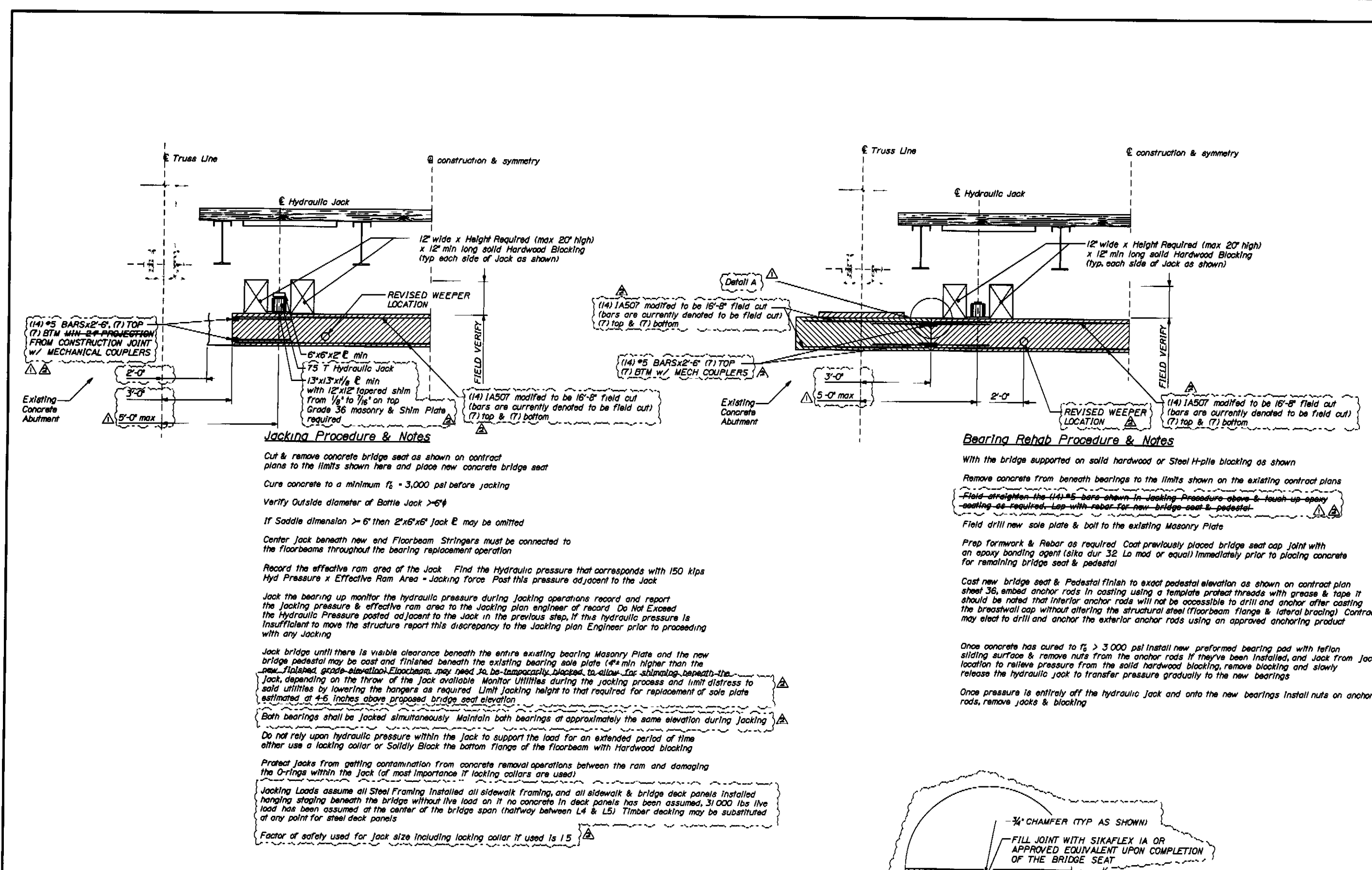


Filename: J1\_25\_06\_09\_RichmondBrgProc Structrals.Dwg Date: 5/17/2006



**Jacking Procedure & Notes**

Cut & remove concrete bridge seat as shown on contract plans to the limits shown here and place new concrete bridge seat

Cure concrete to a minimum  $f_c = 3,000$  psi before jacking

Verify Outside diameter of Bore Jack  $> 6"$

If Saddle dimension  $> 6"$  then 2x6x6 Jack E may be omitted

Center Jack beneath new end Floorbeam Stringers must be connected to the Floorbeams throughout the bearing replacement operation

Record the effective ram area of the jack. Find the hydraulic pressure that corresponds with 150 kpa (107.5 psi) Pressure x Effective Ram Area = Jacking Force. Plot this pressure on opposite to the Jack

Jack the bearing up monitor the hydraulic pressure during jacking operations record and report the jacking pressure & effective ram area to the jacking plan engineer of record. Do not Exceed the Hydraulic Pressure plotted on opposite to the Jack in the previous step. If the hydraulic pressure is insufficient to raise the structure report this discrepancy to the Jacking Plan Engineer prior to proceeding with any jacking

Jack bridge until there is visible clearance beneath the entire existing bearing Masonry plate and the new bridge seat(s) may be cast and finished beneath the existing bearing sole plate (4'-6" min higher than the existing bearing sole plate). Concrete may need to be temporarily placed to allow for adjustment, smooth the joint utilizing the hangers as required. Limit jacking height to that required for replacement of sole plate (bearing) at 4'-6" inches above proposed bridge seat elevation

(Bore bearings shall be jacked simultaneously maintain both bearings at approximately the same elevation during jacking)

Do not use hydraulic pressure within the Jack to support the load for an extended period of time either use a locking collar or Solidly Block the bottom Flange of the Floorbeam with Hardwood blocking

Practice Jacks from getting contamination from concrete removal operations between the ram and damaging the Orings within the Jack (if most important if locking collars are used)

Jacking Loads assume all Steel Framing Installed at sidewalk Framing and all sidewalk & bridge deck panels installed hanging straight beneath the bridge without live load on it. No concrete in deck panels has been assumed. 8,000 lbs live load has been assumed at the center of the bridge span (halfway between L4 & L5). Timber decking may be substituted if any point for steel deck panels

Factor of safety used for Jack size including locking collar if used is 1.5

**Bearing Rehab Procedure & Notes**

With the bridge supported on solid hardwood or Steel Hallow blocking as shown

Remove concrete from beneath bearings to the limits shown on the existing contract plans

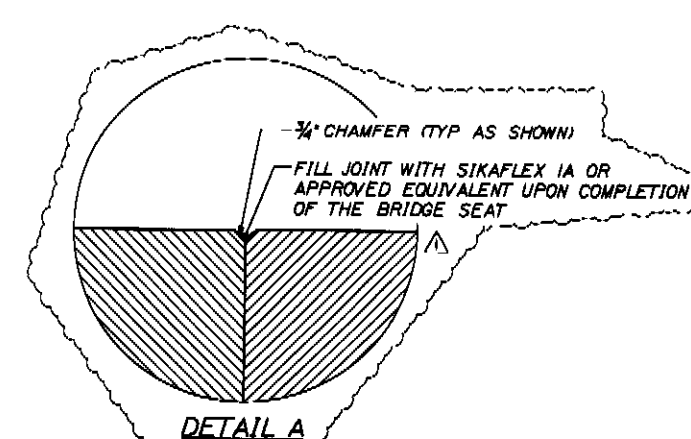
Field drill new sole plate & bolt to the existing Masonry plate

Prep formwork & Rebar as required. Cast previously placed bridge seat cap joint with an epoxy bonding agent (also dur. 35. La mod or equal) immediately prior to placing concrete for remaining bridge seat & pedestal

Cut new bridge seat & Pedestal Finish to exact pedestal elevation as shown on contract plan sheet 36, embed anchor rods in casting using a helipole anchor threads with grease & tape to should be noted that interior anchor rods will not be accessible to drill and anchor after casting the structural cap without affecting the structural steel (Floorbeam Flange & lateral bracing). Contractor may elect to drill and anchor the exterior anchor rods using an approved anchoring product

Once concrete has cured to  $f_c > 3,000$  psi install new preformed bearing pad with helix slitting surface & remove nuts from the anchor rods if they've been installed, and Jack from jacking location to relieve pressure from the solid hardwood blocking, remove blocking and slowly release the hydraulic jack to transfer pressure gradually to the new bearings

Once pressure is entirely off the hydraulic jack and onto the new bearings install nuts on anchor rods, remove jacks & blocking



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**RICHMOND, BRIDGE ST OVER THE WINDOSKI RIVER**  
**JACKING & BRG REPL PROCEDURE**

**SHEET NUMBER**  
**J1**