

**Northern Line**



# **Signal Reference Book**

**07/08**<sub>nib</sub>

# Signal Reference Book

This book contains the location and details of all the signals on the Northern Line and is divided into four parts:

**Part 1** - general signal information

**Part 2** - lists each signal on the Northern Line in alphabetical order, together with:  
the corresponding Service Controllers diagram page number (TS1900X/X) where the signal can be found  
the way the signal should be treated when applying the 'stop and proceed' rule  
the type of signal where appropriate - approach-controlled (App-cont), draw-up, shunt or speed  
additional information, such as the purpose of the signal etc., as appropriate

**Part 3** - signal location by code diagram

**Part 4** - located as a centre supplement, shows all the running signals in the form of a line diagram. Signals on the northbound line are shown in **bold**

The following abbreviations have been used:

'1' - home signal

'2' - station starter

'3' - generally the first signal after the station starter

This booklet is for guidance only. For safety critical purposes, reference should be made to the relevant copy of the Service Controllers' diagram.

### **Definitions used in this book**

**Outer home** - protects the platform: The signal a following train is held at if there is a train in the platform

**Intermediate home** - a signal between the outer home and the inner home

**Inner home** - the last signal before the platform, or in the platform

**Approach-controlled starter** - a signal that will normally remain at danger / just clear as the train enters the platform. The signal can be automatic or semi-automatic. Most semi-automatic starters are approach-controlled. Semi-automatic starters at some locations can be used to hold a train to time. All semi-automatic starters can be held at red. If the area is being worked manually, an approach-controlled semi-automatic signal may be cleared in advance - e.g. B8.

### **Protects the crossover**

The first signal a train will be held at if the converging points ahead are not set for that train. This signal is a braking distance from the points. There may be other signals between that one and the points. E.g. NP1 protects 23 crossover and there is also NP2 just before the points. NP1 is a braking distance, NP2 is not. A signal protecting the points may be used to slow the train down, thus reducing the braking distance needed, and allow the train to the next signal which will then protect the points. - e.g. B800 is a braking distance from the crossover and initially protects the points. B8 is not a braking distance. B800 remains red in order to slow the approaching train and will normally go to yellow at around 10mph. Because the train speed is now reduced, B8 is now a braking distance from the points and the train can proceed up to B8. Similar arrangements apply at NN14/15<sup>A</sup>, NP16/20, G340, G350 etc.

### **Semi-automatic signals**

The normal aspect of a semi-automatic signal is red. In some areas, such as emergency crossover locations, automatic working may be in operation and the signal may return to green when the section ahead is clear. The Signaller can also work any controlled area manually and hold controlled signals at danger or clear them in advance. It must never be assumed that a signal will clear, even though it may normally do so when the approaching train reaches a certain point.

An example is B34. This is the first controlled signal after departing Oval NB. The signal will normally be at red, then go to green by the time the approaching train reaches the six car mark, provided the section ahead is clear. B34

protects the crossover from the siding. If the route is set for a train to depart the siding, or enter the siding from platform 3, then B34 will remain red. If the Signaller is working the area manually, B34 may be held at red. In either case, B34 will not clear when it normally does and drivers should be aware of this.

Semi-automatic signals can only be passed at danger when given the authority to do so. An illuminated 'A' at the signal means that that signal should be treated like an automatic signal.

A Route Secured sign does not give permission to pass that signal - permission must be given in the usual way

### **“Slugged” trainstops**

Some signals have a slugged trainstop. There is a reservoir in series with the tripcock hose and this holds an additional amount of air. When the signal goes to green, air is fed to the trainstop to push against the spring and lower the trainstop. Because the air also has to fill the reservoir, there is a few seconds delay while sufficient pressure builds up to push the trainstop down. This gives a temporary dual aspect. This mainly occurs on some draw-up signals.

### **Draw-up / Speed signals**

A draw-up signal is associated with the signal ahead. It allows the train to draw up closer by reducing the speed and thus the braking distance. A speed signal ensures that the speed of the train has been reduced - either for a specific purpose, such as approaching a dead end or a curve, or allows the train to draw up closer by reducing the braking distance. Policemen are speed signals without an aspect.

Draw-up and speed signals work in a similar way. A train's speed is not measured for a signal to clear. Instead, the signal will clear after a preset time. The train passes through a timing section. If the train passes through too quickly, the signal may remain at danger.

The timing section can be triggered by a train passing over a position detector or occupying a track circuit. A507 works this way. Two position detectors can be used to mark the start and end of a timing section - the train must occupy the timing circuit for a minimum amount of time - normally 4.5 seconds. AE100 is an example of this. A signal may not clear, even if the train is doing the correct speed. Never assume that a signal will clear.

## **Four digit signals**

Some automatic signal numbers have four digits. These are additional signals that have been added since the area was last signalled. With the exception of A1004, the number is that of the previous signal with a 1 or 2 added (11 on the two digit signals on the CX branch). E.g. A715 is followed by A7151. A61 is followed by A6111.

## **S Signals**

Other than on the Barnet branch north of Archway, all the automatic signals on the Northern Line were originally prefixed with the letter 'S' instead of 'A'. The extension from Archway towards High Barnet from 1939 used the standard 'A'. When parts of the line were resignalled, or new signals were added, 'A' replaced 'S' on these signals. There are still some 'S' signals left - between Colliers Wood and Clapham Common, and S601 and S604 at Euston. 'S' signals are automatic signals and should be treated in exactly the same way as 'A' signals when applying the stop and proceed rule.

## **X Signals**

An 'X' signal at the start of a controlled area is normally the last automatic signal before a controlled area. The number is preceded by that area's cabin code (e.g. NQX201) and is treated as a semi-automatic signal. Many of these have been redesignated as automatic signals and labelled as standard AXXX, but some still remain. London Bridge starters are X without a cabin code. They are automatic signals that can be held at danger by the Signal Operator to regulate the service if required. They should be treated as semi-automatic signals.

## **Home signals**

With automatic signals, AXXX<sup>A</sup> is usually the outer home. AXXX<sup>B</sup> is the intermediate home (or inner home if there are only two home signals). AXXX<sup>C</sup> is the inner home. A few places have more than one intermediate signal, in which case the signal's lowest last letter is the inner home and the ones in between are intermediate home signals.

E.g AXXX<sup>A</sup> (outer), AXXX<sup>B</sup> (intermediate), AXXX<sup>C</sup> (intermediate), AXXX<sup>D</sup> (intermediate), AXXX<sup>E</sup> (inner) .

With semi-automatic signals, XXX<sup>A</sup> may be the signal that protects the crossover and XXX<sup>B</sup> is the outer home. E.g. C10<sup>A</sup> and C10<sup>B</sup> at Charing Cross southbound. C10<sup>A</sup> protects the crossover, C10<sup>B</sup> is the outer home.

## **Signal numbering**

Generally, even number automatic signals are on the northbound line, odd number automatic signals are on the southbound line.

| Signal<br>A**        | Treat Type | Location  | TS1900X/X |
|----------------------|------------|---|-----------|
| A50                  | Auto       | Kennington loop - first signal from entrance            | 3/7       |
| A52                  | Auto       | Kennington loop - second signal from entrance           | 3/7       |
| A54                  | Auto       | '3' Kennington NB - platform 1                          | 3/7       |
| A56                  | Auto       | Kennington-Waterloo NB                                  | 3/7       |
| A58                  | Auto       | Kennington-Waterloo NB                                  | 3/7       |
| A61                  | Auto       | Waterloo-Kennington SB                                  | 3/7       |
| A62 <sup>A</sup>     | Auto Speed | '1' Waterloo NB: Speed signal (25) if platform occupied | 3/7       |
| A63                  | Auto       | '3' Waterloo SB   | 3/7       |
| A68 <sup>A,B,C</sup> | Auto       | '1' Embankment NB                                       | 3/6       |
| A76 <sup>A,B,C</sup> | Auto       | '1' Leicester Sq NB                                     | 3/5       |
| A77 <sup>AB</sup>    | Auto       | '1' Embankment SB                                       | 3/6       |
| A82                  | Auto       | Tottenham Court Rd NB starter                           | 3/5       |
| A83 <sup>A,B,C</sup> | Auto       | '1' Leicester Sq SB                                     | 3/5       |
| A86 <sup>A,B,C</sup> | Auto       | '1' Goodge St NB  | 3/4       |
| A87 <sup>A</sup>     | Auto       | '1' Tottenham Court Rd SB                               | 3/4       |
| A88                  | Auto       | Goodge St NB station starter                            | 3/4       |
| A89                  | Auto       | Goodge St SB station starter                            | 3/4       |
| A90 <sup>A,B,C</sup> | Auto       | '1' Warren St NB  | 3/4       |
| A91 <sup>A,B,C</sup> | Auto       | '1' Goodge St SB  | 3/4       |
| A92                  | Auto       | Warren St NB station starter                            | 3/4       |
| A93                  | Auto       | Warren St SB station starter                            | 3/4       |
| A95 <sup>A</sup>     | Auto       | '1' Warren St SB  | 3/3       |
| A95 <sup>B,C</sup>   | Auto       | '1' Warren St SB  | 3/4       |
| A96 <sup>A,B,C</sup> | Auto       | '1' Euston CX NB  | 3/3       |
| A98                  | Auto       | Euston CX NB station starter                            | 3/3       |
| A99                  | Auto       | Euston CX SB station starter                            | 3/3       |

| Signal<br>A1**        | Treat Type | Location  | TS1900X/X |
|-----------------------|------------|---|-----------|
| A100                  | Auto       | Euston CX-Mornington Crescent NB: Will return to danger if a release is taken | 3/3       |
| A101 <sup>A,B,C</sup> | Auto       | '1' Euston CX SB  | 3/3       |
| A103                  | Auto       | '3' Mornington Crescent SB  | 3/3       |
| A104                  | Auto       | '1' Mornington Crescent NB: Outer home  | 3/3       |
| A124                  | Auto       | '1' Camden Town NB - between crossover and plat 1                             | 3/2       |
| A126                  | Auto       | Camden Town NB - platform 1 station starter: Can be held at danger            | 3/2       |
| A128                  | Auto       | '3' Camden Town 1 NB  | 3/2       |
| A130 <sup>A,B,C</sup> | Auto       | '1' Chalk Farm NB   | 2/7       |
| A132                  | Auto       | Chalk Farm NB station starter   | 2/7       |
| A134                  | Auto       | '3' Chalk Farm NB   | 2/7       |
| A136                  | Auto       | Chalk Farm - Belsize Park NB  | 2/7       |
| A138 <sup>A,B</sup>   | Auto       | '1' Belsize Park NB   | 2/7       |
| A140                  | Auto       | Belsize Park NB station starter   | 2/7       |
| A142                  | Auto       | '3' Belsize park NB   | 2/7       |
| A144                  | Auto       | Belsize Park-Hampstead NB   | 2/7       |
| A146 <sup>A,B,C</sup> | Auto       | '1' Hampstead NB  | 2/6       |
| A148                  | Auto       | '3' Hampstead NB - first signal after crossover                               | 2/6       |
| A150                  | Auto       | Hampstead-Bull and Bush NB  | 2/6       |
| A152                  | Auto       | Hampstead-Bull and Bush NB  | 2/6       |
| A154                  | Auto       | '1' Bull and Bush NB  | 2/6       |
| A155                  | Auto       | '3' Bull and Bush NB  | 2/5       |
| A157                  | Auto       | G Green-Hampstead SB - first signal in tunnel                                 | 2/5       |
| A158                  | Auto       | '1' Bull and Bush SB  | 2/6       |
| A160                  | Auto       | Bull and Bush-Hampstead SB  | 2/6       |
| A162                  | Auto       | Bull and Bush-Hampstead SB  | 2/6       |
| A165                  | Auto       | '3' Hampstead SB  | 2/6       |
| A167                  | Auto       | Hampstead-Belsize Park SB   | 2/6       |
| A169 <sup>A,B,C</sup> | Auto       | '1' Belsize Park SB   | 2/7       |

| <b>Signal</b>         | <b>Treat Type</b> | <b>Location</b>  | <b>TS1900X/X</b> |
|-----------------------|-------------------|--|------------------|
| A175                  | Auto              | Belsize Park SB station starter  | 2/7              |
| A177                  | Auto              | '3' Belsize park SB  | 2/7              |
| A179 <sup>A,B,C</sup> | Auto              | '1' Chalk Farm SB  | 2/7              |
| A185                  | Auto              | Chalk Farm SB station starter  | 2/7              |
| A187                  | Auto              | '3' Chalk Farm SB  | 2/7              |
| A189 <sup>A,B</sup>   | Auto              | '1' Camden Town SB - platform 2  | 3/2              |
| A189 <sup>C</sup>     | Auto              | '1' Camden Town SB - platform 2: Will return to danger if a release is taken | 3/2              |
| A199                  | Auto              | Finchley Central-East Finchley SB  | 4/7              |
| <b>A2**</b>           |                   |  |                  |
| A200 <sup>A</sup>     | Auto              | '1' West Finchley NB   | 4/6              |
| A200 <sup>B</sup>     | Auto              | '1' West Finchley NB   | 4/5              |
| A203 <sup>A,B</sup>   | Auto              | '1' West Finchley SB   | 4/5              |
| A204                  | Auto              | West Finchley NB station starter   | 4/5              |
| A211                  | Auto              | Woodside Park SB station starter   | 4/4              |
| A215 <sup>A,B</sup>   | Auto              | '1' Woodside Park SB   | 4/4              |
| A220 <sup>A</sup>     | Auto              | '1' Woodside Park NB   | 4/5              |
| A220 <sup>B</sup>     | Auto              | '1' Woodside Park NB   | 4/4              |
| A224                  | Auto              | Woodside Park NB station starter   | 4/4              |
| A227                  | Auto              | '3' Totteridge SB - first signal after crossover                             | 4/3              |
| A228                  | Auto              | '3' Woodside Park NB   | 4/4              |
| A235 <sup>A</sup>     | Auto              | '1' Totteridge SB  | 4/3              |
| A237                  | Auto              | High Barnet-Totteridge SB ('3' High Barnet)                                  | 4/2              |
| A238                  | Auto              | Totteridge NB station starter  | 4/3              |
| A240                  | Auto              | '3' Totteridge NB  | 4/3              |
| A242                  | Auto              | Totteridge-High Barnet NB  | 4/2              |
| <b>A3**</b>           |                   |  |                  |
| A301 <sup>A,B</sup>   | Auto              | '1' Camden Town SB - platform 4  | 5/5              |
| A301 <sup>C</sup>     | Auto              | '1' Camden Town SB - platform 4: Will return to danger if a release is taken | 5/5              |



| <b>Signal</b>         | <b>Treat Type</b> | <b>Location</b>  | <b>TS1900X/X</b> |
|-----------------------|-------------------|--|------------------|
| A302                  | Auto              | '1' Camden Town NB - between crossover and platform 3              | 5/5              |
| A303                  | Auto              | '3' Kentish Town SB  | 5/4              |
| A304                  | Auto              | Camden Town NB - platform 3 station starter: Can be held at danger | 5/5              |
| A306                  | Auto              | '3' Camden Town NB - ex platform 3                                 | 5/4              |
| A307                  | Auto              | Kentish Town SB station starter                                    | 5/4              |
| A308 <sup>A,B</sup>   | Auto              | '1' Kentish Town NB  | 5/4              |
| A309 <sup>A,B</sup>   | Auto              | '1' Kentish Town SB  | 5/4              |
| A310                  | Auto              | Kentish Town NB station starter                                    | 5/4              |
| A311                  | Auto              | '3' Tufnell park SB  | 5/4              |
| A314                  | Auto              | '3' Kentish Town NB  | 5/4              |
| A315                  | Auto              | Tufnell Park SB station starter                                    | 5/4              |
| A316 <sup>A,B</sup>   | Auto              | '1' Tufnell Park NB  | 5/4              |
| A317 <sup>A,B,C</sup> | Auto              | '1' Tufnell Park SB  | 5/4              |
| A318                  | Auto              | Tufnell Park NB station starter                                    | 5/4              |
| A319                  | Auto              | '3' Archway SB   | 5/3              |
| A322                  | Auto              | '3' Tufnell Park NB  | 5/3              |
| A326 <sup>A,B</sup>   | Auto              | '1' Archway NB   | 5/3              |
| <b>4**</b>            |                   |  |                  |
| A412                  | Auto              | '3' Golders Green NB - first signal after crossover                | 2/5              |
| A414                  | Auto              | Golders Green-Brent Cross NB                                       | 2/4              |
| A415                  | Auto              | Brent Cross-Golders Green SB                                       | 2/4              |
| A416 <sup>A,B,C</sup> | Auto              | '1' Brent Cross NB   | 2/4              |
| A417                  | Auto              | '3' Brent Cross SB   | 2/4              |
| A418                  | Auto              | Brent Cross NB station starter: Is 122 feet north of platform      | 2/4              |
| A419                  | Auto              | Brent Cross SB station starter: Has co-acting signal               | 2/4              |
| A420                  | Auto              | '3' Brent Cross NB   | 2/4              |
| A421 <sup>A,B</sup>   | Auto              | '1' Brent Cross SB   | 2/4              |
| A422 <sup>A,B</sup>   | Auto              | '1' Hendon NB  | 2/4              |
| A422 <sup>C</sup>     | Auto              | '1' Hendon NB - in platform  | 2/4              |

| <b>Signal</b>       | <b>Treat Type</b> | <b>Location</b>  | <b>TS1900X/X</b> |
|---------------------|-------------------|--|------------------|
| A423                | Auto              | '3' Hendon SB  | 2/4              |
| A424                | Auto              | Hendon NB station starter  | 2/4              |
| A425                | Auto              | Hendon SB station starter - in platform  | 2/4              |
| A426                | Auto              | Hendon-Colindale NB - in tunnel  | 2/4              |
| A427                | Auto              | '1' Hendon SB - in tunnel  | 2/4              |
| A428                | Auto              | Hendon-Colindale NB - in tunnel  | 2/4              |
| A429                | Auto              | Colindale-Hendon SB - in tunnel  | 2/4              |
| A431                | Auto              | Colindale-Hendon SB - in open, near SB tunnel mouth entrance                           | 2/4              |
| A432                | Auto              | Hendon-Colindale NB - first signal ex NB tunnel  | 2/4              |
| A433                | Auto              | '3' Colindale SB   | 2/3              |
| A434 <sup>A,B</sup> | Auto              | '1' Colindale NB: Normal aspect is red - will go to green in advance when AC1 is green | 2/3              |
| A436                | Auto              | '3' Colindale NB   | 2/3              |
| A438 <sup>A,B</sup> | Auto              | '1' Burnt Oak NB   | 2/3              |
| A439                | Auto              | Burnt Oak-Colindale SB   | 2/3              |
| A440                | Auto              | Burnt Oak NB station starter: Is 190 feet north of platform                            | 2/3              |
| A442                | Auto              | '3' Burnt Oak NB   | 2/3              |
| A443                | Auto              | Burnt Oak SB station starter: Has co-acting signal                                     | 2/3              |
| A445 <sup>A,B</sup> | Auto              | '1' Burnt Oak SB   | 2/3              |
| A446                | Auto              | Burnt Oak-Edgware NB   | 2/3              |
| A447                | Auto              | Edgware-Burnt Oak SB   | 2/3              |
| <b>A5**</b>         |                   |  |                  |
| A504                | Auto              | '3' Archway NB - first signal after crossover  | 5/2              |
| A506                | Auto              | Archway-Highgate NB  | 5/2              |
| A507                | Auto Speed        | Highgate-Archway SB: Speed signal (35)   | 5/2              |
| A508                | Auto              | Archway-Highgate NB  | 5/2              |
| A509                | Auto              | '3' Highgate SB  | 5/2              |
| A510 <sup>A,B</sup> | Auto              | '1' Highgate NB  | 5/2              |
| A510 <sup>C</sup>   | Auto Policeman    | Halfway down Highgate NB platform - no aspect  | 5/2              |

| <b>Signal</b>           | <b>Treat Type</b> | <b>Location</b>  | <b>TS1900X/X</b> |
|-------------------------|-------------------|--|------------------|
| A512                    | Auto              | Highgate NB station starter                                  | 5/2              |
| A513                    | Auto              | Highgate SB station starter                                  | 5/2              |
| A514                    | Auto              | '3' Highgate NB  | 5/2              |
| A515 <sup>A,B,C,D</sup> | Auto              | '1' Highgate SB  | 5/2              |
| A516                    | Auto              | Highgate-East Finchley NB                                    | 5/2              |
| A517                    | Auto              | East Finchley-Highgate SB - first signal in tunnel           | 5/2              |
| A520                    | Auto              | Highgate-East Finchley NB - last signal in tunnel            | 5/2              |
| A521                    | Auto              | '3' East Finchley SB - last signal before tunnel             | 4/9              |
| A522                    | Auto              | '1' East Finchley NB - first signal after tunnel: Outer home | 4/9              |
| <b>A6**</b>             |                   |  |                  |
| A606                    | Auto              | Euston City-Camden Town NB                                   | 5/6              |
| A608                    | Auto              | Euston City-Camden Town NB: Has associated 15mph sign        | 5/6              |
| A609                    | Auto              | '3' Euston Bank SB   | 5/6              |
| A610                    | Auto              | Euston Bank NB station starter                               | 5/6              |
| A611 <sup>A,B</sup>     | Auto              | '1' Kings Cross SB   | 5/7              |
| A612 <sup>A</sup>       | Auto              | '1' Euston Bank NB - first signal after crossover            | 5/6              |
| A612 <sup>B</sup>       | Auto              | '1' Euston Bank NB   | 5/6              |
| A613                    | Auto App-cont     | Kings Cross SB station starter                               | 5/7              |
| A614                    | Auto              | '1' Kings Cross NB (followed by J11): Outer home             | 5/7              |
| A615                    | Auto              | '3' Kings Cross SB   | 5/7              |
| A616                    | Auto              | Angel-Kings Cross NB   | 5/7              |
| A618                    | Auto App-cont     | Angel NB station starter                                     | 6/2              |
| A619 <sup>A,B</sup>     | Auto              | '1' Angel SB   | 6/2              |
| A620 <sup>A,B</sup>     | Auto              | '1' Angel NB   | 6/2              |
| A621                    | Auto App-cont     | Angel SB starter   | 6/2              |
| A622                    | Auto              | '1' City Road NB   | 6/2              |
| A623                    | Auto              | '3' City Road SB   | 6/2              |
| A624                    | Auto              | Old Street-City Road NB                                      | 6/2              |
| A626                    | Auto              | Old Street NB starter  | 6/2              |

| <b>Signal</b>       | <b>Treat Type</b> | <b>Location</b>   | <b>TS1900X/X</b> |
|---------------------|-------------------|---|------------------|
| A627 <sup>A,B</sup> | Auto              | '1' Old Street SB   | 6/2              |
| A628 <sup>A,B</sup> | Auto              | '1' Old St NB   | 6/3              |
| A630                | Auto              | '3' Moorgate NB - first signal after crossover  | 6/3              |
| A635 <sup>AB</sup>  | Auto              | '1' Bank SB   | 6/4              |
| A636 <sup>B</sup>   | Auto              | '1' Bank NB   | 6/4              |
| A639                | Auto              | Bank-London Bridge SB   | 6/4              |
| A641 <sup>A,B</sup> | Auto              | '1' London Bridge SB  | 6/5              |
| A642                | Auto              | Borough NB station starter  | 6/5              |
| A644                | Auto              | '1' Borough NB: Sole home signal  | 6/6              |
| A645 <sup>A,B</sup> | Auto              | '1' Borough SB  | 6/5              |
| A646                | Auto              | '3' Elephant & Castle NB  | 6/6              |
| A647                | Auto              | Borough SB station starter  | 6/5              |
| A648                | Auto              | Elephant & Castle NB station starter  | 6/6              |
| A649 <sup>A,B</sup> | Auto              | '1' Elephant & castle SB  | 6/6              |
| A650 <sup>A,B</sup> | Auto              | '1' Elephant & Castle NB  | 6/6              |
| A653                | Auto              | Elephant & Castle-Kennington SB   | 6/6              |
| A654                | Auto              | '3' Kennington NB - ex platform 3   | 6/6              |
| A655 <sup>C</sup>   | Auto              | '1' Kennington SB - ex platform 4   | 6/7              |
| A657                | Auto              | '3' Kennington SB - first signal after crossover                                      | 6/7              |
| A659 <sup>A</sup>   | Auto              | '1' Oval SB   | 6/7              |
| A659 <sup>B,C</sup> | Auto              | '1' Oval SB   | 6/8              |
| A661                | Auto              | Oval SB starter   | 6/8              |
| A662 <sup>A</sup>   | Auto Speed        | '1' Oval NB: Speed signal (25) if platform occupied                                   | 6/8              |
| A662 <sup>B</sup>   | Auto Speed        | '1; Oval NB: Speed signal (20) if platform occupied                                   | 6/8              |
| A662 <sup>C</sup>   | Auto              | '1' Oval NB: If there is a train in the platform, the following train can end up here | 6/8              |
| A662 <sup>D</sup>   | Auto              | '1' Oval NB   | 6/8              |
| A662 <sup>E</sup>   | Auto              | '1' Oval NB - in platform   | 6/8              |
| A663                | Auto              | '3' Oval SB   | 6/8              |
| A664                | Auto              | Stockwell-Oval NB   | 6/8              |
| A665                | Auto              | Oval-Stockwell SB   | 6/8              |

| <b>Signal</b>           | <b>Treat Type</b> | <b>Location</b>  | <b>TS1900X/X</b> |
|-------------------------|-------------------|--|------------------|
| A666                    | Auto              | '3' Stockwell NB - first signal after crossover                      | 6/8              |
| A667                    | Auto              | '3' Stockwell SB   | 6/8              |
| A668 <sup>A</sup>       | Auto Speed        | '1' Stockwell NB: Speed signal (15mph) if train ahead in platform    | 6/8              |
| A668 <sup>B</sup>       | Auto Speed        | '1' Stockwell NB: Speed signal if train ahead departing platform     | 6/8              |
| A669 <sup>A,B,C</sup>   | Auto              | '1' Clapham North SB   | 7/2              |
| A671                    | Auto              | Clapham North SB station starter                                     | 7/2              |
| A672 <sup>A,B,C</sup>   | Auto              | '1' Clapham North NB   | 7/2              |
| A673 <sup>A,B,C</sup>   | Auto              | '1' Clapham Common SB  | 7/2              |
| A674                    | Auto              | Clapham Common NB station starter                                    | 7/2              |
| A675                    | Auto              | Clapham Common SB station starter                                    | 7/2              |
| A676 <sup>A,B,C</sup>   | Auto              | '1' Clapham Common NB  | 7/3              |
| A678                    | Auto              | Clapham South-Clapham Common NB                                      | 7/3              |
| A680                    | Auto              | '3' Clapham South NB   | 7/3              |
| <b>7**</b>              |                   |  |                  |
| A701 <sup>A</sup>       | Auto              | '1' Tooting Broadway SB  | 7/5              |
| A701 <sup>C</sup>       | Auto              | '1' Tooting Broadway SB: Will return to danger if a release is taken | 7/5              |
| A708                    | Auto              | '3' Colliers Wood NB   | 7/5              |
| A709                    | Auto              | Colliers Wood SB station starter                                     | 7/5              |
| A711                    | Auto              | Colliers Wood-South Wimbledon SB                                     | 7/6              |
| A713 <sup>A,B,C</sup>   | Auto              | '1' South Wimbledon SB   | 7/5              |
| A715                    | Auto App-cont     | South Wimbledon SB station starter                                   | 7/6              |
| A717                    | Auto              | South Wimbledon-Morden SB  | 7/6              |
| A718                    | Auto              | South Wimbledon NB station starter                                   | 7/6              |
| A719                    | Auto              | South Wimbledon-Morden SB  | 7/6              |
| A720 <sup>A,B,C,D</sup> | Auto              | '1' South Wimbledon NB   | 7/6              |
| A722                    | Auto              | Morden-South Wimbledon NB  | 7/6              |
| A724                    | Auto              | Morden-South Wimbledon NB  | 7/6              |
| A726                    | Auto              | Morden-South Wimbledon NB - first signal in tunnel                   | 7/6              |

| Signal       | Treat Type |         | Location  | TS1900X/X |
|--------------|------------|---------|---|-----------|
| A728         | Auto       | Pop-up  | '3' Morden NB - between platforms and tunnel. Illuminates when train passes starter blockjoint, goes out when last pair of wheels clears A728 blockjoint. A train departing from platform 2 may become fully gapped if stopped in the vicinity of this signal | 7/7       |
| <b>A****</b> |            |         |   |           |
| A1004        | Auto       | Speed   | '1' Mill Hill East NB: Acts as approach controlled / draw-up: Sole home signal  | 4/5       |
| A1281        | Auto       |         | Camden Town-Chalk Farm NB   | 3/2       |
| A1541        | Auto       |         | Bull and Bush NB  | 2/6       |
| A1581        | Auto       |         | '2' Bull and Bush SB: Has co-acting signal  | 2/6       |
| A4160        | Auto       | Draw-up | '1' Brent Cross NB: Draw-up if platform occupied  | 2/4       |
| A4340        | Auto       | Draw-up | '1' Colindale NB: Normal aspect is red: Draw-up if platform is occupied / AC1 red   | 2/3       |
| A5511        | Auto       |         | Waterloo-Kennington SB  | 3/7       |
| A6011        | Auto       |         | Camden Town-Euston Bank SB  | 5/5       |
| A6111        | Auto       |         | Waterloo-Kennington SB  | 3/7       |
| A6261        | Auto       |         | '3' Old St NB   | 6/2       |
| A6291        | Auto       |         | '3' Moorgate SB   | 6/4       |
| A6431        | Auto       |         | '3' London Bridge SB  | 6/5       |
| A6411        | Auto       |         | '3' Waterloo NB   | 3/6       |
| A6461        | Auto       |         | Elephant & Castle-Borough NB  | 6/6       |
| A6471        | Auto       |         | '3' Borough SB  | 6/6       |
| A6511        | Auto       |         | Elephant & Castle-Kennington SB   | 6/6       |
| A6921        | Auto       |         | '3' Balham NB   | 7/3       |
| A7001        | Auto       |         | '3' Tooting Bec NB  | 7/4       |
| A7091        | Auto       |         | '3' Colliers Wood SB  | 7/5       |
| A7141        | Auto       |         | South Wimbledon-Colliers Wood NB  | 7/5       |
| A7151        | Auto       |         | '3' South Wimbledon NB: Has associated 15mph sign   | 7/6       |
| A7171        | Auto       |         | South Wimbledon-Morden SB   | 7/6       |
| A7172        | Auto       |         | South Wimbledon-Morden SB   | 7/6       |
| A9211        | Auto       |         | '3' Warren St NB  | 3/3       |
| A9811        | Auto       |         | '3' Euston CX NB  | 3/3       |

| <b>Signal</b>     | <b>Treat Type</b> | <b>Location</b>   | <b>TS1900X/X</b> |
|-------------------|-------------------|---|------------------|
| <b>AC</b>         | <b>COLINDALE</b>  |   |                  |
| AC1               | Semi              | '1' Colindale NB  | 2/3              |
| AC2               | Semi App-cont     | NB station starter  | 2/3              |
| AC3               | Semi Shunt        | NB shunt signal to siding   | 2/3              |
| AC9               | Semi Shunt        | SB shunt signal from siding   | 2/3              |
| AC11              | Semi App-cont     | SB station starter  | 2/3              |
| AC12 <sup>A</sup> | Semi              | '1' Colindale SB: Protects the crossover  | 2/3              |
| AC12 <sup>B</sup> | Semi              | '1' Colindale SB  | 2/3              |
| AC12 <sup>C</sup> | Semi              | '1' Colindale SB - last signal before the crossover   | 2/3              |
| <b>AE</b>         | <b>EDGWARE</b>    |   |                  |
| AE1               | Semi              | '1' Edgware NB: Junction signal to platforms: Sole home signal  | 2/2              |
| AE4               | Semi Shunt        | 16 siding to platform 1   | 2/2              |
| AE6               | Semi Shunt        | outlet shunt signal from Edgware sidings  | 2/2              |
| AE31 <sup>A</sup> | Semi Shunt        | platform 3 to Edgware sidings   | 2/2              |
| AE31 <sup>B</sup> | Semi              | platform 3 - SB station starter   | 2/2              |
| AE32 <sup>A</sup> | Semi Shunt        | platform 2 to Edgware sidings   | 2/2              |
| AE32 <sup>B</sup> | Semi              | platform 2 - SB station starter: Junction signal with vertical and diagonal route indicator - both for SB main: Does not display a plain green aspect | 2/2              |
| AE33 <sup>A</sup> | Semi              | platform 1 - SB station starter   | 2/2              |
| AE33 <sup>B</sup> | Semi Shunt        | platform 1 to 16 siding   | 2/2              |
| AE100             | Semi Draw up      | '1' Edgware NB  | 2/2              |
| <b>B</b>          | <b>KENNINGTON</b> |   |                  |
| B2                | Semi              | '1' Kennington SB CX - platform 2   | 6/7              |
| B3                | Semi              | platform 2 - station starter: Junction signal to loop / SB main   | 6/7              |
| B4                | Semi Shunt        | platform 2 - shunt signal to siding   | 5/7              |
| B8                | Semi App-cont     | platform 4 - station starter: Protects the crossover  | 6/7              |
| B9                | Semi Shunt        | platform 4 - shunt signal to siding   | 6/7              |
| B10               | Semi Shunt        | platform 3 - shunt signal to siding   | 6/7              |

| <b>Signal</b>          | <b>Treat</b> | <b>Type</b> | <b>Location</b>  | <b>TS1900X/X</b> |
|------------------------|--------------|-------------|--|------------------|
| B18                    | Semi         | App-cont    | platform 3 - NB Bank - station starter   | 6/7              |
| B19                    | Semi         | App-cont    | platform 1 - NB CX - station starter   | 6/7              |
| B23                    | Semi         | Shunt       | NB shunt signal from siding  | 6/7              |
| B31 <sup>A</sup>       | Semi         |             | '1' Kennington NB: Junction signal to Bank / CX  | 6/7              |
| B31/1 <sup>B</sup>     | Semi         |             | '1' Kennington CX NB - between junction of NB main and loop: Speed signal if floodgate 37 operated   | 6/7              |
| B31/2 <sup>B</sup>     | Semi         |             | '1' Kennington Bank NB - platform 3  | 6/7              |
| B32                    | Semi         |             | '1' Kennington NB - first signal after siding crossover: Outer home  | 6/7              |
| B33                    | Semi         |             | Oval-Kennington NB - last signal before siding crossover   | 6/7              |
| B34                    | Semi         |             | '3' Oval NB: Protects crossover from siding / to siding from Kennington platform 3   | 6/7              |
| B36 <sup>A</sup>       | Semi         |             | Kennington loop - third signal from loop entrance: Protects points. Outer home   | 6/7              |
| B36 <sup>B</sup>       | Semi         |             | Kennington loop - last signal in loop: Inner home: Speed signal if floodgate 37 operated   | 6/7              |
| B800                   | Semi         | Draw-up     | platform 4. Initially protects the crossover. Has associated 10mph sign  | 6/7              |
| BX51 <sup>A</sup>      | Semi         |             | '1' Kennington SB CX - platform 2: Outer home  | 3/7              |
| BX660                  | Semi         |             | '1' Oval NB  | 6/8              |
| <b>C CHARING CROSS</b> |              |             |  |                  |
| C1                     | Semi         |             | Embankment NB station starter  | 3/6              |
| C2                     | Semi         |             | '1' Charing Cross NB: Protects the crossover if the points are reversed  | 3/6              |
| C3                     | Semi         | App-cont    | NB station starter: Approach controlled (2 speeds)   | 3/6              |
| C4                     | Semi         |             | SB platform: Wrong road starter - SB-NB: Rear Cab Clear plunger (SB headwall) will normally need to be operated before the signal will clear | 3/6              |
| C7                     | Semi         | App-cont    | SB station starter: Approach controlled (2 speeds)   | 3/6              |
| C8                     | Semi         | Shunt       | shunt signal from emergency crossover - NB-SB  | 3/5              |
| C9                     | Semi         |             | '1' Charing Cross SB - between crossover and platform  | 3/5              |
| C10 <sup>A</sup>       | Semi         |             | '1' Charing Cross SB: Protects the crossover   | 3/5              |
| C10 <sup>B</sup>       | Semi         |             | '1' Charing Cross SB - last signal before crossover: Outer home  | 3/5              |
| CX81                   | Semi         |             | Leicester Sq SB station starter  | 3/5              |



| Signal           | Treat Type    | Location  | TS1900X/X |
|------------------|---------------|---|-----------|
| <b>E</b>         |               | <b>CAMDEN TOWN and MORNINGTON CRESCENT</b>  |           |
| E1               | Semi          | '1' Mornington Crescent NB: Protects the crossover if the points are reversed   | 3/3       |
| E2               | Semi App-cont | Mornington Crescent NB station starter: Approach controlled (2 speeds)  | 3/3       |
| E3               | Semi          | Mornington Crescent wrong road starter - SB-NB  | 3/3       |
| E4               | Semi          | '3' Mornington Crescent: Junction signal to Edgware / Barnet Acts as LOS:<br>Has an overrun signal phone (at rail gap 432)                                  | 3/2       |
| E6               | Semi          | '1' Camden Town NB CX Edgware branch - last signal before points Protects the crossover   | 3/2       |
| E9 <sup>A</sup>  | Semi          | '1' Camden Town NB CX Barnet branch: Protects the crossover   | 3/2       |
| E9 <sup>B</sup>  | Semi          | '1' Camden Town NB CX Barnet branch: Outer home   | 3/2       |
| E11 <sup>A</sup> | Semi          | '1' Camden Town NB Bank branch: Protects the crossover: If the platform is occupied, the signal will not clear until the train starts to leave the platform | 3/2       |
| E11 <sup>B</sup> | Semi          | '1' Camden Town NB Bank branch: Junction signal to Edgware / Barnet: May remain red if train ahead is slow departing or stops part way out of the station   | 3/2       |
| E29              | Semi shunt    | Mornington Crescent - shunt from emergency crossover NB-SB  | 3/3       |
| E30              | Semi App-cont | Mornington Crescent SB station starter. Approach controlled (2 speeds)<br>Has co-acting signal (from July)  | 3/3       |
| E31              | Semi          | '1' Mornington Crescent NB - between crossover and platform   | 3/3       |
| E32 <sup>A</sup> | Semi          | '1' Mornington Crescent SB - first signal after junction: Protects the crossover  | 3/2       |
| E32 <sup>B</sup> | Semi          | '1' Mornington Crescent SB - last signal before crossover: Outer home   | 3/3       |
| E34              | Semi          | Camden Town CX SB ex platform 2 - last signal before SB junction: Protects the crossover  | 3/2       |
| E37              | Semi App-cont | Camden Town platform 2 - SB station starter (junction signal)   | 3/2       |
| E39              | Semi          | Camden Town CX SB ex platform 4: Last signal before junction: Protects the crossover  | 3/2       |
| E41              | Semi App-cont | Camden Town platform 4 - SB station starter (junction signal)   | 3/2       |
| E122             | Semi Draw-up  | '1' Camden Town NB CX branch platform 1 - draw-up if E6 red: Initially protects the crossover   | 3/2       |
| E193             | Semi Draw-up  | '1' Camden Town NB CX branch platform 3 - draw-up if E9 <sup>A</sup> red: Initially protects the crossover  | 3/2       |

| <b>Signal</b> | <b>Treat Type</b> | <b>Location</b>  | <b>TS1900X/X</b> |
|---------------|-------------------|--|------------------|
| E233          | Semi Draw-up      | '3' Camden Town CX SB ex platform 4 - draw-up if E39 red: Initially protects the crossover | 3/2              |
| E234          | Semi Draw-up      | '3' Camden Town CX SB ex platform 2 - draw-up if E34 red: Initially protects the crossover | 3/2              |
| E340          | Semi Draw-up      | Camden Town CX SB ex platform 2: Protects the crossover if train is too fast               | 3/2              |
| EX602         | Semi              | Euston City-Camden Town NB: Has an overrun signal phone                                    | 5/5              |

## **F HAMPSTEAD**

|      |              |  |     |
|------|--------------|--|-----|
| F2   | Semi         | NB station starter   | 2/6 |
| F4   | Semi         | SB platform: Wrong road starter - SB-NB                                    | 2/6 |
| F5   | Semi         | SB station starter   | 2/6 |
| F7   | Semi         | '1' Hampstead SB - between crossover and platform                          | 2/6 |
| F8   | Semi         | '1' Hampstead SB - between crossover and platform                          | 2/6 |
| F9   | Semi Shunt   | shunt signal from emergency crossover - NB-SB                              | 2/6 |
| F10  | Semi         | '1' Hampstead SB - last signal before crossover: Outer home                | 2/6 |
| F11  | Semi         | Bull and Bush-Hampstead SB: Protects the crossover in normal circumstances | 2/6 |
| F100 | Semi Draw-up | '1' Hampstead SB: Draw-up if platform occupied                             | 2/6 |

## **FNX... FLOOD SIGNALS**

treat FNX signals as semi-automatic unless they have an associated illuminated 'A'

|                        |            |   |     |
|------------------------|------------|---|-----|
| FNX51 <sup>B</sup>     | Semi       | '1' Kennington SB CX - platform 2   | 3/7 |
| FNX55                  | Semi       | Waterloo - Kennington SB  | 3/7 |
| FNX62 <sup>B</sup>     | Semi Speed | '1' Waterloo NB: Speed signal (20) if platform occupied                                       | 3/6 |
| FNX62 <sup>C</sup>     | Semi       | '1' Waterloo NB: If there is a train in the platform, the following train can be held up here | 3/6 |
| FNX62 <sup>D</sup>     | Semi       | '1' Waterloo NB   | 3/6 |
| FNX62 <sup>E</sup>     | Semi       | '1' Waterloo NB - in platform   | 3/6 |
| FNX64                  | Semi       | Waterloo NB starter   | 3/6 |
| FNX65                  | Semi       | Waterloo SB starter   | 3/6 |
| FNX67 <sup>A,B,C</sup> | Semi       | '1' Waterloo SB   | 3/6 |
| FNX72                  | Semi       | '3' Embankment / 1 Charing Cross NB: Outer home: Has no illuminated 'A'                       | 3/6 |

| <b>Signal</b>          | <b>Treat Type</b> | <b>Location</b>                         | <b>TS1900X/X</b>           |
|------------------------|-------------------|---|----------------------------|
| FNX75                  | Semi              | Embankment SB station starter           | 3/6                        |
| FNX78                  | Semi              | Leicester Square NB station starter     | 3/5                        |
| FNX80 <sup>A,B,C</sup> | Semi              | '1' Tottenham Court Road NB             | 3/5                        |
| FNX85                  | Semi              | Tottenham Court Road NB station starter | 3/5                        |
| FNX87 <sup>B,C</sup>   | Semi              | '1' Tottenham Court Road SB             | 3/5                        |
| FNX632                 | Semi              | '1' Moorgate NB: Outer home:            | Has no illuminated 'A' 6/3 |
| FNX634                 | Semi              | Bank NB station starter                 | 6/4                        |
| FNX635 <sup>C</sup>    | Semi              | '1' Bank SB                             | 6/4                        |
| FNX636 <sup>A</sup>    | Semi              | '1' Bank NB                             | 6/4                        |
| FNX637                 | Semi              | Bank SB station starter                 | 6/4                        |
| FNX640 <sup>A,B</sup>  | Semi              | '1' London Bridge NB:                   | Has no illuminated 'A' 6/5 |
| FNX651                 | Semi              | Elephant & Castle SB station starter    | 6/6                        |
| FNX655 <sup>A,B</sup>  | Semi              | '1' Kennington SB Bank - platform 4     | 6/7                        |
| FNX6341                | Semi              | '3' Bank NB:                            | Has no illuminated 'A' 6/4 |
| FNX6371                | Semi              | '3' Bank SB                             | 6/4                        |
| FNX6381                | Semi              | '3' London Bridge NB                    | 6/5                        |

## **G GOLDERS GREEN**

|                 |            |  |     |
|-----------------|------------|--|-----|
| G1              | Semi       | '1' Golders Green SB: Protects the crossover                               | 2/5 |
| G2              | Semi       | '1' Golders Green SB: Junction signal to platforms 4 / 5: Sole home signal | 2/5 |
| G3 <sup>A</sup> | Semi Shunt | platform 5 - SB shunt signal   | 2/5 |
| G3 <sup>B</sup> | Semi       | platform 5 - SB station starter  | 2/5 |
| G4 <sup>A</sup> | Semi Shunt | platforms 3 / 4 - SB shunt signal  | 2/5 |
| G4 <sup>B</sup> | Semi       | platforms 3 / 4 - SB station starter                                       | 2/5 |
| G5 <sup>A</sup> | Semi Shunt | platforms 1 / 2 - SB shunt signal  | 2/5 |
| G5 <sup>B</sup> | Semi       | platforms 1 / 2 - SB station starter                                       | 2/5 |
| G6              | Semi       | '3' Golders Green: Last colour signal before tunnel                        | 2/5 |
| G9              | Semi Shunt | shunt signal SB ex 26 Road (4 siding) to main or shunting neck             | 2/5 |
| G10             | Semi Shunt | shunt signal on NB main - for reversing NB-SB platforms 1 / 2 to 3 / 4     | 2/5 |
| G11             | Semi Shunt | outlet shunt signal from depot   | 2/5 |

| <b>Signal</b> | <b>Treat Type</b> | <b>Location</b>  | <b>TS1900X/X</b> |
|---------------|-------------------|--|------------------|
| G30           | Semi Shunt        | shunt signal NB ex 24 road (1 siding)                          | 2/5              |
| G31           | Semi Shunt        | shunt signal NB ex 25 road (2 siding)                          | 2/5              |
| G32           | Semi Shunt        | shunt signal - NB from SB main to platforms                    | 2/5              |
| G33           | Semi              | NB: Junction signal ex loop to platforms 1 / 2 or 3 / 4        | 2/5              |
| G34           | Semi              | platforms 3 / 4 NB station starter                             | 2/5              |
| G35           | Semi              | platforms 1 / 2 NB station starter                             | 2/5              |
| G37           | Semi              | NB main: Junction signal to platforms 1 / 2 or 3 / 4           | 2/5              |
| G38           | Semi              | '1' Golders Green NB main - blank if train signalled into loop | 2/5              |
| G39           | Semi              | NB: Last signal in tunnel: Junction signal to NB main / loop   | 2/5              |
| G40           | Semi Shunt        | NB: Shunt signal in tunnel to 26 road / depot                  | 2/5              |
| G41           | Semi Shunt        | shunt signal ex 27 road (shunting neck)                        | 2/5              |
| G42           | Semi Shunt        | shunt signal on SB main - SB-NB: Next to G6                    | 2/5              |
| G43           | Semi Shunt        | shunt signal NB ex 26 road (4 siding) to platform 5            | 2/5              |
| G200          | Semi Draw-up      | '1' Golders Green SB   | 2/5              |
| G340          | Semi Draw-up      | in platforms 3 / 4   | 2/5              |
| G350          | Semi Draw-up      | in platforms 1 / 2   | 2/5              |

|                                    |              |  |     |
|------------------------------------|--------------|--|-----|
| <b>J</b>                           |              |  |     |
| <b>KINGS CROSS / EUSTON (Bank)</b> |              |  |     |
| J1 <sup>A</sup>                    | Semi         | '1' Euston Bank SB: Protects the train if a train is entering platform from Euston loop  | 5/6 |
| J1 <sup>B</sup>                    | Semi         | '1' Euston Bank SB: Outer home   | 5/6 |
| J2                                 | Semi         | '1' Euston Bank SB   | 5/6 |
| J3 <sup>A</sup>                    | Semi         | Euston Bank SB station starter: Has co-acting signal   | 5/6 |
| J3 <sup>B</sup>                    | Semi Shunt   | Euston SB - shunt signal to Euston loop  | 5/6 |
| J8                                 | Semi Shunt   | Euston loop - SB shunt signal to Kings Cross loop  | 5/6 |
| J9                                 | Semi Speed   | Euston loop - NB colour signal to Euston SB platform   | 5/6 |
| J10                                | Semi App-con | Kings Cross NB station starter signal: Junction signal to Euston NB / Euston loop: Initially protects movements to / from KX loop. Movements to / from the loop can be made once the train has arrived in the platform | 5/7 |

| <b>Signal</b>      | <b>Treat Type</b>                    | <b>Location</b>  | <b>TS1900X/XJ11</b> |
|--------------------|--------------------------------------|--|---------------------|
|                    | Semi                                 | '1 Kings Cross NB: Inner home. Protects trains reversing to / from the loops: This signal can be held at red to allow a train to reverse at any time             | 5/7                 |
| J12                | Semi                                 | Kings Cross loop NB: Junction signal to Euston NB / Euston loop  | 5/7                 |
| J120               | Semi Draw-up                         | Kings Cross loop NB: Only seen by trains entering from the Piccadilly Line   | 5/7                 |
| J900               | Semi Draw-up                         | Euston loop NB: PD operated. Remains red until train is nearly at signal   | 5/6                 |
| JX603              | Semi                                 | Camden Town - Euston Bank SB   | 5/5                 |
| <b>L</b>           | <b>KINGS CROSS (Piccadilly Line)</b> |  |                     |
| L22                | Semi                                 | Kings Cross loop - colour signal to EB Piccadilly Line. Trains reversing S-N from Euston stop here. The next signal is Kings Cross Piccadilly Line EB starter L9 | 5/7                 |
| <b>M</b>           | <b>MOORGATE</b>                      |  |                     |
| M1                 | Semi                                 | '1' Moorgate SB: Protects the crossover: Outer home  | 6/3                 |
| M2                 | Semi                                 | '1' Moorgate SB: Speed signal if floodgate 40 is operated  | 6/3                 |
| M3                 | Semi Shunt                           | shunt signal from emergency crossover NB-SB  | 6/3                 |
| M4                 | Semi                                 | SB station starter   | 6/3                 |
| M8                 | Semi                                 | SB platform: Wrong road starter - SB-NB  | 6/3                 |
| M9                 | Semi                                 | NB station starter   | 6/3                 |
| M11                | Semi                                 | '1' Moorgate NB: Protects the crossover if the points are reversed   | 6/3                 |
| MX629              | Semi                                 | Old Street SB station starter  | 6/2                 |
| <b>NH</b>          | <b>HIGHGATE DEPOT</b>                |  |                     |
| NH1-8 <sup>A</sup> | Semi Shunt                           | position light shunt signal ex 1 - 8 north roads (in shed): No trainstop   | 4/9                 |
| NH1-8 <sup>B</sup> | Semi Shunt                           | position light shunt signal ex 1 - 8 south roads: No trainstop   | 4/9                 |
| NH9 <sup>A</sup>   | Semi Shunt                           | position light signal signal ex 9 north road (at side of shed): No trainstop   | 4/9                 |
| NH9 <sup>B</sup>   | Semi Shunt                           | position light shunt signal ex 9 south road: No trainstop  | 4/9                 |
| NH20               | Semi Shunt                           | position light shunt signal ex 20 road (Tamping machine spur): No trainstop  | 4/9                 |
| NH21               | Semi Shunt                           | position light shunt signal ex 21 road (Engineers siding): No trainstop  | 4/9                 |
| NH60               | Semi Shunt                           | East Finchley platform 3 - shunt signal to Highgate sidings  | 4/8                 |

| <b>Signal<br/>NN</b>             | <b>Treat Type<br/>ARCHWAY</b> | <b>Location</b>  | <b>TS1900X/X</b> |
|----------------------------------|-------------------------------|--|------------------|
| NN2                              | Semi                          | '1' Archway NB   | 5/3              |
| NN4                              | Semi                          | NB platform station starter  | 5/3              |
| NN5                              | Semi Shunt                    | shunt signal NB platform to siding   | 5/3              |
| NN12                             | Semi                          | SB platform station starter: Has co-acting signal  | 5/3              |
| NN13                             | Semi Shunt                    | SB shunt signal from siding  | 5/3              |
| NN14/15 <sup>A</sup><br>lever 14 | Semi<br>Speed                 | '1' Archway SB: This is operated by two levers, as shown below:<br>Initially protects the crossover. Points can be normal or reverse: Speed signal:<br>The train must almost be at a stop at NN14/15 <sup>A</sup> before the signal will clear: Allows<br>the train to approach NN15 <sup>B</sup> at reduced speed if the route is set for a train to<br>depart the siding | 5/2              |
| lever 15                         | Speed                         | Works as a normal signal: Speed signal: The points must be normal  |                  |
| NN15 <sup>B</sup>                | Semi                          | '1' Archway SB: Outer home: Protects the crossover   | 5/2              |
| NN15 <sup>C</sup>                | Semi                          | '1' Archway SB   | 5/3              |
| NN15 <sup>D</sup>                | Semi                          | '1' Archway SB - last signal before crossover  | 5/3              |
| <b>NP</b>                        | <b>EAST FINCHLEY</b>          |  |                  |
| NP1                              | Semi                          | Finchley Central-East Finchley SB: Protects the crossover  | 4/7              |
| NP2                              | Semi                          | Finchley Central-East Finchley SB: Last signal before crossover  | 4/8              |
| NP4 <sup>A</sup>                 | Semi                          | '1' East Finchley SB: Outer home   | 4/8              |
| NP4 <sup>B</sup>                 | Semi                          | '1' East Finchley: Junction signal - platform 3 / 4  | 4/8              |
| NP9                              | Semi                          | platform 4 - SB station starter  | 4/8              |
| NP13                             | Semi                          | East Finchley NB - first signal after crossover  | 4/9              |
| NP14                             | Semi                          | '3' East Finchley NB - between crossovers  | 4/8              |
| NP15                             | Semi                          | platform 1 - NB station starter: Has co-acting signal  | 4/8              |
| NP16/20<br>lever 16              | Semi                          | '1' East Finchley NB - platform 1: This is operated by two levers, as shown below:   | 4/8              |
| lever 20                         | Speed                         | Acts as a normal signal: Inner home: The points must be normal<br>Protects the crossover: Points can be normal or reverse: Speed signal: The train<br>must be almost at a stop at at NP16/20 before the signal will clear: Allows the<br>train into the platform if the route is set for a train to depart NB from platform 2  |                  |

| <b>Signal</b>              | <b>Treat Type</b> | <b>Location</b>  | <b>TS1900X/X</b> |
|----------------------------|-------------------|--|------------------|
| NP18                       | Semi              | platform 2 - NB station starter  | 4/8              |
| NP19                       | Semi Shunt        | '1' East Finchley NB - outlet shunt signal from Highgate sidings: Protects train entering platform 2 from East Finchley siding: Speed signal | 4/9              |
| NP22                       | Semi Shunt        | shunt signal from emergency crossover - NB-SB  | 4/8              |
| NP31                       | Semi Shunt        | shunt signal ex siding   | 4/8              |
| NP34                       | Semi Shunt        | platform 3 NB - shunt signal to siding / Finchley Central  | 4/8              |
| NP35                       | Semi Shunt        | platform 2 NB - shunt signal to siding   | 4/8              |
| <b>NQ FINCHLEY CENTRAL</b> |                   |  |                  |
| NQ3                        | Semi              | '1' Finchley Central SB - last signal before crossover: Protects crossover   | 4/5              |
| NQ7                        | Semi              | Mill Hill East station starter   | 4/6              |
| NQ9                        | Semi              | junction signal ex MHE to Finchley Central platform 1 or 3   | 4/6              |
| NQ10                       | Semi              | '1' Finchley Central SB ex MHE: Protects the crossover: Last signal before crossover   | 4/6              |
| NQ12                       | Semi              | platform 3 - SB station starter  | 4/6              |
| NQ17                       | Semi              | platform 2 - NB station starter: Junction signal to High Barnet / MHE  | 4/6              |
| NQ25                       | Semi              | platform 1 - NB station starter  | 4/6              |
| NQ28                       | Semi              | '1' Finchley Central NB: Junction signal to platform 1 or 2: Sole home signal  | 4/6              |
| NQ43                       | Semi Shunt        | shunt signal SB ex north siding  | 4/6              |
| NQ47                       | Semi Shunt        | shunt signal platform 2 to north siding  | 4/6              |
| NQ48                       | Semi Shunt        | shunt signal platform 1 to north siding  | 4/6              |
| NQ51                       | Semi Shunt        | shunt signal platform 3 to south siding  | 4/6              |
| NQ59                       | Semi Shunt        | shunt signal north ex south siding   | 4/6              |
| NQ100                      | Semi Draw-up      | '1' Finchley Central ex MHE: Initially protects the crossover  | 4/6              |
| NQ280 <sup>A</sup>         | Semi Draw-up      | East Finchley-Finchley Central NB: Will remain red if train is standing at NQ28  | 4/6              |
| NQ280 <sup>B</sup>         | Semi Draw-up      | East Finchley-Finchley Central NB  | 4/6              |
| NQ300                      | Semi Draw-up      | '1' Finchley Central SB. Initially protects the crossover  | 4/6              |
| NQX201                     | Semi              | West Finchley SB station starter   | 4/5              |

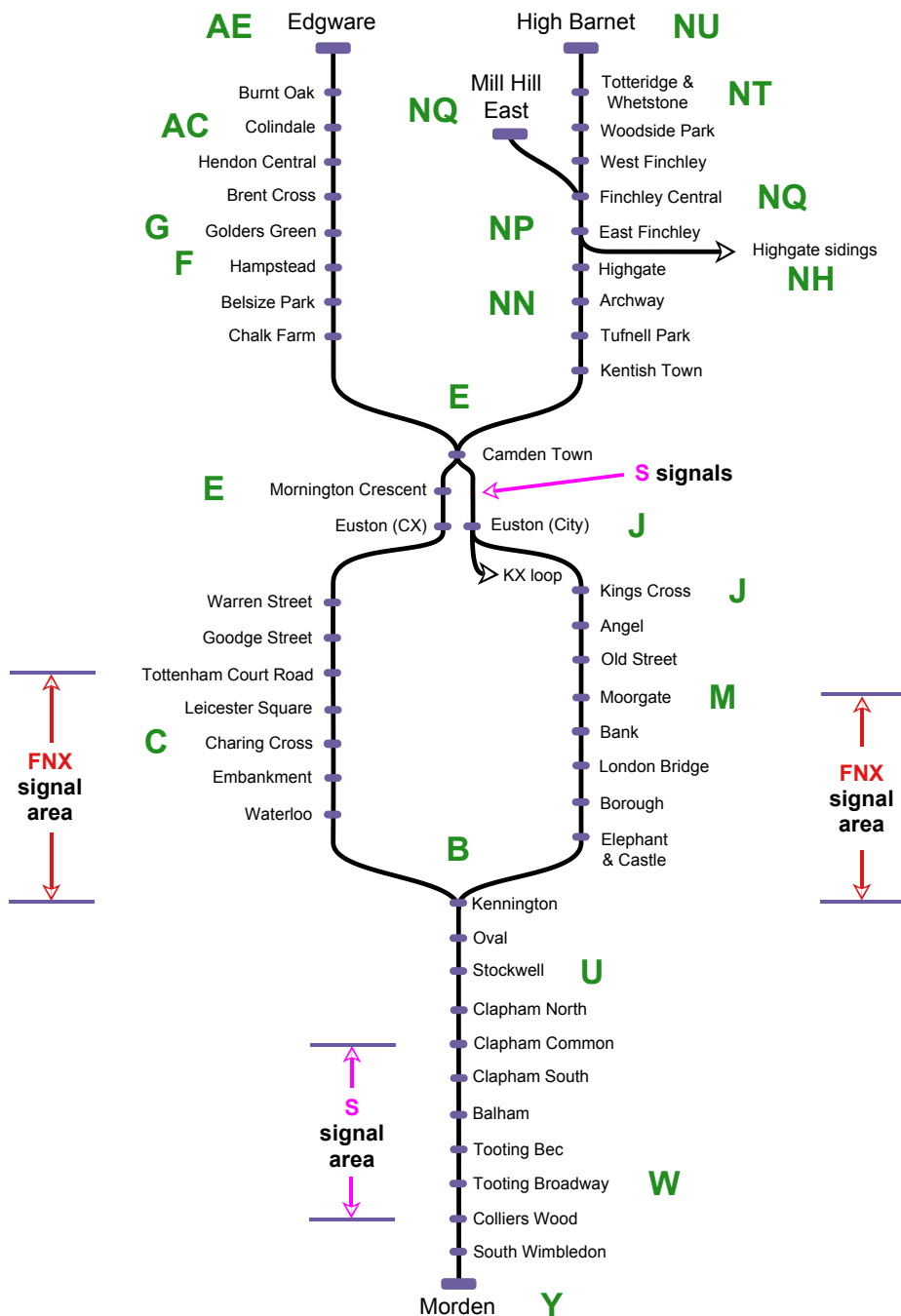
| Signal                | Treat Type   | Location  | TS1900X/X |
|-----------------------|--|---|-----------|
| <b>NT</b>             | <b>TOTTERIDGE</b>  |   |           |
|                       | - NT signals work in conjunction with a ground frame and have illuminated 'A's |   |           |
| NT229                 | Semi   | SB station starter  | 4/3       |
| NT230                 | Semi   | '1' Totteridge NB   | 4/4       |
| NT232                 | Semi   | '1' Totteridge NB: Last signal before crossover                 | 4/3       |
| NT235 <sup>B</sup>    | Semi   | '1' Totteridge SB   | 4/3       |
| <b>NU</b>             | <b>HIGH BARNET</b>   |   |           |
| NU3                   | Semi   | '1' High Barnet: Junction signal to platforms. Sole home signal | 4/2       |
| NU10                  | Semi   | platform 1 - SB station starter                                 | 4/2       |
| NU11                  | Semi   | platform 2 - SB station starter                                 | 4/2       |
| NU12                  | Semi   | platform 3 - SB station starter                                 | 4/2       |
| NU15                  | Semi Shunt   | shunt signal from shunting neck                                 | 4/2       |
| NU28 <sup>A-H</sup>   | Semi Shunt   | shunt signals ex sidings to shunting neck                       | 4/2       |
| NU29                  | Semi Shunt   | platform 1 - shunt signal to shunting neck                      | 4/2       |
| NU30                  | Semi Shunt   | platform 2 - shunt signal to shunting neck                      | 4/2       |
| NU31                  | Semi Shunt   | platform 3 - shunt signal to shunting neck                      | 4/2       |
| NU300                 | Semi Draw-up   | '1' High Barnet   | 4/2       |
| <b>S</b>              |  |   |           |
|                       | 'S' signals are automatic and treated the same as 'A' signals                  |   |           |
| S601                  | Auto   | '3' Camden Town Bank SB   | 7/3       |
| S604                  | Auto   | Euston Bank - Camden Town NB                                    | 7/3       |
| S677                  | Auto   | '3' Clapham Common SB   | 7/3       |
| S679                  | Auto   | Clapham Common-Clapham South SB                                 | 7/3       |
| S681 <sup>A,B,C</sup> | Auto   | '1' Clapham South SB  | 7/3       |
| S682                  | Auto   | Clapham South NB station starter                                | 7/3       |
| S683                  | Auto   | Clapham South SB station starter                                | 7/3       |
| S684 <sup>A,B,C</sup> | Auto   | '1' Clapham South NB  | 7/3       |
| S685                  | Auto   | '3' Clapham South SB  | 7/3       |



| <b>Signal</b>         | <b>Treat Type</b> | <b>Location</b>   | <b>TS1900X/X</b> |
|-----------------------|-------------------|---|------------------|
| S688                  | Auto              | Clapham South-Balham NB   | 7/3              |
| S689 <sup>A,B,C</sup> | Auto              | '1' Balham SB   | 7/4              |
| S691                  | Auto              | Balham SB station starter   | 7/4              |
| S692                  | Auto              | Balham NB station starter   | 7/4              |
| S693                  | Auto              | '3' Balham SB   | 7/4              |
| S694 <sup>A,B,C</sup> | Auto              | '1' Balham NB   | 7/4              |
| S695 <sup>A,B,C</sup> | Auto              | '1' Tooting Bec SB  | 7/4              |
| S696                  | Auto              | Balham-Tooting Bec NB   | 7/4              |
| S697                  | Auto              | Tooting Bec SB station starter  | 7/4              |
| S701 <sup>AB</sup>    | Auto              | '1' Tooting Broadway SB   | 7/5              |
| S702 <sup>A,B,C</sup> | Auto              | '1' Tooting Bec NB  | 7/4              |
| S704                  | Auto              | '3' Tooting Broadway NB   | 7/5              |
| S705                  | Auto              | '3' Tooting Broadway SB   | 7/5              |
| S707 <sup>A,B,C</sup> | Auto              | '1' Colliers Wood SB  | 7/5              |
| S710                  | Auto              | Colliers Wood NB station starter  | 7/5              |
| S712 <sup>A,B,C</sup> | Auto              | '1' Colliers Wood NB  | 7/5              |
| S714                  | Auto              | '3' South Wimbledon NB  | 7/6              |
| <b>U STOCKWELL</b>    |                   |   |                  |
| U1 <sup>A</sup>       | Semi              | '1' Stockwell SB: Protects the crossover  | 6/8              |
| U1 <sup>B</sup>       | Semi              | '1' Stockwell SB - last signal before crossover   | 6/8              |
| U3                    | Semi              | SB station starter  | 6/8              |
| U5                    | Semi              | colour signal from emergency crossover - NB-SB  | 6/8              |
| U9                    | Semi              | SB platform: Wrong road starter - SB-NB   | 6/8              |
| U10                   | Semi              | NB station starter  | 6/8              |
| U11                   | Semi Speed        | '1' Stockwell NB: Initially protects crossover: Speed signal if train ahead is at A666, or at U5 reversing N-S: | 6/8              |
| U100                  | Semi Draw-up      | in NB platform: Will remain red and act as speed signal if train ahead reversing N-S                            | 6/8              |
| UX670                 | Semi              | Clapham North NB station starter: Has co-acting signal  | 6/9              |

| <b>Signal</b>    | <b>Treat Type</b>       | <b>Location</b>  | <b>TS1900X/X</b> |
|------------------|-------------------------|--|------------------|
| <b>W</b>         | <b>TOOTING BROADWAY</b> |  |                  |
| W2 <sup>A</sup>  | Semi App-cont           | SB station starter: Has co-acting signal   | 7/5              |
| W2 <sup>B</sup>  | Semi Shunt              | SB shunt signal to siding from SB platform   | 7/5              |
| W3               | Semi Shunt              | SB shunt signal to siding from NB platform   | 7/5              |
| W9               | Semi App-cont           | NB station starter   | 7/5              |
| W10              | Semi Shunt              | NB shunt signal from siding  | 7/5              |
| W11              | Semi                    | '1' Tooting Broadway NB - between siding and platform  | 7/5              |
| W12 <sup>A</sup> | Semi                    | '1' Tooting Broadway NB: Protects the crossover  | 7/5              |
| W12 <sup>B</sup> | Semi                    | '1' Tooting Broadway NB - last signal before crossover:                                      | 7/5              |
| <b>X</b>         |                         |  |                  |
| X638             | Semi App-cont           | London Bridge NB station starter: Can be held at danger                                      | 6/5              |
| X643             | Semi App-cont           | London Bridge SB station starter: Can be held at danger                                      | 6/5              |
| <b>Y</b>         | <b>MORDEN</b>           |  |                  |
| Y2               | Semi                    | '1' Morden SB: Junction signal to platforms: Sole home signal                                | 7/7              |
| Y6               | Semi Shunt              | platforms 1 / 2 - shunt signal to depot: Cannot be cleared if train entering platforms 3 / 4 | 7/7              |
| Y7               | Semi Shunt              | platforms 3 / 4 - shunt signal to depot: Cannot be cleared if train entering platforms 1 / 2 | 7/7              |
| Y8               | Semi Shunt              | platform 5 - shunt signal to depot   | 7/7              |
| Y25              | Semi                    | platforms 1 / 2 - NB station starter   | 7/7              |
| Y26              | Semi                    | platforms 3 / 4 - NB station starter   | 7/7              |
| Y27              | Semi                    | platform 5 NB - station starter  | 7/7              |
| Y28              | Semi Shunt              | shunt signal ex depot - 44 road (south side)   | 7/7              |
| Y30              | Semi Shunt              | shunt signal ex depot - 45 road (north side)   | 7/7              |

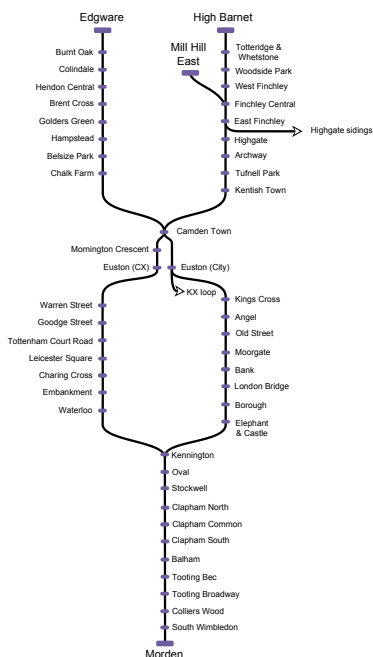
# Northern Line - signal location by code



# Signal Layout Line Diagram

07/08

centre supplement to the Northern Line Signal Reference Book



## Key

**A132** - northbound signal

**A185** - southbound signal

**A126** - automatic northbound signal that can be held at danger

**B34** - treat as a semi-automatic signal unless there is an associated illuminated 'A'

\* - denotes the signal is part way down the platform

*City Road* - abandoned station

signals level with the station name are the station starters

**for safety critical purposes, reference should be made to the relevant copy of the controlled diagrams**

# SIGNAL LAYOUT

| <u>NB</u>          |                         | <u>SB</u>            |                     | <u>NB</u>         |               | <u>SB</u>           |
|--------------------|-------------------------|----------------------|---------------------|-------------------|---------------|---------------------|
| A1004              | MILL HILL EAST          | NQ7                  |                     | A316 <sup>A</sup> |               | A309 <sup>A</sup>   |
|                    |                         | NQ9                  |                     | A314              |               | A309 <sup>B</sup>   |
|                    |                         | NQ100                |                     | A310              | KENTISH TOWN  | A307                |
|                    |                         | NQ10                 |                     | A308 <sup>B</sup> |               |                     |
| NQ25:NQ17          | F CENTRAL               | NQ12                 |                     | A308 <sup>A</sup> |               | A303                |
|                    | HIGH BARNET             | NU10:NU11:NU12       |                     |                   | South K Town  |                     |
| NU3                |                         |                      |                     |                   |               | A301 <sup>A</sup>   |
| NU300              |                         |                      |                     |                   |               | A301 <sup>B</sup>   |
| A242               |                         | A237                 | A306                |                   |               | A301 <sup>C</sup>   |
| A240               |                         | A235 <sup>A</sup>    | A304                |                   | C TOWN Barnet | E41                 |
| A238               | TOTTERIDGE              | NT235 <sup>B</sup>   | A302                |                   |               |                     |
| NT232              |                         | NT229                | E11 <sup>B</sup>    |                   |               | S601                |
| NT230              |                         | A227                 | E11 <sup>A</sup>    |                   |               | A6011               |
| A228               |                         | A215 <sup>A</sup>    | EX602               |                   |               | JX603               |
| A224               | WOODSIDE PARK           | A215 <sup>B</sup>    | S604                |                   |               | J1 <sup>A</sup>     |
| A220 <sup>B</sup>  |                         | A211                 | A606                |                   |               | J1 <sup>B</sup>     |
| A220 <sup>A</sup>  |                         | A203 <sup>A</sup>    | A608                |                   | EUSTON City   | J2                  |
| A204               | WEST FINCHLEY           | A203 <sup>B</sup>    | A610                |                   |               | J3 <sup>A</sup>     |
| A200 <sup>B</sup>  |                         | NQX201               | A612 <sup>B</sup>   |                   |               | A609                |
| A200 <sup>A</sup>  |                         | NQ300                | A612 <sup>A</sup>   |                   |               | A611 <sup>A</sup>   |
| NQ17               | FINCHLEY CENTRAL        | NQ3                  |                     |                   |               | A611 <sup>B</sup>   |
| NQ28               |                         | NQ12                 | J10                 |                   | KINGS CROSS   | A613                |
| NQ280 <sup>B</sup> |                         | A199                 | J11                 |                   |               | A615                |
| NQ280 <sup>A</sup> |                         | NP1                  | A614                |                   |               | A619 <sup>A</sup>   |
| NP13               |                         | NP2                  | A616                |                   | ANGEL         | A619 <sup>B</sup>   |
| NP14               |                         | NP4 <sup>A</sup>     | A618                |                   |               | A621                |
| NP15:NP18          | EAST FINCHLEY           | NP4 <sup>B</sup>     | A620 <sup>B</sup>   |                   |               |                     |
| NP16/20            |                         | NP9                  | A620 <sup>A</sup>   |                   | City Road     |                     |
| A522               |                         | A521                 |                     |                   |               | A623                |
| A520               |                         | A517                 | A622                |                   |               | A627 <sup>A</sup>   |
| A516               |                         | A515 <sup>A</sup>    | A624                |                   |               | A627 <sup>B</sup>   |
| A514               |                         | A515 <sup>B</sup>    | A6261               |                   | OLD STREET    | MX629               |
|                    |                         | A515 <sup>C</sup>    | A626                |                   |               |                     |
|                    |                         | A515 <sup>D</sup>    | A628 <sup>B</sup>   |                   |               |                     |
| A512               | HIGHGATE                | A513                 | A628 <sup>A</sup>   |                   |               | M1                  |
| A510 <sup>C*</sup> | (policeman - no aspect) |                      | A630                |                   |               | M2                  |
| A510 <sup>B</sup>  |                         | A509                 | M9                  |                   | MOORGATE      | M4                  |
| A510 <sup>A</sup>  |                         | A507                 | M11                 |                   |               | A6291               |
| A508               |                         | NN14/15 <sup>A</sup> | FNX632              |                   |               | A635 <sup>A</sup>   |
| A506               |                         | NN15 <sup>B</sup>    | FNX6341             |                   |               | A635 <sup>B</sup>   |
| A504               |                         | NN15 <sup>C</sup>    |                     |                   |               | FNX635 <sup>C</sup> |
|                    |                         | NN15 <sup>D</sup>    | FNX634              |                   | BANK          | FNX637              |
| NN4                | ARCHWAY                 | NN12                 | A636 <sup>B</sup>   |                   |               | FNX6371             |
| NN2                |                         | A319                 | FNX636 <sup>A</sup> |                   |               | A639                |
| A326 <sup>B</sup>  |                         | A317 <sup>A</sup>    | FNX6381             |                   |               | A641 <sup>A</sup>   |
| A326 <sup>A</sup>  |                         | A317 <sup>B</sup>    |                     |                   |               | A641 <sup>B</sup>   |
| A322               |                         | A317 <sup>C</sup>    | X638                |                   | LONDON BRIDGE | X643                |
| A318               | TUFNELL PARK            | A315                 | FNX640 <sup>B</sup> |                   |               | A6431               |
| A316 <sup>B</sup>  |                         | A311                 | FNX640 <sup>A</sup> |                   |               | A645 <sup>A</sup>   |



| <u>NB</u>                |                | <u>SB</u>                 | <u>NB</u>              | <u>SB</u>  |
|--------------------------|----------------|---------------------------|------------------------|--|
| A642                     | BOROUGH        | A645 <sup>B</sup>         | S696                   | S695 <sup>B</sup>  |
| A644                     |                | A647                      | A7001                  | S695 <sup>C</sup>  |
| A6461                    |                | A6471                     | S700                   | S697   |
| A646                     |                | A649 <sup>A</sup>         | S702 <sup>C</sup>      | S699   |
| A648                     | E & CASTLE     | A649 <sup>B</sup>         | S702 <sup>B</sup>      | A701 <sup>A</sup>  |
| A650 <sup>B</sup>        |                | <b>FNX651</b>             | S702 <sup>A</sup>      | S701 <sup>B</sup>  |
| A650 <sup>A</sup>        |                | A6511                     | S704                   | A701 <sup>C</sup>  |
| A654                     |                | A653                      | <b>W9</b>              | <b>W2<sup>A</sup></b>  |
|                          |                | <b>FNX655<sup>A</sup></b> | <b>W11</b>             | S705   |
|                          |                | <b>FNX655<sup>B</sup></b> | <b>W12<sup>B</sup></b> | S707 <sup>A</sup>  |
|                          |                | A655 <sup>C</sup>         | <b>W12<sup>A</sup></b> | S707 <sup>B</sup>  |
|                          |                | <b>B800*</b>              | A708                   | S707 <sup>C</sup>  |
|                          |                | <b>B8</b>                 | S710                   | A709   |
| <b>B18</b>               | KENNINGTON     |                           | S712 <sup>C</sup>      | A7091  |
| <b>B31/2<sup>B</sup></b> |                | A657                      | S712 <sup>B</sup>      | A711   |
| <b>B31<sup>A</sup></b>   |                | A659 <sup>A</sup>         | S712 <sup>A</sup>      | A713 <sup>A</sup>  |
| <b>B32</b>               |                | A659 <sup>B</sup>         | A7141                  | A713 <sup>B</sup>  |
| <b>B33</b>               |                | A659 <sup>C</sup>         | S714                   | A713 <sup>C</sup>  |
| <b>B34</b>               |                | A661                      | A718                   | A715   |
| <b>BX660</b>             | OVAL           |                           | A720 <sup>D</sup>      |  |
| A662 <sup>E*</sup>       |                |                           | A720 <sup>C</sup>      |  |
| A662 <sup>D</sup>        |                |                           | A720 <sup>B</sup>      | A7151  |
| A662 <sup>C</sup>        |                | A663                      | A720 <sup>A</sup>      | A717   |
| A662 <sup>B</sup>        |                | A665                      | A722                   | A7171  |
| A662 <sup>A</sup>        |                | <b>U1<sup>A</sup></b>     | A724                   | A7172  |
| A664                     |                | <b>U1<sup>B</sup></b>     | A726                   | A719   |
| A666                     |                | <b>U3</b>                 | A728                   | <b>Y2</b>  |
| <b>U10</b>               | STOCKWELL      | A667                      | <b>Y25:Y26:Y27</b>     | <b>MORDEN</b>  |
| <b>U100*</b>             |                | A669 <sup>A</sup>         |                        |  |
| <b>U11</b>               |                | A669 <sup>B</sup>         |                        | <b>EDGWARE</b> <b>AE31<sup>B</sup>:AE32<sup>B</sup>:AE33<sup>A</sup></b> |
| A668 <sup>B</sup>        |                | A669 <sup>C</sup>         | <b>AE1</b>             | A449   |
| A668 <sup>A</sup>        |                | A671                      | <b>AE100</b>           | A447   |
| <b>UX670</b>             | CLAPHAM NORTH  | A673 <sup>A</sup>         | A446                   | A445 <sup>A</sup>  |
| A672 <sup>C</sup>        |                | A673 <sup>B</sup>         | A442                   | A445 <sup>B</sup>  |
| A672 <sup>B</sup>        |                | A673 <sup>C</sup>         | A440                   | A443   |
| A672 <sup>A</sup>        | CLAPHAM COMMON | A675                      | A438 <sup>B</sup>      | A439   |
| A674                     |                | S677                      | A438 <sup>A</sup>      | <b>AC12<sup>A</sup></b>  |
| A676 <sup>C</sup>        |                | S679                      | A436                   | <b>AC12<sup>B</sup></b>  |
| A676 <sup>B</sup>        |                | S681 <sup>A</sup>         |                        | <b>AC12<sup>C</sup></b>  |
| A676 <sup>A</sup>        |                | S681 <sup>B</sup>         | <b>AC2</b>             | <b>AC11</b>  |
| A678                     |                | S681 <sup>C</sup>         | <b>AC1</b>             |  |
| A680                     | CLAPHAM SOUTH  | S683                      | A434 <sup>B</sup>      |  |
| S682                     |                |                           | A434 <sup>A</sup>      | A433   |
| S684 <sup>C</sup>        |                | S685                      | A4340                  | A431   |
| S684 <sup>B</sup>        |                | S689 <sup>A</sup>         | A432                   | A429   |
| S684 <sup>A</sup>        |                | S689 <sup>B</sup>         | A428                   | A427 <sup>A</sup>  |
| S688                     |                | S689 <sup>C</sup>         | A426                   | A427 <sup>B</sup>  |
| A6921                    |                | S691                      | A424                   | A425   |
| S692                     | BALHAM         |                           | A422 <sup>C</sup>      |  |
| S694 <sup>C</sup>        |                | S693                      | A422 <sup>B</sup>      | A423   |
| S694 <sup>B</sup>        |                | S695 <sup>A</sup>         | A422 <sup>A</sup>      | A421 <sup>A</sup>  |
| S694 <sup>A</sup>        |                |                           |                        |  |



| <u>NB</u>         |                  | <u>SB</u>   |  | <u>NB</u>           |               | <u>SB</u>          |
|-------------------|------------------|---|--|---------------------|---------------|--------------------|
| A420              |                  | A421 <sup>B</sup>                                 |  |                     |               | E32 <sup>B</sup>   |
| A418              | BRENT CROSS      | A419  |  |                     |               | E31                |
| A416 <sup>C</sup> |                  |   |  | E2                  | M CRESCENT    | E30                |
| A416 <sup>B</sup> |                  | A417  |  | E1                  |               | A103               |
| A416 <sup>A</sup> |                  | A415  |  | A104                |               | A101 <sup>A</sup>  |
| A4160             |                  | G1  |  | A100                |               | A101 <sup>B</sup>  |
| A414              |                  | G200  |  | A9811               |               | A101 <sup>C</sup>  |
| A412              |                  | G2  |  | A98                 | EUSTON CX     | A99                |
| G35:G34           | G GREEN          | G3 <sup>B</sup> :G4 <sup>B</sup> :G5 <sup>B</sup> |  | A96 <sup>C</sup>    |               | A95 <sup>A</sup>   |
| G350*:G340*       |                  |   |  | A96 <sup>B</sup>    |               | A95 <sup>B</sup>   |
| G37:G33           |                  |   |  | A96 <sup>A</sup>    |               | A95 <sup>C</sup>   |
| G38               |                  | G6  |  | A9211               |               | A93                |
| G39               |                  | A157  |  | A92                 | WARREN STREET | A91 <sup>A</sup>   |
| A155              |                  | A158  |  | A90 <sup>C</sup>    |               | A91 <sup>B</sup>   |
| A1541*            | Bull and Bush    |   |  | A90 <sup>B</sup>    |               | A91 <sup>C</sup>   |
| A154              |                  | A1581   |  | A90 <sup>A</sup>    |               | A89                |
| A152              |                  | A160  |  | A88                 | GOODGE STREET | A87 <sup>A</sup>   |
| A150              |                  | A162  |  | A86 <sup>C</sup>    |               | FNX87 <sup>B</sup> |
| A148              |                  | F11   |  | A86 <sup>B</sup>    |               | FNX87 <sup>C</sup> |
|                   |                  | F100  |  | A86 <sup>A</sup>    |               | FNX85              |
|                   |                  | F10   |  | A82                 | TOT COURT Rd  | A83 <sup>A</sup>   |
|                   |                  | F8  |  | FNX80 <sup>C</sup>  |               | A83 <sup>B</sup>   |
|                   |                  | F7  |  | FNX80 <sup>B</sup>  |               | A83 <sup>C</sup>   |
|                   |                  | F5  |  | FNX80 <sup>A</sup>  |               | CX81               |
| F2                | HAMPSTEAD        | A165  |  | FNX78               | LEICESTER Sq  | C10 <sup>A</sup>   |
| A146 <sup>C</sup> |                  | A167  |  | A76 <sup>C</sup>    |               | C10 <sup>B</sup>   |
| A146 <sup>B</sup> |                  | A169 <sup>A</sup>                                 |  | A76 <sup>B</sup>    |               | C9                 |
| A146 <sup>A</sup> |                  | A169 <sup>B</sup>                                 |  | A76 <sup>A</sup>    |               | C7                 |
| A144              |                  | A169 <sup>C</sup>                                 |  | C3                  | CHARING CROSS | A77 <sup>A</sup>   |
| A142              |                  | A175  |  | C2                  |               | A77 <sup>B</sup>   |
| A140              | BELSIZE PARK     | A177  |  | FNX72               |               | FNX75              |
| A138 <sup>B</sup> |                  | A179 <sup>A</sup>                                 |  | C1                  | EMBANKMENT    |                    |
| A138 <sup>A</sup> |                  | A179 <sup>B</sup>                                 |  | A68 <sup>C</sup>    |               | FNX67 <sup>A</sup> |
| A136              |                  | A179 <sup>C</sup>                                 |  | A68 <sup>B</sup>    |               | FNX67 <sup>B</sup> |
| A134              |                  | A185  |  | A68 <sup>A</sup>    |               | FNX67 <sup>C</sup> |
| A132              | CHALK FARM       |   |  | A6411               |               | FNX65              |
| A130 <sup>C</sup> |                  |   |  | FNX64               | WATERLOO      | A63                |
| A130 <sup>B</sup> |                  | A187  |  | FNX62 <sup>E*</sup> |               | A61                |
| A130 <sup>A</sup> |                  | A189 <sup>A</sup>                                 |  | FNX62 <sup>D</sup>  |               | A6111              |
| A1281             |                  | A189 <sup>B</sup>                                 |  | FNX62 <sup>C</sup>  |               | FNX55              |
| A128              |                  | A189 <sup>C</sup>                                 |  | FNX62 <sup>B</sup>  |               | A5511              |
| A126              | C TOWN (Edgware) | E37   |  | A62 <sup>A</sup>    |               | BX51 <sup>A</sup>  |
| A124              | Edg branch       | E234  |  | A58                 |               | FNX51 <sup>B</sup> |
| E6                | " "              | E340  |  | A56                 |               | B2                 |
| E122              | " "              | E34   |  | A54                 |               | B3                 |
| A302              | HB branch        | E233  |  | B19                 | KENNINGTON    |                    |
| E9 <sup>B</sup>   | " "              | E39   |  |                     |               |                    |
| E9 <sup>A</sup>   | " "              |   |  |                     |               |                    |
| E193              | " "              |   |  |                     |               |                    |
| E4                |                  | E32 <sup>A</sup>                                  |  |                     |               |                    |

