

## **Track Introductions - Toolkit Topics**

### **Adult Learning/Collaborative Learning Environment (Walt Catlett, P.E. - American Concrete Pipe Association)**

Adults are characterized by maturity, self-confidence, autonomy, solid decision-making, and are generally more practical, multi-tasking, purposeful, self-directed, experienced, and less open-minded and receptive to change. All these traits affect their motivation, as well as their ability to learn. So, let's see the adult learners' cognitive and social characteristics, and what instructional designers need to know in order to create the right course content and structure, and adjust their attitude.

### **Pipe Inspection: Pre and Post Installation Inspection (Al Hogan, P.E. - American Concrete Pipe Association)**

This class will walk the students through the four national pipe inspection standards and or guidelines currently available. The interactive discussion will review the current national standards for pipe inspection and evaluation from Pre-Installation all the way through asset management inspections and evaluations. The students will leave with a clear understanding of the information provided in each of the national standards on this subject and should be able to properly incorporate or reference these standards in their own specifications or guidelines for proper pipe inspection and evaluation if needed.

### **Pipe Installations – ASTM D2321 or ASTM C1479 (Don McNutt, P.E. - American Concrete Pipe Association)**

There are several similarities and then quite a few significant differences in the requirements for proper installation of reinforced concrete pipe and thermoplastic pipe products. Concrete pipe installations are based on ASTM C1479 and thermoplastic pipe installations are based on ASTM D2321. This class will provide a side by side comparison of these two unique specifications.

### **Pipe Design: Structural & Hydraulic (Paul Imm - Forterra)**

Who is responsible for the structural design on any given construction project? What about the design of pipe, both rigid and flexible? Designing drainage applications to carry load is just as important as the design for hydraulic capacity and flow characteristics. It is far too common for the design requirements of pipe to be overlooked. This course will review the basics of structural design for pipe and explain the differences between flexible pipe design requirements and rigid pipe design requirements.

### **Precast Reinforced Concrete Box Culvert Installation and Design (Steve Smart - County Materials Corporation)**

Precast Reinforced Concrete Box Culverts (RCB) empower owners with a time saving, extremely durable bridge-replacement option. Replacing an aging bridge in a few days versus several weeks reduces road user impacts, improves work zone safety and saves money for another project. This class highlights the proper technique for installing precast box culverts, creative DOT practices and recent innovations.

### **Trenchless Technology (RCP/RCB) (Derek Light, P. Eng. - Rinker Materials)**

A growing segment of pipe installation includes trenchless applications. They are less disruptive

to traffic, communities, utilities and businesses. Trenchless installation saves time, saves money and improves roadway safety. It is important to know this competitive option. As our nation's infrastructure approaches its service life, the jacking pipe procedure is a beneficial option worth researching.

### **Accelerated Precast Construction: CIP vs Precast (Trygve Hoff, P.E. - American Concrete Pipe Association)**

Accelerated Precast Construction focuses on replacement/repair of aging State, City and County short span bridges and culverts across our nation's transportation infrastructure. APC incorporates key tenants of FHWA's Accelerated Bridge Construction initiative, innovative planning, design, materials and construction methods to reduce construction time and costs, while improving safety, durability and quality.

### **Resilience in Transportation Infrastructure (Jenn Christman - Foley)**

Local agencies that develop transportation policies that address resiliency, capacity, risk, tolerance and collaboration are good stewards of their assets. A unified approach towards advancing the concepts of resiliency in a local agency's transportation infrastructure systems is critical. While it's not possible to identify all possible hazards, it is possible to mitigate the impact of most hazards and it starts with a resilient infrastructure plan. This block of training focuses its attention on effective resiliency practices for a local agency's stormwater infrastructure.

### **Precast Design and Installation (Ashley Wilson, P.E.)**

The maximum allowable depth of a typical precast concrete manhole is approximately 560 feet, practically unlimited. Properly installing precast structures ensures they function properly while maintaining the integrity of the roadways by efficiently removing stormwater. The greater one understands the precast structure process, the greater the savings in time and money.

### **QCast (Jake Jyrkama, P.E. - Rinker Materials)**

In an effort to improve the overall quality of all concrete pipe products, the American Concrete Pipe Association offers an on-going quality assurance program to member and non-member companies. Called the Quality Cast Plant Certification Program, the inspection program covers the inspection of materials, finished products and handling/storage procedures, as well as performance testing and quality control documentation. The greatest strength of the precast concrete pipe and box culvert industry is its ability to manufacture durable products with a service life of more than 100 years.