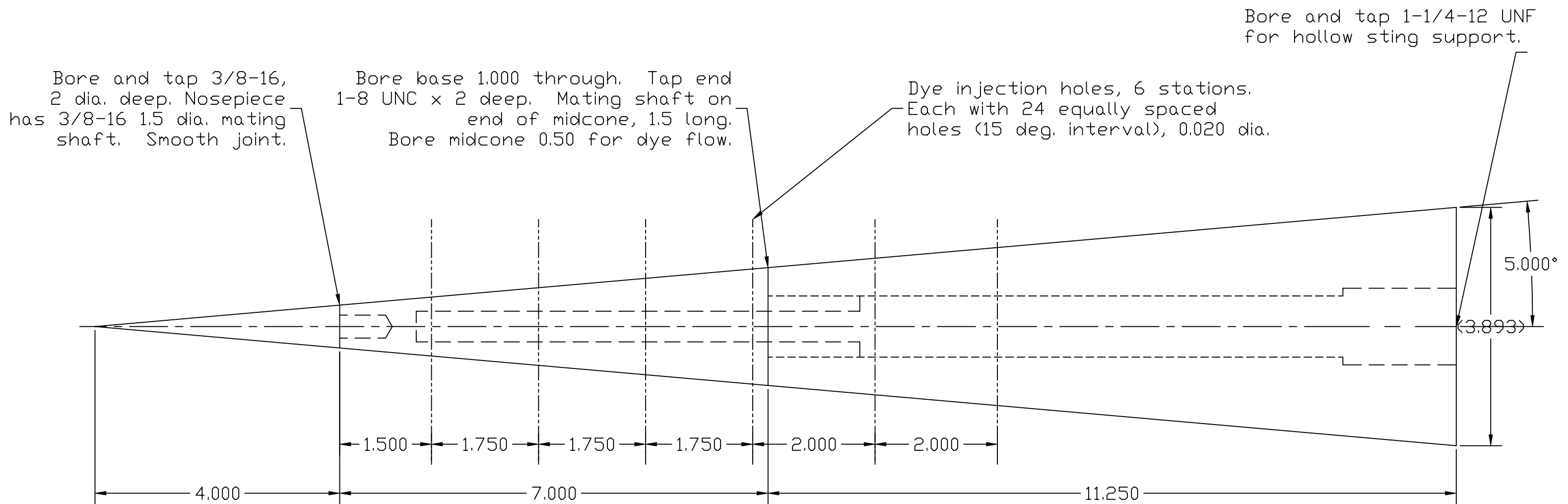


**SPS Note, 5 Feb. 2004. Block every other dye hole with RTV. Too much dye is coming out, clouds the tunnel too fast, when using pure dye. Also try diluting the dye.**



Notes:

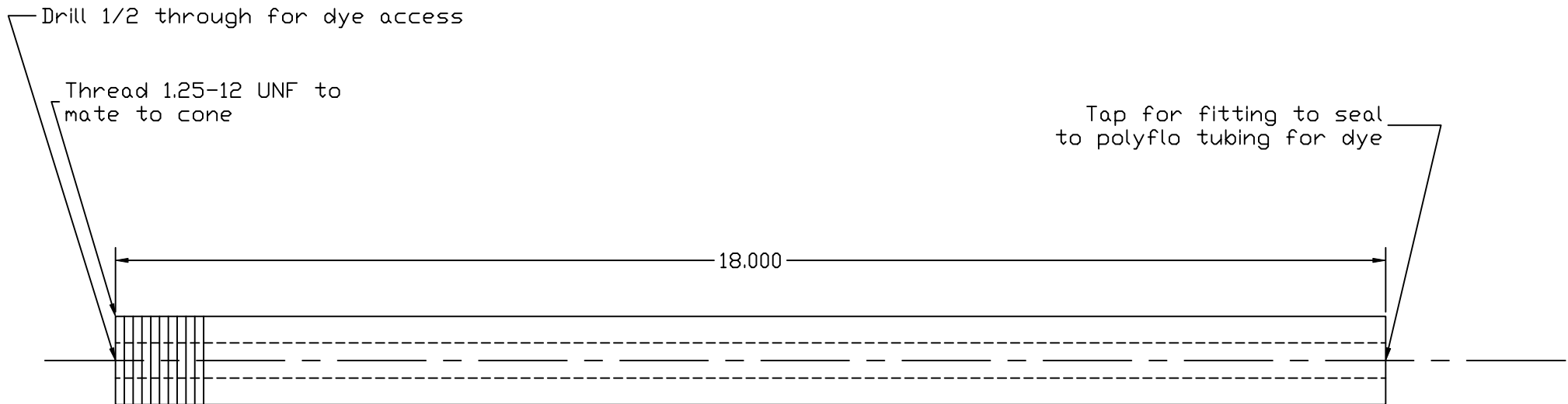
1. Seal between sections by putting RTV on threads?

Design for 5-deg. Forebody Cone for Water Tunnel.  
 File forebody-cone.dwg. Material: aluminum, black anodize exterior after fabrication. After Bridges, AIAA 93-2960. S.P. Schneider, Purdue University, 765-494-3343, 4 March 2003. Dimensions in inches.

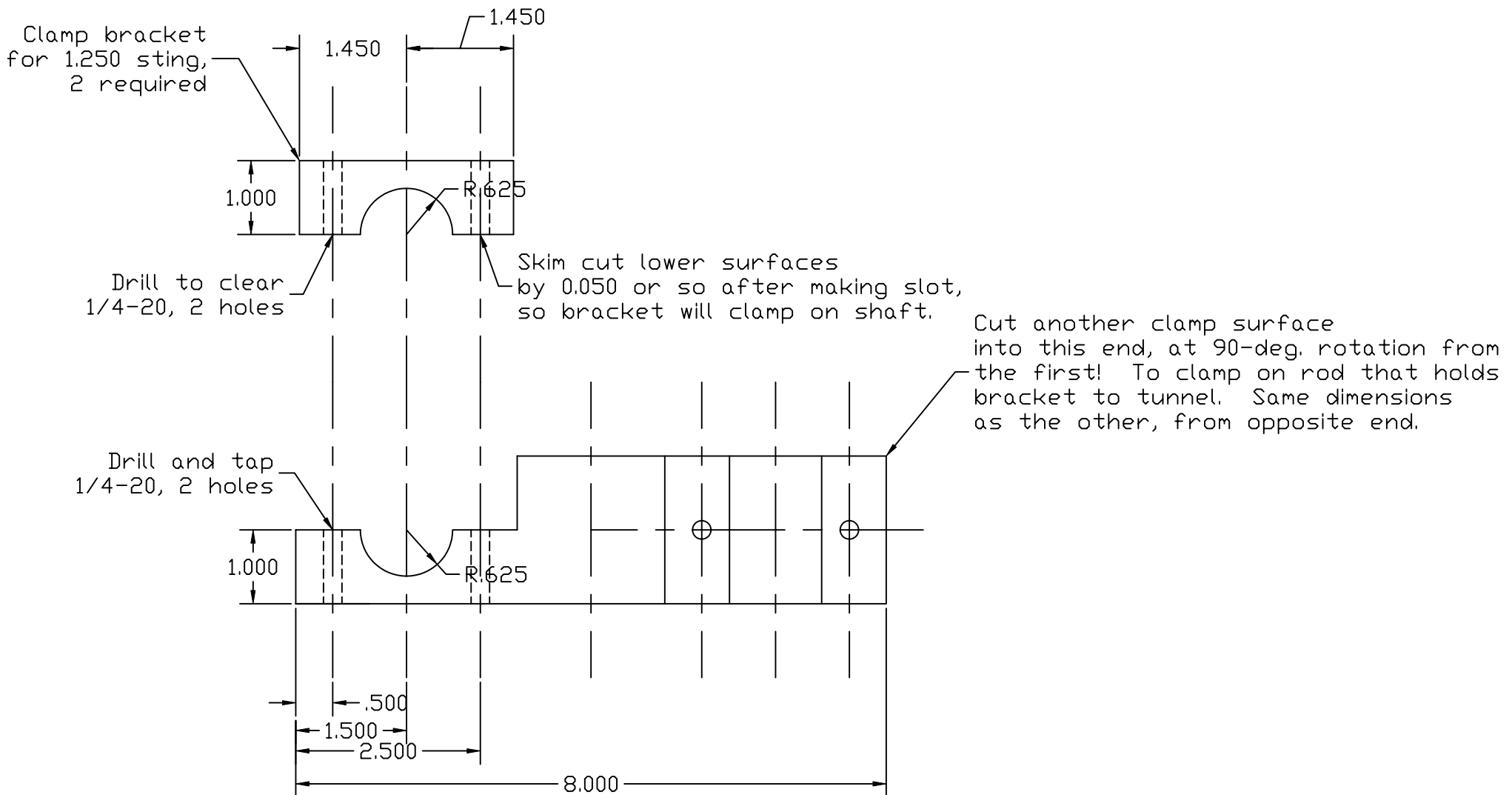
Notes:

- 1) Test section 20 inches high. Bridges (AIAA 93-2960) used AOA of 30-60 deg. Longest sting needed at 30 deg. to clear water. Cone is 22.25 inches. If tip as low as 4 inches from bottom,  $16/\sin(30 \text{ deg.}) = 32$  inches length needed. Sting as long as 10 inches. Plus clear water by 3 inches, adds 6 inches, need about 16 inches.
- 2) Drawing cone-stingsupport.dwg.

Sting for Forebody-Cone for Water Tunnel.  
AAE520 Experiment 2. S.P. Schneider, 11-26-2003.  
Material: 1.250-dia. stainless steel rod stock,  
preferably centerless ground.

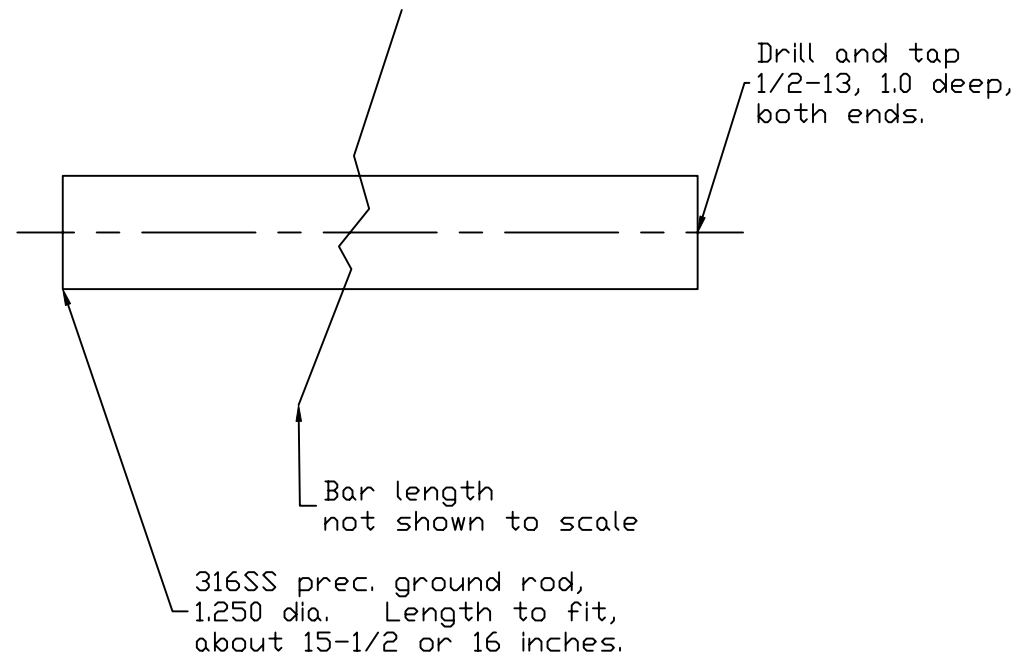
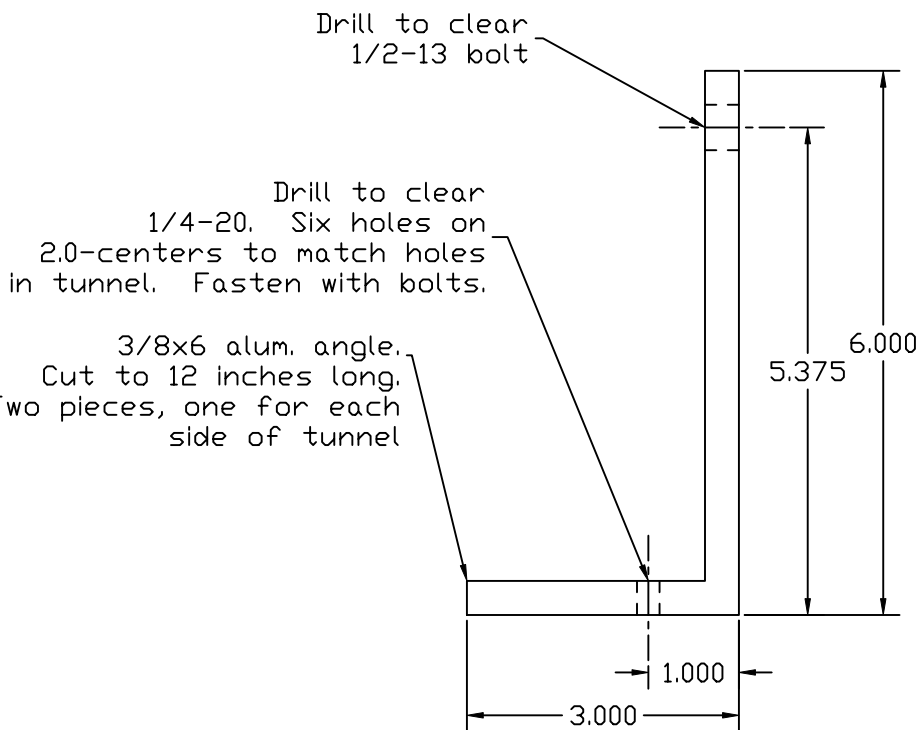


Strut for Forebody-Cone for Water Tunnel.  
 AAE520 Experiment 2. S.P. Schneider, 11-26-2003.  
 Material: 2x2x8 stainless steel bar stock.



Support Bar for Water Tunnel.  
 AAE520 Experiment 3. S.P. Schneider, 12-1-2003.  
 Material: 3/8x6 6061 alum. angle and  
 1.250 stainless steel precision rod.

Notes:  
 1. Straighten angles at side of tunnel  
 before attaching to tunnel.



Mount large old traverse streamwise under test section. Support using angle iron bolted to tunnel frame. Drill multiple holes in tunnel frame to allow adjusting height of assembly.

**SPS Note 5 Feb. 2004. Support system changed to jacks per MC.**

LDV Support for Water Tunnel. S.P. Schneider, 5 Feb. 2003. Material: plywood, for internal damping. Paint or varnish to avoid humidity absorption. Dimensions in inches, approximate. Rev. 7 Feb 2003 to narrow gap around tunnel.

Plywood box beam. 12 deep. LDV optics breadboards to mount on top on either side of tunnel. Box beam supported on large old traverse, adjusts streamwise.

