

Geosynthetic Reinforced Soil – Integrated Bridge Systems (GRS-IBS)

Reducing Bridge Construction Time

Geosynthetic Reinforced Soil – Integrated Bridge Systems (GRS-IBS), an Accelerated Bridge Construction (ABC) method, allows PennDOT and municipalities to build bridges quickly and cost effectively. They can be built using local workforce personnel and equipment to maximize efficiency. GRS-IBS is a Federal Highway Administration (FHWA) Every Day Counts Rounds 1 and 3 (EDC-1 and EDC-3) innovation that Pennsylvania championed.

What are the benefits?

- **Reduces cost** by up to 60 percent
- **Easy to build and maintain**
- **Improves ride quality**
- **Decreases maintenance** needed for settlement repairs
- **Extends the longevity** of structures
- **Easily modified design** to adapt to field conditions

How does it work?

GRS uses alternating layers of geotextile and compacted stone to create bridge substructure units. The integrated bridge system is created when the GRS is combined with beams and deck to strengthen the approach roadway. GRS-IBS permits bridges to be built in a faster and more cost-effective manner that is also environmentally friendly.



How do I learn more?

To learn more about this innovation, visit www.penndot.pa.gov/stic or email penndotstic@pa.gov.