



NEWSLETTER

4/2002

September 2002

EDITORIAL

The recent engineering work by Railtrack and their contractors at Shortlands Junction has created a lot of interest. But, not everyone knew what was happening or why. We have to thank Leslie Tucker, one of our planning officers, for the following article which should help to fill some of the gaps in our knowledge.

Dates for the Diary

Thursday **7th November**, Members' Meeting, 8.0pm. Bromley Court Hotel.

Thursday **9th January 2003**, Members' Meeting, 8.0pm, Bromley Court Hotel.

Peter Pain (Editor)

THE RAILTRACK WORK AT SHORTLANDS

During the last year when it began, a good many members have asked us questions about the engineering work which has been so apparent to all who have travelled by train from Shortlands to London or who have driven through the area - even some who live near the work want to know more. I will try to answer the main questions asked as simply as possible.

Why?

Shortlands Junction, where the Catford Loop branches off the main line to Victoria has always been a bottleneck inhibiting train time tabling. Without the work being done the situation would have become much more serious from mid 2003 onwards when the Eurostar trains will begin to use the new high speed rail link from the Channel Tunnel to Ebsfleet in Kent.. As far as Shortlands is concerned, after this change of route the Eurostar trains will approach the station on platforms 3 & 4 instead of numbers 1 & 2. They would then have to cross all the other tracks to join the main line through Beckenham on their way to the terminal at Waterloo. This would mean many more commuter trains having to wait at red signals and the cancellation of some services. Even after 2007 when the second phase of the high speed link is complete through Stratford to King's Cross, some Eurostar trains will still terminate at Waterloo and pass through Shortlands. In any case channel Tunnel freight trains will continue to use this route although most of these will take the Catford loop branch.

What?

So what was required was a solution which allowed these future trains to reach

the other side of the tracks without holding up so many others. The only way was to separate the lines so that one pair could pass over or under the other. All long standing residents will remember a previous proposal for building a “fly-over” which would have taken some trains above the existing lines. This would have been quite awful from visual and noise points of view and was vigorously opposed by this Society. In the long term the present proposal for the level separation to be achieved by tunnelling under the existing tracks will be much more acceptable.

Naturally these extensive engineering works were expected to result in the loss of many trees and cause considerable disturbance to those living nearby during the construction period - and they have. The public planning inquiry held in late 2000 considered these problems and set conditions intended to mitigate the effects of the work itself and, as far as practicable, to ensure the eventual restitution of the wooded landscape.

The Secretary of State accepted the inspector's report in June 2001 and work on site began immediately with the essential aim of completing by the summer of 2003 when the Eurostar trains are to begin to run on their new route. In the meantime the existing train services must not be affected.

How?

It goes without saying that the successful completion of the work depended on careful planning and the choice of the most appropriate methods bearing in mind the restricted space available between the live tracks as well as many other detailed constraints and the need to minimise the noise and the amount of road traffic generated. Central to these considerations was the decision of how best to tunnel under the main line and under Downs Hill without disrupting the daily train services. The solution to these two key elements of the contract has generated a great deal of recent interest and wonder.

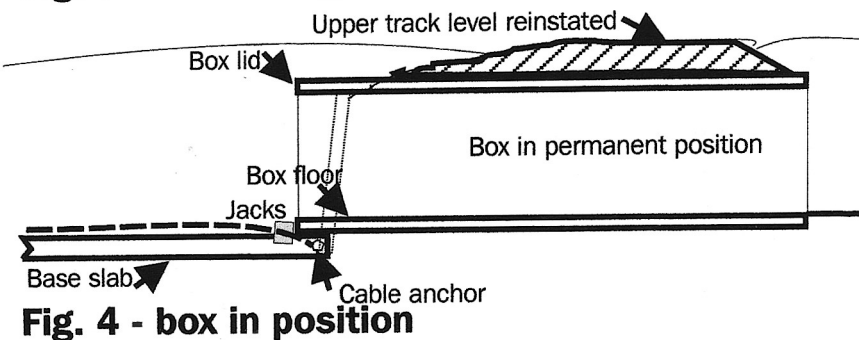
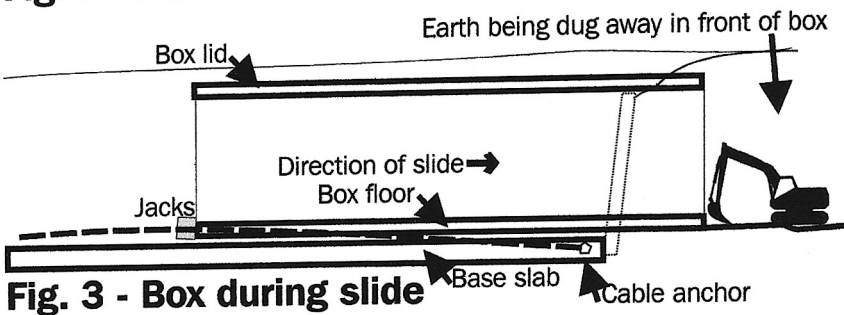
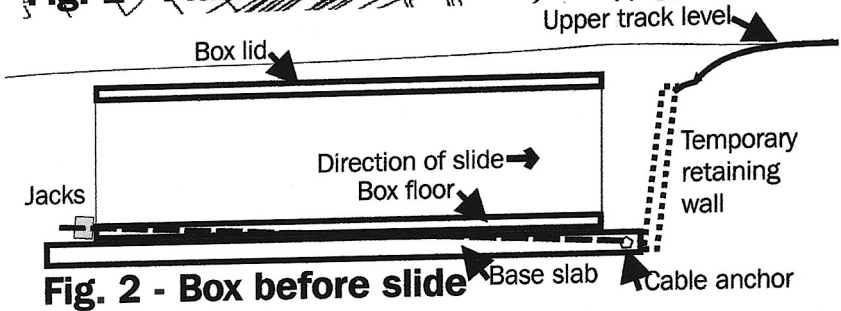
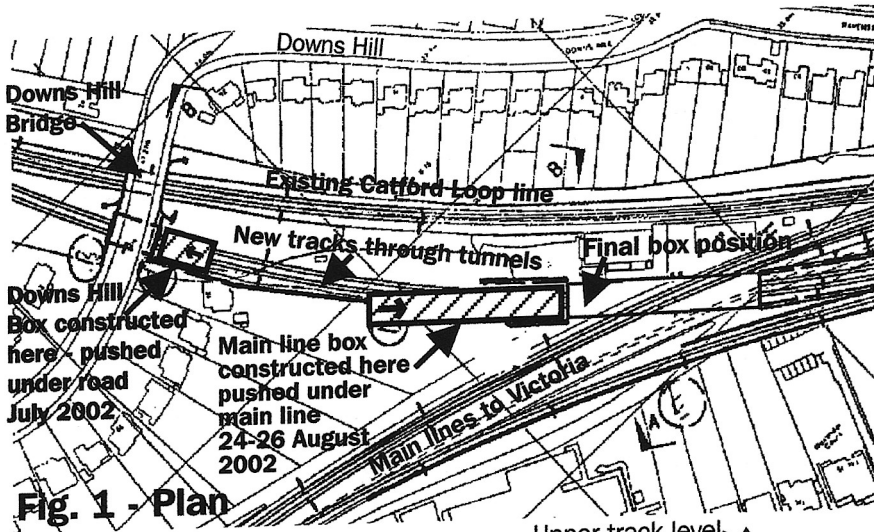
Each of the two “boxes” which were to form the twin-track tunnels were cast in reinforced concrete in positions clear of, but near, their intended locations and when ready, were pushed into place during the course of a weekend. The smaller box for Downs Hill was pushed under the road in July - it weighed 2000 tons. During the August bank holiday weekend the larger one, weighing 4,500 tons, and about 70 metres in length, was successfully moved about 60 metres until it rested under the main up and down lines. Trains were running over it normally for the Tuesday morning rush hour as planned. In principle the technique is simple but its practical realisation within a short and specific period of time called for considerable care and planning.

The diagrams on the next page attempt to explain the principle of the method used which a patented French development known as “Autoripage”.

Fig.1 The plan shows the relationship of the 2 tunnels and the rail layout. Shortlands station is just off to the right.

Fig.2 First, the base slab was laid with its top surface finished to be very smooth and flat. Then came a “slip membrane” of plastic before the reinforced box floor, sides and lid were cast. Groups of strong steel cables had been anchored into the front end of the base slab and passed through the drum-like jacks at the rear of the box floor. In order to push the box these jacks would grab and slowly haul on the anchored cables and in so doing, push against the box. To further ease the force required a special slippery slurry of semi-liquid clay (bentonite), was injected between the slip membrane and the box floor slab

Fig.3 As the hydraulic jacks began to move the 4,500ton box at about 2 metres



per hour, a bucket chain of ten mechanical diggers began to excavate a cutting in front of the box. Meanwhile sections of the main lines crossing the trench had been removed to make way for the diggers.

Fig.4 By the end of Sunday 25th August the box was in position and the work of reinstating the railway above the new tunnel could begin. Bank Holiday Monday provided the necessary time to restore rail services ready for the Tuesday morning rush to work.

Still to be done:

Moving these 2 boxes into position was by far the most critical event in the construction programme and was achieved on time. The heavy civil engineering part of the contract is due to be completed by Christmas. Then will come the complex work of changing the track layout in a carefully planned series of phases coupled with the necessary modifications to the signaling systems. Trains are expected to be able to use the new layout in May - June 2003. Restoration work on the grounds of the Trees Estate will have begun earlier in 2003, including the replacement of the garages demolished to make way for the site offices and working areas.

Landscape planting will largely be delayed until the 2003 planting season with some left until 2004. In all some 10,000 trees are to be planted and these will be thinned out in accordance with good practice as required over the subsequent 5 years. The landscaping plans have been approved by Bromley planners and are also the result of consultation with residents closely affected.

Comment:

It was always inevitable that engineering work on the scale proposed at Shortlands Junction would cause significant disturbance to those who lived nearby and that even those living in the wider area may be affected by noise and additional heavy traffic. In the event those living in the Trees Estate and in houses adjoining the works in Downs Hill have been seriously disadvantaged but, for the rest of us, Railtrack and the contractors have tried their utmost to lessen the impact. They have kept all interested parties informed and reacted to comments made at the regular liaison meetings which have been held with residents groups. We also understand that the site help line has usually been helpful and positive.

Most members we have spoken to have recognised the cooperation given by those carrying out the work - even so, we will all be pleased when it is complete so that we can sit and watch the new trees grow!

LT

MEMBERS' VISIT TO VALLEY SCHOOL

The new Sensory Garden at Valley School which this Society has helped to finance is well advanced. The head teacher has said that members would be welcome if they wished to visit it for an inspection. It is not yet complete and further opportunities will come. She has suggested that anyone interested should contact teachers Sam French or Clive Ferguson on 020 8460 1121 to arrange a visit - any day in term time after school hours.