

STEEL OVERBRIDGE - IBEROLL

2016-2017

Location

Alhandra, Portugal

Client

IBEROL – Sociedade Ibérica de Biocombustíveis e Oleaginosas, SA

Span Length

33 m

Stage

Detailed Design

The construction works for new operating services of IBEROL – Sociedade Ibérica de Biocombustíveis e Oleaginosas, SA., located at Quinta da Hortinha in Alhandra, included a steel overbridge for grain transport.

A1V2's services consisted on detailing a new overbridge and reinforcing the existing concrete structures which will support the bridge.

The proposed solution for the grain loading and unloading structure resulted from the interpretation of the program. So it was designed according to the functional requirements and adapted to the set of rules, requirements and standards.

There were several constraints to the development of the final structure, specifically, state of conservation of existing structures, connection between the overbridge to these structures, construction process and assembly of the steel structure.

EXISTING CONCRETE STRUCTURES



STRUCTURE OF THE UPPER PASSAGE

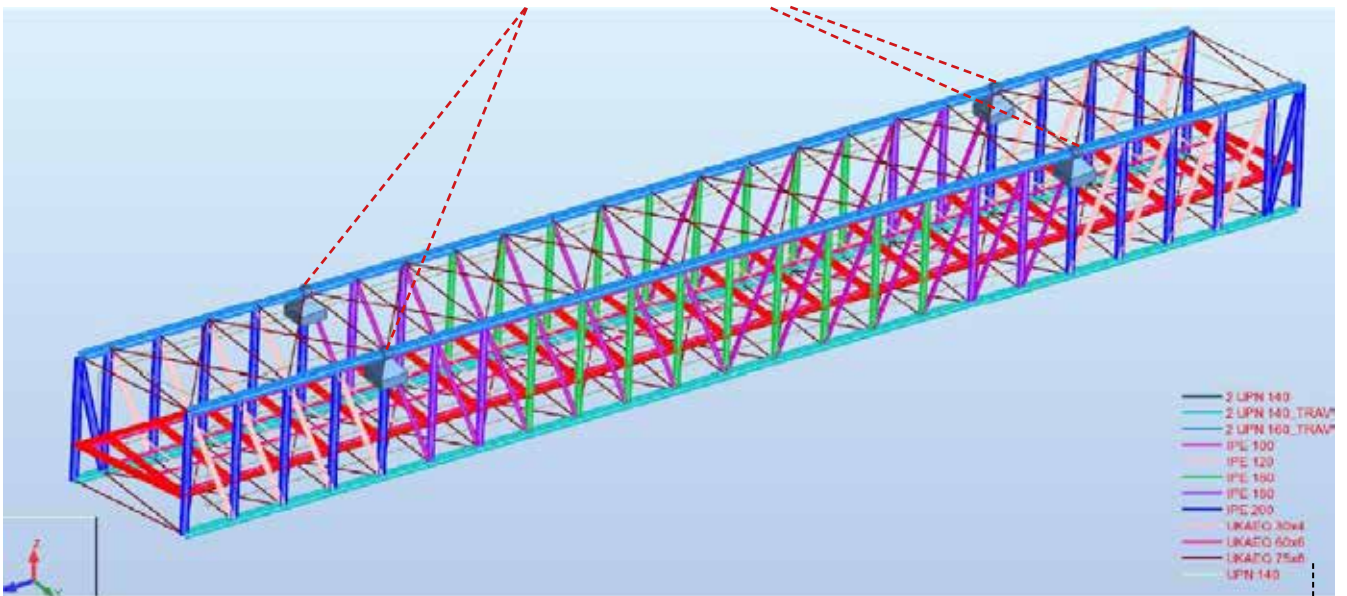


ASSEMBLY OF THE UPPER PASSAGE

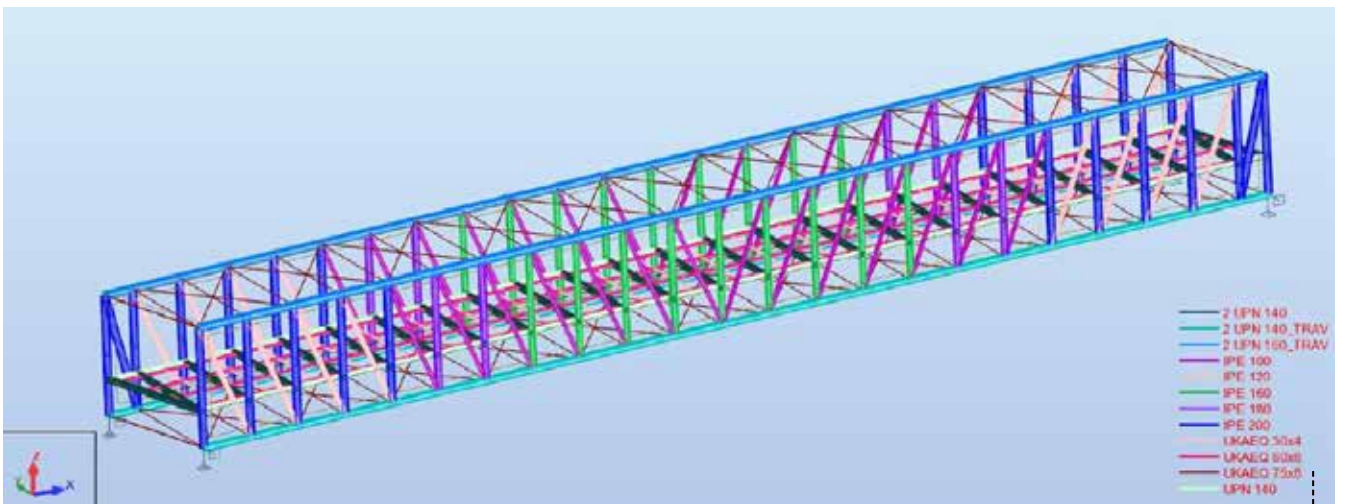


UPPER PASSAGE FIXATION TO EXISTING CONCRETE STRUCTURES





COMPUTER MODEL CONSTRUCTION PHASE



COMPUTER MODEL FINAL PHASE

The structure is defined by a truss system composed by two vertical trusses connected superiorly and inferiorly through two horizontal trusses. The steel sheet that supports the grain loading and unloading structure has a thick of 8/10mm and it is supported by the purlins linked to the vertical trusses.

The steel bridge has a span of 33 meters and a width of 3.60 meters.

The rehabilitation of the existing buildings was characterized by concrete repair and columns confinement/reinforcement.