



Banbury Depot.



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■ BRINGING IDEAS TO LIFE





Frankham was appointed to deliver the multidisciplinary design for a new HVAC maintenance building at Banbury Light Maintenance Depot for Chiltern Railways.

The project formed part of a wider initiative to strengthen depot capability and create a safer, more effective environment for maintaining rolling stock HVAC systems.

COMPANY	Frankham Consultancy Group
CLIENT	The Chiltern Railway Company Limited
LOCATION	Banbury, Oxfordshire
SECTOR	Transport
SERVICES	Civil and Structural Design M&E Design Geotechnical Investigation Drainage Design Lightning Protection System Design Quantity Surveying

The need for the facility was driven by the practical realities of depot maintenance. The new building was designed to improve access, support safer operations and enhance long-term depot resilience.

Our scope included:

- The detailed design of a new steel-framed maintenance building
- Slab extensions
- Drainage modifications
- Aluminium access platforms
- A dedicated forklift access route

The design also had to integrate with existing depot infrastructure, including wash apron screens, walkways, manholes and UTX chambers, while accommodating a jib crane to support safe and efficient maintenance activity at roof level.

■ THE CHALLENGES



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During early design development, it became clear that elements of the initial concept arrangement required refinement to improve coordination and buildability.

Frankham worked collaboratively with the client to review these aspects and develop a more robust and practical solution as the design progressed.

The programme was also demanding. Both Approval in Principle and Detailed Design were required within a fixed timeframe to allow the client to commence procurement, meaning the design process had to move efficiently while still maintaining coordination and assurance.

A further challenge was stakeholder understanding as even technically sound proposals can be difficult to progress if they are not clearly communicated. The scheme therefore required not only strong design coordination, but also a way of making complex proposals easier to visualise and agree.



■ THE CHALLENGES

The wider challenge was about making the structure work within a railway depot without disrupting ongoing activity, compromising live systems, or creating avoidable construction risk.

The project was located within a live operational depot, with limited space due to adjacent sidings and existing assets. The design needed to respond to these constraints while accommodating new infrastructure.

Existing signalling and telecommunications systems had to remain operational throughout, and below-ground features such as drainage and manholes required accurate integration to avoid clashes during construction.

Additional complexity arose from the need to introduce a functional forklift access route within a constrained footprint and to coordinate the building layout with the operational requirements of a jib crane system.



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Frankham approached the project proactively and collaboratively, focusing not just on design development, but on improving the scheme itself.

Having identified issues in the original arrangement, the team worked with the client to develop a better solution, including relocating the maintenance building to a different road within the depot where buildability and day-to-day usability were both improved.

Within the live depot environment, the design strategy focused on minimising disruption wherever possible. Building columns were positioned on the existing concrete slab, reducing the extent of excavation and new structural intervention required on site. This was a simple but effective decision that reduced construction complexity in an already constrained operational setting.

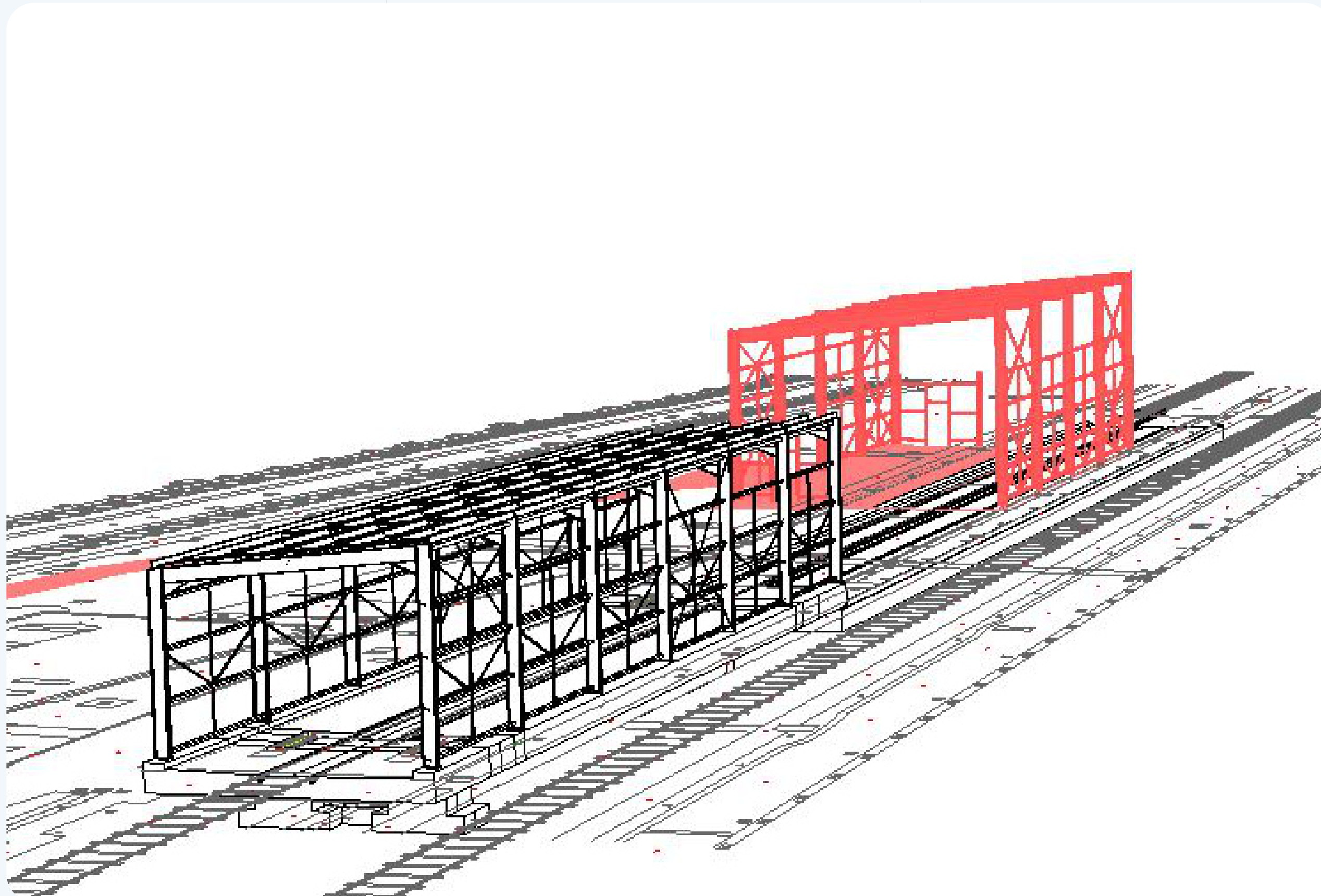
Finally, to support stakeholder engagement and decision-making, Frankham produced simplified 3D models to communicate the design more clearly. In an operational rail environment, this was especially valuable, helping both technical and non-technical stakeholders understand the proposal quickly and align on the preferred way forward.

■ THE SOLUTIONS



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One example of added value on the project was our decision to produce 3D concept drawings even though this was outside the original scope.

Rather than treating visualisation as an optional extra, the team used it to help the client explain the scheme internally and build confidence across different parts of the organisation.

That contribution improved understanding, accelerated engagement and helped bridge the gap between technical design development and broader stakeholder buy-in.

■ THE OUTCOME



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The project delivered a new HVAC maintenance facility designed specifically for the realities of a live railway depot.

By achieving the required design outputs within a tight programme, Frankham enabled Chiltern Railways to move into procurement without delay and maintain momentum on the wider depot improvement initiative.

The end result is a modern, efficient and low-maintenance facility that improves safe access for roof-level maintenance, strengthens operational capability and supports the long-term performance of the depot.





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■ GET IN TOUCH

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Whether you have a new project, a tender invitation, or a general enquiry, our expert team is ready to listen

enquire@frankham.com

020 8309 7777

www.frankham.com

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