Kentucky Transportation Cabinet
District 6
KY 9/AA Highway Over Locust Creek
Bracken County, KY
Project Need

- Bridge built in 1989
- Pier not on piling
- Severe scour
- Substandard (12 m) inspection cycle
- 2009 Inspection:
  - Deck – 7
  - Super – 8
  - Sub – 4
  - Channel – 3
  - Waterway – 3
Environmental Concerns
Barrier Design

- Trapezoid shape
- 4, 5 & 6 ft. heights
- Pyramiding
- Temporary
- Permanent
- Connectivity

\[ O = \text{Opening} = 2' \]
\[ H = \text{Height} = 4', 5', 6' \text{ (standard heights)} \]
\[ W = \text{Width} = H + 2' \]
\[ \text{Baffles every 2'} \]
\[ L = \text{Length} = \text{Any desired length} \]
Barrier Material Specifications

- Woven polypropylene fabric
- FDA approved
- 8oz fabric (ASTM D-1910)
- Burst Strength – PSI > 600
- Puncture Strength - > 100 lbs.
- White and yellow/green
Master Agreement

- Price contract (MA 605 1000000084 1)
- Expired July 31, 2010
- Alternative to gabion baskets
- Pricing - selected line items:
  - 4’ barrier - $42.04/lf (50ft sections)
  - 5’ barrier - $53.26/lf (50ft sections)
  - 6’ barrier - $64.47/lf (50ft sections)
  - Installation equipment - $116.00/hour
  - Labor and mobilization fees
- Site evaluations
Final Product
Final Product
Final Product

• Project Costs
  • Contractor Fees (Bags, Labor, Consulting): $58,000
  • Materials (Concrete, Rock): $40,000
  • Rentals: $5,000
  • KYTC Costs: $25,000
  • TOTAL: $128,000

• 2010 Inspection
  • Bridge taken off of substandard cycle
    • Deck – 7
    • Super – 8
    • Sub – 7
    • Channel – 7
    • Waterway – 7
Project Highlights

• Protection of bridge piers utilizing an innovative product

• Project encompassed all three branches of KYTC at the District Level

• Majority of work completed with State Maintenance forces, providing considerable cost savings for the project.