



Pedestrian Railroad Overpass



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(Civil Practice)



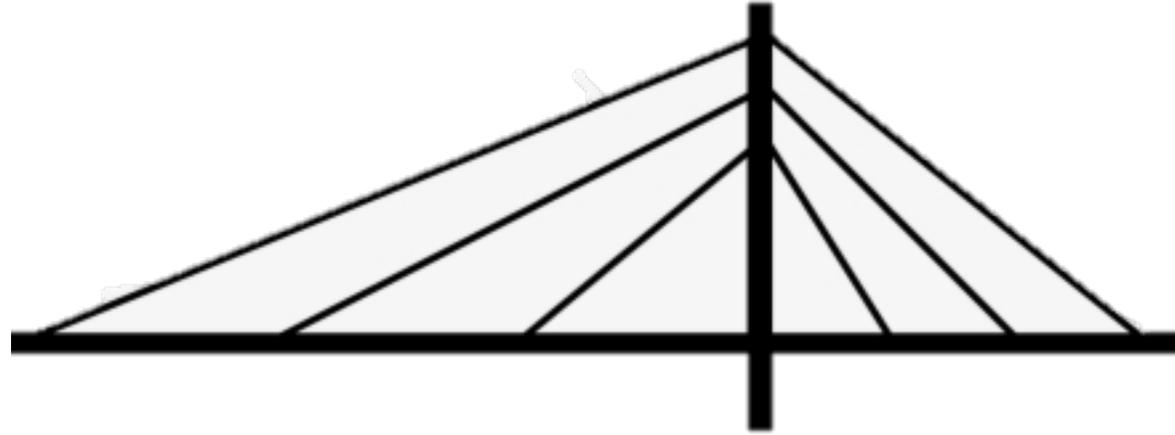
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Civil Engineer
(Structural)



Nick Moioffer
Civil Engineer
(Structural)



Project
Scope

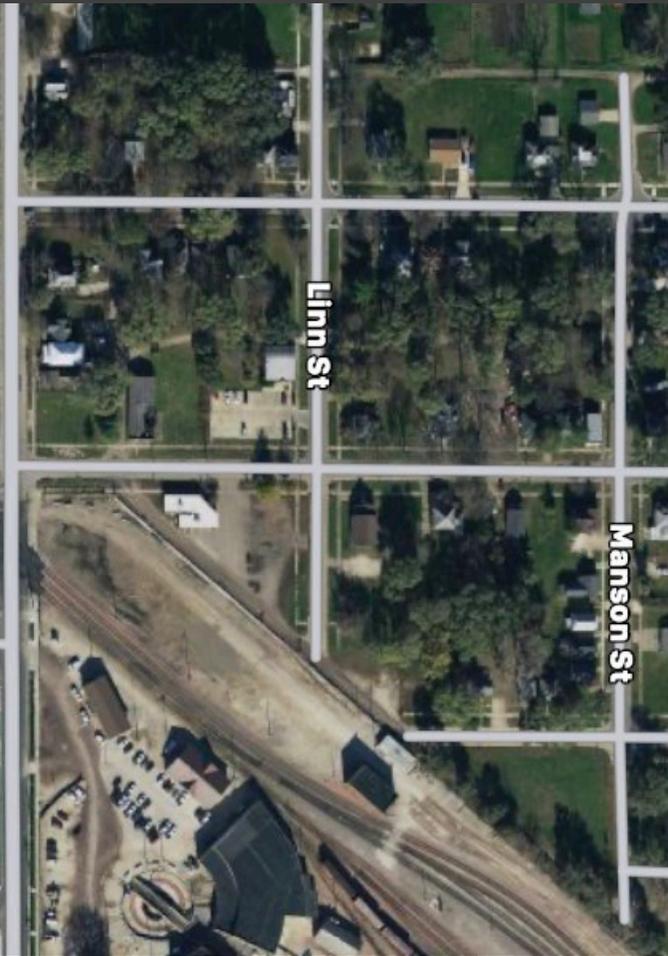
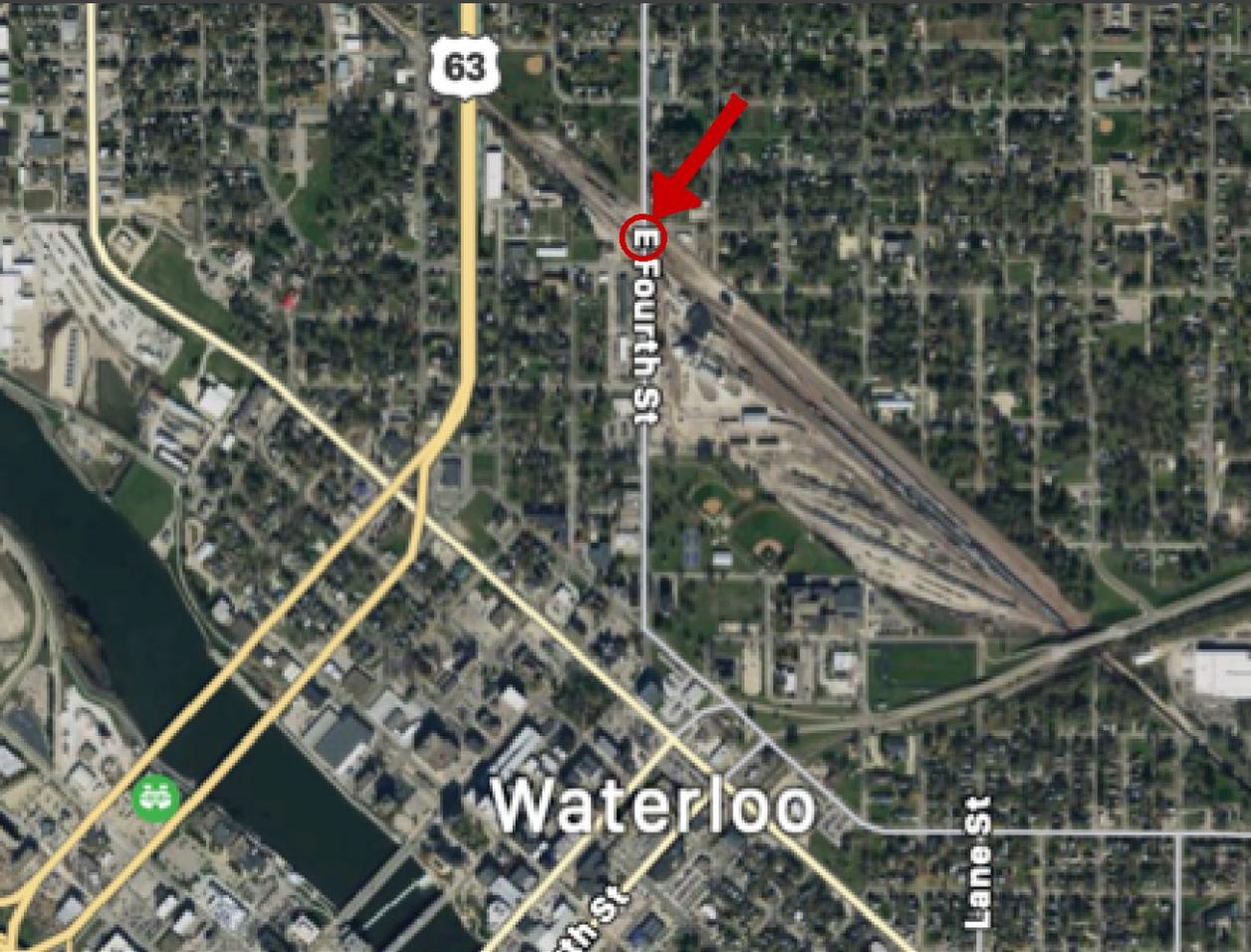


Design of
Elements



Project Cost

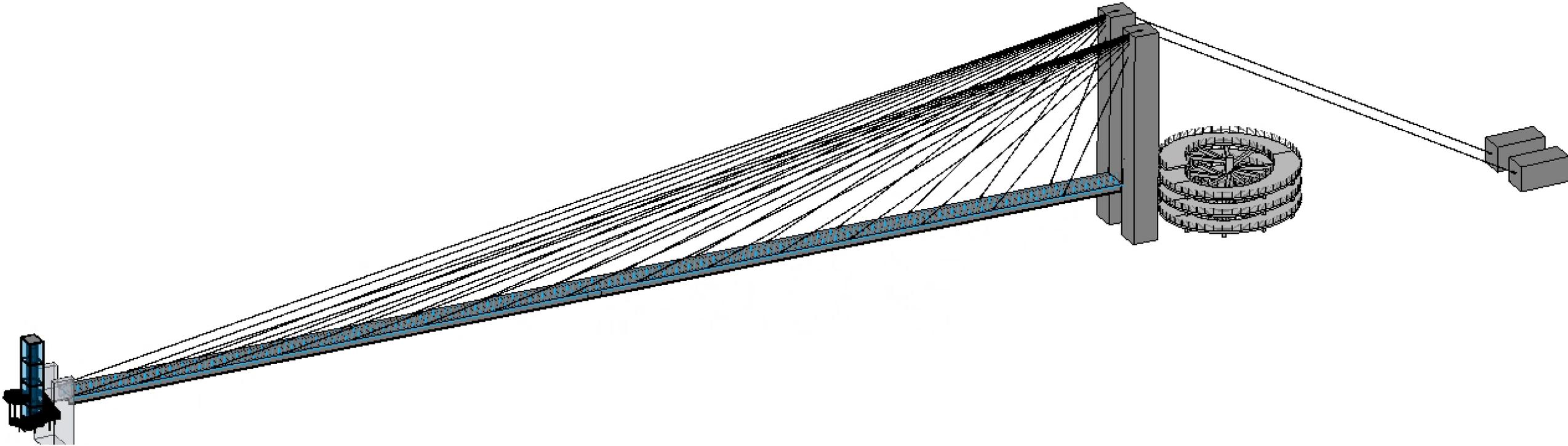
Project Location



Client Goals



Structure Design Overview

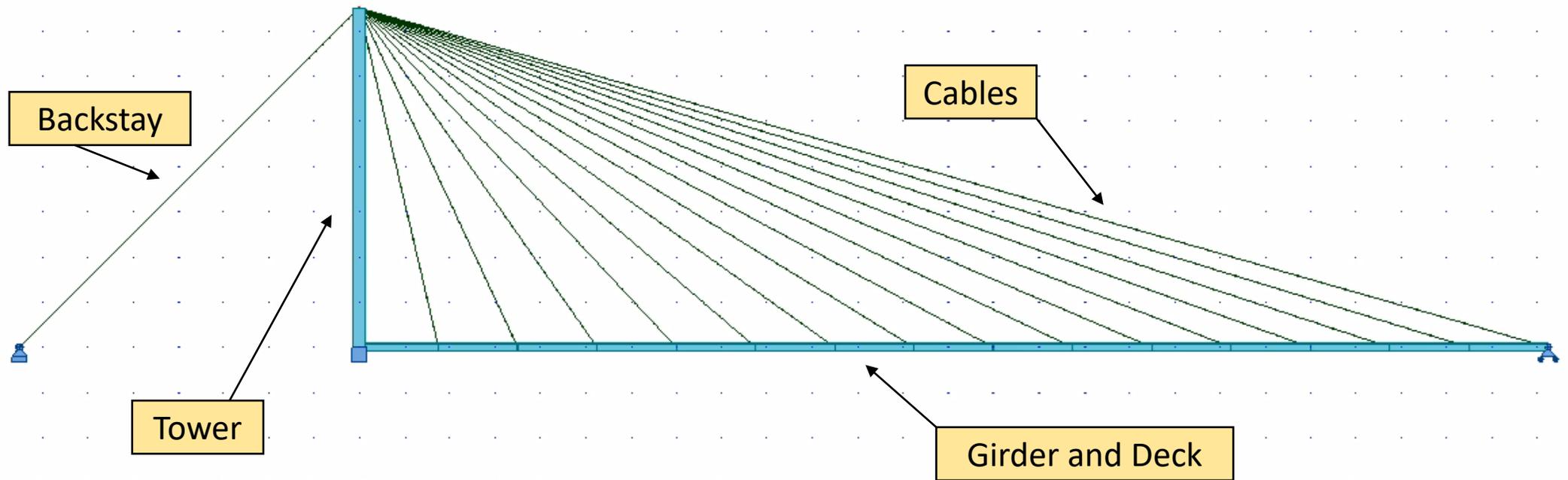




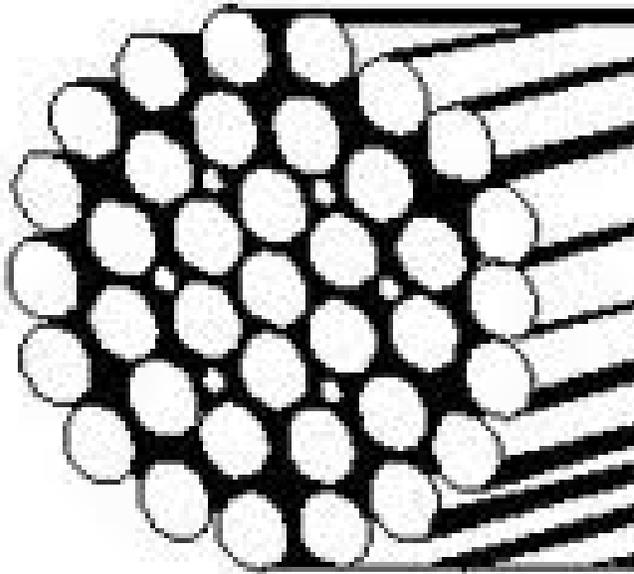
Span
Location

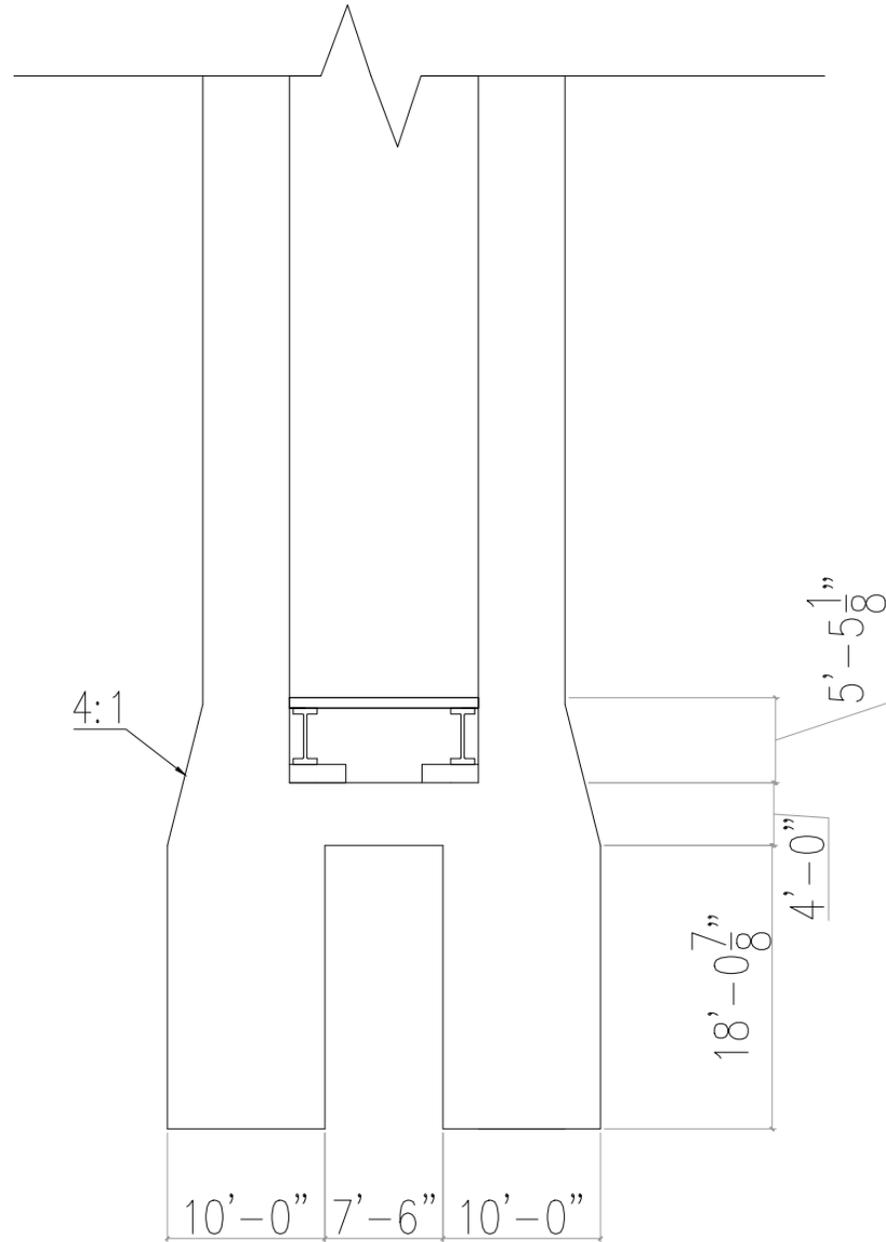


Superstructure

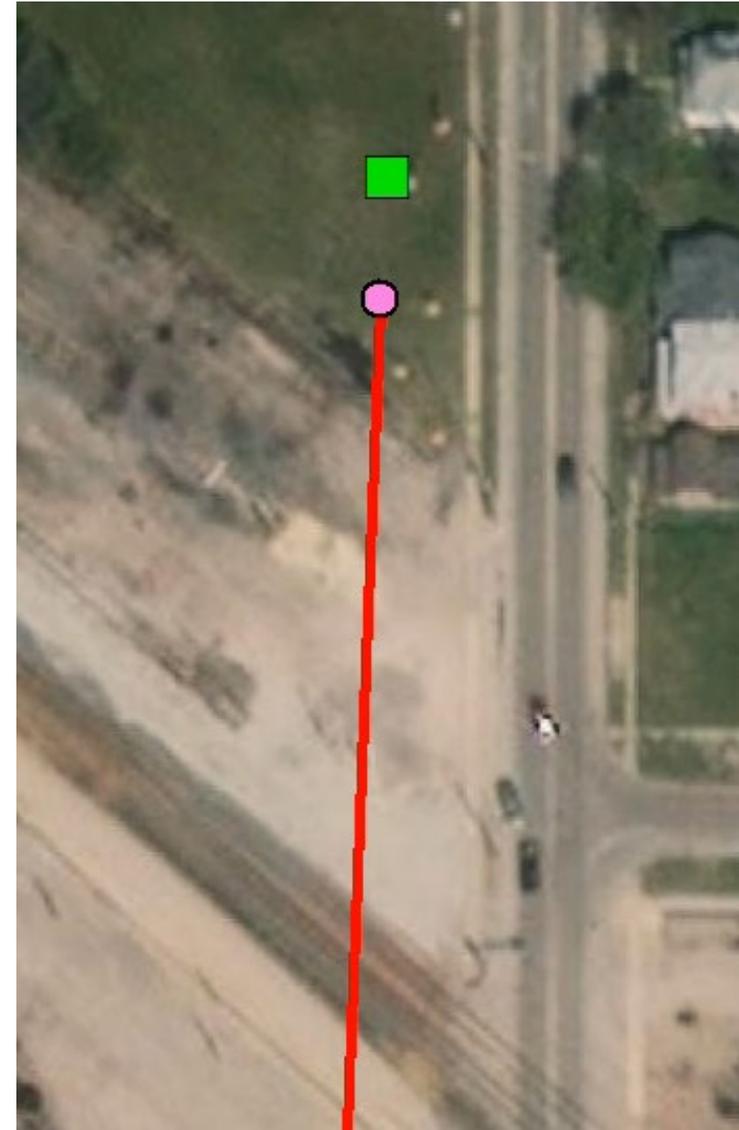


Cables

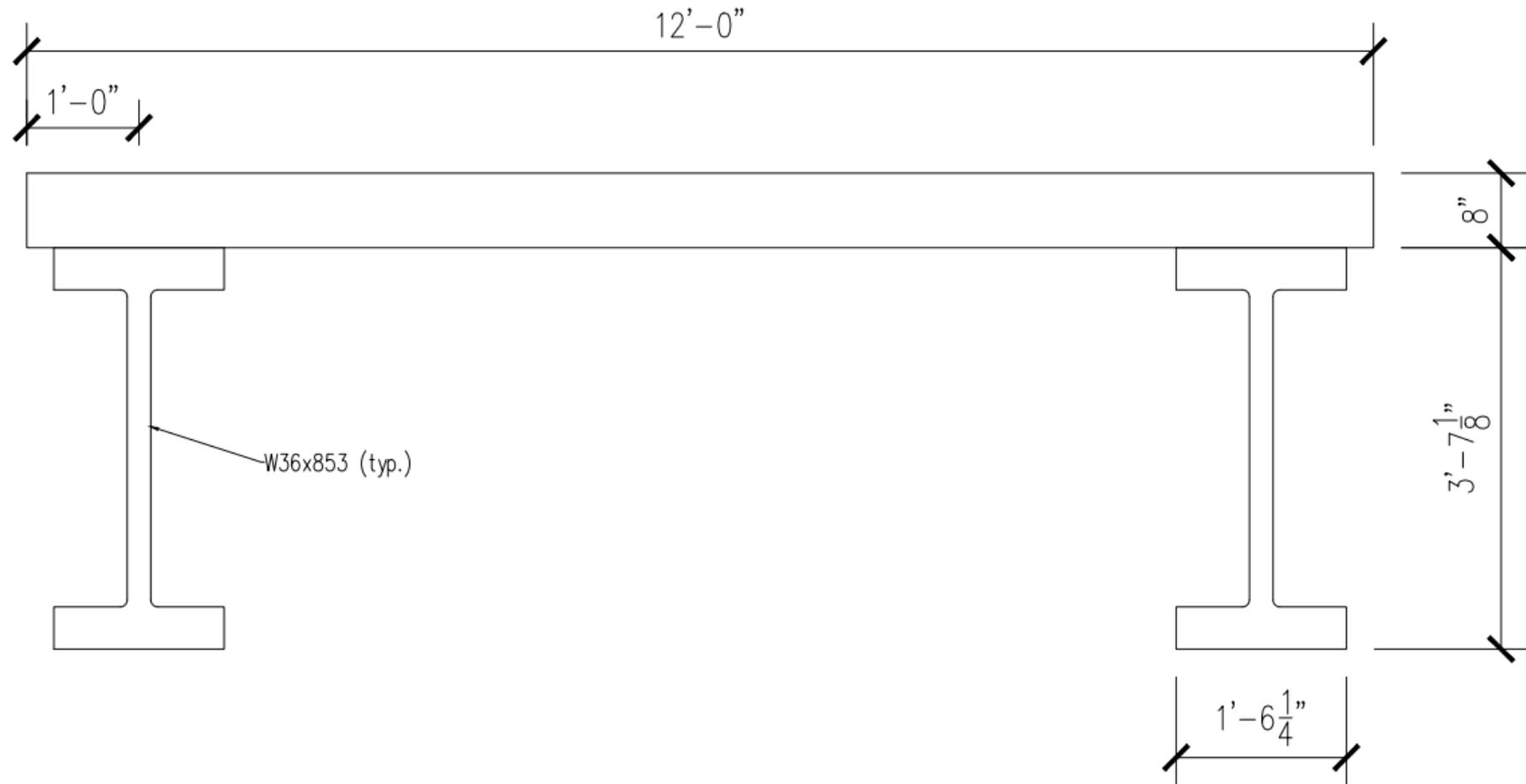




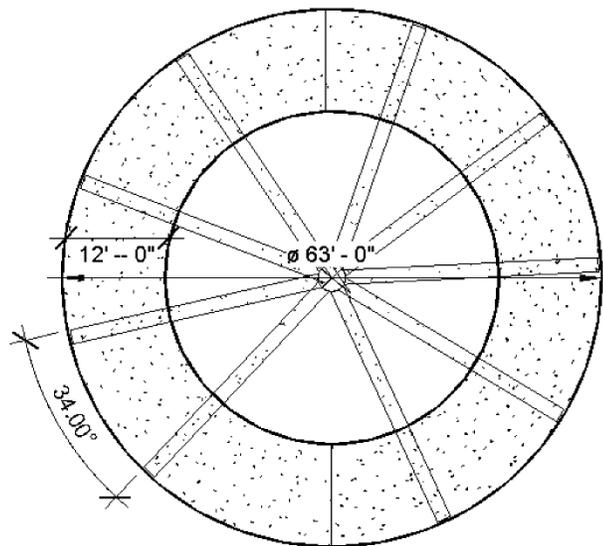
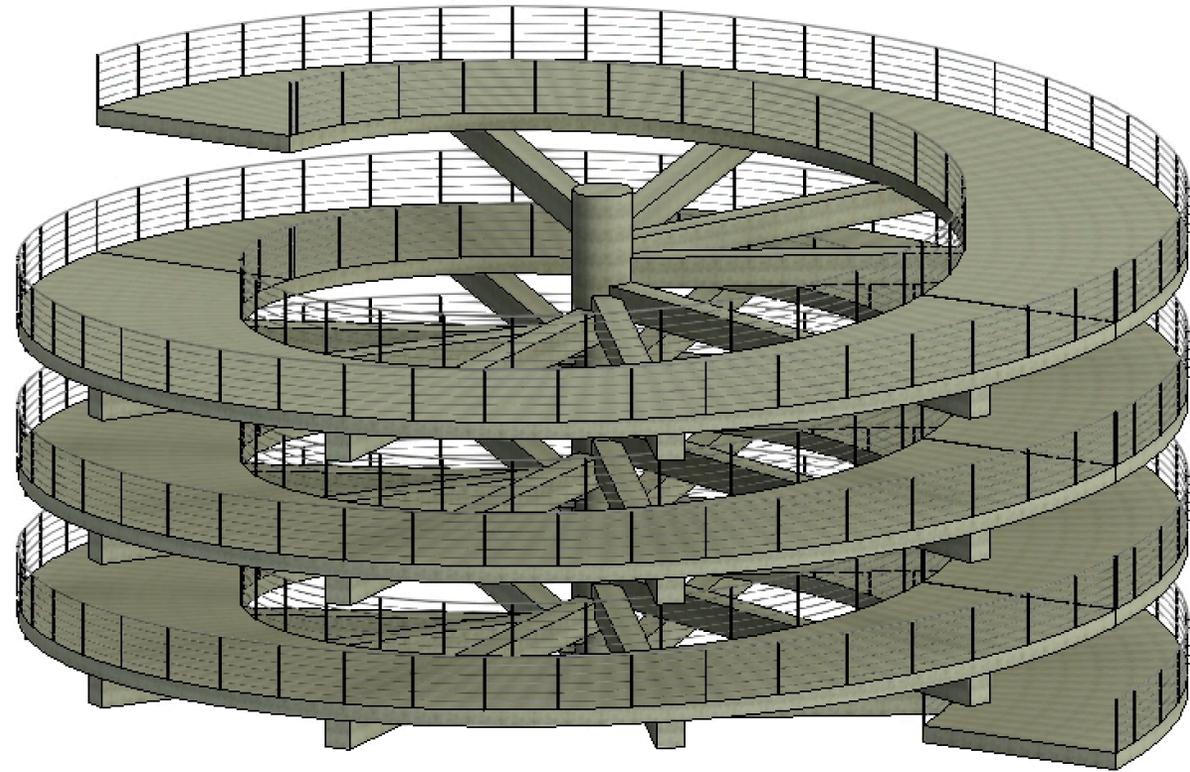
Tower



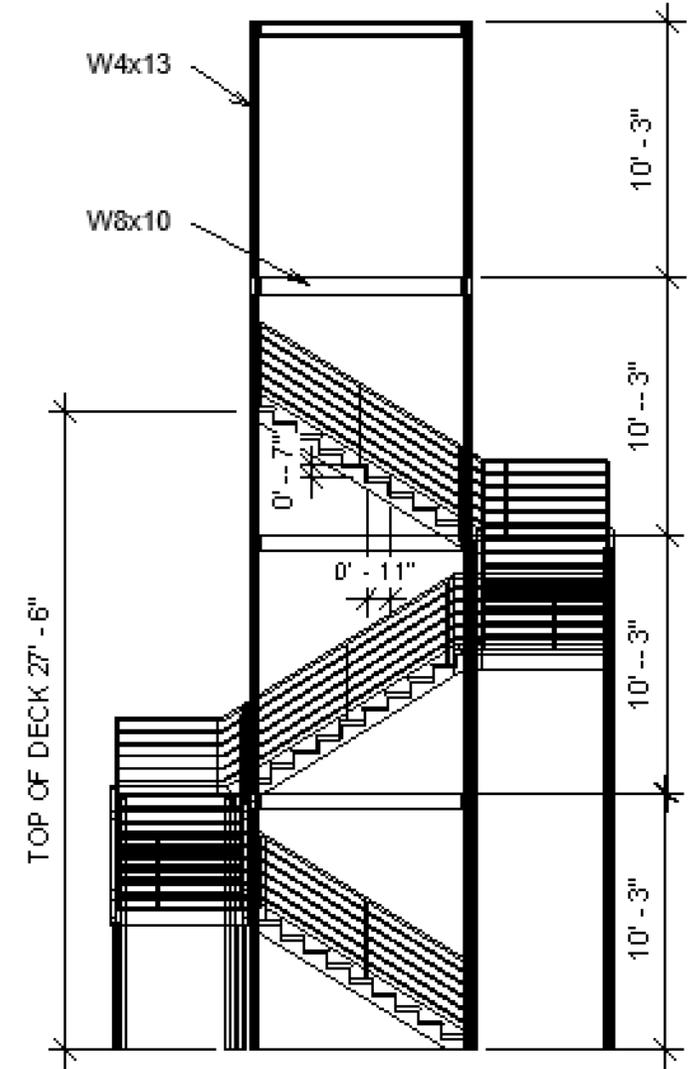
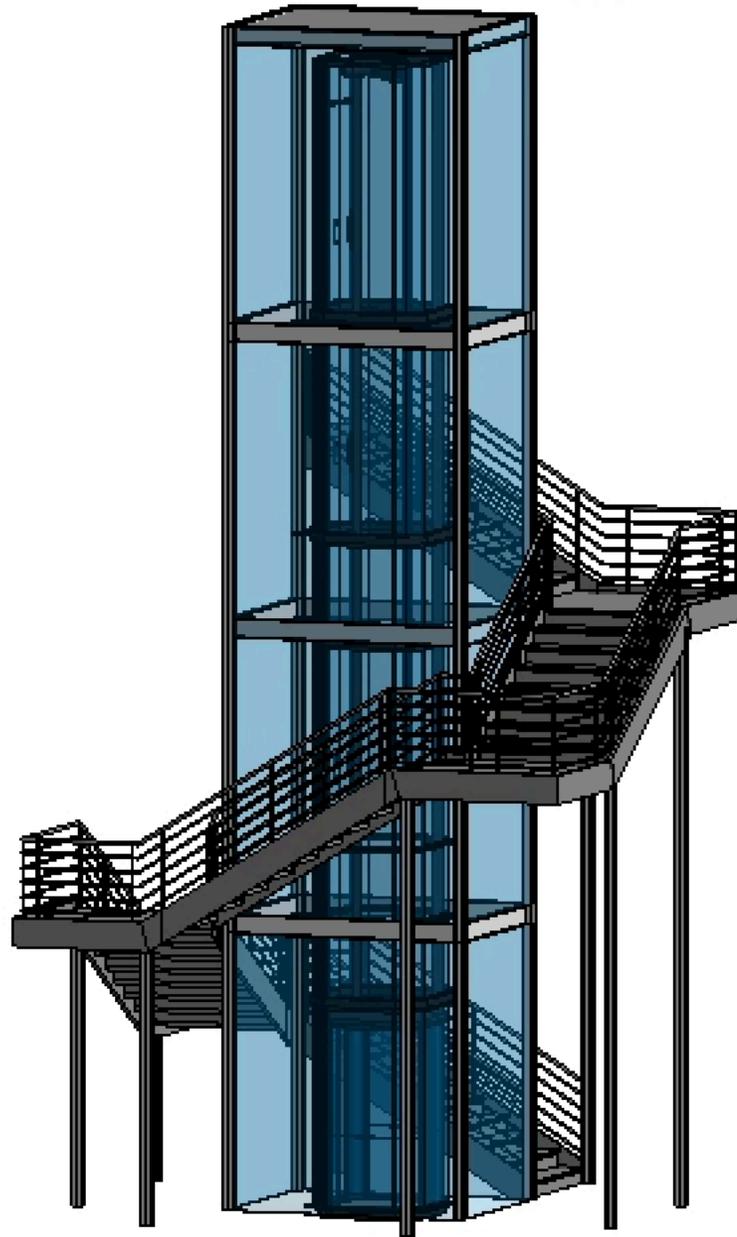
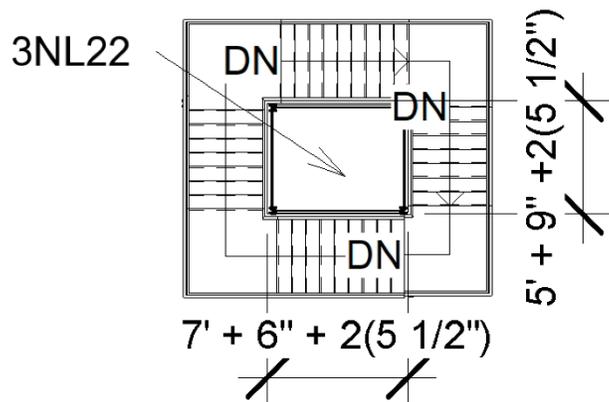
Girder and Deck

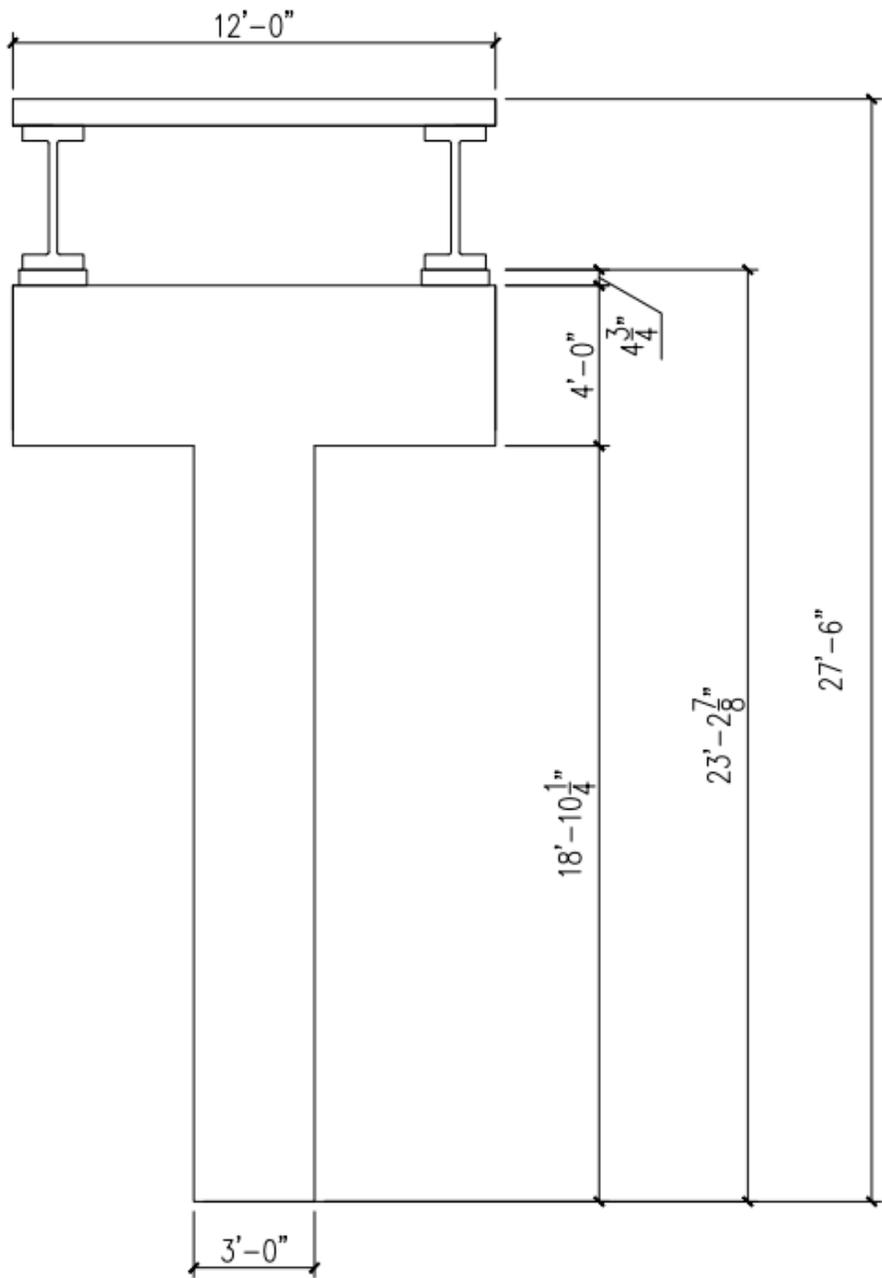


Spiral Ramp



Elevator Tower

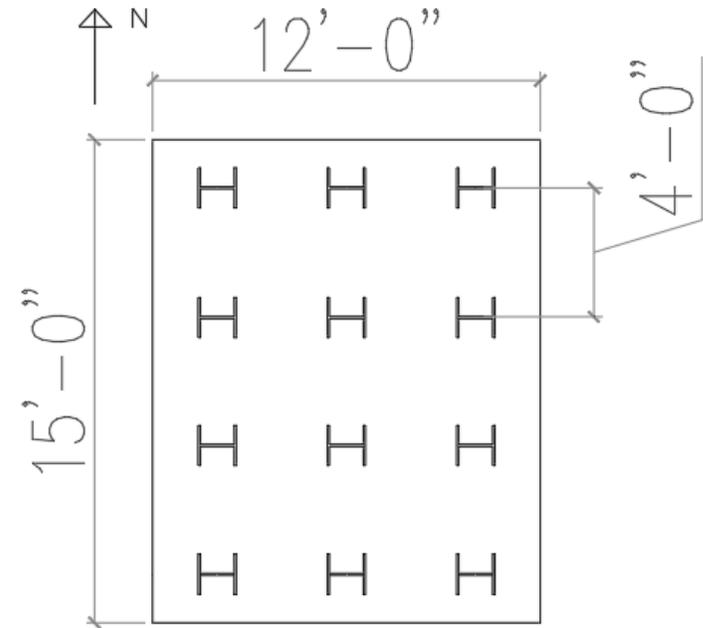
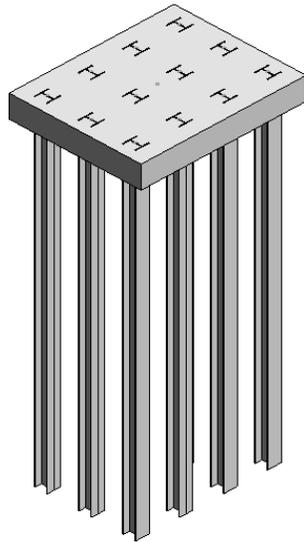




South Pier

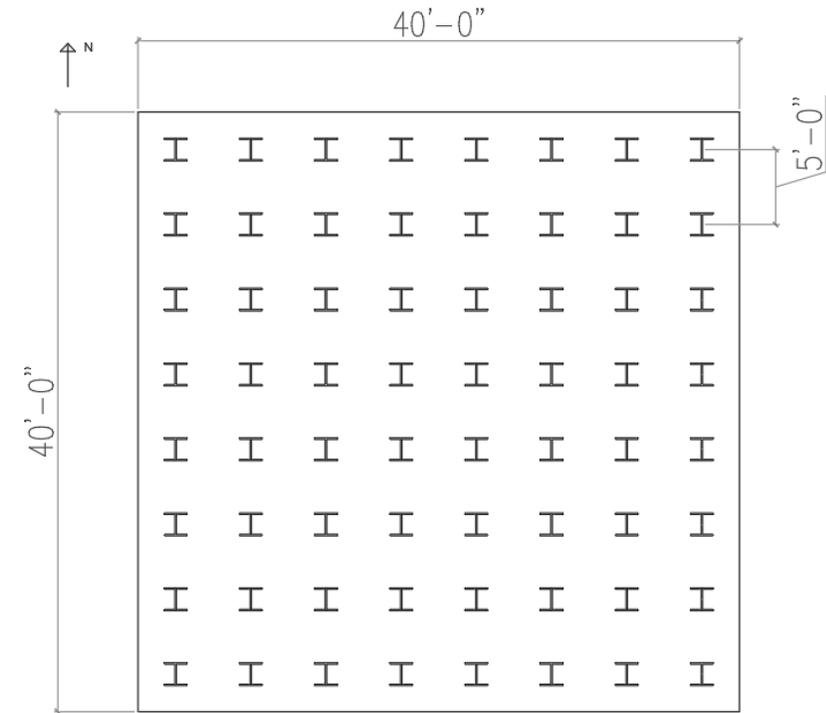
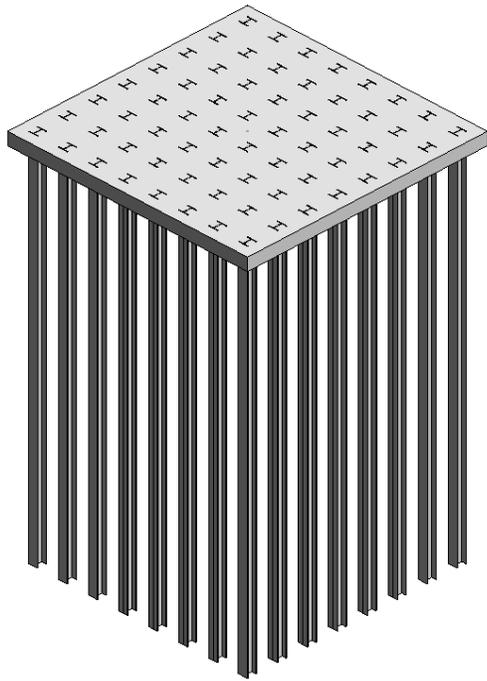
South Foundation

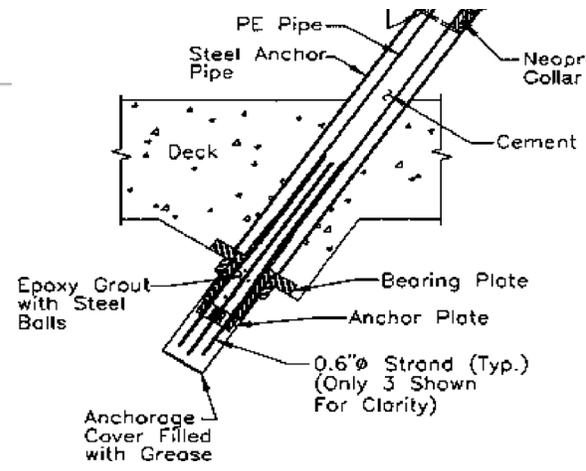
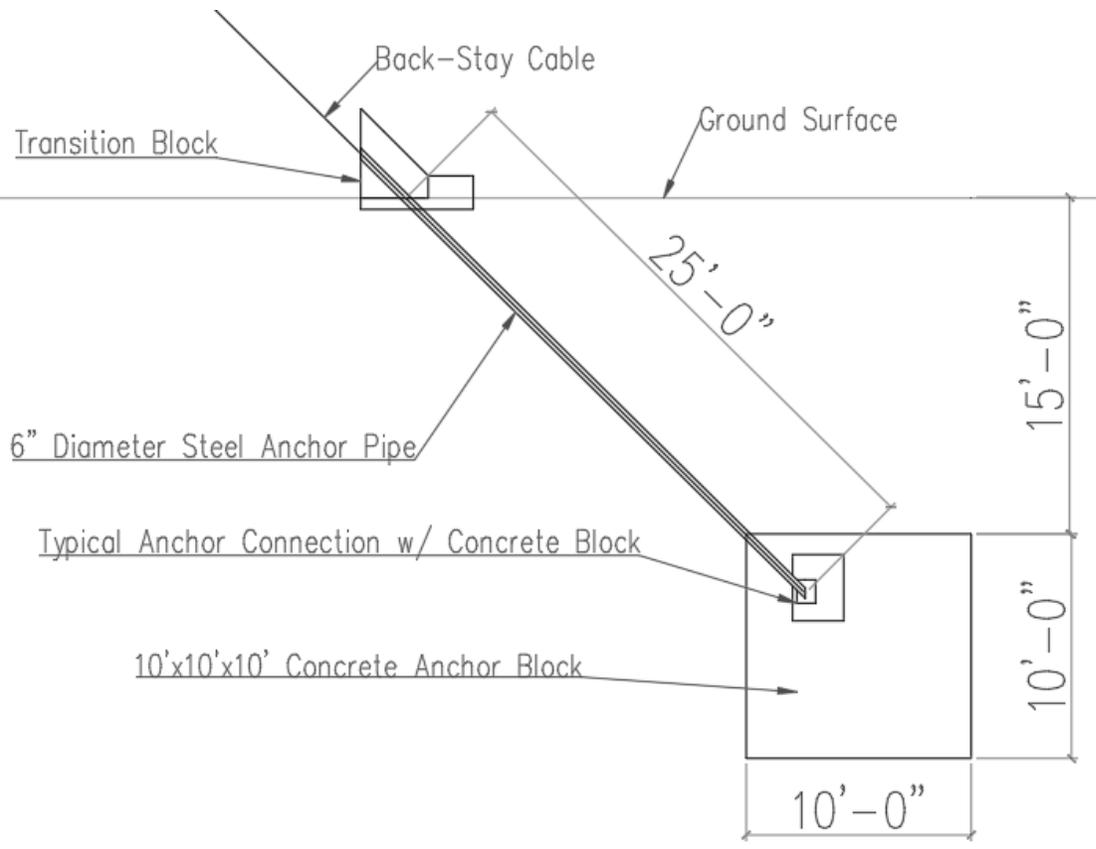
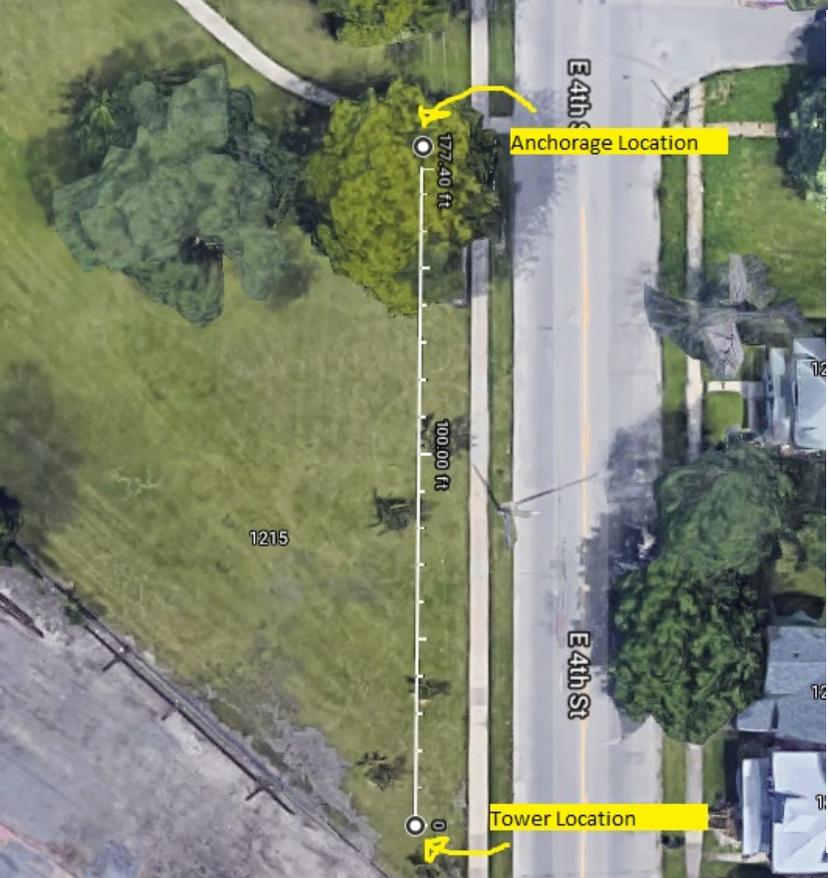
- 12' x 15' x 2' High strength rectangular concrete pile cap.
- 12, 30' long, HP14x117 Steel piles spaced at 4' O.C.
- This foundation will be supporting the elevator tower.



North Foundation

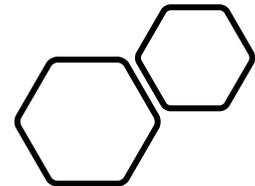
- 40' x 40' x 2' High strength square concrete pile cap.
- 64, 60' long, HP18x204 Steel piles spaced at 5' O.C.
- This foundation will be supporting the main cable stay tower & spiral ramp



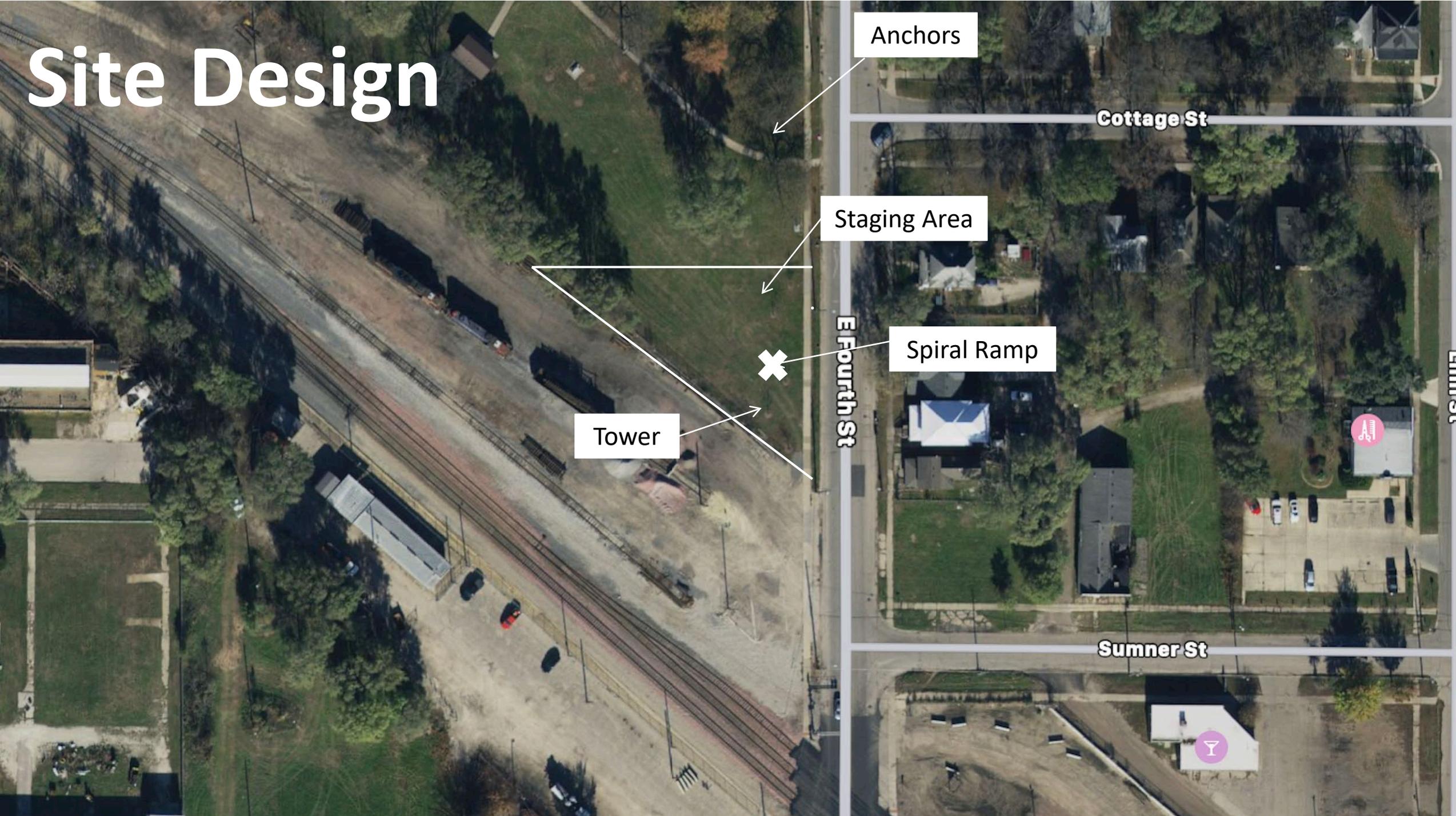


Back-Stay Cables and Their Anchorages

- Each back-stay cable is to be 178' north of & directly in line with the towers, angled at 45deg with respect to ground, and anchored by a 10' x 10' normal weight concrete block anchor.
- These blocks are to be placed 15' underground with a 6" diameter steel anchor pipe that has a length of 25'.



Site Design



Anchors

Cottage St

Staging Area

E Fourth St

Spiral Ramp

Tower

Sumner St



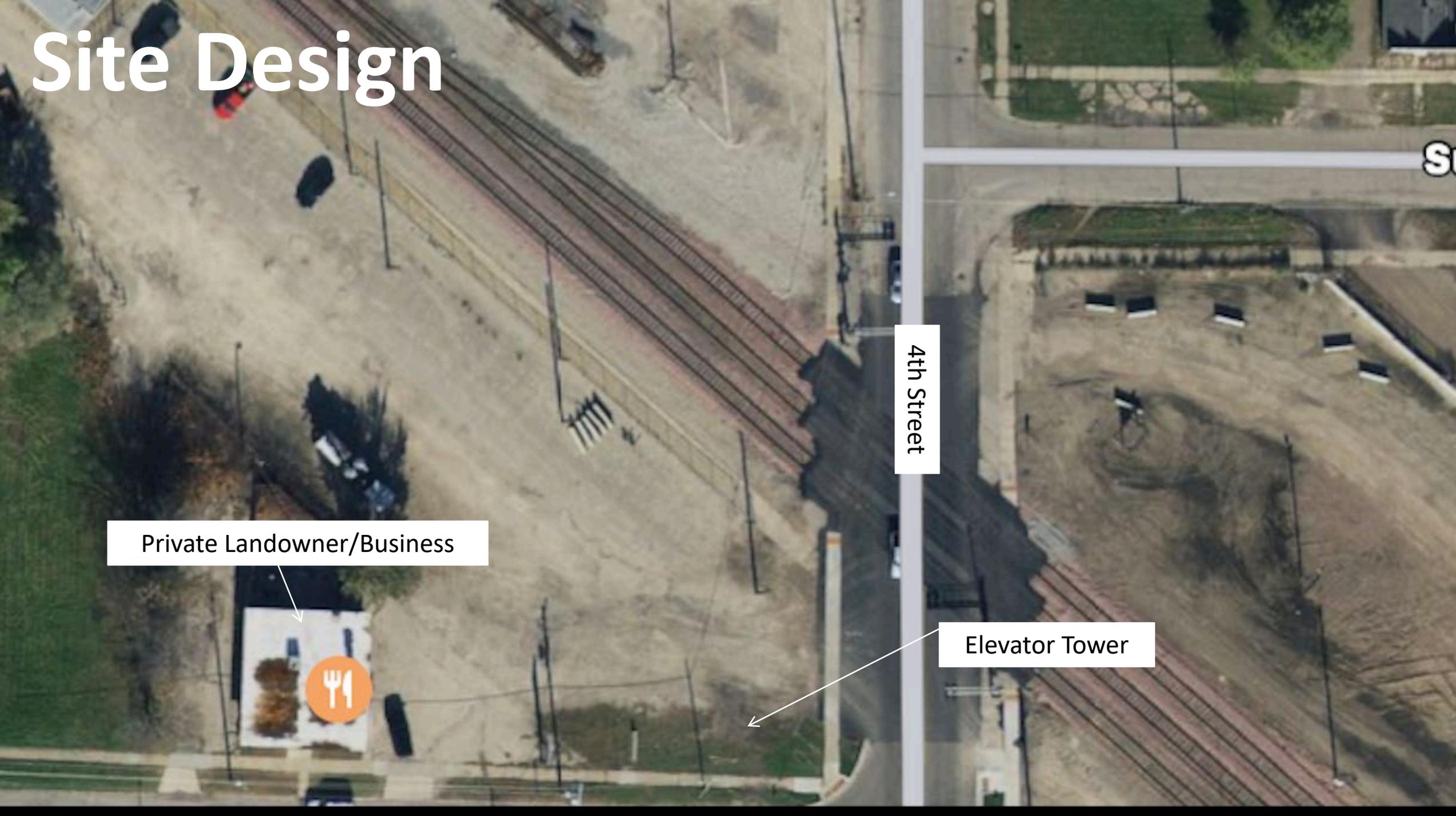
Site Design

Private Landowner/Business



4th Street

Elevator Tower





Total Cost Estimate

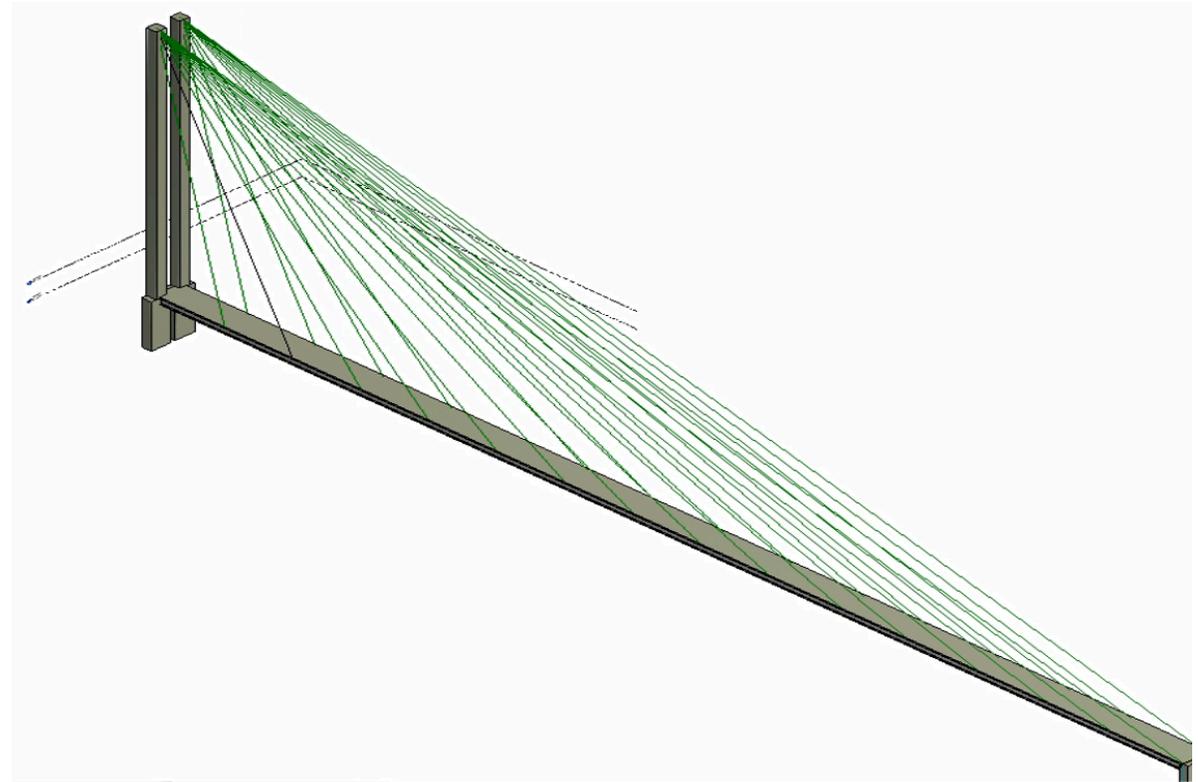
Project Cost Breakdown

Category	Cost
Substructure	\$ 850,000.00
Superstructure+Approaches	\$ 3,600,000.00
Site Design	\$ 250,000.00
Contingency (10%)	\$ 470,000.00
Total Cost	\$ 5,170,000.00

Cost Comparison

Price/ft²:

- Waterloo Pedestrian Bridge: \$985
- Bob Kerrey Bridge (Council Bluffs, IA): \$1311





Questions?