

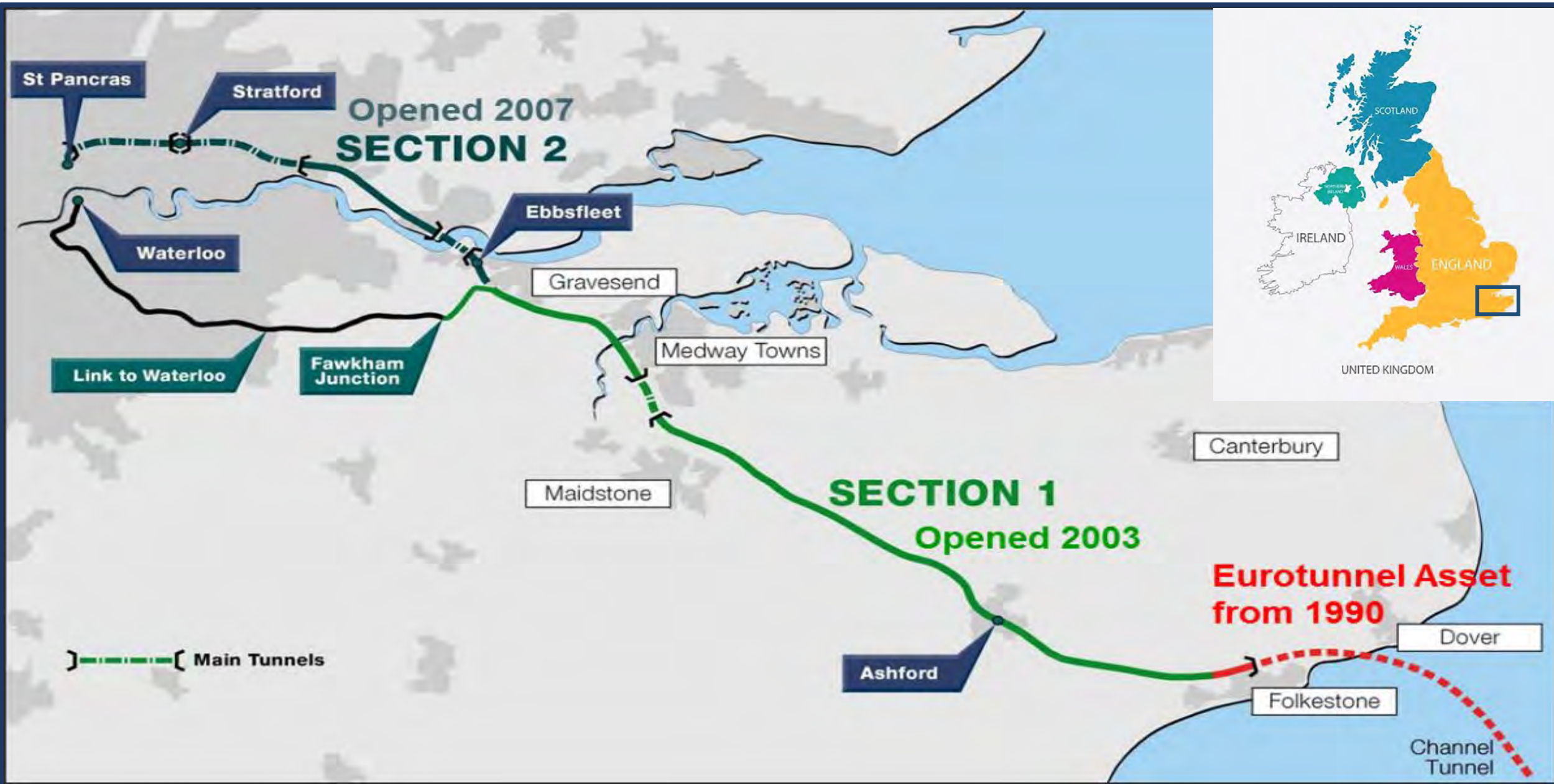


HS1 – Performance by Design

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Senior Asset Engineer [Track]
18th April 2023

Asset Overview

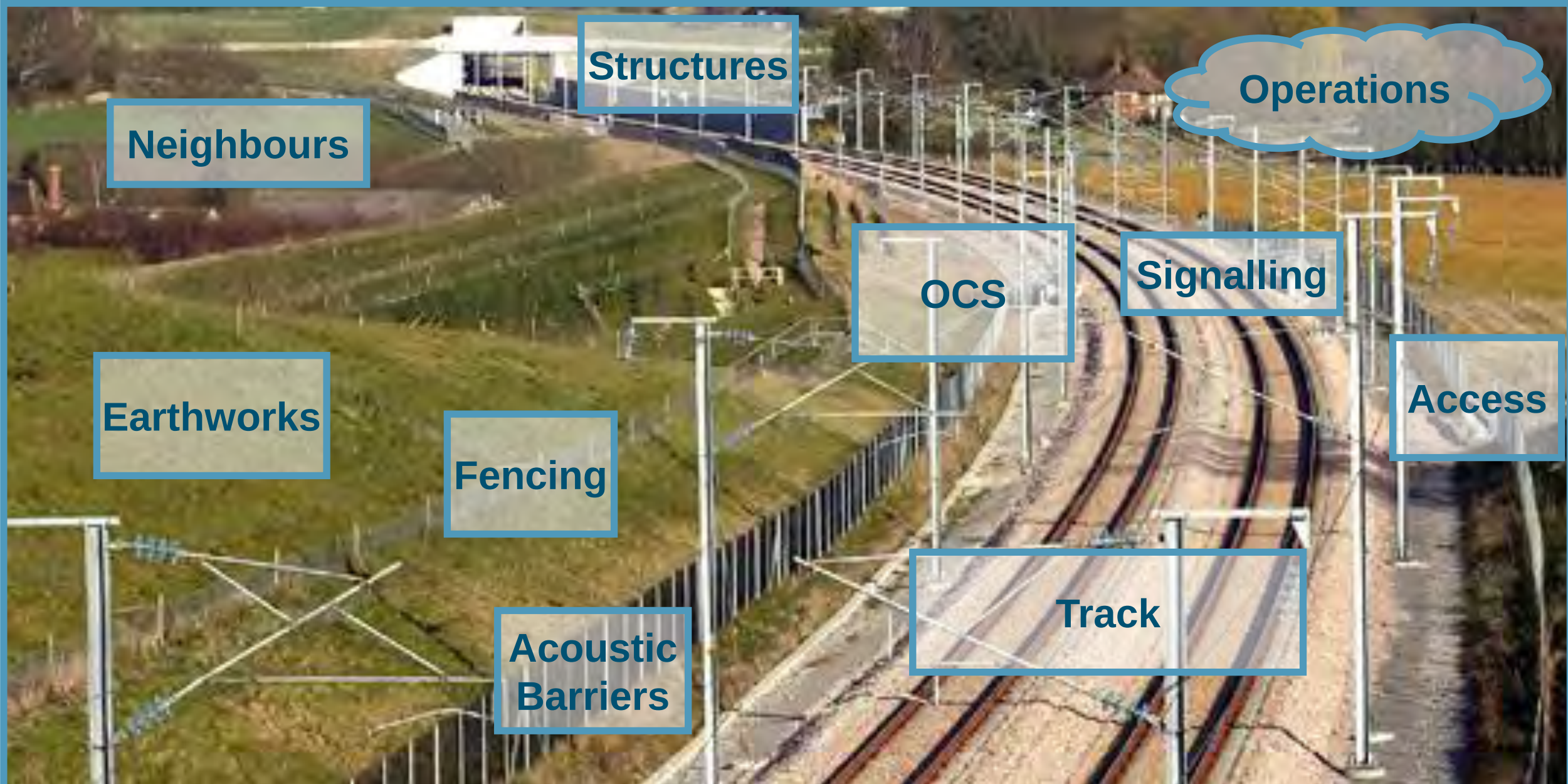


Trains

OFFICIAL

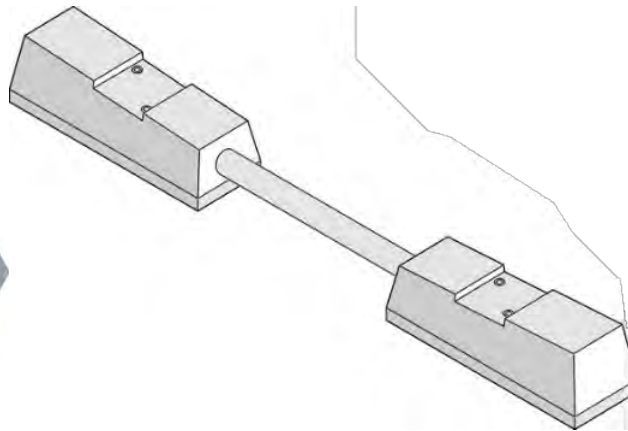


The Railway System



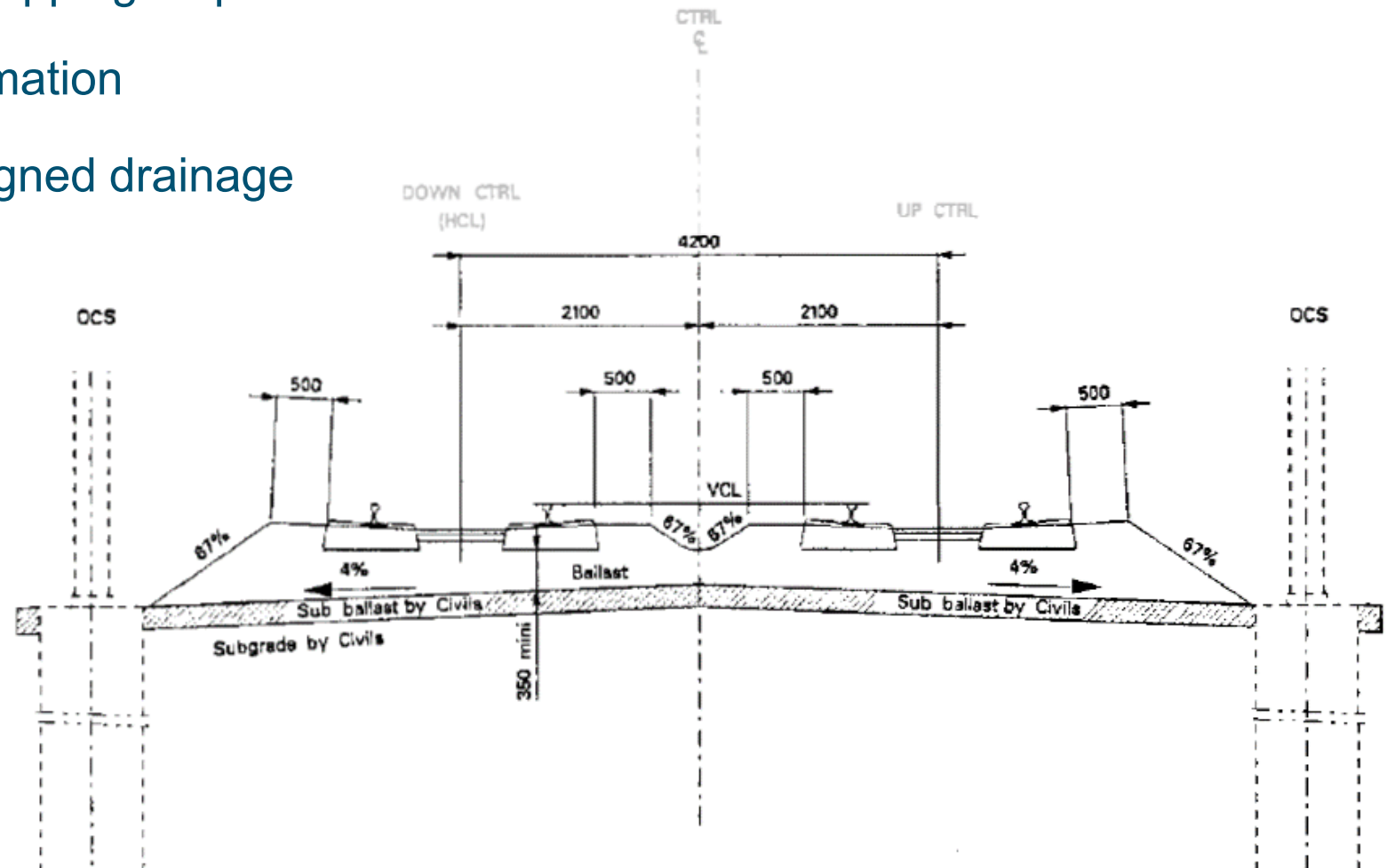
The Track System

- Rail
- Sleeper
- Ballast



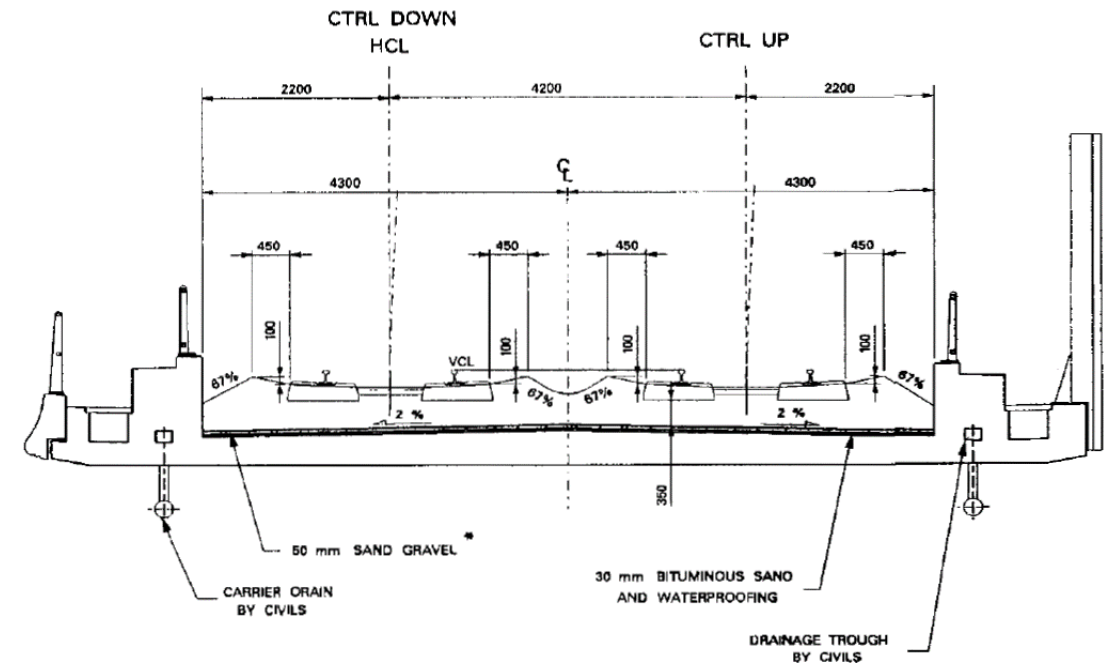
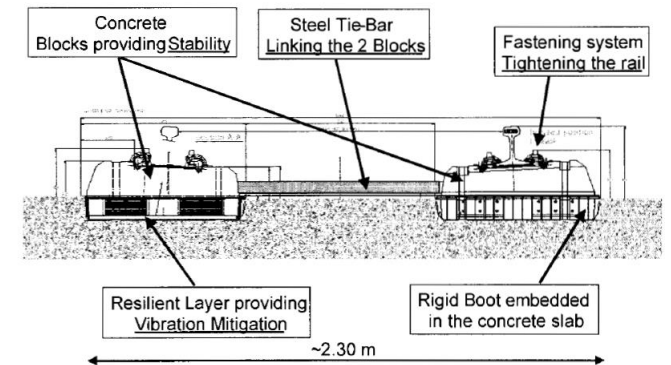
Track Support

- What's propping it up?
- Good formation
- Well-designed drainage



Structure Interfaces

- What about when we can't provide water run-off
- Managing stiffness transitions
- Expansion



Electrification

- 25 kV AC overhead line
- Auto-tensioned
- 5.1 m wire height
- Position critical for high-speed running
- Tight tolerances for maintainability



Control

- Route integrated control centre
 - Signalling, electrification and security
- TVM 430 signalling
- ERS switches



Switches and Crossings

- Swing nose crossings
- 2 Point machines
- 90 metre toe to nose



S&C maintenance

- Design tamping
- Wire adjustment
- Manual lifting
- Consolidation
- Managing vibration



Summary

- It's not rocket science
- Good engineering
- Compromise
- Continuous improvement



Questions



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