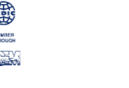


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MECHANICAL AND ELECTRICAL SERVICES PROVIDED BY SMHB AND ASSOCIATED FIRMS

* updated February 2023

Project	Client	Plant capacity/project component	Primary Equipment/ component	Year of Completion
1. Development of Integrated 40 MW Small Hydropower Plant in the Telekosang River Basin, Tenom, Sabah	Telekosang Hydro One Sdn Bhd & Telekosang Hydro Two Sdn Bhd	40 MW	22 MW and 18 MW hydropower plants	2018-2023
2. Projek Menaiktaraf Loji Rawatan Air Pelubang, Kedah	Syarikat Air Darul Aman Sdn Bhd	407 Mld	Intake, raw water pumping station, water treatment plant upgrading, 50 km pipeline and 3 MI reservoir	ongoing
3. Klang Valley Mass Rapid Transit Project Line 2: Southern Kuchai Lama Serdang Alignment	MMC-Gamuda JV	15 km elevated guideway, 7 MRT stations	M&E building services for MRT stations, Multi storey car park, road lighting and related services	2015-2022
4. KVMRT Line 2: Serdang Depot	MMC-Gamuda JV	Light maintenance depot	Administration building, rolling stock workshop and maintenance shed and other utility buildings	2015-2022
5. Klang Valley Mass Rapid Transit Project Sg. Buloh-Serdang- Putrajaya Linewide Elevated Stations	MMC-Gamuda JV	25 MRT stations	Detail design of fire protection, power supply and M&E services	2015-2017
6. Langat Centralised Sewerage Project, Selangor	MMC Pembetungan Langat Sdn Bhd	920,000 PE	M&E services for the sewage treatment plant and associated works	2013-2020
7. Centralised Sewage Treatment Plant and Sewerage Network at Bandar Indera Mahkota, Kuantan	Jabatan Perkhidmatan Pembetungan	150,000 PE	M&E works for regional STP and sewerage network	Ongoing
8. Klang Valley Mass Rapid Transit Line 1 (Plaza Phoenix to Kajang)	MMC-Gamuda JV	20 km elevated guideway, 12 MRT stations and 1 depot	Power supply, telecommunication, compound and street lighting and building services for stations, car park building and depot	2011-2017



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9. Sg. Johor Barrage	Jabatan Bekalan Air, KeTTHA	400 Mld	Vertical lift roller gates, navigation locks, traffic control system, SCADA	2017
Modification Works – Modification of Barrage Gate, Supply and Installation of Stoplog and Associated Works	Badan Kawalselia Air Negeri Johor	-	-	2019-2021
10. Raw Water Treatment Plant for RAPID Project, Johor	Loh-Loh – WET JV	260 Mld	Water treatment plant, equipment, control instrumentation	2016
11. Water Supply System to Pengerang Integrated Petroleum Complex, (PIPC), Johor	Petronas	70 MCM	M&E services for intake, dam, booster pumping station downstream of dam and reservoir	2016
12. Sungai Selangor Phase 3 Redistribution Project	Unit Perancang Ekonomi Selangor	50 Mld	New suction tank 5.7 MI and new pumping station of 50 Mld capacity	2016
13. Sungai Selangor Phase 1 Redistribution Project	Unit Perancang Ekonomi Selangor	400 Mld, 525 Mld	New booster stations to re-distribute treated water from SSP1 to water stressed areas served by Sg Semenyih and Sg Langat water treatment plants	2016
14. Pantai 2 Sewage Treatment Plant	BEWG	1.8 million PE	M&E services for expansion of Pantai STP	2016
15. Kuala Jelai Water Supply Scheme Phase 2 Stage 2, Negeri Sembilan	Pengurusan Aset Air Bhd	90 Mld	Weir gate, additional raw water pump sets, upgrading of WTP to 90 Mld capacity, residual treatment plant, landfill, trunk mains and reservoirs, equipment upgrading, SCADA, telemetry and associated M&E works	2016
16. Upgrading Works for Labuan Dam Safety Management	Jabatan Bekalan Air, KeTTHA		Upgrade of instrumentation at Bukit Kuda, Sungai Pagar and Kerupang dams	2015



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17. Pahang to Selangor Raw Water Transfer Project	Jabatan Bekalan Air	45 km tunnel	Dam, tunnel, intake pumping station comprising 12 Nos 300 Mld pump sets, pipeline	2014
18. Upgrading of Sungai Selangor Water Supply Scheme Phase 1	Unit Perancang Ekonomi Negeri Selangor	950 Mld, 2,260 Mld	M&E upgrading works of raw water and treated water pumps, upgrade clarifier system, chemical dosing equipment, control instrumentation	2013
19. Upgrading of Wangsa Maju Booster Pumping Station	Unit Perancang Ekonomi Selangor	180 Mld	Upgrading and rehabilitation of booster pumping station	2013
20. Technical and Operation Audit of Equiventures Plants in Johor	Badan Kawal Selia Air Johor	Various sizes	Audit to ensure compliance with the 20-year Concession Agreement prior to handing over the assets to State Government. Supervised pump performance test for 42 Nos raw water, treated water and wash water pump sets.	2013
21. Low-Cost Carrier Terminal (KLIA 2) Sepang, Electrical Power Supply and Relocation of Existing Services	Malaysia Airports Holdings Berhad	30 mppa	Standalone 33 kV, 11 kV and 415 V electrical distribution system within LCCT including 11 kV supply cabling works to the switchgears, SCADA system, power and control cabling works, electrical earthing system	2011
22. Multi-storey Car Park (Park & Ride) Sg Besi, Kuala Lumpur	Dewan Bandaraya Kuala Lumpur	4 storey, 213 parking bays	Cold water and sanitary plumbing, fire protection, lift, low voltage installations, telecommunication, lightning protection, CCTV and Car Parking System	2010
23. Muda River Water Scheme Phase 4A	Perbadanan Bekalan Air Pulau Pinang Berhad	220 Mld	High lift pumping plant (12 Nos 72 Mld pump sets), surge suppression system, water	2009



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			treatment plant, sludge handling, treatment and dewatering	
24. Kudat Water Supply: Milau Scheme	Campo Sdn Bhd	55 Mld	Earth dam 30 m high, water treatment plant, 4 r.c. reservoirs and 125 km pipelines	2008
25. Kogopon Water Treatment Plant, Papar, Sabah	Pengusaha NAC	50 Mld	Intake, raw water pumping station, m.s. pipe 1200 mm diameter 5.6 km long, water treatment plant, 10 MI balancing reservoir and bulk supply pipelines	2008
26. Sandakan Water Supply Project Phase 2	City Best Corporation Sdn Bhd	250 Mld water treatment plant	M&E services for construction of 25m high dam, intake, raw water pumping station, water treatment plant, reservoir and bulk supply pipelines	2008
27. Sungai Semenyih Water Supply Scheme – Upgrading and Rehabilitation Works	Konsortium ABASS Sdn Bhd	560 Mld	Upgrading of chlorination plant, river monitoring station, SCADA system, intake plant upgrading, rehabilitation works of water treatment plant, pipe interconnection between Putrajaya and Cyberjaya main, rehabilitation of existing balancing reservoir, river protection works at intake plant and sand detention pond	2006
28. Rehabilitation of Old Bertam Treatment Works	Perbadanan Air Melaka	126 Mld	SCADA, filtration plant, clarification plant, process dosing facilities, clarifiers UPS, digital video surveillance and projection system for Master Control Room and recommend spared for installed instrument and equipment	2006



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29. Lancang Treatment Works	Perbadanan Air Melaka	55 Mld	Pumps with capacity 55 Mld for Stage 1 and 110 Mld for Stage 2, water treatment process plant, chemical plant, power supply SCADA, telemetry communication, instrumentation and M&E building services	2005
30. Common Utility Tunnel for Putrajaya Core Island	Perbadanan Putrajaya	11 km tunnel	The tunnel houses power and communication cables, potable water supply pipes, chilled water pipes and fibre optic cables. M&E services include small power and lighting, ventilation, intruder alarm, security, fire alarm, Tunnel Automation System and Tunnel Management System.	2005
31. Sungai Selangor Water Supply Scheme Phase 3 – Bukit Badong Headworks and Bulk Supply Works	Gamuda-KDEB-TWSA JV Consortium	800 Mld	Pumping plant of 800 Mld capacity, water treatment plant, process plant, 20/6.3/1.25/0.63/0.5 MVA power and distribution transformers, 33/6.6/0.415/0.24 kV power supply and distribution, standby generating plant, SCADA, telemetry, instrumentation and building services	2005
32. Sewage Treatment Plant and Centralised Sludge Treatment Facility, Port Dickson, Negeri Sembilan	Indah Water Konsortium Sdn Bhd	30,000 PE STP, 98,000 PE Sludge Treatment Facility	Sewage submersible pumps, mechanical screen, FBDA equipment, clarifiers, washwater and effluent pump, chlorination plant, raw sludge pump, thickener, odour removal, power supply, local PLC controlled process plant, instrumentation and M&E building services	2004

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Project	Client	Plant capacity/project component	Primary Equipment/ component	Year of Completion
33. Wangsa Maju Booster Pumping Station – Distribution of Water Supply from Sungai Selangor Phase 3 Bukit Badong Headworks	Perbadanan Urus Air Selangor Berhad	180 Mld	VSD controlled 45 Mld (700 kW 6.6 kV) pumps with a combined nominal capacity of 180 Mld, 11/6.6/0.415/0.24kV power supply and distribution, 1250/300 kVA converter and distribution transformers, instrumentation and M&E building services	2004
34. Sungai Muar-Melaka Raw Water Transfer Scheme Extension	Perbadanan Air Melaka	220 Mld	55 Mld (1500kW, 6.6 kV) pumps with a combined nominal pumping capacity of 220 Mld, 11/6.6/0.415kV power supply reticulation and distribution, 5/0.5 MVA power and distribution transformers, instrumentation, PLC controlled pumping system and M&E building services	2004
35. Central Kedah Water Supply	Sungai Harmoni Sdn Bhd	55 (Mld)	Water treatment plant of 55 Mld expandable to 110 Mld, intake and raw water pumping house for 58 Mld, pipelines with diameters ranging from 650 mm to 850 mm, 23 MI r.c. reservoir, treated water pump, digital video surveillance for filters, pump houses and chemical rooms, video projection system for Master Control Room, SCADA and instrumentation. Recommended spares for installed instruments and equipments	2003
36. Sungai Selangor Water Supply Scheme Phase 3 – Rasa Headworks and Bulk Supply Works	Gamuda-KDEB-TSWA JV Consortium	250 Mld	84 Mld (980kW, 6.6 kV) pumps with combined capacity of 250	2003

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Project	Client	Plant capacity/project component	Primary Equipment/ component	Year of Completion
			Mld, water treatment process and chemical plants, power supply and distribution, standby generating plant, SCADA, instrumentation and building services	
37. Jus Dam	Perbadanan Air Melaka	50,000 MI	VSD controlled 100 Mld pumps, 11/6.6/0.415/0.24 kV power supply generation, reticulation and distribution, 2/1.6/0.3 MVA power converter and distribution transformers, standby generating plant, instrumentation, surge suppression system, roller gates and hoists, valves, hoisting equipment and M&E building services	2003
38. Gadek Water Treatment Works	Perbadanan Air Melaka	55 Mld	22 Mld (280kW,415V) and 11 Mld (150kW,415V) pumps with combined nominal capacity of 55 Mld, water treatment plant, chemical plant, transformers, semi-automatic control process plant, SCADA, instrumentation and building services.	2003
39. Water Distribution System for Kuala Selangor and Sabak Bernam Districts, Selangor	JBA Selangor	61.4 Mld	Mechanical design of pumping installation of 61.4 Mld at Sekinchan	2003
40. Northwest Selangor Integrated Agriculture Development Project, Selangor	JPS Malaysia	20,000 hectares	Mechanical services for 4 Nos of radial gates measuring 6m x 3 m at Sungai Tengi.	2003
41. Kuala Jelai Water Supply Scheme, Phase 2 Stage 1	JBA Negeri Sembilan	45 Mld	Mechanical and electrical services for intake plant, water	2003



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Project	Client	Plant capacity/project component	Primary Equipment/ component	Year of Completion
			treatment plant for output of 45 Mld and balancing reservoirs.	
42. Hulu Terengganu Water Supply Project Phase 1, 2 and 3, Terengganu	Hatimuda Sdn Bhd	55 Mld (Stage 1), additional 55 Mld (Stage 2A)	Intake, water treatment plant, service reservoir, pumping main, replacement of old asbestos cement pipes and, SACDA and instrumentation	2003
43. Kerteh Integrated Petrochemical Complex, Dungun Water Supply Project	Petroleum Nasional Berhad	230 Mld	250 Mld raw water pumping plant driven by 6.6 kV motors, surge suppression system and bandscreen, water treatment plant, treated water pumping station, power supply and distribution, standby generator plant, control and automation for chemical, sludge and pumping plants, and M&E building services	2001
44. Meragang Hatchery Phase 2, Brunei	Department of Fisheries, Brunei Darussalam	117 No HDPE tanks of various sizes	Treated sea water supply system, aeration system, power supply, standby generator, standby re-circulation unit for recycling of rearing water, wastewater storage and treatment, and M&E building services	2000
45. Sungai Selangor Water Supply Scheme Phase 2 Stage 1 Booster Pumping Stations	Puncak Niaga Sdn Bhd	457 Mld	Additional pumping installation of 220 Mld output capacity at Kepong Estate Pumping station, new 115 Mld output capacity at Batu estate pump sets, and new 220 Mld output capacity at Bukit Gasing	1999
46. Sungai Semenyih Augmentation Project	Premier Ayer-Asia Baru Consortium	70 Mld	The contingency water supply project involves pumping station	1999



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Project	Client	Plant capacity/project component	Primary Equipment/ component	Year of Completion
			to pump the diverted flows stored in several mining pools besides Langat River into the bunded storage or to the Semenyih intake	
47. Melaka New Water Supply	Lembaga Air Melaka	54.5 Mld	500 and 450 mm diameter pumps, 560 and 400 kW 6.6 kV motors, 915, 750, 600, 533 and 450 mm diameter steel pipes, 14.2 and 8.21 m ³ steel pressure vessels, 8 tonne electric overhead travelling crane, ventilation plant, Halon 1301 automatic fire extinguishing system, 11 kV, 6.6 kV and 415 V switchgear, and instrumentation	1989
48. Commonwealth Games Facilities – National Sports Complex, Swimming Complex	United Engineers (Malaysia) Berhad	8 lane competition pool, 5 lane 12.5 m x 50 m training pool, 25 m x 25 m diving pool and 3,000 capacity spectator stand	Pool filtration system including compressed air system, ozone plant and sand filters, power supply, distribution transformers, standby generator, M&E building services	1998
49. Sungai Selangor Water Supply Scheme	JBA Selangor	950 Mld	1000, 900, 800, 700, 350, 300 and 250 mm diameter pumps, 2900, 1450, 810, 430 kW 6.6 kV motors, 2600, 2500, 2100, 1700, 1350 and 1200 mm diameter steel pipes, 231 and 228 m ³ steel pressure vessels, 25, 15, 10 and 5 tonne electric overhead travelling cranes, air conditioning and ventilation plant, Halon 1301 automatic fire extinguishing system, 33 kV, 6.6 kV and 415V switchgear, 16 MVA and 5 MVA 3.3/6.6 kV and 6.6/4.33 kV	1998



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Project	Client	Plant capacity/project component	Primary Equipment/ component	Year of Completion
			transformers, 2 x 5 MW and 2 x 2 MW 6.6 kV standby diesel engine generating plants, instrumentation and computer based telemetry system, telecommunication and security systems.	
50. Alor Setar Town Drainage System	Jabatan Parit dan Taliair, Kedah	1600 Mld storm water drainage	3 m ³ submersible pump sets, 3m x 1.2 m steel penstocks, 5 tonne outdoor gantry crane and 2 x 1000 kW diesel standby generators	1988
51. Upper Muar/Juasseh Dams	Antah Biwater JV	53,000/33,200 MI dams	Siphon control equipment, vacuum pumps, air compressors and pressure vessels, ventilation system, electric passenger hoist, flow and level instrumentation, and process control equipment	1988
52. Linggiu Reservoir Project	Public Utilities Board, Singapore	740,000 MI dam	2200 and 1500 mm diameter submersible valves, 2200 mm diameter submersible penstocks, hydraulic bank and actuator, 20 tonne electric overhead revolving crane, instrumentation, telemetry and telecommunication system	1988
53. Johor Submarine Pipeline	Public Utilities Board, Singapore	Cathodic Protection	Cathodic protection of 2.5 km length of submarine pipeline using an impressed current system	1987
54. Johor River Pipelines	Public Utilities Board, Singapore	Study on interference between LLN power lines and proposed pipelines	Study and recommendations for mitigation of induced voltages on the proposed 2100 mm diameter pipeline caused by 132 kV and 275 kV LLN transmission lines.	1986



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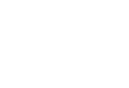


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55. Skudai Waterworks New Flood Control Structure	Public Utilities Board, Singapore	River control gates	6.1 m x 3.9 m vertical lift gates and stop logs, hydraulic banks and actuators, hoisting equipment, instrumentation and gate control	1984
56. LLN Substations	Lembaga Letrik Negara	Substations for LLN switchgear at Semenyih, Ayer Itam, Tampoi and Kota Putri	Air conditioning ventilation system, 1301 automatic fire extinguishing system, lighting and small power	1984
57. Johor River Pipeline Boosting Scheme	Public Utilities Board, Singapore	454 Mld	800, 700, 600, 500 and 350 mm diameter pumps, 2100, 500, 400, 290, 200 and 100 kV 6.6 kV motors, 2200, 1680, 1450, 1200 and 1000 mm diameter steel pipes, 75 and 54 cubic metre steel pressure vessels, 25, 20 and 15 tonnes electric overhead travelling cranes, air conditioning and ventilation system, 22 kV, 6.6 kV and 415 V switchgear, 10 MVA 22/6.6 kV and 6.6/.433 kV transformers, 2 x 3 MW and 2 x 1.5 MW 6.6 kV standby diesel engine generator plants, instrumentation and computer based telemetry system, and telecommunication system	1983
58. Sungai Terip Dam	JBA Negeri Sembilan	48,000 MI dam	Siphon control equipment, vacuum pumps, air compressors and steel pressure vessels, ventilation system, flow and level instrumentation and process control equipment	1983
59. Sungai Semenyih Water Supply Scheme	JBA Selangor	560 Mld	800, 700, 500 and 300 mm diameter pumps, 1500, 800, 690	1982



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			and 350 kW 6.6 kV motors, 37, 30, 18.5 and 5.5 kW 415 volt motors, 2150, 1200, 1100 and 850 mm diameter steel pipes, 198 and 28 m ³ steel pressure vessels, 10 and 8 tonne electric overhead travelling cranes, air conditioning and ventilation plant, Halon 1301 automatic fire extinguishing system, 33 kV, 11 kV, 6.6 kV and 415 volt switchgear, 7.5MVA 33/6.6 kV and 11/6.6 kV and 6.6/.433 kV transformers, instrumentation and telemetry system	
60. Kemaman Water Supply Scheme	JKR Terengganu	200 Mld	500, 400 and 300 mm diameter pumps, 480 and 300 kW 3.3 kV motors, 240 and 150 kW 415 volt motors, 1300, 1200, 900, 750 and 650 mm diameter steel pipes, 28 and 17 m ³ steel pressure vessels, Halon 1301 automatic fire extinguishing system, 11 kV, 3.3 kV and 415 V switchgear, 11/3.3 kV and 11/.433 kV transformers, and instrumentation	1982
61. Sungai Semenyih Dam	JBA Selangor	61,400 MI dam	Siphon control equipment, vacuum pumps, air compressors and steel pressure vessels, ventilation system, flow and level instrumentation and process control equipment	1982
62. Sungai Langat Water Supply Scheme Stage III	JBA Selangor	385 Mld	600, 510, 457, 506 and 356 mm diameter pumps, 675, 433 and 330 kW 6.6 kV motors, 199, 168,	1982



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			93 and 3.7 kW 415 volt motors, 1860, 1549 and 1245 mm diameter steel pipes, 10 and 5 tonne electric overhead travelling cranes, 11 kV, 6.6 kV and 415 V switchgear, 11/6.6 kV and 6.6/.433 kV transformers, and instrumentation	
63. Sungai Kuantan Barrage	JBA Pahang	River Control Gates	12.2 m x 5.3 m vertical lift gates and stop-logs, hydraulic banks and actuators, hoisting equipment, cathodic protection, instrumentation and gate controls	1980
64. Sungai Langat Dam	JBA Selangor	38,700 l dam	Siphon control equipment, vacuum pumps, air compressors and steel pressure vessels, ventilation system, flow and level instrumentation and process control equipment	1976