



Bridge Construction Inspector Recertification Class Agenda 2023-2024

Class dates: January 16 and February 20, 2024

Delivery: live virtual, via Zoom

Instructors

Mark Spafford

MnDOT Bridge Office Engineer Specialist Senior

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Other Instructors listed within Agenda

Timing, attendance, and breaks

Class day is from 8:00 a.m. to 4:30 p.m. Attendance will be taken in the morning and afternoon. There will be short breaks throughout the day and a 45 minute lunch break around 12:00 noon.

Deadlines (see the course webpage for more information):

The **written exam** will open for you at the end of the class. You must complete the exam within one week after it is open for you, meaning the same day the following week.

View the **Technical Certification Program website** at mndot.gov/technical-certification for information about: our program and certification process, class registration, course materials and program documents, construction resources, exams, Technical Certification Card, and help and contacts.

Class Agenda

Time	Topics	Instructors
8:00-8:30 (30)	INTRODUCTIONS	Mark Spafford
8:30-9:15 (45)	1. FOUNDATIONS <ul style="list-style-type: none"> • Pile Formula • Pile driving analyzer (PDA) • Pile Load Test • H-Pile Holes • Artesian Conditions • Pile Positioning Tolerances • Spec/Std Detail Changes • Pile Driving Using Stopwatch • Retaining wall piling (LRFD-MPF12) • Pile Coatings • Piling installed payment method 	Brian Homan MnDOT State Aid Bridge Plans Engineer Andrew Fritz MnDOT Bridge Construction Field Support Specialist

Time	Topics	Instructors
9:15-9:45 (30)	2. PROTECTIVE DECK SYSTEM <ul style="list-style-type: none"> • New HPC Full-depth Deck Policy • KU Study deck cracking • Fibers in Concrete Deck • LS Wearing Course <ul style="list-style-type: none"> ○ Cracking and crack sealing ○ Curing alternate coming ○ Patching over-runs ○ Checklist and Timeline Available ○ Texture planing (Diamond Grinding) • Other Wearing Courses • Load Restrictions 	Andrew Fritz (deck surface) MnDOT Bridge Construction Specialist
9:45 – 9:55 (10)	BREAK	
9:55-11:00 (65)	3. REHABILITATION TOPICS <ul style="list-style-type: none"> • Expansion joint issues • Remove bridge deck issues • Clean and grease expansion bearings • Paving brackets • Concrete Surface Repair (Shotcrete) • Shoring • Anodes • Adhesive anchors 	Paul Pilarski MnDOT Bridge Construction and Scoping Engineer
11:00-11:45 (45)	4. STEEL ISSUES <ul style="list-style-type: none"> • Spec Book and Spec changes • Field welding-negative moment areas • AWS certification • Girder Erection specifications • Steel issues • Bolting-DTI's – PIV • Shear stud connectors 	Nick Haltvick North Region Bridge Construction Engineer
11:45-12:00 (15)	5. PRECAST BRIDGE ELEMENTS <ul style="list-style-type: none"> • Prestressed Beams: End sealing & repairs • Changes to prestressed concrete beams • Debonded strands • MSE Wall Construction issues 	Ashley Jacobson MnDOT Metro East Region Bridge Construction Engineer
12:00-12:45 (45)	LUNCH BREAK	
12:45-1:15 (30)	6. BRIDGE AESTHETICS <ul style="list-style-type: none"> • Why aesthetics • Architectural concrete textures • Surface finishes and colors • Railings • Public art • As-built sheets • What is coming in 2024 	Melissa Schultz MnDOT Bridge Architectural Specialist

Time	Topics	Instructors
1:15-2:00 (45)	7. ENVIRONMENTAL ISSUES - REGULATED MATERIALS <ul style="list-style-type: none"> • Paint removal • Regulated waste handling and disposal • Asbestos Management – oversight thresholds revised • Chain of custody- handling • Concrete to remain • Air, water pollution control 	Jeff Neisse MnDOT Office of Environmental Stewardship
2:00 – 3:15 (75)	8. STRUCTURAL CONCRETE <ul style="list-style-type: none"> • HPC deck placements • Special provisions • Form removals • Curing methods • Curing decks- staff up, soak burlap • Cold weather Concrete Protection • Air content 6.5% • Pumping concrete • Vibrating to consolidate concrete • Sampling and cylinders • Field issues • Mass concrete • Self-Consolidating Concrete • Schedule of Materials Control (SMC) 	Jake Gave MnDOT Assistant Concrete Engineer
3:15-3:25 (10)	BREAK	
3:25-4:10 (45)	GENERAL DISCUSSION <ul style="list-style-type: none"> • 2025 Spec Book Update (Mark Spafford) • Updates to Standard Details (Mark Spafford) • Special Provisions Changes (Karl Gronvall) <ul style="list-style-type: none"> ○ SB – Division ○ S – Division • General (Andrew Fritz) <ul style="list-style-type: none"> ○ Const. & Maint. Staff Coordination ○ Bridge Construction Website 	Mark Spafford Karl Gronvall MnDOT South Region Bridge Construction Engineer Andrew Fritz
4:10 – 4:25 (15)	WRAP UP <ul style="list-style-type: none"> • Course evaluation • Program details • Exam directions 	Mark Spafford

MnDOT BRIDGE CONSTRUCTION UNIT

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Andrew Lawver	Br. Const./Main. Engineer	651-366-4507	C: (507) 380-1705
Paul Pilarski	Bridge Const./Scoping Eng.	651-366-4562	C: (651) 485-3167
Ashley Jacobson	Metro East Region Engineer	651-366-4563	C: (612) 518-7440
Ryan Rohne	Metro West Region Engineer	651-366-4581	C: (651) 755-9881
Nick Haltvick	North Region Eng. – Dist. 1, 2, 3, 4	651-366-4561	C: (651) 216-3219
Karl Gronvall	South Region Eng. – Dist. 6, 7, 8	651-366-4565	C: (612) 364-0379
Mark Spafford	Construction Unit Senior Specialist	651-366-4564	C: (651) 470-9862
Andy Fritz	Construction Unit Specialist	651-366-4464	C: (507) 259-1360
Braden Cyr	<i>Bridge Standards Engineer</i>	<i>651-366-4484</i>	<i>C: (507) 251-3544</i>
Melissa Schultz	<i>Architectural Specialist</i>	<i>651-366-4465</i>	

Unit Responsibilities - "Liaison between Field Construction, Maintenance and Bridge Office Design"

Foundations

- Specify Pile Type
- Specify Pile Length
- Specify Pile Capacity
- Assist in any Piling Concerns

Plans & Specs

- Review Each Bridge Plan and Special Provisions
- Pay Items
- Special Provisions and Spec Book
- Constructability Review

Develop New Specs / New Standards / Update the Bridge Construction Manual

Construction Assistance

- Assist project Inspectors and Engineers with questions from the very basic to the very technical.
- Assist with Change Orders

Maintenance Assistance

- Inspections
- Bridge Crews

Bridge Improvement Program

- Help Develop FY XX Program (3-4 yrs. out)
- Prepare Recommendations for every repair project (Overlays, Widening, Redecks, Paint, etc.)

New Products and Training Videos: www.dot.state.mn.us/bridge/training.html

Qualified/Approved Products web site: www.dot.state.mn.us/products/

Bridge Office web site: www.dot.state.mn.us/bridge/

updated 12/2023