

KANSAS CITY SOUTHERN RAIL ROAD ROBSTOWN, TX



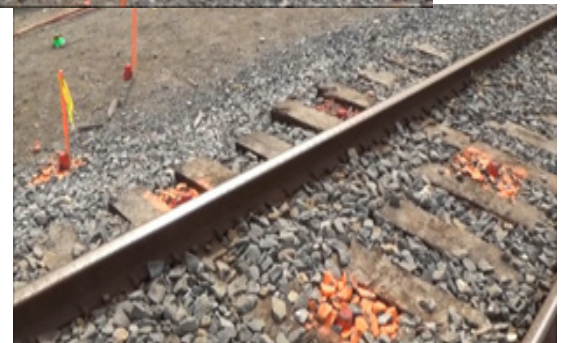
CHALLENGE

A large concrete box culvert was used to replace a mainline bridge when 2 new sidings were constructed. Approximately 15 feet on each side of the new box culvert was backfilled with locally available clay soil and was placed without adequate compaction. Settlement of the improperly placed backfill began soon after completion of the project and continued until the settlement had reached about 5 inches on one side and 6 inches on the other, significantly affecting the railroad operations and requiring frequent maintenance.



PROJECT SUMMARY

Work was done in the spring of 2014. Settlement stopped and there has been only routine maintenance of the area since then.



SOLUTION

Compaction grouting of the improperly placed fill materials. 26 locations on each side of the culvert. Injected in a triangular pattern with an approximate 7 foot spacing between points. Injection was performed both under and on both sides of the existing mainline and sidings. The area outside of the existing track bed was also remediated to allow for future siding construction.