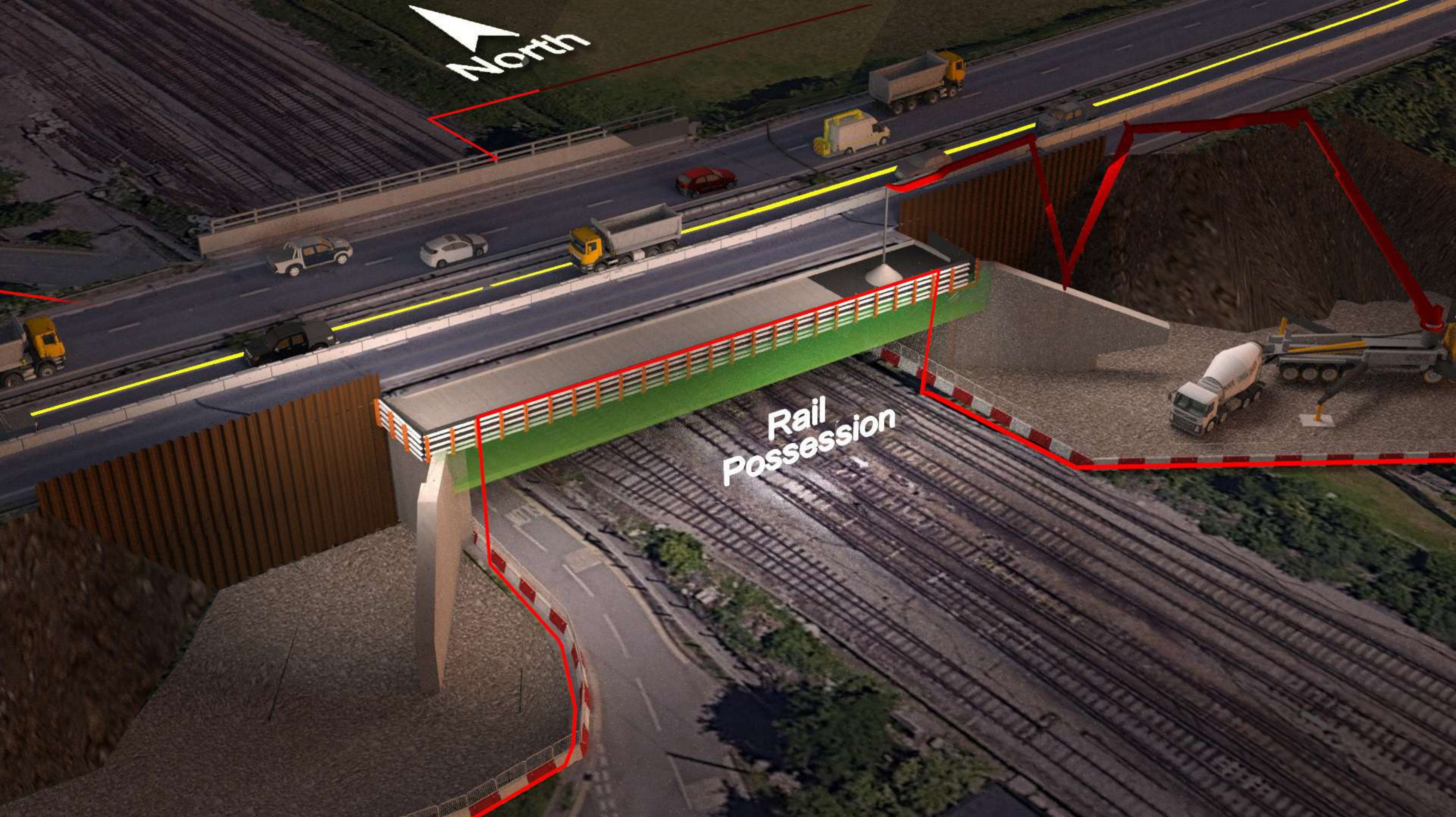
North

Westbound closed

Rail Possession

Airport Way Rail Bridge

Stage 8: Lift braced pair deck beams on a night closure rail possession.



North

Rail Possession

Airport Way Rail Bridge

Stage 9: Concrete deck on night closure rail possession



Airport Way Rail Bridge

Stage 10: Form parapet wall, install traffic containment system.



Airport Way Rail Bridge

Stage 11: Place drainage layer and compacted structural fill to back of structure



Airport Way Rail Bridge

Stage 12: Bulk earthworks fill, extend embankments to accommodate widening



Airport Way Rail Bridge

Stage 13: Complete widening - asphalt, complete new vehicle containment system on approaches

Appendix G - Method Visual: South Terminal Roundabout Flyover



Buildability Report - Part B

Method visuals - Structures

Appendix G:
South Terminal Roundabout Flyover



LONDON GATWICK

POWERED BY **VINCI** AIRPORTS   **GLOBAL INFRASTRUCTURE PARTNERS**

SOUTH TERMINAL ROUNDBABOUT

North



BUILD EAST
SLIPROADS

SOUTH TERMINAL ROUNDAABOUT

BUILD WEST
SLIPROADS

North

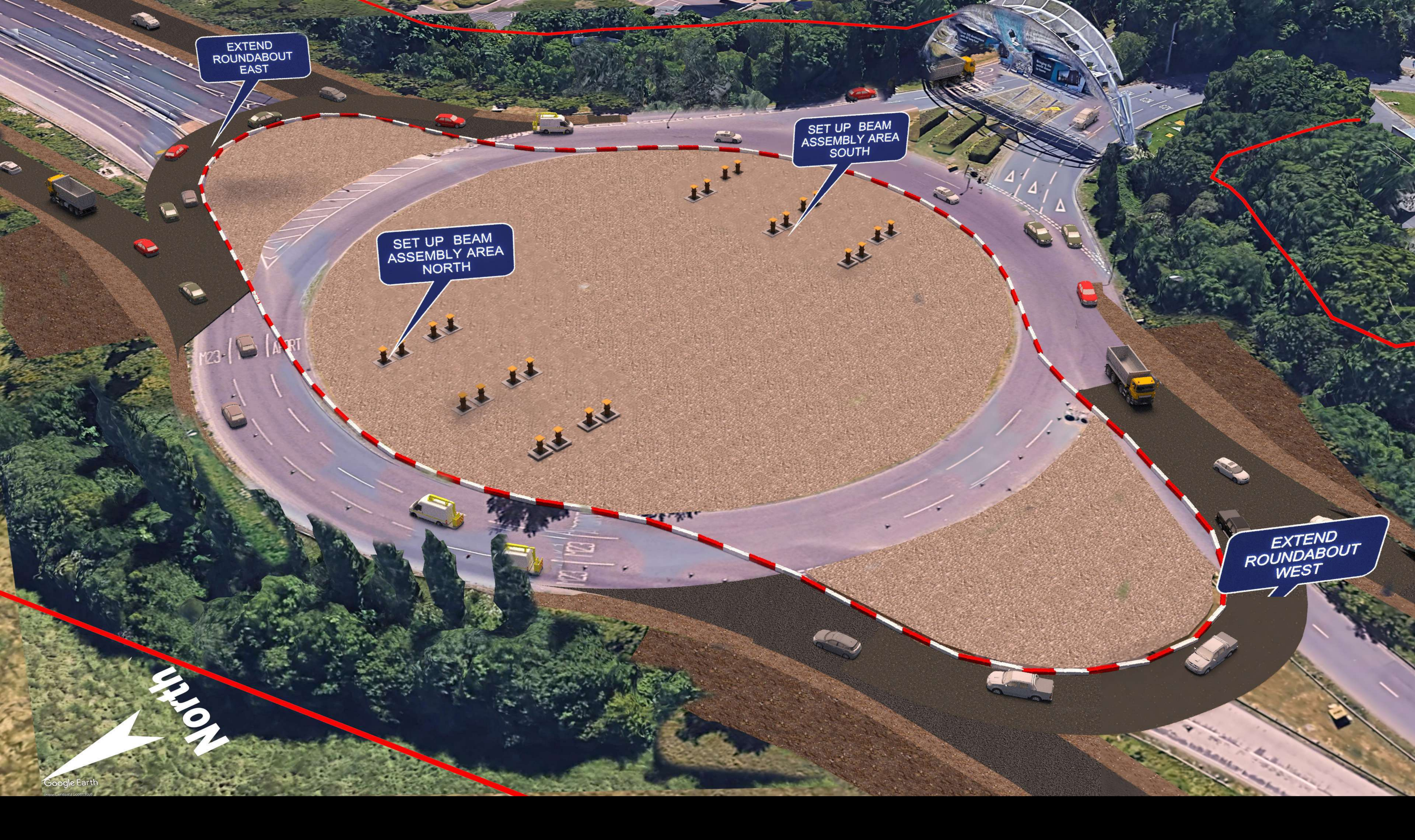
EXTEND
ROUNDAABOUT
EAST

SET UP BEAM
ASSEMBLY AREA
SOUTH

SET UP BEAM
ASSEMBLY AREA
NORTH

EXTEND
ROUNDAABOUT
WEST

North



FORM EAST ABUTMENT

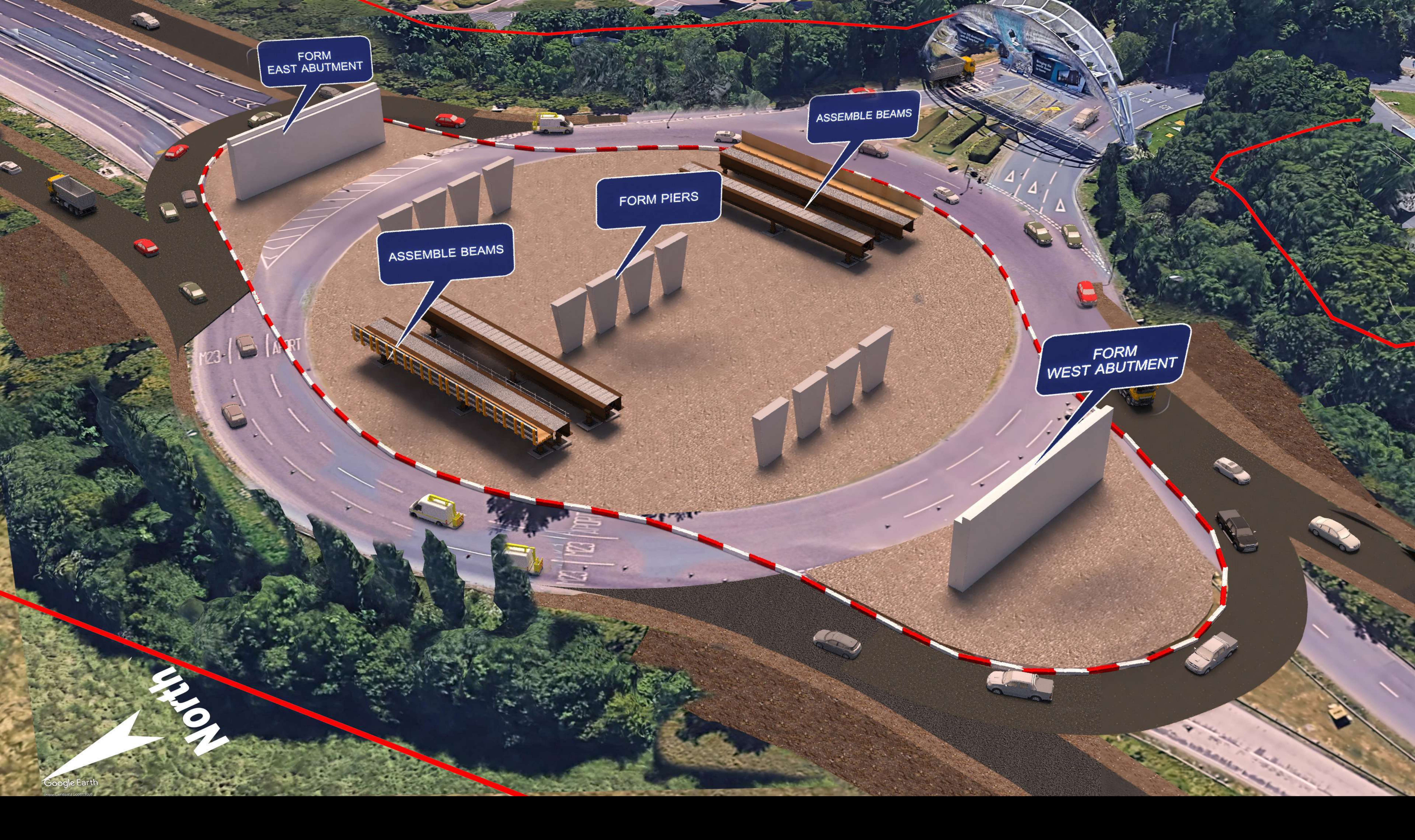
ASSEMBLE BEAMS

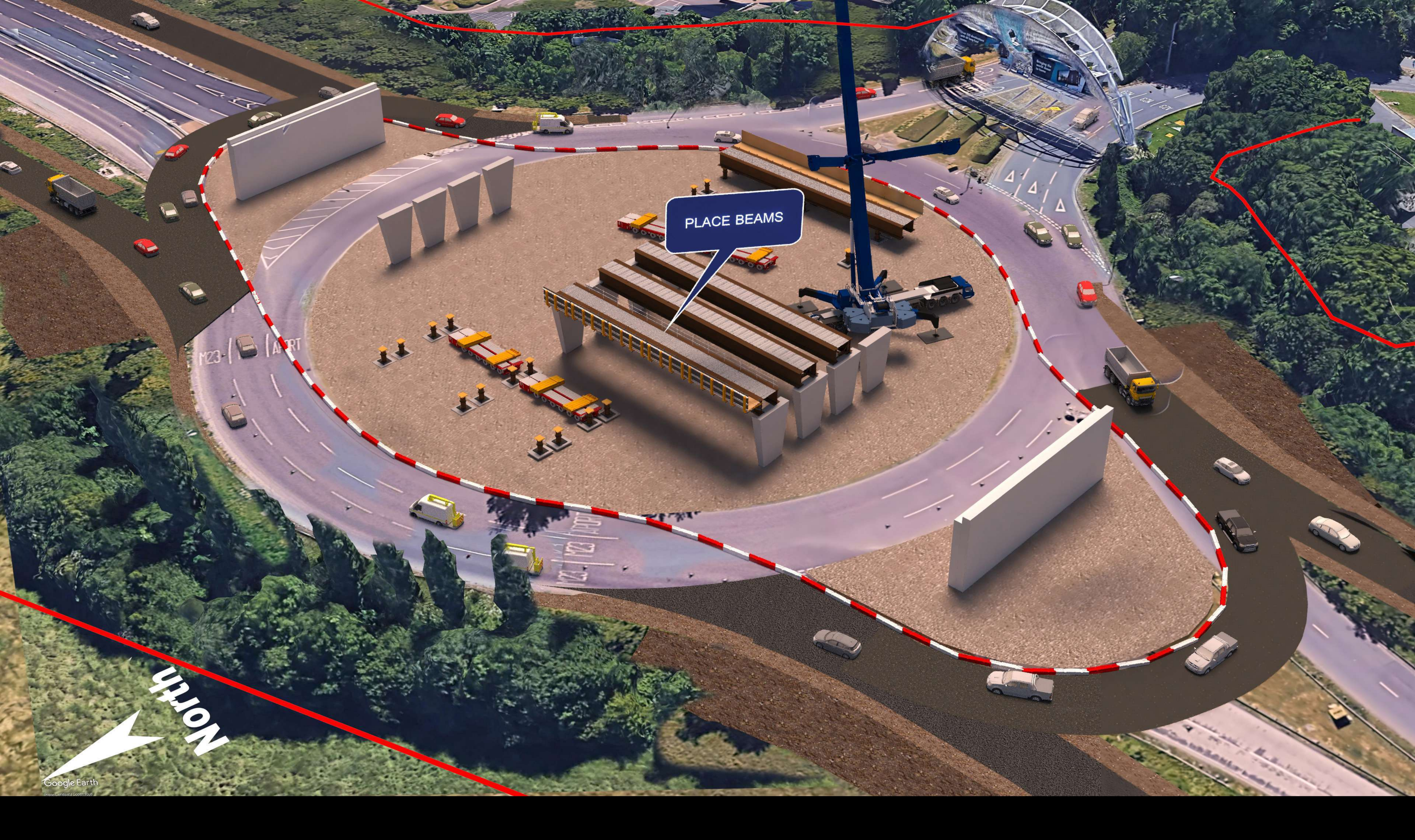
FORM PIERS

ASSEMBLE BEAMS

FORM WEST ABUTMENT

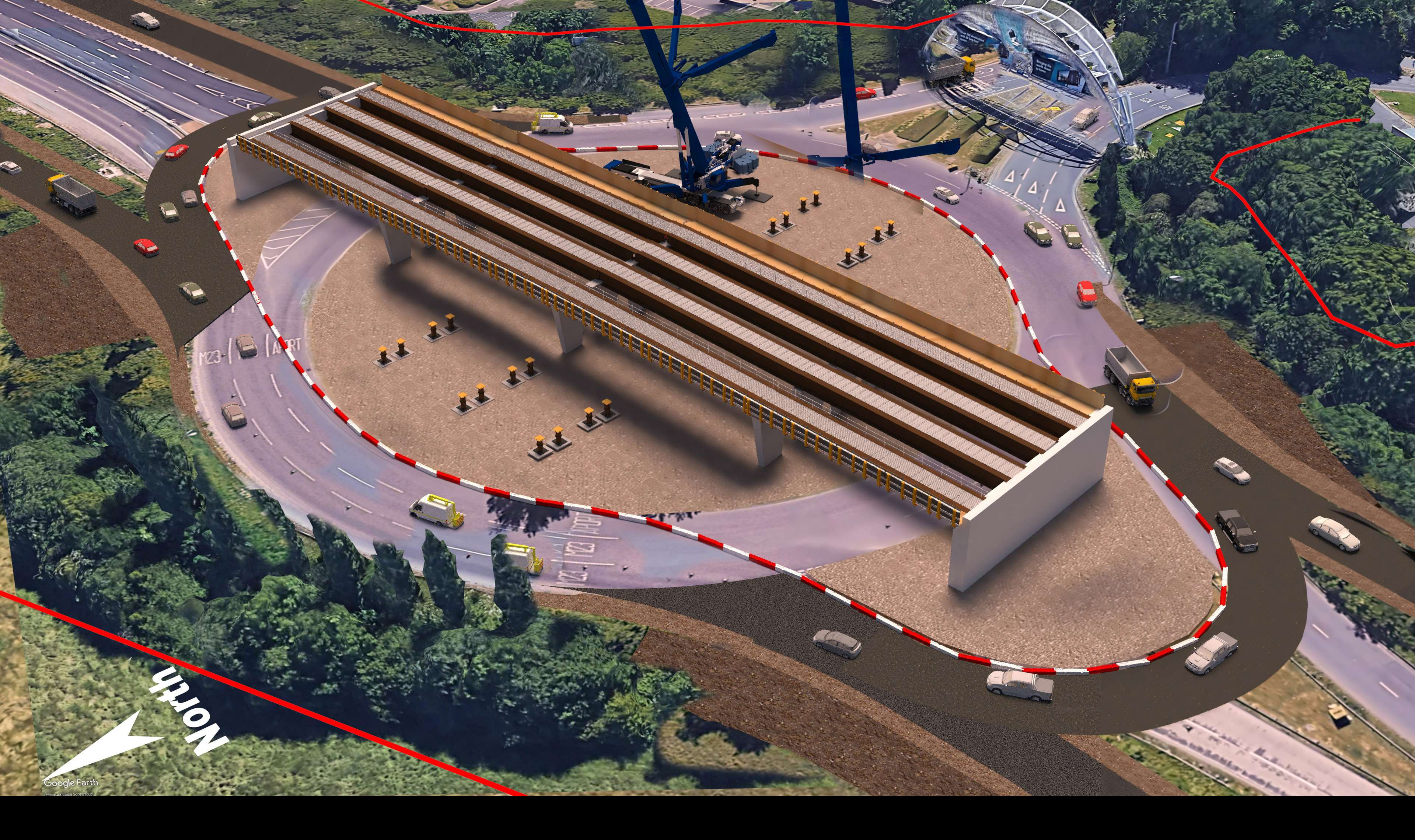
North



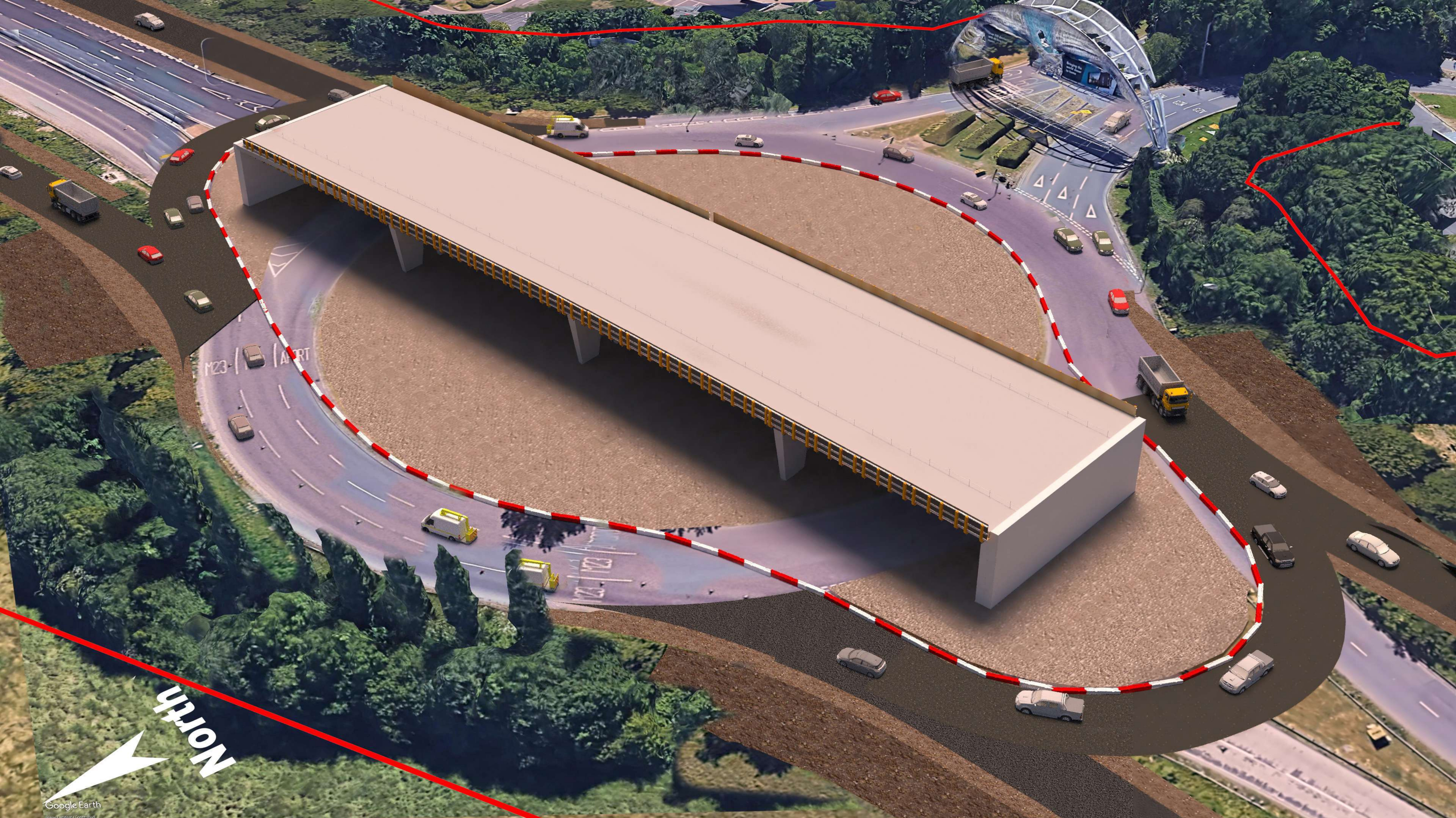


PLACE BEAMS

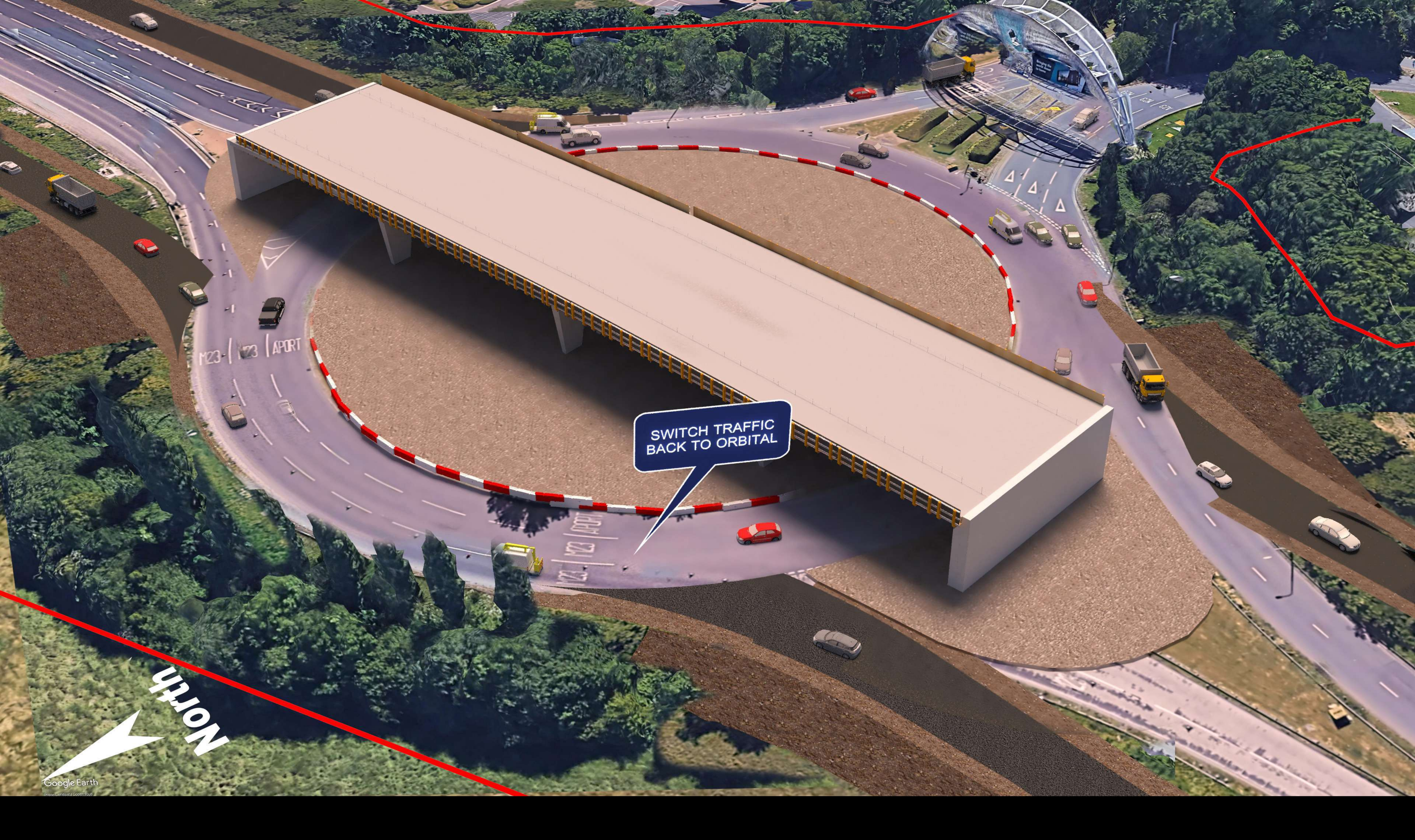
North



North



North



SWITCH TRAFFIC
BACK TO ORBITAL

North

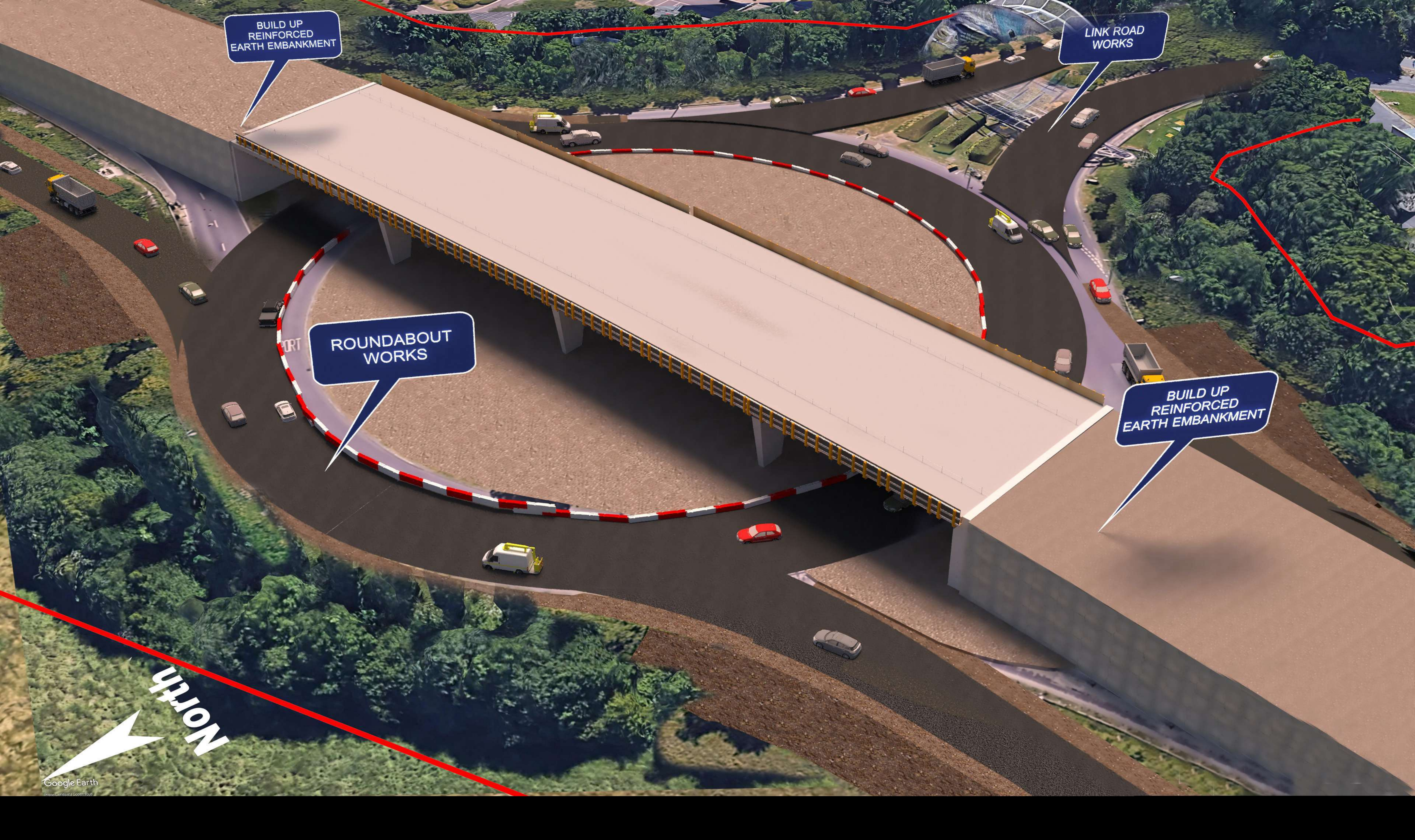
BUILD UP
REINFORCED
EARTH EMBANKMENT

LINK ROAD
WORKS

ROUNDAABOUT
WORKS

BUILD UP
REINFORCED
EARTH EMBANKMENT

North



RT
ROUNDABOUT
WORKS

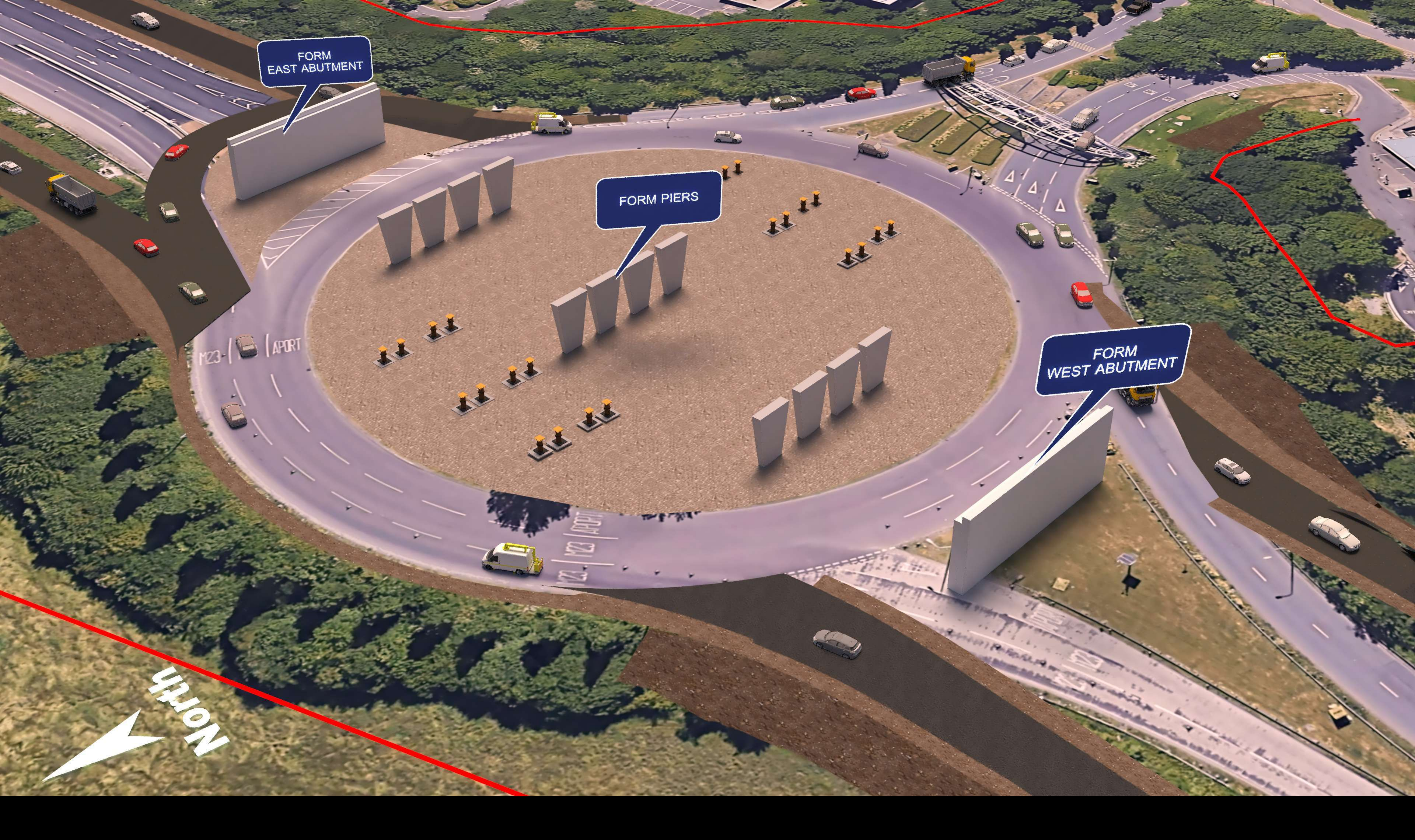
North

FORM EAST ABUTMENT

FORM PIERS

FORM WEST ABUTMENT

North

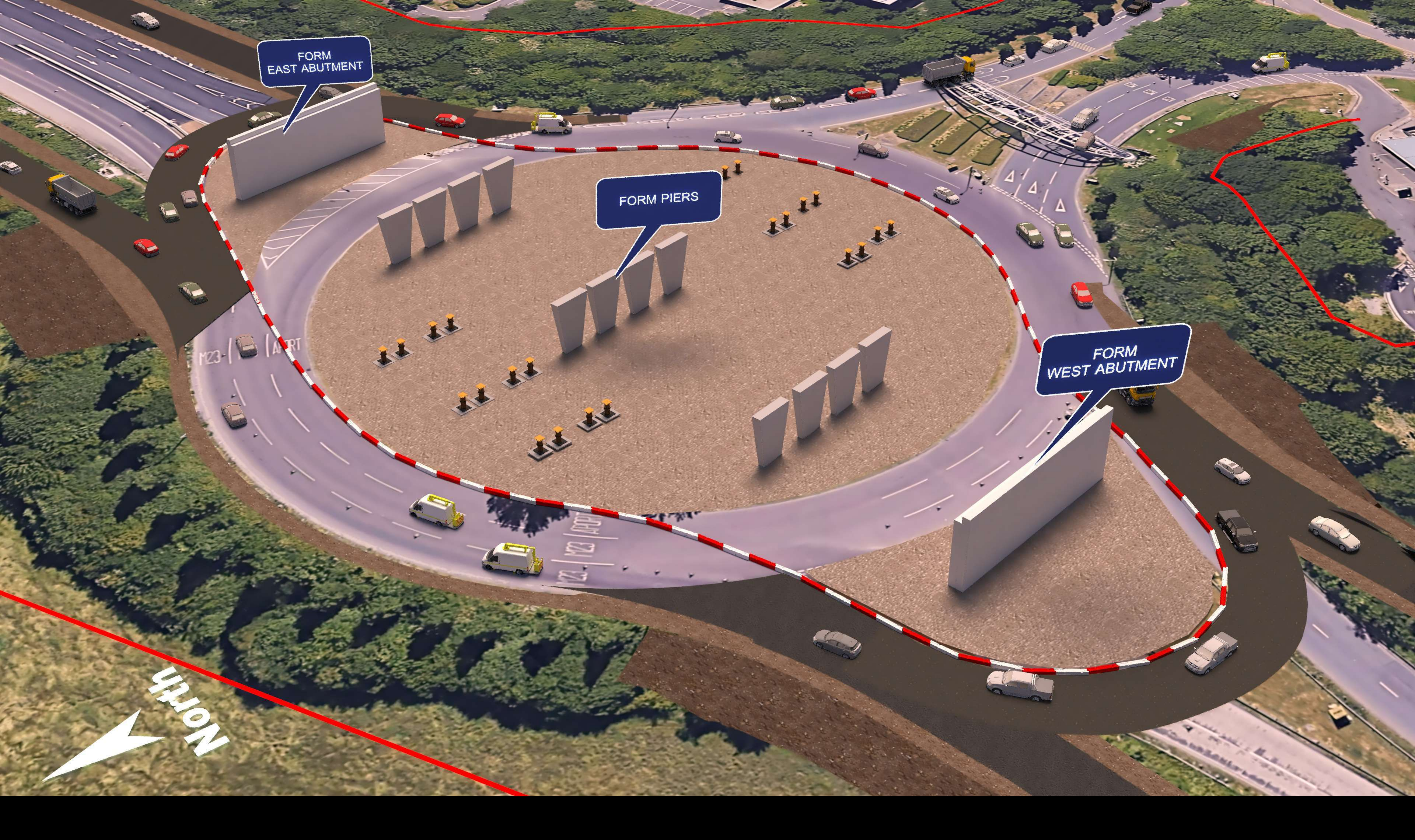


FORM EAST ABUTMENT

FORM PIERS

FORM WEST ABUTMENT

North



Appendix H - Method Visual: Balcombe Road Under Bridge



Buildability Report - Part B

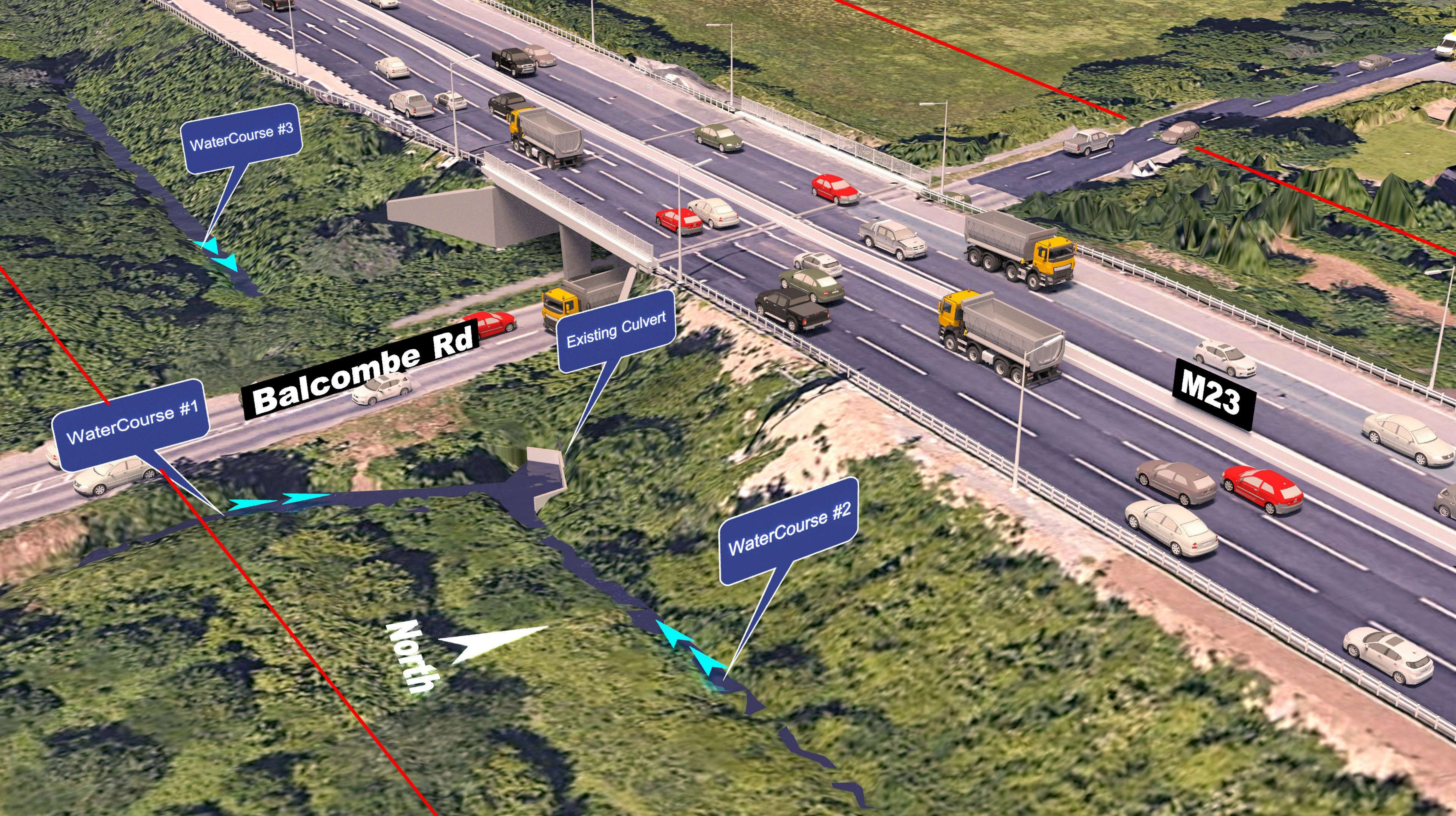
Method visuals - Structures

Appendix H:
Balcombe Road Underbridge



LONDON GATWICK





WaterCourse #3

WaterCourse #1

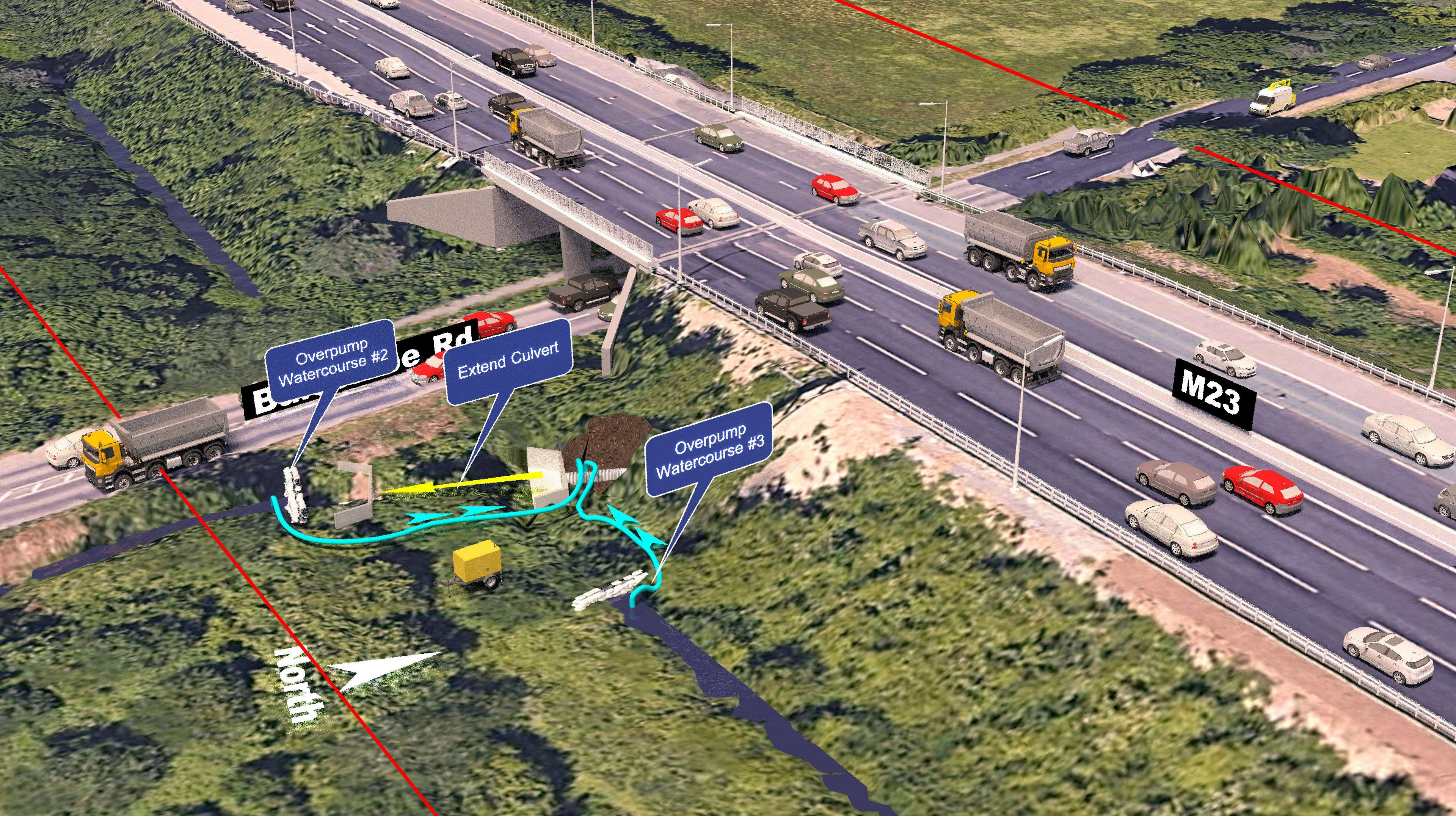
Balcombe Rd

Existing Culvert

WaterCourse #2

M23

North



Overpump Watercourse #2

Extend Culvert

Overpump Watercourse #3

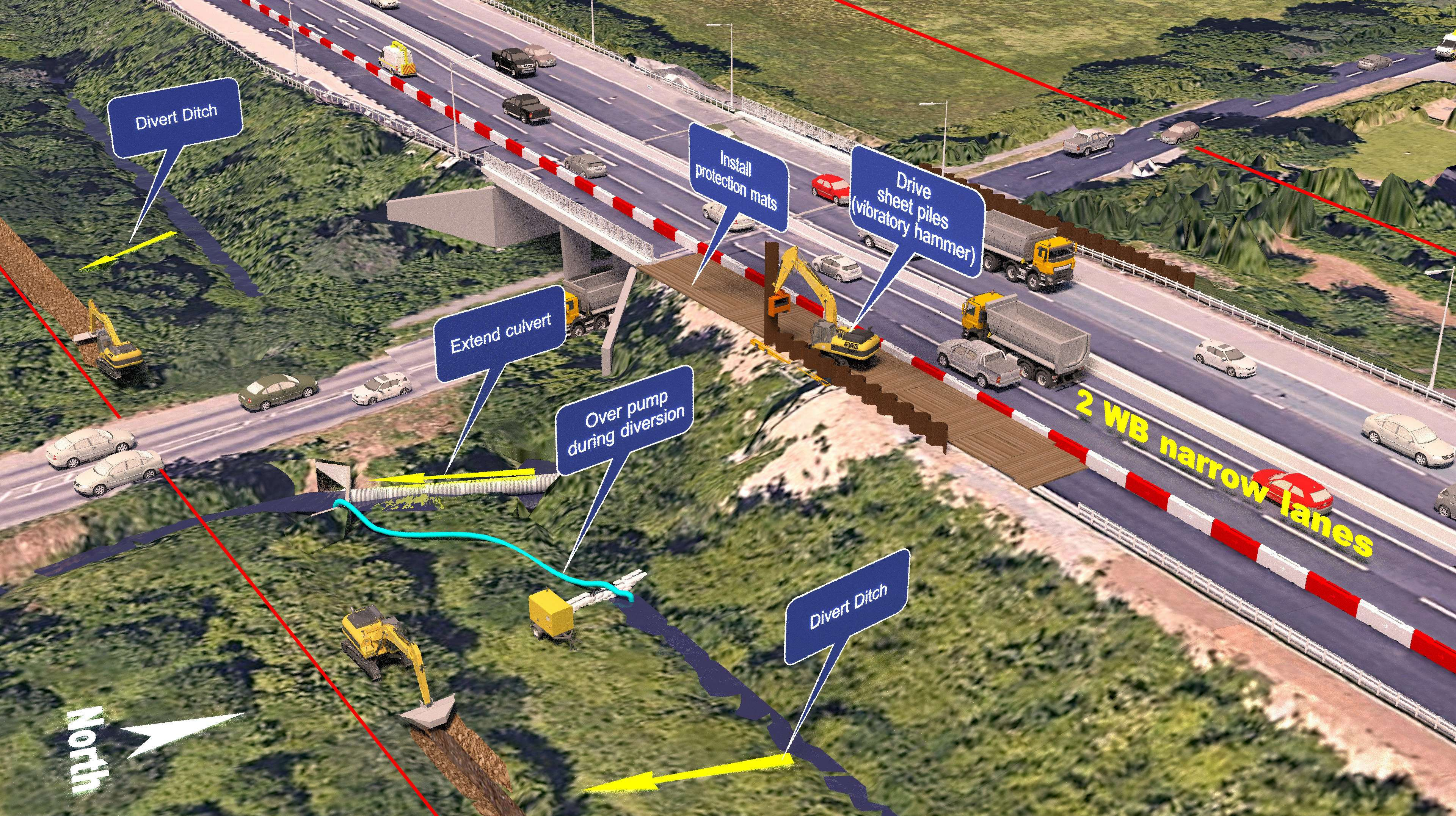
Balcombe Rd

M23

North

Balcombe Road Underbridge

Stage 1: Overpump watercourse - Extend existing culvert



Divert Ditch

Install protection mats

Drive sheet piles (vibratory hammer)

Extend culvert

Over pump during diversion

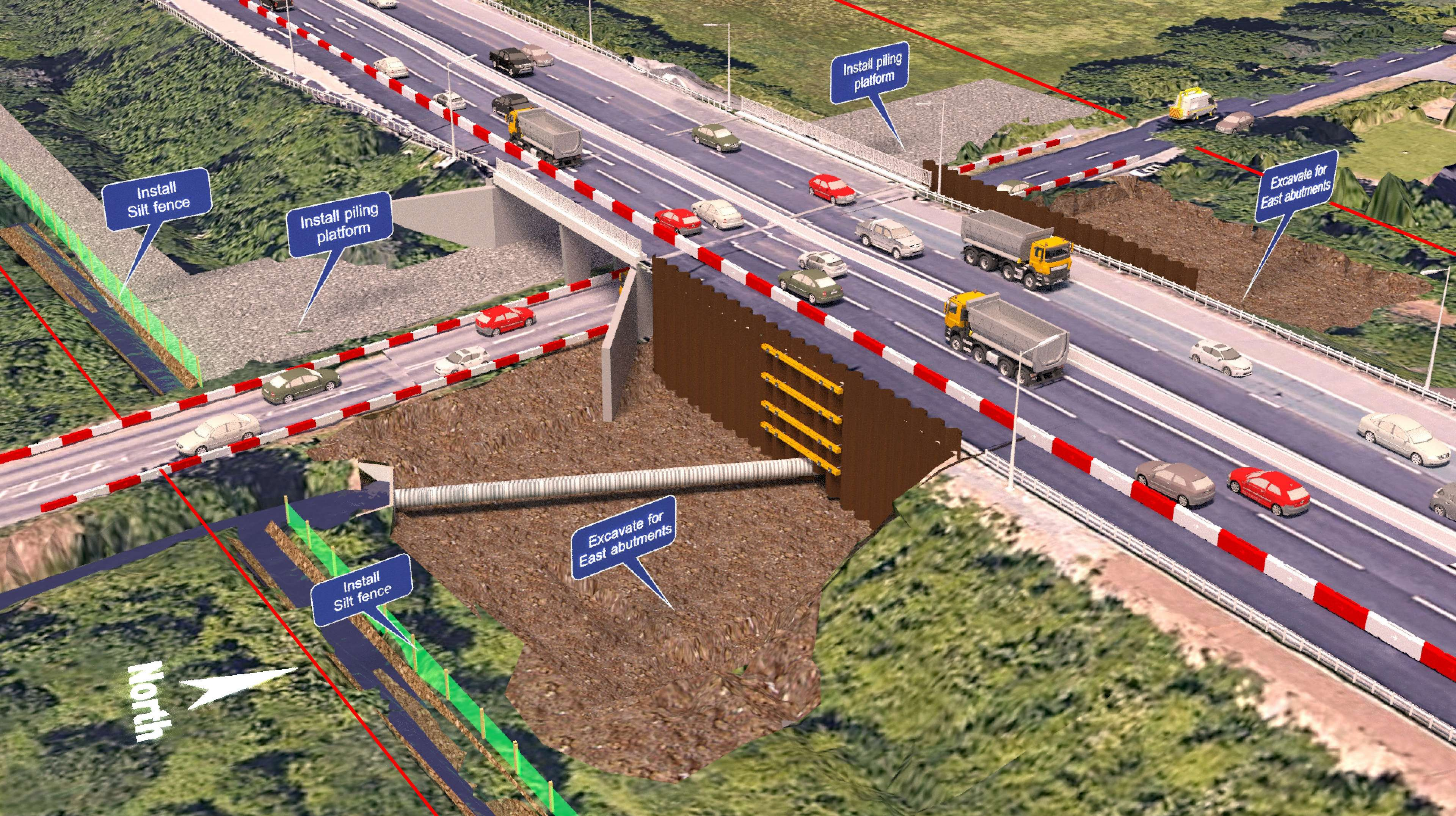
Divert Ditch

2 WB narrow lanes

NORTH

Balcombe Road Underbridge

Stage 2: Set up TM, WB lane closure, drive sheet piles, divert ditch, extend culvert



Install Silt fence

Install piling platform

Install piling platform

Excavate for East abutments

Excavate for East abutments

Install Silt fence

North

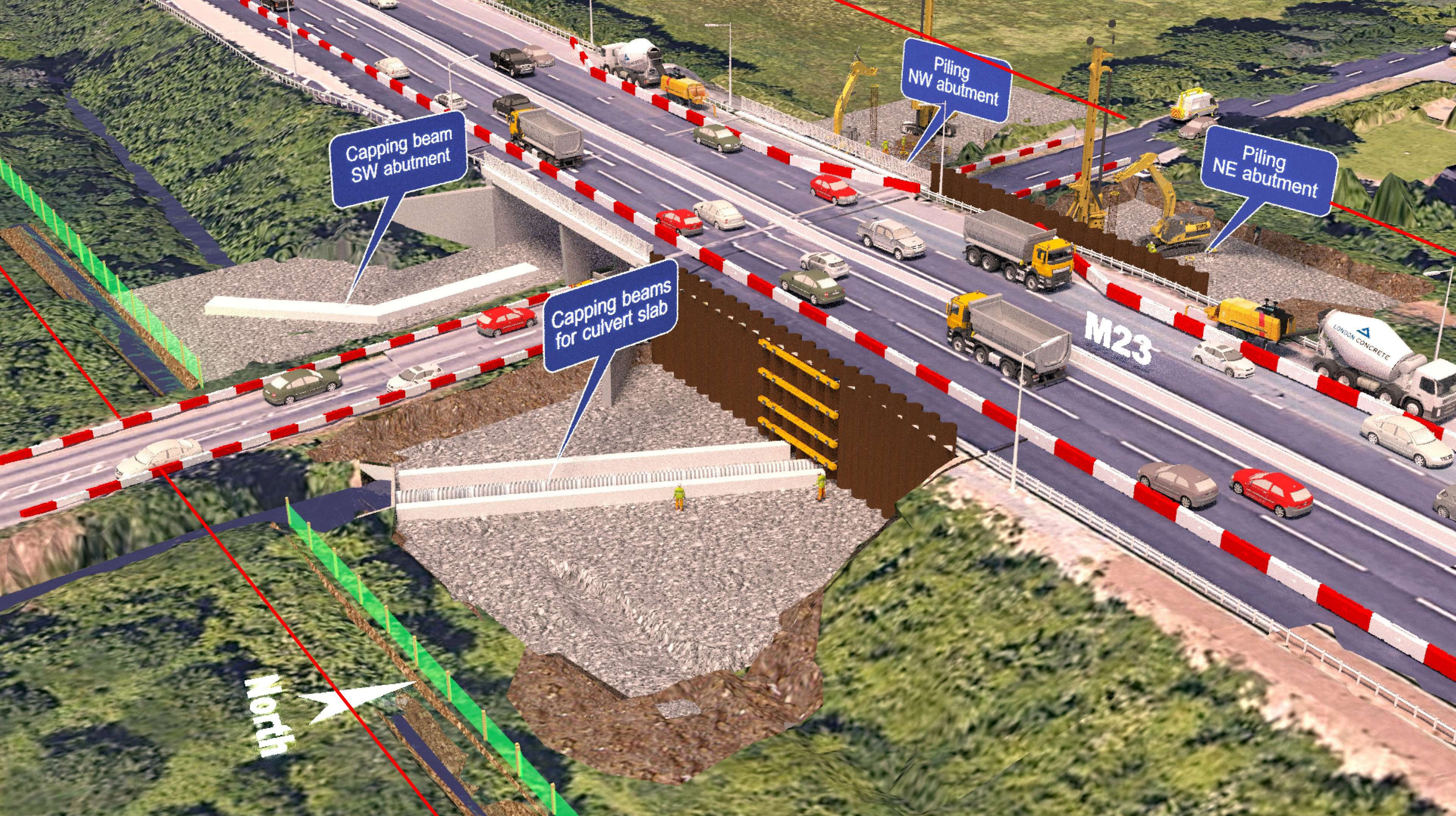
Balcombe Road Underbridge

Stage 3: Reduce level bulk excavation east abutments, install west piling platform



Balcombe Road Underbridge

Stage 4 ; Demolish east wing walls, piling for culvert protection slab, piling for west abutments



Capping beam
SW abutment

Capping beams
for culvert slab

Piling
NW abutment

Piling
NE abutment

M23

NORTH

LONDON CONCRETE

Balcombe Road Underbridge

Stage 5: Piling NE & NW abutments, form capping beams for culvert slab & SW abutments



Earthworks to extend embankment

Form walls SW abutment

Culvert protection slab

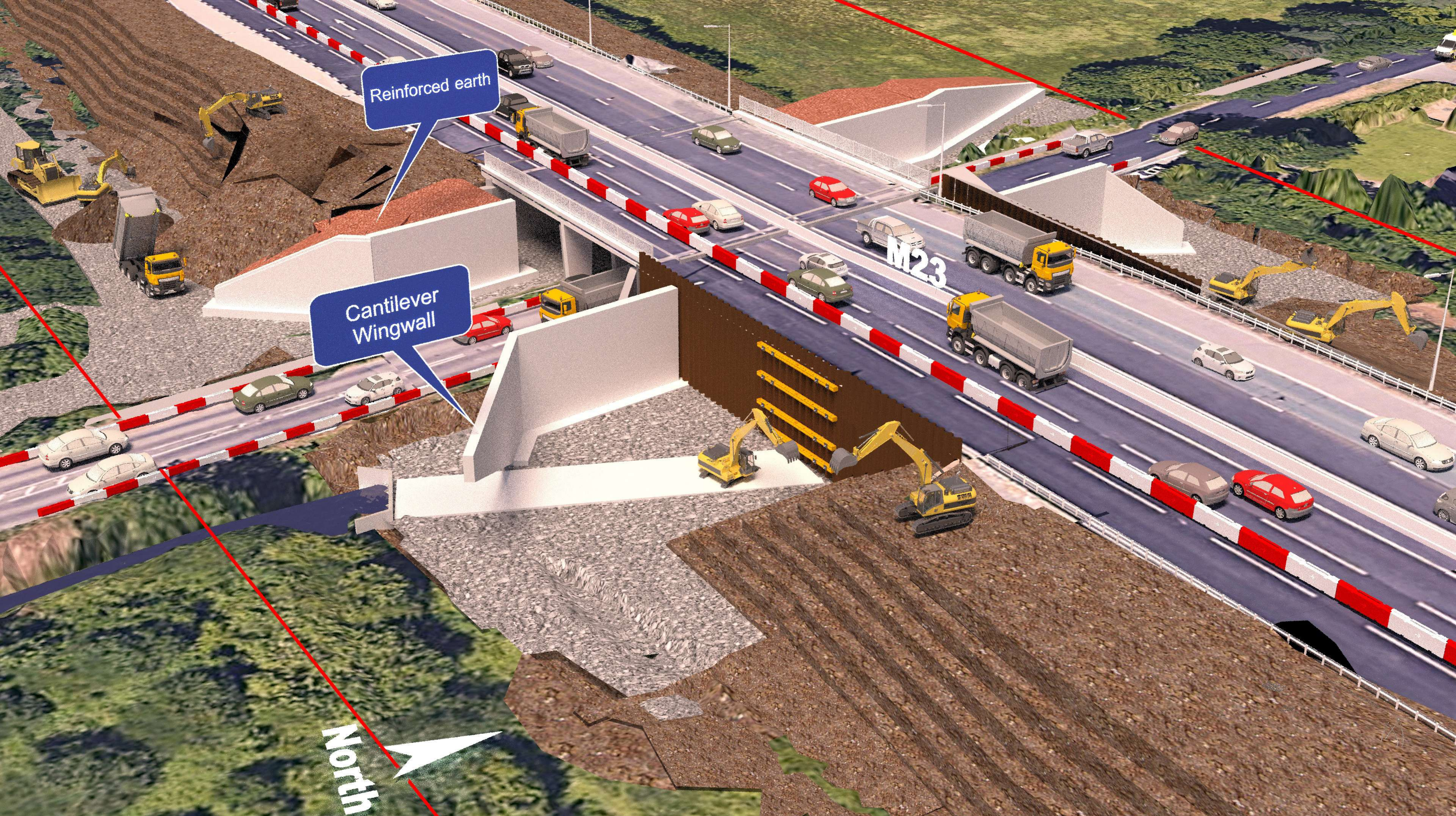
Capping beam NW abutment

Capping beam NE abutment

North

Balcombe Road Underbridge

Stage 6: Form culvert protection slab & SW abutment walls, form capping beam N abutments



Reinforced earth

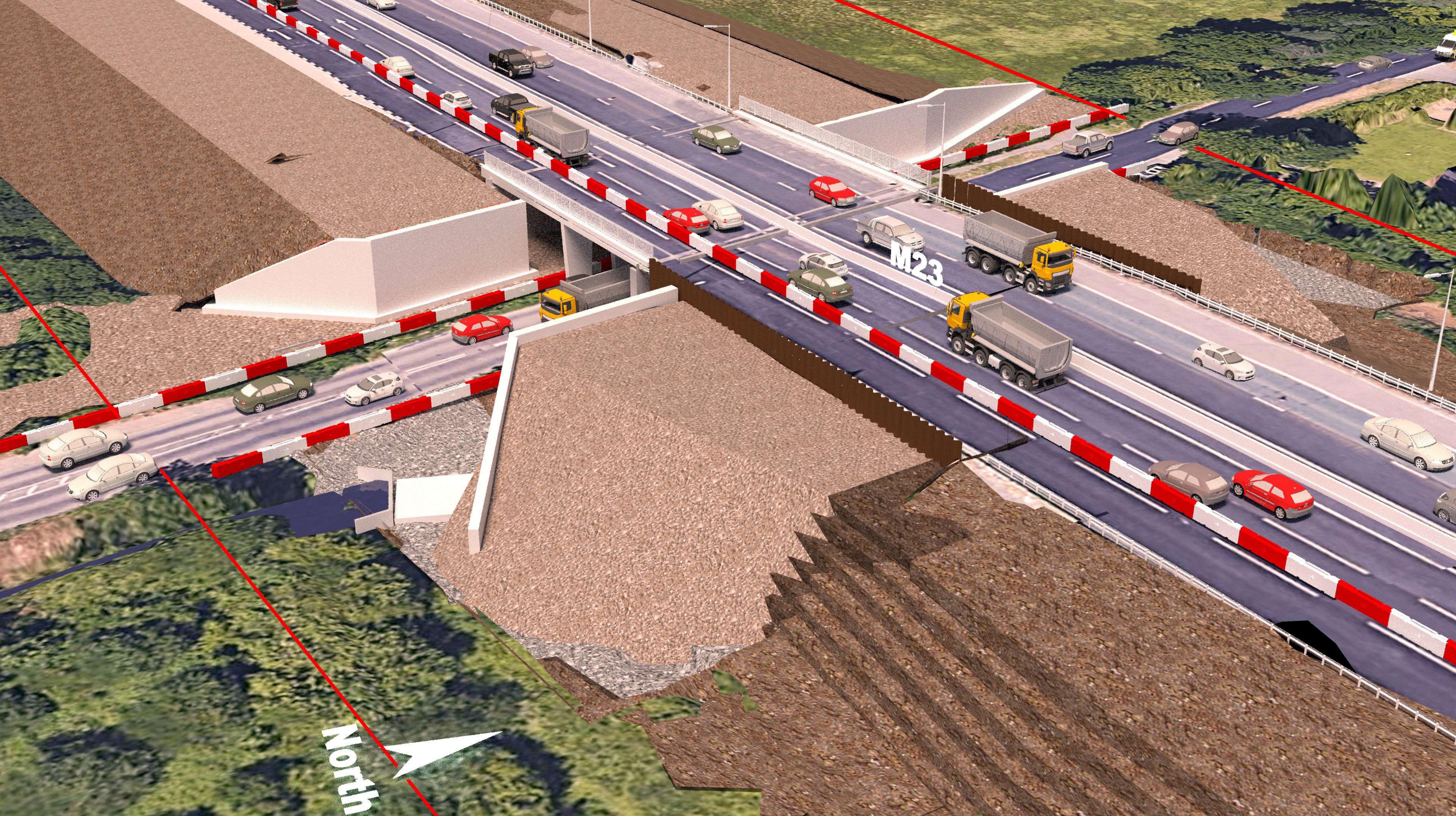
Cantilever Wingwall

M23

North

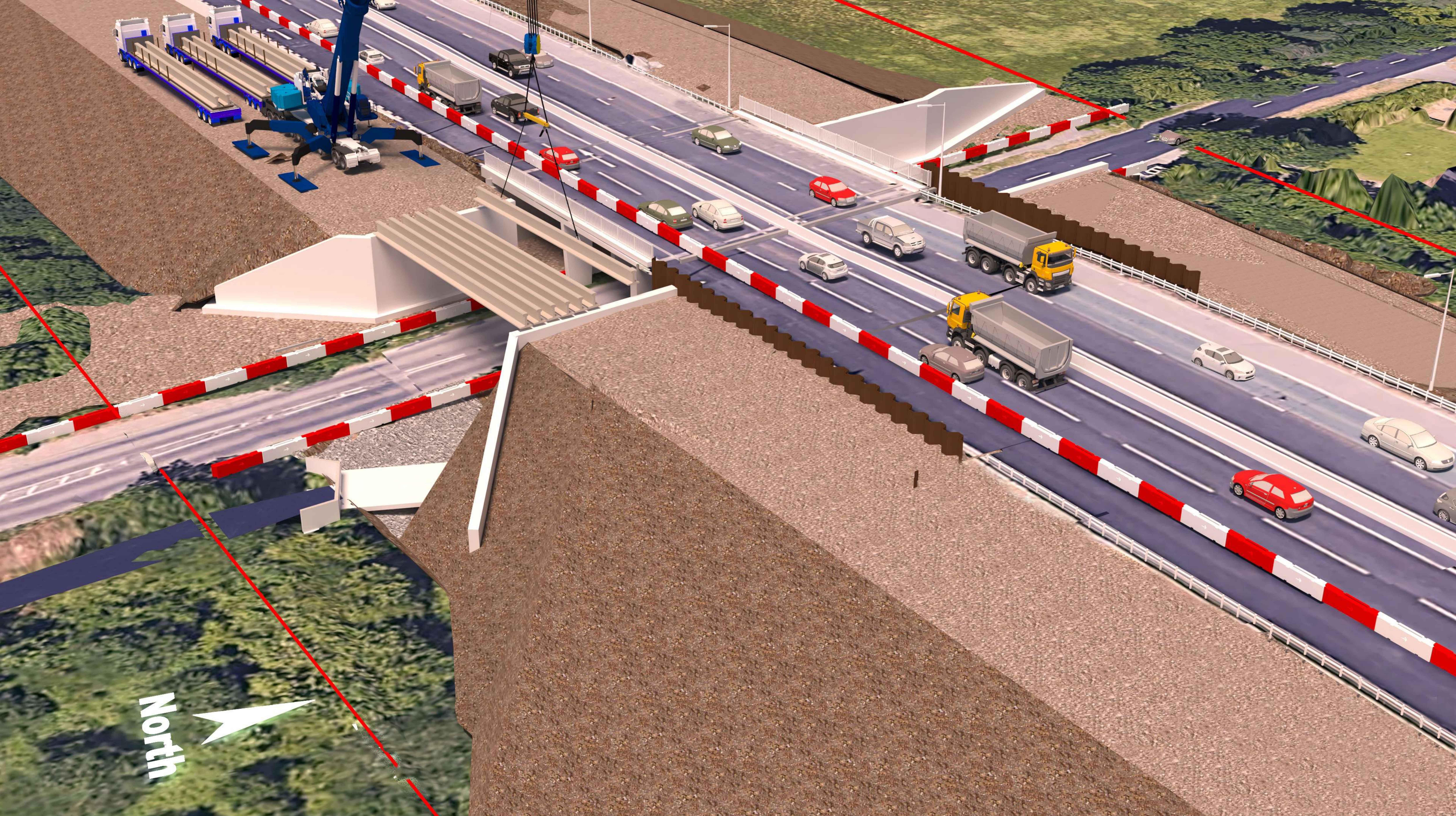
Balcombe Road Underbridge

Stage 7: Bench existing embankments, form SE cantilever wingwall, Reinforced earth SW



Balcombe Road Underbridge

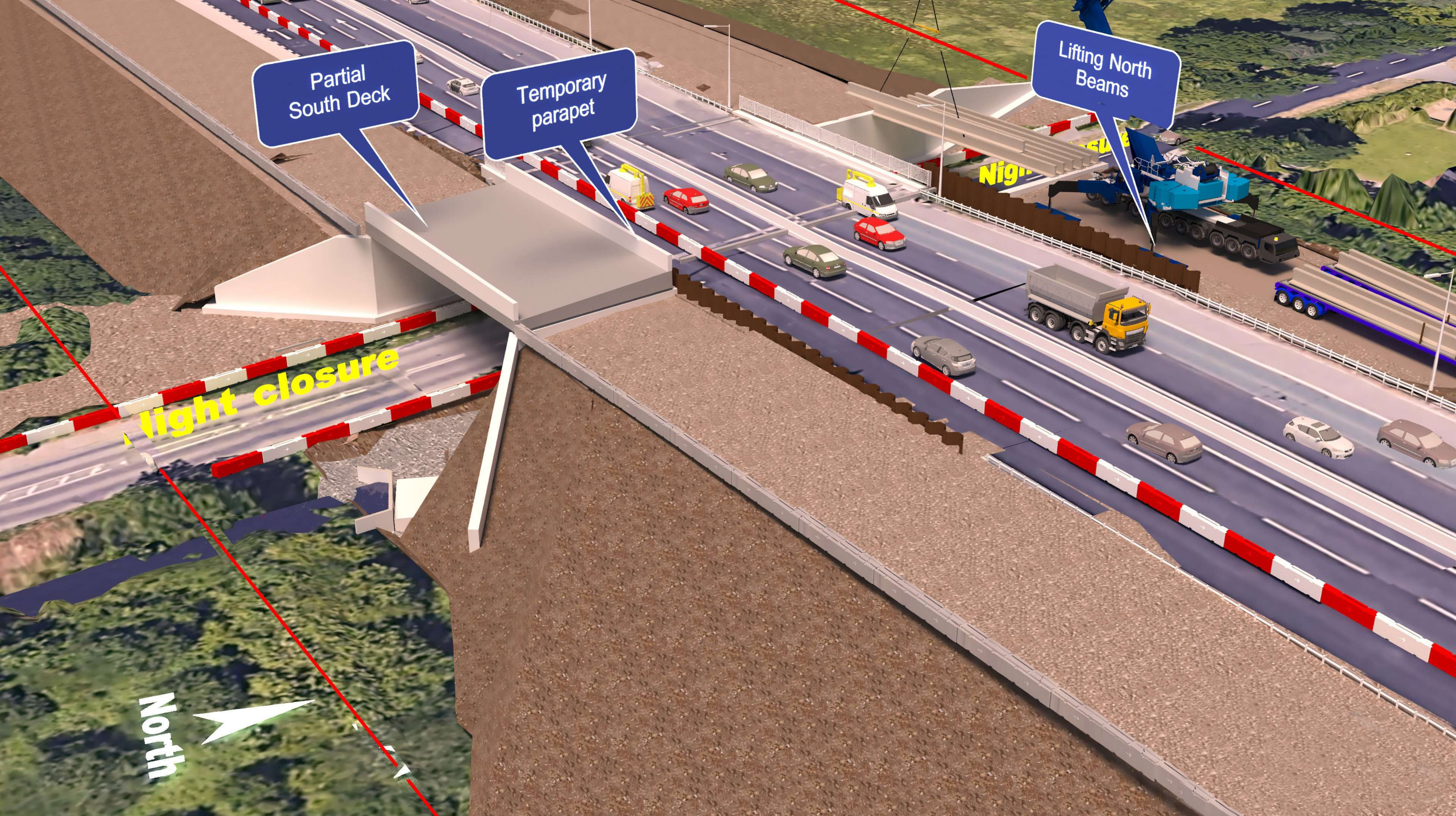
Stage 8: Bulk earthworks to extend embankments - structural fill behind structures



North

Balcombe Road Underbridge

Stage 9: Lift deck beams to extended WB half abutment



Partial South Deck

Temporary parapet

Lifting North Beams

light closure

North

Balcombe Road Underbridge

Stage 10: Cast partial (south) deck and temporary parapet.



West Bound
Road Markings

Full North deck
Complete

North

Balcombe Road Underbridge

Stage 11: Set west bound markings - Cast full deck north



Balcombe Road Underbridge

Stage 12: Switch traffic onto new, widened slip roads - releasing central area for excavation



North



Balcombe Road Underbridge

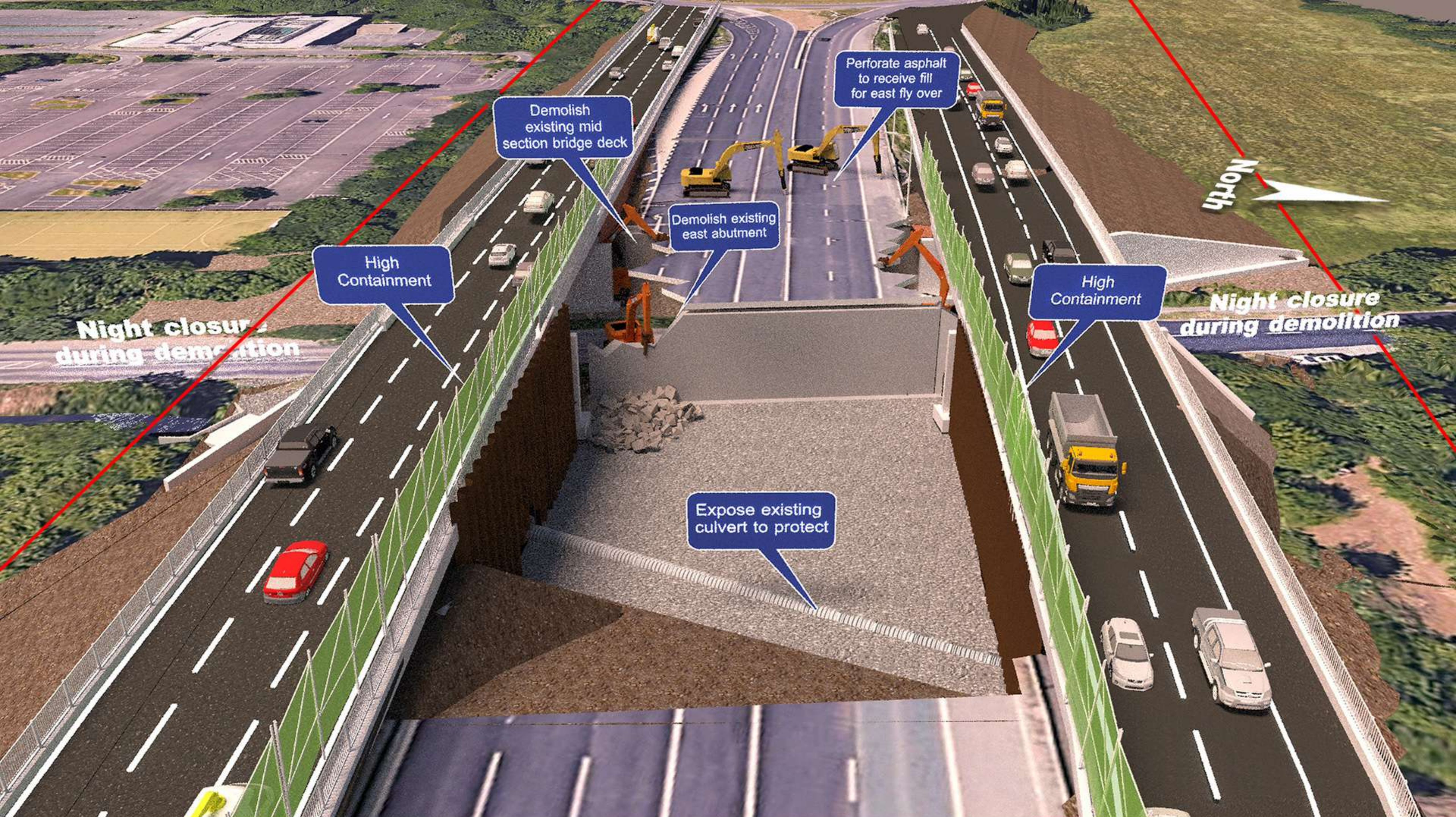
Stage 12: View change



North

Balcombe Road Underbridge

Stage 12: (View change)



Demolish existing mid section bridge deck

Perforate asphalt to receive fill for east fly over

Demolish existing east abutment

High Containment

High Containment

Expose existing culvert to protect

Night closure during demolition

Night closure during demolition

North



Fly over east approach fill

Piling for culvert protection slab

2 way lights while piling

Existing west abutment

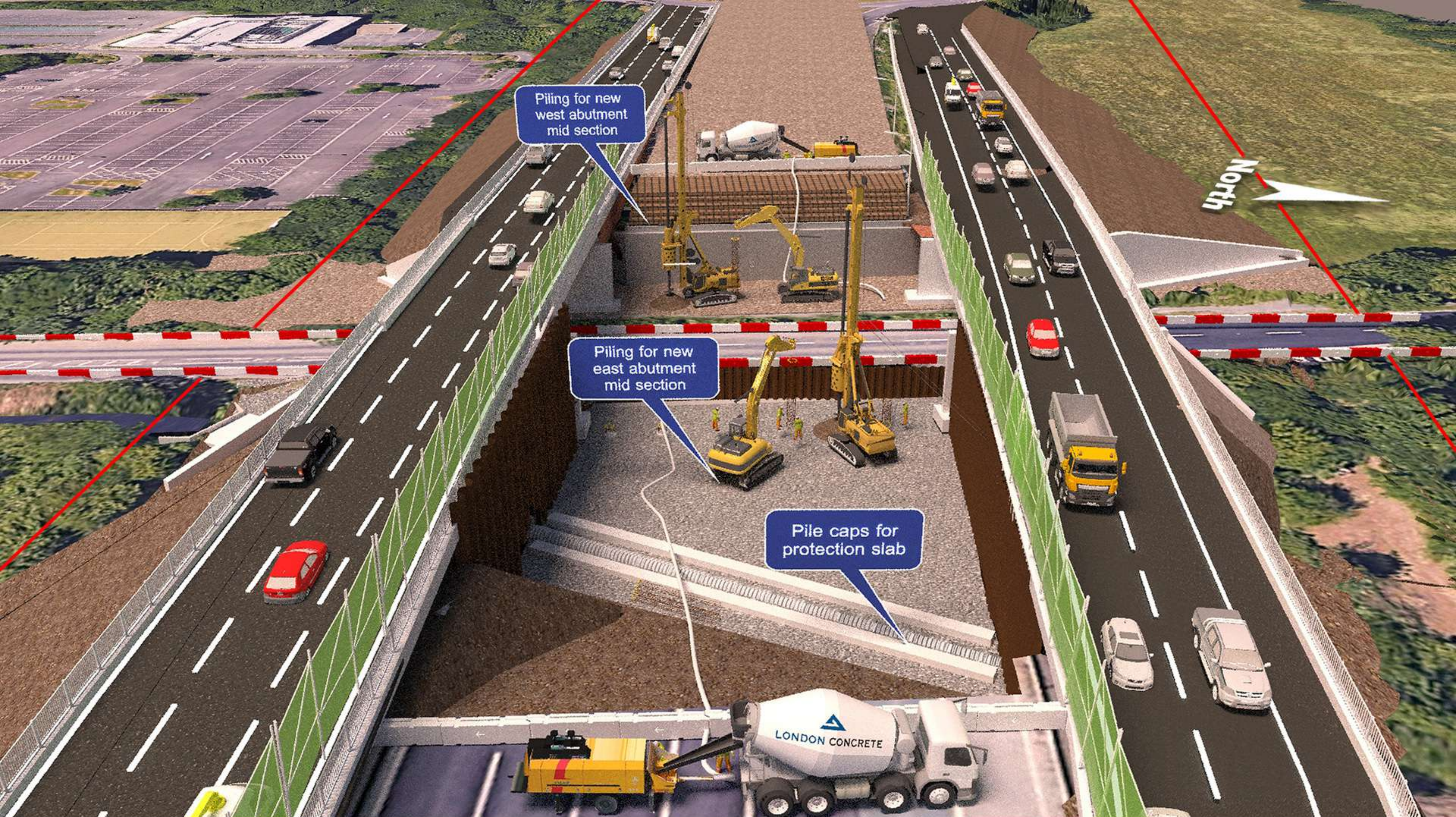
2 way lights while piling

North

LONDON CONCRETE

Balcombe Road Underbridge

Stage 14: Demolish existig deck, piling to culvert protection slab, Reinf. Earth fill east fly over



Piling for new west abutment mid section

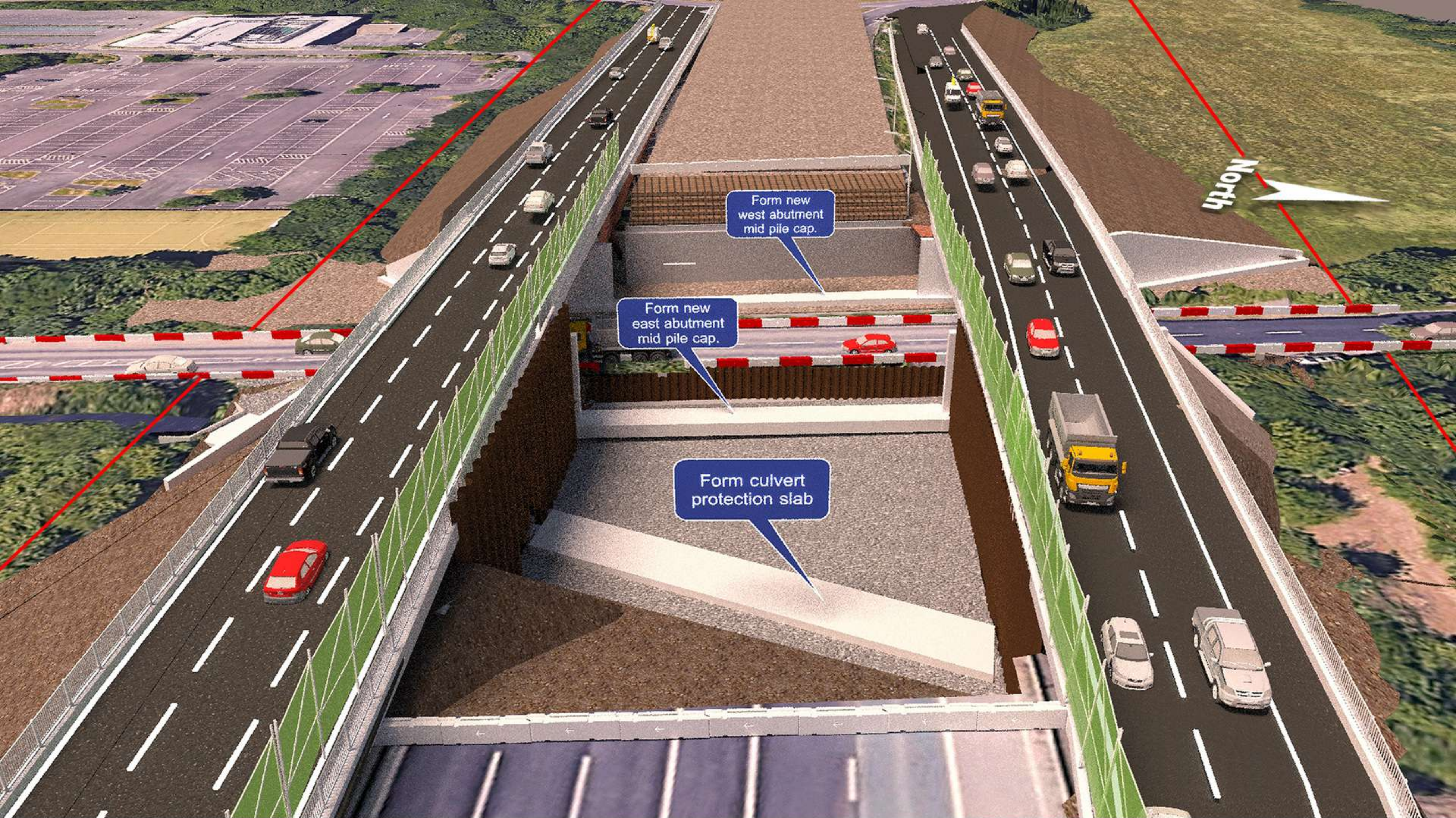
Piling for new east abutment mid section

Pile caps for protection slab

North

Balcombe Road Underbridge

Stage 15: Pile caps for protection slabs, piling for new mid section abutments



North

Form new west abutment mid pile cap.

Form new east abutment mid pile cap.

Form culvert protection slab

Balcombe Road Underbridge

Stage 16: Form culvert protection slab, east & west abutment pile caps



Form new west abutment mid wall.

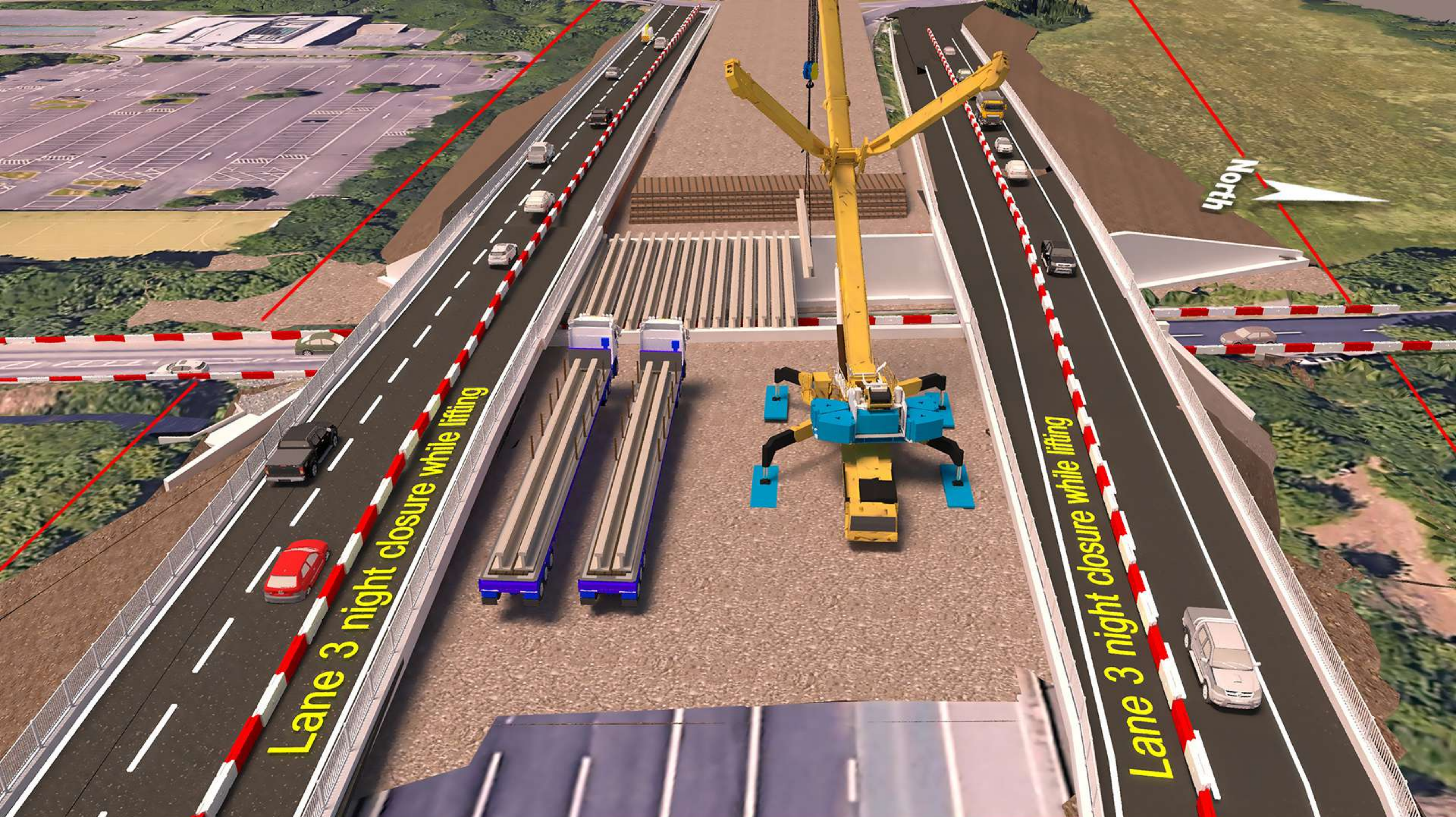
Form new east abutment mid wall.

North



Compacted fill
behind new mid
west abutment

Compacted fill
behind new mid
east abutment



Lane 3 night closure while lifting

Lane 3 night closure while lifting

North

Balcombe Road Underbridge

Stage 19: Lift deck beams onto new mid section abutments



Form new deck
mid section

North



Form new deck mid section

Compact fill between ramp and new deck

Prepare sub-base to receive asphalt

North



Balcombe Road Underbridge

Stage 22: Asphalt finish to mid section and tie ins



Balcombe Road Underbridge

Stage 23: Completed south terminal fly over section