

# Portfolio

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We would like to take this opportunity to introduce to you, our company: Swansea Surveys. We have a diverse team of engineers and surveyors, specialising in all aspects of the construction phase, including complex 3D Laser scanning, As-Built surveys of the sub- and super-structure, as well as bespoke setting-out packages of concrete and steel structures, cladding and curtain-walling.

We have secured contracts with the world's most established and prominent companies and we have hand-selected some examples of our high-quality work – as well as providing a brief description of the duties we performed on these projects – in the following pages, for your consideration.

Our surveyors have operated successfully with internationally renowned organisations and established an admirable reputation based on accuracy and proficiency, whilst our 17 years of experience assures we are able to deliver logical and lateral solutions.

Swansea Surveys has a professional team, qualified and dedicated to its customers. We consistently fulfil and frequently surpass all of our clients' requirements on some of the biggest projects, located throughout the Middle East, the U.K Eastern and Western Europe, Africa and worldwide.

We have an unbeatable assemblage of highly qualified surveyors and civil engineers, taking time to ensure that we approve and appoint only those who adopt the very highest standards.

Our contractors are responsible for critical elements of projects and we only look for contractors who are experienced, who competently train their work forces and who set high standards for health and safety.

We also supply the curtain-walling industry with various types of trades ranging from fixers, supervisors, site managers and project managers.

More details pertaining to our capabilities and duties, as well as any references necessary, can be provided upon request.



If you have any questions, please don't hesitate to contact us at your earliest convenience.

Yours Sincerely,

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Tariq Shehadeh Managing Director Swansea Surveys LLC

High-speed 3D Laser Scanning is a proven technique for As-Built Surveys and is being implemented with increasingly regularity. When used correctly, it is equally accurate when compared to traditional survey methods using top-of-the-range equipment, but the results can be derived at a far quicker rate.

The results delivered using 3D Laser Scanning are more complete and provide greater precision than traditional manual measuring – advantageous for areas that are inaccessible to surveyors using a Total Station – by using a continuous laser-beam that takes very closely spaced ENZ measurements over the visible surfaces of the target structures.

We have our own in-house 3D modeling capability. Our experienced modelers convert the 3D laser scan images into complex, dimensionally accurate as-built 3D digital models of existing structures. These can then be imported into any of the major CAD systems that are being utilised on site.

3D models enable managers, engineers and designers to fully examine complex as-built structures using the vast quantities of high integrity digital data provided.



### 3D Laser Scanning Advantages:

- Can be utilised with BIM for construction sites; on sub- and super-structures; highways; bridges; tunnels; railways etc.
- Large field of view simultaneously captures overhead detail without the use of additional access e.g. scaffolding, mast-climber, cradles etc. This greatly reduces costs to the contractor and reduces safety risks to the surveyor by not exposing themselves to potentially dangerous, elevated working positions.
- Full-sphere 360° scanning
- More accurate than manual measurement: Overall accuracy can be within 2-5mm.
- Less time: no return visits for missed measurements
- The data can be utilised by numerous contractors, if desired
- Data matches facility co-ordinate system
- Day and night work without special lighting
- Quickly compare design specifications against actual
- Reduce and/or eliminate the need for remedial works and modifications
- Proven Technology

### **Survey Manager**

We strongly believe a Survey Manager is an absolute necessity on any project of a significant magnitude. The Surveyor Manager will ensure that the survey team – whether they consist of Category A, B or C Surveyors (or a combination of them) – work to a high level of efficiency as well as ensuring the surveyors are continuously on-task whilst on site, which will simultaneously increase site productivity.

The Surveyor Manager will also act as the single point of contact for the Client's Management, which will effectively decrease their workload and provide peace-of-mind that the survey element of any project will be controlled.

### Surveyor: Category A

The vast majority of projects will entail numerous areas of low-tolerance, high-complexity surveying tasks. Utilising a Category A Surveyor to execute these tasks will enable any project to achieve a higher level of efficiency as the surveyor will be equipped with the experience and knowledge to quickly determine how to perform the task in the most time-effective and accurate manner, as well as overcome any unforeseen issue that regularly occur on any construction site. In projects where 3D scanning is a necessity, or even advantageous, the Category A Surveyor is paramount as he alone will possess the necessary capabilities to perform such complex and challenging tasks.

A consideration that is often overlooked is also the fact that the works executed by Swansea Surveys will be completed correctly at the first attempt (eradicating the time-consuming and costly process of revisiting areas to adjust incorrect survey works – practices that the vast majority of survey companies you are likely to have encountered in the past are often guilty of).

In addition to this, our Category A Surveyors are trained to a level whereby they are able to perform dual-roles of Senior Surveyor and Supervisor; issuing instructions to the fixing teams, as well as ensuring that they remain on-task.

### **Surveyor: Category B**

A Category B Surveys provided by Swansea Surveys are of the highest caliber and trained in-house to ensure the quality of work carried out is to the compulsory high-standard expected. They will liaise directly with the Survey Manager (and Category A Surveyor, whenever necessary), as well as possessing the capabilities to produce reports, act as a point of call for Category C Surveyors and attend meetings on behalf of the contractor.

#### Surveyor: Category C

The Category C Surveys provided by Swansea Surveys are also of the highest caliber and trained inhouse to ensure the quality of work carried out is to the compulsory high-standard expected. They will liaise directly with the Survey Manager (as well as Category A and/or B Surveyors, whenever necessary) to ensure they exceed the pre-conceptions many hold regarding the surveying capabilities of low-specification surveyors.

#### **CAD Department/Drafting**

Our drafting department is also trained in-house, ensuring that they utilise our unique surveying software to its maximum potential – superimposing As-Built Surveys taken from site directly onto AutoCAD drawings and converting these into easily readable and professional reports. The output from the BIM Technicians and/or Category B Draftsmen within our CAD Department will be of a higher quality and time-efficiency when compared to those within the Category C section.

For detailed descriptions of these services please see the 'Services Overview' section found towards the rear of this document

The advantages to the client in procuring the services of Swansea Surveys would be significant, including:

**o1.** Bracket and Panel installation will be approved by Consultants at a far more productive rate as a direct result of an expert surveyors' as-built survey submissions and presence during joint-surveys.

**o2.** The efficiency of the survey aspect of the project being increased considerably, due to Swansea Surveys expertise, management ability and previous experience on projects of a grand magnitude.

**o3.** Swansea Surveys have access to a vast depth of European talent that includes Site Managers, Installation Managers, Supervisors, Survey Managers, Surveyors, as well as BIM and CAD Technicians that would be at your disposal, should they be required.

**o4.** There will be a point of contact for the Client's management in the presence of the Survey Manager, subsequently increasing manager's time-efficiency in locating any necessary survey reports and/or information.

**o5.** The Client's commercial department will acquire detailed NCR's (including but not restricted to: days taken to repeat work after delays), which will be fiscally advantageous in ensuring the Client retrieve any monies that they may be due to them from unforeseen delays or errors from other contractors.

**o6.** Hand-over of all survey reports will be exclusively dealt with by Swansea Surveys, ensuring the Client are protected should a dispute arise with other sub-contractors. This is pivotal for not only peace-of-mind but can also be viewed essentially as an insurance policy in any claims made against the Client by documenting "evidence" for validity.

**o7.** Documenting of survey works, which will be maintained throughout the project, will enable the Client's Management to refer to previously completed or proposed survey works for analysis.

**o8.** Quality control will be executed by Swansea Surveys' surveyor, thus creating a system which enables the façade QA-QC inspection to be checked by the surveyor too.

**og.** Swansea Surveys' Category A Surveyors do not execute any works without initially counterchecking the AutoCAD/Design drawings supplied. This creates a system in which the design is counter-checked to reduce the discrepancies that are present, which is addressed prior to site work being executed, thus saving time and money.

**10.** As the project's survey tasks oscillate between moderate and intensive, the Survey Manager designated will be required to recommend to the Client's Management whether the Surveyor manpower is required to be reduced or increased. This will ensure all surveyors on site are continuously working to the required standards of efficiency; enabling the Survey Manager to accurately analyze surveyor needs, whist enforcing frugality.



# **Selected Projects**

# MALL OF QATAR Doha, Qatar



#### **Project Description:**

Mall of Qatar is a new 4,176,000 square foot shopping center currently under construction in Qatar. Situated adjacent to a FIFA 2022 World Cup stadium, Mall of Qatar will have over 1,750,000 square feet of retail leasable space on 3 levels in addition to underground and surface parking for 7,000 cars.

An award winning team of international designers, architects, leasing, marketing and building professionals are hard at work to deliver the opening in the fall 2015 with an estimated 20 million customers anticipated annually.

### Services Provided:

PROFESSION	One Survey Manager and 3 Survey Teams
	to execute survey works on 3 domed Skylights and Hotel Complex
CASTELLO	One Survey Manager and 1 Survey Teams
	to execute survey works on 45 glass balustrades

- Performing joint surveys with Principal Contractor Surveyors KCT
- · Performing joint surveys with Consultants
- Application and adaptation of complex calculations from design team
- Provide real-time solutions for myriad issue ad hoc
- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out base points on angled disks for bracket installation
- Transference of datum wherever necessary
- As-Built Surveys of steel structures and glass panels for skylight

# J. W. MARRIOTT HOTEL Doha, Qatar







### **Project Description:**

Harinsa Qatar has agreed to build a new skyscraper in Qatar, that will be home to a luxury five star Marriott Hotel in Dafna, seaside district of the Qatari capital, Doha. The project has a budget of 200 million euros and a total built area of 120.000 square meters.

The buildng will be a 53 story tower in West Bay, comprising 297 hotel rooms, 120 serviced apartments, 10 F&B outlets, indoor & outdoor cantilever swimming pool and large function spaces, including a ballroom

Services Provided:HARINSAOne Survey Manager<br/>to execute survey works on this technically-challenging structure

- Management and direction of all other Harinsa Survey Teams on the project
- Performing joint surveys with Consultants
- Application and adaptation of complex calculations from design team
- Provide real-time solutions for myriad issue ad hoc
- Attending meetings on behalf of contractor to discuss technical survey issues
- Check existing Control Station Network for accuracy and expand it
- As-Built Surveys of Pre- and Post-Pour Concrete
- Transference of datum wherever necessary
- Setting-Out base points for bracket installation
- As-Built Surveys of steel structures and facade

# NATIONAL MUSEUM OF QATAR Doha, Qatar





### **Project Description:**

The new National Museum of Qatar features an innovative design by Pritzker Prize-winning architect Jean Nouvel that is inspired by the desert rose and grows organically around the original 20<sup>th</sup> century palace of Sheikh Abdullah Bin Jassim Al Thani. The 430,000 sq. ft. museum is created by a series of interlocking discs that create cavities to protect visitors from the desert heat. Located on a 1.5 million-square-foot site at the south end of Doha's Corniche, the NMoQ building will rise from the sea and will be connected to shore by pedestrian and vehicular bridges.

HANLIM E&C

### Services Provided:

Services Provideda		
HYUNDAI	One Survey Manager and 4 Survey Teams	
	for management of all other 22 Survey Teams from multiple subcontractors	
	and to execute survey works on convoluted structure	
FIBRO	One Project Manager, One Site Manager and 4 Survey Teams	
	for management of FRC installation company and execute FRC survey works	
HANLIM	Two Survey Teams	
	to execute survey works on Secondary Steel Structure	
EAGON	Five Survey Teams	
	to execute survey works on Interior Glass Panels	

- Performing joint surveys with Consultants Hill International
- Application and adaptation of complex calculations from design team
- Provide real-time solutions for myriad issue ad hoc
- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out base points on angled disks for bracket installation.
- Transference of datum wherever necessary.
- As-Built Surveys of Steel Structures, Glass Panels and FRC panels.

## BUL HANINE REDEVELOPMENT ONSHORE GEOPHYSICAL Mesaieed, Qatar



#### **Project Description:**

Bul Hanine, one of the largest fields managed and executed by QP, is located about 120 km east of the Qatari coastline and is part of a development and production strategy based on acquiring maximum recovery of reserves through the longest possible plateau of sustainable production level. Major reservoir and field-wide studies have been undertaken—including seismic surveys—to reassess the reserves and the long-term production prospects for each field. The redevelopment project of Bul Hanine field includes new onshore gas liquids processing facility at Mesaieed.

### Services Provided:

QCTCOne Survey Co-ordinator and 2 Survey Teams<br/>to execute GPS survey works and Electronic Levelling Network establishmentRental of high-quality GPS equipment<br/>for use by Principal Contractor Survey Teams

- Application and adaptation of complex calculations from design team
- Provide real-time solutions for myriad issue ad hoc
- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out Parameters
- Transference of Benchmark wherever necessary
- Create Network of Electronic Levelling

# QATAR PETROLEUM FINANCIAL DISTRICT Doha, Qatar



### **Project Description:**

Located within West Bay, the new Qatar Petroleum Headquarter complex was designed to consolidate a majority of Qatar Petroleum's Doha-based staff in one location. The 570,000 m2 project aims to create a culturally inspired, state-of-the-art and environmentally responsive, world-class landmark design that will establish an integrated Qatar Petroleum presence within Doha.

It will accommodate a centralised office building for almost 3,000 staff and will house a range of support facilities including a medical centre, mosque, corporate training/ conference facilities, hi-tech auditorium, data centre and a recreation centre with a sports stadium and football pitch.

Services Provided:		
JANGHO	One Survey Manager and 9 Survey Teams	
	to execute survey works on TEN Towers simultaneously	
BBI	One Survey Manager and 7 Survey Teams	
	to execute survey works on remaining EIGHT Towers simultaneously	

- Performing joint surveys with Consultants KEO International Consultants
- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out base points on concrete slab and steel for bracket installation.
- Transference of datum to each level.
- As-Built Surveys of concrete and steel structures.
- Monitoring bracket and panel position

# AL MUNEERA Abu Dhabi, UAE



# JANGHO江河

### **Project Description:**

Al Raha Beach is set to become one of the greatest waterfront cities in the world with over 11km of dynamic living and eleven precincts will emerge within one waterfront development, each with its own distinct personality and appeal. Al Muneera consists of a neighbourhood of 25 hectare waterfront precinct of the 10.5km long Al Raha Beach Development with a mix of luxury living on the waterfront overlooking the canal, as well as distinctively designed multi-storey apartment buildings. The development comprises a mix of mid-rise 14-storey apartment blocks, surrounded by landscaped terrace gardens, together with 3, 4, & 5 bedroom townhouse and villa units facing the canal and waterfront. A modern 14-storey office tower links the mainland site to the island site via a pedestrian retail bridge which arrives at the Al Raha Beach front lined with café, restaurant and retail outlets.

JANGHO

### Services Provided:

**One Survey Manager and 5 Survey Teams** to execute survey works on NINE Towers simultaneously

- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out base points on concrete slab and steel for bracket installation.
- Transference of datum to each level.
- As-Built Surveys of concrete and steel structures.
- Monitoring bracket and panel position.

# ABU DHABI FINANCIAL DISTRICT Abu Dhabi, UAE



# JANGHO 江河

#### **Project Description:**

The Abu Dhabi Financial Centre (ADFC) is a part of the Sowwah Island project by Mubadala. The visionary Abu Dhabi new Central Business District is a 570 000 square metre development consisted in four luxury high-rise office towers comprising 285 000 square metre of office dedicated space, one retail area and the new stock exchange of Abu Dhabi appearing as a masterpiece of architecture.

The Abu Dhabi Financial Centre represents the first stage development of the Sowwah Island program. It will be an exclusive combination of world-class buildings offering hotels, restaurants, shops and offices. The Sowwah Island will be linked to Abu Dhabi main city by stunning bridges and future railway development. Mivan Depa was contracted to construct 12 full mock-ups for offices and the stock exchange at Sowwah Island in October 2008. While Oger Abu Dhabi was contracted to construct the four surrounding luxury high-rise office towers in July 2008. Construction is in progress and expected to be completed by end of 2010.

### JANGHO

### Services Provided:

**One Survey Manager / Installation Manager** to execute survey works and Manage Installation Teams

- Supervising fixing teams to ensure all workers remained on-task and efficient
- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out base points on concrete slab and steel for bracket installation.
- Transference of datum to each level.
- As-Built Surveys of concrete and steel structures.
- Monitoring bracket and panel position.

# KING ABDULLAH FINANCIAL DISTRICT Riyadh, Saudi Arabia





### **Project Description:**

The massive 3,300,000 sq m King Abdullah Financial District in Riyadh will be a pedestrian-friendly center in Riyadh with a monorail and solar-powered skywalk bridges. Façades will include building integrated solar-cells and the cladding material will be sourced locally so that the project's carbon footprint will be less onerous. It will feature a variety of "green" initiatives. Water features will bring temperatures down by up to 8 degrees Celsius and shading to will mitigate excess solar gain such that very little mechanical cooling will have to be used.

The various retail, financial, residential, and cultural facilities will have green roofs that provide insulation and smart lighting solutions that will further ensure that energy use is kept to a minimum.

Services Provided:			
PERMASTEELISA	Two Survey Teams		
	to execute survey works on THREE Parcels simultaneously		
<b>SCHELDEBOUW</b>	Three Survey Teams		
	to execute survey works on FOUR Parcels simultaneously		
GARTNER	Three Survey Teams		
	to execute survey works on FOUR Parcels simultaneously		

- Performing joint surveys with Main Contractor Surveyors Saudi Bin Laden
- Performing joint surveys with Consultants Dar al Riyadh
- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out base points on concrete slab and steel for bracket installation
- Transference of datum to each level
- As-Built Surveys of concrete and steel structures
- Monitoring bracket and panel position

# SOCAR TOWER Baku, Azerbaijan



#### **Project Description:**

SOCAR Tower will be the tallest building in Baku, Azerbaijan. It will also be the tallest building in whole Caucasus. The building will be the headquarters of the SOCAR (State Oil Company of Azerbaijan Republic). Designed by Heerim Architects from South Korea, the two towered project will rise from an elongated, canopy-like podium and snake their way skywards. Curving into each other, the seemingly shorter tower almost looks like its resting its head on the chest of the taller tower. The towers will have 42 floors, at a height of 209 meters. Covering an area of 12,000 square meters and providing 100.000 sqm of usage area, the headquarter will mainly house office space but will also have conference and sports facilities, a guest house and retail spaces, food outlets.

The building design will be based on a composite system of steel construction with reinforced concrete walls. The project of the building, resistant to nine-magnitude earthquake by the Richter scale, was tested in special international labs in Canada in a virtual environment, designed for the wind with the speed of 190 km/h.

### Services Provided:

**PERMASTEELISA One Survey Manager and 1 Survey Team** to execute survey works on this technically-challenging structure

- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out base points on concrete slab and steel for bracket installation.
- Transference of datum to each level.
- As-Built Surveys of concrete and steel structures.
- Monitoring bracket and panel position.

# **CO-OPERATIVE HEAD OFFICE** Manchester, UK



# waagner bir<del>o</del>

### **Project Description:**

One Angel Square will serve as the head office of the Co-operative Group. The building is part of the  $\varepsilon$ 800 million NOMA development in the northern quarter of Manchester city centre. The  $\varepsilon$ 100 million landmark building will be one of the most sustainable large buildings in Europe. It will have a biodiesel cogeneration plant using rapeseed oil to provide electricity and heat. It will make use of natural resources, maximising passive solar gain for heat and using natural ventilation through its double-skin facade, adiabatic cooling, rainwater harvesting and waste heat recycling.

The building's exterior has a double skin facade with a cavity between its inner windows and the outer glass panel structure. The double skin facade is for sustainability and aesthetic reasons - and allows for greater control of heating and ventilation, and accentuates the three curved corners of the building. To accentuate the form further, the exterior aluminium structure holding the glass panels in place has been anodised in a bronze-coloured finish, so it will shimmer in the sun.

### Services Provided:

WAAGNER BIRO One Survey Manager and 2 Survey Teams to execute survey works on this technically-challenging structure

- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out base points on concrete slab and steel for bracket installation.
- Transference of datum to each level.
- As-Built Surveys of concrete and steel structures.
- Monitoring bracket and panel position.

# HILTON HOTEL Manchester, UK





## **BUG-Alutechnik**

#### **Project Description:**

Hilton Tower is a landmark 47-storey mixed-use skyscraper. At a height of 168 metres (551 ft), it is the tallest skyscraper in Manchester, the ninth tallest building in the United Kingdom and the tallest outside London. The Hilton Hotel occupies space up to level 22 and a four-metre cantilever marks level 23. Above this level are apartments from level 25 to the triplex penthouse apartment on level 47. It is the tallest residential building in the country and second tallest in Europe. The structure is one of the thinnest skyscrapers in the world and was designed to be a slender tower. A blade structure on the south side of the building acts as a façade overrun accentuating its slim form and doubles as a lightning rod.

The skyscraper is visible from ten English counties on a clear day. The top-floor penthouse offers views of Greater Manchester, the Cheshire Plain, Pennines, Peak District and Snowdonia.

### Services Provided:

### BUG-ALUTECKNIK One Survey Team

to execute survey works on this technically-challenging structure

- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out base points on concrete slab and steel for bracket installation
- Transference of datum to each level
- As-Built Surveys of concrete and steel structures
- Monitoring bracket and panel position



#### **Project Description:**

The Cube is a 17 storey tower designed by Ken Shuttleworth of MAKE Architects. The mixed use development will contain 135 flats, 111,500 ft<sup>2</sup> (10,360 m<sup>2</sup>) of offices, shops, a hotel and a 'skyline' restaurant.

The building's name comes from its cubic dimensions. However, the building is more than a cuboid, as it floats on a glass first floor with the atrium twisting up through the centre. The building is topped with a two story angular crown which will house the hotel and restaurant. Inside, an open courtyard will contain shops which will act as a hub as people pass through from surrounding streets and the canal at Gas Street Basin. The outside will be clad in a golden anodized aluminum framework with windows cleverly placed for the best views and sunlight, but giving an impression of randomness like a game of Tetris.

### Services Provided:

### HAGA-METALLBAU Two Survey Teams

to execute survey works on this technically-challenging structure

- Attending meetings on behalf of contractor to discuss technical survey issues
- · Setting-Out base points on concrete slab and steel for bracket installation
- Transference of datum to each level
- As-Built Surveys of concrete and steel structures
- Monitoring bracket and panel position

# QUEEN ELIZABETH HOSPITAL Birmingham, UK



# PERMASTEELISA GROUP

### **Project Description:**

The Queen Elizabeth Hospital Birmingham is an NHS hospital in the Edgbaston area of Birmingham at a cost of  $\pounds$ 545 million. It was built to replace the Queen Elizabeth Hospital and Selly Oak Hospital, although it has incorporated some of the newer parts of the current Queen Elizabeth Hospital.

The envelope consists of some 64,000 sqm of unitized curtain wall and cladding, which is shared amongst the 3 distinctive annular 13-story towers housing the new hospital wards and their respective 4-story podium blocks. Separation between tower and podium structures is provided in the form of glazed links located high above the main pedestrian thoroughfare, conveying a striking sense of space and light.

### Services Provided:

PERMASTEELISA

### **One Survey Manager and 2 Survey Teams** to execute survey works on FOUR technically-challenging curved structures

- Performing complex calculations to compensate for design discrepancy for curved panels
- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out base points on concrete slab and steel for bracket installation.
- Transference of datum to each level.
- As-Built Surveys of concrete and steel structures.
- Monitoring bracket and panel position.

# MANN ISLAND Liverpool, UK



#### **Project Description:**

Mann Island reconnects Liverpool's city centre to its historic waterfront via a sequence of three public spaces. It comprises 363 one and two-bed apartments, 7,295m<sup>2</sup> of retail and leisure space, 13,080m<sup>2</sup> net office space and 1,247m<sup>2</sup> of covered public realm. Two triangulated residential buildings form large objects on the dock edge, whilst a third linear commercial building reinforces the Strand's streetscape. The residential building's flush black cladding reflects the dark foreground dock water and creates a clear visual separation between the new scheme and the listed buildings beyond.

The project has 16,000 m2 of unitized curtain walls for the main facades, 1,500 m2 of low iron structural glazing for the atriums and a further 6,000 m2 of both capped and structurally glazed "stick" curtain walls for the retail area and terraces.

### Services Provided:

### WEATHERWISE Two Survey Teams

to execute survey works on THREE technically-challenging structures including two angled atrium and one CPR area

- Performing complex calculations to design discrepancy for angled atria
- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out base points on concrete slab and steel for bracket installation.
- Transference of datum to each level.
- As-Built Surveys of concrete and steel structures.
- Monitoring bracket and panel position.

# BP4 CANARY WHARF London, UK



#### **Project Description:**

BP<sub>4</sub>, Canary Wharf is to be the new office headquarters of the European Medicines Agency. The building stands at approximately 130m with 23 floors, including 19 floors of Grade A office space and incorporating four atria on the western elevation.

25 Churchill Place will be one of the most environment-friendly buildings at Canary Wharf to date. Environmental features will deliver an expected 'excellent' BREEAM environment performance rating and an Energy Performance Certificate (EPC) rating of 40 or better. Features include the latest ultraefficient air-conditioning equipment that recycles the energy from exhaust air and photo voltaic cells to generate energy from the sun's rays.

SEELEServices Provided:SEELETwo Survey Teams<br/>to execute survey works on this technically-challenging structure

- Performing complex calculations to design discrepancy for angled atria
- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out base points on concrete slab and steel for bracket installation.
- Transference of datum to each level.
- As-Built Surveys of concrete and steel structures.
- Monitoring bracket and panel position.

# 1 MERCHANT SQUARE London, UK



#### **Project Description:**

<sup>1</sup> Merchant Square is the signature building of the prestigious development project in Paddington Basin. The building consists of three interlocking triangles with pitched roofs, in total 21.500 m2 of cladding, including the roofs and internal atrium walls. Eyecatcher is the central triangle with red fritted glazing. Main difficulty for cladding design were the different slopes of each wall, resulting in many technically difficult corner connections.

On this particular site there were many access problems at the latter stages of construction, particularly the atrium facade. We were able to overcome issues with the setting-out process by working directly with the installation team (using a cargo basket) to establish the correct position for each individual bracket.

### Services Provided:

SHELDEBOUW Two Survey Teams

to execute survey works on this technically-challenging structure

- Performing complex calculations to design discrepancy for angled atria
- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out base points on concrete slab and steel for bracket installation.
- Transference of datum to each level.
- As-Built Surveys of concrete and steel structures.
- Monitoring bracket and panel position.

## LONDON BRIDGE – THE PLACE London, UK



#### **Project Description:**

The Place is conceived with the same spirit as the adjacent London Bridge Tower. Despite the proximity of the two buildings, and some common architectural features, New London Bridge House will have its own character, visible, but not competing with the Shard. The design of the building is determined by the site: the building is "sculpted" naturally by the curve of the railway lines, rising higher to the east towards London Bridge Tower, and lower to the west towards Southwark's Cathedral. Arranged over 17 levels, floorplates range from 20,751 sq ft to 31,019 sq ft and feature naturally ventilated winter gardens on floors 3 to 12.

### **Services Provided:**

 SHELDEBOUW
 Two Survey Teams

 to execute survey works on this technically-challenging structure

- · Performing complex calculations to design discrepancy for angled atria
- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out base points on concrete slab and steel for bracket installation.
- Transference of datum to each level.
- As-Built Surveys of concrete and steel structures.
- Monitoring bracket and panel position.

# 60 HOLBORN VIADUCT London, UK



#### **Project Description:**

60 Holborn Viaduct replaces Bath House, a former mixed-use development designed in 1967. The new building updates the Holborn Viaduct site to match an increasingly vibrant district of London. Located on the main thoroughfare between the City and the West End, the design introduces a lively, dynamic environment to Holborn Viaduct, creating an architectural focus on the Farringdon/Holborn axis.

The skin is a series of curves influencing and influenced by views and sightlines to and from the site's city location. While the striking façade of twisting fins over a light glazed curtain wall gives a strong visual identity to the scheme.

SEELEServices Provided:SEELETwo Survey Teams<br/>to execute survey works on this technically-challenging structure

- Performing complex calculations to design discrepancy for angled atria
- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out base points on concrete slab and steel for bracket installation.
- Transference of datum to each level.
- As-Built Surveys of concrete and steel structures.
- Monitoring bracket and panel position.

# 23 SAVILLE ROW London, UK



# MERO-SCHMIDLIN (UK) PLC

#### **Project Description:**

23 Savile Row provides the opportunity to create a sustainable office building with retail at ground level that will contribute to the commercial and public life of this area. Arranged as two wings flanking a recessed central section, the new six-storey scheme consists of 14,640sq m of office space with visually permeable retail or exhibition space at ground level.

The façade at the upper level set back is an aluminium-clad structure with height glazing behind. The main entrance is located between the two stone wings and is articulated as a sheer, transparent glazed wall, with a framed metal and glass canopy announcing the main entrance. The atrium is conceived as a bright, white space. The back wall of the atrium is a sheer white wall rising from ground to roof level.

### Services Provided:

**MERO-SCHMIDLIN** 

to execute survey works on this technically-challenging structure

### Our duties involved:

- Performing complex calculations to design discrepancy for angled atria
- Attending meetings on behalf of contractor to discuss technical survey issues

**One Survey Team** 

- Setting-Out base points on concrete slab and steel for bracket installation.
- Transference of datum to each level.
- As-Built Surveys of concrete and steel structures.
- Monitoring bracket and panel position.

# 150 CHEAPSIDE London, UK



#### **Project Description:**

150 Cheapside occupies a pivotal location in the City of London, a landmark site that demands a highquality building of architectural distinction. The building, completed in 2009, has 182,740 square feet of office space on eight floors, plus 22,000 sq ft of retail in five ground-level units.

It has 9.500 m<sub>2</sub> of curtain walling. Architectural features are Portland stones, vertical stainless steel fins and horizontal shading panels with photovoltaic cells. The Cheapside elevation is a natural ventilated, double skin wall, of which the single glazed external skin is supported by steel rods. The technical design of the cladding panels was mainly driven by the large width of 9 meters.

### Services Provided:

**SHELDEBOUW One Survey Team** to execute survey works on this technically-challenging structure

- Performing complex calculations to design discrepancy for angled atria
- Attending meetings on behalf of contractor to discuss technical survey issues
- Setting-Out base points on concrete slab and steel for bracket installation.
- Transference of datum to each level.
- As-Built Surveys of concrete and steel structures.
- Monitoring bracket and panel position.

The following is a detailed list of the bespoke services that Swansea Surveys provide to our clients, conveying the role of each person supplied:

### **Survey Manager**

The Survey Manager provided will have been directly employed by Swansea Surveys, with extensive previous experience in this critical role, to ensure the survey team is managed and directed to perform the required tasks as expected, in an accurate and timely manner.

### <u>Remit</u>

- Liaise with the Management to evaluate surveying tasks required
- Inform of delays and/or potential delays
- Obtain the Main Control Stations, Main Datum and Grid-lined drawing from the Main Contractor's surveyor manager, to ensure consistency, should any surveying issues arise. A report will also be produced with both parties signature for document control purposes.
- Inform relevant Management and/or design department of discrepancies and/or errors in design drawings that are identified by Swansea Surveys'.
- Advise Management of most time- and cost-efficient method to perform survey tasks, without compromising accuracy
- Inform Management and commercial management of any extras that is required to be charged to other contractors (on behalf of Client)
- Instruct surveyors of tasks required on site
- Construct weekly surveyors schedule to ensure progress and that all surveyors are continuously on-task
- Monitor surveyors' work to ensure efficient productivity
- Update relevant Management of progress daily/weekly (or as per Management's request)
- Produce Survey reports (for As-Built Surveys, Setting-Out drawings etc.)
- Document and file all surveying reports
- Analysis of As-Built Surveys (or other reports) for Management
- Advise Management on any survey issue(s)
- Attend meetings (if required)
- Act as a Relief surveyor

### <u>Sundries</u>

- The price is based on Swansea Surveys providing accommodation, transport (including site vehicle), Visas, PPE etc.
- Office space, including a dedicated work area, dedicated internet connection and printing facilities to be provided by Client.

### Surveyor: Category A

The Category A Surveyor is capable of employing the revolutionary surveying technique of 3D Laser Scanning. He will also be able to draw upon his extensive experience in order to liaise directly and closely with Consultants. Any technical advice that his colleagues and/or peers may require can be supplied as a result of his expertise. This surveyor will have been directly employed and trained by Swansea Surveys and not via an outsourced company, to ensure the quality of work carried out is to the compulsory high-standard expected.

### <u>Remit</u>

- Can perform 3D Scanning
- Liaise directly with Consultants
- Capable of administering technical advice
- Liaise with the Surveyor manager to perform surveying tasks required
- Inform of delays and/or potential delays
- Perform joint surveys with Consultant, Client and/or the Main Contractor
- Produce detailed reports
- Supervise fixers (if required)
- Attend meetings (if required)
- Maintains daily diary

### <u>Sundries</u>

- The price is based on Swansea Surveys providing accommodation, transport (including site vehicle), Visas, PPE etc.
- Office space, including a dedicated work area, dedicated internet connection and printing facilities to be provided by Client

### **Surveyor: Category B**

The Category B Surveyor will be capable of producing reports, attending meeting on behalf of the contractor and liaise with any Swansea Surveys' Category C Surveyors, if necessary. The Category B Surveyor will have been directly employed and trained by Swansea Surveys and not via an outsourced company, to ensure the quality of work carried out is to the compulsory high standard expected.

### <u>Remit</u>

- Produce reports
- Attend meetings (if required)
- Liaise with the Surveyor manager to perform surveying tasks required
- Inform of delays and/or potential delays
- Maintains daily diary

### Sundries

- The price is based on Swansea Surveys providing accommodation, transport (including site vehicle), Visas, PPE etc.
- Office space, including a dedicated work area, dedicated internet connection and printing facilities to be provided by Client

### **Surveyor: Category C**

The Category C Surveyor will be capable of performing all setting-out and/or as-built survey requirements on site, as delegated by the Survey Manager. The Category C Surveyor will have been directly employed and trained by Swansea Surveys and not via an outsourced company, to ensure the quality of work carried out is to the compulsory high standard expected.

### <u>Remit</u>

- Liaise with the Surveyor manager to perform surveying tasks required
- Inform of delays and/or potential delays
- Maintains daily diary

### **Sundries**

- The price is based on Swansea Surveys providing accommodation, transport (including site vehicle), Visas, PPE etc.
- Office space, including a dedicated work area, dedicated internet connection and printing facilities to be provided by Client

### CAD Department Drafting: Category A (BIM Technician)

Swansea Surveys' Category A BIM Technicians are utilised on specific projects that are required to incorporate 3D Laser Scanning. The BIM Technician will possess experience relatable to the size and stature of the project and will be able to liaise directly with the contractors' own BIM Operator.

The works executed by the BIM Technicians are of an extremely high calibre, with emphasis on creating and delivering complex, dimensionally accurate as-built 3D digital models of existing structures.

### <u>Remit</u>

- Liaise directly with Clients BIM Operator (if applicable)
- Liaise with surveyor regarding 3D Laser Scanning data
- Upload all raw data from 3D Laser Scanning Equipment to BIM software
- Development of CAD-ready As-Built 3D digital models from 3D Laser Scanning data
- Preparation and execution of complex 3D Reports
- Inform Surveyor manager of discrepancies and/or errors in design drawings
- Perform design tasks as per request from Management (if required)

### **Sundries**

- The price is based on Swansea Surveys providing accommodation, transport (including site vehicle), Visas, PPE etc.
- Office space, including a dedicated work area, dedicated internet connection and printing facilities to be provided by Client

### CAD Department Drafting: Category B (Draftsman)

Swansea Surveys' utilise the Category B Draftsmen of our CAD Department on specific projects that are required to accelerate the survey works carried out or projects of a grand scale. All surveyors on site will be producing masses of data and all of this data has to be downloaded from each Total Station and managed to produce maximum efficiency. We intentionally appoint one person who will gather all of this information for the purposes of converting it and producing a report; enabling all site surveyors to maximize their time on site, subsequently increasing site productivity and accelerating the hand-over process of all reports.

Category B draftsmen of our CAD Department are directly employed (i.e. not via an outsourced company); to ensure the quality of work carried out is to the compulsory high-standard expected. The work executed by the Category B draftsmen, versus the Category C draftsmen, is of a higher quality, with emphasis on an expeditious production; subsequently productivity efficiency is far greater.

### <u>Remit</u>

- Transference of Raw Data to AutoCAD from Total Station (and vice versa)
- Capable of administering technical advice
- Liaise with the Surveyor manager to perform AutoCAD surveying tasks required
- Preparation and execution of Setting-Out drawings
- Preparation and execution As-Built drawings
- Preparation and execution of all Reports
- Inform Surveyor manager of discrepancies and/or errors in design drawings
- Perform design tasks as per request from Management (if required)

#### **Sundries**

- The price is based on Swansea Surveys providing accommodation, transport (including site vehicle), Visas, PPE etc.
- Office space, including a dedicated work area, dedicated internet connection and printing facilities to be provided by Client

### CAD Department Drafting: Category C (Draftsman)

The Category C draftsmen of our CAD Department will be capable of preparing basic Setting-Out and As-Built Survey drawings, as well as producing basic reports. They will have been directly employed and trained by Swansea Surveys and not via an outsourced company, to ensure the quality of work carried out is to the compulsory high standard expected.

<u>Remit</u>

- Liaise with the Surveyor Manager to perform AutoCAD surveying tasks required
- Preparation of basic Setting-Out drawings
- Preparation of basic As-Built drawings
- Preparation of basic Reports
- Inform Surveyor manager of discrepancies and/or errors discovered in design drawings

### Sundries

- The price is based on Swansea Surveys providing accommodation, transport (including site vehicle), Visas, PPE etc.
- Office space, including a dedicated work area, dedicated internet connection and printing facilities to be provided by Client

### **Assistant Surveyor**

The Assistant Surveyor will be utilised to perform the necessary chainman tasks after having previously undergone training for the same. They will have a basic workingknowledge of surveying, which greatly aids the surveyors' efficiency and speed.

### <u>Remit</u>

- Take instruction from the Category A, B or C Surveyor relating to specific assistant surveying tasks.

### Sundries

- The price is based on Swansea Surveys providing accommodation, transport (including site vehicle), Visas, PPE etc.

### **Unskilled Labourer**

An Unskilled Labourer is utilised merely for unskilled, labouring tasks, such as assisting the survey team in transporting the survey equipment and repositioning any movable obstructions.

### <u>Remit</u>

- Take instruction from the Category A, B or C Surveyor relating to unskilled labour-specific tasks.

### **Sundries**

- The price is based on Swansea Surveys providing accommodation, transport (including site vehicle), Visas, PPE etc.



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