

# DETAILED ENGINEERING OF AST2 RAIL YARD FOR INDUSTRIAL CHEMICAL PLANT IN CORUNNA, ONTARIO, CANADA

## MANDATE

Technicas Reunidas Canada hired SYSTRA Canada to perform a detailed engineering study for a future rail yard for a chemical plant in Corunna, Ontario, Canada. The mandate consisted of:

- Rail Yard Substructure Engineering (to top of sub-ballast), including grading, access roads, ditches and drainage of access roads;
- Rail Yard Superstructure Engineering (from ballast to top of rail).

## DESCRIPTION

SYSTRA Canada's mandate included:

- **Trackwork Design:** Conceptual rail geometry and verification of design criteria; Detailed track geometry, including switches, crossings, and turnouts; General track configuration (rail profile, sleepers); Interface design to existing railway; Estimation of quantities.
- **Operational Requirements:** Validation of loading/unloading rail barn layout; Validation of rail car wash barn layout; Interface design with rail car wash barn; Interface design with railcar loading/unloading.
- **Drainage Design:** Sub-grade and sub-ballast drainage and connection to general ditch arrangement; Open ditch geometry and alignment for internal roads and rail yard groups; Interface with general drainage design of the AST2 project.
- **Interface Design Management:** Verification of interface subsystems; Sub-grade, ballast and sub-ballast study; Identification of necessary removals; Material specifications for construction; Structural design to support infrastructure.
- **Safety Case Analysis:** Analysis of temperature effects in rail tracks; Analysis of potential train derailment cases; Rail fastening system specifications (to support above).

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### CLIENT

Technicas Reunidas Canada E&C  
For Nova Chemicals®

### COUNTRY

Canada

### YEAR

2018

### DURATION

6 months

### VALUE OF PROJECT

CA\$15,000,000

### TYPE OF SERVICES

Detailed Engineering Study