

## ANNEX A

### Civil Contracts

#### **CONTRACT 481**

Contract 481 is awarded to Hock Lian Seng Infrastructure Ltd at a sum of **\$305 million**. Contract 481 comprises the design, construction and completion of approximately 490m of dual carriageway at-grade road, with slip road connections to Maxwell Road, and 460m of dual carriageway viaduct structure linking to the existing South Quay Viaduct. Works under this contract also include approximately 9.1 hectares of land reclamation works at the Marina Wharf area and construction of trunk sewers.

Hock Lian Seng Infrastructure Ltd is a local contractor who has considerable experience in the construction of both road and rail infrastructural projects. They have successfully completed the building of Kim Chuan Depot, the largest underground depot in the world today, Marina Bay Station as part of the Downtown Line 1 project, the extension of Buangkok Drive to KPE and Tampines Road including a vehicular bridge over Sungei Serangoon, and the construction of a new vehicular viaduct from Bartley Road to Airport Road.

#### **CONTRACT 482**

Contract 482 is awarded to Ssangyong Engineering and Construction Co Ltd at a sum of **\$929.9 million**. Contract 482 comprises the design, construction and completion of 360m of dual carriageway depressed road structure, 640m of dual carriageway vehicular tunnel structure, slip tunnels, at-grade roads and 280m section of future transit tunnel undercrossing the MCE tunnels.

Ssangyong Engineering and Construction Co Ltd was involved in a number of major construction projects, such as the Oceanfront@Sentosa Cove and 3 Hotel Towers at Marina Bay Sands Integrated Resort.

#### **CONTRACT 483**

Contract 483 is awarded to Samsung C&T Corporation at a sum of **\$716.4 million**. Contract 483 comprises the design, construction and completion of approximately 950m of vehicular tunnel structure, slip tunnels and at-grade roads connecting to Marina Boulevard. It also includes the construction of one ventilation building.

Samsung Engineering and Construction Co Ltd was involved in the design and construction of the Cross Street Station as part of Downtown Line Stage 1.

### **CONTRACT 485**

Contract 485 is awarded to Penta-Ocean Construction Co Ltd at a sum of **\$669.7 million**. Contract 485 comprises the design, construction and completion of 700m of dual 5-lane vehicular tunnel structure, of which approximately 420m is below the Marina Bay Crossing.

Penta-Ocean Construction Co Ltd was involved in a number of major construction projects, such as the reclamation of Pasir Panjang Terminal Phases 3 and 4, the Shell Ethylene Cracker Complex at Pulau Bukom, the ION Orchard and the Artsience Museum at Marina Bay Sands Integrated Resort.

### **CONTRACT 486**

Contract 486 is awarded to Samsung C&T Corporation at a sum of **\$634.8 million**. Contract 486 comprises the design, construction and completion of approximately 800m of twin-cell box vehicular tunnel structure and slip tunnel connection stubs for future entrance/exit ramps. Works under this contract also include the construction of one ventilation building, trunk link sewers with associated manholes and land reclamation works at Marina East area.

Samsung C&T Corporation was appointed the civil contractor for Contract 483 (Marina South II) awarded on 3 November 2008. Samsung C&T Corporation was involved in the design and construction of the Cross Street Station as part of Downtown Line Stage 1.

### **CONTRACT 487**

Contract 487 is awarded to Sato Kogyo(S) Pte Ltd - Daelim Industrial Co. Ltd Joint Venture at a sum of **\$732.6 million**. Contract 487 comprises the design, construction and completion of approximately 700m of dual-carriageway main vehicular tunnel, 1,550m of slip tunnels, at-grade roads connecting to the ECP and Fort Road, and an interchange with KPE/ECP.

Sato Kogyo(S) Pte Ltd was involved in a number of major construction projects, such as the construction of Marina Bayfront Bridge, the Boon Lay MRT Extension, the OUB Centre and the District Cooling System Box at Marina Bay Sands Integrated Resort.

### **CONTRACT 488**

Contract 488 was awarded to Samwoh Corporation Pte Ltd at a sum of **\$18.1 million**. Contract 488 comprises the construction and completion of at-grade road system including Marina Boulevard, Central Boulevard, Sheares Ave, Bayfront Ave and other connecting roads. It includes the demolition of existing overhead gantry structures, underpasses, roads, reinforced concrete structures etc. made redundant by the new at-grade road system

Samwoh Corporation Pte Ltd is currently involved in the upgrading of West Coast Highway/Clementi Road Junction as well as the construction of Sentosa Gateway tunnel from Telok Blangah Road to Keppel Road.

## **Electrical & Mechanical (E&M) Contracts**

### **CONTRACT 461**

Contract 461 was awarded on 3 May 2010 to Voltas Limited at a sum of \$51.9 million. The Contract 461 is mainly for the supply, install, testing and commissioning of a Tunnel Ventilation System (TVS) and Environmental Control System (ECS) for the MCE.

The TVS consists of two types of fans, namely jet fans and tunnel ventilation fans. The jet fans will be installed on the tunnel ceiling at appropriate intervals to blow the air in the traffic direction. The tunnel ventilation fans will be located at Ventilation Buildings VB1 and VB2. There will be 16 ventilation fans in each of the two buildings. All of the fans are bi-directional, for supplying of fresh air or extraction of exhaust.

ECS is to provide air-conditioning, mechanical ventilation system in the ventilation buildings and inside the tunnel such as escape staircases, and sump pump rooms. The ECS consist of air-conditioning and mechanical ventilation to the rooms in the ventilation building. Air-condition is provided to some rooms where personnel are stationed and where equipment operations requires air-conditioning. All rooms not provided with air conditioning will be supplied with mechanical ventilation with supply and exhaust fans.

Voltas Limited was involved in District Cooling Plant at Resorts World Sentosa, M&E Infra Structure Work in the Services Tunnel including Heat Exchangers at Marina Bay Sands and ACMV works for the Administrative Building at the National University of Singapore.

### **CONTRACT 462**

Contract 462 was awarded on 3 May 2010 to Linkforce Pte. Ltd. (Linkforce) at a sum of \$19 million. Contract 462 is mainly for the supply, installation, testing and commissioning of fire protection system (FPS) for Marina Coastal Expressway. The main systems in the contract are fire hydrant system, fire alarm system, tunnel deluge system, fire sprinkler system, hosereel system and clean gas system.

Linkforce is a local company with key expertise in E&M system. They have very good track records in transit and vehicular tunnel projects in Singapore. Linkforce was our FPS contractor for KPE and Circle Line Stage 3. They have also undertaken many large-scale projects in Singapore for both the private and public sectors, including the installation of E&M services for PowerGrid's Transmission Cable Tunnel (from Harbour Drive to Labrador) and Marina Bay Sands Integrated Resort.

### **CONTRACT 463**

Contract 463 was awarded on 3 May 2010 to Gammon Pte. Limited. (Gammon) at sum of \$87,421,202. Contract 463 is mainly for the supply, installation, testing and commissioning, of electrical system for MCE.

The electrical systems consist of the high and low voltage distribution system, standby generator and fuel storage system, uninterruptible system, earthing and lightning system, tunnel lighting system, power supervisory system, access management system and building CCTV system.

Gammon is a well-established civil, electrical and mechanical services contractor. Gammon was our contractor for Northeast Line Contract 709 (People's Park Station including Tunnel) and Boon Lay Extension Contract 1286 (Trackwork). They were the main contractor for ER198 Upgrading of Woodsville Interchange (civil and E&M works), and Downtown Line 1 Contract 909 (Chinatown MRT Station). They were the design and build contractor/ nominated sub-contractor for Kowloon Southern Loop Station and Tunnels in Hong Kong, and the contractor for Mechanical Ventilation and Air-conditioning Installation for Eagle Nest Tunnel in Hong Kong.

### **CONTRACTS 465A AND 465B**

Contracts 465A and 465B are awarded to Tyco Fire, Security & Services Pte Ltd at a sum of **\$14.1 million** and **\$21.9 million** respectively. Contract 465A is for the software development and provision of servers for the Integrated Traffic and Plant Management System (ITPMS), and the provision of a Speed Enforcement Camera System in the tunnels. Contract 465B is for the provision of hardware and field equipment for the Integrated Traffic and Plant Management System which comprises two main sub-systems, namely, the Traffic Control and Surveillance System (TCSS), and Plant Monitoring and Control System (PMCS).

The Traffic Control and Surveillance System manages incidents and traffic along the expressway through various field equipment such as surveillance cameras, automatic incident detection cameras, lane use signs, variable message signs, tunnel LED signs, etc. The Plant Monitoring and Control System monitors and controls the various electrical and mechanical services such as tunnel ventilation system, fire protection system, electrical system and the tunnel drainage pumping system.

Tyco Fire, Security & Services Pte Ltd was the contractor for the Integrated Traffic and Plant Management Systems for the Fort Canning Tunnel and the Kallang-Paya Lebar Expressway.

### **CONTRACT 466**

Contract 466 is awarded to Singapore Technologies Electronics Limited at a sum of **\$8 million**. The contract is for the design, installation, testing and commissioning of a Communications System for the MCE. It includes six subsystems, namely, Expressway Emergency Telephone System, Radio System, Telephone System, Building and Tunnel Public Address System, Integrated Voice Recording System and Communications Backbone Network. These subsystems provide the facilities necessary for the operator to effectively operate and maintain the expressway.

Singapore Technologies Electronics Limited was involved in a number of major Electrical and Mechanical projects, such as Platform Screen Doors, and the Integrated Supervisory Control System for the MRT Circle Line Project.

### **CONTRACT 467**

Contract 467 is awarded to Nam Lee Pressed Metal Pte Ltd at a sum of **\$37.1 million**. Contract 467 comprises the design, supply, fabrication and installation of cladding panels and niche cabinets, and the provision of signages and graphics on the cladding panels.

The cladding system will enhance road safety as the reflective surface of the cladding material improves visibility in the tunnel. Green cladding panels with unique identification numbers will be used in areas adjacent to cross passage doors and escape staircase doors to assist evacuees in identifying the escape path during tunnel emergencies.

Nam Lee Pressed Metal Pte Ltd was involved in supply and installing claddings for various building projects, including a 13 storey building at the International Business Park.