

Meecebrook Rail Study

Addendum to Feasibility Report

Client: Stafford Borough Council

	Name	Date
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1. Introduction

A new garden community concept is being developed by Stafford Borough Council (SBC) for a site known as Meecebrook, near Eccleshall. SLC Rail have been commissioned, to determine if it would be feasible to create a new station on the West Coast Main Line (WCML) to serve Meecebrook.

A major objective of the Meecebrook Garden Community will be to ensure that the development can minimise its environmental impact. It aims to become home to a community with a focus on sustainability, harmony, and environmental responsibility. It will aim to achieve zero carbon status within the decade, firstly by minimising embodied carbon and its consumption of energy and water. A feature of the development will be the ability to walk and cycle to shops, while also having easy access to the station to get to bigger towns and cities. One of the main reasons for a station to serve the development, therefore, is that it should be close to the community.



Figure 1 - Location plan (railways shown as black lines)

2. Purpose

SLC Rail have carried out an initial feasibility study covering potential station sites with the Meecebrook boundaries. This technical report reviews further potential sites on the approach to Norton Bridge Junction (Stafford side) and explains why they were not previously considered, highlighting key engineering implications and risks associated with the potential locations.

3. Key constraints

We have considered three alternative sites south of the development. Based on the desk survey and our earlier site visit, the general key constraints and risks that have been identified at these sites are:

Norton Bridge area

Following analysis of the rail service timetable options for Meecebrook, the feasibility study concluded that the station would have to serve all four railway lines. Norton Bridge Junction separates the Fast and Slow lines over some 2km. Locating a station in the middle of the junction will require complex re-modelling of the junction or platforms that are separated by some distance, requiring complex civil engineering and multiple footbridges to connect them. Locating a station in the middle of the junction is likely to be expensive and may require significant signalling alterations.

Little Bridgeford

The River Sow runs under the railway in this area, so it is likely to be in flood plain, which will make construction more expensive. Building platforms over the river will also make construction more expensive. So, for environmental and river related reasons this is not a preferred site. In addition, farm and residential properties back onto the line.

Great Bridgeford

At this location, the site of the old station is potentially available, which could possibly accommodate four platforms, as there is a significant gap between the Fast and Slow lines. However, our initial assessment is that the tracks are not far enough apart to build a platform to modern standards and to the required length for modern trains. For an 8m wide platform, a minimum of 9.5m is required between the tracks, which is not available. To achieve the required separation, the Fast lines would have to be slewed, and that will require reconstruction of the A5013/B5405 overbridge adjacent to the site. This bridge incorporates the road junction and reconstruction is unlikely to be a feasible option.

In addition to this, the radio communication mast on the west side of the railway will need to be moved. Mast siting is vital for good radio reception for trains. Moving the mast will be expensive and will also require an extensive approvals process. This is the same issue that affects the Swynnerton Road site as described in the main study.

All sites

Another risk associated with this proposal is the signalling alterations needed to accommodate the station. Train drivers must have a clear line of sight to the next signal following the station, for instance, when passing through it quickly or leaving the platform after a stop. Due to track geometry through Norton Junction, it would be difficult to achieve this. Changes to the signals, including the installation of extra signals is usually very expensive and time consuming.

It should also be noted that Great Bridgeford and Little Bridgeford are approximately half-way from the development site to Stafford station. The local road network is largely comprised of minor roads and access is not good to any of the possible locations.

As the sites are on the 'to London' side of Norton Bridge Junction or in the junction, trains for Stoke and Manchester will also pass through each site. This is likely to make timetabling trains to stop more difficult.

4. Conclusions

Three potential locations for a station to the south of the development site have been reviewed through desk-top studies, and while the Great Bridgeford site is the best alternative of the three, it offers no benefits, and some disadvantages, compared to the other sites closer to the development site. Additionally, it is also quite far away from the development, which means that it does not serve the community objectives effectively. The severely restricted locations and challenging accesses could have a substantial negative influence on the functioning of the railway and present high constructability risks, particularly the likely need to reconstruct the overbridge at Great Bridgeford.

It is also likely that it will be considerably harder to timetable trains to stop at a station south of Norton Bridge Junction because of the additional Stoke and Manchester traffic on the line.

The conclusions are that while Great Bridgeford is the best of the sites considered in this addendum, the locations considered in the main report are more advantageous in the context of a convenient, accessible, and affordable rail solution for the Meecebrook garden community.