

Ali Amini, Ph.D., P.Eng.

Ali Amini, Ph.D., P.Eng. is a senior geotechnical engineer with over 18 years of experience in subsurface site investigation, geotechnical and structural design work. He has carried out geotechnical analysis and design for a variety of structures in varying soil types including bridges, buildings and dams. His experience in geotechnical analysis and design includes site characterization, ground improvement, numerical modelling and dynamic analysis of soil-structure interaction, site specific seismic response analysis, liquefaction assessment, pile design, pile driving, slope stability and settlement assessment. His interest in research includes in-situ testing, ground improvement for liquefaction mitigation and pile load testing. In addition to geotechnical design work, he had been involved in structural analysis and design of steel and concrete structures and underground subway stations.



EDUCATION

2007- Ph.D., Civil Engineering (Geotechnical),
University of British Columbia, Vancouver, Canada

1992- M.A.Sc., Civil Engineering (Geotechnical),
University of Science and Technology, Tehran, Iran.

1988- B.Sc., Civil Engineering,
University of Science and Technology, Tehran, Iran.

EMPLOYMENT HISTORY

2011: Principal of Naesgaard-Amini Geotechnical Ltd.

2007-2011: Naesgaard Geotechnical Ltd.

2004 –2007: Trow Associates Inc., Senior Geotechnical
Engineer

1998-2004: University of British Columbia, Research
Assistant and PhD Candidate

**1992-1998: Avang-Sazeh Consulting Engineers,
Tehran, Iran**, Principal, Manager of Geotechnical
Division, Geotechnical Engineer

1989 – 1991: Monit Consulting Engineers, Tehran Iran,
Structural Engineer

**1988 – 1989: Iran-Sahel Bridge and Roads Consulting
Engineers, Tehran Iran**, Structural Engineer

SCHOLARSHIP

1999-2002 Great Grant Scholarship, from Science
Council of British Columbia

PROFESSIONAL AFFILIATION

Association of Professional Engineers and Geoscientists
of British Columbia

Vancouver Geotechnical Society

SEABC Retaining Wall Task Force (2008)

Geotechnical Work Experience Summary (example projects)

BRIDGES

Golden Ears Bridge- Foundation and seismic analysis and
design

Steel bridge plate culverts in BC and AB, Numerical
analysis of several steel bridge plate culverts up to 14m
spans in BC and AB.

**Seismic Retrofit of HWY1, First Ave. Overpass,
Vancouver, BC-** Geotechnical design for widening and
seismic retrofit as part of Gateway Project.

**New Port Mann Bridge- Bid Phase Design, Greater
Vancouver, BC –** Foundation and seismic analysis and
design for Buckland & Taylor Ltd.

Evergreen Line Rapid Transit Project- Bid Phase Design,
Greater Vancouver, BC (ongoing)

Port Royal Bridge, New Westminster, BC– Foundation
and seismic analysis and design

Rubble Creek Bridge, Sea To Sky Highway, BC –
Foundation design

Athabasca Bridge Deck launching, Alberta- Geotechnical
design for bridge launching

SCHOOLS

Garden City School, Richmond, BC- Dynamic analyses
and liquefaction assessment.

Six schools in Coquitlam, BC- Non-linear Site Response
analysis and liquefaction assessment

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Two schools in Vancouver, BC- Non-linear Site Response analysis, liquefaction assessment, lateral soil-pile interaction

DAMS

John Hart Dam, Campbell River, BC- Dynamic numerical analysis for the seismic retrofit of the dam for BCHydro.

Tulsequah Chief Tailings Dam, Northern BC- Dynamic analysis of 12m high tailings dam using fully coupled effective stress analysis under design earthquake.

Macraes Tailings Dam, New Zealand- Dynamic analysis of 110m high tailings dam using fully coupled effective stress analysis under design earthquake.

Vale Canada Tailings Dam Seismic Study, Sudbury, Ontario- Propose best practice for assessment of liquefaction and consequences (ongoing).

Cobre Tailings Dam, Panama- Dynamic analysis of a 100m high tailings dam (ongoing)

Giant Mine Tailings Dam, Yellowknife, NT- Site response analysis and liquefaction assessment

DYKES AND LEVEES

Hurricane Resistant Structure, New Orleans- Geotechnical aspects of flood barrier structure and flood gate, working with Ben C. Gerwick, San Francisco, CA. design team.

BUILDINGS

Gateway Casino and Villa Hotel, Burnaby, BC- Excavation and shoring design, pile & foundation design.

Vancouver International Airport- West Chevron Expansion - Seismic upgrade design, ground improvement, Franki Piles.

SFU-TASC2 Building, Burnaby, BC- Design and Testing of permanent seismic anchors.

Steveston Park Place, Richmond, BC- Dynamic numerical analysis

Seismic retrofit of Langley Waste Water Treatment Plant, Langley, BC- Site Characterization and Numerical dynamic analysis for seismic retrofit of the plant.

SLOPE STABILITY

West Side Road- Kelowna, BC- Numerical analysis of soil-structure interaction of slope and retaining pile/anchor system.

Sea-To-Sky Highway, BC- Slope stability of road side cuts and fills.

Ridley Terminal Expansion, Prince Rupert, BC- Slope stability of and settlement analysis for the new railway embankment and coal stockpiles on soft ground conditions.

Fountain Slide, Lilliooet, BC- Evaluation of the proposed stabilization work (ongoing).

DOCK FACILITIES

UBC Boat House- Richmond, BC- Mooring piles analyses under lateral loads

Tobiano Marina-Kamloops, BC- Mooring piles analyses under lateral loads

TOWERS

Second Narrow Transmission Tower Dynamic analysis for seismic retrofit for BCHydro, under Stantec Consulting Ltd.

RETAINING WALLS

Dynamic numerical analysis of MSE walls, PMH1 project, Greater Vancouver, BC- Dynamic analysis for several MSE walls up to 12m high

Kelowna MSE Wall Failure- Forensic Engineering for Westside Road-HWY 97 Interchange MSE wall failure (ongoing).

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- PUBLICATIONS

Howie, J.A., Daniel, C., Amini, A. and Campanella, R.G. 2000. Combination of In-situ Tests for Control of Ground Modification in Silts and Sands. Geotechnical Special Publication No. 97. Edited by P.W. Mayne and R. Hryciw, pp. 181-198.

Howie, J.A, Amini A., Shozen, T., and Vaid, Y.P. 2001. Effect of Time on In situ Test Results after Ground Improvement- New Insights from Laboratory and Field Data. In Proc. of 54th Canadian Geotechnical Conference, Vol. 1, pp. 467-474.

Howie, J.A, Amini A., Shozen, T., and Vaid, Y.P. 2001. Interpretation of In Situ Test Results in Cohesionless Fills Before and After Ground Improvement. In proc. of the 15th annual Vancouver Geotechnical Society Symposium, pp. 35-45

Amini, A., Howie, J.A., Woeller, D. and Beaton, N. 2002. Effect of Ground Improvement on CPT Response. In Proc. of 55th Canadian Geotechnical Conference, pp. 827-834.

Amini, A. and Howie, J.A. 2003. Effect of Vibro-Stone Columns on the Interpretation of Seismic Cone Data. In Proc. of Int. Conf. on Problematic Soils, Nottingham, United Kingdom, 28 - 30 July.

Amini, A. and Howie, J.A. 2003. Numerical Simulation of Downhole Seismic Cone Signals. In Proc. of 56th Canadian Geotechnical Conference.

Howie, J.A and Amini A. 2004. Time effect on Seismic Cone Testing. Submitted to the 2nd Int. Conf. on Site Characterization, Portugal.

Amini, A., Howie, J.A. and Beaton, N. 2004. In Situ Soil Response During Vibro-Replacement. In proceeding of Canadian Geotechnical Conference, GeoQuebec, Quebec City, Quebec, Canada.

Howie, J.A and Amini A. 2005. Numerical Simulation of Seismic Cone Signals. Canadian Geotechnical Journal. V. 42, No. 2, pp. 574-586.

Amini, A., Fellenius, B., Sabbagh, M., Naesgaard, E. and Buehler, M.M. 2008. Pile loading tests at Golden Ears Bridge. In the Proceeding of the Canadian Geotechnical Conference,Edmonton 2008)

Amini, A., Brockbank, B., Naesgaard, E. Dynamic Analysis of a Reinforced Earth Wall. Geosynthetic Reinforced Walls, Slopes and Earthworks, Vancouver Geotechnical Annual Seminar, Vancouver, BC, June 11, 2010.

Naesgaard, E., Amini, A., Uthayakumar, U.M., Fellenius, B.H. 2011. Long Piles in Thick Lacustrine and Deltaic Deposits.

Two Bridge Foundation Case Histories. Submitted to ASCE Geotechnical Special Publications, Fellenius Symposium.

- TEACHING

2010: University of British Columbia, CIVL311, Soil Mechanics 2, a third year under-graduate course.

2008: University of British Columbia Civil 411 Case Histories' Class (invited lecturer)

2002: Sessional Lecturer for UBC Civil 410-403-430 Integrated Course

1999-2000: Teaching Assistant for UBC Civil 410

2000-2003: Teaching Assistant for UBC Civil 577

- CONTACT INFORMATION

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