

PCMAC



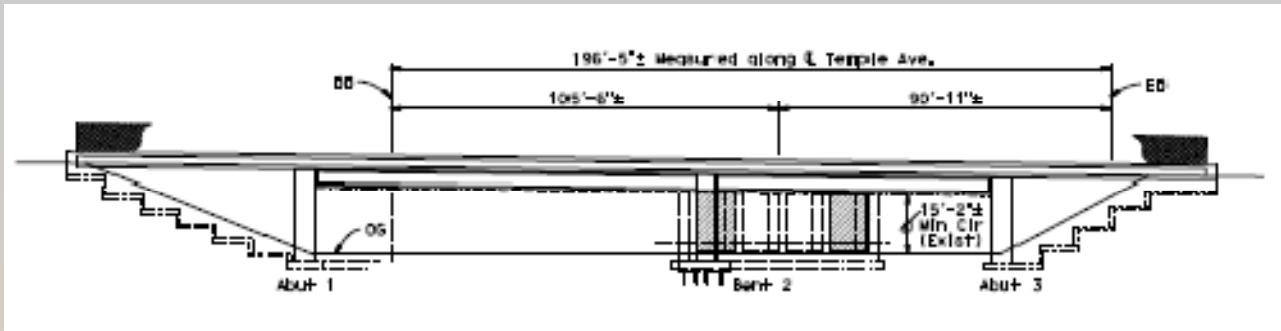
Caltrans Accelerated Bridge Construction (ABC) Projects- Precast Bent Cap Alternatives

Paul C. Chung, PE

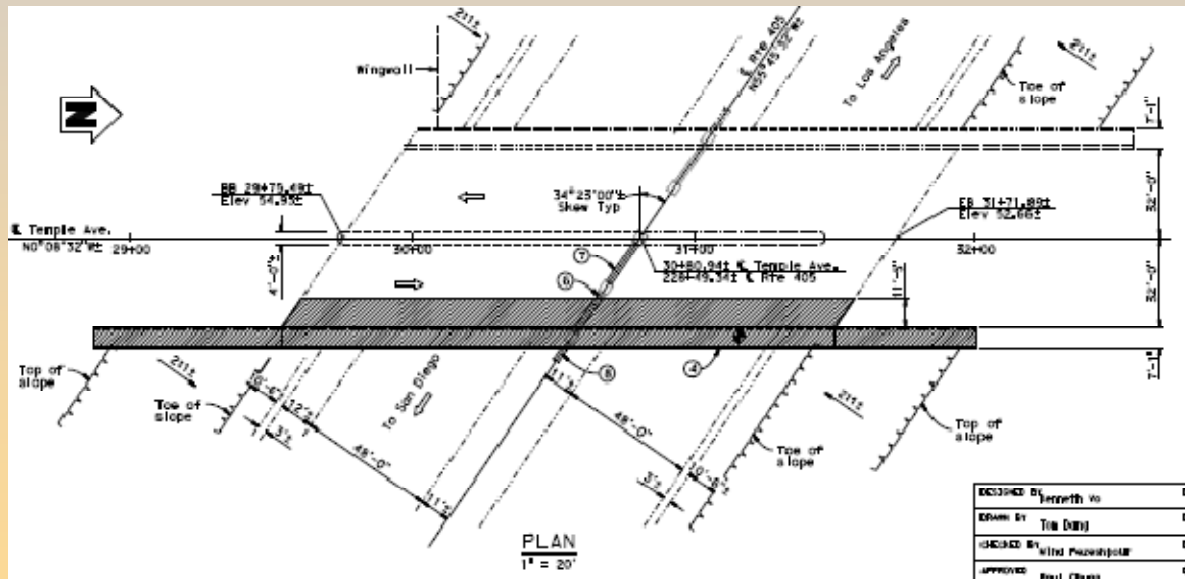
ABC Council

California Department of Transportation

I-405: Temple Ave OC (Rehab)-

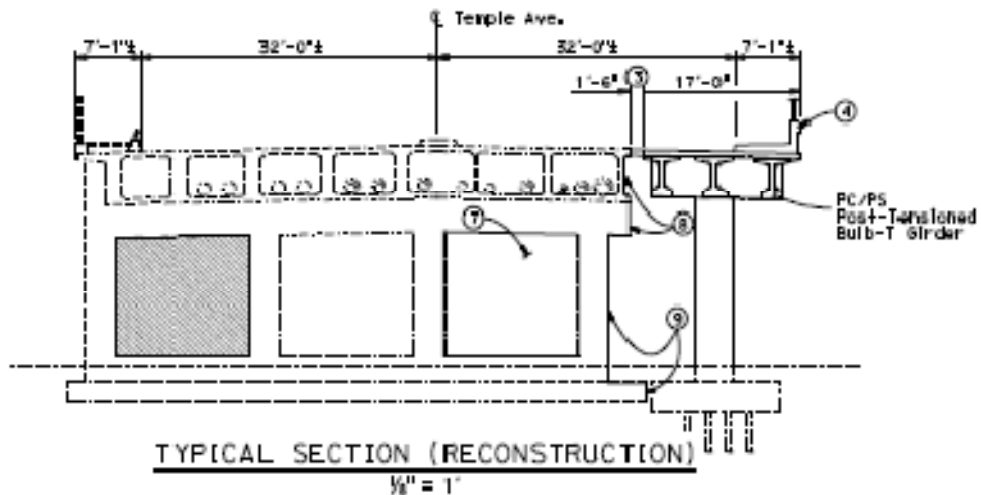
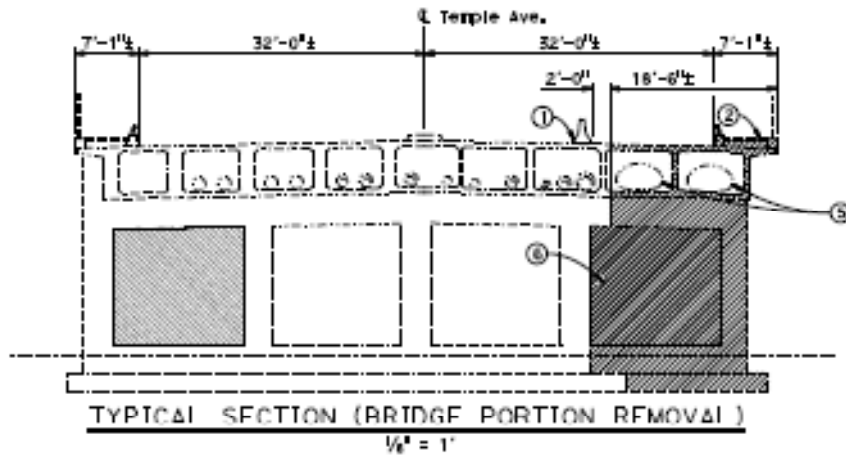


Elevation



Plan

I-405: Temple Ave OC (Rehab)-



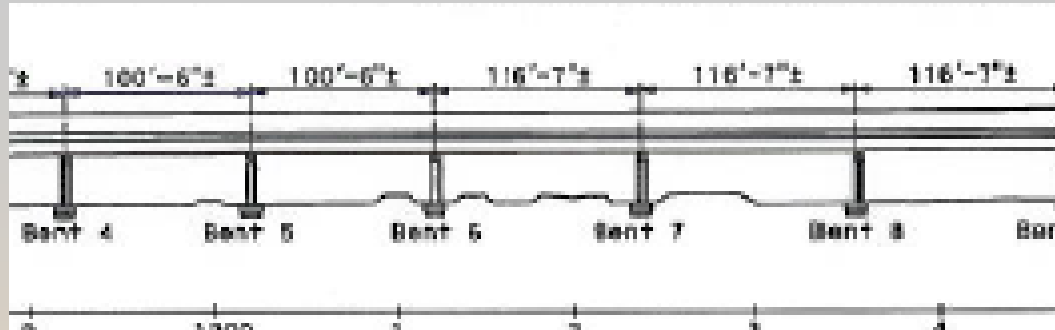


I-405: Temple Ave OC (Rehab)-

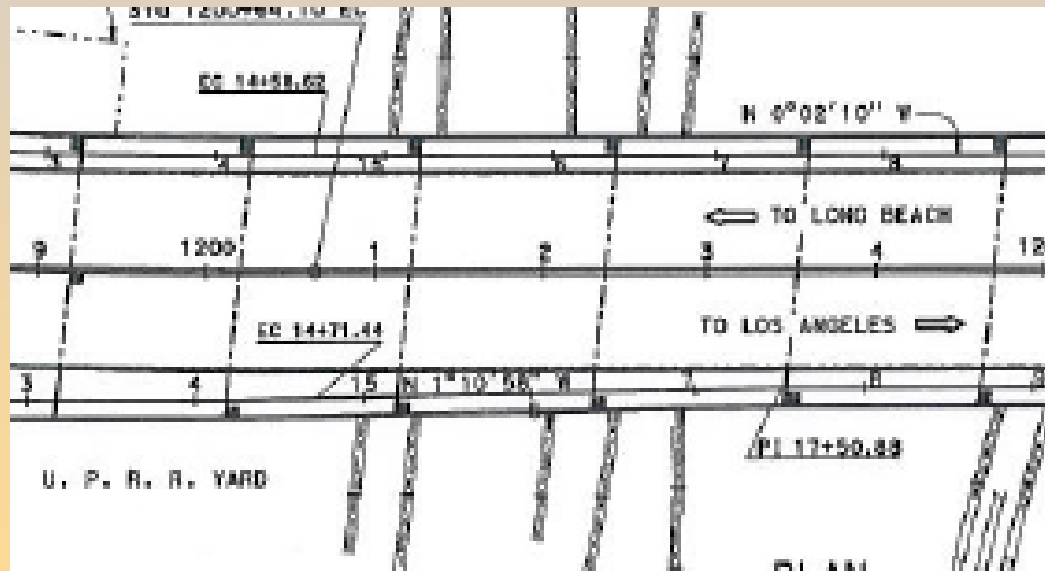
- Proposed strategies- current
 - Bulb-Tee Girders
 - 2 CISS piles shafts
 - Bent Cap:
 - 1) CIP Integral Cap:
 - require falsework and temporary support for the precast girders, need work space, thus shifting of HOV + mixed-use lanes.
 - 2) Inverted T-Cap: Precast or CIP?
 - CIP: require falsework that needs work space, thus shifting of HOV + mixed-use lanes
 - Precast: minimum space required, need to implement details and design from research



I-710: East Yard OH (widen)



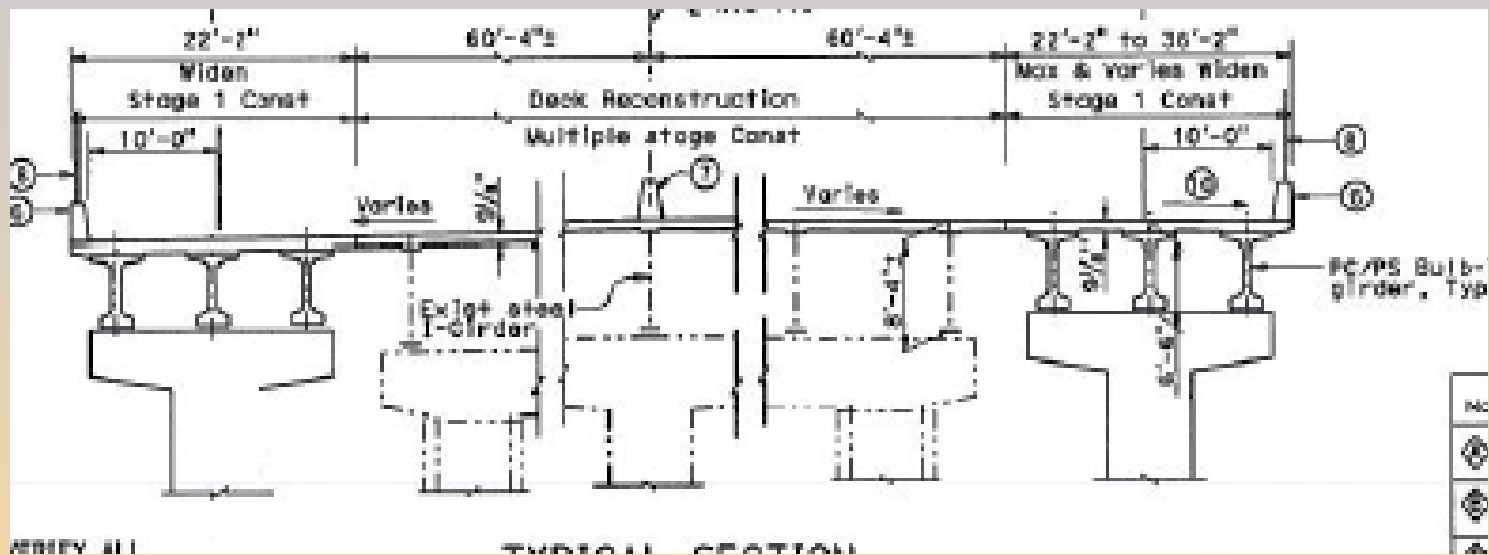
Elevation



Plan

I-710: East Yard OH (widen)

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Typical Section



I-710: East Yard OH (widen)

- Proposed strategies- current
 - Bulb-Tee Girders
 - Pile Shaft
 - Bent Cap:
 - 1) CIP Drop Cap: require falsework support, need work space, thus shoe-fly for UP Railroad track
 - 2) Precast Drop Cap: No falsework needed, and no impact to railroad

Precast Bent Cap Research- NCH 12-74

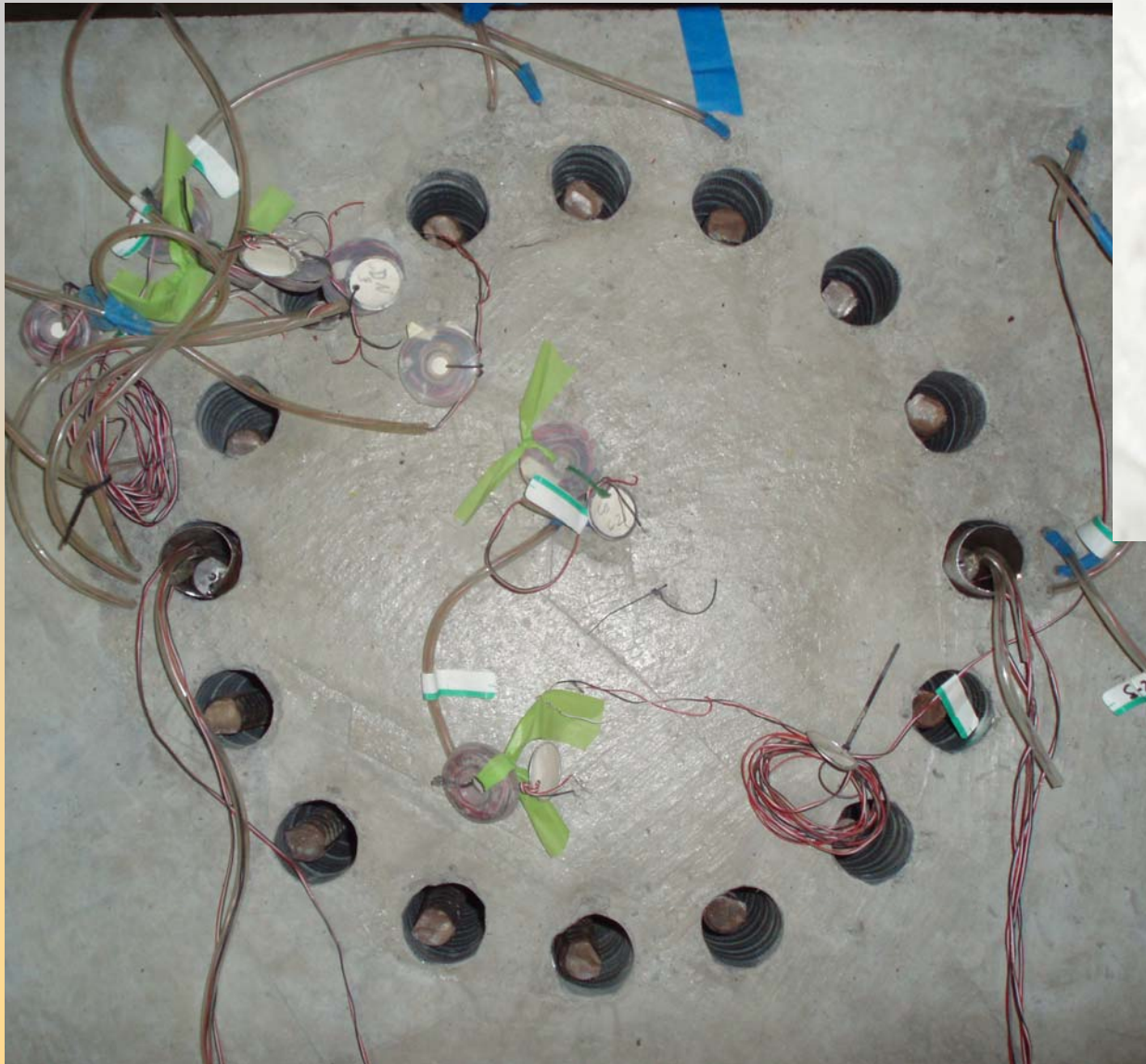


Precast Bent Cap Research- NCH 12-74



Precast Bent Cap Research- NCH 12-74

Offset Column Bars in Ducts





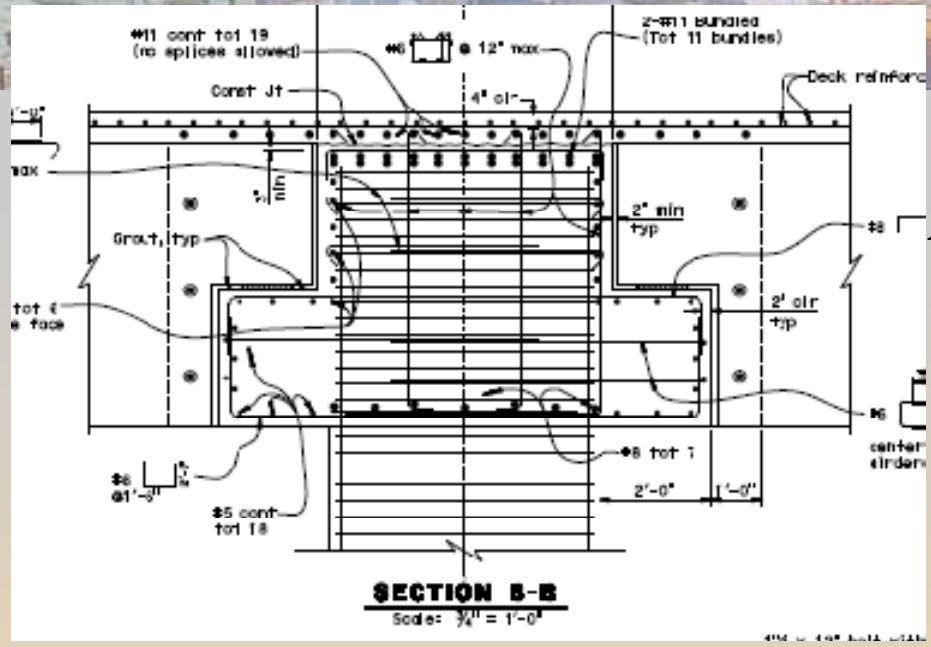
Research: Seismic Performance of an I-Girder to Inverted-T Bent Cap Connection



Figure 1: A view of the test unit



As-built Connection



Proposed Strands Connection

