



MAA Bulletin

ISSUE 51-52
FEBRUARY 2013



Kaohsiung Exhibition & Convention Center

亞新工程顧問(集團)公司
MAA Group Consulting Engineers
BANGKOK BEIJING HONG KONG
SHANGHAI SINGAPORE TAIWAN

MAA Bulletin

Issue 51-52 February 2013

Founded in 1975, **MAA** is a leading engineering and consulting service provider in the East and Southeast Asian region with a broad range of focus areas including infrastructure, land resources, environment, buildings, and information technology.

To meet the global needs of both public and private clients, **MAA** has developed sustainable engineering solutions - ranging from conceptual planning, general consultancy, engineering design to project management.

MAA employs 1000 professional individuals with offices in the Greater China Region (Beijing, Hong Kong, Shanghai, Taiwan), Mekong Region (Bangkok), and Southeast Asian Region (Singapore), creating a strong professional network in East/Southeast Asia.

MAA's business philosophy is to provide professional services that will become an asset to our clients with long lasting benefits in this rapidly changing social-economic environment. **ASSET** represents five key components that underline **MAA's** principles of professional services:

Advanced Technology
 project **S**afety
 client's **S**atisfaction
Economical Solution
Timely Completion

Produced By:
 Moh and Associates Inc.
 Oriental Technopolis Building A, 22 Fl., No.112, Xintai Wu Road, Section 1,
 Xizhi District, New Taipei City 22102, Taiwan, R.O.C.
 Tel: 886-2-2696-1555
 Fax: 886-2-2696-1166
 Email: maagroup@maaconsultants.com
 Website: www.maaconsultants.com

CONTENTS

| | |
|---|----|
| AWARDS AND RECOGNITIONS | 01 |
| BIM PROJECT CASE STUDY | 12 |
| MAA TAIPEI NEW OFFICE | 13 |
| PROJECTS 1 ST MAY 2011 TO 29 TH FEBRUARY 2012 | 14 |
| PROFESSIONAL ACTIVITIES | 22 |
| - PROFESSIONAL ACTIVITIES | |
| - PROFESSIONAL AWARDS/HONORS | |
| - SEMINARS AND CONFERENCE | |
| - TECHNICAL PUBLICATIONS | |
| PERSONNEL PROFILES | 26 |

ISO 9001 and LAB CERTIFICATIONS



AWARDS AND RECOGNITIONS

2012 PMI (Project Management Institute) TAIWAN BEST PRACTICE ON PROJECT MANAGEMENT AWARD



MAA's representatives at the ceremony of 2012 PMI Award

On 17th November 2012, MAA Taiwan received the 2012 Enterprise Project Management Benchmarking Award (EPBA) and won the PMI Taiwan Best Practice on Project Management Award for the “Construction Management of Taiwan Architecture and Technology Center of National Taiwan University of Science and Technology”. PMI-Taipei, Taiwan Chapter (PMI-TW) has promoted project management knowledge and PMP certification in Taiwan since October 1999. PMI-TW was officially registered/incorporated by Taiwan’s Ministry of Interior in April 2003, as a non-profit nationwide organization, subordinated to Project Management Institute (PMI). During 2005 and 2006, PMI-TW’s member growth rate was one of the highest among all PMI components in the world. In March 2007 PMI-TW members officially reached 1,000 members which represents a Large Component (Category III) within the PMI organization.

THE 12TH (2012) PUBLIC CONSTRUCTION GOLDEN QUALITY AWARD AND THE 2012 PUBLIC CONSTRUCTION HIGHEST QUALITY AWARD



MAA's President Mr. Chien-I Hsu (left 1) at the Ceremony of the 2012 Public Construction Highest Quality Award

On 28th and 27th November 2012, Xin-Zhuang Sports and Recreational Center conducted by Sports Office, New Taipei City Government received the Public Construction Golden Quality Award and Public Construction Highest Quality Award Xin-Zhuang Sports and Recreational Center located in Xin-Zhuang Sports Park which is the largest multi-functional park in the City. The Xin-Zhuang Sports and Recreational Center is a 3-story reinforced concrete building (21 m high) with 3 levels of basements. The total base area is 28,313 m², and the architecture occupies 7,191 m² with a total floor area of 32,506 m². MAA was commissioned to provide following services:



- Project planning and preliminary design
- Consulting of tender process
- Review of detailed design and budget
- Construction supervision and project management

**SAIGON SOUTH NEW CITY CENTER — 2012
GLOBAL AWARDS FOR EXCELLENCE WINNER
OF URBAN LAND INSTITUTE**

Saigon South is a new town development of approximately 2,600 hectares located along the south skirt of Ho Chi Minh City. Within the territory of Saigon South, Phu My Hung Corporation has the development rights over five concentrated zones. The development of Saigon South is implemented in several phases. Saigon South combines the comprehensive planning for quality and sustainable living with strategic public-private partnerships that leverage development investment for the greater metropolitan area. MAA was responsible for the engineering planning for both areas as well as the basic engineering design.



Source: <http://www.uli.org/global-awards-for-excellence/saigon-south-new-city-center-2012-global-awards-for-excellence-winner/>

**THE 11TH (2011) PUBLIC CONSTRUCTION
GOLDEN QUALITY AWARD**

On 20th December 2011, the 11th (2011) Public Construction Golden Quality Award Ceremony was held by Taiwan’s Public Construction Commission of the Executive Yuan to commend architects, contractors, consulting companies and individuals for their outstanding engineering performances. MAA Taiwan received four awards including three Project Construction Management Golden Awards and one Design Golden Award. The awarded projects are:



MAA’s Chairman Dr. Za-Chieh Moh receives award during the 11th (2011) Public Construction Golden Award



The Public Construction Golden Award



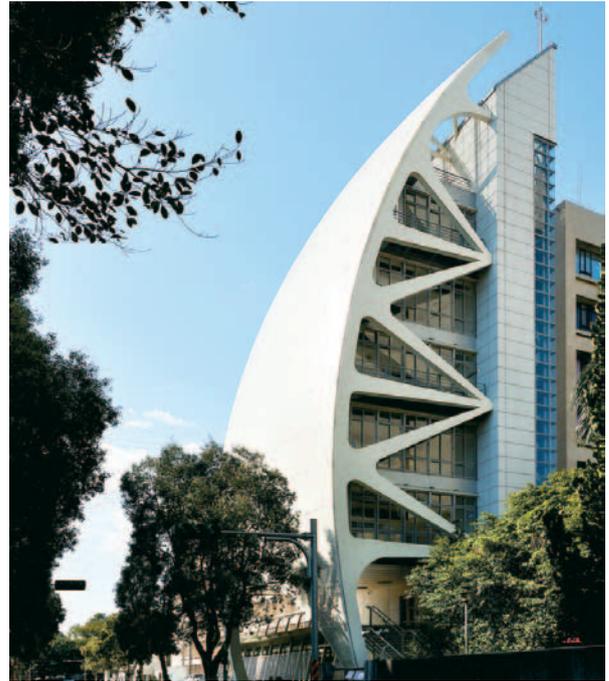
1. 中和地政事務所與稅捐稽徵處中和分處聯合辦公大樓暨地下公共停車場興建工程(專案管理)
Construction of Zhonghe Land and Tax Office Building and Underground Parking Lot (PCM)



2. 新北市中港大排污染改善暨河廊環境營造工程(設計)
Pollution Improvement and Environmental Planning of Channel Corridor of Chung Gang Drainage Channel in New Taipei City Design



3. 台灣客家文化中心苗栗園區(專案管理)
Taiwan Hakka Cultural Center - Miaoli Park (PCM)



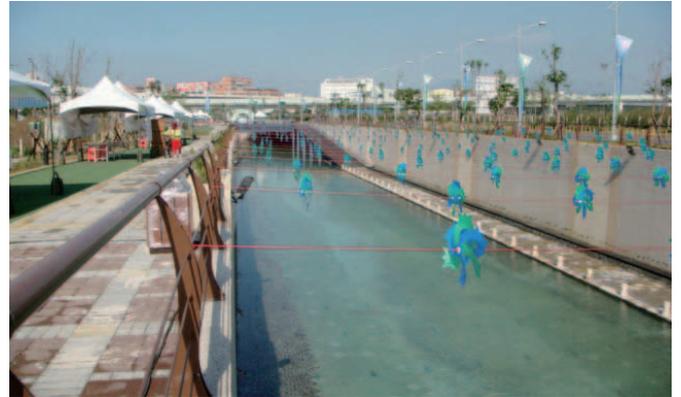
4. 台灣科技大學台灣建築科技中心(專案管理)
The Taiwan Architecture and Technology Center of National Taiwan University of Science and Technology (PCM)

2012 EVALUATION OF TECHNICAL CONSULTING FIRMS ON ENVIRONMENTAL IMPACT ASSESSMENT

MAA was honorably classified as A during the Evaluation of Technical Consulting Firms on Environmental Impact Assessment held by Environmental Protection Administration(EPA), Executive Yuan in Year 2012. The EPA has initiated “The evaluation of Technical Consulting Firms on Environmental Impact Assessment” since 1997. The evaluation is a strong driving force for the firms to improve the quality of environmental impact assessment. The EPA also announced the list of the firms which have passed the evaluation and the list can serve as a reference for developers to select an appropriate partner. The process of evaluation is divided into three parts, “review of basic information of technical consulting firms”, “review by Evaluation Committee” and “review by EPA”. Totally thirty-seven consulting firms have been evaluated this year; seven of them are classified as A, three as A-, sixteen as B, ten as C and one as D.

POLLUTION IMPROVEMENT AND ENVIRONMENTAL PLANNING OF CHUNG GANG DRAINAGE CHANNEL IN NEW TAIPEI CITY

The Chung Gang Drainage Channel passes through the downtown area of the highly populated Xinzhuang district in New Taipei City. The domestic and industrial wastewater in the region both flows into this rainfall drainage channel, causing serious water pollution, environmental/ecological damages, and frequent flooding in the area. The New Taipei City Government called for a tender of Pollution Improvement and Environmental Planning for the 2.3 kilometer long Chung Gang Drainage Channel starting upstream near Zili Street and ending downstream at the intersection with Gui Zi Keng River. The project scope includes:



Chung Gang Drainage Channel

- Flood Prevention & Interception** - interception culvert box, recycling /pumping station, detention area, trash rack and sluice gate.
- Environmental Planning** - channel side pathway, lighting, sprinkler system, fountain, waterfall, planting, landscape improvement along the channel corridor and at bridges.
- Vision Museum** - a multi-functional facility that includes exhibition hall, management office, meeting rooms, washrooms, storage rooms, audiovisual room, catering and recreation areas, etc.
- Bridges** - eleven bridges including five rebuilt bridges, two renovated bridges, and two new bridges.
- Clean Water Injection** - control center, equipment for water recycling, and other auxiliary facilities
- Operation and Management** - operation and management works for three years.

MAA was commissioned to perform detailed design and consultancy service during construction of the project.

CONSTRUCTION INNOVATIONS, CHALLENGES AND COMPLETENESS

1. The flood protection measures have been improved to protect citizens and their property against flood damages.
 - Drainage design with a flood return period of five years.
 - Hydraulic Model Test to verify design parameters.
2. Bridge elevations increased. Clean water injection improves water quality, ensuring safety of human contact.
 - Sewer system connected to intercept sewage.
 - Water recycling and sewage sedimentation pools.
 - Wtable and flexible operation process applied.
 - Energy saving and carbon reduction considered in the power design.
3. Environmental planning- aimed at enhancing living quality.
 - Channel shaped as an ecological green silk corridor.
 - Different function displays provided by segments.



4. Vision museum- aimed at receiving the Green Building Label.

- CO₂ emission reduced .
- Greening adopted.
- Daily energy saved.
- Water resource saved.
- Sewage and garbage treatment improved.

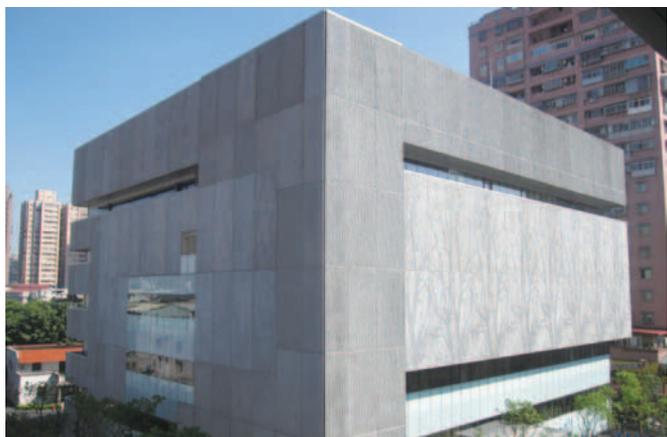
5. Tree retention- aimed at enhance overall value.

- Opinions of residents, experts and scholars considered.
- Design adjusted.
- Greening landscape increased.
- Energy saving and carbon reduction considered in the design.

ACCOMPLISHMENTS AND SIGNIFICANT BENEFITS

1. Flood drainage improved.
 - No occurrence of overflow over dikes during the heaviest rainfall on August 16th, 2010 and June 26th, 2011.
 - Flood detention space increased by about 58%.
2. Public education on water recycling.
 - Waste water from New Taipei City Industrial Park recycled by the 2nd degree treatment.
 - Rain water detention facility built.
 - Gravel filtrating demonstration area under Chung-Yuan North Bridge built.
3. An urban strip of public recreational area created.
4. The long-term stench problem of Chung Gang drainage channel solved to improve living quality in residential areas.

CONSTRUCTION OF ZHONGHE LAND AND TAX OFFICE BUILDING AND UNDERGROUND PARKING LOT (PCM)



Zhonghe Land and Tax Office Building

Zhonghe Land and Tax Office Building is a new complex built to replace the old government building. Located in Zhonghe District, New Taipei City, it is a 7-storey RC building with a 3-level basement consisting of 136 cars underground parking lot. The total floor area is 15,299 m², which houses two local government offices and the Land and Tax office of Zhonghe district, meeting the requirements of sufficient work space for 268 staff members. The building also provides facilities for multi-functional conferences and storage spaces for the large amounts of documents. The exterior design of the building

adopts a precast curtain wall carved into the shapes of tree shadows to create various outlooks from different viewpoints. After completion, the façade has received numerous publicity for the unique design. The building also adopts a variety of sustainable designs, such as the installation of solar panels to generate electricity for public areas, the use of green building material for energy saving, the extension of the green belt to the nearby Fuxing Park, and design under a 200 year flood prevention criteria.

With these innovative designs, the building is recognized as the new landmark in the Zhonghe District. In addition to the Public Construction Golden Quality Award, the building received multiple awards and recognitions, including:

1. Outstanding Award of Green Fence given by New Taipei City Government.
2. “Intelligent Building” Label given by the Ministry of Interior; the project is the first government building to be certified with this label.
3. “Green Building” Bronze Label given by Taiwan Architecture and Building Center (TABC).
4. Public Construction Highest Quality Award given by New Taipei City Government.

TAIWAN HAKKA CULTURAL CENTER - MIAOLI PARK



Taiwan Hakka Cultural Center

Located at Tongluo Science Park in Miaoli County, the main structure of the center was completed on September 15th, 2010. This project is the following construction work of curtain system, interior decoration and landscape engineering.

CONSTRUCTION INNOVATIONS, CHALLENGES AND COMPREHENSIVENESS

1. The main exhibition room adopts aluminum fluorocarbon lacquer while the main hall uses glass curtain. The roof is decorated with aluminum lacquer, composite panels and plyglass, while the scenic bridge is composed of steel and glass wall.
2. Double layer curtain wall system is adopted in the green building design. Hot air generated by temperature difference is trapped in the double layer glass, effectively preventing thermal radiation and lowering indoor temperature.
3. The roof glass panel adopts LOW-E glass which effectively prevents thermal radiation. Sunlight control concept is introduced in the curtain wall design to increase indoor brightness and reduce the use the lighting.
4. With precision survey and more than 10,000 3D construction drawings, various triangular units of glass roof curtain are installed and combined precisely using three layers of waterproof sealing.

SIGNIFICANT ACCOMPLISHMENTS

1. The project manifests the Hakka traditional virtues and the seven spirits. Upholding our consistently high professional standards, different teams among PCM, construction supervision and construction collaborate closely and effectively with each other to deliver the best construction quality. As a result, our construction quality and audit results continue to improve, the project is recommended by the client for the Public Construction Golden Quality Award competition.
2. With the park location at Tonglou Science Park, this project fully integrates technology and humanity culture. And with the connection to National Highway No. 1, the park will attract more and more domestic, mainland Chinese, and foreign tourists. The excellent tradition of Hakka culture will be promoted, leading to sustainable cultural development and preservation.
3. Their regular 3D design of roof glass and aluminum shells causes significant difficulties for the construction. As the PCM of the project, MAA requested Japanese architect and professional engineer to participate in factory inspection in order to ensure that the manufacturing process complies with the standard drawings. Additionally, MAA requested the construction supervision team and contractor to conduct precision survey to ensure construction quality.

TAIWAN ARCHITECTURE AND TECHNOLOGY CENTER



Taiwan Architecture and Technology Center

The Taiwan Architecture and Technology Center (TBTC) is a seven story steel structure building with one reinforced concrete basement. The building features a unique design of a sailboat outlook. The base of the building is 268 m² while the total floor area is 1,388 m². This building meets the experimental need of testing, verification and demonstration of various modern architecture technologies. It is the first “real-world laboratory” of architectures in Taiwan.

CONSTRUCTION INNOVATIONS, CHALLENGES AND COMPLETENESS

1. As an experimental carrier for architecture technology, this building integrates an open and flexible structure design with an intelligent façade system for multiple experiments, including ventilation, photovoltaic and energy-conservation. This building also allows for related experiments and system developments of latest architecture technologies including structure, prefabrication and intelligent building systems.
2. The structure design of this sailboat-shaped building is complex as it combines double curved and differently sectioned round steel pipes. With 3D models, digital steel cutting, fabrication and pre-assembling, the construction accuracy is achieved and the construction period is shortened.
3. The double curved façade uses aluminum sheets with punched holes. Considering the replacement of aluminum sheets and the need to adjust curved surface in the future, 3D graphics system is applied during construction to satisfy the requirements of the structure’s outlook and functions.

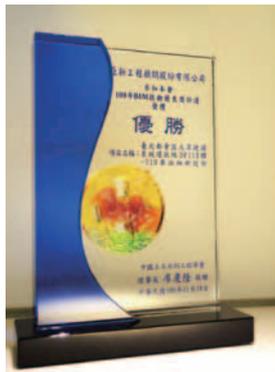
SIGNIFICANT ACCOMPLISHMENTS

1. This project received the 12th (2010) National Architecture Golden Achievement Award, Top National Architecture Award and the 2011 Taiwan Real Estate Excellence Award. Building Information Modeling (BIM) and 3D mapping system were applied to perform the detailed analysis on steel structure, square steel tubular truss, circular steel tubes of circular surface, three-dimensional joints and processing and fabrication of detachable external walls and partition walls, effectively reducing the use of materials and shortening the construction duration.
2. Curved double-layered external wall and intelligent sunshade system are environmentally friendly and energy efficient. At the same time, this building provides comfort and displays architectural beauty.
3. Incorporating the university’s R & D resources and showcasing the university’s R & D accomplishments, five research projects are initiated, including “building structure and disaster prevention”, “green building material”, “daily energy saving and environmental protection”, “intelligent building”, and “open architecture”.

As the PCM consultant firm, MAA efficiently reviewed project plan, construction drawings and building materials at the same time. In addition, MAA also held joint review meetings with the designer and construction supervision team to reduce the administrative time and enhance construction efficiency. Moreover, MAA held 14 design/construction coordination meetings to integrate different views of various school units effectively.

THE 2011 BIM AWARD GIVEN BY THE CHINESE INSTITUTE OF CIVIL AND HYDRAULIC ENGINEERING

Taipei MRT Xin Yi Line Project Extension East Design Lot DF113-Detailed Design on Station Y19.



BIM Award

In order to promote BIM technology for improving work efficiency and quality, the Chinese Institute of Civil and Hydraulic Engineering (CICHE) founded the BIM Award since 2011 and the award ceremony is held every two years to recognize outstanding teams that use BIM technology on engineering design, construction and operation & management.

On 18th November 2011, MAA was awarded the BIM Award for Taipei MRT Xin Yi Line Project Extension East Design Lot DF113-Detailed Design on Station Y19.

Building Information Modeling (BIM) is a 3D architecture model that incorporates a large amount of information to comprehensively represent design details such as the architectural structure system, architectural fitting and E&M piping configuration etc. Application of BIM effectively prevents conflicting interfaces and effectively reduces construction cost.

During the detailed design on DF113, MAA adopted BIM technology for the first time to design the main body and the entrance of MRT station Y19. The 3D environment space was used for precise positioning in order to establish the complex station body structure and produce the detailed design drawings. Specifically, the two-way tilt of station Y19 roof made the traditional 2D design insufficient for the challenging spatial positioning. Moreover, the design of the station entrance, a 12-storey steel structure joint development building with 3 basement levels and a bridge connecting to Airport Line MRT station (Figure 6), was made possible with 3D model (Figure 7) to avoid any conflicting structures. 2D drawings were then generated from BIM model (Figure 8).

MAA adopted BIM during detailed design phase and practically applied it to MRT station and entrance design. Based on our experience, the application of BIM revolutionizes the design process and inspires innovation with regard to the relationships between different professional teams and the priorities of project management. The spirit of BIM technology is to visualize spatial relationships of structural details, to establish a comprehensive database for project life cycle, to practically simulate construction process in the established 3D model, and to prepare alternatives for potential problems in order to lower the possibility of design change and improve construction quality on the whole.

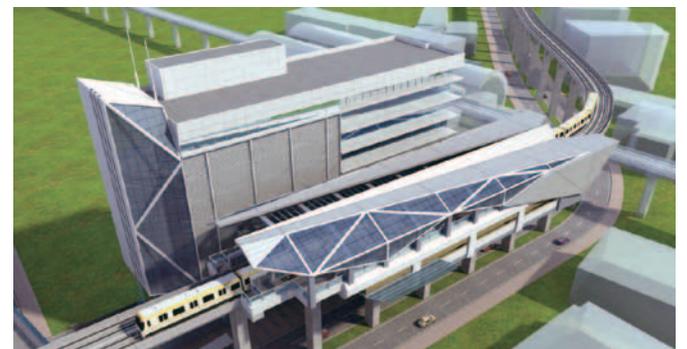


Figure 6 Plan Drawing of Elevated MRT Station and Entrance

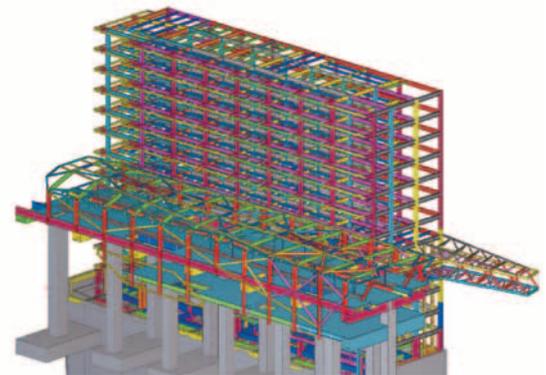


Figure 7 BIM Model Result in figure of Station Entrance Structure

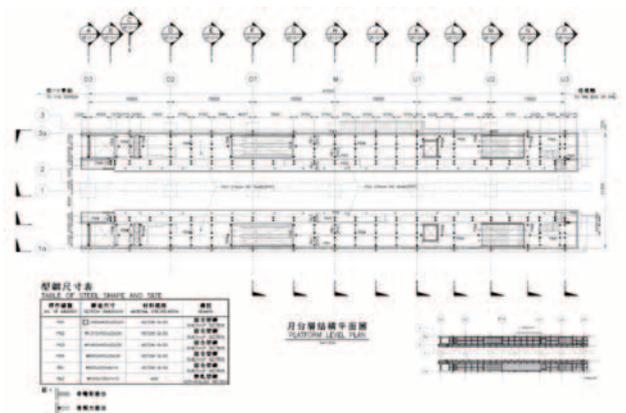


Figure 8 2D Drawing Produced from Structural BIM Model

THE 2011 MODEL CONSTRUCTION SITE AWARD GIVEN BY PUBLIC WORKS DEPARTMENT OF TAIPEI CITY GOVERNMENT



MAA's President Mr. Chien-I Hsu (upper) and Manager of Construction Supervision Dept. Mr. Ben-Chi Lin (lower) received the 2012 Model Construction Site Award

In order to commend outstanding project owners and contractors, to recognize their contribution on construction quality, and to promote the healthy competition of contractors, Public Works Department of Taipei City Government holds the “Model Construction Site” selection annually.

The award ceremony was held by the Commissioner Hsien-Heng Lee on 25th October 2011 at Taipei City Government. Six projects with project cost more than 50 million were nominated for preliminary selection and out of the three awarded,

THE 2011 AWARD OF PROMOTION PROJECT FOR OCCUPATIONAL SAFETY AND HEALTH GIVEN BY COUNCIL OF LABOR AFFAIRS

The 2011 Promotion Project for Occupational Safety and Health Award ceremony was held at NTUH International Convention Center on 9th December 2011, with 26 projects nominated and 11 awarded. The spirit of the award is to encourage all domestic public works construction teams to implement safety management system, improve labor safety culture, jointly prevent occupational damage and ensure labor operational safety. MAA was awarded for the Kaohsiung Metropolitan Underground Railway Project, showing that MAA is highly recognized on the effort on labor safety and occupational damage prevention.

KAOSHIUNG METROPOLITAN UNDERGROUND RAILWAY PROJECT

The project is a part of Kaohsiung Metropolitan Underground Railway Project. The project started in March 2006 and is expected to finish in December 2017. The total length of the project is 9.75 km. The project includes a double-track shield tunnel and underground works (including the permanent station R11 of Kaohsiung MRT) of Kaohsiung Main Station. It also includes 6 commuter stations: Neiwei Station, Fine Arts Museum Station, Gushan Station, Sanqueitzu Station, Mingzu Station and Dashuan Station. The project is expected to bring the following benefits:

two projects were carried out by MAA, namely “Supervision Work on Land Acquisition of Beitou Shilin Technology Park – Land Fill and Site Preparation Works Phase 1” and “Supervision on Branch and User Drainage Works of Nankang & Neihu District Phase 2 (District near the Yucheng Street in 2010)”. The significant accomplishments of the awarded projects are:

(1) Land Fill and Site Preparation Works Phase 1: Prior to the development, the site was an agricultural area with low altitude and it was also a flood detention area. As a result, consolidation settlement became an important issue. Using Prefabricated Vertical Drains and Pre-consolidation Method, the depth of PVDs reached about 35~40 m, the deepest PVDs in Taiwan up to date. During the construction, responsibilities were clearly delegated to each unit and internal and external quality audits were effectively implemented. The work site area was properly maintained and the archive was well managed. Drainage of low-lying area was well controlled so schools in the surrounding were not affected by floods.

(2) Branch and User Drainage Works:

- The coordination meetings of residents were held more than 114 times. However the construction progress was still ahead of schedule.
- The construction space was narrow, but daily access of residents was not affected. Pipeline slope is well controlled and the drainage functions smoothly.
- The construction quality is good and the beautification at the back lanes of houses is frequently appreciated by local residents.



Kaohsiung Railway Fine Art Museum Station

1. Two crossings and twelve 3D intersections are removed, reducing traffic jam and accidents.
2. Obstacles to development in regions along the railway are eliminated.
3. The environmental pollution problems such as noise and vibration produced by passing trains are mitigated.
4. City landscape and living quality in the metropolitan area are improved.
5. Values of urban land use and economic activity are increased

The total length of the project is 2,150m including the Fine Arts Museum Station, the Gushan Station, and a 1,802m long cut & covered railway tunnel. The Fine Arts Museum Station has two basement levels: the B1 floor allows access to light rail station while the B2 floor is the track level with two island platforms and four tracks. The station is approximately 339.5m in length and 33.92m in width. The excavation depth is 13.6 to 16.6m. The Gushan Station has two basement levels (platform and concourse level), two side platforms and two tracks. The station is approximately 288m in length and 22.6m in width. It has an excavation depth of 18.5 to 20.8m. Construction supervision services provided by MAA include temporary track, civil works, structures, geotechnical works, architectures, landscape, signs, environmental protection, E&M, air conditioning, ventilation, elevator & escalator, and transplanting works of Lot CL112, CL113, CL113-1, CL122 and CL191-1.

PROJECT CHARACTERISTICS

1. In order to reduce land levy and maintain railway operation, a temporary track is built, with the smallest distance between work area and railway centerline only about 2.5 m and 25,000 high-voltage transmission line above the railway, bringing challenges to the construction.

2. The work site is close to residential areas with the smallest distance only about 0.5 m. Safety measures are reinforced and construction schedule is modified to ensure residents' daily life is not affected.

3. Pipelines at railroad crossing are complex, requiring relocation and protection measures to maintain functions of the pipelines.

4. In order to maintain railway operation, temporary rail switching (including transport services, civil engineering, rail, catenary, signals) has to be carried out during nighttime when no trains are operated and power is turned off.

5. In order to maintain the access of Qinghai flyover, foundation underpinning method is adopted. Due to the limited clearance space under the flyover, construction of diaphragm walls is restricted, requiring the ground surface to be lowered and the use of special machines with limited heights.

6. As the Gushan Canal intersects with the railway, drainage function is maintained by completing the cofferdams and culvert before flood season.

SPECIFIC EXCELLENT MECHANISM AND PERFORMANCE

1. Visited neighborhood magistrate and held preconstruction seminars to communicate with local residents and to eliminate grievances. Cleaned and dredged gutters regularly to prevent the spread of dengue fever and assisted the government in controlling the epidemic situation.

2. Construction safety along the railway is examined weekly to identify any potentially dangerous factors from train drivers' viewpoint. If there are any construction activities undermining safety, contractor is requested to immediately improve on such activities.

3. Collaborated with Railways Administration from time to time to check and improve construction sites. Labor safety & health and construction safety along the railway were checked on holidays.

4. Observers were stationed on both sides of construction site near railway in order to pause construction operation when trains passed by.

5. Assisted environmental recovery in Gushan District (Hebian Village, Qianqiu Village, Luchuan Village and Xinguang Village) after Typhoon Fanapi and received appreciation letters from Mayor, division leader and community management commission.

6. Received Grade A of public works from MOTC in 2010.

THE 2011 PUBLIC CONSTRUCTION HIGHEST QUALITY AWARDS GIVEN BY NEW TAIPEI CITY GOVERNMENT

The 2011 Public Construction Highest Quality Award ceremony was held by New Taipei City Government on 8th November. New Taipei City Government founded the Public Construction Highest Quality Awards since 2003 with the purpose of enhancing the quality of engineering design and construction and improving living quality. The award period is 1-3 years depending on the extent of contribution to quality improvement. MAA was awarded for the following two projects:

1. Construction of Zhonghe Land and Tax Office and Underground Parking Lot
2. Pollution Improvement and Environmental Planning of Channel Corridor of Chung Gang Drainage Channel in New Taipei City

Please see page 4 and page 5 for detailed description of the two projects.

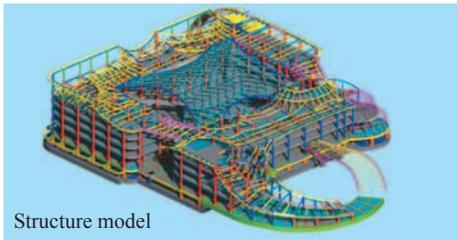


The 2011 Public Construction Highest Quality Award

BIM PROJECT CASE STUDY

BIM SERVICE FOR THE CONSTRUCTION OF INDUSTRIAL INNOVATION AND R&D SPECIAL DISTRICT IN CENTRAL TAIWAN

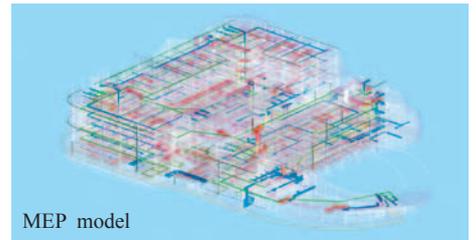
3D simulation.



Structure model



Structure model



MEP model

structural, architectural, mechanical and electrical BIM information Model Build

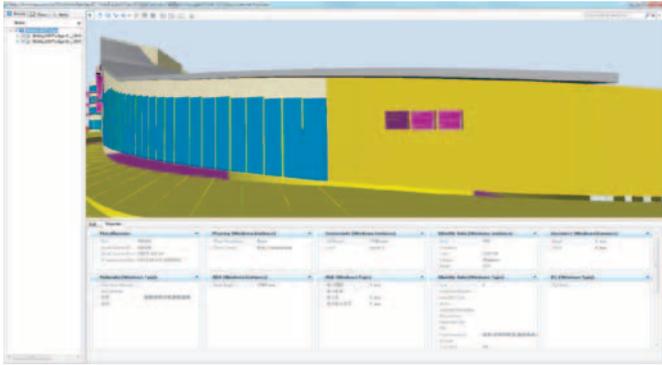
Industrial Technology Research Institute (ITRI) is a nonprofit R&D organization engaging in applied research and technical services. Founded in 1973, ITRI has played a vital role in transforming Taiwan's economy from a labor-intensive industry to a high-tech industry. Numerous well-known, high-tech companies in Taiwan, such as leaders in the semiconductor industry TSMC and UMC started their business at ITRI.

The building will provide the space for R&D laboratory, promoting the development and innovation of intelligent technology, nano-fiber technology and green engineering.

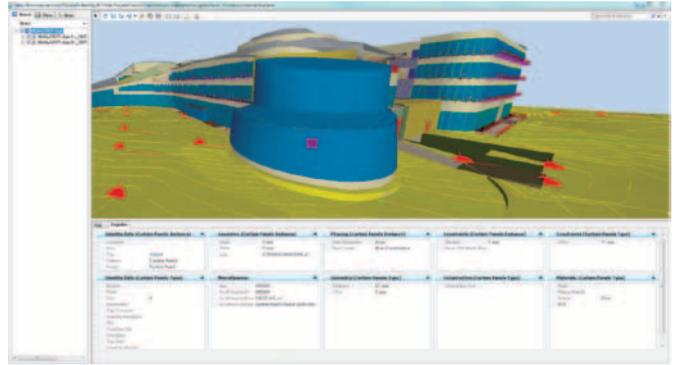
Green energy concept and intelligent technology will be applied to make ITRI a green and smart building. The construction site is located in NanTou City. The building, a RC & SRC-built office building, has 1 floor basement and four floors with 43566.89m² total floor area. The building will be completed by 2014 May 14. Different from traditional architecture, the building is designed with smooth curves, making the construction challenging. With the help of BIM and construction stimulation, architectural structure and electrical & mechanical fields can be pre-integrated, preventing potential problems in construction.



3D conflict check



Establishment of BIM Information Platform for future Building Management



MAA TAIPEI NEW OFFICE

MAA TAIPEI MOVING NOTICE

We are pleased to announce that our office will be relocated at Oriental Technopolis Building in Xizhi, effectively from Tuesday, 11th October, 2011.

Address: Oriental Technopolis Building A, 22 Fl., No.112, Xintai Wu Road, Section 1,
Xizhi District, New Taipei City 22102, Taiwan, R.O.C.

Tel: (886-2) 2696-1555

Fax: (886-2) 2696-1166

E-mail: maagroup@maaconsultants.com

Website: www.maaconsultants.com



Selected Projects - 1st May 2011 to 30th October 2012

TAIPEI INFORMATION PARK AND PARKING LOT BUILDING PROJECT



Taipei Information Park

On July 11th 2011, Foxconn (Hon Hai Precision Industry) held a groundbreaking ceremony for the Taipei Information Park BOT project. The concession operation period is 50 years. The park will house 3C and information product markets, brand name flagship stores, multi-functional display areas, high-end product exhibition centers, a digital entertainment zone, a global electronics product testing center, an innovation incubation center, a high-rise garden and a parking area. With a land area of 8,864 m² and a floor area of 62,330.63 m², the complex will provide 200 extra parking spaces for cars and extra 450 parking places for bicycles and motorcycles in addition to the legally required number of parking spaces. The shopping mall is a RC structure with 12 stories above ground and six basement levels (22.55 m in depth) on a site of 8,883 m². The completion date is scheduled for 2013. Services provided by MAA include the review of construction quantity and tender budget, coordination & integration of each construction interface, and construction supervision & contract management.

THE FEASIBILITY STUDY FOR HIGHWAY CONSTRUCTION UNDER THE HIGH-SPEED RAILWAY'S VIADUCTS



Highway Construction Under Taiwan High Speed Rail Viaducts

The highway of this project passes along the Alian district, Gangshan district, Yanchao district, Dashe district and Renwu district of Kaohsiung City, starting at the intersection of Provincial Highway No. 39 and Provincial Highway No. 28 in the north and finishing at the intersection of Provincial Highway No. 186 and high speed railway. The total length is approximately 21 km.

The objectives of this project are as follows:

- Construct the express highway network between Tainan City and Kaohsiung City.
- Promote the overall development in the corridor between national highways No. 1 & No. 3.
- Increase the connection and integration of important industries along the route.
- Provide shortcut connection of national highways No. 1 & No. 3.
- Enhance the development of recreation and scenic areas in the region.

This project first analyzes the most feasible highway route

and performs preliminary engineering planning subsequently. Relevant factors including environmental impact, land acquisition, project fund demand, economic cost benefit, and financial feasibility are also examined.

After completing the feasibility study report, MAA will assist Kaohsiung City Government in the application for subsidy from the central government.

The service period is from November 2011 to December 2014.

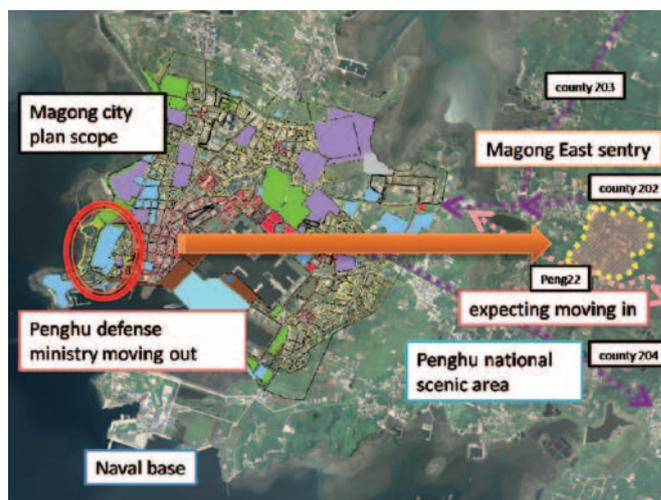
SITE RECONNAISSANCE AND PLANNING OF SUBSEQUENT SAFETY ASSESSMENT FOR ANCHORS ALONGSIDE XINYI EXPRESSWAY



Slope Over Xiang Shan Tunnel

To ensure the safety of Xinyi Expressway, MAA was granted to inspect and assess the anchor integrity on the dip-slopes close to tunnel portals and access roads. The project started with site inspection, followed by the collection of original design and construction information. Through examination of collected data and current condition of the anchors, a plan for the detail inspection and/or rehabilitation of anchors was then proposed, including work contents, service period/fee estimate and preparation of tender documents, serving as the basis for the safety assessment of anchored slopes in the following stages. The service was provided from September 2011 to April 2012.

JYUGUANG CAMP RELOCATION PROJECT

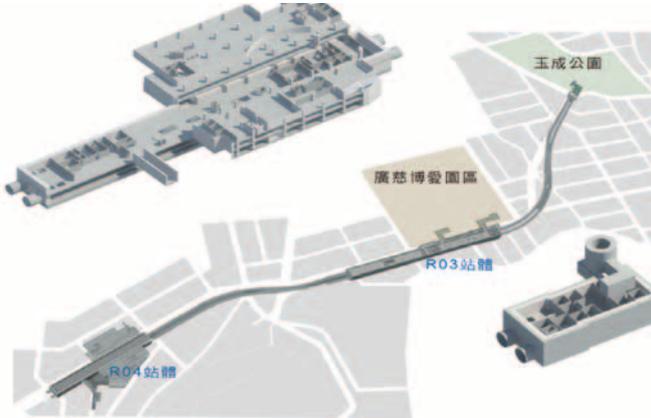


Jyuguang Army Camp Relocation

In order to boost the overall development of Magong urban area, Penghu County Government is devoted to developing the coastline area around Guanyin Pavilion as an ocean waterfront tourist city and a complete tourist belt area. Penghu defense ministry will move from Jyuguang camp to Gongbei camp and its surrounding area, releasing the original Penghu defense ministry land. The primary principles of the project are to exchange land with land, to demolish and build, and to build before moving the existing camp. The project promotes the development of the ocean waterfront tourist city, and creates Magong as a beautiful recreational tourist city. The overall hardware facilities are listed as following:

- Living facilities: headquarter office building, 11 camp dormitories, 2 restaurants, congregation field, 4 administrative dormitories, 2 guest houses, recreational center, indoor swimming pool, gymnasium and outdoor stadium.
- Combat and training facilities: six various training fields, range, second degree factory, military sheds, ammunition depots, field gasoline tanks, radio transmitting tower base.
- Personnel control facilities: detaining room, guard houses, meeting rooms, 4 parking lots, 8 sentry stands.
- Utility equipment: Waste and recycling field, electricity and telecommunications equipment, pressurized equipment of running water, sewage treatment plants, 3 ecological flood detention ponds.
- MAA Taiwan provides the project management service from December 2011 to December 2015.

**TAIPEI METROPOLITAN AREA RAPID TRANSIT SYSTEM XIN YI LINE EXTENSION PROJECT
DETAIL DESIGN LOT DR149**



Taipei MRT Xin Yi Line Design Lot DR149

This project is the extension of Taipei MRT Xin Yi Line, starting from R05 (Xiang Shan Station) end track, passing through Xin Yi Rd. sec.6, and ending at Yucheng Park Station, with the total length of approximately 1.54 km. The project consists of two underground stations (named R04 and R03), two sections of shield tunnels with a diameter of 5.6 m, and one cross-over track. The design works include architecture, civil and electrical system. In addition, the service scope also includes the feasibility study on the expansion of the MRT Bei Tou Depot, detailed design of the passenger entrance modified from the emergency entrance A of Xindian district office station, and consultant service during construction.

MAA Taiwan was engaged by Department of Rapid Transit System, Taipei City Government to provide the following services:

- Design of 2 underground stations and the end track.
- Design of 2 parallel bored tunnels with a diameter of 5.6 m and a total length of 877 m.
- Design of civil, architecture and E&M system.
- Detailed design of the passenger entrance modified from the emergency entrance A of Xindian District office station.
- Feasibility study on the expansion of the Bei Tou Depot.
- Consultant service during construction.
- All other related works

The project service started in September 2011 and is to be completed in May 2019.

CONSTRUCTION SUPERVISION OF THE NEW NATIONAL FREEWAY NO. 3 LIUYING INTERCHANGE



Natioanl Freeway No.3 Liuying Interchange

This project meets the demand of metropolitan and land development with the objective of providing convenient transportation services for the anticipated future growth in transportation. The project provides a more direct transportation connection from National Freeway No. 3 to Dongshan and Liuying area, and integrates and strengthens the regional industrial development in Xipei of Tainan City and six villages in Xinying area by providing a direct transport service. The Liuying Chi-Mei Hospital is also connected and thus integrated into the regional emergency medical aid network, providing the public a more convenient medical service.

The approximate location of the extended interchange is at National Freeway No. 3, between Dongshan Service Area (320.1K) and Wushantou interchange (329.7K) (321K+445~324K+030 (North bound), 321K+780~ 324K+270 (South Bound)). Taiwan Area National Freeway Bureau, MOTC commissioned MAA Taiwan to provide construction supervision services including:

- Widening of the main line of the freeway (approx. sta. 321K~324K).
- Construction of four new bridges and widening of two existing bridges with a total length of 833m.
- Construction of four new ramps and four new embankments with a total length of 3,611m.
- Construction of Retaining wall with a length of 970 m
- Borrowed fill Embankment of 236,000 m³
- Drilling pile of 9,800m.
- Other facilities: transportation control system, lighting, noise barrier.

The project service started in March 2012 and anticipated to be completed in October 2015.

YANCHAO CAMPUS OF NATIONAL KAOHSIUNG UNIVERSITY OF APPLIED SCIENCES



Yanchao Campus

National Kaohsiung University of Applied Sciences was founded in 1963 (originally named Provincial Kaohsiung Institute of Technology) and is presently one of the top universities of science and technology in Taiwan. The main campus, Chienkung Campus located at the Sanming District in Kaohsiung City has encountered development constraints for many years due to the limited space. The newly built Yanchao Campus opened in 2009 and is the new site for education and innovation. This new campus solves the space limit problem and is expected to bring the university into a new development era..

The administration building, humanities building, library & information building and soil & water conservation work are expected to be completed within 720 days of the construction period.

The construction works include three buildings that are 5 stories above ground and one underground with the scope of work covering structural & geotechnical engineering, finishing, MEP and landscape.

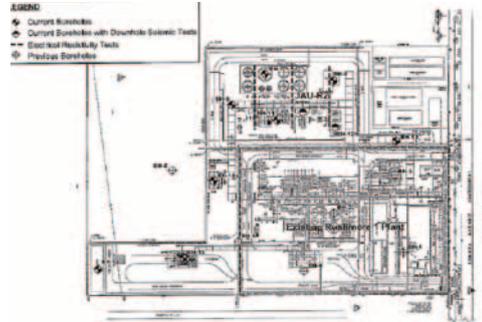
Soil and water conservation work includes excavation, backfill, retaining wall, slope protection, drainage, flood detention and planting.

MAA was engaged by the client to provide the following services:

- PCM service for administration, humanities and library & information building.
- Construction supervision service for soil and water conservation work.
- Variance analysis of environmental impact.
- Completion of revised plan of non-urban area development plan.

The service period is from September 2011 to March 2014.

HUNTSMAN - RUSHMORE 2 PROJECT AT SERAYA AVENUE, JURONG ISLAND, SINGAPORE



Geotechnical Consultant for Rushmore 1 Development

The proposed development comprised the construction of MCC Building, Tank Farm, Compressors & Motors, Cooling Tower Unit, Truck Loading Building, Catalyst Storage and other accessories/facilities, such as reactors, scrubbers, pumps, pipe racks and site roads over the reclaimed land besides the existing Rushmore 1 plant at Jurong Island. MAA Singapore was the geotechnical consultant for Rushmore 1 development, providing geotechnical consultancy services such as soil investigation works consisting of 10 boreholes, 2 Downhole Seismic Tests, 3 Field Electrical Resistivity Tests and 9 trial pits for soil exploration and Compaction/CBR Tests with regard to the foundation system of the proposed development to be constructed on JTC land parcel at Seraya Avenue, Jurong Island, Singapore, including dynamic analysis of precast RC piles for vibratory foundations using the computer program “DYNA 6.0” (developed by Geotechnical Research Centre of University of Western Ontario) specified by Client. The service period was from May 2011 to October 2011.

SURVEYING AND DETAILED ENGINEERING DESIGN SERVICES FOR THE MOTORWAY NO.7 LINK CITIES; PATTAYA-MAP TA PHUT ROUTE PROJECT, THAILAND



Pattaya-Map Ta Phut Route of Motorway No.7

The Motorway No.7 Link Cities; Pattaya – Map Ta Phut Route Project is a new route of motorway. The work covered by services contract consists of providing design and analysis for 31 km long motorway, including the engineering design of several interchanges and intersections with existing local roads along the route to meet the requirements of toll collection system, existing geometric and motorway network, and anticipated traffic volume in the future. Design of drainage system and all of motorway associated facilities along the route are also included in the project work. MAA was commissioned by Department of Highways (DOH) to provide services including:

- Perform engineering survey and analysis of engineering data for the roadway design.
- Conduct detailed design.
- Conduct environmental concerning activities.
- Conduct public/communities participation activities.
- Coordinate and arrange technology transfer activities for the development of DOH's assigned staffs of each discipline.

APPLICATION OF BIM TECHNOLOGY TO THE CONSTRUCTION OF MACKAY MEDICAL COLLEGE PUBLIC FACILITIES (PHASE II)



Mackey Academy and Research Building

BIM technology was applied to integrate the planning of architecture, structure and electricity at the primary stage of the construction project. BIM application helped prevent conflict problems and reduce the use of resources.

The client Li Jin Engineering Co. Ltd. commissioned MAA to provide services including:

- Building Information Modeling (BIM)
(Architecture /Structure/Electric)

- Detect reports
(Architecture /Structure/Electric)
- BIM clash reports

The service period started in December 2011 and will end till the completion of the project.

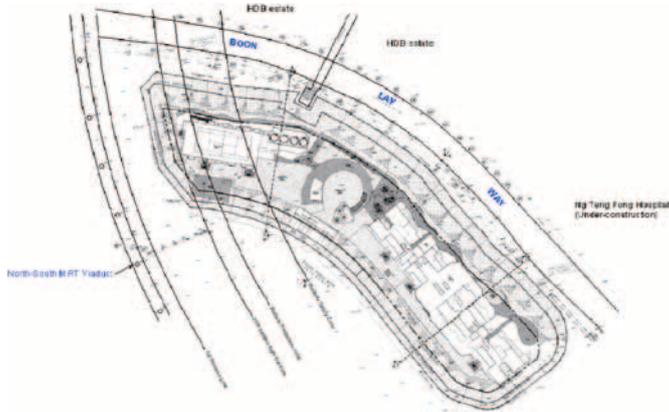
SLOPE MANAGEMENT FRAMEWORK FOR M/S DEFENCE SCIENCE & TECHNOLOGY AGENCY (DSTA) SINGAPORE



Slope Management in Singapore

M/s Moh and Associates (S) Pte Ltd (MAAS) was engaged by M/s Defence Science & Technology Agency (DSTA) to assist DSTA in the development of updated slope management framework to be used in their Contracts for the regular maintenance / management of slope sites within the military camps in Singapore. The updated slope management framework has been developed based on DSTA's existing slope management framework (March 2007), the typical features of slope sites, DSTA's enhancement inputs and also MAAS's experience from the slope maintenance/management projects in Hong Kong, Malaysia and Singapore. Services provided by MAAS was the preparation of updated slope management framework for providing a practical guideline in assisting the execution of the slope maintenance / management works based on DSTA's requirements and demands at the time of preparation of this report which may be modified/ updated to suit the future demand and new requirements.

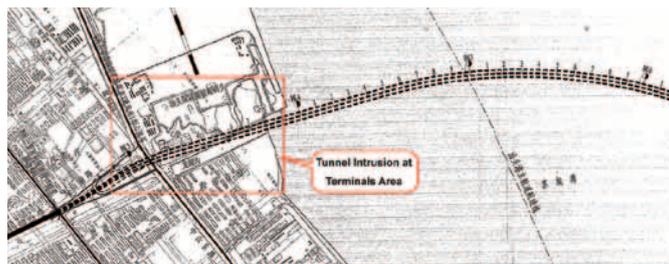
**PROPOSED RESIDENTIAL DEVELOPMENT
AT BOON LAY WAY (JURONG GATEWAY),
SINGAPORE**



Residential Development at Boon Lay Way, Singapore

The proposed development comprises the construction of two (2) blocks of 39/35-storeys and 23 storeys condominium (total 743 units) with environmental deck, swimming pool and communal facilities near the existing MRT track/viaducts (East-west Line). The north-western part of the site area was located within the Railway Safety Zone (LTA, 2004). Hence, the proposed development is subjected to the restrictions and safety requirements specified by the Land Transport Authority (LTA). Pile foundation through erratic soil/rock bearing stratum of Jurong formation is anticipated. The geotechnical engineering services provided by MAAS includes soil investigation work consisting of 20 boreholes with regard to the foundation system and basement excavation works of the proposed development.

ASSESSMENT OF EFFECTS ON CROSS-BAY TUNNELS OF SU-AI EXPRESSWAY UNDERPASSING SHANTOU INTERNATIONAL CONTAINER TERMINALS



Su Ai Expressway

The Shantou Su-Ai Expressway is a key component of Shantou City road network that provides connections between north and south coast of the city on Su-Ai Bay. The cross-bay section of Su-Ai Expressway is planned to be constructed through three accompanying shield tunnels, each one of about 12.4m in diameter and of center distance about 15.8m between tunnels. According to the current alignment, the expressway tunnels would enter Long-Hu Canal of north coast of Su-Ai Bay at mileage BK3+800. It starts to intrude the range of Shantou International Container Terminals from the west boundary at mileage of BK3+700 and would not leave the range of the Terminals until mileage of BK3+110. Such an intrusion may lead to significant effects on the Terminals during the construction and operation stage of the expressway. Shantou International Container Terminals Limited therefore asks MAA to assess the tunneling effects of the expressway on the Terminals. MAA was engaged by Shantou International Container Terminals Limited to provide following services:

- Assess Construction Effects of Cross-Bay Su-Ai Tunnels on Shantou International Container Terminals and Propose Associated Control Levels.
- Use of Commercial Software PLAXIS for Analysis if Necessary.
- Attend Relevant Discussions and Meetings.

MEAD JOHNSON NUTRITION DETAIL DESIGN FOR NEW INFANT NUTRITION FACILITY, SINGAPORE – M05C



Design for New Infant Nutrition Facility, Singapore

The proposed development consists of the construction of 2-storeys Administration Building, 2-storeys R&D centre, 1-storey CUB building, 8-storeys Dryer Building, 1-storey Warehouse, 3-storeys Wet Process Building, Waste Water Treatment Building, substation, container depot, car and truck parking bay over the young reclaimed land built in 2001 at the west part of Singapore island. Downdrag effect due to self-consolidation of existing soft clay which is in under-consolidated state has to be properly studied and incorporated into the foundation pile design. MAA provided geotechnical consultancy services including soil investigation works consisting of 28 boreholes through very soft Marine Clay into decomposed rock with regard to the foundation system of the proposed development to be constructed on JTC land parcel over reclaimed land at Tuas South Avenue 6 Singapore.

- Review existing feasibility study
- Detailed design for elevated section
- Definitive design for underground section
- Preparation of Technical Specifications and Tender Documents
- Preparation of cost estimates Study for Public Private Partnership (PPP) Options

The total construction cost is about USD 5,900 million. The services started in April 2012 and anticipated to be completed in February 2013.

THE DESIGN OF BUILDING FOR TALIN POWER PLANT RENEWAL PROJECT (5 BUILDINGS)

BANGKOK MRT ORANGE LINE PROJECT: TALING CHAN-MIN BURI SECTION



Bangkok MRT Orange Line

MAA Consultants Co., Ltd. is leader of the consortium companies that has been selected to provide professional services for the Mass Rapid Transit Network for the Mass Rapid Transit Authority of Thailand (MRTA). The Orange Line Project is heavy rail system from East to West of Bangkok. The total distance 35.4 km. About 9.2 km. of the track is elevated and the remaining 26.2 km. is underground. The route has 29 stations, 22 of them are underground and another 7 are elevated. The project also includes depot, park and ride buildings, track system and mechanical and electrical works. The consortium performed study and design services in full corporative with MRTA and related public agencies. Services provided by MAA include:



Talin Power Plant

Taiwan Power Company (TPC) upgrades the Talin Power Plant aiming to increase the operational efficiency and performance on the existing Talin Power Plant. The air quality control equipment will significantly reduce sulphur dioxide (SO₂) and particulate emissions, in compliance with environmental regulations in Taiwan. Talin Power Plant Renewal Project will include BOT projects of the major power generators with power block building and facilities. The newly built generator units 1 and 2 will be starting in commercial operation in 2016 and 2017. MAA was engaged to provide detail design of structure, architecture, potable water, sanitary drainage, fire hydrant system, HVAC system for following facilities:

- AQCS electrical equipment building
- Fire & raw water pump house
- Demineralized water treatment plant
- Wastewater treatment plant & building
- Seawater Electrolysis house

The service started in August 2012 and to be completed in December 2013.

ZONAL EXPROPRIATION DEVELOPMENT OF KNOWLEDGE INDUSTRY PARK IN NORTHERN XINZHUANG, NEW TAIPEI CITY



Knowledge Industry Park in Northern Xinzhuang, New Taipei City

The Knowledge Industrial Park in Northern Xinzhuang is located within urban planning agriculture zone and a part of residential and business zone. It is located at the intersection of Zhongshan Rd. and Wugong Rd. The zonal expropriation development area is around 27.36 hectares. The scope of service includes planning, design and construction supervision. This project rationalizes the land use and guides the development of industry. MAA was commissioned by Land Administration Department, New Taipei City Government to provide following services:

- Geotechnical investigation and testing
- Planning, basic design and detailed design
- Price analysis and cost budgeting
- Construction supervision

The services started in February 2012 and to be completed in December 2014.

PROJECT CONSTRUCTION MANAGEMENT ON THE FIRST AREA OF DAN HAI NEW TOWN DEVELOPMENT PHASE II

Located in an hour driving distance from Taipei City, Dan Hai New Town First Development Area covers an area of about 655 hectares. This newly developed area will provide emerging strategic industry and cultural creative Industry. Additionally, the development plans attract international investment to develop “Dan-Hai Well Town”, which will become a newly paradigm of the New Town Development in Taiwan. This plan includes the region’s public utility and pipeline project, including site preparation, roads, bridges, common ducts, water pipelines, rain and waste water sewer, detention pond, landscaping, park green spaces, pedestrian trail, bike path, lighting, channel remediation, etc. The estimated total construction cost of the project is approximately NT\$ 26 billion. MAA was engaged by Construction and Planning Agency, Ministry of the Interior



Dan Hai New Town Development Phase II

to provide project construction management service and the service period will be from 2012 to 2022.

PROFESSIONAL ACTIVITIES

- Professional Activities
- Professional Awards/Honors
- International Meetings
- Seminars and Conferences
- Technical Publications

► Professional Awards

● On 1st June 2012, Dr. Za-Chieh Moh, Co-founder and Chairman of MAA Group, received the 2012 Engineering Medal awarded by the Chinese Institute of Engineers. The Engineering Medal is the highest award founded by the Chinese Institute of Engineers in recognition of significant contributions to the nation and society. Dr. Moh is the first civilian enterpriser to receive the award in the last 20 years.



2012 Engineering Medal



Dr. Za-Chieh Moh Gave a Speech at the 2012 Annual Conference of the Chinese Institute of Engineers



Dr. Za-Chieh Moh received the 2012 Engineering Medal from Vice President Mr. Den-Yih Wu of the R.O.C. Government

● MAA received a Letter of Appreciation for MAA's co-sponsorship of "23rd Annual Meeting" from the Chinese Institute of Environmental Engineering in November 2011.



● MAA received a Letter of Appreciation for MAA's co-sponsorship of "2011 Annual Meeting" from the Chinese Institute of Civil and Hydraulic Engineering in November 2011.



- MAA received a Letter of Appreciation from the National Taichung Library for sending Superintendent Mr. Ya-Lun Lee to conduct the library relocation project from 20th July to 12th November 2011.



- MAA received a Letter of Appreciation for the United Building and Underground Parking Lot of Zhonghe Land and Tax Office project, which also received the 11th (2011) Public Construction Golden Quality Award from the Public Works Department, New Taipei City Government in February 2012.



- MAA received a Letter of Appreciation for the satisfactory achievement on the PCM service provided for the Taiwan Architecture and Technology Center Project from the National Taiwan University of Technology in December 2011.



- MAA received a commemorative plaque for conducting the construction for Mackay Medical College public facilities (Phase II) from Mackay Medical College in March 2012.



- MAA received a Letter of Appreciation for completing the project ahead of time on the supervision service for the Linbian River Bridge Improvement Project from the Railway Reconstruction Bureau, MOTC in January 2012.



2012 DISTINGUISHED ALUMNI OF THE DEPARTMENT OF CIVIL ENGINEERING, CHUNG YUAN CHRISTIAN UNIVERSITY

Mr. Chen-Hui Hsieh, Vice President of MAA Taiwan, was honorably selected as the distinguished alumnus of the Department of Civil Engineering, Chung Yuan Christian University in 2012. Chung Yuan Christian University was founded in 1955 and is a renowned comprehensive university in northern Taiwan with the reputation in both teaching and research.

► International Meetings

THE 2010 YSEAGC



Dr. Jung-Feng Chang received the Certificate of attending 2010 ySEAGC

The 2010 Young Southeast Asian Geotechnical Conference (ySEAGC) is a satellite conference of the 17th Southeast Asian Geotechnical Conference (SEAGC). The purpose of the conference is to provide a platform for geotechnical engineering professionals from Taiwan, Southeast Asia and South Asia to learn from each other's work, and help young geotechnical engineers plan their professional career. The conference not only enhances the academic and engineering standards, but also strengthens the communication network for professional activities in Southeast Asian and South Asian countries. In addition, the conference provides opportunities for research collaboration, stimulating the technical and academic interchange in the fields of disaster prevention and sustainable development in Southeast Asian and South Asian countries.

The 2010 ySEAGC was held in Taipei from 9th to 12th May 2010. The main theme of the ySEAGC is in line with the 17SEAGC theme: "Geo-engineering for Natural Hazard Mitigation and Sustainable Development". A MAA staff Dr. Jung-Feng Chang was nominated to attend the 4- day conference and represented one paper entitled "3D Modeling of Pile Construction and Loading Effects on Adjacent Shield Tunnels – A Case Study".

APEC INTERNATIONAL SEMINAR

Dr. Za-Chieh Moh, as the chairman of the APEC Engineer Coordinating Committee, attended the International Seminar on the Development of Engineering Professional in APEC

Economies in Kazan, Russia on 22nd-23rd May 2012. A talk was given by Dr. Moh titled "Role and Objectives of APEC Engineer Register and Current Status of Engineers' Mobility in APEC Economies". Mr. Ter-Chuyau Yu, Executive Secretary of the Chinese Taipei APEC Engineer Monitoring Committee and Mr. Richard Moh, Senior Vice President of MAA also attended the 2-day conference. Other attendees included representatives from New Zealand, Japan, Malaysia and various professors and representatives of Russian Universities and government agencies.

2012 CONVR

On 1st Nov 2012, Senior Vice President Mr. Richard Moh was invited by the 12th International Conference on Construction Applications of Virtual Reality (CONVR 2012) to give the keynote speech titled "Taiwan's BIM Development, Opportunities & Challenges – from an Industry's Application Perspective".



MAA's Senior Vice President Mr. Richard Moh at 2012 CONVR

► TECHNICAL PUBLICATIONS

Chou, C.R. and Yu, C.J. (2012), "Case Studies of Investigation and Planning of Disaster Prevention in Slopeland Villages Impacts by Typhoon Morakot," *Proceedings of IEM-CIE-HKIE Tripartite Seminar 2012 on Geotechnical Forensic Engineering and Case Histories*, Selangor, Malaysia.

Huang, C.C., Lee, Y.L., Chen, M.M., Huang, T.M., Kao, T.C., Wang, Y.P. (2011) "Characteristics of the Environmental Geological Hazards in the Watershed of Central Taiwan," *Sino-Geotechnics*, Taipei, Taiwan, No.129, September, pp. 57-66 (in Chinese).

Huang, C.C., Lee, Y.L., Chen, M.M., Huang, T.M., Kao, T.C., Wang, Y.P., Lee C.C. (2010) "蘭陽溪流域山崩與土石流之調查成果分析," 2010流域地質與坡地災害研討會, Taipei, Taiwan, 5 November (in Chinese).

Hui, K.C., Mao, S.S., Lin, C.D. (2011) "A Study of Waste Sorting for Existing Landfills in Taiwan," *GHMT Forum 2011*, Guangzhou, China, 18 November (in Chinese).

Hu, I.C., Su T.C. (2012) "Recent Development in Geotechnical Investigation Code," *Sino-Geotechnics*, Taipei, Taiwan, No.132, June, pp. 69-78 (in Chinese).

Hwang, R.N., Lee, T.Y., Chou, C.R., Su, T.C. (2012) "Evaluation of Performance of Diaphragm Walls by Wall Deflection Paths," *Journal of GeoEngineering*, Taipei, Taiwan, Vol7, No.1, April, pp. 1-12.

Su, T.C., Hu, I.C., Chang, J. F. (2012) "樁基設計風險評估案例探討," 第二屆中國國際樁與深基礎峰會, Shanghai, China, 20 March (in Chinese).

Su, T.C. (2012), "Strategy of Neighboring Construction and Building Damage in Taipei Rapid Transit System," *Symposium on Environmental Impacts from Foundation Construction*, Macau, China, pp.4-1-4-14. (in Chinese)

Wang, Y.T. (2012) "Safety Investigation and Planning of Disaster Prevention in Slopeland Villages Impacted by Typhoon Morakot," *7th Asian Young Geotechnical Engineers Conference, 7th AYGEC*, 12 September, Tokushima, Japan.

PERSONNEL PROFILES

Mr. Ming-Shan CHEN (陳明山)



Mr. Ming-Shan CHEN (陳明山) was assigned as Technical Manager of Transportation & Civil Engineering Department of MAA Taiwan in January 2012. Mr. Chen received bachelor degree in civil engineering from Chung Yuan College in 1976. Mr. Chen joined MAA in 1980 as an assistant geo technical engineer. Eight years later, he was promoted to a senior geotechnical engineer. Mr. Chen's major works undertaken in MAA include geotechnical investigation, soil improvement, foundation analysis, field testing, foundation design and supervision of foundation construction. His representative projects include Taipei Railway Underground Project (Taipei Station - Hsintien Line); Far East Enterprise Center; Lo Yang Parking Garage Project; Keelung River Project; Di Hua Sewerage Treatment Plant; Taipei MRT System, Initial Project - Stage 1; Taipei MRT System, Sungshan-Panchiao Line Project; Detailed Design and Construction Supervision of Piles Foundation on 5000 m³ Gas Tank, Great Taipei Gas Co., Taipei; Taipei Railway Underground Project-Sungshan Extension Project etc. He is a registered professional geotechnical engineer, R.O.C. To date, he has authored/co-authored 8 published technical papers.

Mr. Chin-Der LIN (林金德)



Mr. Chin Der LIN (林金德) was promoted to Vice President of MAA Taiwan in charge of domestic business in September 2011. Mr. Lin received both his bachelor's and master's degrees in Civil Engineering from the National Central University in 1985 and 1989. Mr. Lin joined MAA since graduation and has participated in many projects including detailed design and construction supervision for Ming-Hsiung Industrial Park Wastewater Treatment Plant Rehabilitation, design review for Yung-Kang Wastewater Treatment Plant, and Ping-Cheng Wastewater Treatment Plant. He was involved in some Environmental Impact Assessment (EIA) Projects about the traffic construction. He also undertook the environmental inspection planning on the project of the Earth-Filled work in the Abandoned Keelung River Course. He also participated in the High Speed Rail project (Tainan to Kaohsiung) as an engineer to plan and design sound barriers. He also joined the planning and design work of Tao-Yuan Municipal wastewater treatment plant project. Currently, he is in charge of Environmental Impact Assessment projects and detailed design work for sewer system projects. He is an active member in promoting ecological engineering method planning on public construction and BOT projects for municipal sewer systems. To date, he has published/co-published 9 technical papers. Mr. Lin passed many qualifications on Professional Engineering including Registered Environmental Engineer, Registered Industrial Safety Engineer and Industrial and Mining Hygiene Engineer. He is also a member of The Chinese Institute of Environmental Engineering, the Chinese Institute of Engineering Environment and Taiwan Water Environmental Association.

Mr. Szu-Min KANG (康思敏)



Mr. Szu-Min KANG (康思敏) was promoted to Manager of BIM Management & Engineering Integration Center in May 2011. He received both bachelor's degree and master degree in Structural Engineering from National Cheng-Kung University in 1990 and 1992. Mr. Kang joined MAA in 1994, as a structural engineer, he had been participated in a lot of projects, which include Kaohsiung MRT IOFD09A in 1994, High Speed Rail project in 1996, Keelung Harbor West Coast Viaduct Improvement and Design in 2000 and steel viaduct structures for Taipei MRT Nei-Hu Line in 2002 etc. Major works he provided of above projects included design for station structures, detailed design of viaduct structures and structural analysis & design for building and bridge structures. From October 2002, Mr. Kang had been assigned to be in charge of the structural design works for Kaohsiung Mass Rapid Transit Project, Orange Line CO2 Section and Red Line CR6 Section Civil Contract, and for Taipei Mass Rapid Transit Project Song Shan Line DG166 Section since 2003. During 2007 to 2008, Mr. Kang was assigned to be the Design Verification group leader for N-WH project. From December 2008, Mr. Kang is assigned to be the Project Management group leader for Taipei Mass Rapid Transit Project Circular Line DF113 Section.

Mr. Hsi-Fu PAN (潘錫富)



Mr. Hsi-Fu PAN (潘錫富) was assigned as Acting Manager of Transportation & Civil Engineering Department in April 2012. He received his bachelors degree in civil engineering from Chung Yuan University in 1982 and masters of civil engineering from National Central University in 1992. After graduation, Mr. Pan had worked for T.H.B. (Taiwan Highway Bureau), H.U.D. (Taiwan Housing and Urban Development Bureau) and MAA. Major works with T.H.B. were survey and supervision of bridge construction in 1985-1990, check and review of roads; bridges and tunnels design in 1992-1993. At H.U.D. in Roads Department, major works were check and review of city streets design. At MAA in structural department and High Speed Rail Project (as the structural engineering group leader and Project Manager of Contract C280), and Kaohsiung Rapid Transit project (as the Project Manager of Contract CR6), and Taipei Metropolitan Area Rapid Transit System (as the structural engineering group leader of Design Lot DG166), and Taichung Metropolitan Area MRT Project phase I~III, Wujih-Wenshin-Peitung Line General consultancy (as the Deputy Project Manager and Civil engineering Professional Manager), and N-WH Project (as Project Manager), and Transportation & Civil Engineering Dept.(as Technical Manager), and Transportation & Civil Engineering Dept. (as Deputy Manager). Mr. Pan is a Registered Professional Engineer (Civil and Structural) and also member of Chinese Institute of Engineers and Chinese Society of Structural Engineering.

Mr. Ta-Hsing LEE (李大行)



Mr. Ta-Hsing LEE (李大行) was promoted to Manager of Project & Construction Management Department in September 2011. Mr. Lee received both bachelor and master degree in Civil Engineering from National Taiwan Institute of Technology in 1985 and 1987. He is also a Ph.D. Candidate at National Taiwan University of Science and Technology. Mr. Lee joined MAA since 1987 while in between he pursued for a Ph.D. degree. His experience ranged from geotechnical engineering to contract and construction management to the field of privatization. Examples include geotechnical investigation work for Zhong-Zhou sewage disposal factory and ocean outfall pipe in Kaohsiung, geotechnical investigation work for Taiwan Power Company transmission tower foundation from 3rd Nuclear Power Plant to Kaohsiung Port; project coordination and contract management for Hsin Kong Life Insurance Company's 50-storey Hsin Kong Life Tower (the then tallest building in Taiwan), contract management for Ta-Chee Resort and Taipei MRT Chungho Line Project and 2009 World Games; general consultant works for BOT of CKS International Airport and Taipei City link and feasibility study for the privatization of Tainan Mass Rapid Transit System. Mr. Lee is a Registered Professional Civil Engineer. To date, he has participated in 24 technical papers published in various engineering journals and research papers.



Integrated Solutions For Global Impact

MAA GROUP

<http://www.maaconsultants.com>

MAA Engineering Consultants International Ltd.

Room 1810, 18th Floor, 113 Argyle Street, Mongkok Kowloon, Hong Kong SAR, China
Tel: (852) 2527-0747 Fax: (852) 2861-2081 E-mail: maahk@netvigator.com

Moh and Associates, Inc.

Oriental Technopolis Building A, 22 Fl., No.112, Xintai Wu Road, Section 1, Xizhi District,
New Taipei City 22102, Taiwan, R.O.C.
Tel: (886-2)2696-1555 Fax: (886-2)2696-1166 E-mail: maagroup@maaconsultants.com

Taichung Office

Rm. A, 8F-2, No. 241, Wenxin Road, Sec. 3, Xitun Dist., Taichung 40753, Taiwan, R.O.C.
Tel: (886-4) 2293-6497 Fax: (886-4) 2293-5911 E-mail: maatc@maaconsultants.com

Kaohsiung Office

8th Floor, No.53, Mincyuan First Road, Kaohsiung 80251, Taiwan, R.O.C.
Tel: (886-7) 536-8800 Fax: (886-7) 536-2200 E-mail: maakh@maaconsultants.com

MAA Engineering Consultants (Beijing) Co., Ltd.

Room 809-810, GuoTou Plaza, No. 7 Fu Wai Street, Xicheng District, Beijing 100037, China
Tel: (86-10) 6836-3461 Fax: (86-10) 6836-3460 E-mail: maabeijing@163.com

MAA Engineering Consultants (H. K.) Ltd.

Room 1810, 18th Floor, 113 Argyle Street, Mongkok Kowloon, Hong Kong SAR, China
Tel: (852) 2527-0747 Fax: (852) 2861-2081 E-mail: maahk@netvigator.com

MAA Engineering Consultants (Shanghai) Co., Ltd.

5th Floor, No. 89, Jiangsu North Road, Shanghai 200042, China
Tel: (86-21) 6120-3100 Fax: (86-21) 6120-3058 E-mail: maashanghai@sh.maaconsultants.com

MAA Consultants Co., Ltd.

221/1 Soi Prachachuen 37, Prachachuen Road, Bang Sue, Bangkok 10800, Thailand
Tel: (66-2) 975-9300, 975-9310 Fax: (66-2) 975-9312 E-mail: maa@maathai.com

MAA Geotechnics Co., Ltd.

17, 19 Soi Chokchai 4 Soi 69, Chokchai 4 Road, Lad Phrao, Bangkok 10230, Thailand
Tel: (66-2) 931-0722 Fax: (66-2) 931-0724 E-mail: admin@maageo.com

Moh and Associates (S) Pte. Ltd.

#04-09 Golden Mile Complex, 5001 Beach Road, Singapore 199588
Tel: (65) 6295-0611, 6295-0608 Fax: (65) 6298-7653 E-mail: maaspl@singnet.com.sg

SURV

TAIPEI

Oriental Technopolis Building A, 22 Fl., No.112, Xintai Wu Road, Section 1, Xizhi District,
New Taipei City 22102, Taiwan, R.O.C.
Tel: (886-2) 2696-2807 Fax: (886-2) 2696-1782 E-mail: surv.tpe@urbanmatics.com

SHANGHAI

No.9, Lane 210, Taikang Road, Shanghai 200025, China
Tel: (86-21) 6415-9950 Fax: (86-21) 6472-0895 E-mail: surv.sha@urbanmatics.com