

REFERENCES

- Adachi, T., Mimura, M., and Oka, F. 1985. Descriptive accuracy of several existing constitutive models for normally consolidated clays. Fifth International Conference on Numerical Methods in Geomechanics, Nagoya, 1-5 April 1985, 259-266.
- Adachi, T., Oka, F., and Mimura, M. 1987. Mathematical structure of an overstress elasto viscoplastic model for clay. *Soils and Foundations*, **27**(3): 31-42.
- Adachi, T., and Oka, F. 1982. Constitutive equations for normally consolidated clay based on elasto-viscoplasticity. *Soils and Foundations*, **22**(4): 57-70.
- Adachi, T., and Okano, M. 1974. A constitutive equation for normally consolidated clay. *Soils and Foundations*, **14**: 55-73.
- Airey, D.W. 1991. Finite element analyses of triaxial tests with different end and drainage conditions. Proceedings of the 7th International Conference on Computer methods and Advances in Geomechanics, **1**: 225-230.
- Almeida, M.S.S., Britto, A.M., and Parry, H.G. 1986. Numerical modelling of a centrifuged embankment on soft clay. *Canadian Geotechnical Journal*, **23**:103-114.
- Andrawes, K.Z., McGown, A., Mashhour, M.M., and Wilson-Fahmy, R.F. 1980. Tension resistant inclusions in soils. *Journal of Geotechnical Engineering Division, ASCE*, **106** (GT12): 1313-1326.
- Arulanandan, K., Shen, C.K., and Young, R.B. 1971. Undrained creep behaviour of a coastal organic silty clay. *Geotechnique*, **1**(4): 359-375.
- Asaoka, A., Nakano, M., and Noda, T. 1997. Soil-water-coupled behaviour of heavily overconsolidated clay near / at critical state. *Soils and Foundations*, **37**(1):13-28.
- Atkinson, J.H., and Bransby, P.L. 1978. *The mechanics of soils- an introduction to critical state soil mechanics*, McGraw-Hill, London, U.K.
- Barron, R.A. 1948. Consolidation of fine grained soils by drain wells. *Transactions of the American Society of Civil Engineers*, **113**: 718-742.

- Bergado, D.T., Asakami, H., Alfaro, M.C., and Balasubramaniam, A.S. 1991. Smear effects of vertical drains on soft Bangkok clay. *Journal of Geotechnical Engineering, ASCE*, **117**(10): 1509-1530.
- Bergado, D.T., Long, P.V., and Srinivasa Murthy, B.R. 2002. A case study of geotextile-reinforced embankment on soft ground. *Geotextiles and Geomembranes*, **20**: 343-365.
- Bjerrum, L. 1967. Engineering geology of Norwegian normally consolidated marine clays as related to settlements of buildings. *Geotechnique*, **17**(2): 81-118.
- Bo, M.W., Chu, J., and Choa, V. 2000. Discharge capacity of prefabricated vertical drain. *International Proceedings of the Second Asian Geosynthetic Conference*, Kuala Lumpur, Malaysia, May 2000, 29-31.
- Borges, J.L., Cardoso, A.S. and Lopes, M.G. 2000. Numerical simulation of a reinforced embankment on soft ground constructed up to failure. *Proceedings of the GeoEng2000 - International Conference on Geotechnical and Geological Engineering*, 19-24 November, 2000, Melbourne, Australia (Paper # DE 0285).
- Borja, R.I., and Kavazanjian, E. Jr. 1985. A constitutive model for the stress-strain – time behaviour of ‘wet’ clays. *Geotechnique*, **35**(3):283-298.
- Booker, J.R., and Small, J.C. 1975. An investigation of the stability of numerical solutions of Biot’s equations of consolidation, *International Journal of Solids & Structures*, **11**: 907-911.
- Bowles, E.J. 1977. *Foundation analysis and design*. McGraw-Hill Kogakusha Ltd.
- Britto, A.M., and Gunn, M.J. 1987. *Critical state soil mechanics via finite elements*. Ellis Horwood Ltd., Chichester, England.
- Carroll, R.G. 1983. Geotextile filter criteria. *Transportation Research record*, No. 916, 46-53.

- Carter, J.P., and Balaam, N.P. 1995. AFENA – A general finite element algorithm: users' manual. Centre for Geotechnical Research, University of Sydney, N.S.W. 2006, Australia.
- Carter, J.P., Booker, J.R., and Davis, E.H. 1977. Finite deformation of an elasto-plastic soil. *International journal for Numerical and Analytical Methods in Geomechanics*, **1**: 25-43.
- Carter, J.P., Booker, J.R., and Small, J.C. 1979. The analysis of finite elasto-plastic consolidation. *International journal for Numerical and Analytical Methods in Geomechanics*, **3**(2): 107-130.
- Chai, J., and Bergado, D.T. 1993. Performance of reinforced embankment on Muar clay deposit. *Soils and foundations*, **33**(4): 1-17.
- Chai, J.C., Shen, S.L., Miura, N., and Bergado, D.T. 2001. Simple method of modelling PVD-improved subsoil. *Journal of Geotechnical and Geoenvironmental Engineering*, **127**(11): 965-972.
- Chen, W.F., and Baladi, G.Y. 1985. *Soil plasticity: Theory and implementation*. Elsevier, Amsterdam.
- Chen, W.F., and Mizuno, E. 1990. *Nonlinear analysis in soil mechanics: theory and implementation*, New York, Elsevier.
- Christensen, R.W., and Wu, T.H. 1964. Analysis of clay deformation as a rate process. *Proceedings ASCE, SM* **6**: 125-157.
- Chu, J., Bo, M.W. and Choa, V. 2004. Practical considerations for using vertical drains in soil improvement projects. *Geotextiles and Geomembranes*, **22**(1-2): 101-117.
- Davis, E.H. 1968. Theories of plasticity and failure of soil masses. Chap. 6. In *soil mechanics-selected topics*. Edited by I.K.Lee. Butterworths, London.
- Dafalias, Y.F., and Hermann, L.R. 1982. Bounding surface formulation of soil plasticity. *Soil mechanics-transient and cyclic loads*. Edited by G.N. Pande And O.C. Zienkiewicz. 253-282. Chichester, Wiley.

- Ewers, B., and Allman, M.A. 2000. Secondary consolidation of a soft clay from Ballina bypass, Proceedings of the GeoEng2000 - International Conference on Geotechnical and Geological Engineering, 19-24 November, 2000, Melbourne, Australia (Paper # DE 579).
- Febro-Cordero, E., and Mesri, G. 1974. Influence of testing conditions on creep behaviour of clay. Report No. FRA-ORD & D-75-29, UILU-ENG-74-2031.
- Fodil, A., Aloulou, W., and Hicher, P.Y. 1997. Viscoplastic behaviour of soft clay. *Geotechnique*, **47**(3): 581-591.
- Gnanendran, C.T. 1993. Observed and calculated behaviour of a geotextile reinforced embankment on a soft compressible soil. Ph.D. thesis, University of Western Ontario, London, Ont.
- Gnanendran, C.T., Manivannan.G., and Lo, S-C.R. 2004-Accepted for publication. Influence of using a creep, rate or an elastoplastic model for predicting the behaviour of embankments on soft soils. Submitted to Canadian Geotechnical Journal, July 2004.
- Graham, J., Crooks, J.H.A., and Bell, A.L. 1983. Time effects on the stress strain behaviour of natural soft clays. *Geotechnique*, **33**(3): 327-340.
- Hansbo, S. 1979. Consolidation of clay by band-shaped prefabricated drains. *Ground Engineering*, **12**(5): 16-25.
- Hansbo, S. 1981. Consolidation of fine grained soils by prefabricated drains. Proceedings of 10th International Conference on Soil Mechanics, Stockholm, **3**: 677-682.
- Hansbo, S. 1997. Aspects of vertical drain: Darcian or non-Darcian flow. *Geotechnique*, **47**(5): 983-992.
- Han, J., and Gabr, M.A. 2002. Numerical analysis of geosynthetic-reinforced and pile-supported earth platform over soft soil. *Journal of geotechnical and Geoenvironmental engineering*, 44-53.

Hermann, L.R., Shen, C.K., Jafroudi, S., DeNatale, J.S., and Dafalias, Y.F. 1981. A verification study for the bounding surface plasticity model for cohesive soils. Final report to the Civil Engineering Laboratory, Naval Construction Battalion Center, Port Hueneme, California.

Hibbitt, H.D., Marcal, P.V., and Rice, J.R. 1970. A finite element formulation for problems of large strain and large displacement. *Int. J. Solids and Structures*, **6**:1060-1086.

Hinchberger, S.D., and Rowe, R.K. 1998. Modelling the rate-sensitive characteristics of the Gloucester foundation soil. *Canadian Geotechnical Journal*, **35**: 769-789.

Hird, C.C., and Kwok, C.M. 1989. Finite element studies of interface behaviour in reinforced embankments on soft ground. *Computers and Geotechnics*, **8**(2): 111-131.

Hird, C.C., Pyrah, I.C., and Russell, D. 1992. Finite element modelling of vertical drains beneath embankments on soft ground. *Geotechnique*, **42**(3): 499-511.

Hird, C.C., Pyrah, I.C., Russell, D., and Cinicioglu, F. 1995. Modelling the effect of vertical drains in two-dimensional finite element analyses of embankments on soft ground. *Canadian Geotechnical Journal*, **32**: 795-807.

Hobbs, G.J. 1993. Settlement characteristics of Brisbane clay with particular reference to the east-west arterial road embankment. Master of Engineering Science thesis, University of Queensland, Australia.

Holtz, R.D., and Holm, G. 1973. Excavation and sampling around some drains at Ska-Edeby, Sweden, *Proc. Nordic Geotech. Meeting, Trondheim, Oslo*, 79-85.

Holtz, R.D., Jamiolkowski, M., Lancellotta, R., and Pedroni, S. 1991. Prefabricated vertical drains: design and performance, CIRIA ground engineering report: ground improvement. Butterworth-Heinemann Ltd, UK.

Hujeux, J.C. 1985. Une loi de comportement pour le chargement cyclique des sols. *Genie Parasismique*. Presses des Ponts et Chaussees, Paris.

- Indraratna, B., Balasubramaniam, A.S., and Balachandran, S. 1992. Performance of test embankment constructed to failure on soft marine clay. *ASCE Journal of Geotechnical Engineering*, **118**(1): 12-33.
- Indraratna, B., and Redana, I.W. 1998. Laboratory determination of smear zone due to vertical drain installation. *Journal of Geotechnical Engineering, ASCE*, **124**(2): 180-184.
- Indraratna, B., and Redana, I.W. 2000. Numerical modelling of vertical drains with smear and well resistance installed in soft clay. *Canadian Geotechnical Journal*, **37**: 132-145.
- Jaky, J. 1944. The coefficient of earth pressure at rest. *Journal of the Society of Hungarian Architects and Engineers*, **7**: 355-358.
- Janbu, N. 1963. Soil compressibility as determined by oedometer and triaxial tests. *Proceedings of the European conference on Soil Mechanics and Foundation Engineering, Wiesbaden, Germany*, **1**:19-25.
- Jaumann, G. 1911. *Sitzungsberichte Akad. Wiss. Wie (IIa)*, 120,385.
- Kaliakin, V.N. 1985. Bounding surface elastoplasticity viscoplasticity for clays. Ph.D. dissertation, University of California.
- Kamon, M., Pradhan, T.B.S., and Suwa, S. 1992. Laboratory evaluation of the discharge capacity of the prefabricated band-shaped drains. *Soil Improvement. Edited by T. Mise, K. Nishida, M. Kamon, and M. Mashima. current Japanese materials research*, **9**: 23-38.
- Katona, M.G. 1984. Evaluation of viscoplastic Cap model. *Journal of Geotechnical Engineering, ASCE*, **110** (8): 1106-1125.
- Katona, M.G., and Mulert, M.A. 1984. A viscoplastic cap model for soils and rock. *Mechanics of engineering materials. Edited by C.S. Desai, and R.H. Gallagher, Wiley*, 335-350.
- Kavazanjian, Jr, E. 1978. A generalized approach to the prediction of the stress-strain-time behaviour of soft clay. Ph.D. thesis, University of California, Berkeley, California.

- Kavazanjian, Jr, E., and Mitchell, J.K. 1980. Time dependent deformation behaviour of clays. *Journal of Geotechnical Engineering Division American Society of Civil Engineers*, **106** (GT6): 611-630.
- Keenan, G. H., Landva, A. O., Valsangkar, A. J., and Comer, R. J. 1986. Performance and failure of test embankment on organic silty clay. *Proc. Conf. on Building on Marginal and Derelict Land, Glasgow, The Institution of Civil Engineers*, **2**: 417-428.
- Kirby, C.R., and Lambe, T.W. 1972. Design of embankment soft soils. MIT Research Report, R72-36, Soils Publication 307.
- Kutter, B.L., and Sathialingam, N. 1992. Elastoviscoplastic modelling of the rate-dependent behaviour of clays. *Geotechnique*, **42**: 427-441.
- Ladd, C. 1964. Stress-strain modulus of clay in undrained shear. *ASCE Journal of the Soil Mechanics and Foundation Division*, **90**(SM5): 103-132.
- La Rochelle, P., Trak, B., Tavenas, F., and Roy, M. 1974. Failure of a test embankment on a sensitive champlain clay deposit. *Canadian Geotechnical Journal*, **11**: 142-164.
- Leroueil, S. 1996. Compressibility of clays: Fundamental and practical aspects. *Journal of Geotechnical Engineering*, **122**(7): 534-543.
- Leroueil, S., Kabbaj, M., and Tavenas, F. 1985a. Discussion on theme lecture No. 2-B on laboratory testing. *Proc. 11th ICSMFE, San Fransisco*, 5, 2691-2692.
- Leroueil, S., Kabbaj, M., Tavenas, F., and Bouchard, R. 1985b. Stress-strain-strain rate relation for the compressibility of natural sensitive clays. *Geotechnique*, **35**(2): 159-180.
- Leroueil, S., Tavenas, F., Trak, B., La Rochelle, P., and Roy, M. 1978a. Construction pore pressures in clay foundations under embankments. Part I: the Saint-Alban test fills. *Canadian Geotechnical Journal*, **15**: 54-65.
- Leroueil, S., Tavenas, F., Mieussens, C., and Peignaud, M. 1978b. Construction pore pressures in clay foundations under embankments. Part II: generalized behaviour. *Canadian Geotechnical Journal*, **15**: 66-82.

- Li, A.L., and Rowe, R.K. 2002. Design considerations for embankments on rate sensitive soils. *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, **128**(11):885-897.
- Liang, R.Y., and Ma, F. 1992. A unified elasto-viscoplasticity model for clays, Part I: Theory. *Computers and Geotechnics*, **13**:71-87.
- Liang, R.Y., and Ma, F. 1992. A unified elasto-viscoplasticity model for clays, Part II: Verification. *Computers and Geotechnics*, **13**:89-102.
- Marche, R., and Chapuis, R. 1974. Control of stability of embankments by the measurement of horizontal displacement. *Canadian Geotechnical Journal*, **11**(1): 182-201.
- Madhav, R., Park, Y.M., and Miura, N. 1993. Modelling and study of smear zones around band shaped drains. *Soils and Foundations*, **33**(4): 135-147.
- Matsui, T., and Abe, N. 1985. Elasto/ Viscoplastic constitutive equation of normally consolidated clays based on flow surface theory. *Proceedings of 5th ICONMG*, **1**: 407-413.
- McCarron, W.O., and Chen, W.F. 1987. A capped plasticity model applied to Boston blue clay. *Canadian Geotechnical Journal*, **24**: 630-644.
- Mesri, G., and Choi, Y.K. 1979. Excess pore water pressure during consolidation. *Proceedings of 6th Asian Regional conference on Soil Mechanics and foundation Engineering*, **1**: 151-154.
- Mesri, G., and Godlewski, P.M. 1977. Time- and stress-compressibility interrelationship. *Journal of the Geotechnical Engineering Division, ASCE*, **103**(5): 417-430.
- Murakami, Y. 1979. Excess pore-water pressure and preconsolidation effect developed in normally consolidated clays of some age. *Soils and Foundations*, **19**(4): 17-29.
- Murayama, S., and Shibata, T. 1964. Flow and stress relaxation of clays. *Symposium on Rheology and Soil Mechanics, Grenoble*, 99-129.

Mylleville, B.L.J. 1991. Behaviour of heavily reinforced embankments on soft foundations. Ph.D. thesis, The University of Western Ontario, London, Ontario.

Oka, F. 1981. Prediction of time dependent behaviour of clay. 10th International Conference on Soil Mechanics and Foundation Engineering, **1**: 215-218.

Oka, F., Adachi, T., and Okano, Y. 1986. Two dimensional consolidation analysis using an elasto-viscoplastic constitutive equation. International Journal for Numerical and Analytical Methods in Geomechanics, **10**: 1-16.

Olson, R.E. 1998. Settlement of embankments on soft clays. Journal of geotechnical and Geoenvironmental engineering, 278-287.

Onoue, A., Ting, N.H., Germaine, J.T., and Whitman, R.V. 1991. Permability of disturbed zone around vertical drains. Proceedings of ASCE Geotechnical Engineering Congress, Colorado, 879-890.

Ortigao, R. J. A., Werneck, M. L. G., and Lacerda, W. A. 1983. Embankment failure on clay near Rio De Janeiro. ASCE Journal of the Geotechnical Engineering Division, **109** (11): 1460-1479.

Perzyna, P. 1963. The constitutive equations for rate sensitive plastic materials. Quarterly Applied Mathematics, **20**: 321-332.

Perzyna, P. 1966. Fundamental problems in viscoplasticity. Advanced applied mathematics, **9**: 243-377.

Ratnayake, AM.P. 1991. Performance of test embankments with and without vertical drains at Muar Flats site, Malaysia. MS thesis, AIT, Bangkok, Thailand.

Rixner, J.J., Kraemer, S.R., and Smith, A.D. 1986. Prefabricated vertical drains, Vol I, II and III: Summary of Research Report-Final Report. Federal Highway Admin., Report No. FHWA-RD-86/169, Washington D.C, 433p.

Roads and Traffic Authority NSW. 2003. QA Specification R40. Vertical wick drains. Version for: Five Islands Road, October 2003.

Roscoe, K.H., and Burland, J.B. 1968. On the generalized stress-strain behaviour of wet clay. *Engineering Plasticity. Edited by J. Heyman, and F.P. Leckie, 535-609*, Cambridge University Press.

Roscoe, K.H., Schofield, A.N., and Thurairajah, A. 1963. Yielding of clays in states wetter than critical. *Geotechnique*, **13**(3): 211-240.

Roscoe, K.H., Schofield, A.N., and Wroth, C.P. 1958. On the yielding of soils. *Geotechnique*, **8**: 22-53.

Rowe, R.K. 1982. The analysis of an embankment constructed on a geotextile. *Proceedings of Second International Conference on Geotextiles, Las Vegas, Nevada, U.S.A., 2*: 677-682.

Rowe, R.K. 1984. Reinforced embankments: analysis and design. *Journal of Geotechnical Engineering Division, ASCE*, **110**(2): 231-247.

Rowe, R.K., and Gnanendran, C.T. 1994. Geotextile strain in a full scale reinforced test embankment. *Geotextiles and Geomembranes*, **13**: 781-806.

Rowe, R.K., Gnanendran, C.T., Landva, A.O., and Valsangkar, A.J. 1995. Construction and performance of a full scale geotextile reinforced test embankment-Sackville, New Brunswick. *Canadian Geotechnical Journal*, **32**: 512-534 and erratum, **33**: 208.

Rowe, R.K., Gnanendran, C.T., Landva, A.O., and Valsangkar, A.J. 1996. Calculated and observed behaviour of a reinforced embankment over soft compressible soil. *Canadian Geotechnical Journal*, **33**: 324-338.

Rowe, R.K., and Hinchberger, S.D. 1998. The significance of rate effects in modelling the Sackville test embankment. *Canadian Geotechnical Journal*, **35**: 500-516.

Rowe, R.K., and Li, A.L. 2002. Behaviour of reinforced embankments on soft rate sensitive soils. *Geotechnique*, **52**(1): 29-40.

Rowe, R.K., and Soderman, K.L. 1984. Comparison of predicted and observed behaviour of two test embankments. *Geotextiles and Geomembranes*, **1**: 143-160.

- Rowe, R.K., and Soderman, K.L. 1988. Stabilization of very soft soils using high strength geosynthetics: The role of finite element analysis. *Geotextiles and Geomembranes*, **6**(1).
- Russell, D. 1992. Finite element analyses of embankments on soft ground incorporating reinforcement and vertical drains. Ph.D. thesis, University of Sheffield, Sheffield.
- Schofield, A.N., and Wroth, C.P. 1968. *Critical state soil mechanics*, McGraw-Hill, London.
- Sekiguchi, H. 1977. Rheological characteristics of clays. *Proceedings of 9th International Conference of Soil Mechanics and Foundation Engineering*, Tokyo, **1**: 289-292.
- Sharma, J.S., and Xiao, D. 2000. Characterization of a smear zone around vertical drains by large-scale laboratory tests. *Canadian Geotechnical Journal*, **37**: 1265-1271.
- Singh, A.W., and Mitchell, J.K. 1968. General stress-strain-time function for soils. *Journal of Soil Mechanics and Foundation Engineering Division, ASCE*, **94**(1): 24-46.
- Swift, R.S. 1975. Examination of the mechanical properties for a Kayenta sandstone from the mixed company site. Technical report DNA3683F, Washington, Defence Nuclear Agency.
- Taylor, D.W. 1948. *Fundamentals of soil mechanics*. John Wiley and Sons, New York.
- Walker, L.K. 1969. Secondary settlement in sensitive clays. *Canadian Geotechnical Journal*, **6**: 219-222.
- Wroth, C.P. 1975. *In-situ* measurement of initial stresses and deformation characteristics. *Proceedings of the Speciality Conference in In-situ Measurement of Soil Properties*, ASCE, Raleigh, North Carolina, June: 181-230.
- Xiao, D.P. 2001. Consolidation of soft clay using vertical drains. Ph.D. thesis, Nanyang Technological University, Singapore.

- Yin, J.H. 1990. Constitutive modelling of time dependent stress strain behaviour of soils. Ph.D. thesis, University of Manitoba, Winnipeg.
- Yin, J.H., and Graham, J. 1989a. Viscous-elastic-plastic modelling of one dimensional time dependent behaviour of clays. *Canadian Geotechnical Journal*, **26**(2): 199-209.
- Yin, J.H., and Graham, J. 1989b. General elastic-visco plastic constitutive relationships for 1-D straining in clays. *Proceedings of 3rd International Symposium on Numerical Models in Geomechanics*, Niagara Falls: 108-117.
- Yin, J.H., and Graham, J. 1999. Elastic viscoplastic modelling of the time dependent stress-strain behaviour of soils. *Canadian Geotechnical Journal*, **36**: 736-745.
- Yin, J.H., and Zhu, J.G. 1999a. Elastic viscoplastic consolidation modelling and interpretation of pore-water pressure responses in clay underneath Tarsiut Island. *Canadian Geotechnical Journal*, **36**: 708-717.
- Yin, J.H., and Zhu, J.G. 1999b. Measured and predicted time-dependent stress-strain behaviour of Hong Kong marine deposits. *Canadian Geotechnical Journal*, **36**: 760-766.
- Yoshikuni, H., and Nakanodo, H. 1974. Consolidation of soil by vertical drain wells with finite permeability. *Soils and Foundations*, **14**(2): 35-46.
- Zhu, G., Yin, J.H., and Graham, J. 2001. Consolidation modelling of soils under the test embankment at Chek Lap Kok international airport in Hong Kong using a simplified finite element method. *Canadian Geotechnical Journal*, **38**: 349-363.
- Zienkiewicz, O.C., Humpheson, C., and Lewis, R.W. 1975. Associated and Non associated viscoplasticity and plasticity in soil mechanics. *Geotechnique*, **25**(4): 671-689.