Manhattan Shaft Worksite

Baseline

5.4.36 This new worksite is adjacent to the Tumbling Bay worksite and will occupy an area of land between the Manhattan Building and the Great Eastern Main Line railway with access from Wick Lane via the A12/Wick Lane junction. The site will also occupy the west traffic lane and footway on the western side of Wick Lane including half of the area under the rail bridge.

Mitigation and Temporary Residual Impacts

5.4.37 Works at this site are expected to last some 22 months. The first 7 months of site activities will see the majority of lorry movements, typically 7 loads (14 lorry movements) per day. For the casting of the shaft’s base slab this could increase to 23 loads for a day or so. During the remainder of the period lorry movements are expected to reduce to some five loads per day. Although the lorry movements will constitute a high percentage increase in traffic on this section of Wick Lane, the base flow is low and the impact will not be significant.

5.4.38 There is also expected to be a period of three nights when complete closure of Wick Lane between 2000 to 0600 hours will be required for the removal of the tunnelling equipment from the site. This is likely to interfere with access to the basement car park of Manhattan Building. Residents will be given adequate notification and where necessary alternative arrangements made. The impact will not be significant.

Payne Road Shaft Worksite

Baseline

5.4.39 This new worksite is located on the A11 Bow Road and bounded by the A12 Blackwall Tunnel Northern Approach Road and Payne Road. The A11 and A12 are both part of the Transport for London Road Network (TLRN). At present, the site is occupied by a McDonald’s restaurant with vehicular access from Payne Road.

5.4.40 Bow Road is also part of the TLRN. A designated cycle route runs adjacent to the site within the carriageway of Bow Road and a bus stop that serves five bus routes along Bow Road is located at the southern boundary of the site.

5.4.41 Payne Road is one-way in a south-westerly direction from its junction with the slip road onto the A12 to its junction with Bow Road. It is within a controlled parking zone and there are some permit parking bays on the north side of Payne Road.

Mitigation and Temporary Residual Impacts

5.4.42 The worksite will include part of the carriageway of Payne Road and the footway on the south side of the road. The one-way operation in Payne Road will be unchanged and vehicular and pedestrian access maintained. Most of the permit parking bays on Payne Road will be suspended and this will result in a loss of parking causing a significant adverse impact. The bus stop and the designated cycle lane on Bow Road will not be affected.
5.4.43 The worksite access and egress points will be on Payne Road. The proposed lorry route will be from the roundabout at the A11/A12 junction via the A12 northbound on-slip road and Payne Road. Lorries will leave the site via Payne Road turning left into Bow Road.

5.4.44 The worksite is expected to typically generate some 20 loads (40 lorry movements) per day. There will be a day during the casting of the shaft base slab when this could increase to 30 loads (60 lorry movements). Lorry movements are not expected to cause a significant impact.

*Wick Lane Worksite*

*Baseline*

5.4.45 The Wick Lane worksite is located at the southern end of Wick Lane adjacent to the A12 Blackwall Tunnel Northern Approach Road. It will occupy the redundant carriageway to the southeast of the railway bridge. Much of this area is currently fenced off and vehicles are not able to pass under the bridge. There is, however, a route for pedestrians on the western side but usage is low. Access to the worksite will be from the A12/Wick Lane junction.
5.4.46 The worksite extends to occupy the northeastern end of Wrexham Road and part of the footway of Wick Lane adjoining the Wick Lane worksite. The section of Wrexham Road is a no through route for traffic and the footway connects Wrexham Road and the little used pedestrian route that runs alongside the A12 Blackwall Tunnel Northern Approach Road.

Mitigation and Temporary Residual Impacts

5.4.47 This worksite will occupy the footway and carriageway at the closed end of Wick Lane for a period of some 22 months. It is considered unlikely that a pedestrian route can be maintained through the worksite beyond the access point to the proposed Fairfield development site. A diversion will be signed via Fairfield Road and Wrexham Road but as the number of pedestrians affected is low the impact will not be significant.

5.4.48 For the majority of the time, the area of the worksite in Wick Lane will be used for site offices, welfare and a storage/logistic area. It will also be used as parking for staff and visitors to the site and lorry movements are expected to be low. The impact will not be significant.

5.4.49 The area of the worksite at the end of Wrexham Road will be accessed from both Wrexham Road and Wick Lane. It will be used for the local sewer connections and lorry numbers will be low. They are not expected to give rise to a significant impact. The footway on the southeastern side of Wrexham Road will be maintained for pedestrians.

Baldock Street Worksite

Baseline

5.4.50 The worksite is located adjacent to the A12 Blackwall Tunnel Northern Approach Road. It occupies an open area between the rear of residential premises and the A12 northbound on-slip road.

Mitigation and Temporary Residual Impacts

5.4.51 Access will be from the northbound on-slip to the Blackwall Tunnel Northern Approach Road from Bow Road. It may be necessary to cone off a section of the nearside lane of the slip road but this is not expected to cause a significant impact.

5.4.52 This worksite will generate 20–30 one-way lorry movements per day which will not cause a significant traffic impact.

Blackwall Tunnel Worksites

Baseline

5.4.53 The worksites are located within the A12 Blackwall Tunnel Northern Approach Road between the Great Eastern railway bridge and the A11 Bow Road junction. This section is dual four-lane carriageway with entry and exit slip roads from the A11 Bow Road junction to the south. It is part of the TLRN and carries high volumes of traffic, with a morning peak tidal flow scheme operating through the tunnel. Traffic frequently queues back from the tunnel to the Bow flyover at peak times.
Mitigation and Temporary Residual Impacts

5.4.54 The Northern worksite (as shown on Map C13/C13A(ii) of the AP2 ES mapping volume (AP2a)) will be located in central reserve approximately 300 m north of the Bow Road junction. It is expected that it will occupy the central reserve and three lanes of the carriageway taking at least one lane in each direction.

5.4.55 The Southern worksite will be located at the start of the southbound off-slip lanes at the Bow Road Junction. This will also require temporary closure of three of the running lanes which are likely to be the two off-slip lanes and one of the through lanes.

5.4.56 The two worksites are not likely to be operational at the same time except for short periods during the concrete pours. Even individually, however, they would be expected to create major traffic disruption on this strategic route if carried out during the day. In the main ES these works were assessed as a significant impact of particular importance. To avoid this it is proposed that that works will be undertaken at night. Advanced signing and extensive traffic management will be agreed with the highway authority and the police.

5.4.57 It is also planned that the concrete pours will take place at night. Traffic management will be designed to allow the two worksites to operate but it is unlikely that during these periods three lanes will be required at the south worksite.

5.4.58 With night-time working and the necessary traffic management measures in place it is expected that the works at these worksites can be carried out without significant impacts.
**Grove Hall Park Worksite**

*Baseline*

5.4.59 This worksite is for the construction of an intermediate tunnel access shaft and will occupy an area of Grove Hall Park. Part of a private off-street residents’ car park at the southern end of Baldock Street will be used to provide access for construction traffic.

5.4.60 The area to the north of the park is mainly residential and traffic levels on the local roads are low.

*Mitigation and Temporary Residual Impacts*

5.4.61 Access to the worksite will be from the A11 Bow Road via Fairfield Road, Wrexham Road and Baldock Street. Some loss of residents’ permit parking bays will be necessary in Wrexham Road and Baldock Street, particularly at junctions to provide clearance for lorry movements. The loss of this residents’ parking and the private off-street parking will result in a significant impact.

5.4.62 The worksite is expected to generate three lorry loads (six lorry movements) per day. Base traffic flows on Wrexham Road and Baldock Street are low and although this represents a high percentage increase in lorry traffic the impact will not be significant.

5.4.63 The lorry access route from Baldock Street to the shaft site across Grove Hall Park will partly depend on minimising the impact on trees. Where possible pedestrian routes will be maintained through the park.

*All Worksites – Mitigation and Permanent Residual Impacts*

5.4.64 On completion of the works no permanent significant residual impacts on traffic and transport are anticipated at any of the worksites.

*Impacts on Noise and Vibration*

*Baseline*

5.4.65 The full baseline text for noise and vibration for this route window is described within the main ES (Volume 2, Chapter 8, Section 8.16, paragraph 8.16.96).

5.4.66 The Pudding Mill Lane area is predominantly industrial and commercial in nature. There is also an area of housing to the west of the Blackwall Tunnel Northern Approach Road. Baseline noise levels are generally high and are dominated by road traffic noise from the Blackwall Tunnel Northern Approach Road. Table 1.1 shows the baseline noise levels that have been obtained from surveys at representative noise-sensitive receptors within this route window.
5.4.67 The baseline noise levels are presented in the following table:

Table 1.1 Baseline Noise Levels at or near Representative Noise-sensitive Receptors

<table>
<thead>
<tr>
<th>Reference</th>
<th>Receptor</th>
<th>Daytime Baseline Noise Level $L_{\text{Aeq}, \text{12 hour}}$ dB</th>
<th>Night-time Baseline Noise Level $L_{\text{Aeq}, \text{8 hour}}$ dB</th>
</tr>
</thead>
<tbody>
<tr>
<td>TH30</td>
<td>3 Baldock Street</td>
<td>77 $^1$</td>
<td>-</td>
</tr>
<tr>
<td>TH40</td>
<td>Manhattan Building</td>
<td>76 $^1$</td>
<td>-</td>
</tr>
<tr>
<td>TH41</td>
<td>16–34 Brymay Close</td>
<td>68</td>
<td>62</td>
</tr>
<tr>
<td>TH42</td>
<td>24 Ridgdale Street</td>
<td>54</td>
<td>48</td>
</tr>
<tr>
<td>TH43</td>
<td>Grove Hall Park/ rear of 43–57 Baldock Street</td>
<td>61 $^1$</td>
<td>-</td>
</tr>
<tr>
<td>TH44</td>
<td>Grove Hall Park/ rear of 181 Bow Road</td>
<td>61 $^1$</td>
<td>-</td>
</tr>
<tr>
<td>TH45</td>
<td>246 Bow Road</td>
<td>78 $^1$</td>
<td>-</td>
</tr>
<tr>
<td>TH46</td>
<td>20 Wrexham Road</td>
<td>57 $^1$</td>
<td>-</td>
</tr>
<tr>
<td>TH47</td>
<td>19–25 Payne Road</td>
<td>72 $^1$</td>
<td>-</td>
</tr>
</tbody>
</table>

$^1$ Short-term monitoring location ($L_{\text{Aeq, \text{12 or 8 hour}}}$)

Mitigation and Temporary Residual Impacts

Noise from Above-ground Construction Activity

5.4.68 The relevant measures set out in Appendix B1 of the main ES will be employed to reduce construction noise impacts. The heights of hoardings required to mitigate noise are described below for each worksite and are shown on Map C13/C13A(iii) of the AP2 ES mapping volume (AP2a):

- Tumbling Bay worksite and Manhattan worksite — since residential properties in the Manhattan Building are located at first floor level and above (over two levels of car parking), the provision of hoardings at these worksites will not result in noise reduction for these noise sensitive receptors and consequently no hoardings are proposed;
- Payne Road worksite — 3.6 m hoarding is required on western boundary, with 2.4 m hoarding on northern and eastern boundaries;
- Wick Lane worksite — 2.4 m hoarding is required on southwestern boundary;
- Baldock Street worksite, Blackwall Tunnel Northern Approach Road (northern) worksite and Blackwall Tunnel Northern Approach Road (southern) worksite — no hoarding required for noise mitigation;
• Wrexham Road/Wick Lane worksite — 3.6 m hoarding is required on all boundaries except those adjoining the Blackwall Tunnel Northern Approach Road and the Wick Lane worksite; and
• Grove Hall Park Intermediate Shaft— 3.6 m hoarding is required on the southwest, northwest and northeast. On the southeastern boundary there is an existing 2 m brick wall, which will provide adequate noise screening.

5.4.69 It is noted that the proposed new development on Fairfield Road is intended to incorporate a 5 m barrier along the railway line which will provide noise reduction to the proposed development and properties in Brymay Close if completed. The presence of this barrier has not been assumed for the purposes of assessment.

5.4.70 Despite the on-site mitigation provided by the hoardings, residential properties in Ridgedale Street, Grove Hall Court, Baldock Street, Brymay Close, Wrexham Road and the Manhattan Building will be subject to significant daytime construction noise impacts and in some cases night-time impacts from activities at the HAM and WL sewer diversion worksites.

5.4.71 None of these properties will be likely to qualify for noise insulation. Despite the mitigation measures, 109 residential properties will be significantly affected by construction noise, as follows:

- 39 from the Grove Hall Park worksite;
- 14 from the Wick Lane worksite;
- 40 from Manhattan shaft and Tumbling Bay worksites;
- 6 from the Fairfield Road worksite (due to removal of existing piles); and
- 10 from the manhole on HAM Sewer.
Table 1.2 Properties Significantly Affected by Noise from Surface Construction Activity

<table>
<thead>
<tr>
<th>Number of Dwellings</th>
<th>Representative Property Address</th>
<th>Period of Day</th>
<th>Duration of Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Our Lady and St Catherine of Siena RC Church (including Presbytery)</td>
<td>Day and Night</td>
<td>11 weeks</td>
</tr>
<tr>
<td>28</td>
<td>Ridgedale Street</td>
<td>Day and Night</td>
<td>11 weeks</td>
</tr>
<tr>
<td>10</td>
<td>Grove Hall Court</td>
<td>Day and Night</td>
<td>11 weeks</td>
</tr>
<tr>
<td>4</td>
<td>1–9 Baldock Street</td>
<td>Day</td>
<td>11 weeks</td>
</tr>
<tr>
<td>10</td>
<td>54–64 and 53–65 Wrexham Road</td>
<td>Day</td>
<td>11 weeks</td>
</tr>
<tr>
<td>40</td>
<td>Manhattan Building</td>
<td>Day</td>
<td>45.5 weeks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Night</td>
<td>34.5 weeks</td>
</tr>
<tr>
<td>6</td>
<td>26, 27, 30, 31, 34 and 35 Brymay Close</td>
<td>Day</td>
<td>14 weeks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Night</td>
<td>3 Weeks</td>
</tr>
<tr>
<td>10</td>
<td>31–69 Baldock Street</td>
<td>Night</td>
<td>7 Weeks</td>
</tr>
</tbody>
</table>

Planning permission has been granted for a new mixed use development, including residential, at Payne Road. Crossrail construction works associated with the Payne Road worksite have the potential to result in significant construction noise impacts to noise sensitive parts of this development.

Planning permission has also been granted for a residential development at Fairfield Road/Wick Lane. This will be subject to significant construction noise impacts from the HAM and WL sewer diversion works from the Manhattan shaft and Tumbling Bay worksites. Construction noise impacts from the Fairfield Road worksite have the potential to cause significant impacts at Brymay Close.

As part of the main ES, worksites within Route Window C13A for the sewer diversion and for the construction of a new Abbey Mills pumping station were assessed. The main ES identified 84 properties as qualifying for noise insulation as a result of these works. As a result of the proposed amendment, the new pumping station and worksites within route window C13A are not required. There will no longer be significant noise impacts at these 84 properties and noise insulation will not be required.
Vibration from Above-ground Construction Activity

5.4.76 The application of mitigation measures set out in Appendix B1 of the main ES will ensure that impacts from vibration during construction are not significant. There will be no vibration impacts on other receptors in this route window from above-ground construction activity.

Vibration and Groundborne Noise from Underground Construction Activity

5.4.77 Adherence to the measures set out in Appendix B1 of the main ES will ensure that no significant adverse impacts will occur due to the movement of equipment and excavated material trains in the tunnel. These measures include fastening the rail to sleepers using resilient rail pads, or providing adequate elasticity to the support of the track system between the rail foot and the sleeper or the tunnel invert, where reasonably practicable.

5.4.78 Groundborne noise and vibration from the passage of the tunnelling machines may be perceptible. However, this will be a transient effect lasting only a few days and any impact will not be significant.

Impacts to Community

Baseline

5.4.79 The full baseline text for this route window is described within the main ES (Volume 2, Chapter 8, Section 8.16, paragraph 8.16.114). Grove Hall Park provides informal recreation space and a tarmac surfaced football pitch.

Mitigation and Residual Impacts

5.4.80 The works require the use an area of Grove Hall Park during construction, although the football pitch will not be affected. Due to the short duration and limited extent of the land take, the temporary loss of the open space will not be a significant impact.

5.4.81 There will be an increase in traffic in Wick Lane, Wrexham Road and Baldock Street. These streets currently have low traffic flows. This additional traffic during construction will generate a significant adverse community impact.

5.5 Design Options

5.5.1 One alternative option for the intermediate shaft was considered within the residential Wrexham Road. Although this option would have avoided impacts on the open space, it would have been more disruptive to traffic movements in the residential area and would have resulted in greater noise impacts on residential properties. It was also likely that London plane street trees in Wrexham Road would have been lost. This option would also have required utility diversions in advance of the sinking of the shaft.
5.6 Summary

Additional Significant Impacts

5.6.1 The revised scheme will generate the following significant adverse impacts:

- **Visual Amenity:** revised construction works will result in numerous receptors experiencing significant adverse impacts in addition to those already reported with the main ES;
- **Traffic and Transport:** suspension of a number of on-street permit holder parking bays within Payne Road, Wrexham Road, Baldock Road and Wick Lane, and the loss of off-street private parking at the southern end of Baldock Street, to allow the safe manoeuvring of construction vehicles will give rise to a significant adverse impact;
- **Landscape, Townscape and Built Heritage:** temporary adverse impacts on the setting of the Grade II listed Manhattan Building (former Bryant and May factory);
- **Noise and Vibration:** 109 residential properties in the Manhattan Building, Ridgedale Street, Grove Hall Court, Baldock Street, Wrexham Road and Brymay Close will be subject to significant daytime construction noise impacts and in some cases night-time construction noise impacts from activities at the HAM and WL sewer diversion worksites. Works associated with the Payne Road worksite have the potential to result in significant adverse construction noise impacts to noise sensitive parts of a new local mixed use development. Works associated with the Manhattan shaft and Tumbling Bay worksites have the potential to result in significant adverse construction noise impacts to a new development at Fairfield Road/Wick Lane; and
- **Community:** the increase in traffic in Wick Lane, Wrexham Road, and Baldock Street will generate a significant adverse temporary community impact.

Eliminated Significant Impacts

5.6.2 In addition, as a result of the change in the scheme, the following significant adverse impacts will be eliminated:

- **Visual Amenity:** the revised scheme will eliminate significant adverse impacts for sensitive receptors as a result of omitting a number of worksites at Pudding Mill Lane, Leggatt Road, and Abbey Mills pumping station.
- **Traffic and Transport:** the revised scheme will remove the predicted major traffic disruption on a strategic route, which was assessed as a significant adverse traffic and transport impact of particular importance, by undertaking proposed works at the Blackwall Tunnel worksites at night, rather than during daytime hours.
- **Noise from Above-ground Construction Activity:** as a result of the proposed amendment, the new pumping station and worksites within Route Window C13A are not required. There will no longer be significant noise impacts at 84 properties within C13A and consequently noise insulation will not be required.