



Bridging the Gap Training Program

16 virtual hour-long training sessions + 16 hour-long Q&A sessions

June 15-November 15, 2025

Cost \$2,500 per attendee

Entry-level engineers with 0-3 years' experience – perfect for new graduates

Registration is Open till June 9, 2025: <https://www.contigoengineering.com/bridgethegap-register>

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Potential Syllabus: Topics That May Be Covered

Hydrology Fundamentals

- **Introduction to Watershed Hydrology**
 - Curve Number Methodology: Understanding soil groups and land cover impacts
 - How to delineate a watershed using topo maps
 - Time of Concentration Calculations
- **Calculating Runoff**
 - Rational Method
 - WinTR-20

Hydraulics Basics

- **Open Channel Flow Concepts**
 - Manning's Equation: sizing ditches and swales
 - Selecting appropriate Manning's *n* values for various materials and conditions
 - HEC-RAS for a basic backwater analysis
- **Floodplain and Floodway Concepts**
 - What is a floodplain? What is a floodway?
 - Regulatory considerations for floodplain

Understanding Engineering Plans and Drawings

- **Reading and Interpreting Engineering Plans**
 - Legends, notes, typical symbology, and scaling



- Components of a site plan: demotion, geometry, grading, utility, SESC, notes, details, etc
- **Cross Sections and Profiles**
 - How to translate plan view into profiles and cross sections
 - Understanding the scale
- **Grading Basics**
 - Reading spot elevations and contours
 - Understanding slopes and surface drainage patterns
- **Erosion and Sediment Control**
 - Overview of BMPs (Best Management Practices)
 - Typical erosion control measures on development sites

Design Fundamentals

- **Typical Site Constraints**
 - Environmental features, easements, utility conflicts, access and drainage paths
- **Earthwork Calculations**
 - Cut and fill estimation
 - Compensatory storage for floodplain projects
- **Stormwater Facility Design**
 - Sizing detention basins using WinTR-20
 - Designing outlet control structures (weirs, restrictors)
- **Hydraulic Modeling Tools**
 - Intro to HEC-RAS for backwater analysis
 - Using HY-8 for culvert sizing and analysis
- **Storm Sewer Design Basics**
 - Pipe sizing, slope, and inverts
 - Manhole sizing and types



Regulatory Navigation

- **Reading and Applying Ordinances**
 - How to interpret stormwater, zoning, and floodplain ordinances
- **Finding and Using Resources**
 - Using County GIS maps, FEMA flood maps, water/sanitary atlases, etc
- **Permit Processes and Jurisdictions**
 - Typical permitting: local, county, DOT, state, and federal layers
 - Tips for working with regulatory agencies and understanding review timelines

Soft Skills and Professional Development

- **Work Planning and Organization**
 - How to plan your week effectively
 - Tracking delegated tasks and personal deadlines
 - Creating your own technical reference file
- **Effective Communication Skills**
 - What questions to ask when receiving assignments
 - How to communicate status updates to your supervisor or project manager
- **Engineering as a Business**
 - Introduction to how engineering consulting firms operate (billing, contracts, deliverables)
- **Career Growth and Networking**
 - Importance of professional organization involvement (e.g., ASCE, IAFSM)
 - Building a professional network early in your career