

CONSTRUCTION INSPECTION FOR PUBLIC WORKS PROJECTS

3-DAY COURSE SYLLABUS WITH DESCRIPTIONS

This workshop is based on the APWA course and manual for Construction Inspection: A Review. The Instructors follow the general guidance of the APWA course with specific project examples related to NC regional conditions.

Monday, April 15, 2024

Module 5 – Earthwork: Construction Inspection
Part I: Land Use Issues

This session will address the various regulations that affect grading operations. These include wetland and stream impacts governed by Section 404 of the Clean Water Act, and erosion control measures required by NPDES Permits for Construction Activities and State/local erosion control requirements.

Module 6 – Earthwork: Construction Inspection
Part II: General Construction Processes and Procedures

This session will address surveying, easements, and construction staking; clearing and grubbing; grading operations; testing procedures; and recordkeeping. Acceptance/rejection criteria will also be discussed.

Module 7 – Earthwork: Construction Inspection
Part III: Soil Characteristics, Testing & Evaluation

This session will address the characteristics of different soil types; soil classification systems; and various soil testing methods used during construction. Advantages and limitations of different testing methods will also be addressed.

Module 1 – Construction Inspection: Basic Overview

This session will address the Inspector's role, duties, limitations, and qualifications. Also discussed will be the personal health and safety issues for the Inspector (protective equipment, site awareness, etc.).

Regulatory Overview

This session will address OSHA and EPA requirements related to a construction site. The role and limitations of the Inspector in addressing these rules will also be addressed.

Module 2 – Documentation and Communication

This session will address the methods of communication (verbal, written, email, etc.) and guidelines for communicating with the Contractor, public, management, etc. This session will also address the recordkeeping and documentation that is needed for a project including daily entries into the project diary; tracking of quantities and materials; and various report forms.

Module 3 – Risk Management and Legal Issues

This session will address the basics of contract law, contract documents, the Inspector's role as an agent of the Owner, potential for litigation, and managing risks. Specific case studies will be discussed to emphasize key points.

Tuesday, April 16, 2024

Module 4 – Pre-Project Planning

This session will address the steps and people involved in pre-project planning. The nature of the plans and specifications that comprise the contract documents will be addressed as well as some of the key things that must be done before the construction begins. These items include review of the plans and specifications; pre-construction conference; photos/documentation of pre-project conditions; and notification of various agencies and utilities.

Federal Compliance on Construction Contracts

This session will address the additional requirements associated with contracts with Federal funding. Topics discussed will include compliance with the Davis-Bacon Act; Buy America provisions; certified payroll registers; etc. This session is not based on the APWA course, but it is one of our most popular sessions.

Module 8 – Excavation and Confined Space Safety

This session will address the excavation and confined space safety regulations and the Inspector's role. While not a formal day-long training session required by OSHA, this session highlights the dangers and rules associated with trench and other excavations.

Module 19 –Landscaping

This session addresses the care that needs to be taken when working around trees to protect the trees from construction activity. Planting and maintenance requirements will also be addressed for trees and other landscaping.

Module 10 – Underground Pipe Pressurized Line

This session will address pipe materials, pipe installation, and testing procedures for pressurized pipe lines. Also addressed will be acceptance/rejection criteria, example projects, and specific recordkeeping required for these pipe systems. The session will focus on water lines with some discussion of gas lines.

Module 11 – Underground Pipe Gravity Line

This session will address pipe materials, pipe installation, and testing procedures for gravity pipe lines. Also addressed will be acceptance/rejection criteria, example projects, and specific recordkeeping required for these pipe systems. The session will address sanitary sewer and storm drainage lines.

Module 12 – Underground Pipe -Installations

This session will address open cut and trenchless installation techniques. The primary focus will be on open cut installations and the various types of pipe connections, fittings, structures, valves, etc. that may comprise a pipe system.

Wednesday, April 17, 2024

Module 14/15 – Street and Surface Improvements

This session will address the construction of asphalt and concrete pavements for roads. The primary focus will be on asphalt since very few municipal roads in NC are concrete. The session will also address the different mix designs and their applications; handling and placing materials; paving equipment; testing procedures; and acceptance/rejection criteria.

Module 23 – Project Close-out Procedures

This session will address the steps involved in project completion and closeout. Topics discussed include final inspections, lien waivers, when to release surety bonds, final payment, and warranties.

Module 13 – General Concrete Inspection

This session will address general concrete construction. Topics include mix designs, concrete strength, placement and inspection of reinforcing steel, handling and placement of concrete, weather implications, expansion and contraction joints, finishing, curing, and sampling and testing procedures.

Module 18 – General Structural Steel

This session will address structural steel construction. Topics include types and shapes of steel, bolted connections, welded connections, ASTM standards, safety concerns, and acceptance/rejection criteria.

Course Evaluation, Discussion, and Closure

This session will solicit verbal feedback and general discussion from the attendees on the course evaluation. Also, each attendee will be expected to complete an evaluation form.