



# 2015-2016

## February Meeting Notice

# Minnesota Geotechnical Society

### Geotechnical Design Challenges of the of BNSF Bridge 3.8 over the Missouri River near Plattsmouth, NE

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To meet increasing shipping needs and relieve the aging bridge built in 1879/1902 over the Missouri River near Plattsmouth, NE, construction of the \$46-million BNSF project began in 2012. This single-tracked, 11-span, 1,682-ft. bridge includes a 400-ft. main span camelback Warren truss, five 200-ft. steel deck plate girder spans and five prestressed concrete spans. The west approach cut includes nearly 85,000-ft.<sup>2</sup> of soil-nail wall with a near vertical benched loess soil cut to reduce right-of-way requirements. The east approach consists of embankment within the Missouri River floodplain. The project includes nearly 2.3-miles of new track construction.

Key geotechnical design challenges included development of a combined near vertical loess cut and soil-nail wall configuration to provide the proposed 100-ft. cut within the current BNSF right-of-way and constructing high embankments up to 52 ft. upon soft alluvial soils. Other geotechnical issues addressed during the design included evaluation of rock scour, modification to existing USACE levees, and driven pile/drilled shaft foundations for bridge support.

**Date:** Wednesday February 10, 2016

**Location:** Rose Vine Hall (downstairs at Grumpy's Bar & Grill)  
2801 Snelling Ave. N., Roseville, MN

**Time: 6:00** Social Hour – Sponsored by Braun Intertec

**7:00** Dinner: Salad, Rolls, and a choice of:

1. 10-Ounce Top Sirloin - Char-grilled and topped with bleu cheese garlic butter. Served with white cheddar mashed potatoes and a sautéed vegetable medley – \$40.00
2. Chicken Marsala - A chicken breast lightly breaded and drizzled with marsala wine sauce, mushrooms and onions– \$35.00
3. Feta Cheese and Sun-Dried Tomato Stuffed Walleye - Served over white cheddar mashed potatoes with a drizzle of lemon thyme butter sauce – \$35.00
4. Chicken Fettuccine Alfredo - Fettuccine noodles, snow pea pods, and mushrooms tossed in an Alfredo cream sauce and topped with a grilled chicken breast and parmesan cheese – \$30.00
5. Cobb Salad - Iceberg topped with turkey, ham, bacon, hard cooked eggs, avocado, diced tomatoes, bleu cheese crumbles, and black olives with choice of dressing (Ranch, Fat Free Ranch, Bleu Cheese, French, Fat Free French, Italian, Fat Free Italian, Balsamic Vinaigrette) – \$25.00

**8:00** Presentation – Brent Anderson  
(One professional development hour toward continuing education requirements for Professional Engineers is available).

**9:00** Coffee and Dessert – Sponsored by Braun Intertec

**Cost:** Paid 2015-2016 MGS Members receive a \$5 meeting discount on the meal costs listed above. The cost for full-time students is \$5, payable to MGS at the door.

**Reservations:** Requested by 12 Noon, Friday, February 5, 2016

**\*PayPal Now Available for online reservation\***

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