Chapter 22
Route Window SE3
Connaught Tunnel
**Connaught Tunnel**

22 Route Window SE3

**Introduction**

22.1 The works within the route window will consist of modifications to the Connaught Tunnel, the installation of overhead electrification equipment, and the demolition of Silvertown station and the Tate & Lyle footbridge.

22.2 There are two worksites and two ancillary worksites for the maintenance and remedial works on the Connaught tunnel and the demolition of Silvertown station. These are shown on Map SE3 (iv).

22.3 The reconstruction of Connaught Tunnel including fitting out is expected to take four years and two months.

22.4 The drawings provided at the end of this chapter present the main features of the route window and the assessed construction lorry routes.

**Baseline conditions**

22.5 The route window lies within the London Borough of Newham. It is intended that Crossrail will take over a section of the existing NLL, from Custom House to the North Woolwich area. Included in this section of railway is the Connaught Tunnel.

22.6 Silvertown station is located to the south of the Connaught Road (A112) and London City Airport, in front of the Tate & Lyle factory (see fig. 22.1). Residential areas lie to the north of the alignment. The Connaught Tunnel passes beneath Connaught Passage with Royal Victoria Dock to the west and Royal Albert Dock to the east.

22.7 The tunnel is about 1100 m long, including approach ramps, and consists of two twin-track single-bore brick tunnels connected by a twin-bore single track tunnel over the central section. It has two draught relief shafts, one on either side of Connaught Bridge. It is known to be affected by ground water seepage, which needs to be controlled. At present the tunnel has a single track on the east side. The track on the west side has been partly removed. The eastern and western approaches to the tunnel are in retained cut with support beams spanning across the length of the cut.

22.8 The west of the tunnel are the Royal Victoria Dock and Connaught Bridge. To the east are the Royal Albert Dock and the London City Airport. To the west lies the ExCeL Exhibition Centre, which is flanked by modern hotels and office blocks.

22.9 In this assessment it is assumed that, before the Crossrail works start, the North London Line services south of Stratford will have been withdrawn and Silvertown and North Woolwich stations closed after the opening of the DLR extension to the Stratford low-level station (see Baseline section in Volume 8a). London City Airport and King George V stations on the DLR, with a high-frequency service, will be near by and provide suitable alternatives to Silvertown and North Woolwich stations respectively.

22.10 Crossrail intends to use the Connaught Tunnel (also known as Silvertown Tunnel) on the route to Abbey Wood. Crossrail will use the alignment that is currently occupied by the two Network Rail tracks. The tunnel requires remedial works to facilitate its use by Crossrail trains.

22.11 In particular it will be necessary to increase the clear tunnel profile to accommodate overhead electrification equipment. The floor of the running tunnels will be lowered.
22.12 The alignment of the tracks through Silvertown makes the existing station unsuitable for use by Crossrail trains. The station will therefore be demolished, though passive provision will be made nearby for a future Crossrail station in the event of the development of adjacent properties. The Tate & Lyle private footbridge will be demolished, since it lacks sufficient headroom for the overhead electrification.

**Worksite assessment**

22.13 The construction activities for the majority of the works will be contained within existing railway boundaries.

**Connaught Tunnel worksite**

22.14 The Connaught Tunnel worksite is located beneath Connaught Bridge. This site will be accessed from the south off Hartmann Road, close to its junction with Connaught Bridge, using an existing cycle/footpath and assessed from the north off Festoon Way (under Connaught Bridge). The worksite will be serviced by two works compounds. The compound to the west will form part of the Victoria Dock Portal/Custom House worksite, which will be set up in an existing railway land situated off Victoria Dock Road to the northeast of Price Regent DLR station. Access to this compound is off Sandstone Lane.

**Silvertown worksite**

22.15 The compound to the east, which also forms the Silvertown worksite, will be situated on a triangle of land bounded by an existing rail track, Connaught Bridge and North Woolwich Road. (See fig. 22.2) Access to this worksite will be from North Woolwich Road. The demolition of Silvertown station will also be carried out from this worksite.

**Lorry routes assessment**

22.16 Inbound construction lorry movements associated with works in this route window will arrive from A13 via A406 and A1020 Royal Albert Way. The outbound lorry movement for the northern worksite is the reverse of the inbound route. These lorry routes are shown on Map SE2 (iv).

22.17 The majority of the excavated material will be removed by rail. Other material will be transported by road.

22.18 Connaught Bridge and North Woolwich Road form part of the lorry route to the main southern worksite. These roads also serve the construction activities at North Woolwich portal from the adjacent Route Window SE4. From here all construction traffic will access the A13 via Royal Albert Way and Royal Docks Road.

22.19 It is estimated that up to 34 lorry movements a day will occur during a 14 week peak construction period and 12 lorry movements a day at other times. This will not cause a significant impact to road users.
Mitigation and temporary impacts

22.20 It is not expected that the construction activities in this route window will give rise to any adverse impacts.

Mitigation and permanent impacts

22.21 There are no operational mitigation measures recommended for this route window.

22.22 The footbridge owned by Tate & Lyle will be demolished to accommodate Crossrail. Tate & Lyle has agreed that a replacement is not required. No operational impacts are anticipated from the permanent removal of the bridge.