Alireza Afkhami, P.Eng., M.A.Sc., M.C.P., Senior Geotechnical Engineer

EXPERIENCE SUMMARY

Mr. Afkhami is a Geotechnical Engineer in Vancouver, BC. He has consulting experience in seismic assessment and geotechnical design, with a specialized focus in engineering analysis. Sectors of extensive geotechnical practice include site characterization and seismic design including soil liquefaction analysis, site-specific response spectra analysis, pile design, slope stability and design of segmental and MSE walls, excavation and shoring design, and project management spanned over 1000+ projects. He has provided geotechnical engineering services for a variety of market sectors including industrial, commercial, transportation, and residential; spanning a wide range of small to large scale projects.

RELEVANT EXPERIENCE

- **BC Ministry of Transportation - Evergreen Line Rapid Transit, (Burnaby and Coquitlam, BC) - December 2012 till date:** Segment lead designer (Lougheed Station to South Portal); site characterization, field test processing (CPT, SPT, BPT and PMT), engineering analyses including design of large diameter drilled shafts, soil liquefaction assessment, site-specific dynamic response spectra analysis for numerous alignment sections, slope stability analysis. His project management responsibilities require close working with other consultants, client representative (SNC-Lavalin) and external advisors. Field inspections during construction including subgrade reviews and drilled shafts, and review of project specifications and QA/QC reports during construction. Other involvements include field reviews during soil mixing and stone column installations.
- **BC Ministry of Transportation - Westside Road Interchange (Kelowna, BC) - August 2012 to May 2013:** Remedial design to stabilize a failing MSE wall using a combination of tie-back soil anchors and reinforced concrete wall supported on Helical piles; this included close cooperation with structural engineers, client and the contractor. Responsibilities during construction included reviewing the field inspection reports and addressing construction issues.
- **AB Ministry of Transportation - Northeast Anthony Henday Drive (Edmonton (AB) - June 2012 to January 2013:** Slope stability, bearing capacity and settlement analyses for Mechanically Stabilized Earth (MSE) walls and bridge abutments.
- **BC Hydro - Interior to Lower Mainland Transmission Line (Merritt to Coquitlam, BC) - June 2012 to December 2012:** Pile design including static and seismic bearing, soil liquefaction and lateral spreading analyses, site-specific dynamic response spectra analysis, Cone Penetration Test interpretation and analysis. Reviewing IFC drawings.

EDUCATION

M.A.Sc., Geotechnical Engineering
Tehran Polytechnic University, Tehran, Iran

B.Sc., Civil Engineering
Sharif University of Technology
Tehran, Iran

AREA OF EXPERTISE

Geotechnical design
Field investigations & design
Construction inspection
Specialization in pile design
Slope stability analysis
Segmental retaining wall design
Shoring design
Seismic analysis

REGISTRATIONS/ AFFILIATIONS

Association of Professional Engineers and Geoscientists of British Columbia (APEGBC)

Vancouver Geotechnical Society (VGS)

Canadian Dam Association (CDA)

International Society for Soil Mechanics and Geotechnical Engineering (ISSGE)

Tehran Construction Engineering Organization (TCEO)

Iranian Geotechnical Society (IGS)

TRAINING/ CERTIFICATIONS

Design of Piled Foundation (short course), Dr. Bengt Fellenius, Vancouver, BC

Soil Liquefaction (short course), Dr. Idriss & Dr. Boulanger, Vancouver, BC

Microsoft Certified Professional (MCP) in Computer Programming

International Computer Driving License (ICDL)

LOCATION

Vancouver, BC, Canada

YEARS OF EXPERIENCE

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CONTACT

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- **Roberts Bank Rail Corridor (Surrey, BC) - January 2012 to June 2012:** Pile design including static bearing and lateral deformation under seismic loads, abutment design using lightweight material (EPS), site-specific response spectra analysis (Seismic), Cone Penetration Test interpretation and analysis.
- **Douglas Channel LNG Plant (Kitimat, BC) - January 2012 to June 2012:** Site characterization, pile design for LNG tanks, settlement analysis, bearing capacity of rock sockets for dolphin structure, slope stability analysis and estimation of post-earthquake slope movements and induced loads on piles, seismic analysis based on ASCE, NFPA, CSA-Z276-11 codes. Preparation of geotechnical and seismic report.
- **Slope Remediation (West Vancouver, BC) - 2008:** Several slope stability analyses for a pile supported residential building situated on steep sloped terrain, including design of a 65 ft high Mechanically Stabilized Earth (MSE) wall using Lock Blocks, field reviews during construction.
- **Design of various pile supported structures in peat area of Vancouver and Queensborough**. Use of lightweight aggregates in very soft ground conditions. Projects spanned from residential buildings to parks, lookouts and Bicycle Motorcross (BMX) tracks.
- **Co-founder of Novo Tech Software Ltd.,** a geotechnical software development company with hundreds of customers in more than 50 countries. Novo Tech products include Windows and iOS software for soil liquefaction analysis, CPT interpretation, 3D soil profile visualization, bearing capacity and settlement analysis, laboratory testing and borehole log drafting.