

# Unbonded Pre-Tensioned Bridge Columns with Hybrid Fiber-Reinforced Concrete Shell

## PEER Transportation Systems Research Program

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Testing Laboratory, University of Washington

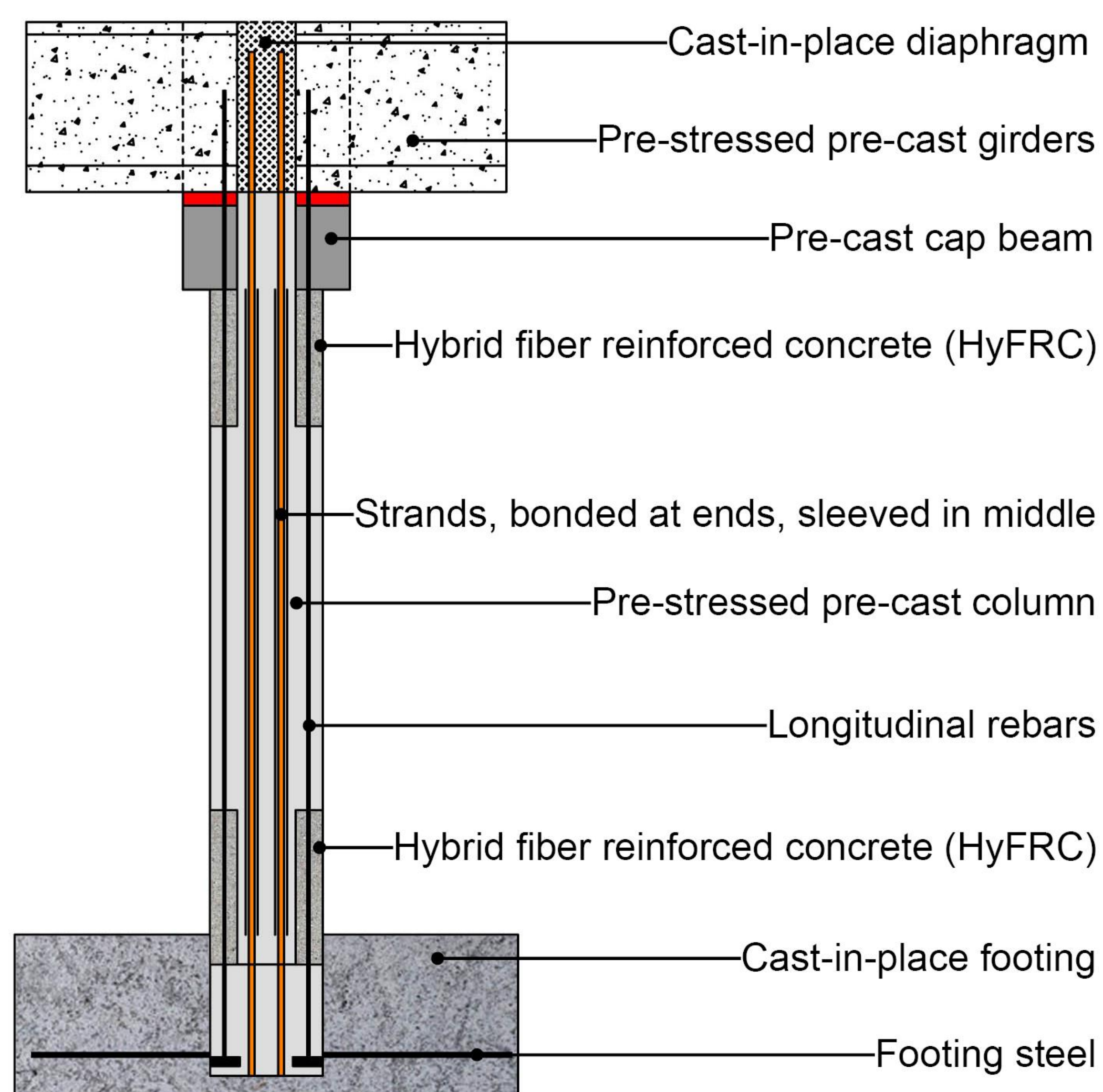
### Goals

1. Accelerated construction
2. Reduced post-earthquake displacements
3. Reduced damage during earthquake
4. Better corrosion resistance compared with conventional reinforced concrete columns
5. Improved quality control

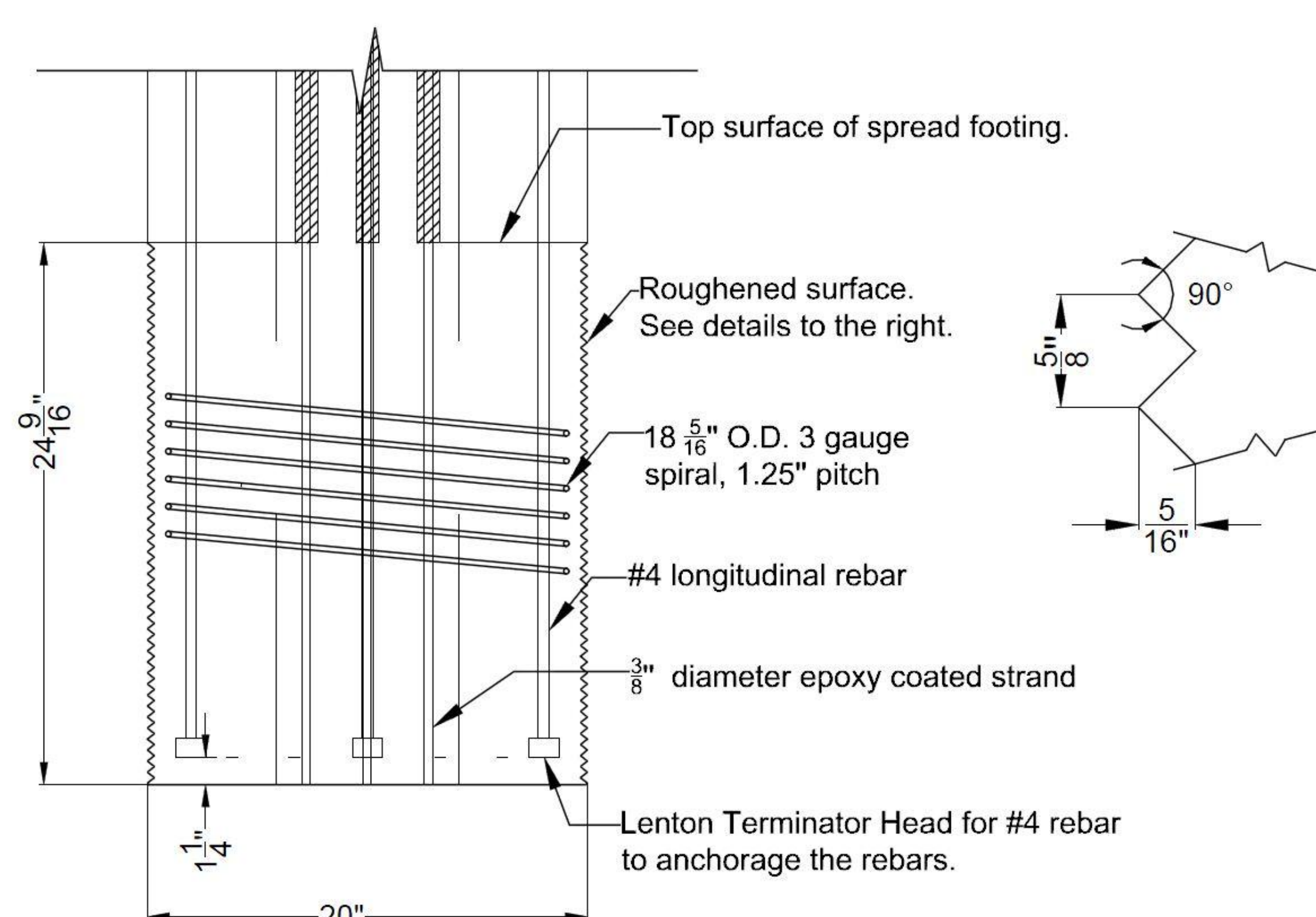
### Strategies

1. Precast columns and cross-beams
2. Unbonded-pretensioning for re-centering
3. Use Hybrid Fiber Reinforced Concrete (Ostertag)
4. Use epoxy-coated strands and stainless steel rebar
5. Build in precast plant

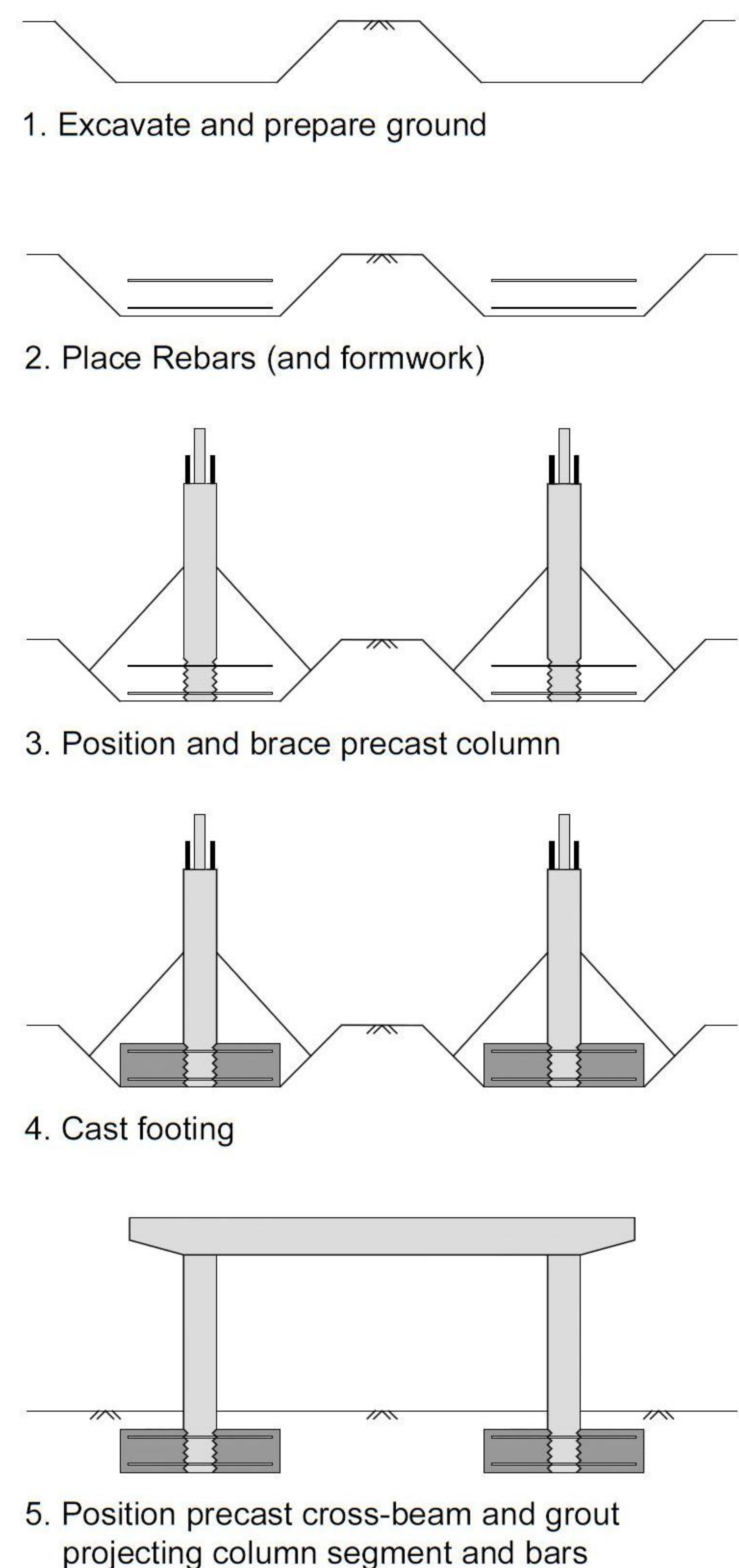
### Elevation



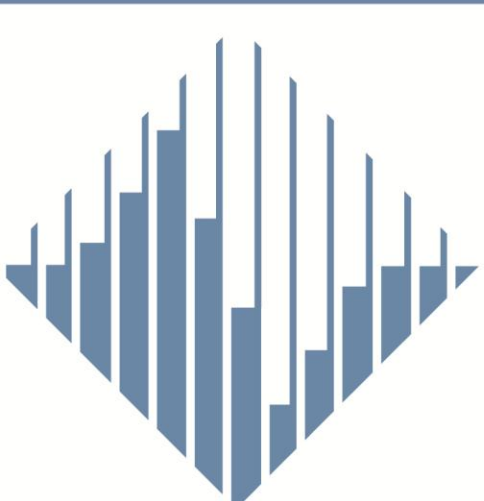
### Socket Connection



### Erection Sequence



This project was made possible with support from:



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