10 Dormay Street

10.1 Introduction

10.1.1 This section of the non-technical summary presents the preliminary environmental assessment for the Thames Tunnel project at Dormay Street (Figure 10.1).

10.1.2 At this site it is proposed that the existing Frogmore Storm Relief – Bell Lane Creek combined sewer overflow would be connected to the proposed Frogmore connection tunnel. This tunnel would run north from the site to the main Thames Tunnel at Carnwath Road Riverside and south to King George’s Park, to connect a further combined sewer overflow into the Thames Tunnel. Currently, the existing combined sewer overflow at Dormay Street discharges approximately 26 times a year at approximately 17,300m$^3$ each year.

10.1.3 In the following section a description of the existing site is given. This is followed by a description of the development proposed at this site.

10.1.4 The environmental topics which have been assessed for this site are listed in the ‘Assessment’ section (10.4). Preliminary assessment findings are then presented topic by topic.

10.2 Site context

10.2.1 The site is shown as site number 5 on Figure 28.1.

10.2.2 The site is located within the London Borough of Wandsworth (Figure 10.1).

Figure 10.1 Dormay Street site location
10.2.3 The site, which is made up of hardstanding and industrial buildings, is located within part of the Frogmore Industrial Complex and Causeway Island, with the two parts of the site separated by Bell Lane Creek. The western part of the site forms part of a council vehicle storage depot, and the eastern part of the site is currently occupied by a demolition and civil engineering contractor. Approximately half a hectare is required for the temporary construction works as well. This is indicated by the red line shown on Figure 10.2. The area of land required for the permanent works would be substantially smaller than that required for construction.

10.2.4 The site is bounded by railway lines and a vehicle storage area to the north, the Causeway to the east and a London Borough of Wandsworth maintenance depot to the west. Access to the site is from Dormay Street. Access to Causeway Island for light vehicles would be via the Causeway. By road, the site is close to Putney Bridge Road, Armoury Way and Old York Road. There are no Public Rights of Way within the site.

**Figure 10.2 Aerial photograph of Dormay Street***

*Note: The red line boundary is approximate in this image*
10.3 Proposed development

10.3.1 The proposal is to intercept the existing combined sewer overflow. With the Thames Tunnel in place, instead of untreated sewage discharging at current volumes directly into Bell Lane Creek and then the River Thames, flows would be diverted into the proposed Thames Tunnel. For a typical year, this would reduce flows from this combined sewer overflow to an average of 500m³ per year in one overflow event.

10.3.2 In order for this interception to be achieved, construction works at this site would take approximately three years.

10.3.3 The construction works would encompass two areas separated by Bell Lane Creek. The northern area on Causeway Island would be used as a temporary working and storage area, with all permanent structures built in the southern area. It is likely that a temporary bridge would be built to enable access between the two sites, as the existing crossing is limited in width and has a weight limit. Construction of the bridge would potentially require some in-river works. Alternatively a crane might be used. The site would be accessed from Dormay Street. To maintain the integrity of the existing flood defences, located along the southern sites river boundary, river wall strengthening works would be carried out which may also involve working in the river.

10.3.4 Through an interception chamber, flows from the existing Frogmore Storm Relief – Bell Lane Creek combined sewer overflow would be diverted down a shaft with an internal diameter of approximately 12m and approximate depth of 24m. The shaft would be constructed on the line of the proposed Frogmore connection tunnel. This tunnel would be 2.6m in diameter, and would run approximately 0.5km south to King George’s Park, and 0.6km north to Carnwath Road Riverside, where it would join up with the main tunnel. The Frogmore connection tunnel would be bored from Dormay Street in both directions.

10.3.5 Most of the construction works would take place from 8am to 6pm, Monday to Friday. Limited works may be required beyond these hours, and boring and lining the connection tunnel would require a limited period of 24 hour working.

10.3.6 In order to manage and mitigate the effects on the environment during construction, a Code of Construction Practice has been drafted. This sets out measures to be adhered to during the process of construction works.

10.3.7 Figure 10.3 shows an indicative plan of the construction works.
10.3.8 Once the works at this site have been built, a number of permanent features would remain (Figure 10.4). There would be an area of hardstanding to enable access into the shaft, tunnel and other ancillary structures for inspection and maintenance purposes. Access for planned maintenance purposes would be required every three to six months. Once every ten years more substantial maintenance work would be required.

10.3.9 The shaft would be finished to approximately existing ground level, with covers to allow access and inspection. There would also be covers to enable access to other below ground structures, such as the interception chamber.

10.3.10 Above ground structures would include a ventilation structure approximately 4m high, combined with a kiosk to control equipment located in the below ground chambers, which would be approximately 2.5m high. Most of the time the tunnel at Dormay Street is sealed to prevent the release of air. From time to time when the tunnel is filling up, air may be expelled via filters and out through the ventilation column.

10.3.11 Following completion of construction, the council depot would be enlarged to include the Thames Tunnel site to the south of Bell Lane Creek. The permanent works would therefore be located inside the enlarged council depot but Thames Water would retain a right of access for operations and maintenance purposes.
10.4 Assessment

10.4.1 Based on the existing site and the works proposed, the following environmental topics have been included in the scope of this preliminary environmental assessment:

a. Air quality and odour
b. Ecology – aquatic and terrestrial
c. Historic environment
d. Land quality
e. Noise and vibration
f. Socio-economics
g. Townscape and visual
h. Transport
i. Water resources (ground and surface)
j. Flood risk

10.4.2 In the following sections, information about the preliminary assessment of each of these topics is presented.
10.4.3 As part of the assessment process, consideration has been given to known major developments that may change future environmental conditions. At this site the main change in land use would arise from demolition of buildings on the civil engineering contractor’s site in 2012 by the London Borough of Wandsworth (some of which fall within the Thames Tunnel site) in order to expand the Council’s depot into this area. The assessment assumes that ahead of Thames Tunnel construction the Council would temporarily vacate the part of the depot within the Thames Tunnel construction site. It also assumes the Council would resume use of this area for vehicle storage after Thames Tunnel construction is complete.

10.4.4 Further information on the topic specific methodology for conducting the assessment is given in section 4 of this non-technical summary.

10.5 Air quality and odour

10.5.1 The Dormay Street site is located within the London Borough of Wandsworth Air Quality Management Area. Local monitoring data indicates that there are currently exceedences of the air quality standard for nitrogen dioxide in the vicinity of the site. The nearest people who may be sensitive to the development are occupiers of nearby residential dwellings (between Dormay Street and Frogmore and on Frogmore Street), and the adjacent commercial and industrial premises.

10.5.2 Based on this preliminary assessment, the overall effect on local air quality from construction road traffic and construction plant is likely to be minor adverse at the residential properties and negligible at the commercial and industrial premises. In terms of construction dust, this is likely to have a minor adverse effect at the commercial buildings within 10m of the site and a negligible effect at the residential and industrial premises, taking account of the dust control measures in the Code of Construction Practice.

10.5.3 Preliminary assessment findings indicate that the effect of odour from air released from the ventilation column, which may occur periodically when the tunnel is filling, is likely to be negligible.

10.5.4 Based on this preliminary assessment, it is considered that further measures are not required.

10.6 Ecology – aquatic

10.6.1 The sewage outfall that would be intercepted by the development currently discharges into Bell Lane Creek, which is part of the designated River Thames and Tidal Tributaries Site of Metropolitan Importance (Figure 10.5). The Creek is a muddy channel, with an intertidal area exposed at low tide. The channel is underlain by pebbles, silt, cobbles and shingle. The banks are artificial, made of vertical concrete, steel sheet piles and brick and they support a limited amount of green algae. There are several small areas of marginal reedbed close to the creek mouth. There is no marginal vegetation in the vicinity of the outfall. The site has some value for fish species, and supports only pollution-tolerant invertebrates.
10.6.2 Construction effects would be managed in accordance with a Code of Construction Practice. With the Code in place and based on assessment findings at this stage, landtake, disturbance and compaction of habitats from construction of the temporary bridge, would result in minor adverse effects. Pollution of habitats due to spillages would be negligible. Effects on fish would be minor adverse. Effects on invertebrates and mammals would be negligible.

10.6.3 It is anticipated that during operation, the reduction in fish mortality that would result from improved oxygenation of the water is considered a moderate beneficial effect. In the longer term of operation there would be a moderate beneficial effect through increased distribution of rare and/or pollution sensitive fish species. Effects on invertebrates would be minor beneficial and negligible on mammals.

10.6.4 Construction effects would be managed in accordance with the Code of Construction Practice. No further mitigation during construction is considered possible at this site at this stage. No mitigation is required during operation because no adverse effects are anticipated.

Figure 10.5 The aquatic ecology survey site on Bell Lane Creek, looking south towards the site.

10.7 Ecology – terrestrial

10.7.1 Bell Lane Creek, which is part of the designated River Thames and Tidal Tributaries Site of Metropolitan Importance, runs through the site. The site mainly comprises buildings, hardstanding and foreshore habitat, small areas of short perennial vegetation, scattered trees and dense scrub. There is a small area of potential reptile habitat. The site is likely to be of value to bats, breeding birds, black redstart, wintering birds and invertebrates. It is also likely to have some botanical interest. Surveys for these species are ongoing and the results will be reported in the Environmental Statement. Japanese knotweed, an invasive plant, is also present on site and this will be removed prior to construction where required. There are three designated sites within 500m of the site.
10.7.2 Based on preliminary assessment findings, during construction no adverse effects are anticipated on designated sites due to their distance from the site and the relatively localised nature of the proposed works (aquatic ecology effects are considered in section 10.6). Site clearance would result in the loss of several mature trees and shrubs which would be an adverse effect of local significance. Habitat loss and disturbance effects on notable species will be assessed and reported in the Environmental Statement. Effects on reptiles are likely to be negligible. Effects on bats, black redstart, breeding birds, wintering birds, invertebrates and any species of botanical interest will be assessed and reported in the Environmental Statement.

10.7.3 Operational activity would be limited to occasional maintenance works, which are unlikely to have significant effects on terrestrial ecology.

10.7.4 In addition to measures in the Code of Construction Practice, measures to address adverse effects during construction are likely to include reinstatement and replacement of trees and planting. Further measures, such as disturbance minimisation, will be formulated subject to survey results if required.

10.8 Historic environment

10.8.1 The site contains no nationally designated heritage assets. The grade II listed early 18th-century Wentworth House lies approximately 40m to the south of the site. There is little above ground heritage interest within the site, although a 19th century barge bed and boundary wall are present.

10.8.2 The site lies within a locally designated Archaeological Priority Area and the main potential in terms of buried heritage is for palaeoenvironmental remains e.g. organic remains such as pollens or plant fossils within the Wandle floodplain alluvium, which would be of low or medium heritage asset significance. There is also potential for evidence of prehistoric activity (of low to high heritage asset significance depending on the nature and condition of any finds), and post-medieval 18th–19th century footings of industrial buildings (of low heritage asset significance). There is also a moderate potential for later medieval waterfront features of low or medium heritage asset significance.

10.8.3 Piling for the temporary bridge could remove parts of the 19th century barge bed, constituting a moderate adverse effect. Construction works would entail deep excavations which would entirely remove any buried assets within the excavation footprint if any such assets were present. If such assets were present, this would comprise a high magnitude of impact and would give rise to a minor adverse effect on palaeoenvironmental remains and post-medieval remains, a minor to major adverse effect on prehistoric remains, and a minor or moderate adverse effect on later medieval remains.

10.8.4 Effects on the barge bed could be mitigated by moving the bridge away from the structure. However, if this is not possible, archaeological excavation and recording to form preservation by record would be undertaken. The desk-based study of the site suggests that no buried heritage assets of very high significance are anticipated that might merit a
mitigation strategy of permanent preservation in situ. The adverse effects could be successfully mitigated by a suitable programme of archaeological investigation before and/or during construction, drawing on a range of techniques. This would include subsequent dissemination of the results and so achieve preservation by record.

10.8.5 Effects on the setting of heritage assets in the surrounding area arising from the presence of visible above ground operational structures, will be assessed and presented in the Environmental Statement. Any mitigation requirements for operational effects will also be presented.

10.9 **Land quality**

10.9.1 Historical and environmental data indicates that there is potential for historical contamination sources at the site. The site has been used as a depot and for electricity works. Causeway Island may have below ground material linked with the filling in of part of Bell Lane Creek. Historical data also shows that the local area was heavily industrialised from the late 19th century onwards, with surrounding uses including a sizable gas works, tar works and wharves. However, previous ground investigations have recorded no significant contamination of the soils on site. Although some contamination of groundwater in the northern part of the site has been identified. Desk based surveys have identified a low to medium risk from unexploded ordnance.

10.9.2 Based on preliminary assessment findings, there could be a slight adverse effect on construction workers due to the potential for exposure to contaminated soils or other materials, although any exposure risk would be short-term limited to the construction period. There would be a negligible effect on the built environment as it is considered unlikely that contaminants contained in subsurface materials would affect buried structures.

10.9.3 During operation there would be a negligible effect on future users of the site and on built structures within the site.

10.9.4 Based on preliminary assessment findings to date, it is unlikely that mitigation during the construction or operational phases would be required.

10.10 **Noise and vibration**

10.10.1 The site is subject to road traffic and rail noise (Figure 10.6). The nearest locations to the site which are sensitive to noise and vibration are residential dwellings to the south of the site along the A3 and Armoury Way and between Dormay Street and Frogmore.

10.10.2 Information relating to the project wide assessment of predicted groundborne noise and vibration impacts arising from the operation of tunnel boring machine and the temporary construction railway serving the tunnel boring machine during construction of the Frogmore Connection Tunnel is contained in section 5.5.
10.10.3 Based on this preliminary assessment, no significant effects from vibration during construction are predicted. Significant noise effects arising from construction activities are predicted at residential properties on Armoury Way and London Court.

10.10.4 During construction, the contractor would be required to follow best practice (as described in the Code of Construction Practice) at all times to reduce noise and vibration effects on the local community for example through suitable siting of equipment on site.

10.10.5 Further measures to address significant noise and vibration effects during construction may include localised screens and enclosures to reduce noise from particularly noisy, static operations.

10.10.6 The next stage of the assessment will profile the variation in construction noise levels across the programme of work with the aim of refining mitigation design and seeking to reduce the significant effects of construction noise and vibration. Further details of mitigation measures will be provided in the Environmental Statement including the significance of residual effects once mitigation has been taken into account.

10.10.7 No significant effects from noise or vibration during the operation of the site are predicted.

Figure 10.6 Railway line located to the north of the site.
10.11 Socio-economics

10.11.1 The site is currently occupied by a civil engineering contractor, which would vacate the site in early 2012, and a Council depot. The Wandle Trail and a national cycle route pass adjacent to the site along a private road. These are moderately well used for walking and cycling. Industrial and storage uses immediately surround the site.

10.11.2 During construction, there would be minor adverse effects arising from the loss of employment land. There would also be minor effects on amenity on users of the Wandle Trail and the national cycle route. The temporary reduction in the area of the Council depot would have a negligible effect.

10.11.3 Once operational, there would be a negligible effect on the availability of employment land resulting from the presence of operational structures on the site.

10.11.4 In completing the assessment, there is scope for further construction phase mitigation measures to be incorporated in the design with the aim of seeking to reduce significant adverse amenity effects which have been identified in this preliminary assessment.

10.12 Townscape and visual

10.12.1 The site comprises two industrial buildings, a storage shelter and river wall which are generally in poor condition. The surrounding townscape is a mix of industrial, commercial and residential properties.

10.12.2 Based on preliminary assessment findings, the demolition of buildings, presence of cranes, construction traffic and intensity of construction activity would have moderate adverse effects on the character of the site and the Dormay Street industrial character area. There would be minor adverse effects on Wandsworth Town Conservation Area and Frogmore Residential Area. Once operational, preliminary assessment findings indicate there would be a minor beneficial townscape effect on the site and Dormay Street Industrial Area due to the removal of existing buildings, provision of new hardstanding areas and the provision of a well-designed ventilation structure.

10.12.3 In terms of visual amenity preliminary assessment findings indicate that during construction, due to the visibility of cranes and site hoardings, there would be moderate adverse effects on viewpoints on The Causeway, Bell Lane Creek and Dormay Street. There would be minor adverse effects on viewpoints on Fairfield Street and Armoury Way due to the visibility of cranes. Once operational, there would be moderate beneficial visual effects on the viewpoint at Bell Lane Creek and minor beneficial effects on the viewpoints at the Causeway and Dormay Street due to the removal of existing buildings and the provision of a well-designed ventilation structure.

10.12.4 Mitigation measures during the construction phase are being incorporated into the proposals, for example, through use of capped and directional lighting when required. There would be no significant adverse effects during operation and therefore no further mitigation is proposed.
10.13 **Transport**

10.13.1 The site has very good public transport accessibility, being located in close proximity to a number of high frequency bus stops and within 800m of Wandsworth Town Rail Station and the Wandsworth Riverside Quarter pier.

10.13.2 Construction vehicle access is proposed via the A3 and Upper Richmond Road (A205), Armoury Way and then Dormay Street. During construction, the number of heavy goods vehicle movements would be moderate to high (at peak times). The presence of construction activity would result in a minor to moderate adverse effect on road network operation and delay and a moderate effect on pedestrian and cyclist amenity. A negligible effect is expected on public transport and river passenger services.

10.13.3 During the operational phase there would be very occasional vehicle trips to and from the site for maintenance activities, which would have a negligible effect on the surrounding transport networks.

10.13.4 The project is being designed to limit effects on the transport networks as far as possible. At this location, mitigation measures during construction would involve the provision of safe crossing points for pedestrians and cyclists where needed. Mitigation is not required for the operational phase.

10.14 **Water resources – groundwater**

10.14.1 The shaft would pass through the upper aquifer, which is of medium value, and into the underlying London Clay (which is not an aquifer). The shaft would not penetrate the lower chalk aquifer beneath. Associated interception infrastructure would be located in the upper aquifer.

10.14.2 Construction and operational effects on the upper aquifer would be limited to physical obstruction to groundwater flows. This effect is anticipated to be negligible due to the inclusion of design measures to reduce groundwater effects.

10.14.3 No soil or groundwater contamination has been identified on site to date but should any be encountered, the risks would be assessed and appropriate remediation undertaken. The effect on groundwater quality is considered to be negligible.

10.14.4 Groundwater monitoring of water levels and water quality would be undertaken during construction and operation.

10.15 **Water resources – surface water**

10.15.1 The site spans Bell Lane Creek, which forms the tidal section of the River Wandle. It joins the River Thames approximately 250m north of the site.

10.15.2 The River Thames in the vicinity of the site is classed as being of ‘moderate’ status, with a status objective of ‘good’ by 2027. The River Wandle (including the Bell Lane Creek) is classed as being of ‘poor’ status, with a status objective of ‘good’ by 2027. There are a number of nationally and locally designated water-dependent conservation sites within 2km of the site.
10.15.3 Construction effects would be managed via the Code of Construction Practice. With the Code in place effects on surface water resources from surface water runoff and potential contamination of the drainage system are not expected to be significant.

10.15.4 The presence of the temporary bridge in the river channel could lead to changes in flows and hence scour of flood defences. This effect would be limited to the construction phase, as following removal of the bridge structure river flows would return to normal and some natural foreshore restoration would occur. Any mitigation that is required will be identified in the Environmental Statement.

10.15.5 No mitigation would be required during construction in terms of water quality. Measures may be required to address scour of flood defences. If required, these will be assessed and reported in the Environmental Statement.

10.15.6 Once operational, the scheme would reduce the number of discharges from the Frogmore Storm Relief – Bell Lane combined sewer overflow to a predicted level of one spill a year. This reduction would have a beneficial effect on water quality. The number of risk days for river users being exposed to pathogens would be reduced by up to 104 days per year. In addition, the tonnage of sewage derived litter could be expected to be reduced from 4 tonnes to less than a tenth of a tonne per year.

10.16 Flood risk

10.16.1 The southern section of the site is located on the banks of Bell Lane Creek, a tidal inlet of the River Thames, and is within the ‘high probability’ flood zone. However, it is protected from tidal flooding by the Thames Barrier and local flood defences (Figure 10.7). The northern section of the site, on Causeway Island, is also located within the ‘high probability’ flood zone but no formal flood defences are present here.

10.16.2 The site may also be at risk of localised surface water flooding due to runoff generated by impermeable surfaces in and around the site. Excavations required to construct the Frogmore connection tunnel beneath the site have the potential to cause settlement, which could affect the flood defences along the edge of Bell Lane Creek. Further studies are underway to assess these potential effects.

10.16.3 The current level of protection afforded by the defences would be maintained on the site during construction and operation. It may be necessary to stabilise and strengthen existing defences in some places; this will be confirmed following further defence condition surveys.
10.17 **Further information**

10.17.1 Further information regarding preliminary assessment findings for Dormay Street can be found in Volume 11 of the Preliminary Environmental Information Report.