

15. Residual Effects and Monitoring

Introduction

- 15.1. This chapter supersedes and replaces Chapter 15 of the December 2018 ES. The likely significant residual effects of the Development and the proposed monitoring to be undertaken are described in detail in the preceding technical chapters (**Chapters 7 to 13**) and **Part 3 Townscape, Visual Impact and Built Heritage Assessment** of this ES and Appendix I (Built Heritage Assessment Clarifications Part 1 and the TVIBHA Supplement) of the June 2020 ES Addendum, following the implementation of mitigation measures. For ease of reference, **Table 15.1** presents an updated summary of all potential effects, mitigation measures and subsequent likely residual effects of the Development, and a summary of the monitoring arrangements post mitigation is also provided in this chapter.
- 15.2. As noted in Chapter 2: EIA Methodology of the December 2018 ES, for the purposes of this ES, minor, moderate and major are all considered as significant effects. The exception to this is in the Townscape, Visual Impact and Built Heritage Assessment where minor or minor/moderate effects are considered to be not significant; moderate and major effects are considered as significant effects.

Table 15.1: Potential Effects, Mitigation Measures and Likely Residual Effects of the Development

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
Transport and Access: The Works			
Effects of traffic flows from construction vehicle movements upon the local highway network users.	Adverse effect of major significance on St Thomas Street (HGVs only) insignificant on all other links.	Site Environmental Management Plan (SEMP) and Construction Logistics Plan (CLP) prior to commencement.	Insignificant
Effects of construction activities on pedestrians in terms of movement and capacity, severance, delay, fear and intimidation, amenity.	Adverse effect of moderate significance to insignificant.	Management of walkways, any temporary closures and routing would be agreed with Southwark Council (SC) through the CLP and SEMP post-planning and prior to commencement.	Insignificant
Dust and dirt.	Insignificant	Dust and dirt to be prevented and managed as set out in SEMP.	Insignificant
Effects of construction on cyclists.	Insignificant	Management of road closures and routing would be agreed with the SC through the CLP and SEMP post-planning and prior to commencement.	Insignificant

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
Effects of increased number of public transport trips as a result of construction workers' travel on public transport users.	Insignificant	None required.	Insignificant
Transport and Access: Completed and Operational Development			
Effects of the Development on pedestrians in respect of pedestrian movement and capacity.	Beneficial effect of moderate significance. adverse effect of moderate significance on White Hart Yard only.	New pedestrian connection through the Site and public realm enhancements to encourage diversion of pedestrian movements onto King's Head Yard from White Hart Yard. Delivery, Waste and Servicing Management Plan (DSWMP) minimising servicing vehicles on White Hart Yard during peak periods.	beneficial effect of moderate significance. adverse effect of minor significance on White Hart Yard.
Effects of the Development on pedestrian severance.	Beneficial effect of moderate significance. Insignificant on White Hart Yard	New pedestrian connection through the Site and public realm enhancements to encourage diversion of pedestrian movements onto King's Head Yard from White Hart Yard.	Beneficial effect of moderate significance. Insignificant on White Hart Yard
Effects of the Development on pedestrian delay.	Beneficial effect of moderate significance. adverse effect of minor significance on White Hart Yard.	New pedestrian connection through the Site and public realm enhancements to encourage diversion of pedestrian movements onto King's Head Yard from White Hart Yard. DSMP minimising servicing vehicles on White Hart Yard during peak periods.	Beneficial effect of moderate significance. adverse effect of minor significance on White Hart Yard.
Effects of the Development on pedestrian fear and intimidation.	Beneficial effect of minor significance. insignificant on White Hart Yard.	New pedestrian connection through the Site and public realm enhancements to encourage diversion of pedestrian movements onto King's Head Yard from White Hart Yard.	Beneficial effect of minor significance. Insignificant on White Hart Yard.
Effects of the Development on pedestrian amenity.	Beneficial effect of major significance.	New pedestrian connection through the Site and public realm	Beneficial effect of major significance.

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
	Insignificant on White Hart Yard.	enhancements to encourage diversion of pedestrian movements onto King's Head Yard from White Hart Yard.	Insignificant on White Hart Yard.
Effects of the Development cycle trips on cyclists using the local cycle network.	Insignificant.	None required.	Insignificant.
Effects of the Development bus services on bus users.	Insignificant.	None required.	Insignificant.
Effects of the Development underground trips on Underground passengers.	Insignificant.	None required.	Insignificant.
Effects of the Development Rail trips on train passengers.	Insignificant.	None required.	Insignificant.
Effects of the Development Traffic Flows on road users on the local highway network.	Adverse effect of major significance on White Hart Yard. Insignificant on all other links.	DSMP minimising servicing vehicles on White Hart Yard during peak periods.	Adverse effect of minor significance on White Hart Yard. Insignificant on all other links.

Noise and Vibration: The Works			
Noise	SR A		Insignificant.
	SR B	Local, temporary, short to medium term effects of minor to major adverse significance.	Insignificant.
	SR C	Local, temporary, short to medium term effects of major adverse significance.	Insignificant to local, temporary, short to medium term effects of moderate adverse significance.
	SR D	Local, temporary, short to medium term effects of major adverse significant.	Insignificant to local, temporary, short to medium term effects of moderate adverse significance.
	SR E	Insignificant, except during demolition where local, temporary, short to medium-term effects of	Insignificant.

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
	moderate adverse significance.		
<i>SR F</i>	Local, temporary, short to medium term effects of major adverse significance.		Insignificant to local, temporary, short to medium term effects of moderate adverse significance.
<i>SR G</i>	Insignificant.		Insignificant.
<i>SR H</i>	Insignificant.		Insignificant.
<i>SR I</i>	Insignificant.		Insignificant.
<i>SR J</i>	Insignificant.		Insignificant.
Vibration	Insignificant to local, temporary, short to medium term effects of minor adverse significance.		Insignificant.
Traffic Noise	Insignificant.	Adoption of a CLP.	Insignificant.
Noise and Vibration: Completed and Operational Development			
Building Services Plant Noise.	Insignificant.	Plant noise limit secured through planning condition.	Insignificant.
Commercial Uses and Servicing Noise.	Insignificant.	Building envelope and Delivery, Servicing and Waste Management Plan (DSWMP)	Insignificant.
Air Quality: The Works			
Dust emissions arising from the demolition and construction works.	Insignificant.	None required. However, some of the routine management controls prescribed in the SEMP would relate to good practice measures to limit the impacts of construction traffic and the use of plant and machinery.	Insignificant.
Emissions from demolition and construction vehicles.	Insignificant.		Insignificant.
Emissions from demolition and construction plant.	Insignificant.	Plant to meet standards set for NRMM.	Insignificant.
Air Quality: Completed and Operational Development			
Emissions from heating plant associated with the Development.	Insignificant.	None required.	Insignificant.
Archaeology (Buried Heritage): The Works			
Archaeological remains of medium (District) significance, i.e.	Direct, permanent, local adverse effects of major significance.	Implementation of an agreed phased programme of archaeological	Direct, permanent, local adverse effects of major significance.

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
isolated and truncated prehistoric and/or Roman cut features.		investigation under a planning condition to secure preservation by record. This would comprise evaluation (if feasible this would be combined with any geotechnical works) following removal of the basement slab. The results would inform the need and scope for any necessary subsequent targeted excavation and recording, and/or a watching brief during ground reduction, as appropriate.	
Archaeological remains of Low (local) significance, i.e. redeposited prehistoric and/or Roman artefacts, truncated post-medieval remains, and disarticulated human bone.	Direct, permanent, local adverse effects of moderate significance.		Direct, permanent, local adverse effects of moderate significance.

Archaeology (Buried Heritage): Completed and Operational Development

Likely effects to archaeology would only result from intrusive ground works resulting from the demolition and construction of the Development. Therefore, there would be no archaeological effects associated with the complete and operational Development.

Water Resources and Flood Risk: The Works

Tidal and fluvial flood Risk.	Insignificant.	None required.	Insignificant.
Groundwater flooding.	Temporary, short to medium-term, local, adverse effect of minor significance.	Appropriate dewatering and disposal, using standard techniques such as sumps and pumps.	Insignificant.
Surface water (pluvial) flooding.	Temporary, short to medium term, local, adverse effect of minor significance.	Implementation of SEMP including adequate temporary drainage.	Insignificant.
Effects to Controlled Waters from ground contamination.	Temporary, short to medium term, local, adverse effect of minor significance.	Implementation SEMP detailing protective measures.	Insignificant.
Foul and potable water infrastructure.	Insignificant (foul) Insignificant to temporary, short to medium term, local, adverse effect of minor significance at worst (potable water).	None required (foul). Implementation of SEMP including measures to minimise and reduce water use (potable water).	Insignificant.

Water Resources and Flood Risk: Completed and Operational Development

Tidal and fluvial flood risk	Insignificant to long-term, local adverse effect of minor significance.	Permanent flood barrier for basement access and demountable flood barrier system for pedestrian entrances.	Insignificant.
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Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
Flooding from sewers	Insignificant.	None required.	Insignificant.
Surface water (pluvial) flooding	Insignificant to long-term, local adverse effect of minor significance.	Permanent flood barrier for basement access and demountable flood barrier system for pedestrian entrances.	Insignificant.
Groundwater flooding	Insignificant.	None required.	Insignificant.
Change in foul Water drainage capacity	Insignificant.	None required.	Insignificant.
Change in potable water demand	Insignificant.	None required.	Insignificant.
Wind Microclimate: The Works			
Wind effects on and around the Site during the Works.	Short-term, local, adverse effect of minor significance.	The effect is entirely within the site boundary and not publicly accessible during the Works. Mitigation developed for the completed Development should be provided around buildings as they are occupied.	Insignificant.
Wind Microclimate: Completed and Operational Development			
Wind effects on off-site local thoroughfares.	Insignificant (LUL station entrance, Southwark Cathedral) to long-term, local, beneficial effect of minor significance (between London Bridge Place and the Shard).	None required as there is a significant benefit in the area near London Bridge Place.	Insignificant.
Wind effects on on-site public realm.	Long-term, local, adverse effect of minor significance (in the Main Courtyard).	Tree planting in the ground level public realm in accordance with the plans as submitted.	Insignificant.
	Long-term, local, adverse effect of minor significance (in St. Thomas Street entrance).	Tree planting in the ground level public realm in accordance with the plans as submitted.	Insignificant.
	Long-term, local, adverse effect of minor significance (in New Yard).	Tree planting in the ground level public realm in accordance with the plans as submitted.	Insignificant.

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
Wind effects on on-site amenity spaces.	Long-term, local, adverse effect of moderate significance (on hub terrace).	Install screens on south edge of hub terrace up to 2.5m from floor.	Insignificant.
	Long-term, local, adverse effect of moderate significance (on level 5 terrace).	Install 1.5m wide vertical screens, angled 25°, along the south edge of Level 5 terrace.	Insignificant.
	Long-term, local, adverse effect of minor significance (on level 3 terrace).	Restrict access to the extremities of the Level 3 terrace by a perforated hand rail.	Insignificant.
Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution: The Works			
Daylight, sunlight and overshadowing effects during demolition.	Temporary, beneficial effects considered likely during demolition.	None proposed.	Temporary, beneficial effects considered likely during demolition.
Solar glare effects during demolition.	Temporary, beneficial effects considered likely during demolition.	None proposed.	Temporary, beneficial effects considered likely during demolition.
Daylight, sunlight and overshadowing during construction.	Effects would gradually change from beneficial to those expected once the Development is complete and operational.	None proposed.	Effects would gradually change from beneficial to those expected once the Development is complete and operational.
Solar glare during construction.	Effects would gradually change from beneficial to those expected once the Development is complete and operational.	None proposed.	Effects would gradually change from beneficial to those expected once the Development is complete and operational.
Light pollution during demolition.	Temporary, beneficial effects considered likely during demolition.	None proposed.	Temporary, beneficial effects considered likely during demolition.
Daylight, Sunlight, Overshadowing and Solar Glare: Complete and Operational Development			
Daylight	Long term, local, Insignificant to 8 properties, minor adverse to 5 properties, moderate adverse to 5 properties.	None proposed.	Long term, local, Insignificant to 8 properties, minor adverse to 5 properties, moderate adverse to 5 properties.
Sunlight	Long term, local, Insignificant to 14 properties, moderate adverse to 2 properties.	None proposed.	Long term, local, Insignificant to 14 properties, moderate adverse to 2 properties.
Overshadowing	Insignificant to all amenity areas.	None proposed.	Insignificant to all amenity areas.
Solar Glare	Long term, local, insignificant to 8 locations, minor adverse to 17 locations, moderate adverse to 1 location, and	None proposed	Long term, local, insignificant to 8 locations, minor adverse to 17 locations, moderate adverse to 2 locations.

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
	major adverse to 1 location.		
Light Pollution	Insignificant to all properties.	None proposed.	Insignificant to all properties.
Townscape, Visual Impact and Built Heritage: The Works			
Views	No effect or short to medium term, local to regional, adverse or neutral effect of minor / insignificant to major significance.	Hoarding.	No effect or short to medium term, local to regional, adverse effect of minor / insignificant to major significance.
Townscape Character Areas (TCA)	Short to medium term, local to regional, adverse or neutral effect of minor to major significance.	Hoarding.	Short to medium term, local to regional, adverse effect of minor to major significance.
Built Heritage Assets	Short to medium term, adverse effect (direct) of moderate to major significance. Short to medium term, adverse effect (indirect) of moderate to major significance.	Pre-condition survey. Historic building recording. Detailed method statement. Hoarding. Vibration monitoring. Implementation of SEMP and mitigation measures as set out in outline CMP.	Short to medium term, adverse effect (direct – physical works) of moderate to major significance. Short to medium term, adverse effect (indirect - on setting) of moderate to major significance.
Townscape, Visual Impact and Built Heritage: Complete and Operational Development			
Views			
View 1. LVMF 1A.1 Alexandra Palace: the viewing terrace – south-western section	Long-term, regional, neutral effect of moderate significance.	None required.	Long-term, regional, neutral effect of moderate significance.
View 2. LVMF 1A.2 Alexandra Palace: the viewing terrace – approaching from the north-eastern car park	Long-term, regional, neutral effect of moderate significance.	None required.	Long-term, regional, neutral effect of moderate significance.
View 3. LVMF 2A.1 Parliament Hill: the summit - looking toward St Paul's Cathedral.	Long-term, regional, neutral effect of moderate significance.	None required.	Long-term, regional, neutral effect of moderate significance.
View 4. LVMF 2B.1 Parliament Hill: east of the summit – at	Long-term, regional, neutral effect of minor significance.	None required.	Long-term, regional, neutral effect of minor significance.

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
the prominent oak tree			
View 5. LVMF 3A.1 Kenwood: the viewing gazebo - in front of the orientation board	Long-term, regional, neutral effect of moderate significance.	None required.	Long-term, regional, neutral effect of moderate significance.
View 6. LVMF 4A.1 Primrose Hill: the summit - looking towards St Paul's Cathedral	Long-term, regional, neutral effect of moderate significance.	None required.	Long-term, regional, neutral effect of moderate significance.
View 7. LVMF 5A.2 Greenwich Park: the General Wolfe statue - north-east of the statue	Long-term, regional, neutral effect of minor/insignificant significance.	None required.	Long-term, regional, neutral effect of minor/insignificant significance.
View 8. LVMF 6A.1 Blackheath Point - near the orientation board	Long-term, regional, neutral effect of minor significance.	None required.	Long-term, regional, neutral effect of minor significance.
View 9. LBS Borough View 1 - North facing view from One Tree Hill	Long-term, district, neutral effect of moderate significance.	None required.	Long-term, district, neutral effect of moderate significance.
View 10. LBS Borough View 2 – St Paul's Cathedral from Nunhead Cemetery	Long-term, district, neutral effect of moderate significance.	None required.	Long-term, district, neutral effect of moderate significance.
View 11. LBS Borough view 3 - St Paul's Cathedral along Camberwell Road	No effect	None required.	No effect
View 12. LVMF 10A.1 Tower Bridge: Upstream - the North Bastion	Long-term, regional, beneficial effect of moderate significance.	None required.	Long-term, regional, beneficial effect of moderate significance.
View 13. St Katharine's Dock, at Girl with a Dolphin Fountain	Long-term, regional, neutral effect of minor to moderate significance.	None required.	Long-term, regional, neutral effect of minor to moderate significance.
View 14. LVMF 12B.1 Southwark Bridge: downstream - close to the City of London bank	Long-term, regional, beneficial effect of moderate to major significance.	None required.	Long-term, regional, beneficial effect of moderate to major significance.

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
View 15. Millennium Bridge (centre)	Long-term, district, neutral effect of minor to moderate significance.	None required.	Long-term, district, neutral effect of minor to moderate significance.
View 16. LVMF 15B.1 Waterloo Bridge: downstream - close to the Westminster bank	Long-term, regional, neutral effect of minor/insignificant significance.	None required.	Long-term, regional, neutral effect of minor/insignificant significance.
View 17. LVMF 15B.2 Waterloo Bridge: downstream - at the centre of the bridge	Long-term, regional, neutral effect of minor/insignificant significance.	None required.	Long-term, regional, neutral effect of minor/insignificant significance.
View 18. LVMF 17B.1 Golden Jubilee/Hungerford Footbridges: downstream - crossing the Westminster bank	Long-term, regional, neutral effect of moderate significance.	None required.	Long-term, regional, neutral effect of moderate significance.
View 19. LVMF 17B.2 Golden Jubilee/Hungerford Footbridges: downstream close to the Westminster bank	Long-term, regional, neutral effect of moderate significance.	None required.	Long-term, regional, neutral effect of moderate significance.
View 20. LVMF 26A.1 St James' Park Footbridge, centre of the bridge	No effect	None required.	No effect
View 21. LVMF 20B.1 Victoria Embankment: between Waterloo and Hungerford Bridges - at Cleopatra's Needle	No effect	None required.	No effect
View 22. Victoria Embankment, opposite Temple Gardens	Long-term, regional, beneficial effect of minor to moderate significance.	None required.	Long-term, regional, beneficial effect of minor to moderate significance.
View 23. Gracechurch Street, corner with Lombard Street	Long-term, regional, neutral effect of moderate to major significance.	None required.	Long-term, regional, neutral effect of moderate to major significance.
View 24. London Bridge: upstream - at the City of London bank	Long-term, regional, beneficial effect of moderate to major significance.	None required.	Long-term, regional, beneficial effect of moderate to major significance.

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
View 25. Old Billingsgate Walk	Long-term, regional, beneficial effect of moderate significance.	None required.	Long-term, regional, beneficial effect of moderate significance.
View 26. Tower of London: Inner Curtain Wall Walkway	Long-term, regional, beneficial effect of moderate to major significance.	None required.	Long-term, regional, beneficial effect of moderate to major significance.
View 27. Tower of London: Inner Ward, north of the White Tower	Long-term, regional, neutral effect of moderate to major significance.	None required.	Long-term, regional, neutral effect of moderate to major significance.
View 28. Tower of London Setting Study View 1: Tower Green, Inner Ward	No effect.	None required.	No effect.
View 29. Tower of London Setting Study View 8: The Royal Mint	Long-term, regional, neutral effect of minor to moderate significance.	None required.	Long-term, regional, neutral effect of minor to moderate significance.
View 30. Queen's Walk / City Hall	Long-term, local, neutral effect of minor to moderate significance.	None required.	Long-term, local, neutral effect of minor to moderate significance.
View 31. Tower Bridge Road / Queen Elizabeth Street	Long-term, district, neutral effect of minor significance.	None required.	Long-term, district, neutral effect of minor significance.
View 32. Saint Mary Magdalen Churchyard	Long-term, local, neutral effect of minor/insignificant significance.	None required.	Long-term, local, neutral effect of minor/insignificant significance.
View 33. Leathermarket Gardens	Long-term, local, neutral effect of minor/insignificant significance.	None required.	Long-term, local, neutral effect of minor/insignificant significance.
View 34. Weston Street / Guy Street	Long-term, local, neutral effect of minor significance.	None required.	Long-term, local, neutral effect of minor significance.
View 35. Tabard Gardens	Long-term, district, neutral effect of minor to moderate significance.	None required.	Long-term, district, neutral effect of minor to moderate significance.
View 36. Borough High Street / Great Suffolk Street	Long-term, district, neutral effect of minor to moderate significance.	None required.	Long-term, district, neutral effect of minor to moderate significance.

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
View 37. Southwark Bridge Road outside no.92	Long-term, district, neutral effect of moderate significance.	None required.	Long-term, district, neutral effect of moderate significance.
View 38. Red Cross Garden (middle)	Long-term, district, beneficial effect of moderate to major significance.	None required.	Long-term, district, beneficial effect of moderate to major significance.
View 39. Borough High Street / Borough London Underground Station	Long-term, district, neutral effect of moderate to major significance.	None required.	Long-term, district, neutral effect of moderate to major significance.
View 40. Borough High Street / Mermaid Court	Long-term, district, neutral effect of moderate to major significance.	None required.	Long-term, district, neutral effect of moderate to major significance.
View 41. Southwark Street / Southwark Bridge Road	Long-term, district, neutral effect of moderate to major significance.	None required.	Long-term, district, neutral effect of moderate to major significance.
View 42. Southwark Street - east of the railway bridge	Long-term, district, neutral effect of moderate to major significance.	None required.	Long-term, district, neutral effect of moderate to major significance.
View 43. Borough High Street, St Saviours Southwark War Memorial	Long-term, district, adverse effect of moderate to major significance.	None required.	Long-term, district, adverse effect of moderate to major significance.
View 44. Southwark Street / Stoney Street	Long-term, district, adverse effect of moderate to major significance.	None required.	Long-term, district, adverse effect of moderate to major significance.
View 45. King's Head Yard, outside King's Head	Long-term, local, beneficial effect of moderate to major significance.	None required.	Long-term, local, beneficial effect of moderate to major significance.
View 46. George Inn Yard	Long-term, local, neutral effect of moderate to major significance.	None required.	Long-term, local, neutral effect of moderate to major significance.
View 47. Guy's Hospital: West Wing Quad	Long-term, local, adverse effect of major significance.	None required.	Long-term, local, adverse effect of major significance.
View 48. Guys Courtyard – near the War Memorial	Long-term, local, neutral effect of moderate to major significance.	None required.	Long-term, local, neutral effect of moderate to major significance.

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
View 49. Guy's Hospital: North Quad	Long-term, local, adverse effect of major significance.	None required.	Long-term, local, adverse effect of major significance.
View 50. St Thomas Street / London Bridge Street	Long-term, local, adverse effect of major significance.	None required.	Long-term, local, adverse effect of major significance.
View 51. St Thomas Street, opposite Guy's Hospital	Long-term, local, beneficial effect of major significance.	None required.	Long-term, local, beneficial effect of major significance.
View 52. St Thomas Street, outside St Thomas' Church	Long-term, local, beneficial effect of major significance.	None required.	Long-term, local, beneficial effect of major significance.
View 53. Bedale Street / Borough Market	Long-term, district, neutral effect of moderate to major significance.	None required.	Long-term, district, neutral effect of moderate to major significance.
View 54. Borough High Street / Bedale Street	Long-term, district, neutral effect of moderate to major significance.	None required.	Long-term, district, neutral effect of moderate to major significance.
View 55. Cathedral Street / Winchester Walk	Long-term, district, neutral effect of moderate significance.	None required.	Long-term, district, neutral effect of moderate significance.
	Long-term, district, neutral effect of moderate to major significance in winter.		Long-term, district, neutral effect of moderate to major significance in winter.
View 56.1. Southwark Cathedral, west	Long-term, district, neutral effect of moderate significance.	None required.	Long-term, district, neutral effect of moderate significance.
View 56.2. Southwark Cathedral, north-west corner 1	Long-term, district, adverse effect of moderate to major significance.	None required.	Long-term, district, adverse effect of moderate to major significance.
View 56.3. Southwark Cathedral, north-west corner 2	Long-term, district, adverse effect of moderate to major significance.	None required.	Long-term, district, adverse effect of moderate to major significance.
View 56.4. Southwark Cathedral, north	Long-term, district, neutral effect of moderate to major significance.	None required.	Long-term, district, neutral effect of moderate to major significance.
View 56.5 Southwark Cathedral, entrance gates to Millennium Courtyard	Long-term, district, neutral effect of major significance.	None required.	Long-term, district, neutral effect of major significance.

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
View 56.6 Southwark Cathedral, Millennium Courtyard	Long-term, district, neutral effect of major significance.	None required.	Long-term, district, neutral effect of major significance.
View 57. London Bridge, outside Glazier's Hall	Long-term, local, beneficial effect of moderate to major significance.	None required.	Long-term, local, beneficial effect of moderate to major significance.
View 58. Islington Local View 4: Farringdon Lane, near Ray Street Bridge	Long-term, regional, neutral effect of minor significance.	None required.	Long-term, regional, neutral effect of minor significance.
View 59. Ray Street Bridge, corner with Farringdon Lane	Long-term, regional, neutral effect of minor significance.	None required.	Long-term, regional, neutral effect of minor significance.
View 60. Islington Local View 3: Vine Street Bridge	Long-term, regional, neutral effect of minor significance.	None required.	Long-term, regional, neutral effect of minor significance.
View 61. Islington Local View 1: Clerkenwell Road, bridge across Farringdon	Long-term, regional, neutral effect of minor significance.	None required.	Long-term, regional, neutral effect of minor significance.
View 62. Trinity Church Square, south-west corner	Long-term, district, neutral effect of moderate significance.	None required.	Long-term, district, neutral effect of moderate significance.
Townscape Character Area (TCA)			
TCA 1 – Bankside, Borough and Potters Fields	Long-term, local to regional, beneficial effect of moderate to major significance.	None required.	Long-term, district, beneficial effect of moderate to major significance.
TCA 2 – Newington	Long-term, district, neutral effect of minor significance.	None required.	Long-term, district, neutral effect of minor significance.
TCA 3– Bermondsey	Long-term, local to district, neutral effect of minor significance.	None required.	Long-term, local to district, neutral effect of minor significance.
TCA 4 - Tower	Long-term, regional, neutral effect of minor significance.	None required.	Long-term, regional, neutral effect of minor significance.
TCA 5 – North Bank	Long-term, regional, neutral effect of minor significance.	None required.	Long-term, regional, neutral effect of moderate significance.
Built Heritage Assets (refer to Appendix J of February 2020 Draft Environmental Statement Clarification Document and ES Addendum for effects on individual heritage assets)			

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
<i>World Heritage Sites</i> Tower of London WHS	Long term, regional, neutral effect (indirect) of moderate significance.	None required.	Long term, regional, neutral effect (indirect) of moderate significance.
<i>Conservation Areas</i>			
Borough High Street CA	Long-term, local, beneficial effect (direct) of moderate to major significance.	None required.	Long-term, local, beneficial effect (direct) of moderate to major significance.
Other CAs	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.
<i>Listed Buildings</i>			
Group (i) – The Site: Nos. 4-8 and 12-16 St Thomas Street and attached railings.	Long-term, local, beneficial effect (direct) of moderate to major significance. Long-term, local, beneficial effect (indirect) of moderate to major significance.	None required.	Long-term, local, beneficial effect (direct – physical works) of moderate to major significance. Long-term, local, beneficial effect (indirect – on setting) of moderate to major significance.
A: Cathedral Church of St Saviour and St Mary Overie (Southwark Cathedral), Cathedral Street (grade I)	Long-term, district, adverse effect (indirect) of moderate to major significance.	None required.	Long-term, district, adverse effect (indirect) of moderate to major significance.
B: Remains of Winchester Palace, Clink Street (grade II*)	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.
Group (ii) – Montague Close / Clink Street (grade II)	Long-term, local to district, neutral effect (indirect) of moderate significance.	None required.	Long-term, local to district, neutral effect (indirect) of moderate significance.
Group (iii) – St Thomas Street (grade II*)	Long-term, local, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, local, neutral effect (indirect) of moderate to major significance.
Group (iv) – St Thomas Street (grade II)	Long-term, local, neutral effect (indirect) of moderate significance.	None required.	Long-term, local, neutral effect (indirect) of moderate significance.
C: Guy's Hospital main building including wings and chapel, St Thomas Street (grade II*)	Long-term, local, adverse effect (indirect) of major significance.	None required.	Long-term, local, adverse effect (indirect) of major significance.
Group (v) – Guy's Hospital (grade II)	Long-term, local, neutral effect (indirect) of moderate significance.	None required.	Long-term, local, neutral effect (indirect) of moderate significance.
D: The George Inn, no.77 Borough High Street (grade I)	Long-term, local, neutral effect (indirect) of major significance.	None required.	Long-term, local, neutral effect (indirect) of major significance.
E: St Saviours Southwark War Memorial, Borough High Street (grade II*)	Long-term, district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, district, neutral effect (indirect) of moderate to major significance.

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
Group (vi) – Borough High Street, north end (grade II)	Long-term, local to district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, local to district, neutral effect (indirect) of moderate to major significance.
Group (vii) – Southwark Street, east end and streets to the north (grade II)	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.
Group (viii) – Borough Market (grade II)	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.
Group (ix) – London Bridge Station (grade II)	Long-term, local, neutral effect (indirect) of moderate significance.	None required.	Long-term, local, neutral effect (indirect) of moderate significance.
F: St Olaf House, no.13 Tooley Street (grade II*)	Long-term, local, neutral effect (indirect) of moderate significance.	None required.	Long-term, local, neutral effect (indirect) of moderate significance.
Group (x) – Tooley Street, north-west end (grade II)	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.
Group (xi) – Tooley Street, central (grade II)	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.
Group (xii) – Fair Street/Tooley Street, south-east end (grade II)	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.
Group (xiii) – Tower Bridge Road and riverside (grade II)	Long-term, local to district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local to district, neutral effect (indirect) of minor to moderate significance.
Group (xiv) – Streets east of Tower Bridge Road (grade II)	Long-term, local to district, neutral effect (indirect) of minor significance.	None required.	Long-term, local to district, neutral effect (indirect) of minor significance.
Group (xv) – Bermondsey Street, north / Brunswick Court and environs (grade II)	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.
G: Church of St Mary Magdalene, Bermondsey Street (grade II*)	Long-term, local, neutral effect (indirect) of moderate significance.	None required.	Long-term, local, neutral effect (indirect) of moderate significance.
Group (xvi) – Bermondsey Street, south / Leathermarket (grade II)	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.
Group (xvii) – Tower Bridge Road, south / Long Lane east (grade II)	Long-term, local to district, neutral effect (indirect) of minor significance.	None required.	Long-term, local to district, neutral effect (indirect) of minor significance.
H: No.142 and attached railings, Long Lane (grade II*)	Long-term, district, neutral effect (indirect) of minor/insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/insignificant significance.

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
Group (xviii) – New Kent Road / Harper Road and environs (grade II)	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.
Group (xix) – Trinity Street / Newington Causeway (grade II)	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.
Group (xx) – Borough Road / Lancaster Street (grade II)	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.
I: Church of St George the Martyr, Borough High Street (grade II*)	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.
Group (xxi) – Borough High Street, south end and environs (grade II)	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.
Group (xxii) – Southwark Bridge Road, south end and environs (grade II)	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.
J: Kirkaldy's testing works and testing machine, no.99 Southwark Street (grade II*)	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.
Group (xxiii) – Southwark Street, west end and environs (grade II)	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.
Group (xxiv) – Southwark Street, west end and environs (grade II*)	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.
Group (xxv) – Bankside (grade II)	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.
Group (xxvi) – Southwark Bridge (grade II)	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.
Group (xxvii) – Blackfriars Bridge (grade II)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.
K: Church of St Benet, Paul's Wharf, Upper Thames Street (grade I)	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.
L: Vintners Hall, Upper Thames Street (grade I)	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.
Group (xxviii) – Upper Thames Street (grade II)	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
M: Fishmongers' Hall, London Bridge (grade II*)	Long-term, regional, neutral effect (indirect) of moderate significance.	None required.	Long-term, regional, neutral effect (indirect) of moderate significance.
Group (xxix) – Lower Thames Street (grade II)	Long-term, regional, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, regional, neutral effect (indirect) of minor to moderate significance.
N: Church of St Magnus the Martyr, Lower Thames Street (grade I)	Long-term, regional, neutral effect (indirect) of moderate significance.	None required.	Long-term, regional, neutral effect (indirect) of moderate significance.
O: Custom House, Lower Thames Street (grade I)	Long-term, regional, neutral effect (indirect) of moderate significance.	None required.	Long-term, regional, neutral effect (indirect) of moderate significance.
P: River wall, stairs and cranes, Custom House Quay (grade II*)	Long-term, regional, neutral effect (indirect) of moderate significance.	None required.	Long-term, regional, neutral effect (indirect) of moderate significance.
Q: The Monument, Monument Street (grade I)	Long-term, regional, neutral effect (indirect) of moderate significance.	None required.	Long-term, regional, neutral effect (indirect) of moderate significance.
Group (xxx) – Gracechurch Street and environs (grade II)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.
R: Leadenhall Market with subsidiary numbering, Gracechurch Street (grade II*)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.
S: Church of St Peter, Cornhill (grade I)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.
T: Church of All Hallows by the Tower, Byward Street, Great Tower Street, Tower Hill (grade I)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.
Group (xxxi) – Byward Street / Tower Hill Terrace (grade II)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.
U: Merchant Seamen's Memorial, Trinity Square (grade II*)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.
V: The Mercantile Marine First World War Memorial, Trinity Square Gardens, Trinity Square, Tower Hill (grade I)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.
W: Portion of Old London Wall, Trinity Square, Tower Hill (grade I)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.
Group (xxxii) – Royal Mint (grade II)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
X: Royal Mint, Tower Hill (grade II*)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.
Group (xxxiii) – St Katharine's Dock (grade II)	Long-term, regional, neutral effect (indirect) of minor/insignificant significance.	None required.	Long-term, regional, neutral effect (indirect) of minor/insignificant significance.
Group (xxxiv) – St Katharine's Way (grade II)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.
Group (xxxv) – Tower Bridge Road (grade I)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.
Group (xxxvi) – Tower of London WHS Listed Buildings (grades I, II* and II)	See effect on WHS above	See effect on WHS above.	See effect on WHS above
The Cathedral Church of St Paul, St Paul's Churchyard (grade I)	Long term, regional, neutral effect (indirect) of minor significance.	None required.	Long term, regional, neutral effect (indirect) of minor significance.
<i>Scheduled Monuments</i>			
Smiths' Wharf, City of London	Long term, regional, neutral effect (indirect) of minor/insignificant significance.	None required.	Long term, regional, neutral effect (indirect) of minor/insignificant significance.
Queenhithe Dock, City of London	Long term, regional, neutral effect (indirect) of minor/insignificant significance.	None required.	Long term, regional, neutral effect (indirect) of minor/insignificant significance.
Locally Listed Buildings	Long term, district, neutral effect (indirect) of insignificant significance.	None required.	Long term, district, neutral effect (indirect) of insignificant significance.

Monitoring

- 15.3. In compliance with Schedule 4(7) of the EIA Regulations, this section outlines monitoring arrangements post mitigation to cover both the Works and operational phases.

Transport

- 15.4. The Development would be subject to a Travel Plan which would be expected to be subject to planning condition or Section 106 Obligation for discharge post-planning, prior to first occupation. As part of the Travel Plan, staff travel patterns would be monitored by means of a travel survey in accordance with Southwark Council (SC) and Transport for London (TfL) requirements. The usage of the cycle parking facilities would also be monitored as part of the Travel Plan.
- 15.5. The Development would also be subject to a Delivery, Servicing and Waste Management Plan as part of which, monitoring would be undertaken of the delivery and servicing vehicles in terms of arrival profile and dwell times.

Noise and Vibration

- 15.6. Monitoring of Site of vibration should be undertaken when piling works are being carried out within 10m of listed buildings, utilities and LUL lines. Monitoring will ensure vibration at these assets does not exceed 10mm/s.
- 15.7. The Development would be subject to a SEMP which is anticipated to be secured by means of a planning condition. The SEMP, which would be agreed prior to the commencement of the work with SC, is expected to include a requirement for ongoing noise and vibration monitoring during the Works.
- 15.8. It is anticipated that there would be a planning condition which would state the plant noise limits and requires monitoring, to ensure these limits are adhered to.
- 15.9. As stated in **Chapter 7: Transportation and Access**, monitoring would be undertaken of the delivery and servicing vehicles in terms of arrival profile and dwell times.

Air Quality

- 15.10. Monitoring would be undertaken during the Works, as required by the EIA Scoping Opinion. Monitoring could include dust deposition, dust flux, real-time PM₁₀ continuous monitoring and/or visual inspections.
- 15.11. Regular site inspections would be carried out to monitor compliance with the Dust Management Plan (DMP), record inspection results, and make an inspection log available to SC when asked.
- 15.12. During the Works the frequency of dust monitoring would be increased when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
- 15.13. Monitoring approach and locations to be agreed with SC.

Archaeology

- 15.14. Monitoring of any initial ground investigations (e.g. geotechnical test pits) is required to clarify the potential for archaeological survival, should the scale of any ground disturbance in each area require it.
- 15.15. The investigation would specifically include the south east corner of the Site, that does not contain an existing basement, where there is potential for the area to have been a burial ground.
- 15.16. The insertion of the underpinning under the Georgian Terrace would be monitored. Elsewhere in the Site, evaluation trial pits or trenches should be excavated once the basement slab is removed. If the results of these investigations indicate that it is necessary, mitigation will comprise targeted excavation and recording, and / or a watching brief during groundworks to secure preservation by record.

Water Resources and Flood Risk

- 15.17. Water consumption throughout the Works would be monitored, either through sub-metering or utility bills to allow a comparison against best practice benchmarks. If required, the effectiveness of spill clean-up would be monitored to inform best practice construction methods for future incidents and construction schemes.

Wind

- 15.18. Once the Development is completed and mitigation measures are implemented, on a windy day, the suitability of areas for sitting or standing should be monitored to see if additional mitigation is required.

Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution

- 15.19. No specific daylight, sunlight, overshadowing, solar glare and light pollution monitoring has been identified.

Townscape, Visual Impact and Built Heritage Assessment

- 15.20. No specific TBHVIA monitoring (other than vibration monitoring near listed buildings during the Works as identified above) has been identified.