

Infrastructure News

Three Arch relay - end of week 2

Jon Goff's report covers the period 11-17 January 2020, the second week of the track relaying project through the very wet cutting at Three Arch (Nobles) Bridge. It follows on from the [reports from the first week, here](#).

The end of week two saw track laid just past the half way point, with 16 of the 29 panels put down and most of the sleepers put out for the 17th panel. In terms of the overall job, we were probably between $\frac{2}{3}$ and $\frac{3}{4}$ of the way to the point where we reconnect the north end to the track leading into Horsted. This is because the track bed preparation is mostly done as the last few panels do not need to be dug out like the track bed in the cutting. They only need dozing smooth like the first five panels as they are on an embankment and do not have the same drainage issues.

On Tuesday the weather did eventually beat us (Storm Brendan). The wind and rain were so strong in the afternoon that we decided that handling plant, rails etc. had become too dangerous to carry on. Everyone was soaked through to the skin and everything was too slippery so mid-afternoon we decided to call it for obvious safety reasons. The weather was "wicked" just standing still in the cutting.



The first two pictures show the worst of the wet section being prepared where all the old ballast and mud mixture had to be completely dug out and removed. This area has been wet for such a long time that clay pumps up over the sleepers every time a train passes and bull rushes grow beside the line. We probably went down 8-10 inches below the bottom of the sleepers here and replaced it with reprocessed second hand ballast. Elsewhere we went down as little as only 2-3 inches as much of the ballast was reusable.

The reusable ballast was pushed over to the side to create some working space. The track bed was then covered with the Terram and plastic layer before putting the ballast back. More ballast will be added after the rails are reconnected and tamped up another 2 inches or so.



Garry and Andy can be seen here discussing the area and how to cut the next section of Terram and plastic for the wettest part. It is particularly bad in the picture as we had just had another sharp shower but in due course, it will dry out and harden under the plastic membrane. They are standing just off the previous section of membrane where Bob had just dropped some bagged ballast in place. The bags of ballast had been stacked to the side before the relay started as it would make getting ballast to this area much easier when the track had been removed.

At the bottom of the picture the 10 ¼ mile post can just be seen, and immediately above it, an extra piece of plastic was placed there to catch the water from the natural spring in the cutting side and guide it into the drainage ditch. In the next picture one of these bags is being emptied by releasing the tie that holds the hole in the bottom closed. Again, this is right next to the spring in the cutting side.



After bulldozing the ballast flat and compacting it smooth with the triple Wacker, the yellow line was painted on the ballast in line with the sleeper ends to help the team to place the sleepers accurately, as seen being craned in four at a time suspended from a lifting bar. These are placed with their centres on average 653.27mm apart!! But normally within 5mm of that giving 28 sleepers per panel instead of 24 as was the previous standard.



A clip of the work carried out on Monday morning was filmed by John Harwood, using his drone in compliance with CAA and Bluebell regulations, at <https://www.youtube.com/watch?v=1eQvvO30AYs> .



The preparation of the track bed north of Three Arch Bridge at the end of the second week can be seen in the photo taken from the top the bridge. The northern end of the job is to be just before the piles of removed track panels in the distance. The bulldozer is pushing back some of the reusable ballast and is almost up to the point where the membrane will finish. The new second ditch is complete and ready for the drainage pipe. The laser is set up on the tripod to the right and angled to the correct gradient of the line. The two laser receivers on the dozer can be seen sitting on top of the masts at the front. The other important item in the photo is the blue cabin; our temporary lobby where the kettle resides!



Finally, two pictures show how we left it at the end of Friday, one from the top of the bridge just before we stopped putting out sleepers and one looking back along the line from under the bridge. The straightness was due to the use of our new (gifted) theodolite which we are very pleased with and the smoothness is due to the use of our laser with the laser bulldozer. This makes tamping a lot easier as is as good as main line standards.

