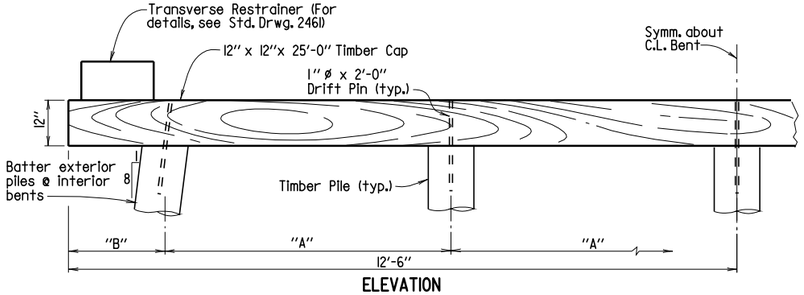
| DATE ISSUED | DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|---|
| 10/18/96 | — | 10/18/96 | | | 6 | ARK. | | | |
| | 4/10/03 | | | | JOB NO. | | | | |
| | | | | | ① | | TEMP. BRIDGE | | 2462 |

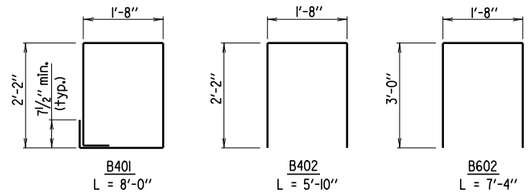
| S1 + S2 * | No. of Piles | Spacing @ "A" | Overhang "B" |
|---|---|---|---|
| 0 to 31' | 4 | 3 @ 6'-0" | 3'-6" |
| 31' to 40' | 5 | 4 @ 5'-0" | 2'-6" |
| 40' to 52' | 6 | 5 @ 4'-0" | 2'-6" |
| 52' to 63' | 7 | 6 @ 3'-7" | 1'-9" |

* S = Span Length




ELEVATION

## TIMBER CAP & PILES




## BENDING DIAGRAMS FOR POURED CAP



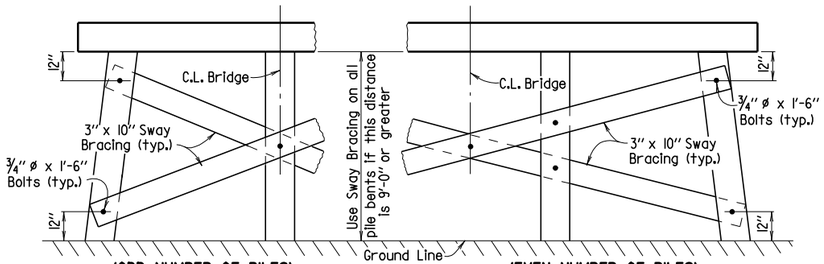

ELEVATION

## CAST IN PLACE CAP & HP 12 X 53 PILES



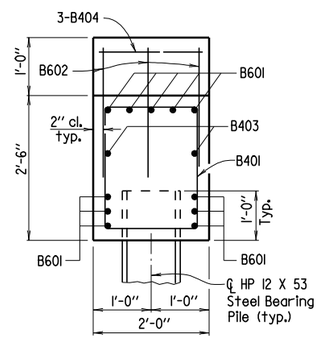

ELEVATION

## TOWER BENT - TIMBER CAP & PILES

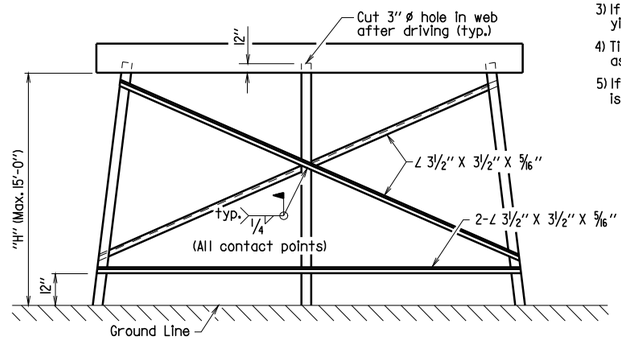



## DETAILS OF SWAY BRACING FOR TIMBER PILES

Note: Sway Bracing, if required, shall be used on both lines of piles for Tower Bents.



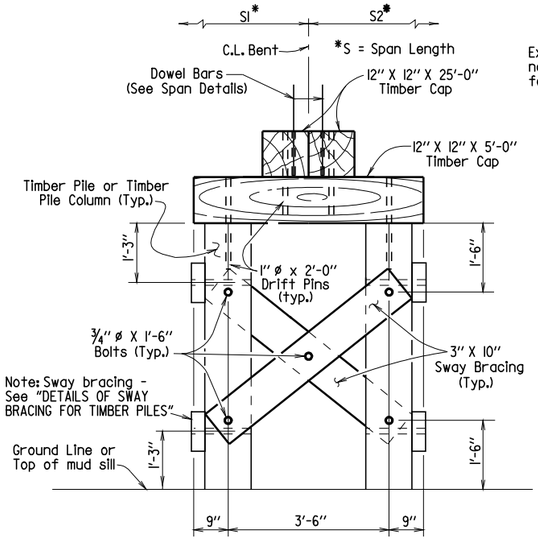

## VIEW B-B



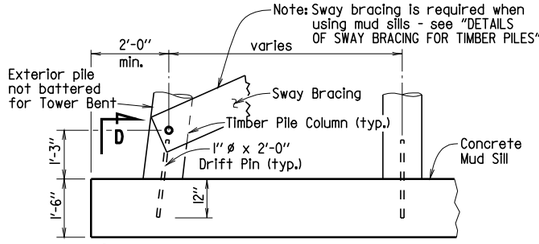

Note:
All bracing shall be cut and welded in the field. Each brace shall be furnished in one piece. Payment for any bracing required shall be considered incidental to Item 603 "Temporary Bridge Structure".

Omit bottom bracing where "H" is less than 10'. Omit all bracing where "H" is less than 5'.

## DETAILS OF BRACING FOR STEEL PILES

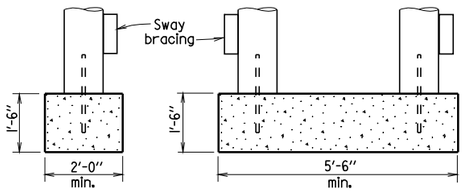



## SECTION C-C




D PART ELEVATION

## MUD SILL DETAILS




## SECTION D-D

(When bottom of cap to top of mud sill is 10'-0" or less)

## SECTION D-D

(When bottom of cap to top of mud sill is greater than 10'-0")

⚠1 Revised for 2002 AASHTO Design Specifications, 2003 AHTD Construction Specifications, and CPB seal, SWP 4-10-03 Ck'd by: CJF 4-10-03

## SELECTION OF BENT TYPES

These temporary bridge drawings provide the following bent types:
- Driven timber piles with timber cap.
- Driven steel HP 12X53 piles with cast in place concrete cap.
- Tower bent with driven timber piles and timber cap.
- Mud sill with timber pile columns and timber cap.
- Tower bent with mud sill and timber pile columns and timber cap.

Guidelines to be used in determining the appropriate bent type are:

1) Driven piles may be used at intermediate bents if a pile penetration of at least 15' below the ground line can be obtained. At end bents, a pile penetration of at least 5' below the bottom of cap is required. Pile penetration measurements at end bents can include embankment, but fill material may not be placed around intermediate bent piles in order to meet the 15' requirement.

2) If driven piles are used at intermediate bents and the distance from the bottom of cap to ground line exceeds 15' at any intermediate bent, tower bents must be used at the minimum rate of one tower bent for every 160' of total bridge length. Tower bent(s,) when required, shall be placed at the bent location(s) having the greatest distance from bottom of cap to ground line.

3) If piles cannot be practically driven at a bent, mud sills shall be used. All soft and yielding material shall be removed from the bearing area before placing the sill concrete.

4) Timber piles shall be used as columns in mud sills. The column spacing shall be the same as that used for driven timber pile bents for the appropriate span lengths involved.

5) If a mud sill is to be used and the distance from the bottom of cap to ground line is more than 10', a tower bent with mud sill must be used at that location.

### GENERAL NOTES

⚠1 DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges, 2002 Edition, with current interim specifications.

⚠1 CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 2003 Edition, with applicable Special Provisions and Supplemental Specifications.

SEISMIC PERFORMANCE CATEGORY: A

DESIGN LIVE LOADS: H 15-44 (No Overload). Impact was not included in the design of superstructure for timber bridges.

DESIGN DEAD LOADS: 50 lbs. per cu. ft. for lumber
150 lbs. per cu. ft. for concrete

Allowable Stress Design is used for the standard timber bridges. The allowable unit stresses used assume normal duration of loading for stress grades of sawn lumber and are as follows: fb= 1200 psi
fv= 85 psi

Concrete shall be Class S with a minimum 28 day compressive strength f'c= 3500 psi unless otherwise noted.

Reinforcing Steel shall conform to AASHTO M 31 or M 53, Grade 60 unless otherwise noted.

Structural Steel shall be AASHTO M 270, Grade 36 unless otherwise noted.

Timber piling shall comply with Section 818 of the Standard Specifications and shall be driven to a minimum bearing capacity of 20 tons per pile. Steel piling shall be HP12X53 and shall be driven to a minimum bearing capacity of 44 tons per pile.

Malleable or cast iron washers to be used under all bolt heads and nuts bearing on timber. Standard washers shall be provided under all bolt heads and nuts in connnection with concrete.

Bolts shall conform to the requirements of ASTM A 307. Minimum dimensions are shown for bolts, dowels, and drift pins.

Bent caps to be handled from points approximately 5' from the ends.

Timber material, regardless of species, must be of equal or better strength than no. 2 southern pine or douglas fir, graded by the standard grading rules. All timber widths and thicknesses are shown as nominal.

For additional notes concerning "Bridge End Protection System", see Dwg. No. 2465.

Unless otherwise noted, the Temporary Bridge Structure shall comply with and be paid for in accordance with Section 603.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

SHEET 2 OF 2

# DETAILS OF STANDARD TEMPORARY BRIDGE STRUCTURE TIMBER SPANS 20'-0" ROADWAY WIDTH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 10-18-96
CHECKED BY: GEC DATE: 10-18-96
DESIGNED BY: Std. DATE: ——
SCALE: NO SCALE

BRIDGE NO.

DRAWING NO. 2462

B2462.STD