JOHN COWLAND

BSc, MSc, DIC, CEng, MICE, MHKIE, MAusIMM, FGS, RPE

Independent Geotechnical Engineering Consultant

3 Arcadia, 99 Chuk Yeung Road, Sai Kung, NT, Hong Kong, China

tel. +852 9884 8616 e-mail: cowland@netvigator.com

QUALIFICATIONS AND PROFESSIONAL SOCIETIES

- Registered Professional Engineer (Geotechnical), Hong Kong
- Chartered Engineer, United Kingdom
- Member, Hong Kong Institution of Engineers
- Member, Hong Kong Geotechnical Engineering Society
- Member, Institution of Civil Engineers, United Kingdom
- Member, Australasian Institute of Mining and Metallurgy
- Past Chairman, Hong Kong Association of Geotechnical and Geoenvironmental Specialists
- Member, International Geosynthetics Society Technical Committee on Barrier Systems
- Fellow, Geological Society
- Committee Member, Hong Kong Tunnelling Society
- Member, Society of Construction Law
- Member, American Society for Testing and Materials
- Member, Hong Kong Waste Management Association
- Associate Member, Australian National Committee on Large Dams
- Associate Member, Academy of Experts

KEY EXPERIENCE AND ABILITIES

John Cowland is an Independent Geotechnical Engineering Consultant based in Hong Kong, China, with 50 years of experience. He has provided advice to over 60 government and private sector clients throughout the Asia Pacific region on geotechnical, environmental and geosynthetic projects. These have included solid waste landfills, water supplies, dams, tunnels, mining projects, coastal reclamations, deep excavations, soil slopes, rock slopes, soft ground and foundations.

John has provided advice on project management; especially for hydro-electric, environmental, water supply and tunnelling projects up to US$ 12.5 billion in value. He has published over 60 technical papers on Geotechnical Engineering and Geosynthetics.

CAREER EXPERIENCE

2000 – Present ***Independent Geotechnical Engineering Consultant***

Provided advice to over 60 clients in the Asia Pacific region on geotechnical, environmental and geosynthetic aspects of infrastructure projects. Assignments have included providing independent design reviews, expert reports, expert technical assistance on site and independent advice on project management. Technical projects have included assessments of the causes of failures, guidance on solutions and advice on litigation.

Geotechnical Engineering projects:

- Expert advice on the failure of a 40 m high reinforced earth retaining wall in China.
- Expert advice on a retaining wall remedial work failure due to grouting problems in Hong Kong.
- Expert advice on a reclamation temporary works failure in Hong Kong
- Design review of the Shatin to Central Mass Transit Railway (MTR) line for the Hong Kong SAR Government (34 km of tunnels and 9 stations - project value US$ 12.5 billion).
- Audit review of expenditure and claims on the Shatin to Central Mass Transit Railway (MTR) line for the Hong Kong SAR Government.
- Advice on tunnelling to the Contractor, Maeda/CREC/SELI, for the Tsuen Wan Drainage Tunnel, Hong Kong, including contractual interpretation of the Geotechnical Baseline Report and planning for the use of a tunnel boring machine (TBM).
- Advice on deep excavation design and construction for a Mass Transit Railway (MTR XRL) station (43 m deep beneath two existing stations and four high rise buildings) in Hong Kong.
- Design checking for a MTR XRL station excavation (28 m deep beneath three road bridges and one railway bridge) in Kowloon.
- Extensive advice over a two year period based on site, on dredging and filling operations, soft ground, instrumentation and contaminated mud to the contractor, Hyundai, for the Container Terminal 9 Project, Tsing Yi, Hong Kong (project value US$ 600 million).
- Extensive advice on soil nail installation, retaining wall and fill slope construction, to the contractor for four 50 m high cut and fill slopes in meta-sedimentary soils in Man Kam To, Hong Kong
- Advice on dewatering to the contractor for a 1.2 km long excavation in an area of sensitive buildings in Hong Kong.
- A safety review of tunnel strengthening works for an old water supply tunnel in Hong Kong.
- Investigations of slope failures in Hong Kong, and design of remedial works.
- Supervision of remedial works for a number of slopes, Hong Kong.
- Supervision of the construction of rock slopes, Hong Kong.
- Advice on slope works for building re-development, Hong Kong.
- Reviewed excessive settlement of a building on bored piles founded on alluvial deposits in Hong Kong (short pile case).
- Reviewed pile founding problems on weathered rocks, Tsuen Wan, Hong Kong.
- Reviewed bored pile design in cavernous marble area, Yuen Long, Hong Kong.
- Reviewed a ground investigation scheme for pile foundations for a number of buildings in the New Territories, Hong Kong.

- Provided advice on building damage due to movement of adjacent excavation, Kowloon, Hong Kong.
- Advice on construction methods for a marine reclamation, Hong Kong.
- Provided advice on settlement due to tunnelling, Tseung Kwan O, Hong Kong.
- Reviewed the soft ground site formation design for the Lao Gang Landfill, Shanghai, China.
- Reviewed blasting methods for rock faces in the Tirohia Landfill, New Zealand.
- Reviewed earth reinforcement construction methods and projects in Asia for clients in Germany, Hong Kong, Italy, Malaysia, the Netherlands and the USA.
- Provided advice on the construction of one of the world's largest reinforced earth structures for the NENT Landfill, Hong Kong.

Geosynthetics Engineering projects:

- Expert advice to the Government of Western Australia on measures to avoid geomembrane liner failures in water supply projects.
- Expert advice to a private client in Eastern Australia on measures to avoid geomembrane liner failures in water retention projects.
- Expert advice on a geomembrane liner failure in Hong Kong.
- Expert advice on a large geogrid reinforced earth wall failure in China.
- Expert advice on a landfill liner failure in New Zealand.
- Expert advice on a mine liner failure in Australia.
- Reviewed the leachate drainage provisions for the Marsden Park Landfill in NSW, Australia, designed a new system, and gained approval from the NSW EPA.
- Reviewed the leachate drainage system for the Brandown Landfill in NSW, Australia, and gained approval from the NSW EPA.
- Reviewed geomembrane liner construction on quarried rock faces for the Tirohia Landfill in New Zealand and designed changes, which were approved by the NZ Environment Agency.
- Geotechnical and geosynthetics engineering advice for an Environmental Review of the Urban and Tseung Kwan O Landfills for the Environmental Protection Department (EPD), Hong Kong.
- Advice for a specialist geomembrane liner for the Meander Dam in Tasmania, Australia.
- Advice for a specialist geomembrane liner for a leaking dam in Thailand.
- Advice for a specialist geomembrane liner for a leaking hydro-electric power canal in New Zealand.
- Advice for a specialist geomembrane liner for a leaking hydro-electric power canal in Sulawesi, Indonesia.
- Advice for a specialist geomembrane liner for a leaking dam in Sabah, Malaysia.
- Advice for a specialist geomembrane liner for the Susu Dam in Malaysia.
- Advice for a specialist geomembrane liner for the Nam Ou 6 Dam in Laos.
- Advice for a specialist geomembrane liner for the Nam Leuk Dam in Laos.
- Advice for a specialist geomembrane liner for the Scott's Peak Dam in Tasmania, Australia.
- Advice for a specialist geomembrane liner for the Lake Margaret Dam in Tasmania, Australia.

- Advice for a specialist geomembrane liner for the Ridgeway Dam in Tasmania, Australia.
- Advice for a specialist geomembrane liner for the Edgar Dam in Tasmania, Australia.
- Advice for a specialist geomembrane liner for the Tarraleah Canal in Tasmania, Australia.
- Advice for a specialist geomembrane liner for the Bulga Dam in NSW, Australia.
- Advice for a specialist geomembrane liner for the Philex Mine Tailings Dam in the Philippines.
- Advice to Vale Inco on geomembrane liners for the containment of liquid chemicals for a nickel mining project in New Caledonia.
- Advice to Rio Tinto Aluminium on geomembrane liners for the containment of liquid chemicals for mining in Australia.
- Advice to Orica Australia on geomembrane liners for the containment of liquid chemicals for mining.
- Provided advice for the construction of two leachate containment ponds within reinforced earth structures for the WENT Landfill, Hong Kong.
- Reviewed the design and construction of the landfill cap for the Xing Feng Landfill, Guangzhou, China.
- Reviewed the liner design for Buttonderry Landfill NSW, Australia.
- Reviewed the liner design for Summerhill Landfill NSW, Australia.
- Reviewed the liner design for Singleton Landfill, NSW, Australia.
- Reviewed the liner design for Red Hill Landfill, Western Australia.
- Reviewed the liner design for a landfill in Seoul, South Korea.
- Reviewed the liner design for a landfill in the Cook Islands, Pacific Ocean.
- Reviewed liner construction for the Diego Garcia Landfill, Indian Ocean.
- Advice on geosynthetic clay liners for the WENT Landfill in Hong Kong.
- Advice on geosynthetic clay liners for the NENT Landfill in Hong Kong.
- Reviewed the use of geogrid reinforcement in the NENT Landfill lining system.
- Reviewed the use of geogrid reinforcement in the WENT Landfill lining system.
- Provided advice for two leachate ponds constructed with geogrid reinforced soil bunds and geomembranes for the WENT Landfill in Hong Kong.
- Advice on methods to apply vegetation to steep slopes in Hong Kong utilising geosynthetics.
- Reviewed specialist testing of geosynthetics for a client in the USA.
- Factory quality assurance inspections of geosynthetics in China, Thailand and Taiwan for various clients.

Environmental projects:

- Expert advice on solid waste landfill design in Hong Kong to the Government's Environmental Protection Department (EPD) and to Contractors
- Studied a failure of a containment method for contaminated marine mud, and made recommendations for its eventual successful use, for a Malaysian client.
- Advice on contaminated mud to the contractor, Hyundai, for Container Terminal 9, Hong Kong.
- Advice on a silt curtain for the Central Reclamation, Hong Kong.
- Advice on a silt curtain for a coal loading facility remediation, Australia.

- Studied potential seabed damage, and obtained EPD approval, for the first reverse osmosis plant constructed by the private sector in Hong Kong.
- Advice to the Hong Kong Cricket Association on the Feasibility of building an International Cricket Ground on the Gin Drinkers Bay Solid Waste Landfill.
- Reviewed methods for environmental laboratory testing in Hong Kong.

Project Management assignments:

- Management of a team of designers for the WENTX solid waste landfill, Hong Kong (project value US$ 4.8 billion)
- Advice on dredging and filling operations, and preparation of claims, for the Container Terminal 9 reclamation project, Tsing Yi, Hong Kong (project value US$ 600 million).
- Project Manager for the installation of a reverse osmosis water supply system in Hong Kong.
- Project Manager for the reconstruction of a golf course in Hong Kong.

1981 – 2000

GEOTECHNICAL ENGINEERING OFFICE, HONG KONG GOVERNMENT

Senior Geotechnical Engineer

Experience in this period included:

Advisory Division (1986-2000)

Led a team that provided an advisory service to other government departments giving specialist advice for their geotechnical problems. Gave advice on tunnels, soil and rock slopes, retaining walls, reclamations, embankments on soft soils, instrumentation, explosives, solid waste landfills and geosynthetics.

Solid Waste Landfills

Provided design input to all 16 of Hong Kong's landfills in various stages of planning, design, operation and restoration. Carried out liner and cap design, construction specification, and research into the geotechnical properties of waste and the durability of liner materials. Also involved in environmental studies for the landfills. Three of these landfills are amongst the largest in the world, with expected waste intakes of over 50 million tonnes.

Responsible for assessing the stability of these landfills, which led to an extensive review of the strength of various geosynthetic components of the lining and capping systems.

Responsible for the designs of large seaward extensions of two coastal landfills founded on soft marine soils. These were particularly challenging projects as one of the landfills had previously suffered a large stability failure.

Slopes

Designed about 100 soil and rock slopes, up to 80 metres high, and investigated numerous slope failures. These cut and fill slopes were distributed throughout the various geological conditions of Hong Kong. Designed and interpreted ground investigations, carried out stability analyses, carried out designs for new slopes and retaining walls, and designs for remedial works to existing slopes.

Embankments on Soft Soils
Provided advice on the design and construction of 40 kilometres of embankments on soft ground, for various road and flood protection projects in the northern New Territories, including the Shen Zhen river widening. Designed and interpreted ground investigations, designed ground improvement works, and designed and interpreted ground instrumentation schemes to determine the allowable filling rate and residual settlement.

Reinforced Earth
Chairman of the Government Panel responsible for recommending long term allowable design strengths for certification of steel and geosynthetic reinforcing products.

Reclamations
Provided advice on the design and construction of 15 major coastal reclamation projects. This included design of surcharging and rates of loading, design and interpretation of instrumentation, design of ground improvement schemes, assessment of excessive settlements and the design of remedial works.

Tunnels and Deep Exavations
Carried out a preliminary design for a 2 kilometre long railway tunnel. Made an on site assessment of difficulties during construction of a 60 metre deep shaft in a fault zone, and suggested remedial action.

Explosives
Carried out a study to assess the safe use of explosives for rock excavation in urban areas.

Alternative Designs
Frequently gave advice on contractor's alternative designs.

Special Projects Division (1984-1986)
Managed 10 staff engaged on research ranging from shear strength of soils and ground instrumentation to measurement of fill compaction and the properties of geotextiles. Operated the GEO rain gauge system and gave advice on land slip warnings. Set up the Geotechnical Information Unit (GIU). Also wrote the first draft of Geoguide 3 on tropical soil and rock description.

Mass Transit Railway Section (1981-1984)
Section leader (5 staff) dealing with the geotechnical aspects of all the tunnels and excavations for the MTR Island Line. Construction for the underground railway included 15 km of hard rock tunnelling, 10 km of soft ground tunnelling, extensive use of grouting, S.E. Asia's largest underground rock cavern, and ten 20 – 40 m deep excavations for the stations.

Investigated and prepared reports on three major underground failures, a deep excavation failure, and damage to adjacent buildings. Assessed the feasibility, and approved, soft ground tunnelling beneath multi-storey buildings with the removal of some of their foundation piles.

1979 – 1981 **GEOTECHNICAL CONTROL OFFICE, HK GOVERNMENT**
Geotechnical Engineer
Checked hundreds of slope stability and retaining wall designs. Carried out a detailed study of rock slope stability, including the measurement and assessment of groundwater pressures.

1977 – 1979 **W.S. ATKINS & PARTNERS, BRITAIN**
Geotechnical Engineer
Site Investigation, Retaining Wall and Diaphragm Wall Design

1975 – 1977 **GKN KELLER FOUNDATIONS, BRITAIN**
Geotechnical Engineer
Site Investigation, Piling and Ground Improvement

1974 **KING WILKINSON BV, THE NETHERLANDS**
Design of Structural Steelwork

1972 – 1973 **INDUSTRIAL DEVELOPMENT CONSULTANTS, BRITAIN**
Design of Reinforced Concrete Buildings
Site Engineer for Earthworks and Piling

PROFESSIONAL ACTIVITIES

Elected Council Member of the International Geosynthetics Society (IGS) from 2000 to 2014, and Treasurer 2006 to 2011

Past Chairman of the Hong Kong Association of Geotechnical and Geoenvironmental Specialists

Invited Member of the Environmental Geotechnics Committee TC 215 of the International Society of Soil Mechanics and Geotechnical Engineering

Member of the Tailings and Mine Waste Committee TC 221 of the International Society of Soil Mechanics and Geotechnical Engineering

Member of the IGS Technical Committee on Barrier Systems

Member of the Hong Kong SAR Government Consultative Group on Blasting Regulation

Invited Speaker on Solid Waste Landfill Design and Landfill Liners at International Conferences and Seminars in Australia, Canada, China, France, Hong Kong, India, Indonesia, Italy, Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand, USA and Vietnam.

Chairman of International Conference Sessions on Landfill Liners in Atlanta, Kuala Lumpur, Nice, Seoul, Singapore and Yokohama

Published 64 papers on Geotechnical Engineering and Geosynthetics

PUBLICATIONS

Soden P., Cowland J. and Perazzo P. (2025). "Las Bambas Geomembrane Faced Tailings Dam", NZSOLD 2025, Building on the Past to Deliver the Future, Christchurch, New Zealand.

Cowland J. and Su J. (2025). "Case Studies of Rehabilitation of Dams with Geomembrane Liners installed in the Dry and Underwater", Third International Conference on Dam Safety Management and Engineering (ICDSME), Kuching, Malaysia.

Su J. and Cowland J. (2025). "Geomembrane Lining for Rockfill Dams in Hydropower and Pumped Storage Schemes", Third International Conference on Dam Safety Management and Engineering (ICDSME 2025), Kuching, Malaysia.

Cowland J., Jackson A. and Su J. (2025). "Advantages of Geomembrane Faced Rockfill Dams over Concrete Faced Rockfill Dams", GeoAsia8 Asian Geosynthetics Conference, Brisbane, Australia.

Vaschetti G., Jackson A. and Cowland J. (2024). "Geomembrane Sealing Systems for Hydraulic Structures", GEOANZ #2 Australasian Geosynthetics Conference, Melbourne, Australia.

Vaschetti G., Guilleminot E. and Cowland J. (2023). "Reliability of Geomembranes for Optimised Dams in New Pumped Storage Schemes", ANCOLD 2023, Dams: A Critical Resource, Cairns, Australia.

Vaschetti G., Scuero A, Scarella M. and Cowland J. (2023). "Geomembranes in Pumped Storage Schemes", Water Resources and Renewable Energy Development in Asia, Kuala Lumpur, Malaysia.

Vaschetti G., Scuero A. and Cowland J. (2022). "Recent Case Histories of Underwater Rehabilitation with Geomembranes: in Still Water and in Flowing Water", ANCOLD 2022, Sustainable Dams in a Climate of Change, Sydney, Australia.

Scuero A., Vaschetti G. and Cowland J. (2021). "Maintaining and Increasing Efficiency in Multi-Purpose Reservoirs: Geomembranes and Floating Photovoltaic Panels", ANCOLD 2021, Perceptions and Realities of Risks, Perth, Australia.

Cowland J., Vaschetti G. and Scuero A. (2019). "Rehabilitation of RCC Dams in the Dry and Underwater", 8th International Symposium on Roller Compacted Concrete (RCC) Dams, Kunming, China.

Cowland J., Vaschetti G. and Scuero A. (2019). "Geomembranes to Increase Safety and Reliability of Dams, and to Allow Early Impoundment of Reservoirs", INACOLD Symposium, Makassar, Indonesia.

Sadlier M., Gassner F. and Cowland J. (2018). "Lining of Mine Waste Residue Storage Facilities", 11th International Conference on Geosynthetics, Seoul, Korea.

Scuero A., Vaschetti G. and Cowland J. (2018). "Geomembranes to Prevent and Stop Leakage: Recent Dam Projects in South East Asia", ASIA 2018,

Seventh International Conference on Water Resources and Hydropower Development in Asia, Da Nang, Vietnam.

Scuero A., Vaschetti G. and Cowland J. (2017). "Underwater Rehabilitation of Dams with Geomembranes", ANCOLD 2017, Great Expectations for New and Existing Dams, Hobart, Australia.

Scuero A., Vaschetti G., Scarella M., Cowland J. Zhang G.L. and Ning Y. (2016). "A Geomembrane Face Rockfill Dam (GFRD) for a hydroelectric scheme in Laos", ASIA 2016, Sixth International Conference on Water Resources and Hydropower Development in Asia, Vientiane, Laos.

Scuero A., Vaschetti G., Cowland J., Cai B. and Xuan L. (2015). "Nam Ou VI: Geomembrane Face Rockfill Dam in Laos", ANCOLD 2015, Contemporary Challenges for Dams, Brisbane, Australia.

Campbell M., Eldridge J.J., Scuero M.A., Vaschetti G.L., Cowland J.W. and Wilkes J. (2014). "Installation of a PVC Geomembrane Liner for the Tekapo Canal Remediation", Hydro Asia 2014, Sri Lanka.

Eldridge J.J., Scuero M.A., Vaschetti G.L. and Cowland J.W. (2013). "Advance Planning for the Installation of the Geomembrane Liner for the Tekapo Canal Remediation Works", NZSOLD/ANCOLD 2013, Multiple Uses of Dams and Reservoirs, Rotorua, New Zealand.

Cowland J.W. & Sadlier M.A. (2010). "Geomembrane Reservoirs for Storage of Water, Wastewater and Hazardous Liquids", Keynote Lecture, 6th International Congress on Environmental Geotechnics, New Delhi, India, pp. 272-281.

Vaschetti G.L., Verani C.A. & Cowland J.W. (2010). "Advantages Gained from the Use of a Geomembrane Waterproofing System on RCC Dams: Experiences from Australia", ANCOLD 2010, Dam Decisions: Past Experiences, Future Challenges, Hobart, Australia.

Cowland J.W. & Sadlier M.A. (2010). "Geomembrane Containers for Storage of Liquids", 9th International Conference on Geosynthetics, Guaruja, Brazil, pp. 1079-1082.

Cowland J.W. (2008). "Geogrid Reinforced Soil Structures to Increase Landfill Capacity", Geosynthetics in Civil and Environmental Engineering, Shanghai, China, pp. 536-539.

Cowland J.W. (2007). "Use of Geosynthetics in Landfills", 2nd International GSI Geosynthetics Conference, Taiwan, pp. 52-68.

Cowland J.W. (2007). "Construction of a Large Geogrid Reinforced Fill Structure to Increase Landfill Capacity", 5th International Symposium on Earth Reinforcement, Kyushu, Japan, pp. 227-230.

Cowland J.W. (2007). "Use of Geogrid Reinforcement to Increase Landfill Capacity", 11th International Waste Management and Landfill Symposium, Sardinia, Italy.

Cowland J.W. & Hendy M.S. (2007). "Advances in Environmental Geotechnics in Hong Kong since the 1980s", Conference on Geotechnical Advances in Hong Kong, pp 225-232.

Cowland J.W. & Lawson C.R. (2006). "Use of Geocontainers for Disposal of Contaminated Marine Mud", International Conference on New Developments in Geoenvironmental and Geotechnical Engineering, Incheon, Korea, pp 145-153.

Cowland J.W., Sadlier M.A. & Bouazza A. (2006). "Use of Geosynthetics for Lining and Drainage Systems in Quarry Landfills", 8th International Conference on Geosynthetics, Yokohama, Japan, pp 241-244.

Fowmes G.J., Dixon, N., Jones D.R.V. & Cowland J.W. (2006). "Modelling of Lining System Integrity Failure in a Steep Sided Landfill", 8th International Conference on Geosynthetics, Yokohama, Japan, pp 207-210.

Cowland J.W., Sadlier M.A., & Jones B. (2006). "Red Hill Landfill – Design Considerations for a Hazardous Waste Cell", 8th International Conference on Geosynthetics, Yokohama, Japan, pp 199-202.

Cowland J.W., Bouazza A. & Sadlier M.A. (2006). "Leachate Containment in Quarry Landfills", 5th International Congress on Environmental Geotechnics, Cardiff, UK, pp 701-708.

Cowland J.W. (2005). "Landfill Design Using Geosynthetics", Applications of Geosynthetics, Jakarta, Indonesia.

Pavlinic M., Souchon E. & Cowland J.W. (2004). "Alternative Side Slope Lining Systems for a Quarry Landfill", ISWA World Environment Congress, Rome, Italy.

Sadlier M.A., Cowland J.W. & Frobel R.K. (2004). "Liner Systems – Appropriate Technology and Performance", GeoAsia 2004, Seoul, Korea, pp 931-936.

Cowland J.W. & Sadlier M.A. (2004). "Comparison of Geosynthetic and Granular Leachate Collection Systems", GeoAsia 2004, Seoul, Korea, pp 500-506.

Sotir R.B., Christopher B.R. & Cowland J.W. (2002). "Vegetated Reinforced Soil Slopes", 7th International Geosynthetics Conference, Nice, France, pp 635-640.

Cowland J.W. (2001). "Geosynthetic Reinforced Fill Barriers for Landslide Debris Flows and Boulder Falls", 14th South East Asian Geotechnical Conference, Hong Kong, pp 737-740.

Lau K.W.K. & Cowland J.W. (2000). "Geosynthetically Enhanced Embankments for the Shenzhen River", Advances in Transportation and Geoenvironmental Systems using Geosynthetics, ASCE Geotechnical Special Publication 103, pp 140-161.

Cowland J.W. (2000). "Use of Geosynthetics in Landfills in Hong Kong", 2nd Asian Geosynthetics Conference, Kuala Lumpur, Malaysia, pp 111-117.

Lawson C.R. & Cowland J.W. (1999). "The Future for Geosynthetics in Asia", GRI Conference on Geosynthetics in the Next Millennium, Philadelphia, USA, pp 380-390.

Yeo K.C. & Cowland J.W. (1998). "Performance of Geotextile Reinforced Embankments on Vertically Drained Soft Muds", Sixth International Conference on Geosynthetics, Atlanta, USA, pp 783-788.

Cowland J.W., Yeo K.C. & Greenwood J.H. (1998). "Durability of Polyester and Polypropylene Geotextiles Buried in a Tropical Environment for 14 Years", Sixth International Conference on Geosynthetics, Atlanta, USA, pp 669-674.

Frobel R.K., Sadlier M.A. & Cowland J.W. (1998). "Shear Strength and Deformation Considerations for Composite Landfill Liners in Hong Kong", Sixth International Conference on Geosynthetics, Atlanta, USA, pp 411-416.

Cowland J.W. (1997). "A Design Perspective on Shear Strength Testing of Geosynthetic Clay Liners", Testing and Acceptance Criteria for Geosynthetic Clay Liners, ASTM Special Technical Publication 1308, pp 229-239.

Cowland J.W. & Koor N.P. (1995). "Stability Considerations for Steep Valley Landfills", 5th International Landfill Symposium, Sardinia, Italy, vol. 2, pp 789-800.

Cowland J.W. & Overmann L.K. (1994). "Innovative Design Concepts for Leachate Containment and Collection Systems", 5th International Conference on Geotextiles, Geomembranes and Related Products, Singapore, pp 965-968.

Blower T., Cowland J.W. & Tang K.Y. (1993). "Stability of Hong Kong Landfill Slopes", Conference on Geotechnics and the Environment, Hong Kong, pp 41-57.

Cowland J.W., Tang K.Y. & Gabay J. (1993). "Density and Strength Properties of Hong Kong Refuse", 4th International Landfill Symposium, Sardinia, Italy, vol. 2, pp 1433-1446.

Overmann L.K., Cowland J.W., Mattravers N.K., Shung W.K., Lee B.S. & Wan C.H. (1993). "Chemical Resistance Testing of Liner Materials for Hong Kong Landfills", 4th International Landfill Symposium, Sardinia, Italy, vol. 1, pp 333-347.

Blower T., Tang K.Y. & Cowland J.W. (1993). "The Stability of Two Coastal Landfills in Hong Kong", Conference on the Engineering Geology of Waste Storage and Disposal, Cardiff, UK, pp 97-108.

Cowland J.W. & Wong S.C.K. (1993). "Performance of a Road Embankment on Soft Clay Supported on a Geocell Mattress Foundation", Geotextiles and Geomembranes, vol. 12, no. 8, pp 687-705.

Cowland J.W. (1993). "Lessons Learned from Geosynthetic Failures", Hong Kong Engineer, vol. 21, no. 1, p 6.

Cowland J.W. (1992). "Appropriate Geotechnology for Hong Kong's Landfill Liners", Geotechnical Engineering, vol. 23, no. 2, pp 11-29.

Nicholls K.H., Cowland J.W. & Chan R.K.S. (1992). "Effects of Blasting on the Stability of Adjacent Rock Slopes", Institute of Quarrying Conference on Asia Pacific Quarrying the Rim, Hong Kong, pp 185-195.

Cowland J.W. (1991). "The Design of Liner Systems for Hong Kong Landfills", Conference on Pollution in the Metropolitan and Urban Environment (Polmet 91), Hong Kong, vol. 2, pp 169-186.

Cowland J.W. & Leung B.N. (1991). "A Field Trial of a Bentonite Landfill Liner", Waste Management & Research, vol. 9, no. 4, pp 277-291.

Cowland J.W. (1988). "Geotechnical Aspects of Waste Landfills in the USA", Hong Kong Engineer, vol. 16, pp 19-20.

Cowland J.W. & Carbray A.M. (1988). "Three Cut Slope Failures on Relict Discontinuities in Saprolitic Soils", 2nd International Conference on Geomechanics in Tropical Soils, Singapore, vol. 1, pp 253-258.

Richards L.R. & Cowland J.W. (1986). "Stability Evaluation of Some Urban Rock Slopes in a Transient Groundwater Regime", Institute of Mining Conference on Rock Engineering and Excavation in an Urban Environment, Hong Kong, pp 357-363. (Discussion pp 501-506).

Cowland J.W. & Thorley C.B.B. (1985). "Ground Movement due to the Construction of a Deep Tunnel in Rock", Technical Note No. TN 7/85, Geotechnical Control Office, Hong Kong, pp 1-18.

Cowland J.W. & Richards L.R. (1985). "Transient Groundwater Rises in Sheeting Joints in a Hong Kong Granite Slope", Hong Kong Engineer, vol. 13, no 2, pp 27-32.

Cowland J.W. & Thorley C.B.B. (1984). "Ground and Building Settlement Associated with Slurry Trench Excavation", 3rd International Conference on Ground Movements and Structures, Cardiff, UK, pp 723-738. (Discussion pp 873-876).

Richards L.R. & Cowland J.W. (1982). "The Effect of Surface Roughness on the Field Strength of Sheeting Joints in Hong Kong Granite", Hong Kong Engineer, vol. 10, no. 10, pp 39-43.

Flintoff W.T. & Cowland J.W. (1982). "Excavation Design in Residual Soil Slopes", ASCE Speciality Conference on Engineering and Construction in Tropical and Residual Soils, Honolulu, USA, pp 539-556.