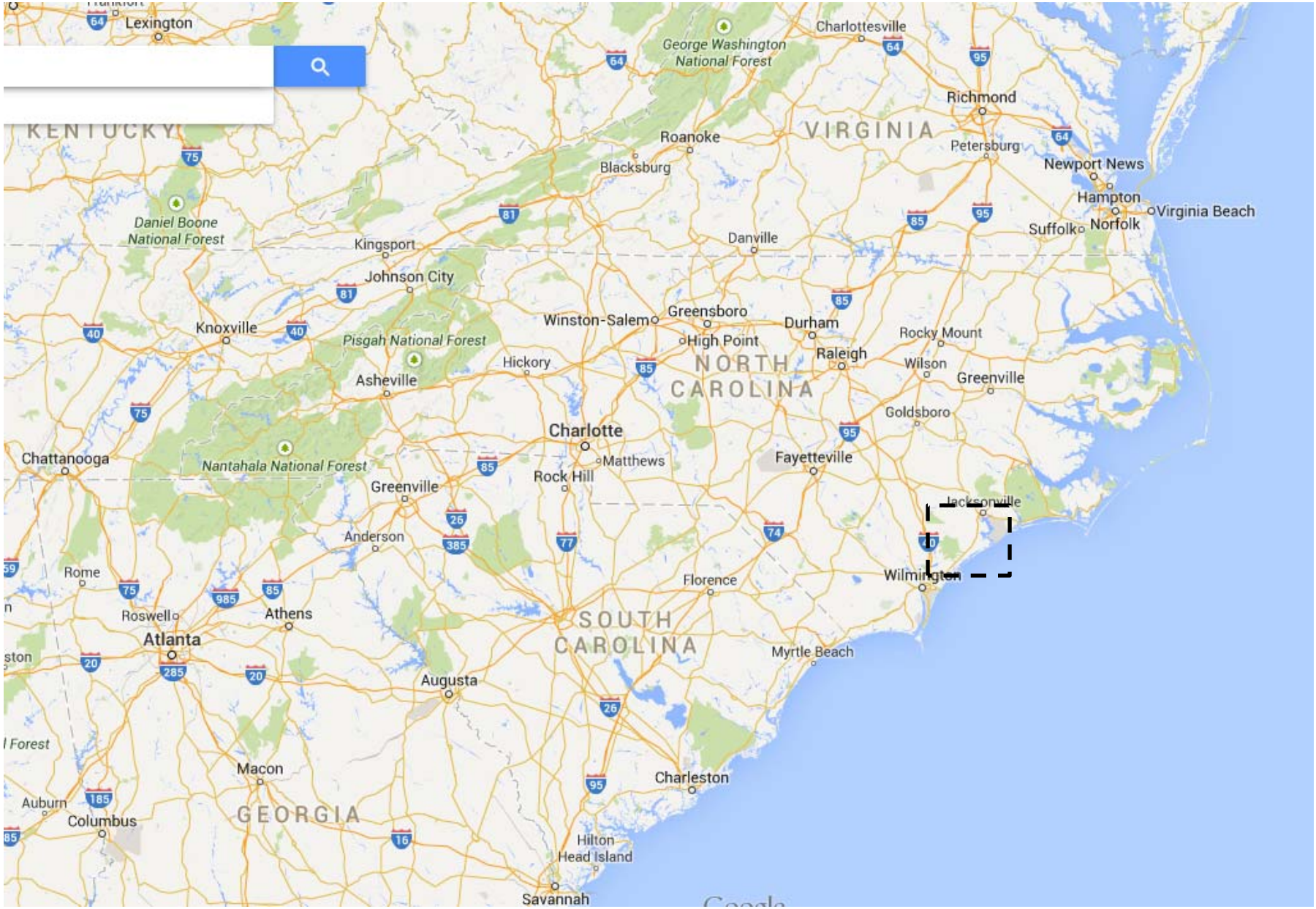
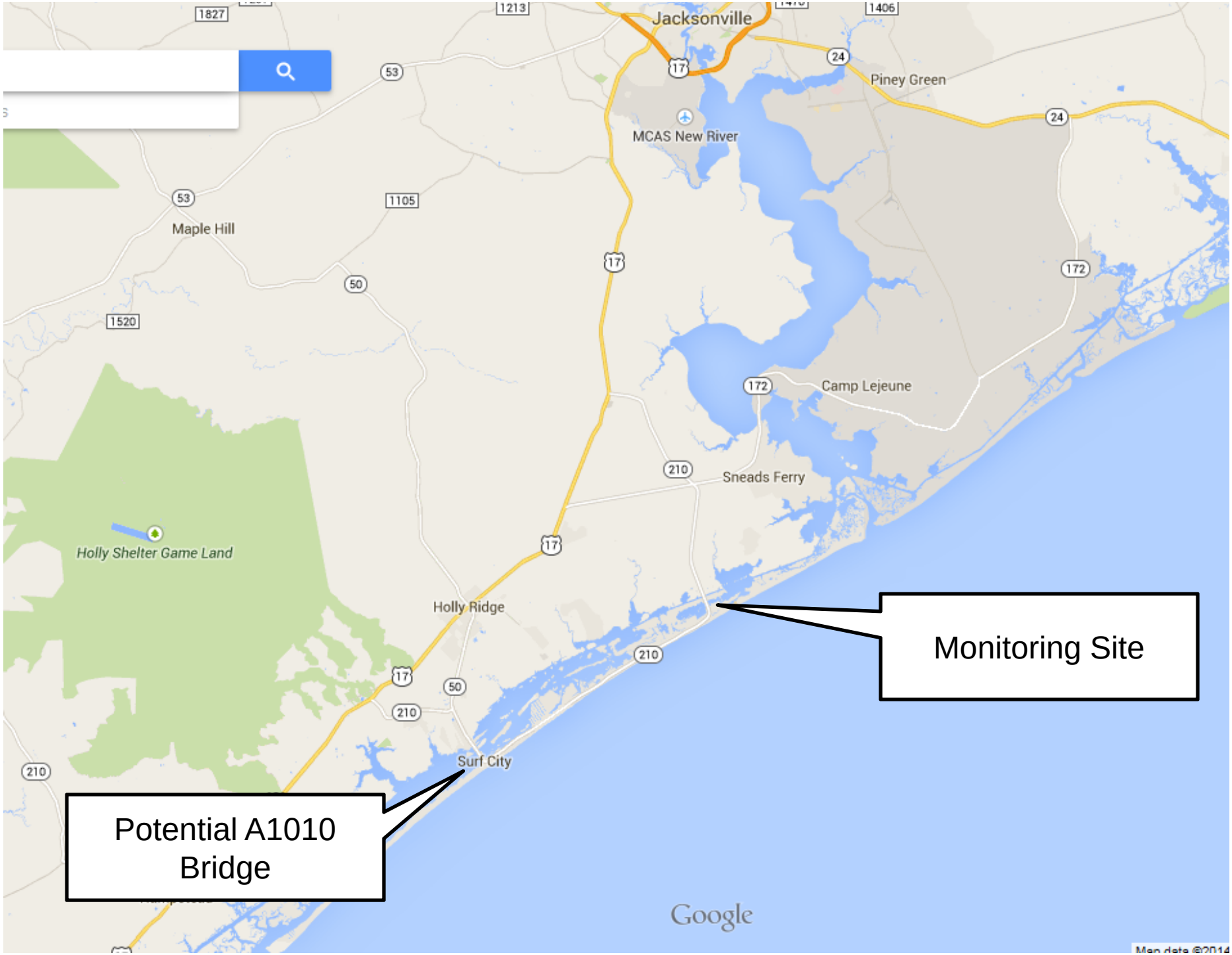
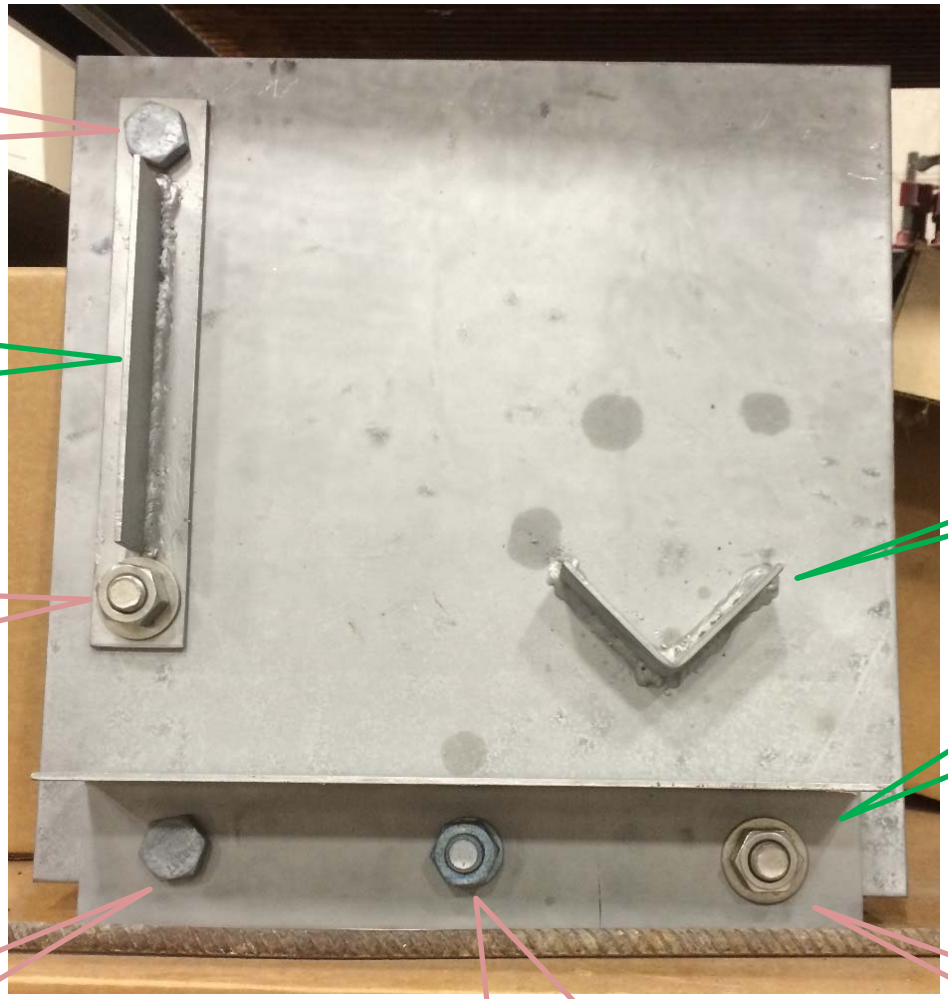

Lexington
Charlottesville
George Washington National Forest
Richmond
KENTUCKY
Roanoke
VIRGINIA
Petersburg
Blacksburg
Newport News
Hampton
Virginia Beach
Suffolk
Norfolk
Daniel Boone National Forest
Kingsport
Danville
Johnson City
Winston-Salem
Greensboro
Durham
Rocky Mount
Knoxville
Pisgah National Forest
High Point
Raleigh
Wilson
Hickory
NORTH CAROLINA
Asheville
Greenville
Goldsboro
Charlotte
Chattanooga
Matthews
Fayetteville
Nantahala National Forest
Rock Hill
Greenville
Jacksonville
Anderson
Rome
Florence
Wilmington
Roswell
Athens
SOUTH CAROLINA
Atlanta
Myrtle Beach
Augusta
Macon
Charleston
Auburn
Columbus
GEORGIA
Hilton Head Island
Savannah


Jacksonville
Piney Green
MCAS New River
Maple Hill
Camp Lejeune
Sneads Ferry
Holly Shelter Game Land
Holly Ridge
Surf City
Monitoring Site
Potential A1010 Bridge
Google

Island Dr
210

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



ASTM A325
H.D.G
(bolt head out)

Vertically-oriented
welded detail,
bolted in place

ASTM A193 B8M
(nut out)

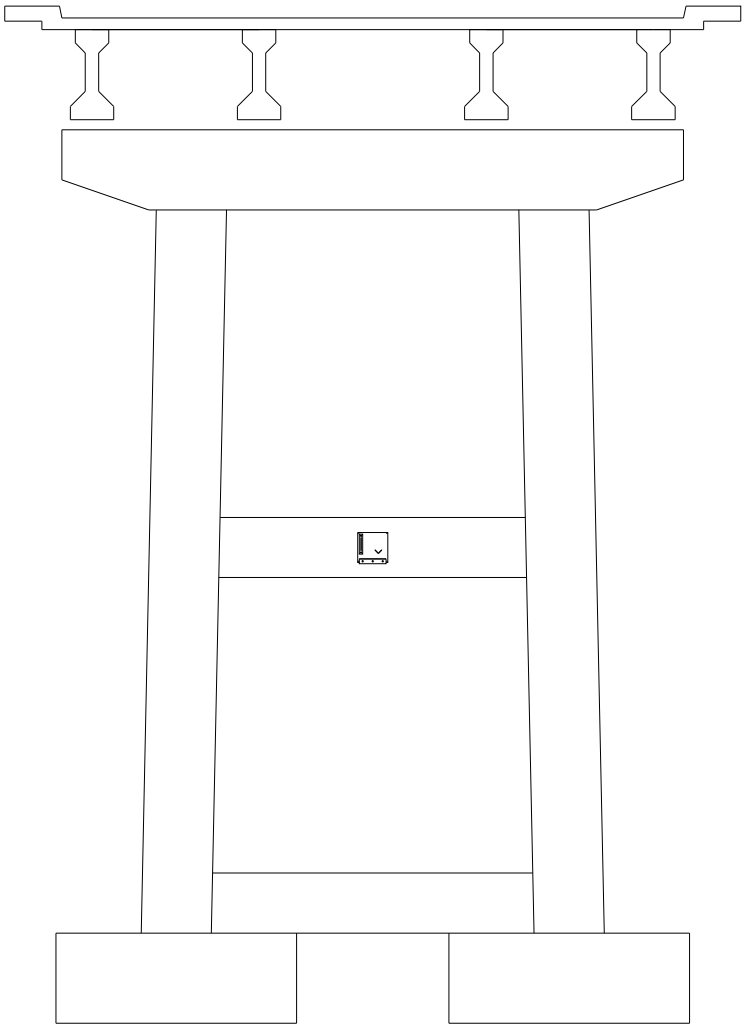
Welded angle
(debris trap)

Bolted angle

ASTM A325
H.D.G
(bolt head out)

ASTM A325
H.D.G
(nut out)

ASTM A193 B8M
(nut out)

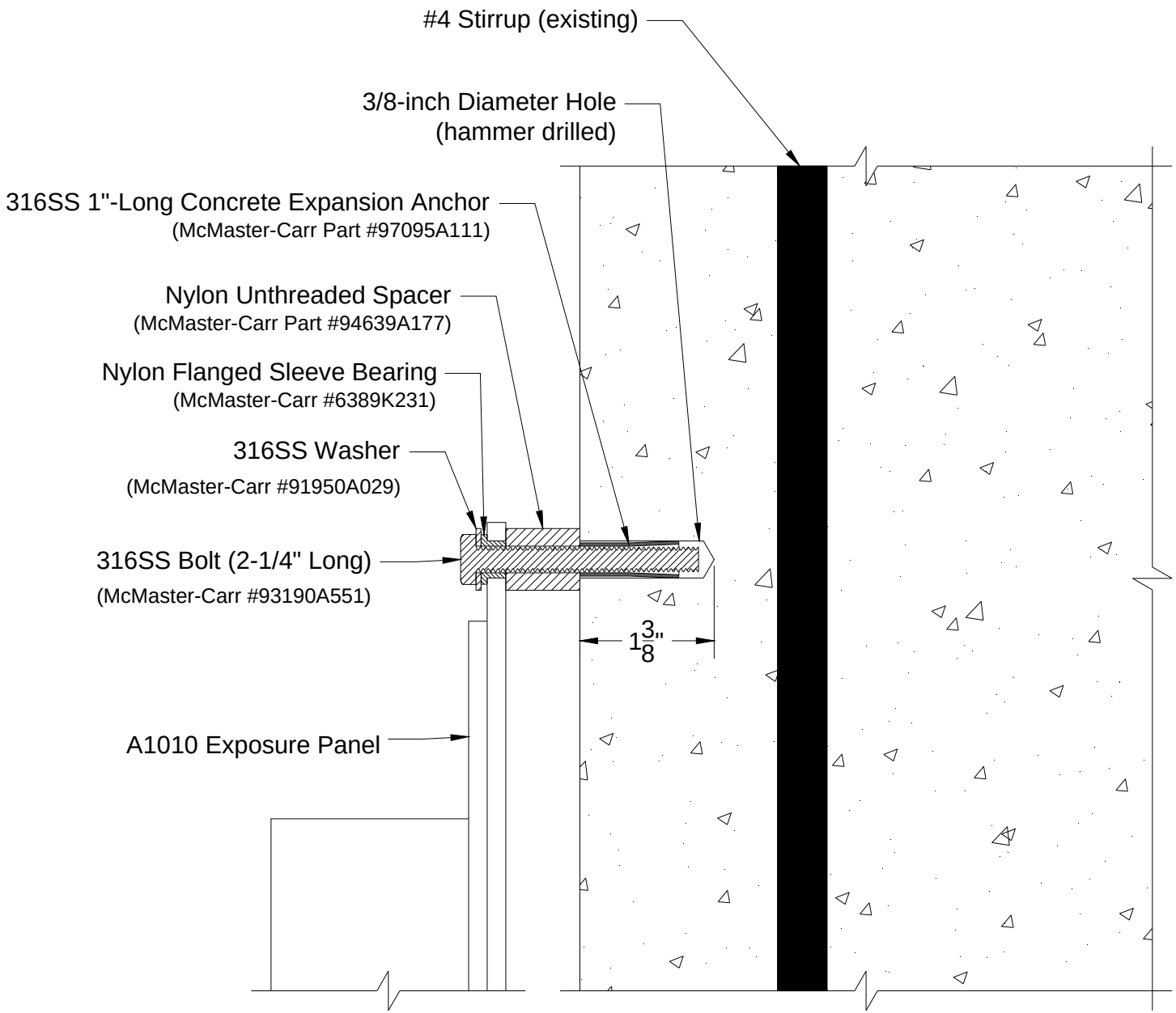


Ideally wanted to mount in a “boldly” exposed location, at a height similar to new bridge. Problem preventing this:

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.

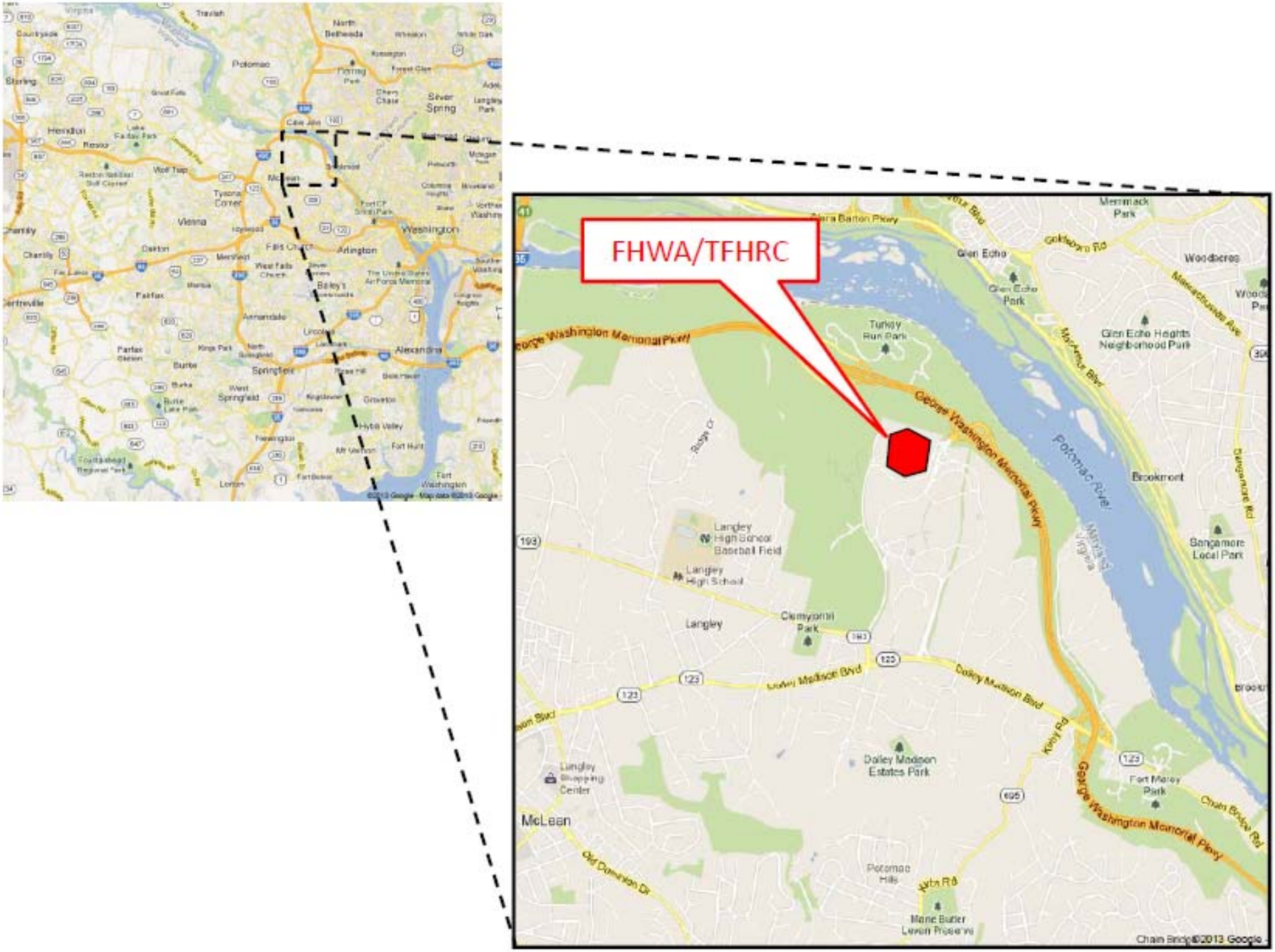
Tradeoffs

a. Mounting location reduces sheltering from deck.
b. Easy access from boat ramp means future moniotir can be done without snooper.
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


FHWA/TFHRC
George Washington Memorial Pkwy
Potomac River
Glen Echo
Glen Echo Park
Glen Echo Heights Neighborhood Park
Turkey Run Park
Brookmont
Sangamore Local Park
Langley High School Baseball Field
Langley High School
Langley
Clemyontel Park
Dolley Madison Blvd
Dolley Madison Estates Park
Fort Marcy Park
Langley Shopping Center
McLean
Potomac Hills
Maine Butler Levon Preserve
Chain Bridge
©2013 Google

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 ½” and 1” thick plate
- One 14” long D1.5 fillet weld qualification sample between a ½” 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