

PennDOT's Rapid Bridge Replacement Project Utilizing Folded Steel Plate Girder Bridge

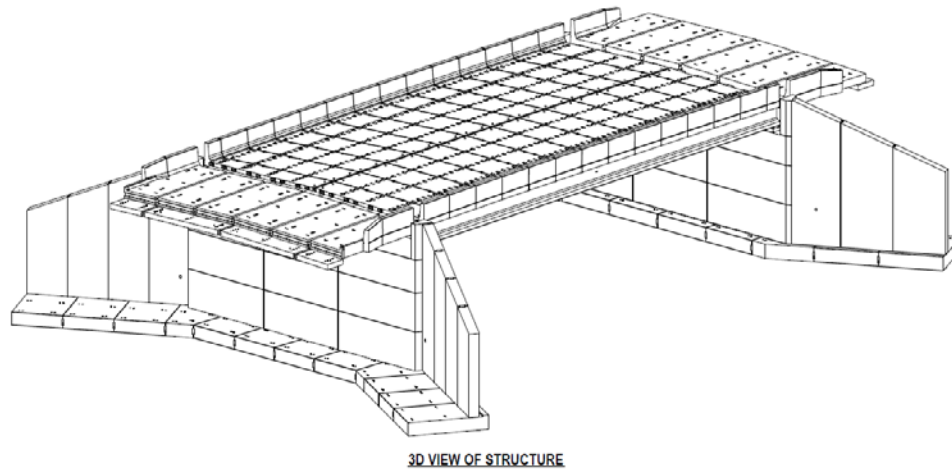
April 20, 2017



PennDOT ABC Highlights

- **Advanced Coordination with Industry**
 - Advertise Advanced Plans
- **Evaluate the schedule**
 - Prefabrication time: more coordination required by fabricators
 - More time needed from bid to setting components
- **Simple Details**
 - Substructure: simple rectangular pieces

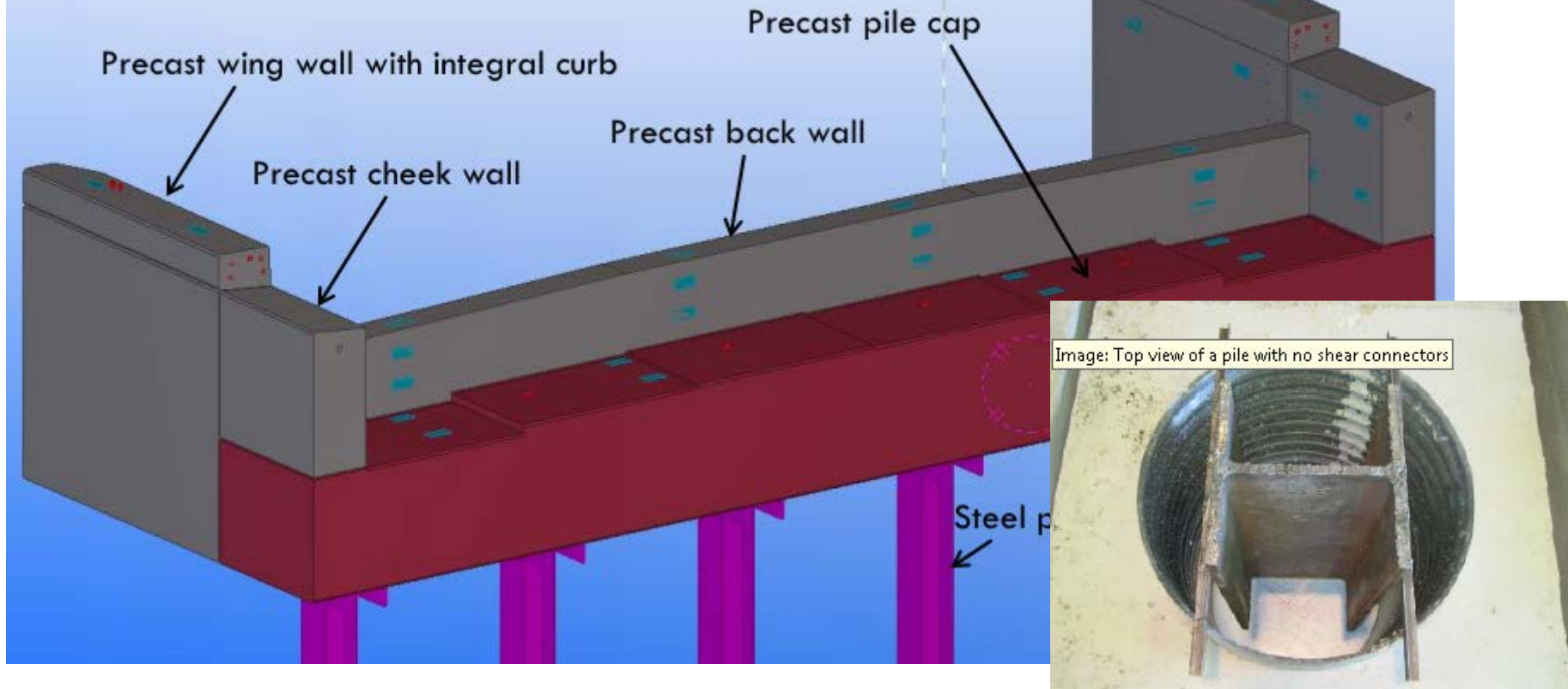
PennDOT ABC Highlights



- Precast:
 - Decks
 - Abutments – conventional and integral
 - Footings
 - Pier caps
- Suppliers

PennDOT ABC Highlights – SR 288 Wampum Bridge

2014 National Accelerated Bridge Construction Conference Award for Best ABC Project in Prefabricated Bridge Elements and Systems Category
2016 NSBA Prize Bridge Award- Short Span Category



http://www.intrans.iastate.edu/research/documents/research-reports/Iowa_ABC_connections_w_cvr.pdf

UHPC Costs

DISTRICT	ECMS	PROJ_SHORT_DESC	ITEM_DESC	ITEM_QTY	Unit	Unit Price
08	82356	I83 East Shore Overpasses	UHPC	44	CY	\$5,200.00
08	82356	I83 East Shore Overpasses	UHPC	60	CY	\$6,434.93
05	11737	Stony Creek Bridge	UHPC	1	CY	\$8400.00
12	30749	B&O Railroad Bridge	UHPC	20	CY	\$15,000.00
05	92806	Berks Brg Underclear Ph 2	UHPC	20	CY	\$6,117.50
05	92806	Berks Brg Underclear Ph 2	UHPC	20	CY	\$6,000.00
05	92806	Berks Brg Underclear Ph 2	UHPC	2	CY	\$15,000.00
05	92806	Berks Brg Underclear Ph 2	UHPC	2	CY	\$16,235.75
11	27267	SR 30 ov Bessemer Ave	UHPC	19	CY	\$8,000.00
08	74889	PA-16 Memorial Bridge Replacement	UHPC	18	CY	\$22,500.00
11	90090	Main St ov Wampum Creek	UHPC	8	CY	\$3,200.00
08	83419	Indian Rock Dam Rd Bridge	UHPC	6	CY	\$10,000.00
06	69917	PA 41 over Valley Creek & Officer's Run	UHPC	4	CY	\$13,000.00
8	80989	PA 995 over Conococheague (PA 997)	UHPC	7	CY	\$1,000.00
8	74894	Philadelphia Avenue Bridge	UHPC			in bidding
12	48137	Venetia Road Bridge	UHPC			in bidding
8	74050	Ritner Highway Bridge 2	UHPC			in bidding
					avg	\$8,350
					average (hi-low out)	\$ 7,370

PennDOT ABC Highlights

- PennDOT is “fully implemented” per FHWA Every Day Counts (EDC)
- Standard Details
 - Precast Deck Panels:
 - <http://www.dot.state.pa.us/public/Bureaus/BOPD/Bridge/2016/BD/bd605m.pdf>
 - Precast substructure components:
 - <http://www.dot.state.pa.us/public/Bureaus/BOPD/Bridge/NewProducts/drawings/NP56.pdf>
 - Folded Steel Plate Girder:
 - <http://www.dot.state.pa.us/public/Bureaus/BOPD/Bridge/NewProducts/drawings/NP71.pdf>
- Standard Special Provision
a10303 ULTRA HIGH PERFORMANCE CONCRETE

PennDOT P3 Rapid Bridge Replacement Project

- Risk
- Level of Effort
- Logistics
- Payment – Availability Payment



Mechanism and Milestone



pennsylvania
DEPARTMENT OF TRANSPORTATION

www.dot.state.pa.us