



Owner

Texas Department of
Transportation
Houston District

Client

ENTECH Civil Engineers

Services

Bridge Design

Construction Cost

\$ 40 M

Completion

Design - Ongoing 90%

Delivery Method

Design-Bid-Build

Replacing the SH 146 at SH 3 bridge required intense, continual communication with two railroads, several pipeline companies and major utilities to address substantial right of way issues and maintain their safe operation during construction.

DECON's design for this elevated T-bridge intersection reconfigures and replaces the existing, obsolete SH 146 bridge crossing the Union Pacific Railroad (UPRR) and SH 3, and will span both the UPRR and the Texas City Terminal Railroad (TCTRR) rights of way.

On SH 146, the 1,357 FT long, 92 FT wide T- bridge has five traffic lanes and single slope traffic railing (SSTR). Its 12-span superstructure has Tx54 prestressed concrete beams plus one 220 FT span made of curved steel plate girders crossing over the UPRR right of way. The 1,900 FT long, 92 FT wide SH 3 section has five traffic lanes and SSTR railing. Its 17-span superstructure has Tx54 prestressed concrete beams. One of the spans will cross over a TCTRR right of way.

DECON prepared 3D models and bridge layouts for each structure early in the plan preparation process to obtain state approval. The plans complied with all relevant sections of the latest edition of the state's LRFD Bridge Design Manual, Bridge Project Development Manual, Bridge Detailing Guide and AASHTO LRFD Bridge Design Specifications.

Structural framing over multiple rights of way presented challenging geometrics requiring very specific configurations that were made possible using pre-fabricated materials. A large retention pond beneath the bridge helped address serious drainage problems at the site.