

**This is your invitation to the 2007**



# **Western Bridge Engineers' Seminar**

Practical Solutions for Today's Challenges  
in Bridge Engineering.

**September 24 – 26, 2007**

Boise Centre on the Grove  
Boise, Idaho

Seminar managed by:

**WASHINGTON STATE UNIVERSITY**




**CENTER FOR DISTANCE AND  
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**7612 Pioneer Way E.  
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# Western Bridge Engineers' Seminar

Practical Solutions for Today's Challenges in Bridge Engineering.

**T**he Western Bridge Engineers' Seminar is a biennial cooperative effort by the Federal Highway Administration and the Transportation Departments of Alaska, Arizona, California, Idaho, Nevada, Oregon, and Washington. Its purpose is the exchange of information between government agencies, consultants, contractors, educators, and suppliers on subjects of current importance to the design, construction, and maintenance of bridges. The theme of the 2007 technical programs is "Practical Solutions for Today's Challenges in Bridge Engineering." An exhibit area will feature booths displaying products and services of interest to seminar participants.

## Keynote Speakers

### DESIGN FOR CONSTRUCTION

**Brian Maroney, Dr. Engr., P.E.**  
*California Department of Transportation*



Brian Maroney is a bridge engineer with 25 years of experience and a licensed professional engineer in the State of California. He is currently working for the California Department of Transportation. He has recently been appointed Deputy Program Manager for the Toll Bridge Program from a position

of Principal Bridge Engineering and Chief of Toll Bridge Design. He has worked in bridge design, construction, earthquake engineering and program-project management.

Brian Maroney earned his Doctorate from the University of California, Davis under Dr. Karl Romstad conducting research on the seismic response of bridge structures to earthquakes and particularly the behavior of bridge abutments that included the first of their kind large scale bridge abutment tests to failure. Dr. Maroney serves on the faculty at UCD as an adjunct associate professor where he enjoys working on projects that are bridge related. He has taught classes in structural dynamics, bridge engineering, and structural mechanics.

### THE RIGHT BRIDGE FOR THE RIGHT REASONS

**Rob Turton, P.E., S.E. HDR, Engineering, Inc.**



Rob Turton, P.E., S.E. is national technical director for bridges for HDR, Inc., an employee-owned architectural, engineering and consulting firm with approximately 6,000 professionals in 140 locations worldwide. He is a recognized specialist in bridge and structural engineering with more than

30 years of experience in consulting, industry, and research. Rob is responsible for the development and quality of HDR's engineering program for transportation structures, and serves as principal engineer on large and complex projects. Representative experience includes such notable projects as the I-17/I-40 Interchange, the Hoover Dam Bypass, the San Francisco Oakland Bay Bridge East Bay Crossing, the Reno Transportation Rail Access Corridor, Taxiways S and T at Sky Harbor International Airport, and the Navajo Bridge in Grand Canyon National Park.

# Seminar Schedule

## Sunday September 23, 2007

3:00 pm - 6:00 pm

**REGISTRATION** (Foyer Near Meeting Room)

6:00 pm - 8:00 pm

**ICEBREAKER** (Exhibition Hall)

## Monday September 24, 2007

7:00 am

**REGISTRATION**

7:30 am

**CONTINENTAL BREAKFAST** (Exhibit Area)

8:30 am - 10:00 am

**GENERAL SESSION**

▪ **Welcome and Opening Remarks**

Matt Farrar, P.E.

*Seminar Chair and State Bridge Engineer*

▪ **Welcome to Idaho**

Steve Hutchinson, P.E.

*Chief Engineer, Idaho Transportation Department*

▪ **Keynote Address**

**9:00 am Design for Construction**

Brian Maroney, Dr. Engr., P.E.

*California Department of Transportation*

**9:30 am The Right Bridge for the Right Reasons**

Rob Turten, P.E., S.E.

*HDR Engineering, Inc.*

10:00 am - 10:30 am

**COFFEE BREAK**

10:30 am - Noon

**TECHNICAL SESSIONS**

### **2A ACCELERATED BRIDGE CONSTRUCTION**

▪ **A Survey of Rapidly Constructed Bridges Using Prefabrication Systems**

John S. Dick, *Precast-Prestressed Concrete Institute, Chicago, IL*

▪ **Hood Canal Bridge East and West Approach Span Replacement**

Joseph Merth, P.E. *Washington State Department of Transportation, Olympia, WA*

▪ **Precast-Prestressed Concrete Pavement for Rapid Bridge Approach Slab Reconstruction**

Dean Bierwagen, P.E. *Iowa Department of Transportation, Ames, IA*

Michael D. LaViolette, P.E. *HNTB Corporation, Omaha, NE*

David K. Merritt, P.E. *The Transtec Group, Austin, TX*

Samuel S. Tyson, P.E. *Federal Highway Administration, Washington, DC*

### **2B BRIDGE SERVICE LIFE**

▪ **How Long Will Your Bridge Last? The Need to Predict Service Life of Bridge Components**

Mike Bartholomew, P.E. *CH2M HILL, Inc., Corvallis, OR*

▪ **Design and Construction Practices That Can Result in Improved Service Life of Concrete Structures to 150 Years or More**

Mohammad Sheikhezadeh, P.E. *Washington State Department of Transportation, Olympia, WA*

Tobin Smith, *Max J. Kuney Com., Spokane, WA*

▪ **Service Life of Bridge Deck Repairs in Alberta**

Clarence Wong, P.Eng. *Alberta Infrastructure and Transportation, Edmonton, AB Canada*

Paul D. Carter, P.E., P.Eng. *FACI, CH2M HILL, Inc., Edmonton, AB Canada*

12:00 pm - 1:30 pm

**LUNCH**

1:30 pm - 3:00 pm

**TECHNICAL SESSIONS**

### **3A PRECAST-PRESTRESSED CONCRETE BRIDGES #1**

▪ **Design of Precast-Prestressed Concrete Girders for Optimized Fabrication**

Richard Brice, P.E. and Bijan Khaleghi, P.E., S.E.

*Washington State Department of Transportation, Bridge and Structures Office, Tumwater, WA*

Stephen J. Seguirant, P.E. *Concrete Technology Corporation, Tacoma, WA*

# Seminar Schedule

- **Decked Bulb-T Girder Bridges**

Charles Spry, P.E., S.E. *BERGER/ABAM Engineers, Inc., Tacoma, WA*

- **Improving Predictions for Camber in Precast-Prestressed Concrete Bridge Girders**

Michael Rosa, John Stanton, and Marc Eberhard, *Washington State Department of Transportation, Bridge and Structures Office, Tumwater, WA*

## 3B PEDESTRIAN BRIDGES

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- **Suspension Trail Bridge Using Sustainable Design**

Brad Miller, P.E. and Dustin Hirose, *HDR Engineering, Inc., Missoula, MT*

- **Interurban Trail Pedestrian Bridges**

Mark Johnson, P.E. *CH2M HILL, Inc., Bellevue, WA*

- **Design and Construction of OMSI-Springwater Trail McLoughlin Boulevard Bridge**

Dr. Jiri Strasky, P.E. *Consulting Engineers, Greenbrae, CA*  
Gary Royer, P.E. *OBEC Consulting Engineers, Eugene, OR*

3:00 pm - 3:30 pm

**COFFEE BREAK**

3:30 pm - 5:00 pm

**TECHNICAL SESSIONS**

## 4A BRIDGE AESTHETICS

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- **Aesthetic Modifications to Precast Bridge Girders**

Dr. Keith Kaufman, P.E. *Knife River, Harrisburg, OR*

- **Bridge Architecture of the 21st Century West Coast Bridge—An Architect's Perspective**

Paul Kinderman, P.E., A.I.A. *Washington State Department of Transportation, Bridge and Structures Office, Tumwater, WA*

Michael Fitzpatrick, A.I.A. *Ty Lin International, San Francisco, CA*

- **Art in the Desert**

Tina Sisley, P.E. *Arizona Department of Transportation, Phoenix, AZ*

## 4B DESIGN SOFTWARE BENEFITS

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- **Getting to LRFD**

Richard Brice, P.E. *Washington State Department of Transportation, Bridge and Structures Office, Tumwater, WA*

Richard Pickings, *BridgeSight Software, Rescue, CA*

- **FHWA Tools (Software) to Reduce Bridge Deck Cracking**

Tony Kojundic, *FACI Silica Fume Association, Pittsburgh, PA*

- **The Use of 3D Integrated Drawings on the Design of the New Folsom Bridge**

Alex Harrison, M.S., P.E. and Ed Maechle, *CH2M HILL Inc., Sacramento, CA*

**Tuesday September 25, 2007**

7:00 am

**REGISTRATION**

7:30 am

**CONTINENTAL BREAKFAST** (Exhibit Area)

8:30 am - 10:00 am

**TECHNICAL SESSIONS**

## 5A BRIDGE CONSTRUCTABILITY

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- **Innovative Concrete Solution Prevails Over Long Steel Spans**

Daniel Shiosaka, P.E., S.E. *Stanley Consultants, Inc., Phoenix, AZ*

- **Designing for Construction—The South 228th Street Bridge**

Robert Fernandes, P.E., S.E. and Charles Spry, P.E., S.E. *BERGER/ABAM Engineers, Inc., Seattle, WA*

- **Innovative PC/PS Bridge Construction Enables “Total Environmental Avoidance”**

Dr. Ahmad Addel-Karim, P.E., Thomas Barnard, and Orin Brown, *DMJM Harris, Sacramento, CA*

# Seminar Schedule

## 5B BRIDGE INSPECTION AND REPAIRS

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- **Steel Girder Repair by Flame Straightening**  
Navaphan Viboolmate, P.E. *Arizona Department of Transportation, Phoenix, AZ*
- **Fracture Critical and Fatigue Prone Inspection of the West Fremont Bridge Approach Structures**  
Mark A. Libby, P.E. and Terry Ummer, P.E. *HDR Engineering, Inc., Portland, OR*
- **GPR Survey of 14 Bridge Decks along I-80 in Elko County, Nevada, Using High-Speed and Ground-Coupled Sensors**  
Francisco A. Romero, M.S.C.E. *GEOVision, Inc., Goffstown, NH*  
Michael Premo, P.E. *HDR Engineering, Inc., Omaha, NE*  
David A. Severns, P.E. *Nevada Department of Transportation, Carson City, NV*

## 5C BRIDGE DECKS

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- **Design and Construction of a Reinforcement-Free Concrete Bridge Deck on Precast Girders**  
Mike Oliva, Han-Ug Bae, L.C. Bank, and J.R. Russel, *University of Wisconsin, Civil and Environmental Engineering, Madison, WI*
- **The Link Slab—Solution to Widening the I-5 Bridge in Everett, WA**  
Warren Wilson, P.E., S.E. and Jeff McGuire, P.E. *BERGER/ABAM Engineers, Inc., Seattle, WA*
- **Bridge Deck Placement Under Traffic-Induced Vibrations**  
Craig Shike, P.E. *Oregon Department of Transportation, Salem, OR*

10:00 am - 10:30 am

**COFFEE BREAK**

10:30 am - 12:00 pm

**TECHNICAL SESSIONS**

## 6A PRECAST-PRESTRESSED CONCRETE BRIDGES #2

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- **Design and Construction of Curved Precast Concrete Bridge Projects in Colorado**  
Gregg Reese, P.E. C.E. *Summit Engineering Group, Littleton, CO*

- **New Developments in Concrete Bridges in Washington State**  
Bijan Khaleghi, *Washington State Department of Transportation, Bridge and Structures Office, Tumwater, WA*
- **Build It and They Will Come—Oregon's Bulb Tee 90 Gaining Popularity**  
Jordan Pelphrey, E.I.T. *Knife River, Harrisburg, OR*

## 6B ASSET MANAGEMENT

---

- **Ancillary Structure Inspection Procedures and Findings**  
Michael J. Garlich, P.E., S.E. *Collins Engineers, Inc., Chicago, IL*
- **Load Rating of Prestressed Concrete Girder Bridges—Interior vs. Exterior Girders**  
Brandy J. Rogers, M.S.C.E. *Parametrix, Sumner, WA*  
David V. Jauregui, Ph.D. *New Mexico State University, Las Cruces, NM*
- **Klineline Bridge Scour Monitoring**  
Carolyn Heniges, *Clark County Department of Public Works, Vancouver, WA*  
Douglas Sarkkinen, P.E., S.E. *Kramer Gehlen and Associates, Inc., Vancouver, WA*

## 6C IDAHO BRIDGES

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- **Rainbow Bridge Restoration**  
John Hinman, P.E., S.E. *CH2M HILL, Inc., Boise, ID*
- **Kings Corner Railroad Crossing**  
James D. Porter, P.E. *J-U-B Engineers, Boise, ID*
- **Lake Creek Bridges Design and Construction**  
Chris Boyd, P.E. *McMillen Engineering, Coeur d'Alene, ID*  
Lisa Vernon, P.E. *CH2M HILL, Inc., Boise, ID*

12:00 pm - 1:30 pm

**LUNCH**

# Seminar Schedule

1:30 pm - 3:00 pm

## TECHNICAL SESSIONS

### 7A CASE STUDIES

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- **Integral Abutment Bridges**  
David Liu, Ph.D., Steve Maltby, P.E., and Kenneth Dunker, P.E. *Parametrix, Portland, OR*
- **Integral Post-Tensioned Pier Cap—A Solution to Skew and Clearance Problems**  
Luong (Lou) H. Tran, P.E. *Washington State Department of Transportation, Bridge and Structures Office, Tumwater, WA*
- **Durability of Concrete Bridges**  
Vijay Chandra, *Parson, Brinckerhoff, Quade and Douglas, Inc., Herndon, VA*

### 7B RETAINING WALLS AND SUBSTRUCTURES

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- **Innovative Retaining Wall System for the Dallas High Five Project**  
Dr. William J. Neely, P.E. *The Reinforced Earth Company, San Diego, CA*
- **Construction of Structural Shoring and Retaining Walls**  
Jesse Beaver, P.E. *Washington State Department of Transportation, Olympia, WA*
- **The Observational Method and Drilled Shaft Acceptance Criteria**  
Conrad W. Felice, Ken Faight, and Tim Kovacs, *LACHEL FELICE and Associates, Kirkland, WA*

### 7C STEEL BRIDGES #1

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- **S10.1, Guidelines for Steel Bridge Erection**  
Bill McEleney, *National Steel Bridge Alliance, Cranston, RI*
- **Erection Procedure/Plan—What's In It, What's It Mean?**  
Ronnie Medlock, *High Steel Structures, Inc., Lancaster, PA*
- **Erection Skewed Bridges—Keys to an Effective Project**  
Ronnie Medlock, *High Steel Structures, Inc., Lancaster, PA*

3:00 pm - 3:30 pm

## COFFEE BREAK

3:30 pm - 5:00 pm

## TECHNICAL SESSIONS

### 8A EMERGENCY REPLACEMENTS AND REPAIRS

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- **Emergency Russian River Bridge Replacement at Geyerville, California (California Highway 128)**  
Jim Cook, P.E. and Brian Beaudoin, P.E. *California Department of Transportation, Santa Rosa, CA*  
Robert Valentine, P.E. *Nutt, Redfield and Valentine, Orangevale, CA*
- **King County Emergency Bridge Flood Damage Repairs**  
Benjamin Blegen, P.E. *King County Department of Transportation, Seattle, WA*  
Ken Wilson, M.S.C.E., P.E., S.E. *Integrity Structural Engineering, Seattle, WA*
- **Bill Williams River Bridge Fire Damage Assessment and Repair**  
Martha Davis, P.E. and Paul Tremel, P.E. *HDR Engineering, Inc., Tucson, AZ*

### 8B LONG SPAN BRIDGES

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- **NW Maple Avenue Bridge Aesthetics, Economy and Constructability in a Modern Cast-in-Place Arch Bridge**  
Jim Bollman, P.E. *OBEC Consulting Engineers, Eugene, OR*  
Dr. Jiri Strasky, P.E. *Consulting Engineer, Greenbrae, CA*
- **Incremental Launching of Bridges in Europe**  
Marco Rosignoli, *HNTB Corporation, Bellevue, WA*
- **Design of a Horizontally Curved Long Span Steel I-Girder Flyover at Airport Connector/I-215 Interchange in Las Vegas**  
Dr. Yong Deng, Ph.D., P.E., Nehro Ragabo, P.E., Guochen Zhang, and Omkar Jambotkar, *PB Americas, Las Vegas, NV*  
Nancy Kennedy, P.E. *Nevada Department of Transportation, Carson City, NV*

# Seminar Schedule

## 8C STEEL BRIDGES #2

- **Prefabricated Connections for Accelerated Construction**  
Mike Culmo, *CME Associates, Inc., East Hartford, CT*
- **The Designer Listens—The Perfect Continuous Girder Design**  
Don White, *Georgia Institute of Technology, Civil and Environmental Engineering, Atlanta, GA*
- **Think Like a Contractor**  
John Yadlosky, P.E. *HDR Engineering, Inc., Omaha, NE*

6:00 pm - 7:00 pm

**NO HOST COCKTAIL HOUR**

7:00 pm - 9:00 pm

**BANQUET** (Business Casual)

- **Banquet Program**

## Wednesday/September 26, 2007

7:00 am

**REGISTRATION**

7:30 am

**CONTINENTAL BREAKFAST** (Exhibit Area)

8:30 am - 10:00 am

**GENERAL SESSION**

## 9A LRFD CHANGES

- **AASHTO LRFD Guide Specification for Seismic Design of Highway Bridges**  
Roy Imbsen, P.E. *Imbsen Consulting, Fair Oaks, CA*
- **Overview of the AASHTO Guide Specifications for LRFD Seismic Bridge Design**  
Richard A. Pratt, P.E. and Elmer E. Marx, P.E. *Alaska Department of Transportation and Public Facilities, Juneau, AK*
- **LRFD Shear Provisions—A Plethora of Choices**  
Susan E. Hida, P.E. *California Department of Transportation, Sacramento, CA*

## 9B PRESERVATION AND REPLACEMENT

- **Reconstructing a City Landmark**  
Mike Reynolds, *David Evans and Associates, Salem, OR*
- **Spencer Creek Bridge—A Bridge Replacement Project on Oregon's Scenic Coastal Highway 101**  
Daniel J. McIntier, P.E. and Tanarat Potisuk, Ph.D., P.E. *H.W. Lochner, Salem, OR*  
Dr. Keith Kaufman, P.E. *Knife River, Harrisburg, OR*
- **Rehabilitation of Historic Medowbrook Truss Bridge**  
Jessy N. Jose, P.E. *King County Department of Transportation, Seattle, WA*  
Ken Wilson, M.S.C.E., P.E., S.E. *Integrity Structural Engineering, Seattle, WA*

10:00 am - 10:30 am

**BREAK**

10:30 am - 12:00 pm

## 10 GENERAL SESSION

- **Design of the Canada Line Extradosed LRT Bridge**  
Christopher Scollard, P.Eng. and Andrew Griezic, P.E., P.Eng., *Buckland and Taylor, North Vancouver, BC Canada*
- **Design and Construction Solutions on the Benicia Martinez Bridge**  
Richard P. Foley, P.E. *California Department of Transportation, Martinez, CA*  
Karen Cormier, P.E. *T.Y. Lin International, San Francisco, CA*
- **The New Tacoma Narrows Suspension Bridge Means and Methods of Superstructure Erection**  
Jeff A. Lavinder, P.E., Tom Spoth, P.E., and Marie Maurer, P.E. *Parsons Transportation Group, Gig Harbor, WA*

**INVITATION TO 2009 SEMINAR IN CALIFORNIA**

**CLOSING REMARKS**

**ADJOURN**

### CONFERENCE ATTIRE

Wear casual clothing and comfortable walking shoes for daytime. Bring business casual clothing for the banquet. Don't forget to bring a light jacket since evenings are cool.

## Location

Technical session, continental breakfasts, luncheons, banquet and breaks will be held at the **Boise Centre on the Grove**, 850 Front Street, Boise, ID.

The main conference hotel is **The Grove Hotel** (which is located next door to the Boise Centre) at 245 S. Capitol Blvd., Boise, ID, 83702

For reservations call 888-961-5000.

**Hotel 43 (formerly The Statehouse Inn—across from Boise Centre)**, 981 Grove Street, Boise, ID, 83702, 800-243-4622, [www.statehouse-inn.com](http://www.statehouse-inn.com).

**Hampton Inn & Suites (1 block from Boise Centre)**, 495 S. Capitol Blvd., Boise, ID, 83702, 800-426-7866, 208-331-1900, [www.hamptoninn.com](http://www.hamptoninn.com).

**Safari Inn (1 block from Boise Centre)**, 1070 Grove Street, Boise, ID, 83702, 208-344-6556.

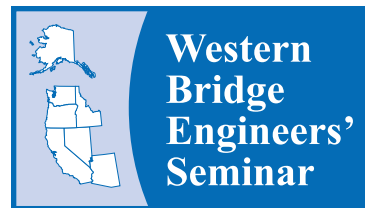
**Rental cars** are available at the airport. Drive North on Vista Avenue for approximately two miles, you will loop around the historic Boise Train Depot, and will continue on as Vista turns into Capital Boulevard. In less than a mile, you will turn left on Front Street; go one block to the corner of 9th and Front Street. The Boise Centre on the Grove is on the right. The parking garage is on the left side with the entrance on 9th Street.

## Seminar Registration

The **\$285** registration fee is due **September 14, 2007**. Late registration after September 14th is **\$310**. Registration fee includes technical program, (3) continental breakfasts, (2) luncheons, refreshments at breaks, and the Tuesday evening banquet. To register, please mail completed registration with payment to **Washington State University, CDPE at PO Box 645222, Pullman, WA 99164-5222** or go online at [www.capps.wsu.edu/conferences/WesternBridge](http://www.capps.wsu.edu/conferences/WesternBridge). Late registrations may be limited. A refund of the registration fee minus a **\$50** service charge will be given for cancellation prior to **September 14th**. Call Conference Manager, Janet York at **253-445-4575** for current registration information.

## Guest Program

Come join us at the Grove Hotel on Monday morning for a welcome brunch followed by a tour of the city. Price for guest program includes brunch, tour and Tuesday evening banquet ticket.



September 24 – 26, 2007  
Boise Centre on the Grove  
Boise, ID

## Registration Form

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Affiliation: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_  
State/Province: \_\_\_\_\_ Zip/Postal Code: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
E-mail: \_\_\_\_\_  
Spouse/Guest Name (For badge): \_\_\_\_\_  
Special Needs (Accessibility, Visual, Hearing, Dietary): \_\_\_\_\_

### Circle Sessions You Plan to Attend:

2A 3A 4A 5A 6A 7A 8A 9A 10  
2B 3B 4B 5B 6B 7B 8B 9B  
5C 6C 7C 8C 9C

- Seminar Registration Fee ..... **\$285**  
*(Registration fee includes Monday and Tuesday continental breakfasts and luncheons, Tuesday banquet and Wednesday continental breakfast)*
- Late Registration Fee (After 9/14) ..... **\$310**
- One Day Registration Fee ..... **\$175**
- Spouse/Guest Program Fee ..... **\$95**
- Spouse Late Registration Fee (After 9/14) ..... **\$110**

**TOTAL ALL ITEMS: \$** \_\_\_\_\_

*(Make Checks (in U.S. funds) payable to: Washington State University)*

### Mail Registration Form to:

Washington State University, CDPE  
c/o Western Bridge Engineers' Seminar  
PO Box 645222  
Pullman, WA 99164-5222

**To Register by Visa or MasterCard:**  Visa  MC

Card Number: \_\_\_\_\_

Expiration Date: \_\_\_\_\_ CVV Number: \_\_\_\_\_

### Register by Phone, Fax or Online:

Phone: **800-942-4978**

Fax: **509-335-7781**

Online: [www.capps.wsu.edu/conferences/WesternBridge](http://www.capps.wsu.edu/conferences/WesternBridge)



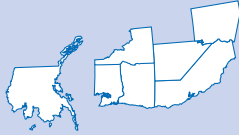
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