

PCI Continuing Education for PennDOT – Proposed December 2022

Precast, Prestressed Concrete Design Topics – Categorized in the Following Order – In Accordance with PennDOT requirements/specifications

- Design
- Fabrication
- Field Erection/Construction

Suggested Outline Based on Fabricator Input and Topics Requested

- 4-hour in-person program
- Delivered (3) times / 3 separate locations
- Participants will receive 4 PDH for attendance/submitted by PCI to RCEP

- I. Introduction to Prestressed Concrete
 - A. Versatility, efficiency, durability of precast for short and long span bridges
 - B. Prestressing steel and mild reinforcement
 - C. Pretensioning and Post-tensioning
 - D. Concrete mixes, strength, various testing
 - E. Anchors
 - F. Service limit state conditions
- II. Precast Element Design & Detailing Considerations
 - A. Design Resources
 - B. Overview of PSLRFD
 - C. Preliminary Design Considerations (PennDOT DM-4, Section 4.1.3)
 - D. Final Design Considerations (DM-4, December 2019)
 - E. Standard Detailing – PennDOT Practice
 - F. Overview of PSLRFD
 - G. Strategies for Economy
- III. Precast Element Fabrication
 - A. Product Tolerances
 - B. Fabrication and Construction
 - C. Shipping and Handling Considerations
 - D. Repair Procedures
- IV. Prestressed Concrete Completed Bridge Examples/Case Studies
 - E. Interstate 78 Bridge Under Clearance Project, Berks County, PA
 - F. Villanova Pedestrian Bridge, Villanova, PA
 - G. SR 3005 Beckville Road Bridge Replacement, Schuylkill County, PA
 - H. SR 0051-A99 over Flaugherty Run Bridge Replacement, Allegheny County, PA
 - I. SR 1005-05B over Beaver Creek Bridge Replacement, Bedford County, PA