Bridges Supported on EPS Geofoam

Hjelmungen Bridge, Norway

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International Collaboration to Construct Permanent Structures Founded on EPS

- Norway (Norwegian Public Road Administration)
- U.S.
  - University of Utah
  - University of Memphis
- Netherlands
- Japan
- Turkey?
Accelerated Bridge Construction on Soft Ground Sites

- Rapid Embankment / Foundation Construction
  - Days to a few weeks
  - Low overhead conditions and restricted space
- Elimination of Damaging Settlements
  - Adjacent structures and facilities
  - Buried utilities
- Cost Savings
  - Construction
  - Reduced traffic impacts
  - Improved long-term settlement performance and safety
Temporary Overpasses

Lokkeberg Bridge, Norway
Permanent Structures

Hjelmungen Bridge, Norway
NYDOT System

Fully compensated sheetpile and EPS foundation system – NYDOT - Buffalo N.Y.
NYDOT System (cont)
Seismic Restraint Systems

VERTICAL EMBANKMENT ALTERNATIVE

Concrete Deck

High Damping Expanded Polystyrene (EPS)

Sheet Piling

Bearing Pad

Low Damping EPS

Post-tensioned Rods (if needed)
Seismic Restraint Systems

SLOPED EMBANKMENT ALTERNATIVE

Concrete Deck

Post-tensioned Rods (if needed)

High Damping Expanded Polystyrene (EPS)

Low Damping EPS

Shallow Ground Anchors

Bearing Pad

RC Grade Beam
Questions