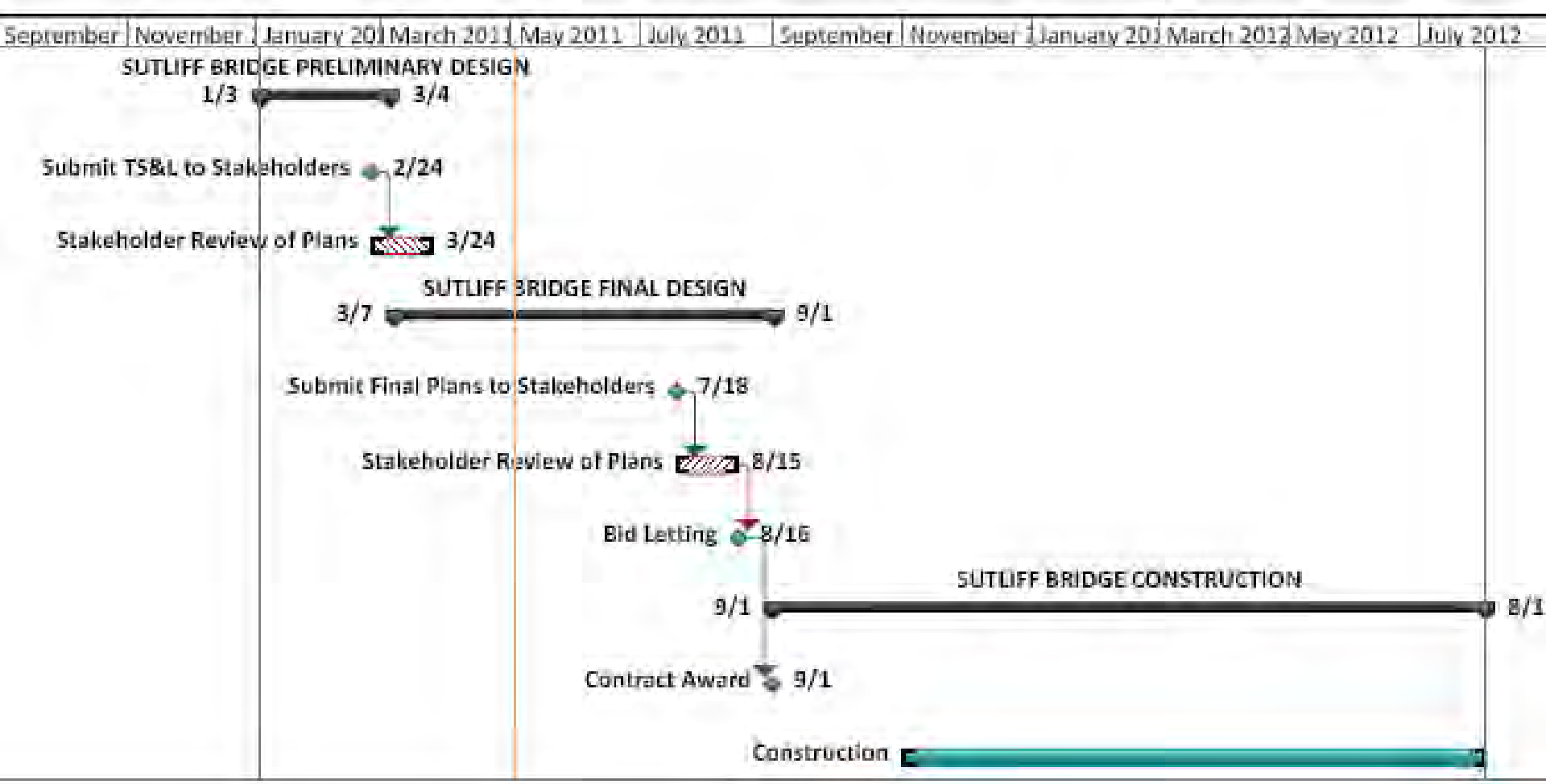
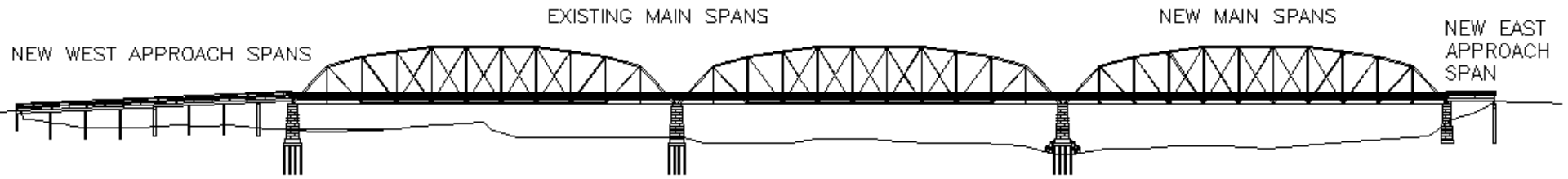

engineering
SUTLIFF BRIDGE REHABILITATION
DESIGN PHASE

PROJECT SCHEDULE



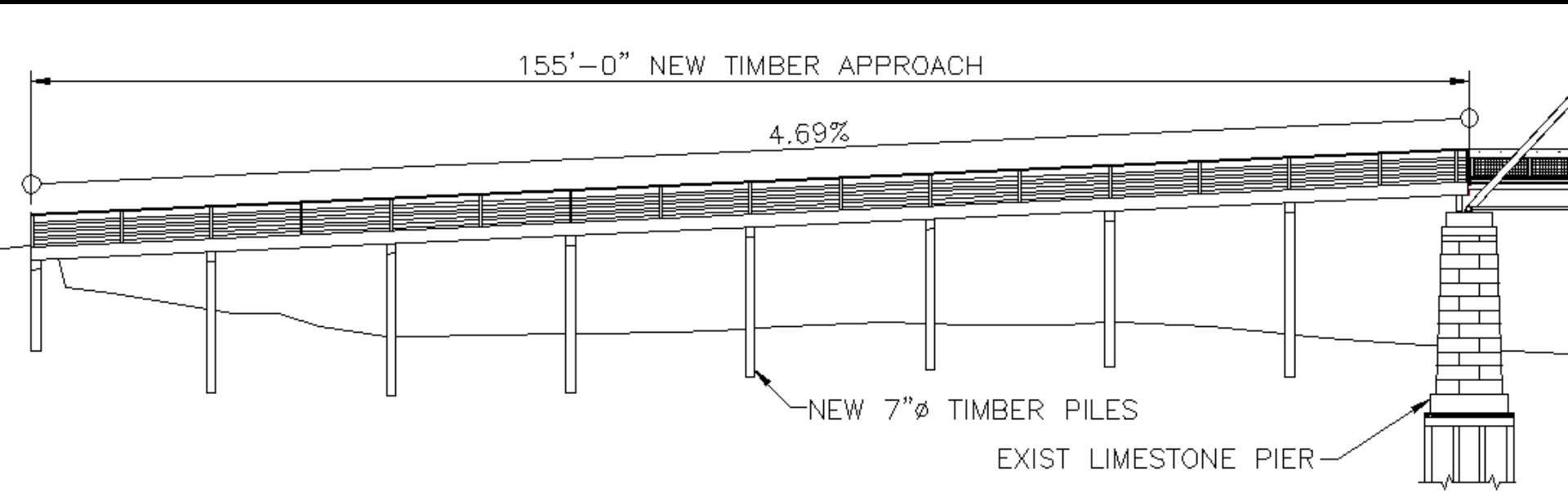
PRELIMINARY DESIGN

- SURVEY
- SOIL BORINGS
- HYDRAULICS
- DNR/ ARMY CORPS OF ENGINEERS PERMIT APPLICATIONS
- PRELIMINARY APPROACH SPAN DESIGN
- PRELIMINARY EXISTING TRUSS SPAN STRENGTHENING
- PRELIMINARY NEW TRUSS SPAN DESIGN

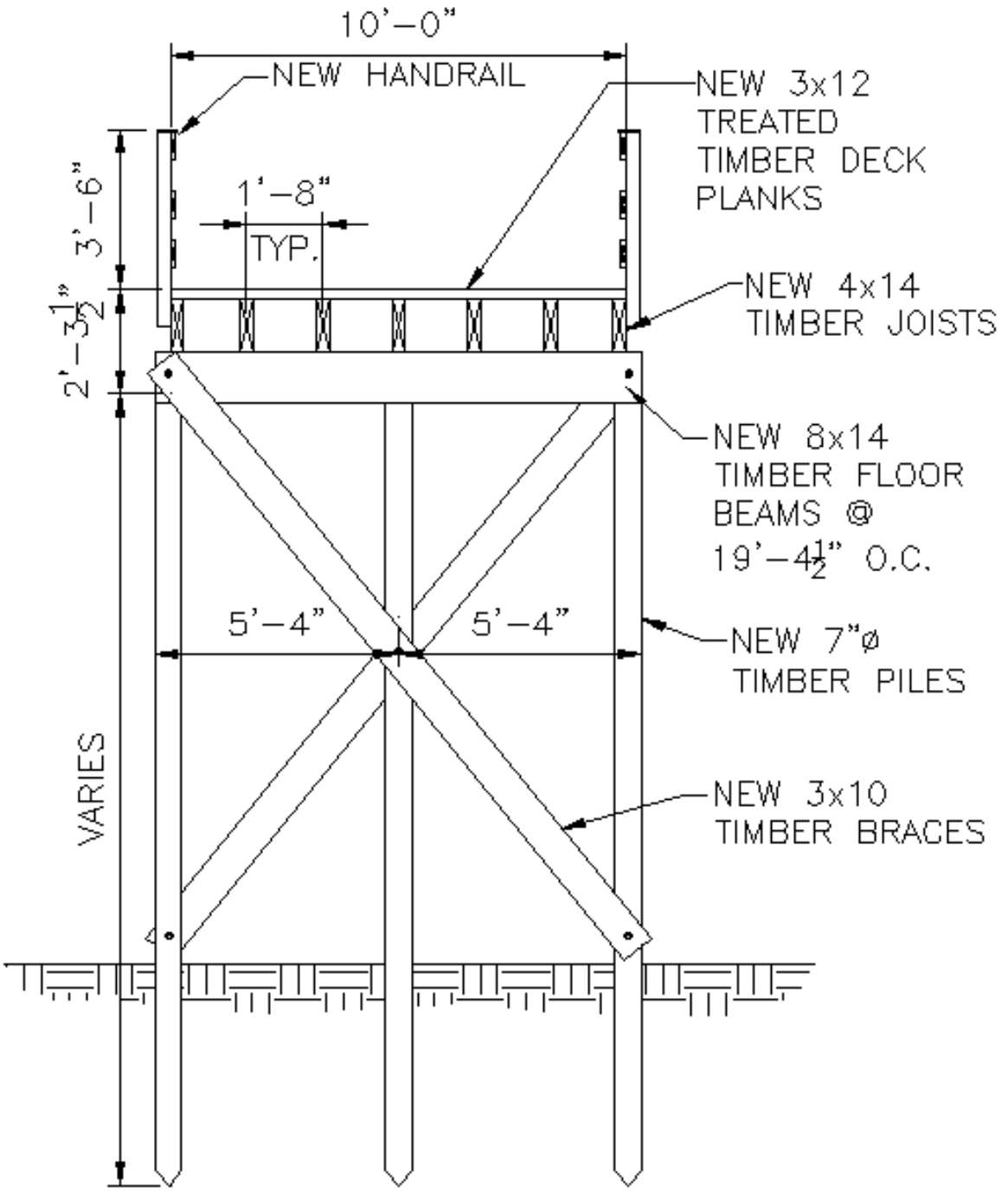


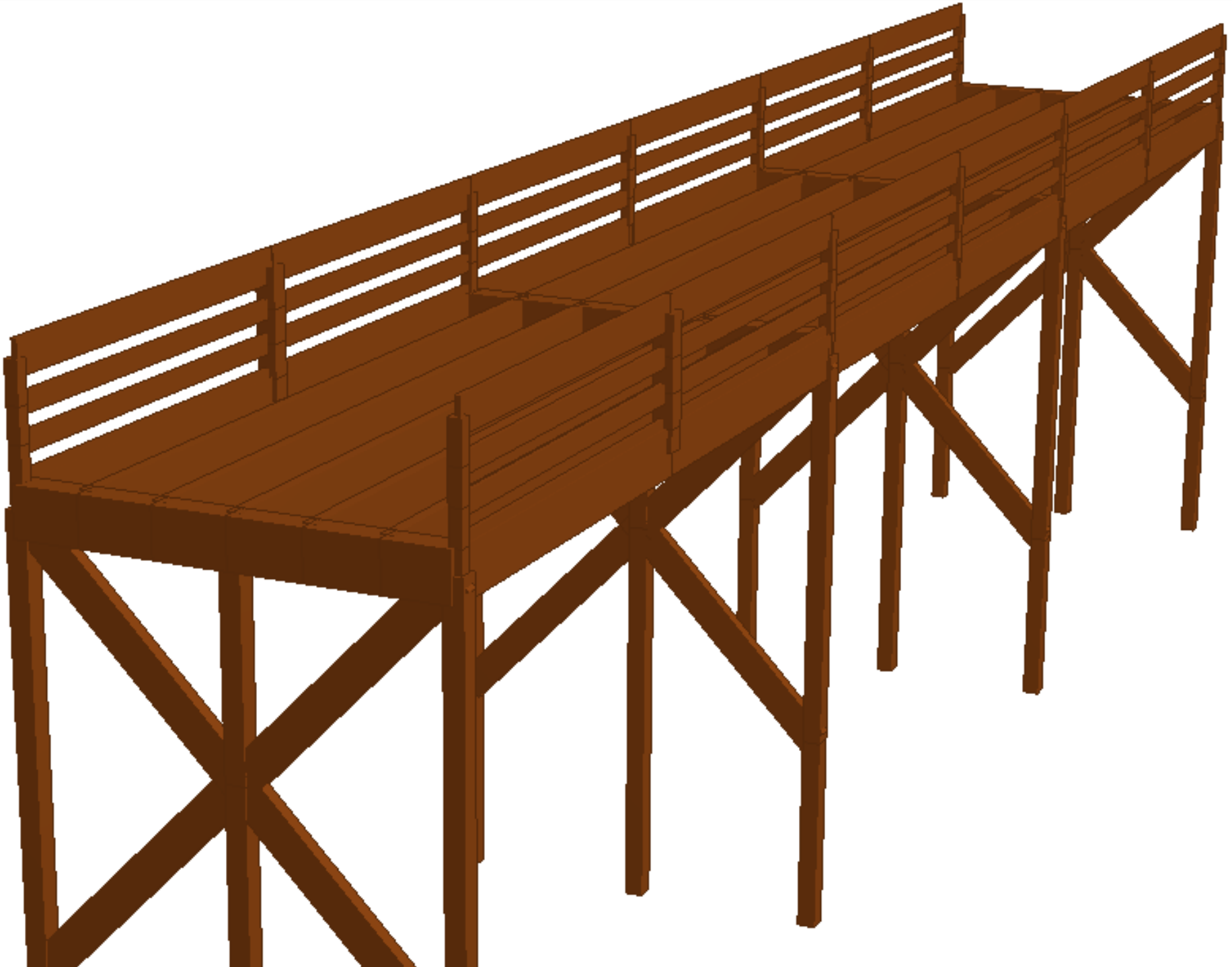
WEST APPOACH SPANS

- TIMBER SUPERSTRUCTURE
- 10’ WIDE TIMBER DECK
- TIMBER HANDRAIL
- TIMBER PILE BENT SUBSTRUCTURE



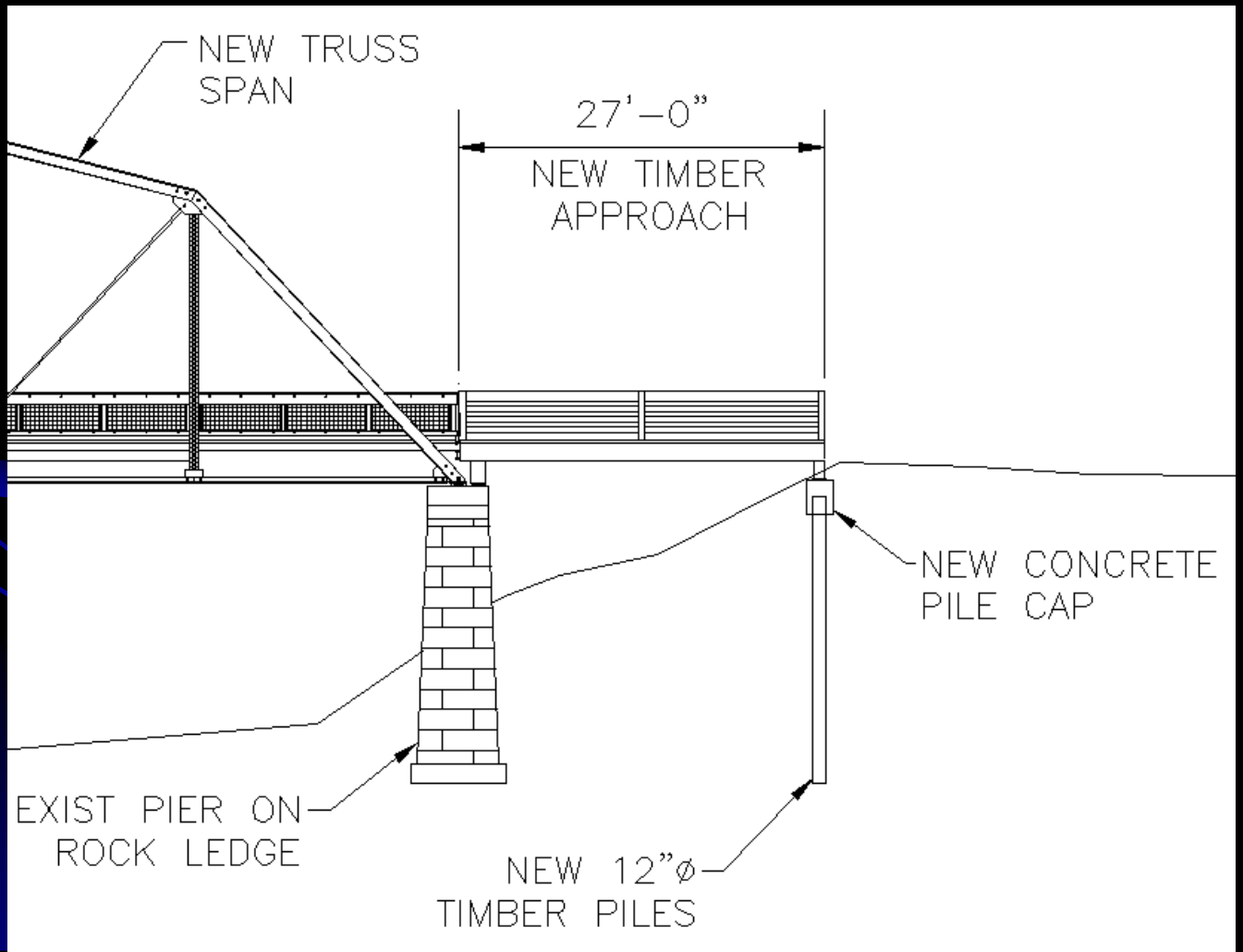
TYPICAL WEST APPROACH CROSS SECTION AT PIERS



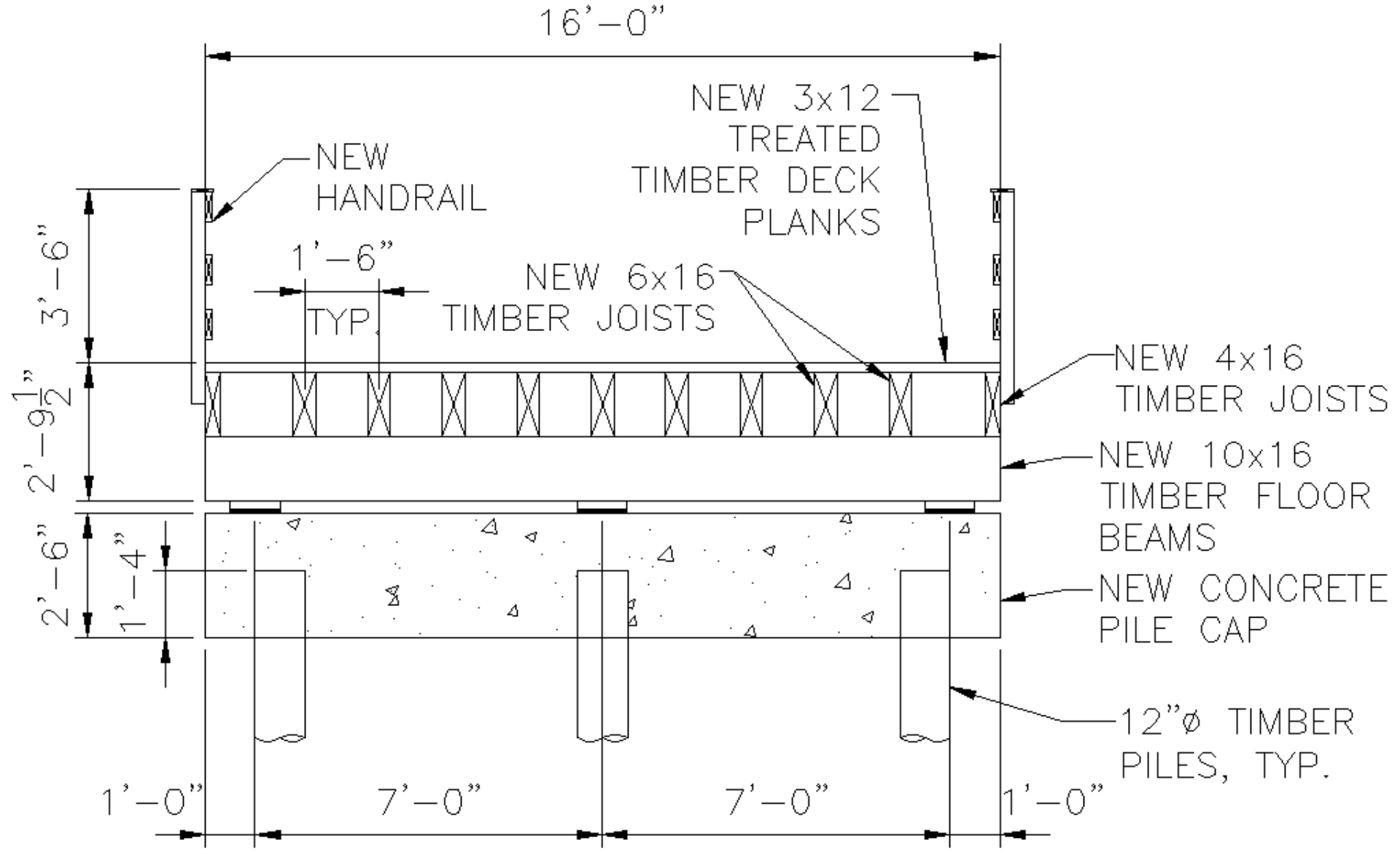


EAST APPROACH SPAN

- TIMBER SUPERSTRUCTURE
- 16’ WIDE TIMBER PLANK DECK, TIMBER HANDRAIL
- CONCRETE PILE CAP AT EAST ABUTMENT
- TIMBER WING WALLS AND PILES

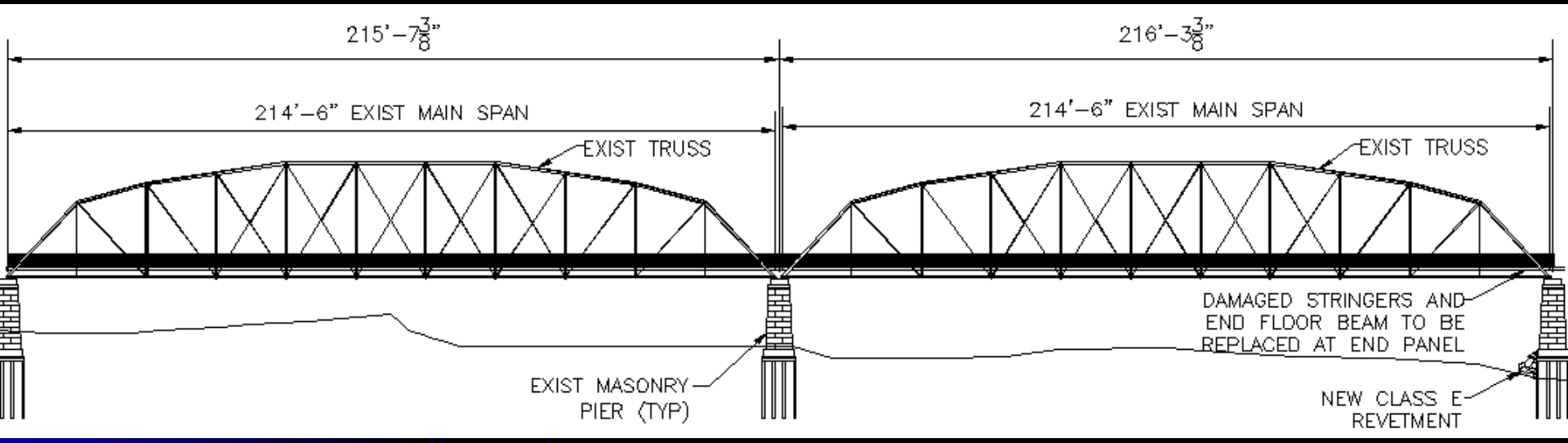


EAST APPROACH CROSS SECTION AT EAST ABUTMENT



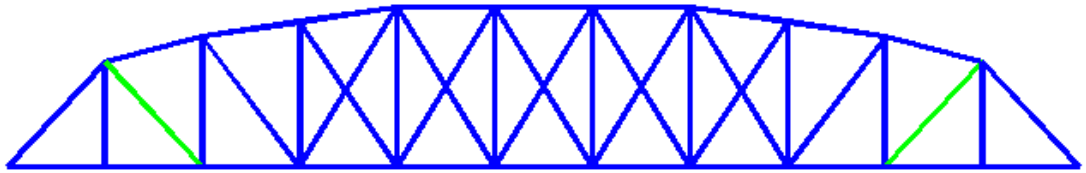
EXISTING TRUSS SPANS

- NEW 10’ WIDE TIMBER PLANK DECK
- NEW STEEL HANDRAIL
- REPLACE DAMAGED STRINGERS AND FLOOR BEAM AT EAST END
- REINFORCE OVERSTRESSED AND DAMAGED TRUSS MEMBERS



STRENGTHENING REQUIREMENTS

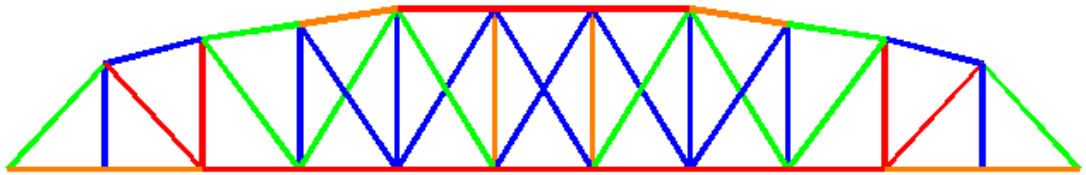
EXISTING SPANS WITH 10' WIDE DECK



ADDITIONAL 147 LB STEEL REQ'D PER SPAN

- NO REINFORCING REQUIRED
- 100%-115% CAPACITY
- 116%-125% CAPACITY
- 125+% CAPACITY

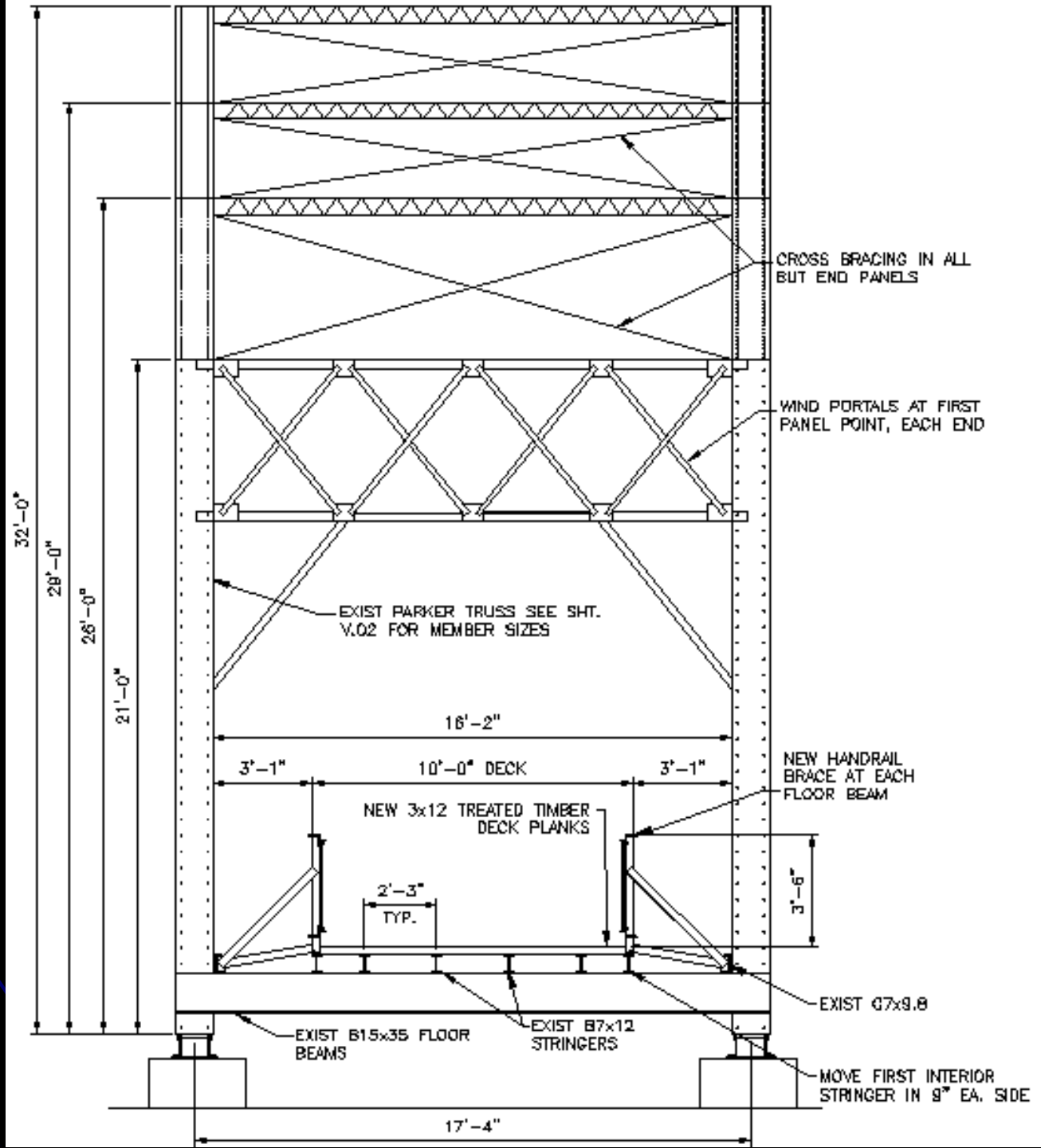
EXISTING SPANS WITH 16' WIDE DECK



ADDITIONAL 6,396 LB STEEL REQ'D PER SPAN

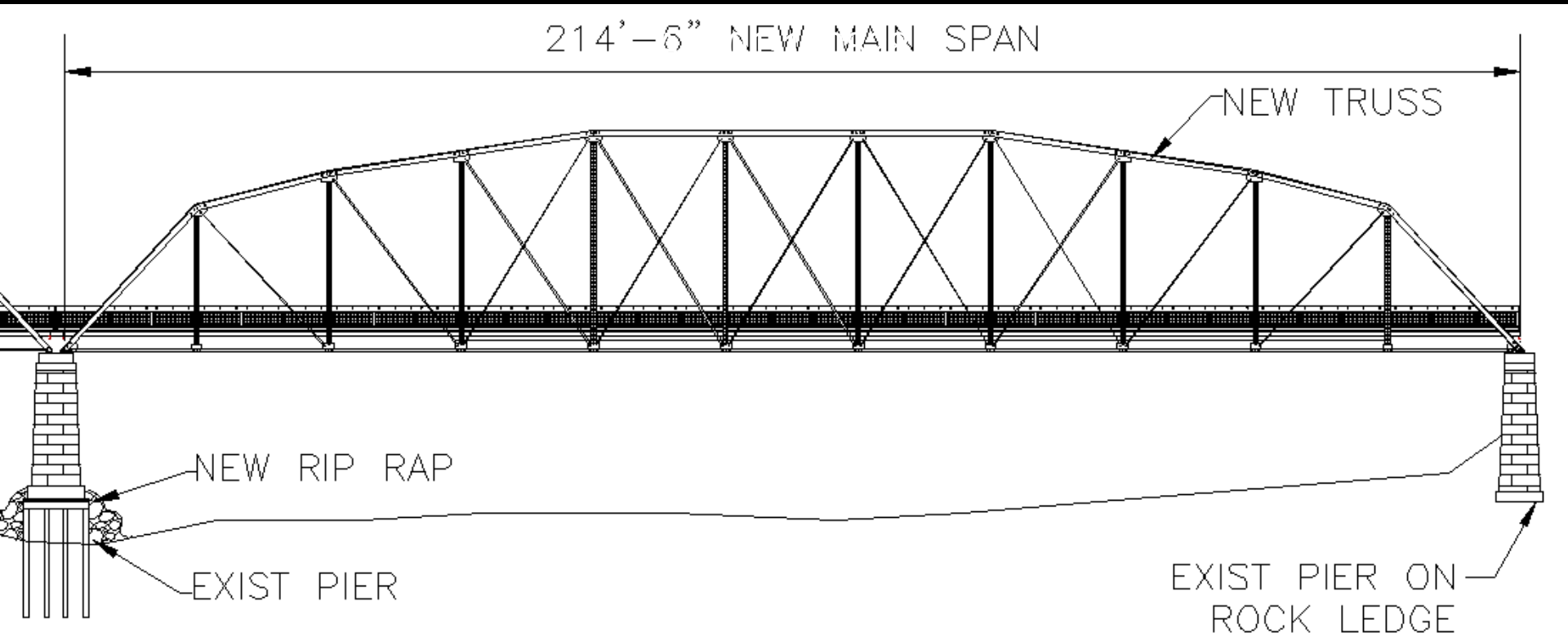
- NO REINFORCING REQUIRED
- 100%-115% CAPACITY
- 116%-125% CAPACITY
- 125+% CAPACITY

TYPICAL EXIST TRUSS SPAN CROSS SECTION AT PIERS

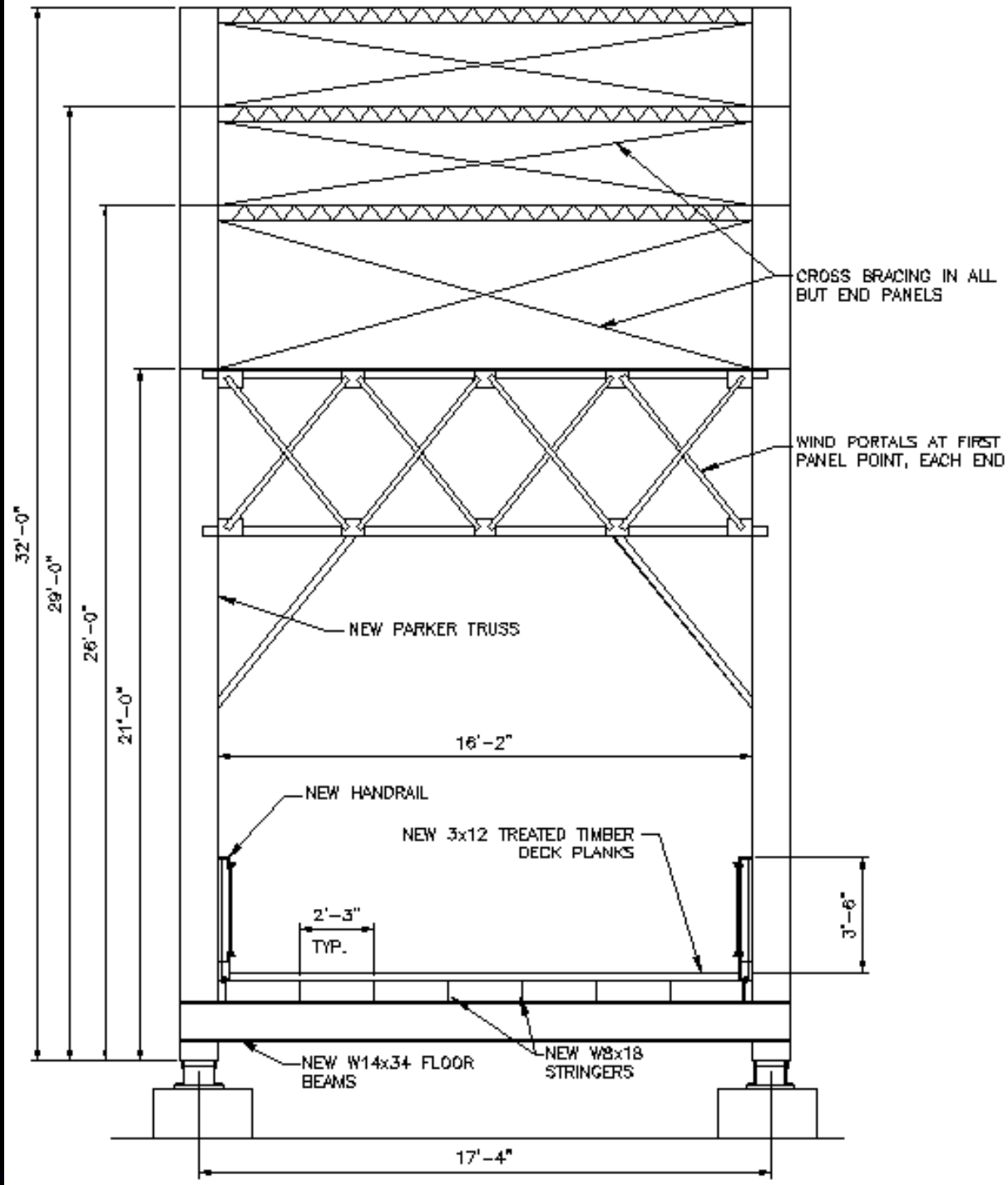


NEW TRUSS SPAN

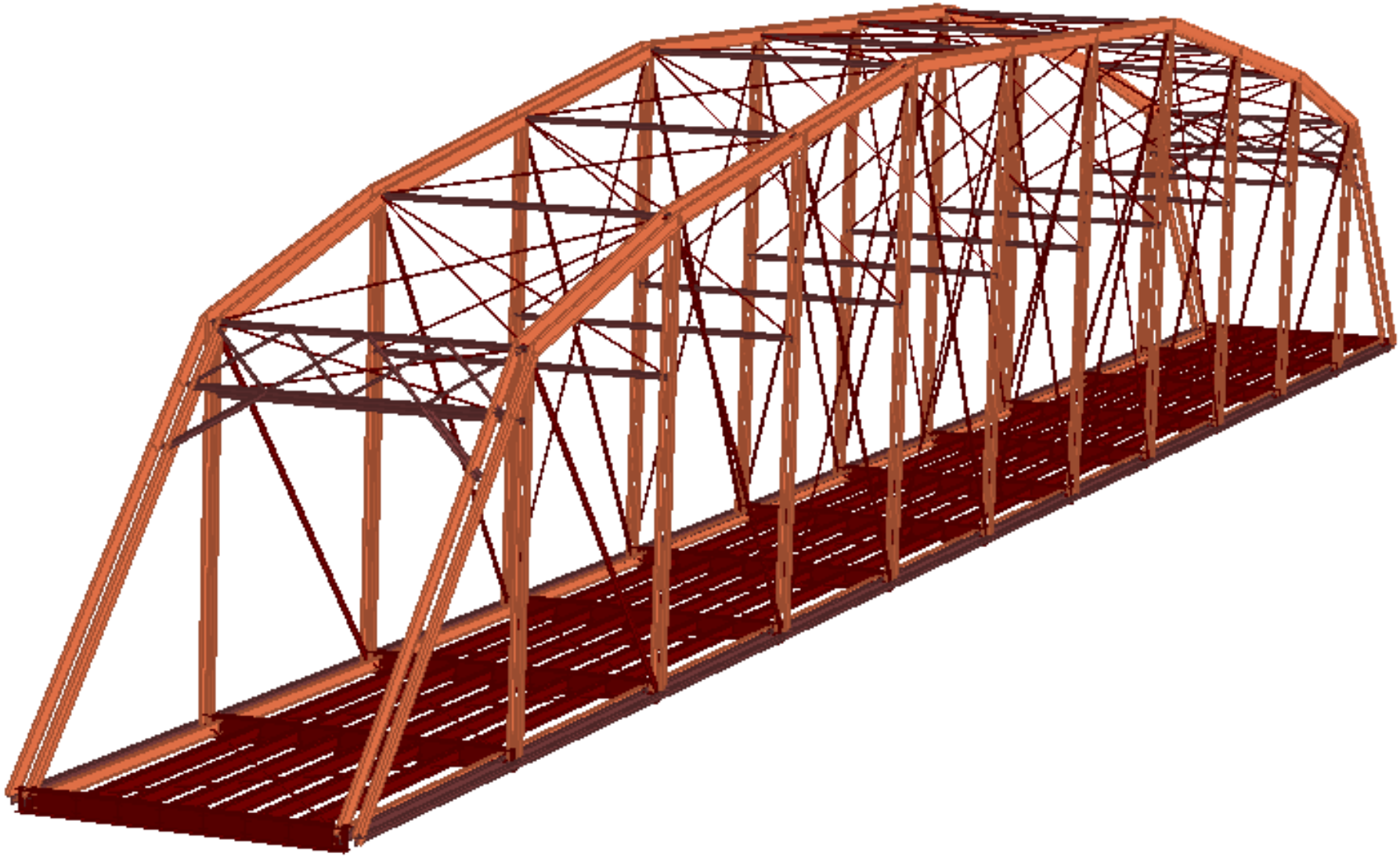
- 16’ WIDE TIMBER PLANK DECK
- STEEL HANDRAIL
- WEATHERING STEEL TRUSS MEMBERS
- STEEL STRINGERS AND FLOOR BEAMS

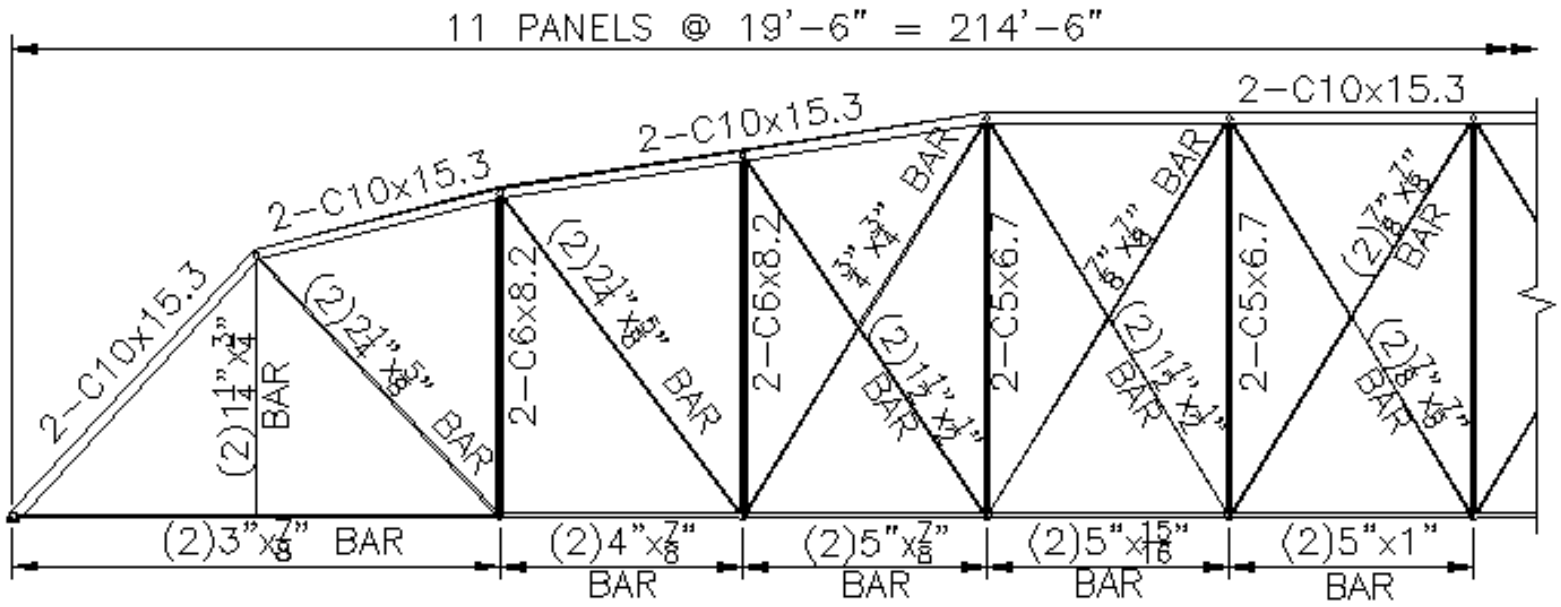


TYPICAL NEW TRUSS SPAN CROSS SECTION AT PIERS

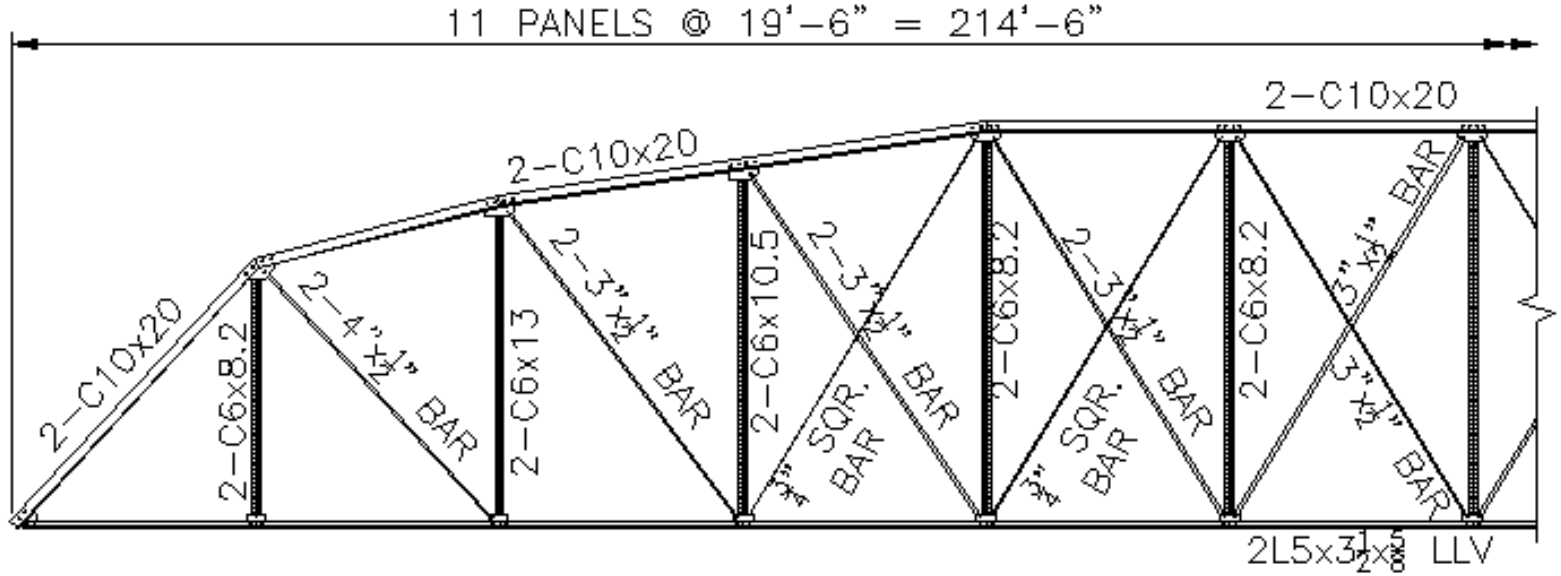


NEW TRUSS SPAN





EXISTING TRUSS SPAN MEMBER SIZES



NEW TRUSS SPAN MEMBER SIZES

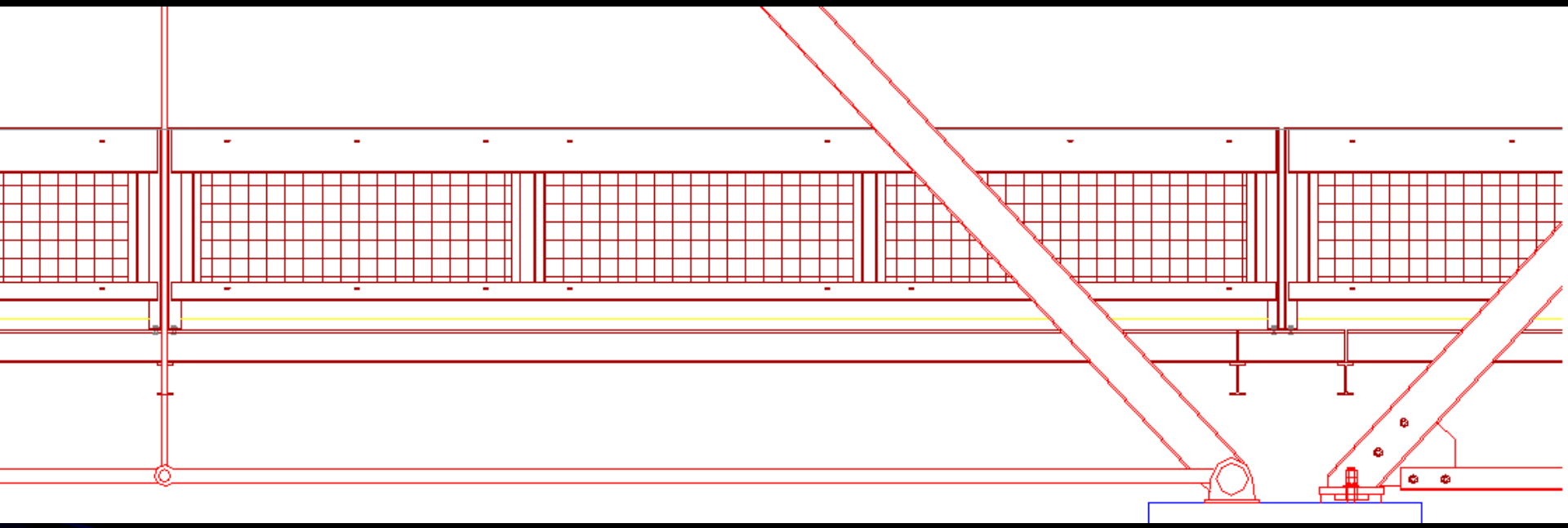
TRUSS CONNECTIONS

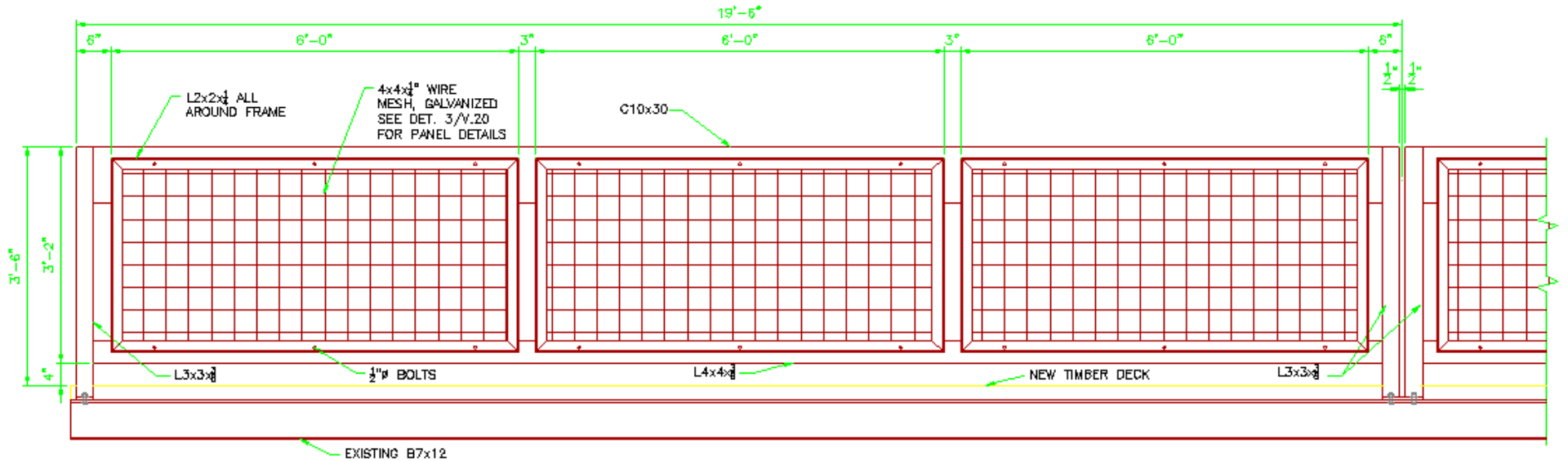
PINNED CONNECTION

GUSSET PLATE CONNECTION

HANDRAIL

WELDED WIRE MESH





HANDRAIL

WELDED WIRE MESH

DISPLAY BOARDS


HISTORY OF SUTLIFF BRIDGE

FINAL DESIGN

- FINAL APPROACH SPAN DESIGN
- FINAL EXISTING TRUSS SPAN STRENGTHENING
- EXISTING TRUSS SPAN DAMAGED MEMBER REMOVAL AND REPLACEMENT DETAILS
- FINAL NEW TRUSS SPAN DESIGN
- PIER REPAIR DETAILS
- EAST ABUTMENT DESIGN
- CONSTRUCTION ESTIMATE
- FINAL PLANS (TARGET DEADLINE 7/18/11)
- SHOP DRAWING REVIEW

QUESTIONS