

## ***Lists of Recommended Reading***

The Heritage Committee invites Sections, Technical Divisions, Technical Committees and groups of individuals to prepare lists of recommended papers that describe geotechnical issues in their region or on a topic of general interest. The lists should provide full bibliographic information. The papers themselves will not generally be uploaded to the CGS website, but should be widely available through research journals, conference proceedings, or inter-library loans.

The Canadian Geotechnical Society carries no responsibility for the selection of these papers, for their content, or for how they are used. Responsibility remains with the original authors or with the user.

Current lists of recommended papers on following pages include:

1. *“Top 10” heritage geotechnical papers from British Columbia – a personal selection*” by Mustapha Zergoun, PEng.
2. *“Engineering Geology and the geotechnical profession in Canada”* – papers on the role of engineering geology in civil engineering projects. D.F. VanDine, PEng, PGeo. *Reprints of these papers can be found in the accompanying folder “Engineering Geology”*
3. *“Recommended reading for projects on Champlain Sea (Leda) clay”* – a listing prepared by Sai Vanapalli PEng and Siva Sivathayalan PEng of important papers relating to the behaviour and performance of Champlain Sea clay.

## **“TOP 10” HERITAGE GEOTECHNICAL PAPERS FROM B.C.**

*(In chronological order of publication in the Canadian Geotechnical Journal)*

1. Finn, W.D.L. 1967. Static and seismic behaviour of an earth dam. *Can. Geotech. J.* **4**: 28-37.
2. Meyerhof, G.G. and Sebastyan, G.Y. 1970. Settlement studies on air terminal building and apron, Vancouver International Airport, British Columbia. *Can. Geotech. J.* **7**: 433-456.
3. Crawford, C.B. and Sutherland, J.G. 1971. The Empress Hotel, Victoria, British Columbia. Sixty-five years of foundation settlements. *Can. Geotech. J.* **8**: 77-93.
4. Byrne, P.M. An evaluation of the liquefaction potential of the Fraser Delta. *Can. Geotech. J.* **15**: 32-46.
5. Robertson, P.K. and Campanella, R.G. 1983. Interpretation of cone penetration tests. *Can. Geotech. J.* **20** Part I: sand: 718-733. Part II: clay: 734-745.
6. Bazett, D.J. and McCammon, N.R. 1986. Foundations of the Annacis cable-stayed bridge. *Can. Geotech. J.* **23**: 458-471.
7. Robertson, P.K. 1990. Soil classification using the cone penetration test. *Can. Geotech. J.* **27**: 151-158.
8. Vaid, Y.P. and Sivathayalan, S. 1996. Static and cyclic liquefaction potential of Fraser Delta sand in simple shear and triaxial tests. *Can. Geotech. J.* **33**: 281-289.
9. Crawford, C.B. and Morrison, K.I. 1996. Case histories illustrate the importance of secondary-type of settlements in the Fraser River delta. *Can. Geotech. J.* **33**: 866-878.
10. Byrne, P.M., Park, S.S., Beaty, M., Sharp, M., Gonzalez, L., and Abdoun, T. 2004. Numerical modeling of liquefaction and comparison with centrifuge tests. *Can. Geotech. J.* **41**: 193-211.

(Personal selection by Mustapha Zergoun, May 2010.  
Additional suggestions will be welcomed. )

**Early Engineering Geology in Canada –  
Papers by D.F. VanDine**

1. D.F. VanDine, 1987. *Early History of the Geotechnical Profession in Canada*. Proceedings, Canadian Engineering Centennial Convention, Montreal 18-22 May, 1987. R.P. Chapuis and D.W. Devenny, Eds. Publ. by the Canadian Geotechnical Society.
2. D.F. VanDine, 1991. *The emergence of engineering geology in British Columbia*. Proceedings, 'The Earth Before Us – Pioneering Geology in the Canadian Cordillera, Victoria, British Columbia, March 1991. B.C. Geological Survey Branch, Open File 1992-19.
3. D.F. VanDine, 1983. *Drynoch landslide, British Columbia – A history*. Canadian Geotechnical Journal **20**, 82-103.

The papers listed above have been compiled into a single pdf in the accompanying file "Engineering Geology" in the folder "Recommended Reading". They have been bookmarked for easy access – simply 'click' the bookmark symbol at the upper left of the screen and then click the icon for the paper you require.

## ***Recommended reading for projects on Champlain Sea (Leda) clay***

This listing of important papers on the behaviour and performance of Champlain Sea clay was prepared by  
Sai Vanapalli PEng and Siva Sivathayalan PEng

- Bauer, G. E. and Demartinecourt, J. P. 1985. The application of the modified borehole shear device to a sensitive clay SEAGS Geotechnical Engineering **16**: 167-189.
- Bozozuk, M. and Burn, K.N. 1960. Vertical Ground Movements near Elm Trees. Geotechnique **10**: 19-32.
- Bozozuk, M., 1975. Long-Term Settlement of the National Museum, Ottawa, Canada. Canadian Geotechnical Journal, Vol.12, No.4, 3 p.
- Bozozuk, M. 1962. Soil shrinkage damages shallow foundations at Ottawa, Canada. The Engineering Journal **45**: 33-37.
- Bozozuk, M. 1963. The modulus of elasticity of Leda clay from field measurements. Canadian Geotechnical Journal **1**: 43-51.
- Bozozuk, M. 1976. Field Instrumentation for Foundation Soils and Buildings. Analysis and Design of Building Foundations, Edited by Hsai-Fang, Lehigh Valley, Pa., 181-208.
- Bozozuk, M. 1972. Downdrag Measurements on a 160-ft Floating Pipe Test Pile in Marine Clay. Canadian Geotechnical Journal **9**: 127-136.
- Bozozuk, M. 1979. Problems with Concrete Tower Silos. Canadian Agricultural Engineering **21**: 9pp.
- Burn, K.N. 1964. Calibration of a neutron moisture meter in Leda clay. Translated Title: with French summary, Canadian Geotechnical Journal **1**: 94-103.
- Burn, K.N. and Hamilton, J.J. 1968. Settlement of an embankment on Leda clay, Canadian Geotechnical Journal **5**: 16-27.
- Burn, K. N. 1969. Settlement of a high embankment and overpass structures in Ottawa. Canadian Geotechnical Journal **6**: 33-48.
- Cao, Y.L. and Law, K.T. 1992. Energy dissipation and dynamic behaviour of clay under cyclic loading. Canadian Geotechnical Journal **29**: 103-111.
- Crawford, C.B, 1953. Settlement Studies of the National Museum Building, Ottawa, Canada. Proceedings of the Third International Conference on Soil Mechanics and Foundation Engineering, Switzerland, **1**: 338-345.
- Crawford, C.B. and Bozozuk, M. 1990. Thirty years of secondary consolidation in sensitive clay. Canadian Geotechnical Journal **37**: 315-319.
- Eden, W. J. and Bozozuk, M, 1969. Earth pressures on Ottawa-outfall sewer tunnel. Canadian Geotechnical Journal **6**: 17-32.
- Eden, W.J. and Mitchell, R.J., 1970. The mechanics of landslides in Leda clay. Canadian Geotechnical Journal **7**: 285-296.
- Eden, W.J. Fletcher, E.B., and Mitchell, R.J. 1971-08. South Nation River Landslide, 16 May 1971. Canadian Geotechnical Journal **8**: 446-451.
- Eden, W. J. and Law, K. T. 1980. Comparison of undrained shear strength results obtained by different test methods in soft clays. Canadian Geotechnical Journal **17**: 369-381.
- Evans, S.G. and Brooks, G.R. 1994. An earthflow in sensitive Champlain Sea sediments at Lemieux, Ontario, June 20, 1993, and its impact on the South Nation River. Canadian Geotechnical Journal **31**: 384-394.
- Folkes, D.J. and Crooks, J.H.A. 1985. Effective stress paths and yielding in soft clays below embankments, Canadian Geotechnical Journal **22**: 357-374.

- Garga, V.K. and Khan, M. A. 1992. Interpretation of field vane strength of an anisotropic soil, *Canadian Geotechnical Journal*, **29**: 627-637.
- Goodings, D.J. and Schofield, A.N., 1985. A centrifugal model study of slope instability in Ottawa area Champlain Sea clay, *Canadian Geotechnical Journal* **22**: 102-109.
- Graham, J. and Teller, J.T. 1984. Discussion: Leda Clay from deep boreholes at Hawkesbury, Ontario; Part I, Geology and geotechnique, *Canadian Geotechnical Journal* **21**: 733-734.
- Law, K.T. 1979. Triaxial-vane tests on a soft marine clay. *Canadian Geotechnical Journal* **16**: 11-18.
- Law, K.T. and Eden, W.J. 1980. Influence of cutting shoe size in self-boring pressuremeter tests in sensitive clays. *Canadian Geotechnical Journal* **17**: 165-173.
- R.F. Legget, 1961. Early Ottawa and Engineering, *The Engineering Journal*, Vol. 44, No.2, p. 70-76.
- Legget, R.F. and La Salle, P. 1978. Soil studies at Shipshaw, Quebec; 1941 and 1969. *Canadian Geotechnical Journal* **15**: 556-564.
- Lo, K.Y., Incullet, I.I. and Ho, K.S. 1991. Electroosmotic strengthening of soft sensitive clays. *Canadian Geotechnical Journal* **28**: 62-73.
- Lo, K.Y., Ho, K.S. and Incullet, I.I. 1991. Field test of electroosmotic strengthening of soft sensitive clay. *Canadian Geotechnical Journal* **28**: 74-83.
- Mitchell, R.J. 1970. On the yielding and mechanical strength of leda clays. *Canadian Geotechnical Journal* **7**: 297-312.
- Mitchell, R.J. and Wong, K.K. 1973. The Generalized Failure of an Ottawa Valley Champlain Sea Clay. *Canadian Geotechnical Journal* **10**: 607-616.
- Mitchell, R. J., Madsen, J.D. and Crawford, T.W. 1984. Hydraulic stabilization of earth structures. *Canadian Geotechnical Journal* **21**: 116-124.
- Mitchell, R.J. and Romeril, P.M. 1984. Acoustic emission distress monitoring in sensitive clay. *Canadian Geotechnical Journal* **21**: 176-180.
- Morin, J.P., and M. Bozozuk, 1983. Performance of Concrete Tower Silos on Clays in Quebec. *Canadian Agricultural Engineering*, Vol. 25, No. 1, p. 81-88.
- Morissette, L., St-Louis, M.W. and McRostie, G.C. 2001. Empirical settlement predictions in overconsolidated Champlain Sea clays. *Canadian Geotechnical Journal* **38**: 720-731.
- Penner, E. 1962, Thermal conductivity of saturated Leda clay, *Geotechnique* **12**: 168-175.
- Penner, E. and Irwin, W. W. 1969. Adfreezing of Leda clay to anchored footing columns. *Canadian Geotechnical Journal*, **6**: 327-337.
- Penner, E. 1970. Frost heaving forces in Leda clay, *Canadian Geotechnical Journal* **7**: 8-16.
- Penner, E., Eden, W.J., Gillott, J.E. 1973. Floor Heave due to Biochemical Weathering of Shale. *Proc. 8th International Conference on Soil Mechanics and Foundation Engineering (Moscow, USSR 1973)* pp. 151-158.
- Quigley, R.M. 1968. Discussion of Landslide on the Toulouste River, Quebec, by R. J. Conlon. Translated Title: 1966. *Canadian Geotechnical Journal* **5**: 175-177.
- Quigley, R.M., Gwyn, Q.H.J., White O.L., Rowe R.K., Haynes J.E., and Bohdanowicz A. 1983. Leda clay from deep boreholes at Hawkesbury, Ontario; Part I, Geology and geotechnique, *Canadian Geotechnical Journal* **20**: 288-298.
- Quigley, R.M., Fernandez, F., Yanful, E., Helgason, T., Margaritis, A., and Whitby, J.L. 1987. Hydraulic conductivity of contaminated natural clay directly below a domestic landfill, *Canadian Geotechnical Journal* **24**: 377-383.
- Raymond G.P., Gaskin P.N., and Addo Abedi F.Y. 1979. Repeated compressive loading of Leda Clay, *Canadian Geotechnical Journal* **16**: 1-10.
- Silvestri, V. 1980. The long-term stability of a cutting slope in an overconsolidated sensitive clay. *Canadian Geotechnical Journal*, **17**: 337-351.
- Stermac, A.G., Devata, M. and Selby, K.G. 1968. Unusual movements of abutments supported on end-bearing piles, *Canadian Geotechnical Journal* **5**: 69-79.

- Tavenas, F., Jean, P., Leblond, P. and Leroueil, S. 1983. The permeability of natural soft clays; Part II, Permeability characteristics. Canadian Geotechnical Journal **20**: 645-660.
- Torrance, J. K. 1984. A comparison of marine clays from Ariake Bay, Japan and the South Nation River landslide site, Canada, Soils and Foundations **24**: 75-81.
- Walker, L.K. and Raymond, G.P. 1968. The prediction of consolidation rates in a cemented clay. Canadian Geotechnical Journal **5**: 192-216.
- Walker, L.K. and Raymond, G.P. 1969. Anisotropic consolidation of leda clay, Canadian Geotechnical Journal **6**: 271-286.
- Yong, R. N., Tan, B.-K. and Mohamed, A.M.O. 1994. Evaluation of attenuation capability of a micaceous soil as determined from column leaching tests, Hydraulic Conductivity and Waste Contaminant Transport in Soil, ASTM STP **1142**: 586-606.