



19th Avenue Bridge Geofoam Installation



by Darin Bailey



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- ▶ **PROJECT:** 19TH AVE BRIDGE OVER THE CAP
 - ▶ **OWNER:** CITY OF PHOENIX
 - ▶ **CONTRACTOR:** HUNTER CONTRACTING CO.
 - ▶ **PRECONSTRUCTION:** August 2008-February 2008
 - ▶ **PROJECT DURATION:** September 2010 – December 2011
 - ▶ **TOTAL CONTRACT:** \$11,967,137.10
 - ▶ **GEOFOAM PORTION:** \$488,000 or 4% of contract.
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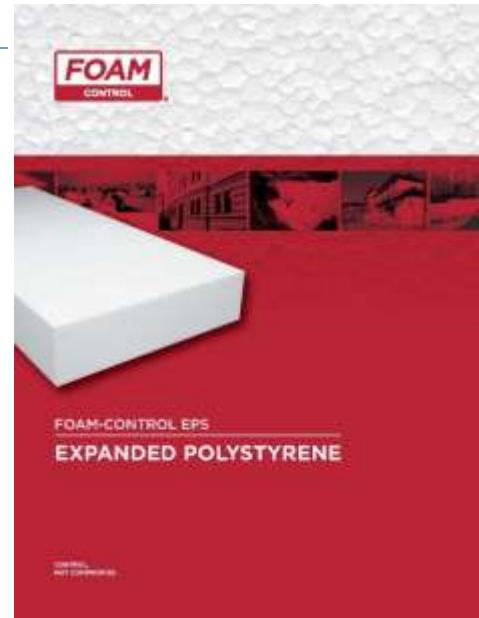


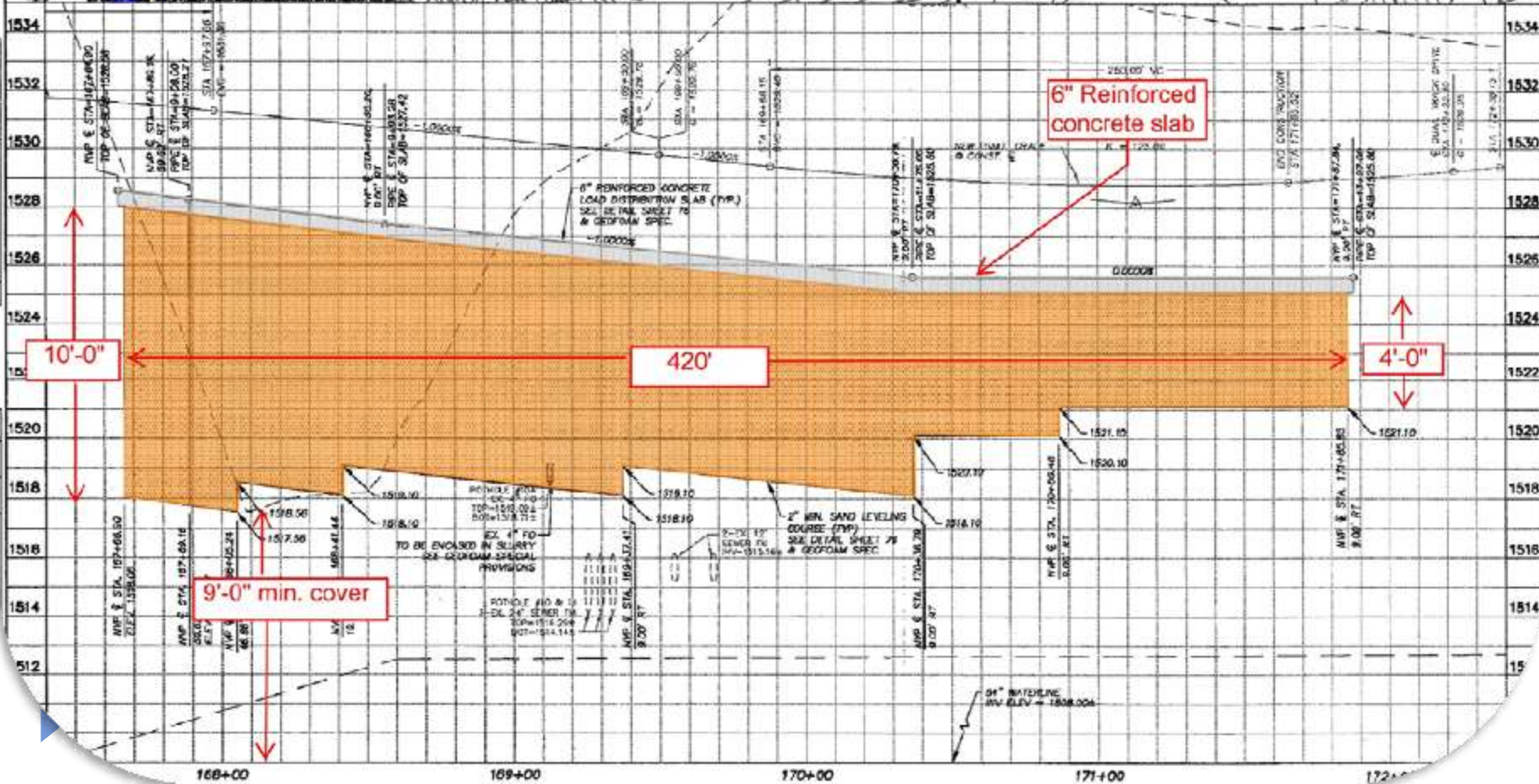
54" WATER TRANSMISSION MAIN

- ▶ **PRESTRESSED CONCRETE CYLINDER PIPE (PCCP)**
- ▶ **MAIN SUPPLY TO ANTHEM**
- ▶ **DESIGNED FOR SPECIFIC DEAD LOAD**
 - ▶ Lowering the bridge imposed live load that would cause the line to fail.
- ▶ **EMERGENCY RESPONSE PLAN**



- ▶ **SUPPLIER:** ACH FOAM TECHNOLOGIES (MURRAY, UT)
- ▶ **QUANTITY:** 76,000 cf
- ▶ **WEIGHT:** 1.8 pcf
- ▶ **PURCHASE COST:** \$2.82/cf
- ▶ **TOTAL INSTALLED:** \$6.35/cf
- ▶ **LIGHT WEIGHT FILL MATERIAL**
- ▶ TREATED WITH PERFORM GUARD - TERMITE





WVP & STATION	PIPE LINE STATION	GEOFOAM WIDTH (FT)	MINIMUM GEOFOAM THICKNESS (FT)	GEOFOAM LENGTH (FT)	LOAD DISTRIBUTION SLAB LENGTH (FT)	LOAD DISTRIBUTION SLAB WIDTH (FT)
137+67	137+67	20.0	1.00	12.0	7.0	2.00
138+00	138+00	20.0	1.00	12.0	7.0	2.00
138+33	138+33	20.0	1.00	12.0	7.0	2.00
138+66	138+66	20.0	1.00	12.0	7.0	2.00
139+00	139+00	20.0	1.00	12.0	7.0	2.00
139+33	139+33	20.0	1.00	12.0	7.0	2.00
139+66	139+66	20.0	1.00	12.0	7.0	2.00
140+00	140+00	20.0	1.00	12.0	7.0	2.00
140+33	140+33	20.0	1.00	12.0	7.0	2.00
140+66	140+66	20.0	1.00	12.0	7.0	2.00
141+00	141+00	20.0	1.00	12.0	7.0	2.00
141+33	141+33	20.0	1.00	12.0	7.0	2.00
141+66	141+66	20.0	1.00	12.0	7.0	2.00
142+00	142+00	20.0	1.00	12.0	7.0	2.00
142+33	142+33	20.0	1.00	12.0	7.0	2.00
142+66	142+66	20.0	1.00	12.0	7.0	2.00
143+00	143+00	20.0	1.00	12.0	7.0	2.00
143+33	143+33	20.0	1.00	12.0	7.0	2.00
143+66	143+66	20.0	1.00	12.0	7.0	2.00
144+00	144+00	20.0	1.00	12.0	7.0	2.00
144+33	144+33	20.0	1.00	12.0	7.0	2.00
144+66	144+66	20.0	1.00	12.0	7.0	2.00
145+00	145+00	20.0	1.00	12.0	7.0	2.00
145+33	145+33	20.0	1.00	12.0	7.0	2.00
145+66	145+66	20.0	1.00	12.0	7.0	2.00
146+00	146+00	20.0	1.00	12.0	7.0	2.00
146+33	146+33	20.0	1.00	12.0	7.0	2.00
146+66	146+66	20.0	1.00	12.0	7.0	2.00
147+00	147+00	20.0	1.00	12.0	7.0	2.00
147+33	147+33	20.0	1.00	12.0	7.0	2.00
147+66	147+66	20.0	1.00	12.0	7.0	2.00
148+00	148+00	20.0	1.00	12.0	7.0	2.00
148+33	148+33	20.0	1.00	12.0	7.0	2.00
148+66	148+66	20.0	1.00	12.0	7.0	2.00
149+00	149+00	20.0	1.00	12.0	7.0	2.00
149+33	149+33	20.0	1.00	12.0	7.0	2.00
149+66	149+66	20.0	1.00	12.0	7.0	2.00
150+00	150+00	20.0	1.00	12.0	7.0	2.00
150+33	150+33	20.0	1.00	12.0	7.0	2.00
150+66	150+66	20.0	1.00	12.0	7.0	2.00
151+00	151+00	20.0	1.00	12.0	7.0	2.00
151+33	151+33	20.0	1.00	12.0	7.0	2.00
151+66	151+66	20.0	1.00	12.0	7.0	2.00
152+00	152+00	20.0	1.00	12.0	7.0	2.00
152+33	152+33	20.0	1.00	12.0	7.0	2.00
152+66	152+66	20.0	1.00	12.0	7.0	2.00
153+00	153+00	20.0	1.00	12.0	7.0	2.00
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153+66	153+66	20.0	1.00	12.0	7.0	2.00
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154+33	154+33	20.0	1.00	12.0	7.0	2.00
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160+66	160+66	20.0	1.00	12.0	7.0	2.00
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192+33	192+00	20.0	1.00	12.0	7.0	2.00
192+66	192+00	20.0	1.00	12.0	7.0	2.00
193+00	193+00	20.0	1.00	12.0	7.0	2.00
193+33	193+00	20.0	1.00	12.0	7.0	2.00
193+66	193+00	20.0	1.00	12.0	7.0	2.00
194+00	194+00	20.0	1.00	12.0	7.0	2.00
194+33	194+00					







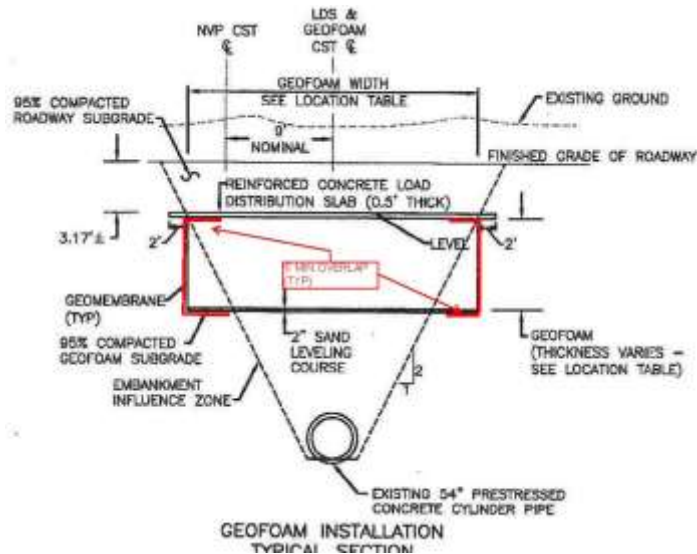






COOLGUARD HRL36 GEOMEMBRANE

- ▶ RESISTANCE TO CHEMICAL SPILLS
- ▶ PROTECTION FROM CONTAMINANTS IN SOIL
- ▶ DURABLE
- ▶ UV RESISTANT
- ▶ FLEXIBLE AND EASY TO USE
- ▶ ABLE TO WELD JOINTS IN THE FIELD



Coolley Group
MAKING CONTAINMENT MAKE THE DIFFERENCE

COOLGUARD®
CONTAINMENT GEOMEMBRANES

COOLGUARD®

Coolguard geomembranes are engineered for use in areas where primary and/or secondary containment of hydrocarbons, liquids, aggressive chemicals and other regulated substances is required.

Coolguard can handle many petrochemicals in primary contact. Using Coolguard in secondary containment applications will ensure quick approval from the respective regulatory agencies for most applications. Coolguard geomembranes offer a cost-effective, functional alternative to double-walled tanks, concrete-lined embankments and similar protective structures.

Coolguard is formulated with Dupont Elvaloy® (KEE) as part of a triopolymer alloy. The Elvaloy polymers are tough plastics developed to form homogeneous blends with other polymers. Because they are resistant to hydrocarbons and other chemicals, they provide the engineer and end user with a product for many applications where chemical resistance, high physical strength and other unique properties are necessary.

Coolguard is used worldwide in these typical applications:

- Brine ponds
- Curtains and retention screens
- Digesters
- Fire ponds
- Floating booms and baffles
- Floating covers
- Pond and lagoon liners
- Railway yards
- Task farms
- Transfer piping
- Transfer stations
- Transformer substations
- Truck wash facilities
- Tunnel linings
- Transformer substations



Coolguard withstands a broad range of chemicals with little or no deterioration of physical properties.

The superior performance coupled with the flexibility of the Coolguard geomembrane is the result of the combination of select polymer blending, stabilizers and the unique reinforcing medium. The exclusive 'rip-stop' design of the Coolguard scrim, polymer processing and product manufacturing techniques provides our clients with a truly high performance geomembrane.

Highly resistant to punctures, tears, abrasions, ultraviolet radiation, temperature extremes, hydrocarbons and a host of chemicals, Coolguard meets and exceeds the requirements of the containment industry for primary applications.

Coolley has been a leader in the development of high performance fabrics and films for thousands of transportation, medical, agricultural, industrial, chemical and environmental applications.

Coolguard offers the following outstanding benefits:

- Outstanding chemical and fuel resistance
- High abrasion resistance
- Rip-stop design
- High puncture resistance
- High tear resistance
- UV resistance
- Proven Elvaloy® technology



Coolley offers NSF 61 approved, Halobutyl Sealant Formulation (Standard for potable water), versions of CoolGuard®, CoolGuard® and CoolGuard®.

The Coolley group offers the widest range of geomembranes available, including CoolGuard® urethane, CoolGuard® with Elvaloy®, CoolGuard® polypropylene, polyethylene (PE) and thermoplastic polyurethane (TPU).

Coolley® is a registered trademark of Dupont. Coolley, CoolGuard and CoolGuard are trademarks of the Coolley Group.

Coolley Group • 50 Estee Avenue • Patchack, NJ 07660 • 800-444-4023 • www.coolleygroup.com















03/09/2011





















GRIPPER PLATE

- ▶ 4" X 4" SQUARE
- ▶ 4 EA. PER 4' X 8' AREA



4" X 4" GeoGripper Plate

R-Control® GeoGripper® Plate

The R-Control GeoGripper Plate is a galvanized steel multi-barbed connector. It is used to restrain R-Control EPS Geofam material from moving laterally in "layer over layer" applications. Its single piece/two-sided design allows for excellent connection between layers in a one-step application.

- Single Piece, Double Barbed Design
- Galvanized Steel For Durability
- Easy Fast Installation at Site
- Strong Lateral Hold
- Cost Effective

























03/22/2011

LOAD DISTRIBUTION SLAB

- ▶ 6" REINFORCED SLAB
- ▶ EXTENDS 2' PAST ANY VERTICAL EDGE INCLUDING ENDS
- ▶ TRANSVERSE REBAR
 - ▶ #6 @ 9" O.C.
- ▶ LONGITUDINAL REBAR
 - ▶ #4 @ 18" O.C.
- ▶ MAG A – 3000 psi CONCRETE
- ▶ 275 cy USED



4' X 4' GeoGripper Plate

R-Control® GeoGripper® Plate

The R-Control GeoGripper Plate is a galvanized steel multi-barbed connector. It is used to restrain R-Control EPS Geofam material from moving laterally in "layer over layer" applications. Its single piece/two-sided design allows for excellent connection between layers in a one-step application.

- Single Piece, Double Barbed Design
- Galvanized Steel For Durability
- Easy Fast Installation at Site
- Strong Lateral Hold
- Cost Effective





03/25/2011



BOISE
STATE

03/29/2011



