



**MENARD GEOSYSTEMS SDN. BHD.**  
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Sustainable Technology

Year	Client	Project	Location	Engineers	Quantity	Technique Used
1977	Port of Singapore Authority	Airport	Changi Singapore	Port of Singapore Authority / SPECS	925,000 m <sup>2</sup>	Dynamic Consolidation Pressuremeter
1978	Bandaraya Development Bhd	Condominium	Kuala Lumpur Malaysia	W.H. Ting Consultants	10,000 m <sup>2</sup>	Dynamic Consolidation Pressuremeter
1979	Bandaraya Development Bhd	Housing Scheme	Kuala Lumpur Malaysia	Zaidun Leeng	35,000 m <sup>2</sup>	Dynamic Consolidation Pressuremeter
1979	Port of Singapore Authority	Airport	Changi Singapore	Public Works Dept.	160,000 m <sup>2</sup>	Dynamic Consolidation Pressuremeter
1982	Public Works Dept. Singapore	Hangar / Facilities Complex	Changi Singapore	Public Works Dept., Singapore	95,000 m <sup>2</sup>	Dynamic Consolidation Pressuremeter
1982	Pertamina Indonesia	Refinery Plant	Arun, Sumatra Indonesia	Kumagai	15,000 m <sup>2</sup>	Dynamic Consolidation Pressuremeter
1982	Pertamina Indonesia	Refinery Plant	Balikpapan Kalimantan Indonesia	Bechtel	60,000 m <sup>2</sup>	Dynamic Consolidation Vertical Drains Vibro Compaction
1982	P.P.F.C. Manila	Refinery Plant	Leyte Philippines	Kalalo	39,000 m <sup>2</sup>	Dynamic Compaction Pressuremeter
1982	Marina Properties	Housing Scheme	Manila Philippines	Loukkok	100,000 m <sup>2</sup>	Dynamic Consolidation Pressuremeter
1983	Petronas	Refinery Plant	Bintulu Sarawak Malaysia	Bintulu Dev. Authority	88,000 m <sup>2</sup>	Dynamic Consolidation Pressuremeter
1984	M.S.B.A Development Bhd	Housing Scheme	Kuala Lumpur Malaysia	Zaidun Leeng	46,000 m <sup>2</sup>	Dynamic Consolidation Pressuremeter
1984	HICOM Estate	Housing Scheme	Kuala Lumpur Malaysia	Promet Consultants	18,000 m <sup>2</sup>	Dynamic Consolidation Pressuremeter Cone Penetration Test
1984	Sharani Holdings Sdn Bhd	Housing Scheme	Damansara Kuala Lumpur Malaysia	Zainuddin Radzi Consultants	96,000 m <sup>2</sup>	Dynamic Consolidation Pressuremeter Cone Penetration Test
1987	M.B.S.B	Industrial Complex	Kuching Sarawak Malaysia	Zaidun Leeng	55,000 m <sup>2</sup>	Dynamic Consolidation Vertical Drains Cone Penetration Test Pressuremeter
1988	M.B.S.B	Housing Scheme	Selangor Malaysia	Wan Mohammad & Khoo	20,000 m <sup>2</sup>	Dynamic Consolidation Pressuremeter Cone Penetration Test
1988	Kosas / MIEL	Housing Scheme	Kuala Lumpur Malaysia	L.D.A. Assoc.	15,000 m <sup>2</sup>	Dynamic Consolidation Pressuremeter
1989	Kembar Empat Sdn Bhd	Housing Scheme	Kuala Lumpur Malaysia	Jurutera Perunding Zaaba	25,000 m <sup>2</sup>	Dynamic Consolidation Dynamic Replacement Pressuremeter Cone Penetration Test
1992	Mobil of Singapore	Tank Farm	Pulau Pesek Singapore	Mobil Engineers Houston, USA	15,000 m <sup>2</sup>	Dynamic Consolidation
1993	Mobil of Singapore	Petro-chemical Complex	Pulau Pesek Singapore	MRDC	180,000 m <sup>2</sup>	Dynamic Replacement Stone Columns
1993	PLUS Bhd	Expressway	Ipoh-Gopeng Perak Malaysia	Zaidun Leeng	28,000 m <sup>2</sup> 95,000 m	Vacuum Consolidation Dynamic Consolidation Dynamic Replacement



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						Stone Column Vertical Drains Cone Penetration Test Pressuremeter
1993	Proton Bhd	Semi High Speed Test Track	Shah Alam Selangor Malaysia	SSP Geotechnics	45,000 m <sup>2</sup>	Dynamic Replacement Dynamic Compaction Vertical Drains Cone Penetration Test Pressuremeter
1994	Port of Singapore Authority	Airport / Port Development	Changi Singapore	P.S.A Engineers	1,150,000 m <sup>2</sup>	Dynamic Consolidation Vibro Compaction
1994	Port of Singapore Authority	Port Container	Pasir Panjang Singapore	SPECS Consultant	70,000 m <sup>2</sup>	Dynamic Consolidation Vibro Compaction
1994	MTD Construction / JKR Malaysia	Expressway	Ipoh-Lumut Perak Malaysia	ESA Jurutera Perunding	160,000 m <sup>2</sup> 128,610 m <sup>2</sup> 25,390 m <sup>2</sup> 250,000 m	Dynamic Consolidation Dynamic Replacement Stone/Sand Column Vertical Drains Pressuremeter
1995	Port of Singapore Authority	Port Container	Pasir Panjang Singapore	Penta Ocean	31,500 m <sup>2</sup>	Dynamic Consolidation Pressuremeter
1995	Ministry of Defence Singapore	Reclamation	Changi Singapore	SPECS Consultant	950,000 m <sup>2</sup> 500,000 m <sup>3</sup>	Dynamic Consolidation Vibro Compaction
1995	Mobil of Singapore	Petro-chemical Complex	Jurong Singapore	Dames & Moore	7,000 m <sup>2</sup>	Dynamic Consolidation Dynamic Replacement Stone Columns
1995	KESAS Bhd	Expressway Package A	Shah Alam Selangor Malaysia	Jurutera Kemajuan	146,000 m <sup>2</sup> 95,722 m <sup>2</sup> 6,500 m 867,000 m 31 nos. 200 nos.	Dynamic Consolidation Dynamic Replacement Stone Columns Vertical Drains Pressuremeter Cone Penetration Test
1995	Kuching Port Authority	Deepwater Port & Container	Kg. Senari Sarawak Malaysia	Acer & Dr WH Ting Consultant	15,000 m <sup>2</sup>	Vacuum Consolidation
1995	JKR (Public Works Dept.) Malaysia	Road	Kota Kinabalu Sabah Malaysia	Jurutera Hikmat	45,000 m <sup>2</sup>	Vertical Drains
1995	Kaltim Methanol	Industrial Complex	Bontang Kalimantan Indonesia	Lurgi Engineering	35,000 m <sup>2</sup>	Dynamic Consolidation Dynamic Replacement
1996	KESAS Bhd	Expressway	Shah Alam - Klang Selangor Malaysia	Jurutera Kemajuan	18,000 m <sup>2</sup>	Pressuremeter Cone Penetration Test
1996	Ministry of Environment Singapore	Incineration Plant	Tuas Singapore	Fischtner GmbH	100,000 m <sup>2</sup>	Dynamic Consolidation Dynamic Replacement Stone Columns Vertical Drains Pressuremeter
1996	Ministry of Environment Singapore	Road	Tuas Singapore	Fischtner GmbH	4,500 m <sup>2</sup> 32,000 m <sup>2</sup>	Sand Columns Dynamic Consolidation Pressuremeter
1997	Port of Singapore Authority	Port Container	Pasir Panjang Singapore	SPECS Consultant	110,000 m <sup>2</sup>	Dynamic Consolidation Vibro Compaction



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1997	Royal Singapore Yacht Club	Reclamation	Marina South Singapore	Murray North Engineers	17,000 m	Stone Columns
1997	JKR (Public Works Dept.), Malaysia	Road	Beaufort - Menumpok, Sabah Malaysia	Jurutera Perunding Pertama	800,000 m <sup>2</sup>	Vertical Drains
1997	Tiarasetia Sdn Bhd	Buildings	Kelana Jaya Selangor Malaysia	Total Project Management	60,000 m <sup>2</sup>	Dynamic Replacement Vacuum Consolidation Pressuremeter (Studies)
1998	Petronas, Dialog & GATX	Tank Farm KCTF	Kerteh Terengganu Malaysia	MINCO	60,000 m <sup>2</sup>	Dynamic Consolidation Dynamic Replacement Sand Columns
1998	BASF - Petronas Bechtel	Acrylics Complex	Gebeng Terengganu Malaysia	Bechtel Engineers, Houston & T&T Konsult	180 m 12 nos.	Pressuremeter Engineering Studies
1998	BASF, Petronas & Bechtel	Petrochemical Complex	Kuantan Pahang Malaysia	T&T Konsult	450 m	Pressuremeter Engineering Studies
1999	Abrar International & JKR Malaysia	Hospital	Ampang Kuala Lumpur Malaysia	DPI Konsult	158 m	Pressuremeter Engineering Studies
1999	Bouyges & Agarth International	Theme Park Building & Infrastructure	Johor Bahru Malaysia	Bouyges Offshore	170 m 9 nos.	Pressuremeter Engineering Studies
1999	Dewan Bandaraya Kuala Lumpur	Landfill	Kuala Lumpur Malaysia	Alam Flora	150 m	Pressuremeter Engineering Studies
1999	Technip - Optimal	Petrochemical Complex - Tanks	Kerteh Terengganu Malaysia	Menard	7,000 m <sup>2</sup>	Dynamic Replacement Pressuremeter
1999	Malaysian Acetyls & Petronas	Tank Farm	Kerteh Terengganu Malaysia	Soils & Rock Engineering	18,000 m <sup>2</sup>	Dynamic Replacement Pressuremeter
1999	ABB Alstom / EPEC	Power Plant	Bang Bo Thailand	SEATEC	30,000 m <sup>2</sup> 24,000 m <sup>2</sup>	Vacuum Consolidation CMC
2000	Sungei Way Construction / JKR Malaysia	Highway	Kajang Selangor Malaysia	Arup Perunding-Isotech	18,000 ml	Stone Columns Pressuremeter Cone Penetration Test
2000	Percon - Babena JV Petronas	Railway Package 1	Kuantan - Kerteh Malaysia	Minco	49,200 m <sup>2</sup> 77,200 m <sup>2</sup> 64 nos. 127 nos.	Dynamic Consolidation Dynamic Replacement Pressuremeter Cone Penetration Test
2000	MMCE - Franky Consort. Petronas	Railway Package 2	Kuantan - Kerteh Malaysia	Minco	281,000 m <sup>2</sup> 13,000 m <sup>2</sup> 140 nos. 294 nos.	Dynamic Consolidation Dynamic Replacement Pressuremeter Cone Penetration Test
2000	Seni-Maju Sdn Bhd	Housing Scheme	Puchong Selangor Malaysia	Soil Structure Consultant	16,000 m <sup>2</sup> 36 nos.	Dynamic Consolidation Pressuremeter
2001	Perspec Prime (M) S/B / DRB Hicom	Railway	Chikus - Bidor Perak Malaysia	Minco	31,000 m <sup>2</sup> 45,000 m <sup>2</sup> 25,000 m <sup>2</sup> 84,000 m <sup>2</sup> 25 nos. 105 nos.	Dynamic Consolidation Surface Vibratory Compaction / Vibro Compaction Dynamic Replacement Pressuremeter Cone Penetration Test



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2001	IRCON International Ministry of Transport	Railway	Senai - Tg. Pelepas Johor Malaysia	HSSI	20,000 m <sup>2</sup> 6 nos. 4 nos.	Dynamic Replacement Pressuremeter Cone Penetration Test
2001	IJM Corporation Bhd JKR Malaysia	Highway	Putrajaya Malaysia	Maunsell, Sharma & Zakaria	102,000 m <sup>2</sup> 102,000 m <sup>2</sup> 12 nos. 20 nos. 51 nos.	Dynamic Replacement Vertical Drains Site Investigation (BH) Pressuremeter Cone Penetration Test
2001	Technip - Petronas	Waste Water Treatment Plant	Kuantan Pahang Malaysia	Technip	5 nos.	Geotechnical Monitoring Vibration Analysis
2002	Benelec Sdn Bhd / Indah Water Consortium	Reclamation for Sewage Plant	Jelutong Pulau Pinang Malaysia	SSP Geotechnics	35,000 m <sup>2</sup> 140,000 m 28 nos. 50 nos.	Dynamic Compaction Vertical Drains Pressuremeter & SPT Vibration Analysis Geotechnical Instrumentation
2002	Song Construction / Kuching Water Board	Dam	Matang Kuching Malaysia	Jurutera Jasa	675 m <sup>2</sup> 6 nos.	CMC Pressuremeter
2002	Pan Sejati Associates / Ministry of Education	School	Kg. Batu Muda Selangor Malaysia	Wawasan Bersatu	60,000 m	Vertical Drains
2003	Kementerian Dalam Negeri (Ministry of Home Affairs)	Police Station	Banting Selangor Malaysia	Sigma Jelas Engineers	10,000 m <sup>2</sup>	Vertical Drains Engineering Studies
2003	Majulia Sdn Bhd JKR Malaysia	Highway	Puchong - Putrajaya Malaysia	Sigma Jelas Engineers	15 nos. 25 nos. 10 nos.	Pressuremeter Cone Penetration Test Exploratory boreholes Engineering Studies
2003	Majulia Sdn Bhd JKR Malaysia	Highway	Puchong - Putrajaya Malaysia	Sigma Jelas Engineers	105,000 m <sup>2</sup> 50,000 m 35 nos.	Dynamic Compaction Vertical Drains Pressuremeter
2003	PPES Works Sdn Bhd Petronas	Independent Oil Terminal	Senari Kuching Malaysia	Jurutera Jasa	793,000 m	Vertical Drains
2004	UEM Construction / DRB Hicom	Railway	Kampar - Batu Gajah (Kg. Tg. Rengas), Perak Malaysia	Minconsult	103,000 m 11,068 m <sup>2</sup> 5 nos. 11 nos.	Vertical Drains Dynamic Compaction Pressuremeter Cone Penetration Test
2004	BH Builders Sdn Bhd / Asianpac Bhd	Housing Scheme	Kuala Lumpur Malaysia	TDC Engineering Consultants Sdn. Bhd.	21,000 m <sup>2</sup> 10 nos. 6 nos.	Dynamic Compaction Pressuremeter Plate Bearing Test
2004	Berlatah Construction	Housing Scheme	Kuala Lumpur Malaysia	TDC Engineering Consultants Sdn Bhd.	24,800 m <sup>2</sup> 12 nos. 3 nos.	Dynamic Compaction Pressuremeter Plate Bearing Test
2004	PT Indonesia Pondasi Raya	Power Plant	Cilicap, Java Indonesia	Menard	87,000 m	Stone Columns
2004	Regal Form Sdn. Bhd.	Housing Scheme	Hulu Langat Selangor Malaysia	Perunding Majucipta Sdn. Bhd.	60 nos. 135 m	Pressuremeter SASW Monitoring
2005	Perspec Prime Sdn Bhd / DRB Hicom	Railway	Bidor-Kampar Perak Malaysia	Minconsult	20,000 m <sup>2</sup> 20 nos. 2 nos.	Surface Vibratory Compaction Cone Penetration Test Plate Bearing Test



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2005	Majutera Sdn Bhd / JKR Malaysia	Machang By-Pass Highway	Kota Bahru - Kuala Krai Kelantan Malaysia	Minconsult	39,000 m <sup>2</sup> 8 nos. 40 nos.	Dynamic Replacement Pressuremeter Cone Penetration Test
2005	Hock Peng Realty S/B / Government of Sarawak	Highway	Jalan Sg. Bidut Sibul Sarawak Malaysia	Jurutera Jasa	930,000 m	Vertical Drains
2005	Nagano Holdings S/B Asianpac Holdings S/B	Housing Scheme	Kuala Lumpur Malaysia	TDC Engineering Consultants Sdn. Bhd.	26,000 m <sup>2</sup> 6 nos. 4 nos. 10 nos.	Dynamic Compaction Pressuremeter Plate Bearing Test Vibration Analysis
2005	Zublin International / Sri Dayabena / Sabah Port Authority	Container Port	Sapangar Bay Kota Kinabalu Sabah Malaysia	Jurutera Perunding Kinakota Sdn. Bhd.	2,050 nos. (off -shore treatment) 889 nos. (on-land treatment)	Vertical Drains
2005	Nagano Holdings S/B / Seni Nusantara S/B	Housing Scheme	Desa Hartamas Kuala Lumpur Malaysia	PC Geo Management Sdn. Bhd.	33,000 m <sup>2</sup> 14 nos. 2 nos. 10 nos.	Dynamic Compaction Pressuremeter Plate Bearing Test Vibration Analysis
2005	Perdana Parkcity Sdn. Bhd.	Housing Scheme	Desa Parkcity Kuala Lumpur Malaysia	TDC Engineering Consultants Sdn. Bhd.	5,000 m <sup>2</sup> 3 nos.	Dynamic Compaction Pressuremeter
2005	Suhati Sdn Bhd Dewan Bandaraya Kuala Lumpur	Road	Magna Park Kuala Lumpur Malaysia	Perunding ZAR	12,000 m 30 nos. 3 nos.	Stone Column Pressuremeter Plate Bearing Test
2005	MRCB Engineering JKR Malaysia	Road	Sabak Bernam Selangor Malaysia	Nik Jai Associates Sdn. Bhd.	70,000 m 3 nos.	Stone Column Plate Bearing Test
2006	Technip Petro Vietnam	Tank Farm	Dung Quat Vietnam	Menard	45,000 m <sup>2</sup> 32,000 m <sup>2</sup> 40 nos.	Dynamic Replacement Dynamic Compaction Pressuremeter
2006	Ekovest / Pembinaan Sahabat / KESTURI	Highway DUKE Expressway	Kuala Lumpur Malaysia	Maunsell Sharma	60,000 m 6 nos.	Stone Column Plate Bearing Test Geotechnical Instrumentation
2006	MRCB Engineering / KESTURI	Highway DUKE Expressway	Kuala Lumpur Malaysia	Zaidun Leeng	25,000 m 35,000 m <sup>2</sup> 30,000 m <sup>2</sup> 8 nos.	Stone Column Dynamic Compaction Dynamic Replacement Plate Bearing Test
2006	Seleksi - Worthy Builders / MTD Construction	Expressway LTP 2 - Pack. 10C1	Terengganu Malaysia	Pasukan LPT 2 / Minco	222,000 m 61,000 m <sup>2</sup> 30 nos.	Vertical Drains Dynamic Replacement Pressuremeter Geotechnical Instrumentation
2006	TSR Bina Sdn Bhd / JKR Malaysia	Expressway LTP 2 - Pack. 12	Terengganu Malaysia	JKR LPT 2 (Package 12 - Sec. 1)	12,400 m	Vertical Drains Geotechnical Instrumentation
2006	Berlatah Construction SGL Carbon	Industrial Plant	Banting, Selangor Malaysia	Geopave Consultant	911,000 m	Vertical Drains Geotechnical Instrumentation
2007	TSR Bina Sdn Bhd / JKR Malaysia	Expressway LTP 2 - Pack. 12	Terengganu Malaysia	JKR LPT 2 (Package 12 - Sec. 2)	11,000 m <sup>2</sup>	Dynamic Replacement Geotechnical Instrumentation
2007	Warga Hikmat Kejuruteraan / Malaysian Refinery /	Tank Farm	Malacca Malaysia	Menard	49,400 m <sup>2</sup>	Controlled Vertical Consolidation Vertical Drains



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	Petronas					Geotechnical Instrumentation
2007	TSR Bina Sdn Bhd / JKR Malaysia	Expressway LTP 2 - Pack. 12	Terengganu Malaysia	JKR LPT 2 (Package 12 - Sec. 3)	28,000 m <sup>2</sup> 96,000 m	Dynamic Replacement Vertical Drains Geotechnical Instrumentation
2007	Berlateh Construction	Roads	Kelana Jaya Malaysia	Dr. Toh Consultants	15,000 m 8,500 m	Vertical Drains Stone Clumns
2007	NMN Construction / MTD Construction	Expressway LTP 2 - Pack. 10C2	Terengganu Malaysia	Terratech	50,831 m <sup>2</sup>	Dynamic Replacement Geotechnical Instrumentation
2007	MTD Construction	Expressway LTP 2 - Pack. 10	Terengganu Malaysia	Terratech	18 mths	Geotechnical Instrumentation and Monitoring
2007	Pembinaan Pakka / MTD Construction	Expressway LTP 2 - Pack. 10D1	Terengganu Malaysia	Terratech	243,000 m	Vertical Drains
2007	MTD Construction	Expressway LTP 2 - Pack.10D	Terengganu	Terratech	31 nos.	SI Field Vane