



Potential A1010  
Bridge

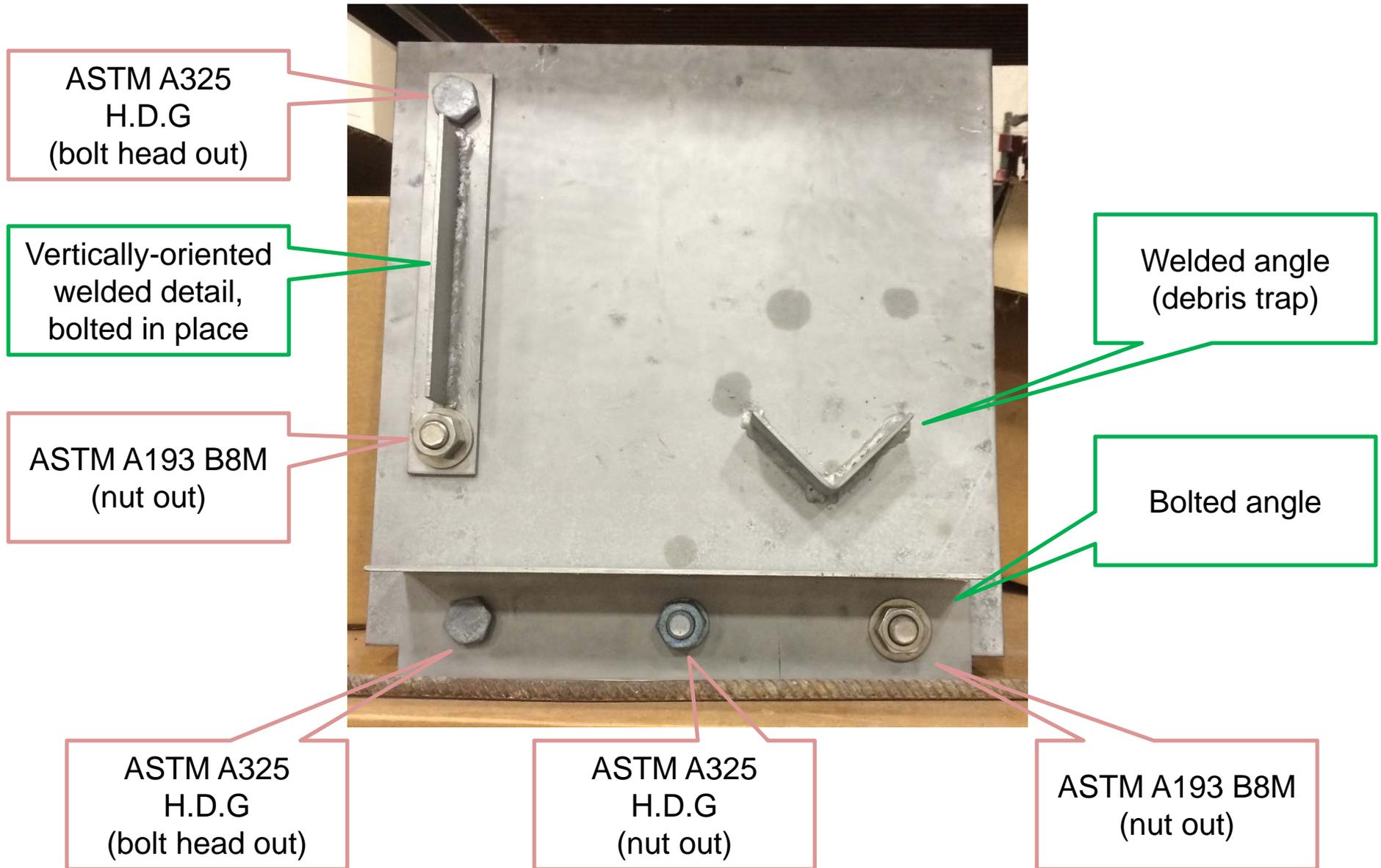
Monitoring Site

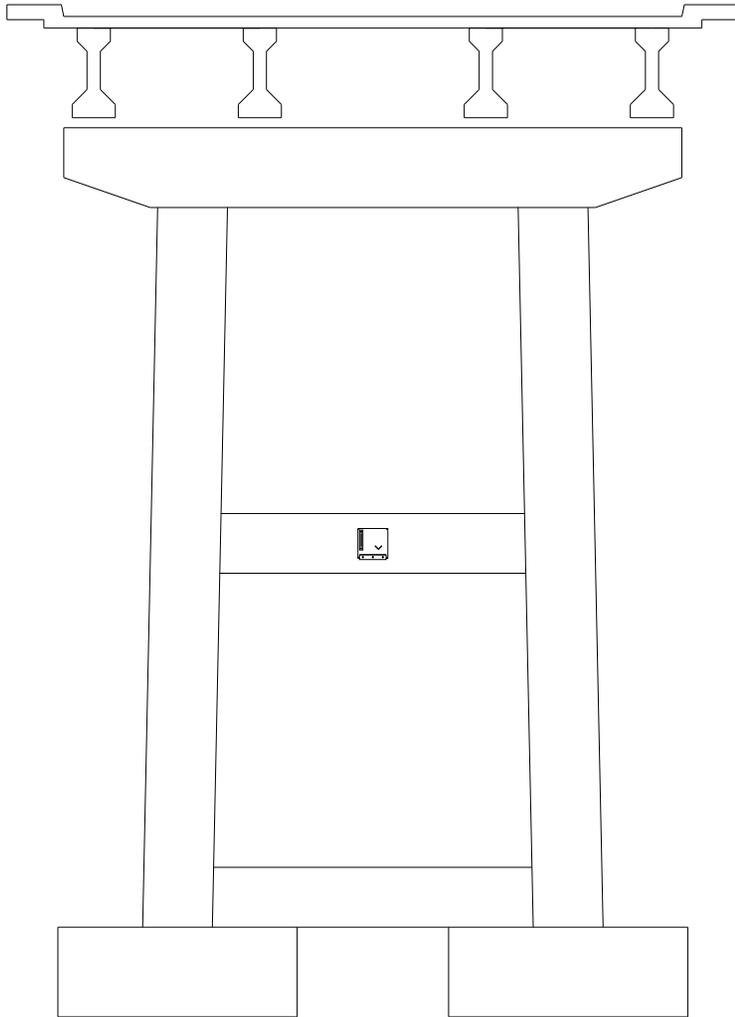
Google





All plate ASTM A1010 (3/16" Thk.). Welding performed with SMAW (Lincoln Excalibur 309/309L-16)



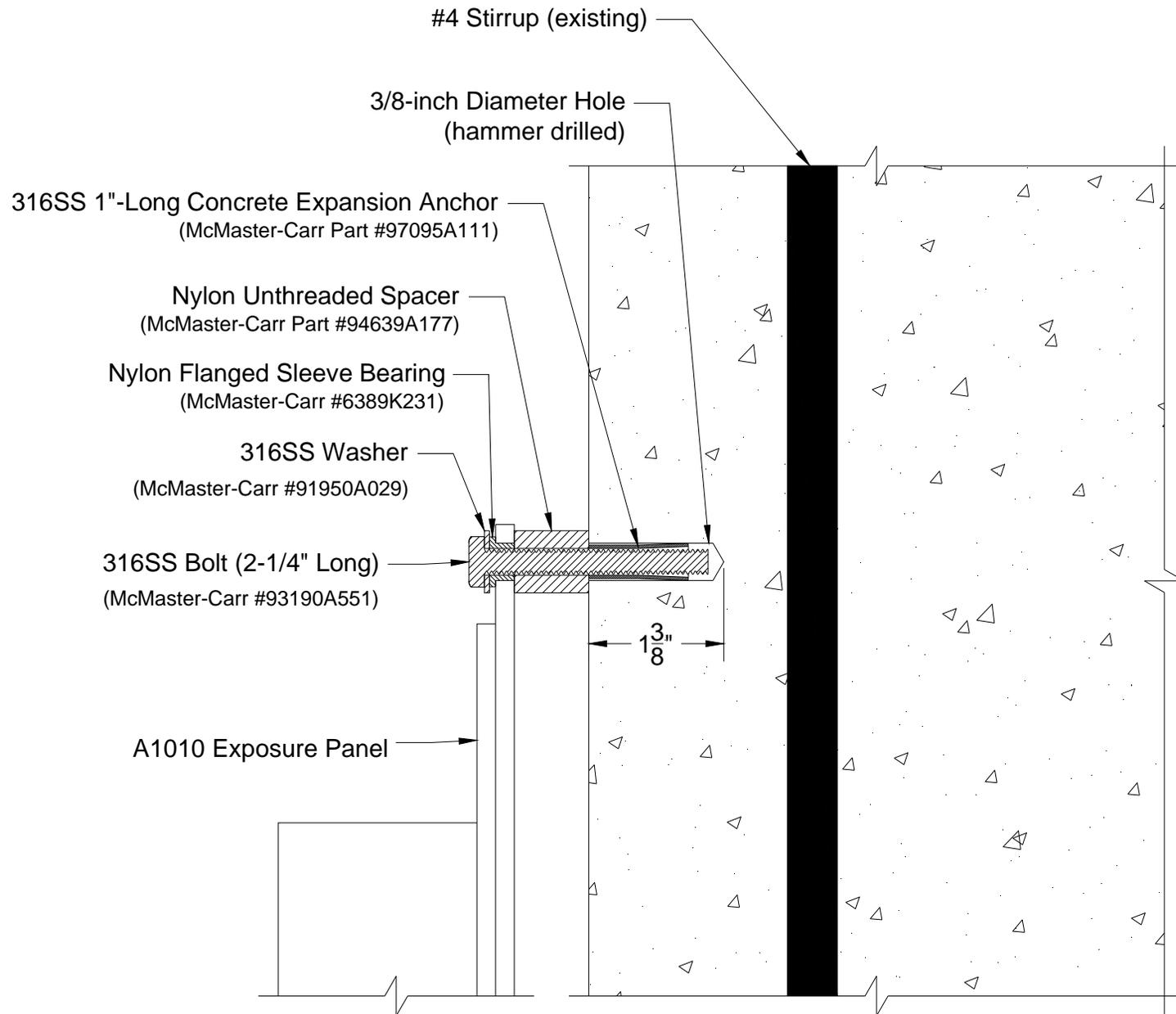


Ideally wanted to mount in a “boldly” exposed location, at a height similar to new bridge. Problem preventing this:

1. Utilities mounted to both exterior girders would cloud the exposure
2. Ends of pier cap rounded and mounting would be difficult.
3. Concern of mounting to railing or deck overhang in case of car accident.

### Tradeoffs

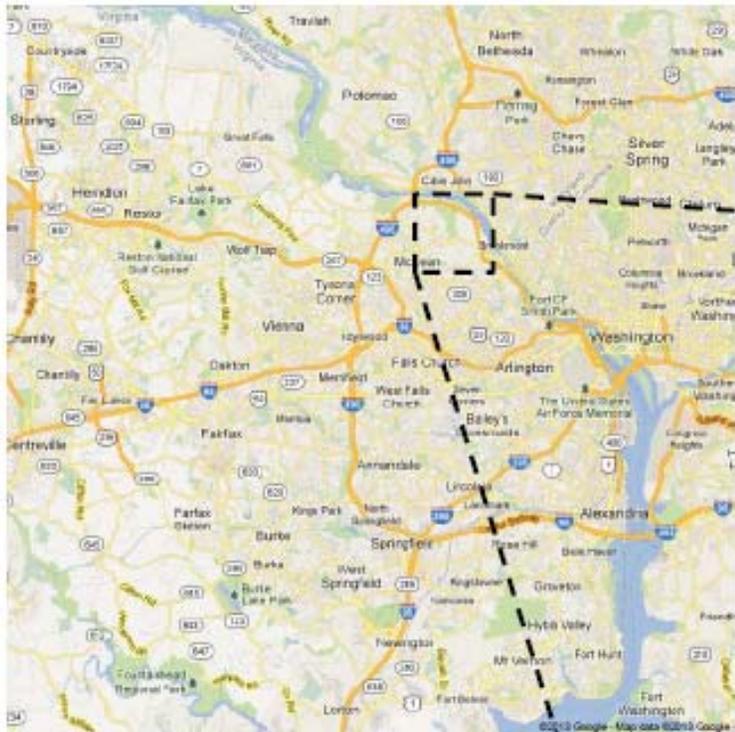
- a. Mounting location reduces sheltering from deck.
- b. Easy access from boat ramp means future monitoring can be done without snoopers.
- c. ~24 ft. over waterline is more aggressive than proposed bridge.



Mounted to concrete with stainless steel wedge anchors, and plastic spacers to electrically isolate wedge anchors from A1010 panel.



Mounted 12 Dec 2014







Mounted 5 Dec 2014

Picture taken 17 March 2015

# Welding

Arcelor provided me the following plate:

10 Pieces - 10" x 28" x 1" Thk. finished size (DOR in 10" dimension)

10 Pieces - 10" x 28" x 1.75" Thk. finished size (DOR in 10" dimension)

2 Pieces - 10" x 28" x 0.5" Thk. finished size

The intent was to work with two steel bridge fabricators to increase their comfort level with A1010 and using the austenitic filler metal.

- One 14" long D1.5 fillet weld qualification sample between a 1/2" and 1" thick plate
- One 14" long D1.5 fillet weld qualification sample between a 1/2" and 1-3/4" thick plate
- One 28" long CJP butt weld of 1" thick plate (likely FCAW)
- One 28" long CJP butt weld of 1-3/4" thick plate (SAW)
- One 10" x 28" x 1-3/4" thick plate with ~21 studs welded to one side. Half the studs would be normal carbon steel, half would be 316 alloy

Side Bend	
Reduced Section Tension	
Side Bend	
CVN (Weld and HAZ)	
All Weld Tension	
Side Bend	
Reduced Section Tension	
Side Bend	
TBD	