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Mine Subsidence Engineering: an Overview

Gennaro G. Marino, Ph.D., P.E., D.GE

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Abstract

This presentation covers key aspects of mine subsidence engineering, a subject that is not well understood, and embraces a number of engineering disciplines. It focuses on the causes of mine subsidence and how mine stability relates to the resulting ground movements. Different mining and geologic conditions determine the mode of failure of the mine. The mode of mine failure in turn affects the resulting subsidence movement. Prediction of subsidence and damage potential are also key aspects of subsidence engineering. Examples of expected subsidence damage as well as mine stabilization will be shown. This presentation will be presented in a manner that will be understandable to anyone that would be interested in learning more about mine subsidence.

Gennaro G. Marino, Ph.D., P.E., D.GE Dr. Gennaro G. Marino received his Ph.D. in Civil Engineering in 1985, from the University of Illinois. His thesis topic was related to mine subsidence and structural response to subsidence over room and pillar mines. Dr. Marino presently has a P.E. license in 25 states and is a member of ASCE, SME, and ASTM. As a committee member of ASTM, Dr. Marino reviews soil and rock testing procedures. Dr. Marino is also the chairman of the American Bar Association's Expert Witness Civil Engineering subcommittee, and is a member of the ASCE Forensic Engineering Division's Committee on Practices to Reduce Failures.

Working in the area of mine subsidence for over 39 years in various ore fields in the U.S., Dr. Marino has researched and consulted on all aspects of subsidence engineering with government agencies, engineering and architectural firms, surface owners, as well as pipeline, insurance and mining companies. His work includes planning, mining and abandonment stages of room and pillar to high extraction workings, as well as related cause and origin investigations.

Over the course of his career, Dr. Marino has authored over 100 articles and publications on subsidence engineering topics. Dr. Marino received a 2015, Civil and Environmental Engineering Alumni Association Distinguished Alumnus Award from the University of Illinois. In 2011, Dr. Marino was selected as the Central Illinois, ASCE Civil Engineer of the Year. Marino Engineering Associates, Inc. was chosen as 1st runner-up for the Central Illinois, ASCE Civil Engineering Project of the Year for 2010. In 2013, The Academy of Geo-Professionals (AGP) of ASCE recognized Dr. Marino as a Diplomate Geotechnical Engineer (D.GE) for his superior expertise and experience, strong ethics, commitment to life-long learning and continued professional development in the field of Geotechnical Engineering.

When: Thursday, March 21 **Social:** 6 PM, Dinner: 6:30 PM

Where: Andre's Banquet and Catering, 4238 Telegraph Road
Phone: 314-894-2622. (See directions below).

Menu: Buffet to include two entrée choices with Hot Vegetable, Salad, Rolls, and dessert. Open Bar!
(Dietary Restrictions can be accommodated if given advanced notice)

Cost: \$25, \$10 for students Cash, debit or credit card accepted.

RSVP: By Tuesday, March 19th

By email to: bob.johnston@earthlink.net or sme.stl.section@gmail.com

By phone: Bob Johnston 314-570-0226

You need not be a member of National SME. Bring a friend!

****Need Professional Development Hours? Each meeting is 1 hour.****

Local section dues of \$10 help to defray supply costs and support our scholarship fund.

Local Associate Membership is also available for \$10/year.

DIRECTIONS TO ANDRE'S SOUTH

From I-55 or I-270: Take to I-255 East in south STL County. Go about 2 miles to Telegraph Road (Exit 2). Turn right (south) and go 0.5 miles. Andre's is on the left.

From Illinois: Take I-255 South to "JB Bridge" in Columbia, IL. Cross into MO and exit at Telegraph Road (Exit 2). Turn left (south) and go 0.7 miles. Andre's is on the left.

