TCPA
TEXAS CONCRETE PRODUCTS ASSOCIATION

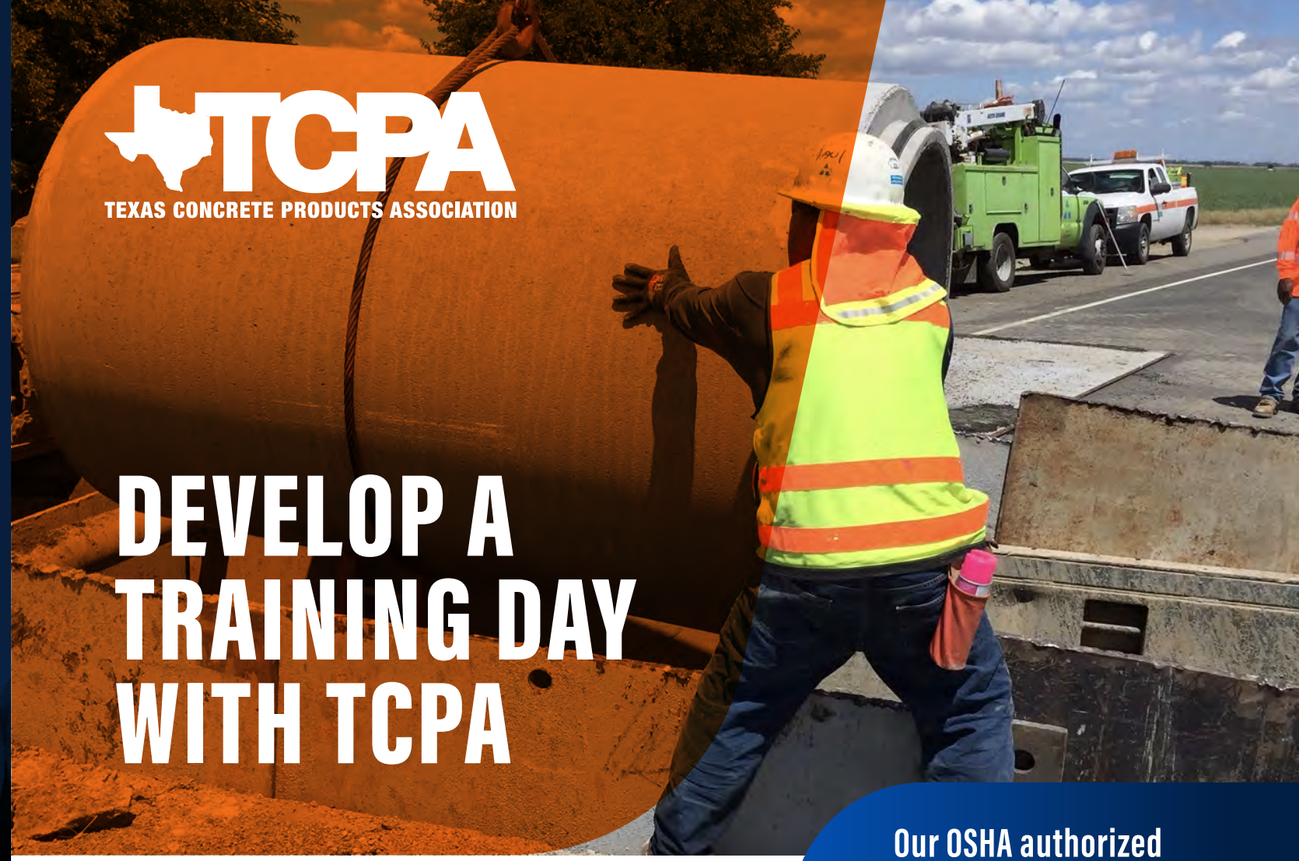
Students who attend our workshops learn more in four hours than traditional full day in person workshops. How is that possible you might ask. Our virtual workshops require students to complete assignments, take quizzes and watch pre-recorded 15-minute lectures. Once completed, students upload assignments into our learning platform. Then, the instructor provides feedback to their work, which they receive before the class reconvenes for the live discussion. During the live discussion, the instructor facilitates student driven discussion. This produces a collaborative learning environment made up of professionals from across the nation, sharing their experience and best practices. By the end of the workshop, everyone has provided comments during the live discussions.

COMMENTS FROM STUDENTS ABOUT OUR TRAINING CLASSES

"The hands-on application and involvement. Having assignments and graded quizzes (that were appropriately difficult) helped to retain information learned and make the course valuable."

"Great for all levels of experience, beginner to veteran that needs remedial training. You don't have to travel to get valuable training and it still feels like you are getting the human interaction more than a Webinar with just Chat /Q & A boxes."

"Instructor did a great job of explaining the importance of everything and kept the class engaging. Workshop facilitator did a great job of explaining the details of the modules and how to access everything."



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DEVELOP A TRAINING DAY WITH TCPA

EXAMPLE TRAINING AGENDA

VIRTUAL TRAINING DAY – PIPE INSTALLATION

8:00–8:30	INTRODUCTION LIVE DISCUSSION
8:30-9:45	INDEPENDENT WORK (1ST MODULE)
	Module 1 – Pipe Fundamentals / Soil Basics – Gradation and Compaction
	Module 2 – Trench Fundamentals / Safety / Standard Installations
9:45-10:15	LIVE DISCUSSION (1ST MODULE)
10:15-11:30	INDEPENDENT WORK (2ND MODULE)
	Module 3 – Standard Installation / Bedding
	Module 4 – Placement and Joining of Pipe / Backfill Placement
11:30-12:00	LIVE DISCUSSION (2ND MODULE)

IN-PERSON TRAINING DAY – CLASSROOM / HANDS ON

8:30 - 9:20	EXCAVATION AND TRENCH SAFETY
9:30 - 10:20	PROPER PIPE INSTALLATION PRACTICES
10:30 – 11:30	PRE AND POST INSTALLATION INSPECTION
11:30 - 12:30	LUNCH AND STATIC DISPLAY TOUR
12:30 – 4:00	HANDS ON TRAINING - INSTALLATION OF PIPE

Our OSHA authorized trainer offers several safety classes for transportation professionals.

Collaborative learning environment produces beneficial training beyond traditional training models.

Scan the QR code to view all 25 classes

For more information contact Patrick Tarlton at: patrick@tcpastrong.org or 512-217-0456

TRAINING CLASSES

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We can accommodate IN PERSON or VIRTUAL TRAININGS depending on whichever best fits your needs

Safety Topics

Fall Hazards

Highway and street construction work is some of the most dangerous work in the construction industry. On any road construction site, you risk potential injury – or even death. Your safety will depend on your knowledge of the hazards and use of safe work practices. Fall hazards are present at most worksites and many workers are exposed to these hazards daily. A fall hazard is anything at your worksite that could cause you to lose your balance or lose bodily support and result in a fall. Any walking or working surface can be a potential fall hazard.

Worker Safety

As our highway infrastructure ages, many transportation agencies are focusing on rebuilding and improving existing roadways. This means more roadwork is being performed on roadways where traffic is present. Roadwork can be hazardous. The Worker Safety class highlights the hazards present during construction and maintenance activities associated with roadway work, utility work and excavation work. The class identifies measures to mitigate the risks associated with them.

Trenching and Excavation Safety

In the United States more than 800 construction workers die every year while on the job. One of the most dangerous types of work is trenching, which kills 40 construction workers every year. The Occupational Safety and Health Administration's (OSHA) Excavation standards, 29 Code of Federal Regulations (CFR) Part 1926, Subpart P, contain requirements for excavation and trenching operations. This training highlights key elements of the standards and describes safe work practices that can protect workers from cave-ins and other hazards.

Installation Topics

Pipe Installation

A properly installed pipe should remain in service for 50 to 100 years with little or no maintenance. ACPA has documented installation practices for both flexible and rigid pipe at the local and state level. The focus of this class remains on promoting a solid understanding of installation, specifications, design requirements and material differences for pipe systems. Empower your staff with the ability to properly inspect, design, install and accept both flexible and rigid pipe systems.

Precast Reinforced Concrete Box Culvert Installation

Precast Reinforced Concrete Box Culverts (RCB) empowers 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.

Precast Drainage Structure Installation and Design

We will walk through design, production, and installation of precast. 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. There are several different processes used to produce high quality precast products. New and improved machines and methods are continually being developed. We will touch on the more commonly used production methods.

Pre-Installation Inspection

This training introduces the student to all the inspection milestones in the life of a storm drainage pipe, with an in-depth focus on the pre-Installation timeframe. Students will gain a clear understanding of what issues they should expect to see in storm drainage pipe prior to installation. This class provides the student with a review of AASHTO R73, which provides excellent guidance on the evaluation of Pre-Installed RCP and other precast drainage products.

Post Installation Inspection

It's in the owner's best interest to know that all pipes in their system have been properly installed and were not damaged such that the pipe system is not compromised. Post Installation Inspection (PII) provides the owner the information needed to determine whether proper installation occurred prior to project close-out or final acceptance.

Trenchless Installation - Jacking Pipe

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.

TRAINING CLASSES

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Manufacturing / Quality Control

Concrete Pipe Manufacturing Methods

There are several different processes used to produce high quality pipe. New and improved machines and methods are continually being developed. We will touch on the more commonly used production methods. We will also briefly discuss the component materials, techniques and equipment used to produce a consistently high-quality product. The class also includes the process implemented in the development process of mix designs that consistently provide optimum strength and density that produces a durable product.

Concrete Pipe and Box Culvert Repairs and Finishing

This course covers steps to perform basic repairs of reinforced concrete pipe and boxes. We will also discuss the standards that govern allowable repairs. We will address the various conditions that governs whether a defect is repairable. Certain damage or defects will have structural implications while others may affect the performance of the pipe joint. Additionally, some repairs are made simply to provide an acceptable appearance for the product. We will discuss the materials required for repairs but the detailed techniques to be a successful finisher only comes with experience in the field.

Concrete Pipe Ingredients

Understanding reinforced concrete pipe and precast concrete products starts with understanding concrete. This course addresses fundamental information about the primary materials that go into making concrete, which are aggregates, cementitious materials, and admixtures. Emphasis will be given to the physical properties of each concrete component material and how each of them affects concrete. We will wrap up the course with a discussion on the function and importance of reinforcement used in the manufacturing of precast concrete products.

Precast Concrete Product Testing

This course covers product testing, with a look at the tests performed on the materials before production, as well as those typically required or suggested for concrete pipe. The ACPA Quality School provides an excellent level of detailed exploration into each of these tests, but the intent of this course is not to train attendees how to perform the tests or how to evaluate the outcomes; rather, this course is meant to familiarize students with the quality control tests that ensure the delivery of a high quality product.

QC/QA Concrete Pipe

A comprehensive and established Quality Control / Quality Assurance Audit Program is essential to a successful outcome. This class highlights recommended procedures that State DOTs or Public Work Agencies can follow when shadowing the American Concrete Pipe Association (ACPA) QCast Program plant audits. This guide is intended to form a baseline review that can be applied nationally to any quality assurance/quality control program.

Bridge Topics

3 Sided Rigid Frames

Precast 3-Sided Rigid Frames provide you a tool that accelerates construction, protects the environment, and reduces road user impact costs. They provide engineers another option for addressing increased flow capacity requirements, reduced maintenance expectations and meeting environmental regulations. This innovative precast bridge replacement option is available in spans up to 50 feet, with rises to 12 feet.

Accelerated Precast Construction (APC)

Accelerated Precast Construction focuses on the replacement of aging State, City and County short span bridges and culverts across our nation's transportation infrastructure. Accelerated Precast Construction incorporates key tenets 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.

Accelerated Bridge Construction – Small Bridge Replacement Strategies

Accelerated bridge construction incorporates several fundamental attributes that reduce road user impacts, costs and work time. Incorporation of ABC practices into your project will help minimize traffic delays and community disruption while increasing safety in the construction zone. The instructor uses Accelerated Bridge Construction to introduce several strategies that state and local agencies utilize to replace small bridges, which include precast concrete box culverts, three-sided rigid frames, precast modular bridges and geosynthetic reinforced soil integrated bridge systems. This class will change the way you think about small bridge replacement options.

Bridge Preservation - Fundamentals

State departments of transportation (DOTs), local agencies, and other bridge owners face significant challenges in addressing the needs of their aging infrastructure. Due to limited funds and increased competition for funds among highway assets, bridge owners are challenged to effectively preserve and maintain their bridges to support overall highway mobility. This workshop defines bridge preservation terms and identifies commonly practiced bridge preservation activities. It also highlights strategies for establishing or improving existing bridge preservation programs.

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Engineering/Transportation

Specification Writing and Revising

Contract Specification Writing consists of careful consistency of requirements throughout a contract and conformity with what is written in other documents. This class is designed to enable the student to understand Specification Documentation, Writing, and Language using individual practical application that includes writing a basic specification.

Utility Coordination

What was the biggest headache on your last project? Many engineering and construction project managers will say utilities. It is imperative to identify both above ground and underground facilities within project limits that pose potential conflicts. Utilities can impact construction as well, and unknown utilities discovered on the job site during construction create significant impacts to the project budget and timeline. The course addresses relocation, replacement and re-design options commonly used to address utility conflicts. Utilities certainly impact design.

Resiliency and Durability

This course covers pipe resiliency, durability and aggressive factors which can affect rigid and flexible pipe systems. A properly designed and installed storm drainage pipe system will produce a resilient system that reaches its expected service life. Therefore, it is important to understand the issues that affect the service life of storm drainage. Our infrastructure depends on resilient and durable systems that reduce impacts to the maintenance budget and impacts to the road user.

Storm Sewer Design

This block of training provides guidance on key aspects of storm drain design and analysis. The quality of the final in-place system usually reflects the attention given to every aspect of the design as well as that accorded to the construction and maintenance of the facility. Most aspects of storm drain design such as system planning, pavement drainage, gutter flow calculations, inlet spacing, pipe sizing, and hydraulic grade line calculations are included in this training.

Transportation Asset Management Planning

At a fundamental level, asset management involves understanding the state of agency assets, the level of performance expected of those assets, and the relationship between performance and the funding needed to operate and maintain the assets. A solid understanding of these relationships helps agencies determine the best strategy for investing in their asset network. The training starts with a discussion on the benefits of an asset management plan and wraps up identifying common elements of an asset management plan.

Engineers Responsibility

Many engineers and specifying agencies design culverts and storm drainage systems without understanding the differences between the rigid and flexible pipe products. In addition, many do not have possession of the appropriate installation standards that provide the details required for proper installation. This training will cover the specific requirements of each standard to provide engineers with the technical information they need to make informed engineering decisions. After completing this program, participants will be able to recognize and demonstrate the differences between rigid and flexible pipe installations referencing both ASTM C1479 and ASTM D2321. Participants will develop a practical understanding of the necessary steps to reduce risks when specifying rigid or flexible pipe.

Pipe Structural Design

Most of the attention for a buried pipe design is on the hydraulics, while the structural design is often taken for granted even though the consequences of structural failure results in tremendous costs, inconvenience, and a risk to the public. The design of any buried drainage system must consider pipe material properties and the characteristics of the soil envelope surrounding the pipe. This class will introduce basic design methods with insights into AASHTO LRFD requirements to ensure good design and construction practices are considered for both rigid and flexible pipe materials.

Roadway Plans Reading

This lively class will change the way you think about reading and understanding roadway construction plans. You will learn the primary elements of a set of roadway plans and what each element contains. We will touch on the title sheet, schematic plan, utility plan, typical sections, general notes, maintenance of traffic plans, plan/profile sheets, cross sections, and miscellaneous details. Several practical exercises provide students an opportunity to demonstrate their understanding of course content. By the end of the training, you will possess the knowledge to communicate key details about any set of roadway plans to those interested.

Ethics

The study of professional ethics is more than a hypothetical exercise, it is the very foundation of engineering practice. As engineers, it is our responsibility to understand it, develop it, and live it on a daily basis. This class explores the history of professional ethics; the ethical canons upheld by national engineering societies; and the narrow line that separates legal and professional responsibilities. Case studies on real events, including the Challenger disaster, the Hyatt Regency Walkway Collapse, and the Florida International University (FIU) foot bridge collapse, bring to life the unethical choices that jeopardized public safety. It is an engineer's responsibility to put the safety of the public first. Every decision engineers make must support the public's expectations that they have made ethical choices to ensure their safety.

Solutions for Failing Culverts

Failing culverts create maintenance and budget challenges for DOTs and local agencies. They must develop strategies to reduce the impact of culvert failure. That strategy will most likely be a combination of repair, rehabilitation, and replacement. Available resources will impact which becomes the priority. This course raises awareness on several techniques that support a pro-active approach to include slip lining, lining and replacement.