



EXCELLENCE IN STRUCTURAL DESIGN AND ENGINEERING  
EXPERIENCE AND QUALIFICATIONS



## FIRM PROFILE:

Active Design Group Engineering DPC (ADG) is a Structural Design and Engineering firm providing exceptional quality engineering services. ADG provides all aspects of structural engineering: feasibility study, planning, design, condition assessment, investigation and forensic analysis, across a broad range of projects and industries. We offer specialized expertise in the design of high-rise, long-span and special structures, failure analysis, blast analysis, seismic analysis, wind/hurricane condition assessment as well as in the renovation, rehabilitation, retrofit and repair of existing structures. ADG also has experience and expertise in the performance of Peer Review, Design Verification and Value Engineering Services for large, complex projects of various types. ADG provides a variety of structural design services to governmental, industrial, commercial and institutional owners as well as Developers, Contractors and Architects. Active both nationally and internationally committed to providing the highest quality consultancy services and firm's commitment to serving Clients worldwide. ADG has a broad spectrum of structural engineering experience that enables us to efficiently meet the needs of our Clients.

Our projects represent highlights in the world of modern mega-project design and engineering. ADG's wide range of projects include Hospitality facilities, Hotels, Residential buildings, High-Rise buildings, Mixed-use Commercial developments, Educational facilities, Healthcare facilities, Airport, Transportation projects, Shopping centers, Convention centers, Arenas, Stadiums and Entertainment facilities. Significant projects in New York, New Jersey, internationally, and in the surrounding areas add to the diversity of our project portfolio and emphasize our commitment to participate in the process of design and development of buildings and infrastructure.

ADG is led by a group of Principals who are widely recognized leaders in the field of structural design and engineering and are licensed design professionals, with cumulative experience among them in their fields of expertise in excess of one hundred and fifty years. We have an intuitive sense for out of the box structural solutions during early design phases. We live to make projects successful even with the aggressive deadlines.

State-of-the art computer technology is an integral part of our operation. Our office is fully networked to provide engineering information to all users. ADG uses computer modeling, design and analysis procedures to validate and refine various aspects of the structural design.

ADG's dependable performance and reliability are recognized each year by a large number of repeat Clients. ADG solves structural engineering problems for Architects, Contractors, Engineers, private Owners, governments and industry. We practice in as wide a field of opportunity as possible, using only sound up-to-date engineering principles. Projects of all sizes are approached with creative thinking, leading to the best solution possible consistent with the economics, construction techniques and aesthetic qualities desired. ADG understands its Clients' project objectives in order to deliver optimal engineering solutions.

Active participation on code committees, attendance at and presentation of seminars and providing instruction for engineering courses are what keeps ADG on the cutting edge of the most recent developments in the structural engineering design community. ADG continues to evolve and grow to meet the needs of its clientele. Our commitment to keep abreast of technological advances and engineering trends allows us to provide the highest quality engineering services.

## **MANAGEMENT APPROACH TO PERFORMANCE OF THE REQUIRED SERVICES:**

### **Design Approach**

ADG approaches a project by working closely with the Development and Design Team to study and recommend alternative structural systems that are suited to the project's design, budget, and construction objectives. This effort occurs primarily during the Schematic Design phase, when the pros and cons of the systems are delineated and the desired interfaces with the work of other disciplines (architectural, acoustical, HVAC, electrical, plumbing and fire protection) are analyzed.

ADG works closely with the Design Team in "brainstorming" sessions to provide several structural alternatives in order to arrive at the appropriate solution for a specific project. This process involves both foundation and superstructure systems. Some of the factors analyzed with the Team include structural form, geometry and weight, interface with the building skin, contribution to maximizing net square footage, construction cost, schedule and erection efficiency, compatibility with planned mechanical and electrical systems and construction quality.

### **Design Schedule**

The Structural Design Schedule is prepared by ADG as an important control for the production of the project. The schedule may be shown graphically as a bar graph (Gant Chart), a logic diagram which illustrates restraints and interdependencies between design disciplines or Contractors, or as a CPM (Critical Path Method) network which shows the major project activities in relationship to structural milestones, their durations and their relationships to each other. Consequently, the most critical activities can be identified in order to stay on and complete the design phase within the prescribed timeframes.

### **Specifications and Shop Drawing Monitoring Systems**

This system is designed to help achieve a timely submittal of Shop Drawings, Certificates, Samples, etc., to monitor the status of submittals from Contractors and to maintain a history of submittal activity.

The system works as follows: Initially, a list of submittal items is prepared from the Master Specifications. As the specifications are prepared for each Contract, the specification writer designates which items from the Master should be included on this Contract. The list of submittals accompanies the specifications for a project as part of the bid package. These items are set up in a standard format and include the following data:

1. Specification section number
2. Article number
3. Type of submittal (Shop Drawings, Sample, Certificate, etc.)
4. Brief description of the submittal

The Contractor, once the Contract has been awarded and within a specified period of time, fills in his submittal date (date at which he intends to submit) and "review needed by" date (latest date which he could receive our review comments and still meet his schedule), and returns the completed forms to ADG. This information is used to monitor the status and progress of Shop Drawings.

Also included in the specifications for each project is a Submittal Form which is to be utilized by the Contractor when submittals are sent for our review. A quantity of the forms is furnished to the Contractor with detailed instructions for their use. The properly filled out form is distributed to all interested parties so they will know the action taken on a particular item.

All Shop Drawing data is logged and periodic reports are produced. Prints of this report are distributed so that the Architect, Contractor, ADG field personnel and home office personnel are aware of the status of Shop Drawings, thus helping to prevent delays in submittal and review.

### **Contract Administration**

ADG has a commitment to ensuring continuity on a project from design to construction by maintaining the same staff of project engineers from the Schematic Design phase to the completion of construction. Our design engineers are the same engineers who review Shop Drawings, attend construction meetings and make periodic site visits.

All site visits are followed by detailed written Field Reports, intended to record the status of construction progress at the time of the visit and any problem areas or items requiring attention. All reports are accompanied by photographs, which illustrate items of importance. These photographs also serve as a pictorial log of construction progress.

### **Computer/CADD Capabilities**

ADG operates a state-of-the-art computing environment. The system consists of over 25 networked PCs running Windows NT workstations, Windows NT. ADG has been utilizing Industry Standard Engineering and CADD software for the analysis and design of projects.

ADG uses the most current Finite Element Analysis software such as SAP 2000, RISA, ETABS, SAFE and RAM INTEGRATED SYSTEM to perform static, dynamic (seismic), linear and non-linear analysis and design. Additional design is performed using custom programs created in-house and Microsoft Excel spreadsheets.

The workhorse of ADG's Contract Document production is the CADD department. Drawings are created using the most current versions of Computer Aided Drafting and Design Programs. Additionally, the entire engineering staff utilizes a networked installation of AutoCad LT. ADG has created a system that is integrated with our various analysis and design programs. This allows for fast turnaround time, overall accuracy and Drawing quality impossible to achieve without CADD.

Quality Assurance Program

### **ADG has organized a formal quality control program for projects. Its objectives are threefold:**

1. To standardize office practices and procedures.
2. To increase engineering efficiency and check conformance to project criteria and standards.
3. To continuously improve our product, i.e. design, working Drawings and Specifications in order to minimize construction Change Orders.

To accomplish the above objectives, ADG has instituted the following office practices:

1. Established a central technical file of information useful for a variety of projects. The file contains such data as:

Design guides and checklists.

Information sheets (an index) of major projects containing brief descriptions of building systems used.

Preliminary studies of various building systems, materials, and their attributes.

Typical detail sheets from past projects.

Catalogue of various standard specifications, i.e., CSI Specifications, Government Specifications.

2. Assignment of senior office staff to provide technical guidance, advice and experience on the use of material in the central technical file relative to a new project.
3. A system of checklists is used to assure that the project is adequately represented and coordinated at each submission phase.
4. Formal internal project reviews upon completion of the Concept Design and again at 90% contract document completion. The project team presents the project to a selected team of reviewers for questions, critical review of building systems and coordination between disciplines.
5. Assignment of a quality assurance (QA) manager to be responsible for the quality and coordination of working drawings and specifications. With a designated project-independent staff, the QA manager schedules the detailed checking of the project close to 95% completion of Contract Documents. Every item of notation on the Drawings is reviewed for trade coordination, for specification consistency and for criteria/calculation conformance. The marked up set of documents is maintained in file as a record of the detailed check and review.

## **PROJECT MANAGEMENT**

### **Organization**

ADG organizes all projects on a "task force" basis. This project will be assigned a Project Executive, Project Manager, and project engineers. The Project Executive is a senior level Associate or Principal who will provide overall administrative review and control at the management level. The selection of the Project Manager, design associate and project engineer is based upon their overall capabilities and specific technical experience relative to the given project. The Project Engineer oversees the detailed design of selected structural systems.

The Project Manager will be ADG's day-to-day liaison between the Client and our office. He is responsible for the general administration of the project, including such tasks as:

Obtaining, analyzing and disseminating the Client's requests and criteria.

Conducting and executing the project, including internal brainstorming sessions to develop and evaluate alternative structural systems.

Reviewing the structural design and construction budgets and maintaining production schedules.

Reviewing and coordinating the engineering design with the design of other disciplines.

Implementing value engineering and in-house quality control measures.

### **Overseeing Construction Services**

The project "task force", in addition to the project executive, manager, and project engineers consists of other engineering staff, specialists and CADD technicians who report directly to the project manager. They are assigned to the project in sufficient numbers as the phasing of the project requires to properly execute the design in accordance with the predetermined schedule.

The Project Manager is responsible for reporting pertinent data received from Client meetings, correspondence or telephone conversations to the project's key technical staff within our office and the Client's representative. The publishing of this information does not relieve the Project Manager

from following through to ascertain whether issues have been resolved and the overall Project Schedule remains valid.

## **OFFICES**

ADG has affiliate offices around the world to services our clientele on international projects. This organization allows us to provide prompt on-site service as the demands of today's fast track project schedules. Our offices are in the following cities:

### **USA**

Corporate Head Office:

ADG Engineering LLC  
744 Broad Street,  
Newark, NJ 07102  
(New York City Metropolitan Area)

### **CHINA**

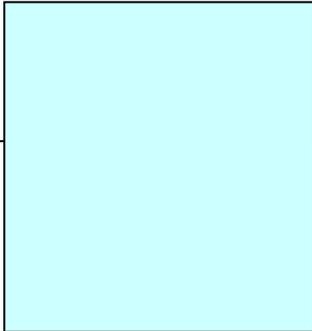
Sardini Group Inc.  
Bldg. G No. 48  
48 Xihai Nanyan Xicheng District  
Beijing 100035  
  
Suite 3403 Shanghai Tower  
Shanghai 200120

### **MALAYSIA**

ADG Matrix Engineering Consultant Sdn. Bhd.  
11-6 Block E2 Jalan PJU 1/42A  
Dataran Prima  
47301 Petaling Jaya  
Selangor Darul Ehsan

### **BANGLADESH**

Axis Design Consultants Ltd.  
Tower Hamlet 14<sup>th</sup> fl  
16 Kemal Ataturk Avenue  
Banani, Dhaka - 1213



REPRESENTATIVE PROJECTS



Active Design Group Engineering D.P.C.



## SAIPAN GARAPAN CASINO & RESORT CNMI . USA

SAIPAN GARAPAN CASINO HOTEL & Resort was planned as a land mark building that combined classic architecture and construction technologies with numerous architectural references to the project's location on the central pacific and its rich marine treasure. The development comprises of 14-story hotel buildings clustered on a top class casino podium. Set on the coastline, the structure was designed using steel at the prime construction material and concrete shear wall. Approximate total gross area of the complex is 80,000 square meter.



## PETRONAS TWIN TOWERS

### Kuala Lumpur, Malaysia

This mixed-use project features twin 88-story, 452 meter tall towers, totaling more than 1,000,000 square feet in floor area. The towers held the record as the world's tallest buildings at the time of their completion.

\*One or more of the Principals of ADG had management responsibility for this project while in the employ of another design and engineering organization.



## PETRONAS TOWER 3 MIXED-USE DEVELOPMENT Kuala Lumpur, Malaysia

Petronas Tower 3, is constructed on Lot C of the Kuala Lumpur City Centre, is a 60 story mixed-use tower in Malaysia with retail at lower levels, 4 below grade parking levels, and office/ residential upper levels serving the Kuala Lumpur City Centre Complex. The project scheme envisions a curvilinear triangular plan for the residential portion of the tower. At the base of the residential tower, the floor plan expands to a rectangular shape to house the office portion of the building. The net area of the building is 1,224,000 square feet.



## FOUR SEASONS CENTRE Kuala Lumpur, Malaysia

ADG provided Structural Design Services. The Four Seasons Centre in Kuala Lumpur, Malaysia has a total Floor Area of approximately 210,000 square meters. The project includes a hotel of approximately 140-keys, 110 service apartment units, 300 residential units, 80,000 square meters of retail space and parking facilities to accommodate more than 1,800 vehicles. The project comprises two buildings that share a common Podium: a 43-story Tower and a 70-story Tower.



## TBR Twin Towers World Trade Centre Phnom Penh, Cambodia

ADG is working jointly with SGI to engineer the structural system for this landmark mixed-use development in the heart of Phnom Penh city. The 1,600,000 m<sup>2</sup> project will include

- a) 4-level underground parking and mechanical spaces
- b) 12-story retail and office podium
- c) Four 55-62 story residential towers
- d) 133-story mixed-use twin towers connected by three skybridges.

The structural system includes a combination of steel-frame and concrete shear walls supported on a concrete mat-pile foundation.



## LA NACION OFFICE TOWER

### Buenos Aires, Argentina

A 16-story addition was constructed above an existing 8-story urban office building; the existing offices were occupied throughout the project. The development of an extremely light steel frame for the new floors, in combination with the reinforcement of existing concrete shear walls and the design of a unique system of transfer trusses, minimized the need to retrofit the existing concrete columns, which made the project feasible. As part of the work, the existing foundations were upgraded.

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## MABARAK CENTER Lahore, Pakistan

Mabarak Center at Ferozpur Road in Lahore is the first development of its kind in Pakistan, one that fulfills the needs of most daily activities of the people of Lahore within a single modern 21st century state-of-the-art facility. Patrons can shop, dine, work and pursue recreation and leisure activities within a single complex that also provides high-class office space as well as luxury hotel and residential accommodations. The total built-up area is 605,064 m<sup>2</sup>.

ADG provided Peer Review and Value Engineering services for this project. ADG was responsible for multi-million dollars savings in construction cost. Our review skills were applied to foundation systems as well as structural steel and reinforced concrete structures.



## DAELIM ACROVILL ONE, TWO AND ACROTEL Seoul, Korea

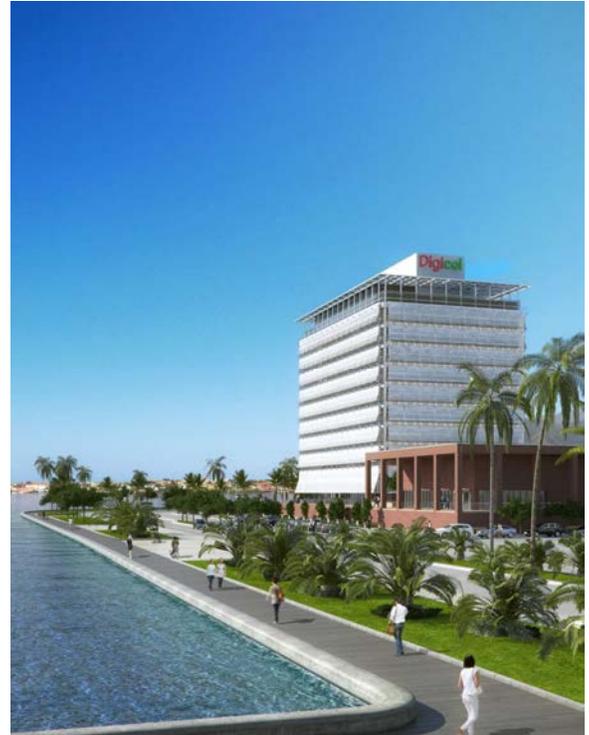
A 1.75 million square foot complex consisting of two 46-story apartment buildings, a 32-story office building, a 1 million square foot shopping complex and 6 levels of underground parking and mechanical areas.

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## MARRIOTT HOTEL BEACH RESORT Ajman, UAE

Marriott's hotel and beach resort complex in the Emirate of Ajman combines contemporary planning and construction technologies with numerous architectural references to the project's location and its rich cultural heritage. The development comprises 18-story hotel buildings clustered on a common Podium structure. The approximate total gross area of the complex is 500,000 square feet.



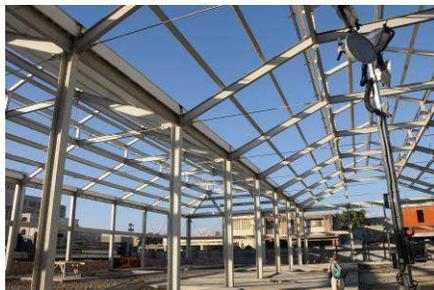
## DIGICEL DOWNTOWN DEVELOPMENT Kingston, Jamaica

The Digicel Downtown Development project in Kingston, Jamaica is intended to follow a Master Plan for a complex of buildings and gardens comprising three parts: Digicel corporate facilities, a hotel or other commercial building and an entrance plaza. The Digicel corporate buildings occupy the first third of the site facing out onto the waterfront. An eighteen-story tower standing on a white stone plinth houses office accommodation, call center and training facilities, etc., with views out across the bay to the south and west. A separate two-story building houses the switch / battery / UPS and the staff canteen, all kept at the lower level for ease of access and servicing.

Planned hotel buildings will be about six stories high, positioned along the east side of the site to enclose an entrance space at the front of the Digicel tower, making a proper entrance to the Digicel building and setting it up as the most important building on the site. To be clad in red sandstone, surrounded by dark green trees, the ensemble structure will feature the Digicel colors. The future entrance plaza will provide an entrance space appropriate to the size of the Digicel tower. The plaza is conceived as a garden, entered through a large gate at the city end of the site, with a long shallow pool down the middle. The pool will be used to collect rainwater and will provide water for fire-fighting. The Digicel tower will be reflected in the water, and to either side will be lawns and rows of trees for shading.

### Project Statistics

Digicel Tower	18 stories	13,500 m <sup>2</sup> (145,314 sq. ft.) gross area
Future IT & Catering Bldg.	2-3 stories	2,500 m <sup>2</sup> ( 26,910 sq. ft.) gross area
Future Hotel or Other Commercial Bldg.	5-6 stories	10,000 m <sup>2</sup> (107,640 sq. ft.) gross area
Basement Car Park	1 story	10,500 m <sup>2</sup> (113,022 sq. ft.) gross area
<b>TOTAL</b>		<b>36,500 m<sup>2</sup> (392,886 sq. ft.) gross area</b>



## RECONSTRUCTION OF THE MARCHE DE FER (IRON MARKET) Port-au-Prince, Haiti

The city's Iron Market served as a retail hub for more than a century. The original components were prefabricated in France and assembled locally into two sheds flanking a central Clocktower featuring four minaret-like towers. Fire destroyed the North Market shed in 2008 and after the earthquake of 2010 severely damaged the South Market shed, ADGI was authorized to begin work on the \$12 million restoration in March of that year. Extensive field investigation and a careful evaluation of the complex suggested a project approach which required the design of a new North Market. ADG designed IBC 2006 upgrades for the project, including diagonal rod bracing and supplemental anchorage details for the columns. Close inspection of salvageable original materials allowed the project's historic character to remain. Cast-iron coupons were taken to the U.S. for testing. ADG's responsive style allowed on-time Project completion, with an inauguration held on January 11, 2011.

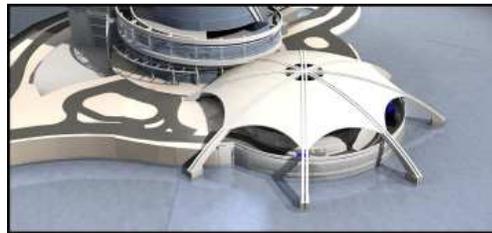
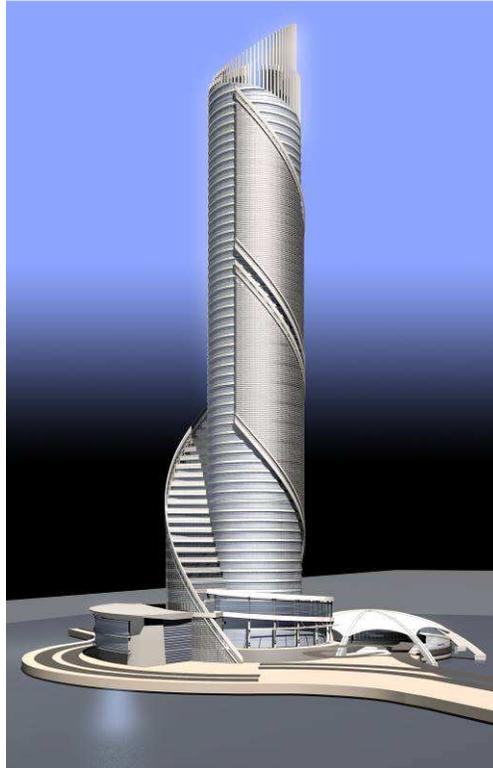


## Al Burj Dubai, United Arab Emirates

ADG performed the structural design of this 6.8 million square foot (approximately 670,000 square meter) residential tower, which was proposed to be the tallest building in the world. This building was the centerpiece of the world's largest man-made island, The Palm Island, located offshore of the Jumeirah Beach coastline in Dubai, United Arab Emirates. It rises out of a lagoon within the central canal of The Palm Island.

In addition to the residential portion of the building, an observation deck was planned at one of the top floors.

The structural form of Al Burj evolved from the structure of the bamboo plant. The tower's footprint is composed of three triangular shapes with curvilinear sides and a hollow circular interior. The stiff exterior shell with the hollow core results in an extremely efficient structural system. The sides of the triangular shell are opened up to create three sub-towers. To achieve cohesive structural behavior between these sub-towers, they are tied together intermittently at six points using "sky bridges", or solid floor areas inside the core. These sky bridges also provide two alternate means of egress for the occupants in the event of an emergency situation.



## DUBAI METALS & COMMODITIES CENTRE

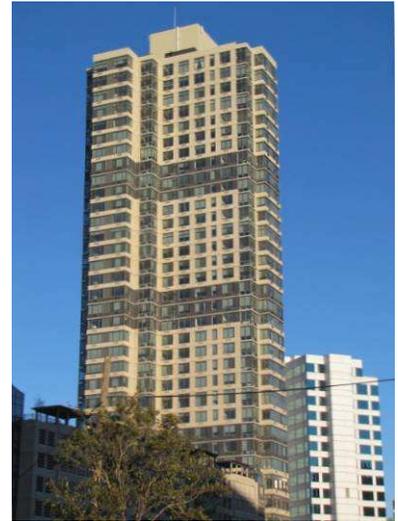
Dubai, United Arab Emirates

Providing the focal point of an expansive man-made lake, this 60-story Mixed-Use Tower houses premium office space and a world-class luxury hotel in more than 100,000 square meters of space. The 7,700 square meter Diamond Exchange enjoys a dramatic 90 meter clear span space at the base of the tower. Three levels of parking are provided in 44,000 square meters of space located below grade and below the water level of the lake. ADG provided Structural Design and Engineering Services up to Design Development phase.



## DOUBLETREE HOTEL AT 8 STONE STREET New York, New York

This project in downtown Manhattan is a new 43-story Hotel Building, with two below-ground levels, located at 8 Stone Street in New York City. A 4-star DoubleTree Hotel with 424 rooms and restaurants in the building. Typical floor construction is a concrete flat-plate system with core shear walls functioning as the lateral system. The structure sits on 400-ton caisson foundations.



## COLUMBUS TOWERS COMPLEX

Jersey City, New Jersey

ADG's work on Columbus Towers included comprehensive Structural Design and Engineering services for a 35-story concrete residential tower (42,000 m<sup>2</sup>), a 7-story concrete parking structure (33,000 m<sup>2</sup>) with a recreational facilities on its roof, including a swimming pool, and an adjoining 3-story steel-framed office building (3,400 m<sup>2</sup>).



## Random House New York, New York

Located at 56th Street and Broadway, this 840,000 square foot, 56-story residential and office building includes a complex structural transfer at the 27th floor, where the framing transitions from steel to concrete flat slab construction. The building incorporates a Liquid Column Tuned Damper, representing the first use of this technology in North America.

\*One or more of the Principals of ADG had management responsibility for this project while in the employ of another design and engineering organization.



## PLAZA V

### Jersey City, New Jersey

One of a series of office towers built at the Harborside Financial Center district along the Hudson River waterfront. This steel-framed, pile-supported 33-story tower comprises approximately 915,00 square feet of premium office space and a seven level 1,270-car parking structure. Special conditions dictated the use of 9-foot diameter caissons for the foundation elements below the tower core. 33-story office tower.

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## TWO NORTHSIDE PIERS AT 164 KENT AVENUE Brooklyn, New York

This project consists of three new residential towers: two 30-story buildings and one 40-story building. The approximate gross floor areas of the 30-story towers are 225,000 square feet each and the 40-story tower contains approximately 300,000 square feet.



## Plaza X Jersey City, New Jersey

A prominent building among the recent series of office towers built at the Harborside Financial Center district along the Hudson River waterfront. This steel-framed, pile-supported 19-story tower comprises approximately 575,000 square feet of premium office space. The folded 'wing' at the roof of the building gives it a recognizable presence on the skyline.

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## THE VENETO

250 East 53<sup>rd</sup> Street, New York, New York

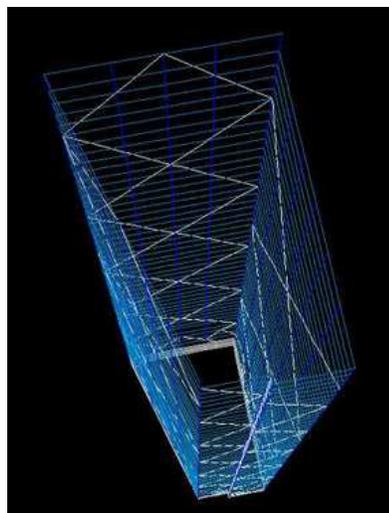
ADG provided complete Structural Design and Engineering Service for this project, which consists of a new 31-story flat-slab concrete framed luxury residential condominium building located at 250 East 53<sup>rd</sup> Street in New York City. A special feature of the design was the inclusion of provisions within the building for a future New York City subway station to serve the long-anticipated Second Avenue Subway line.



## THE BROMPTON

206 East 86<sup>th</sup> Street, New York, NY

This Upper East Side project is located at 86<sup>th</sup> Street and Third Avenue in New York City and consists primarily of residential condominium units, with retail space on the Ground Floor. The 20-story building provides 308,800 square feet of space, including Ground Floor retail units. In addition, there is a Cellar level with a gross construction area of approximately 20,000 square feet. The total gross construction area of the development is approximately 328,800 square feet



## TIMES SQUARE SITE 1 New York, New York

Designed for a narrow trapezoidal site at New York City's Times Square, this 48-story building rises 770 feet above grade and descends below grade to accommodate two Basement levels, where the new construction is surrounded by New York City Subway tunnels. Super-diagonal exterior bracing provides the tower with the necessary lateral resistance, allowing that critical task to be accomplished with only 27 pounds per square foot of structural steel framing. The northern one third of the building is constructed in and around an existing Subway entrance and concourse. Project requirements dictated that the Subway structure be resupported as necessary.

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## ALTURKI PLAZA

### Dharhan, Saudi Arabia

The new headquarters for the Alturki Group will be a 9-story building totaling 9,360 square meters above grade. Below grade parking for 146 cars will connect directly to the building lobby. The design is based on a 9-meter structural grid with variable cantilevers to form a cylindrical building with a 38-meter diameter. The building is fully modern and will incorporate all of the latest features of intelligent building design, sophisticated communications, security, information technology and other low voltage systems.



## CHONGQING PUBLIC LIBRARY

### Chongqing, China

The Chongqing Public Library will be an important educational, cultural and social center. ADG provided structural design services and coordination with local engineers. Some of the unique and challenging structural features of this library include a customized waffle slab system that complies with moment frame requirements of the Chinese Building Code, a 4000 square foot cantilevered lecture hall and a four-story tall enclosed glass auditorium. The building will comprise a total of 540,000 square feet.



## THE LUXE Stamford, Connecticut

This mixed-use project consists of a twenty-one story building at the intersection of East Main Street and Greylock Place in Stamford, CT. Present planning envisions three levels of above-grade parking, two levels of office floors and one level housing amenities such as a Health Club, a Lounge, Meeting Rooms, etc. Levels 8 through 21 will accommodate residential units. The Ground Floor will house Lobby functions, drive aisles, car lifts and retail spaces. The gross area of the building superstructure is approximately 153,550 square feet.



## OLGANA & HILIANA TOWERS AT ACACIA GARDENS Dubai, United Arab Emirates

The Acacia Gardens development in Dubai included two distinctive highrise residential towers. ADG provided comprehensive Structural Design and Engineering Services for the project. The 39-story Olgana Tower had a Gross Floor Area of approximately 680,000 square feet. The Podium and Basement levels of the building are dedicated to parking facilities serving the residential floors above. Primarily, a cast-in-place reinforced concrete structural system was used throughout the building. Reinforced concrete shear walls are used at the core of the building and at several other locations outside the core. These shear walls, in combination with frame interaction, serve as the lateral system to resist wind and seismic forces.



## 275 4<sup>TH</sup> AVENUE Brooklyn, New York

This 78-unit, 80,000 sf, 10-story residential development is located in the upcoming neighborhood of Brooklyn. The cascading geometry of the building poses structural challenges on column layout to support these setback floor plates. ADG developed a series thin concrete wall-columns that were used in combination with a cantilevered 9-inch thick concrete flat plate slab to transfer the floor loads down through the building without comprising the integrity of the original architectural design by the firm ODA.



## 809 Broadway New York, NY

The challenges posed by the 16-story residential building were enormous. The project scope required portions of the existing 5-story cast-iron and brick billiard manufacturing facility to be maintained during the construction of the new facility. Interior timber floors had to be replaced with new concrete slabs prior to construction of new foundations and columns. Existing brick bearing walls had to be maintained while new reinforced concrete shear walls are introduced to make the new much taller building compliant with the present seismic and wind requirements. The architectural design by ODA Architecture had varying horizontal masses stacked vertically up the building interrupt any columns in the front. ADG devised a central tapered cantilever beam that eliminates the front columns above the 6th floor and yet maintaining the thin slab profile at the full height glass facade.



## 608 FRANKLIN STREET Brooklyn, New York

ADG is responsible for the structural engineering of this new 120-apartment 135,000 sf development in Brooklyn. Architectural design for this 8-story plus one cellar building is by ODA architecture. An 8-inch concrete flat plate slab is used to maximize the ceiling heights within the zoning height limits. a reinforced concrete transfer slab is used at the 2nd floor to accommodate larger open spaces at the retail and lobby spaces.



## 134 VANDERBILT AVENUE Brooklyn, New York

An 8 story building with a cellar level and a gross area of 64,200 square feet.



## 241 FIFTH RESIDENCES

Fifth Avenue, New York City

Located in the historic Landmark District of mid-town Manhattan, 241 FIFTH is a 19-story high-end luxury condominium building. High ceilings with spectacular views and dramatic terraces were created for the residents. The total area of the building is 73,518 sq. ft.



## Canary Wharf Buildings (Phases I & II) London, England

One of Britain's landmark urban redevelopment projects, the work included the design of five separate 12-story reinforced concrete buildings, each having two Basement levels. Services provided also included preliminary design of nearby 48-story and 22-story steel-framed towers.

\*One or more of the Principals of ADGI had management responsibility for this project while in the employ of another design and engineering organization.



## LEXINGTON HOUSE HOTEL New York, New York

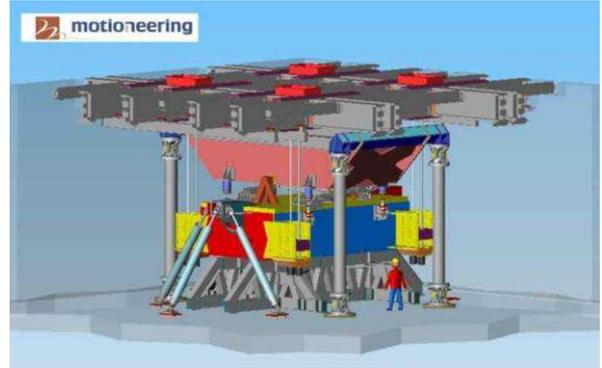
ADG created the structural design for the new Lexington House Hotel, located at 517-521 Lexington Avenue in New York City. The 25-story Hotel is positioned amidst numerous other prestigious hotels on the east side of Manhattan's midtown district. The structural material of choice was reinforced concrete. Because of the building's double-level Basement, situated adjacent to existing Subway tunnels and facilities, extensive coordination with the Metropolitan Transit Authority was required.



## ECHELON PLACE Las Vegas, Nevada

Echelon Place, Las Vegas is a \$4 billion Mixed-Use Resort on the 63 acres of Las Vegas land currently occupied by the Stardust Hotel. The mega-resort includes 1 million square feet of convention and meeting space, 5,300 hotel rooms, a 140,000 square foot casino and 350,000 square feet of retail stores.

ADG provided Peer Review and Value Engineering services for all components of this project, including the Exposition Center, the Podium/Casino, the Hotel Tower, the Theatre and the Retail Complex. We verified for code conformance and confirmed the load carrying capacity of the structural members. . ADG was responsible for multi-million dollars savings in construction cost. Our review skills have been applied to foundation systems as well as structural steel and reinforced concrete structures.



## BLOOMBERG TOWER - 731 LEXINGTON AVENUE New York, New York

This project is a 54-story mixed-use office and residential building in midtown Manhattan. A 29-story steel-framed podium provides space for corporate offices and a variety of retail venues. The 30<sup>th</sup> Floor incorporates a structural transition to reinforced concrete construction for the slender residential tower above. A 600-ton Tuned Mass Damper at the top of the building helps to control movement of the tower due to wind forces.