

Session 25

Henry Bollmann

FL. Dept. of Transportation CO

Standards for Temporary Bridges

Topic Description

New standard detail sheets are introduced for use in preparing plans for temporary bridges. Design considerations are discussed.

Speaker Biography

Henry Bollmann is a Senior Structures Design Engineer working in the FDOT Central Office, Tallahassee Fl. Henry received his MSCE degree from the University of Florida in 1974 and has spent his entire professional career working in many facets of bridge engineering while focusing on design.

Temporary Bridge Details



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Escambia Bay – I10



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Standard Index Temporary Detour Bridge Details

- Index 21600 – Temporary Detour Bridge
General Notes and Details
- Index 21610 – Temporary Detour Bridge
Details – Timber Pile Foundations
- Index 21620 – Temporary Detour Bridge
Details – Steel H Pile Foundations
- Index 21630 – Temporary Detour Bridge
Details – Steel Pipe Pile Foundations

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Alternates Considered

- Timber – 12” dia. Piles and 12” sq. Cap Beam
- Steel H Section – HP14x73 Piles and Cap Beam
- Steel Pipe Pile – 24” dia.

Span Arrangements

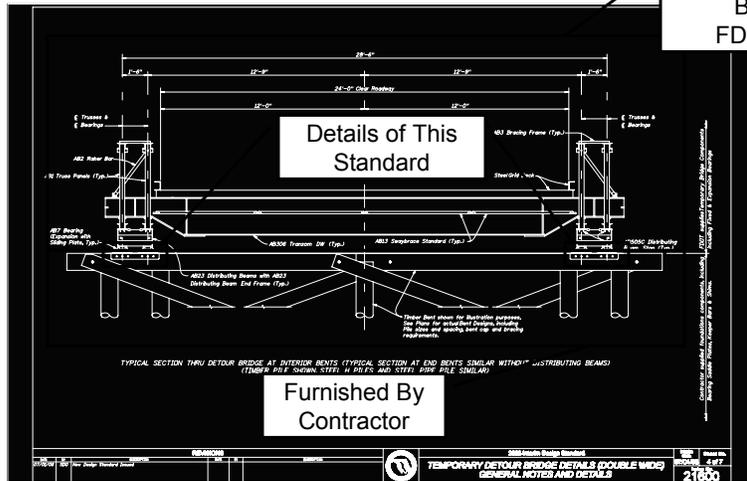
- Span Lengths – in 10’ increments
 - 30’ minimum span length
 - 60’ maximum span length
- 360’ maximum continuous length between expansion joints
- Adjacent span length not to exceed 6:10.
Prevents uplift at the bearing of the shorter span due to Live Load.

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- Design the temporary foundations according to current AASHTO LRFD Bridge Design Specifications.
 - Use Dead Load Factor = 1.25
Live Load Factor = 1.35
 - Selection of the temporary pile type should consider the driving capacity requirements of the production piles on the permanent bridge, free standing height, water levels if present and soil conditions.

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- The temporary bridge can only accommodate a constant grade, i.e. cannot be placed on a vertical curve.
 - FDOT will supply details for Grade Beams, Back Wall and Bearing Details

Transverse Cross Section

Furnished
By
FDOT



Furnished By
Contractor

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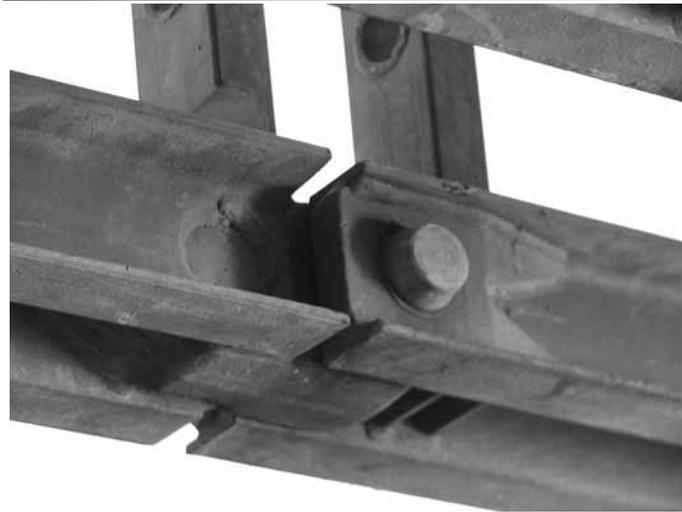
Transom Beams



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Bottom Chord – Connection Pin



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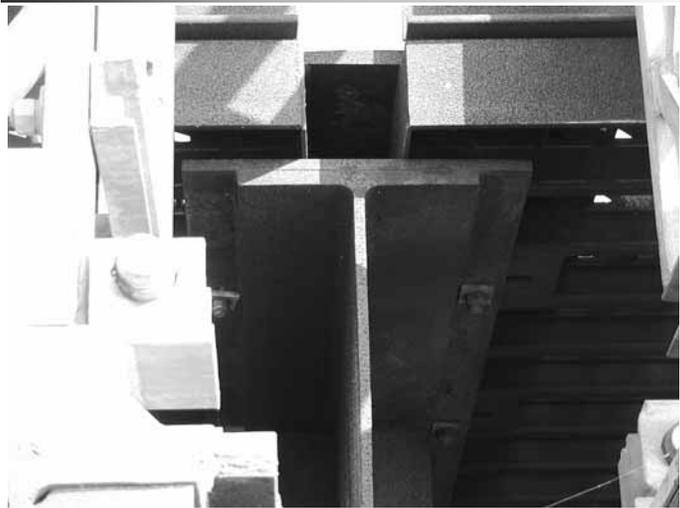
Expansion Joint



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Expansion Joint



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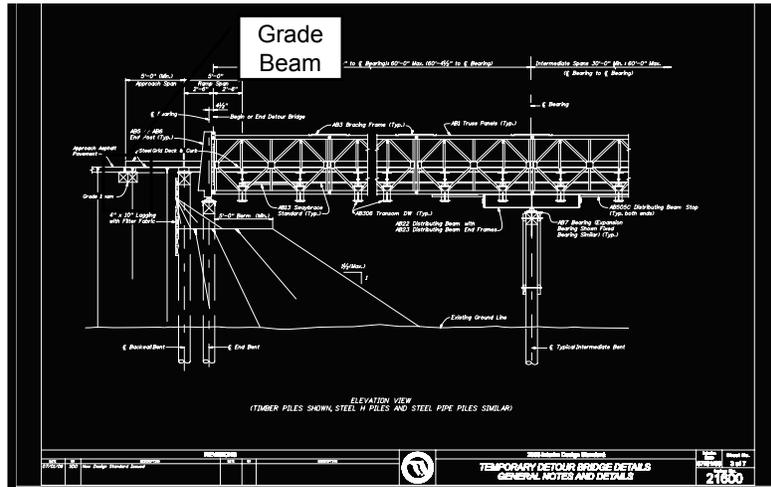
Expansion Joint



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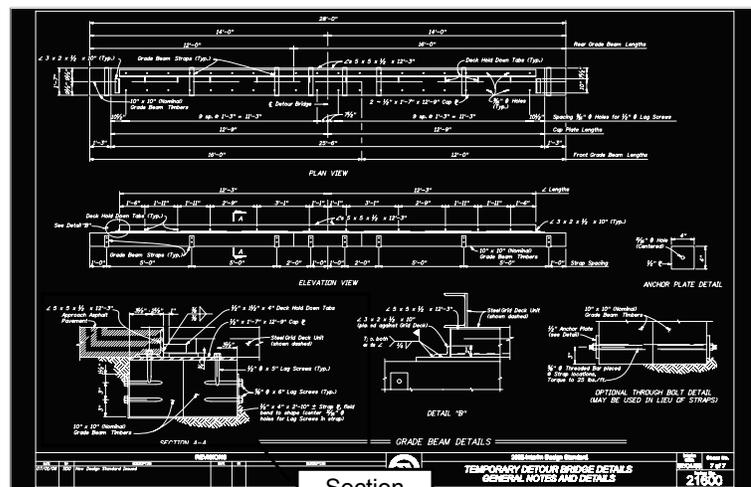
Elevation Acrow Span, Backwall Bent & Grade Beam



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Grade Beam Detail Sheet

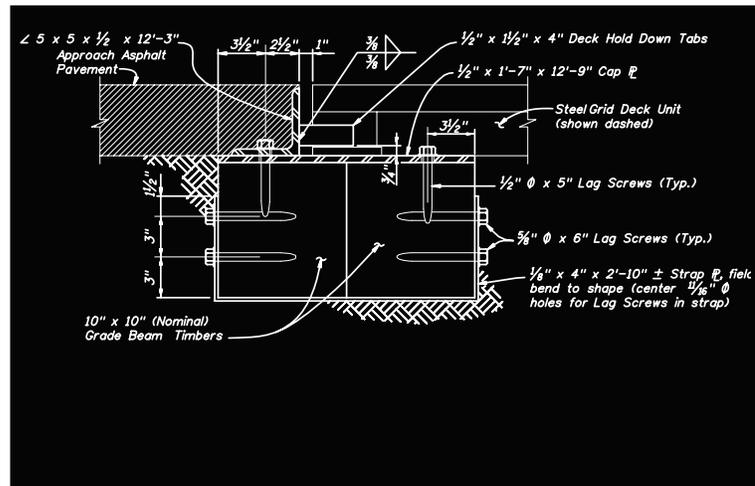


Section
A-A

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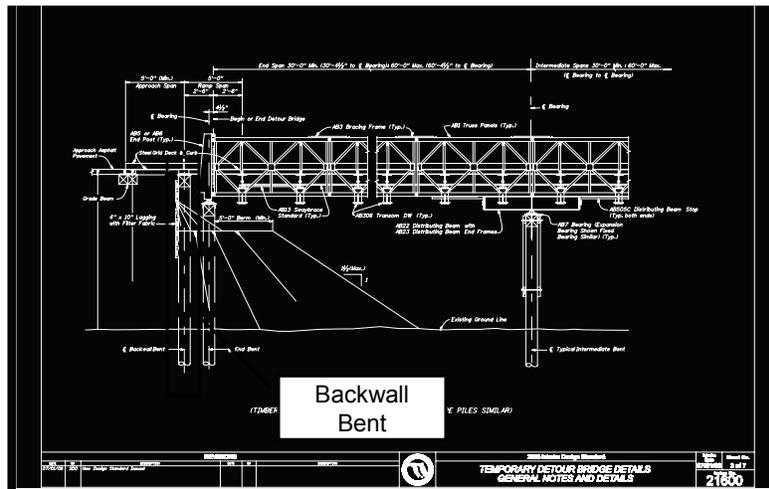
Section A-A Grade Beam Detail



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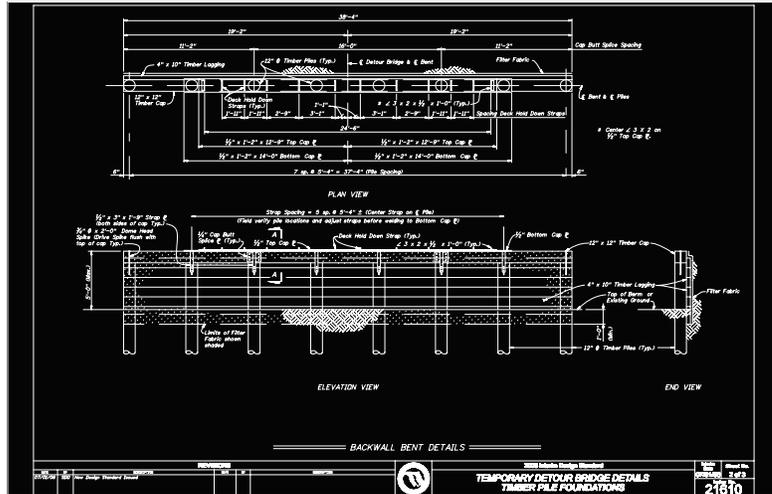
Elevation Across Span, Backwall Bent & Grade Beam



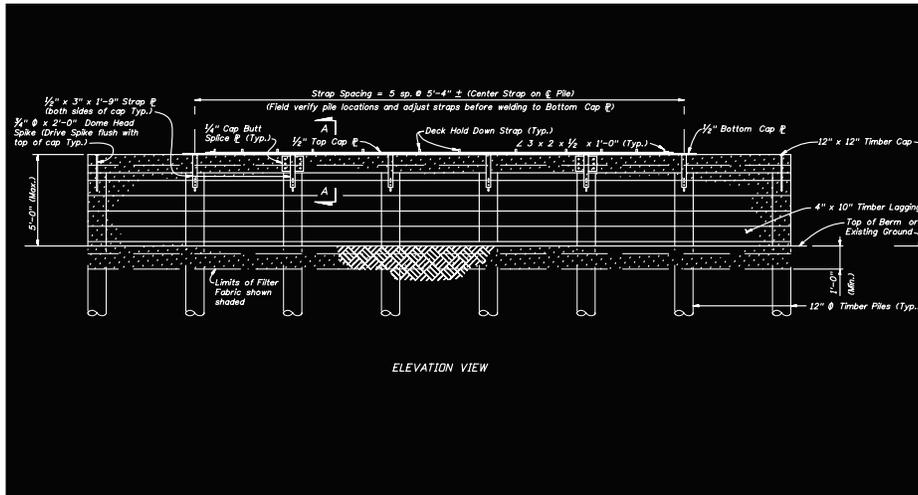
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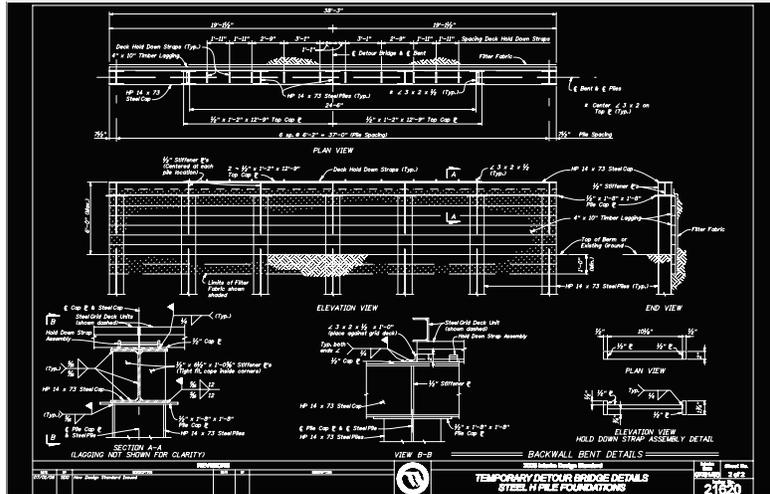
Timber Pile Backwall Bent



Timber Pile Backwall Bent



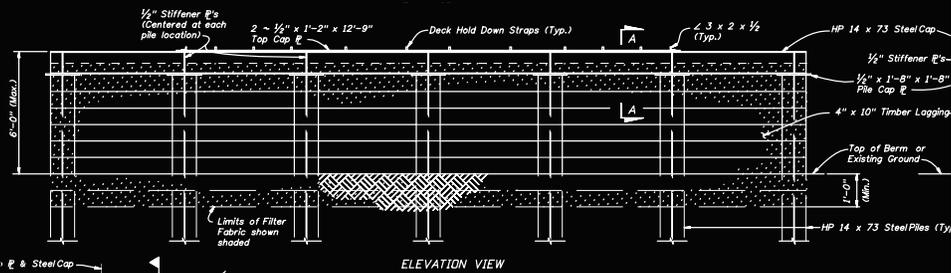
Steel Pile Backwall Bent



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Steel Pile Backwall Bent



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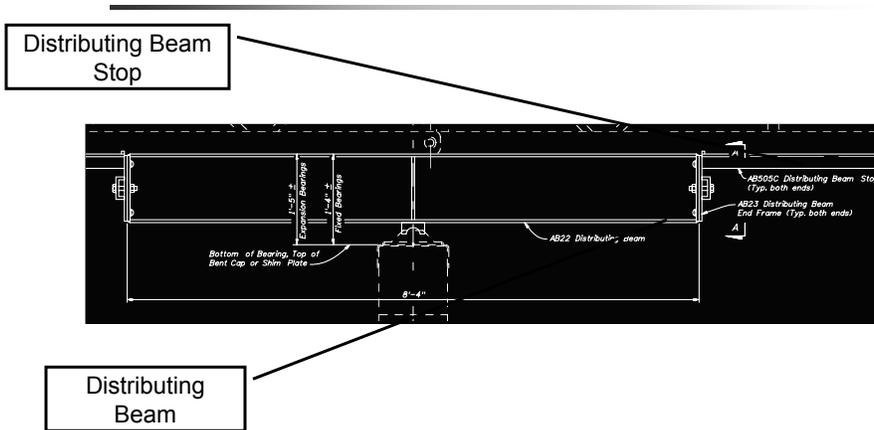
Distributing Beam



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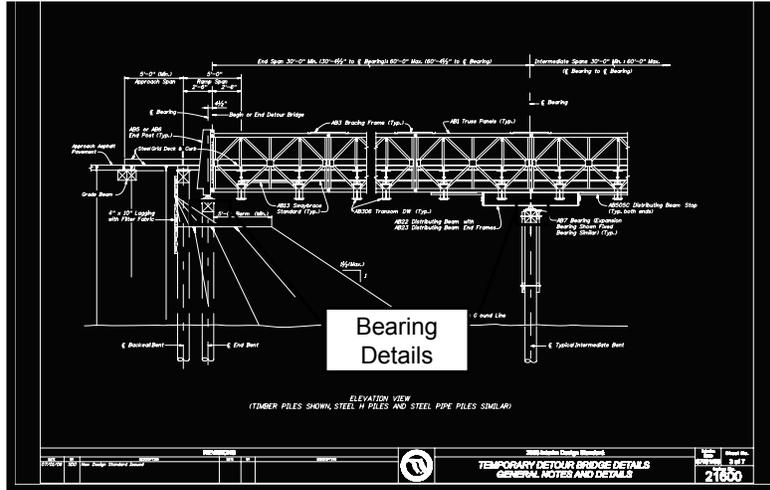
Distributing Beam



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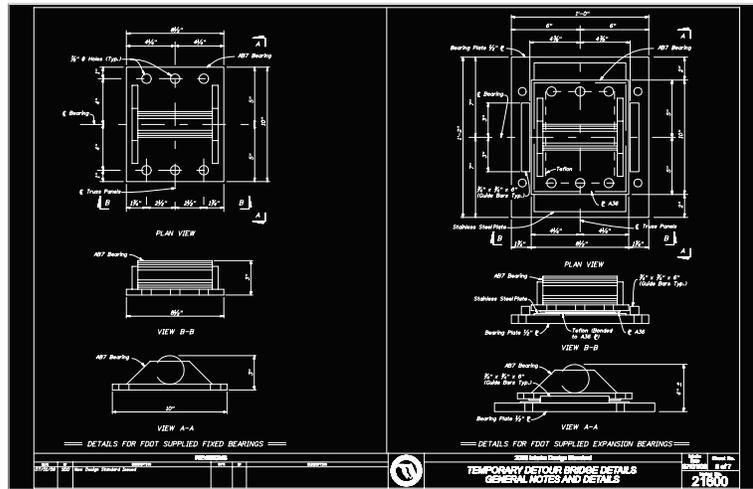
Elevation Across Span, Back Wall Bent & Grade Beam



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Fixed & Sliding Bearings



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Double Sliding Bearings



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Double Sliding Bearings



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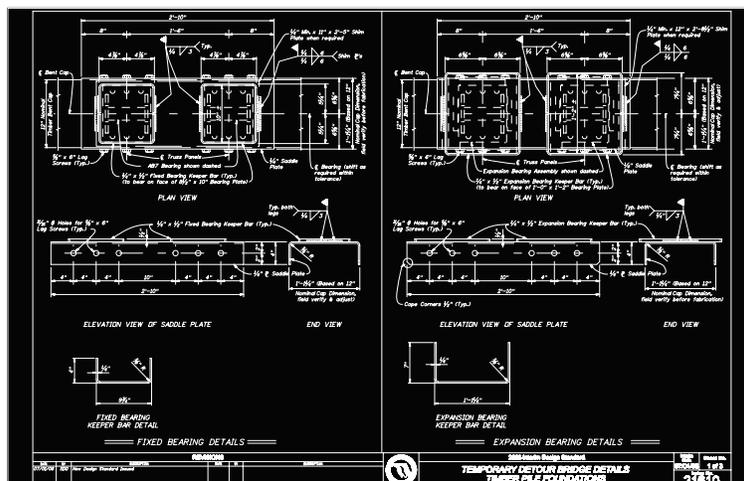
Sliding Bearing



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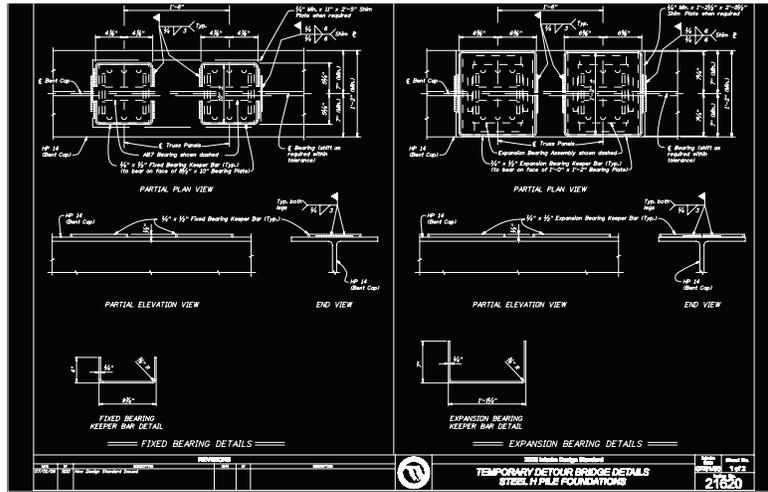
Timber Bent – Bearing Details



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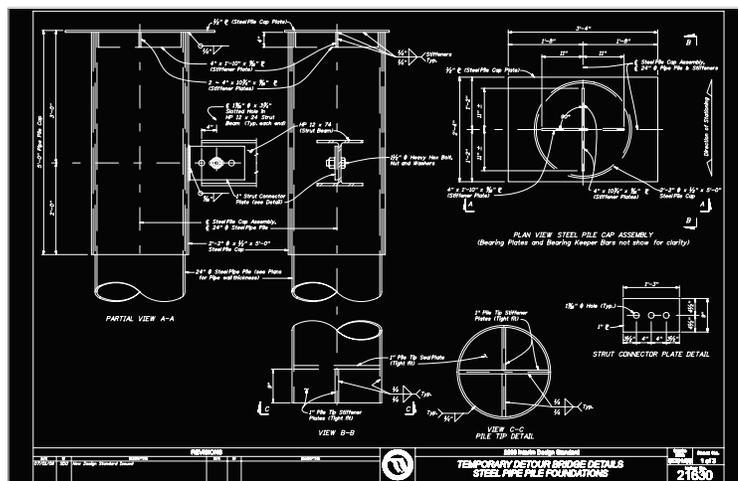
Steel H Pile Bent – Bearing Details



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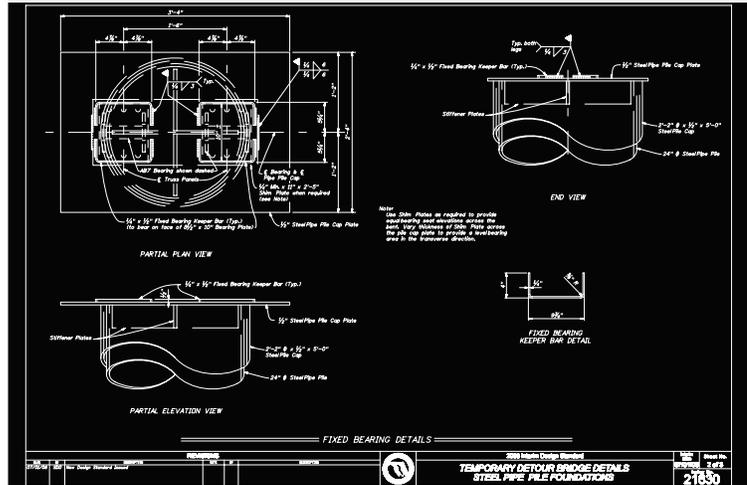
Steel Pipe Pile Cap Details



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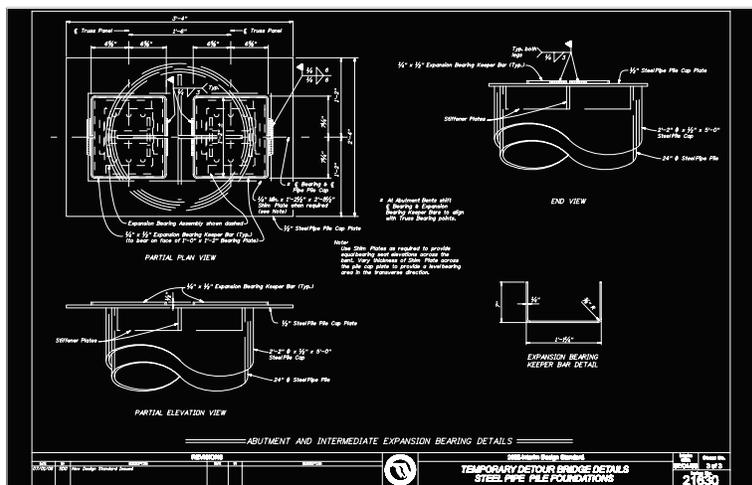
Steel Pipe Pile Fixed Bearing Details



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Steel Pipe Pile Sliding Bearing Details



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- This Standard will be posted on the internet as an Interim at the following site.
 - www.dot.state.fl.us/rddesign/rd/2006/20Interims/2006/20Interims.htm
 - Should you have any comments or questions please contact us.
 - Charles Boyd 850-414-4275
 - Jerry Hocking 850-414-4268

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Questions / Comments



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