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Kingdom Tower / Kingdom City: History in the Making

Mounib Hammoud, CEO, *Jeddah Economic Company*

Jeddah Economic Company has embarked on a mission to construct Kingdom Tower, which will be the tallest building in the world upon completion. The kilometer-plus skyscraper will anchor the Kingdom City development in Jeddah, Saudi Arabia, creating a global destination for the county's second largest city.

Mankind is instinctually endowed with a fascination with place and a drive to improve it. The availability of resources and technical capability have coincided to make this time, here, now, a period of spectacular place-making in Arabia. The ancient tall buildings of Jeddah's old town were no higher than Rome's insulae. Indeed, they resemble them, with the added ingenuity of vernacular climatic adaptation. The

highest of Jeddah's old buildings – some still exist – were eight floors high, little more than twenty-five meters. And yet now, the Jeddah Economic Company (JEC) is building a structure whose foundations have been bored down into the rock four times as far as the old buildings are tall, in order to support a tower in excess of one thousand meters in height. A full kilometer plus. (Indeed, somewhat more – the precise figure is a secret yet to be announced as of 2015.) It will be the world's tallest building measured from its ground datum, plus it has basements below, and piled foundations descending well over a hundred meters into the ground beneath.

So this is it. It is happening. Jeddah. 5.3 square kilometers of sea-edge land, north of Obhur creek, the location of a new Saudi spectacular:

Kingdom Tower. And surrounding it will be a new city – Kingdom City.

The project team and Jeddah Economic Company – the body tasked with building Kingdom City – are on the ground, with every expectation and intent of topping out this technological tour de force on program. Much of this structure is steel-reinforced concrete construction. Using the renowned capability of the Saudi Binladin Group, this will be a vast monolithic concrete structure, all the way from the bottom of the piles to the topmost meters – which will indeed be steel.

Cities formerly emerged aching slowly, in some niche of trade, some combination of resources and skills, at some quirk of geographical locus. They offered a means of



Right: Kingdom Tower render from above. Source: Adrian Smith + Gordon Gill Architecture

Bottom: View from the Mall overlooking Old Town and the water front. Source: Jeddah Economic Company

survival, when mankind was sparse on the earth, and resources – especially the key resource, energy – were desperately hard to acquire.

But what manner of prodigious economic city this will be, to warrant such a structure, anchored into the soft coralline limestone of ages on the low Red Sea coast. What will Kingdom City become?

Mankind is now in an era of growth at unprecedented speed; an era of mass spectacle, global communications, and prodigious scientific and engineering capability. Mankind lives on earth in vastly greater numbers, in far better health, and with far better education, than ever before.



Project Data: Kingdom Tower

Location: Jeddah, Saudi Arabia

Height:

Architectural: 1,000+ meters (3,281+ feet)

To Tip: 1,000+ meters (3,281+ feet)

To Observatory: 638 meters (2,092 feet)

Floors Above Ground: 167

Floors Below Ground: 2

Area: 8,127,000 m² (87,478,300 ft²)

Use: Residential / Serviced Apartments / Hotel / Office

Structural Material: Concrete

Proposed: 2011

Start of Construction: 2013

Completion Date: 2018 (expected)

Number of Elevators: 58

Top Elevator Speed: 10 m/s

Number of Apartments: 439

Number of Hotel Rooms: 200

Number of Parking Spaces: 2,205

Owner/Developer: Jeddah Economic Company; Kingdom Holding Company

Architect: Adrian Smith + Gordon Gill Architecture (design); Dar al-Handasah Shair & Partners (architect of record)

Structural Engineer: Thornton Tomasetti (design); Magnusson Klemencic Associates (peer review)

MEP Engineer: Environmental Systems Design, Inc. (design); Cosentini (peer review)

Project Manager: EC Harris; Mace

Main Contractor: Saudi Bin Laden Group

Other Consultants: Environmental Systems Design, Inc. (acoustics); Langan (civil, geotechnical, parking & traffic); Lee Herzog Consulting (façade maintenance); Rolf Jensen & Associates (fire); SWA Group (landscape); Fisher Marantz Stone (lighting); Omnium International Ltd. (quantity surveyor); Aegis Defence Services Limited (security); Fortune Shepler Consulting (vertical transportation); Forcade Associates (wayfinding)

Material Suppliers: Liebherr (crane); KONE (elevator)



Kingdom Tower and its surrounding Kingdom City will embody this prodigious skill and ambition. It will be exemplary. It will make manifest the best of all possible futures.

And such is the speed of the arrival of the future; such is its impact, that the designers and developers of the city have a juggling act on their hands. They must first imagine and then build this city to accommodate the culture of Saudi Arabia within the world of Islam; to pragmatically cope with the climatic exigencies of the Red Sea Coast; and to create a magnificent new urban node in the emergent Jeddah conurbation – and they must do all that in a commercial, private sector environment.

And this great endeavor is occurring at a point in time when the assets of the planet are now increasingly understood to be not infinitely renewable at the service of the ingenuity of mankind; a point in time when Saudi Arabia, still the great beneficiary of its oil reserves, is actively exploring its environmental sustainability and economic diversification at the service of its human potential.

It is a phased endeavor. The first phase, encompassing 1.5 million square meters of land, will emerge over five years. The remainder will take half a working lifetime. And its impact on its surroundings and culture of Arab-world urbanity will emerge over half a century and more.

This is a big project. But more importantly, it is a big idea.

Jeddah is the ancient trading city and entrepôt for the Hijaz, and the gateway to the sacred rituals of Islam and to the holy cities Mecca and Medina. The ancient Bride of the Red Sea has become a vast bustling metropolis, extending over fifty kilometers along the coast. It has become a city of boulevards and freeways. It has a population approaching 4 million souls, and is the second city of Saudi Arabia; the Kingdom's center for tourism, recreation, banking, trade, and business second only to the capital Riyadh. Jeddah has been growing in recent years at an officially estimated 5 percent per annum.

The direction of its growth is northwards, vaulting many kilometers beyond the calm and clean waters of Obhur Creek, the venue for city-dwellers' weekend recreation lined with its marinas, resorts, and beaches. The old psychological barrier of the Obhur Creek being thought of as remote, as defining the city's edge, has long since been forgotten. A keen new market indicates that Obhur has become the best of residential destinations. Major new roads, infrastructure, public amenities, schools, universities, hospitals, and public transportation are planned and under construction. The government is investing heavily in the infrastructure of the area as the private sector simultaneously constructs new villa developments stretching northwards along the coast, and infilling inland. Three modes of public transportation are under study – the Regional Rail, the Metro, and a Tram alignment – and all three converge on a site in North Obhur.

That site is the location of the master planned 5.3 million square meters of land designated

as Kingdom City. The first phase comprises 1.55 million square meters of land between the Tower and the sea. It will indisputably become the focus of the North Obhur district, a catchment area which extends over an area of about twelve kilometers north-south and ten east-west. Kingdom City will inform and vitalize the entire northern edge of Jeddah.

The Kingdom City site has a six-kilometer long frontage to the Obhur North Corniche Road, along its long sweep around both the Creek and the Red Sea. It enjoys the clear, clean, airy atmosphere created by the gently prevailing north-westerly winds off the sea. It has long-distance views to the city of Jeddah to the south, and the open expanse of the Red Sea to the west.

Main road access to the site will be swift and direct from the city, via the Obhur Bridge and a proposed new highway which will border the site along its eastern edge. Access to the airport, barely ten kilometers away, will be smooth by road and metro.

This has not been a glibly rapid process. A design by renowned US architects and planners HOK was prepared in the early days, with a magnificent but difficult-to-achieve new inlet from the sea, flushing towards an outlet to Obhur Creek. This was, in retrospect, a concept too far, and met with environmental, security, and cost objections.

Then, after a four-way international competition, JEC selected Peter Calthorpe Associates of Berkeley California to provide a conceptual master plan of the development. Peter Calthorpe is a guru of sustainability

Opposite: Kingdom City render showing active streetscapes.
Source: Jeddah Economic Company
Bottom: Kingdom Tower, render of exterior drop off area.
Source: Adrian Smith + Gordon Gill Architecture

“JEC’s mission is no less than this: to envision, to design, to build and to manage – in short, to master plan in the fullest sense – an unprecedentedly vibrant urban center that will establish the city of Jeddah as a functional equal on the international scene of great modern urbanization, alongside the best new cities of the region and the world.”

and an eminent figure of the US west-coast New Urbanism movement. He advocates sustainable urban villages and a reduction in car-use. His appointment was a bold move, in this, the most car-dependent and energy profligate of cultures. And for this location, in which the Kingdom Tower was already a given, indeed was already under construction, and which clearly merited a context of compatible height and density.

Accordingly he produced, for the 5.3 million square meters of land which surrounds the tower, a vision of an urban landscape containing a mix of uses within a system of landscaped canals and lakes, without, unfortunately, a clear understanding of how that proposed density would be serviced by roads and the ambitious waterscape was to be rendered sustainable, disconnected as it had become from the sea.

JEC then undertook a rationalization of the first phase of this plan, for a land area of 1.5 million square meters, under the guidance of their consultant, urban designer, and planner Ian Hogan, in cooperation with Dubai architects GAJ, who had been runners-up in the competition won by Calthorpe Associates. Hogan and GAJ both have great experience with the climatic exigencies and the culture of the region, and have brought forward proposals which retain the spirit and aspiration of the CA plan, calibrated to the commercial realities of this location in time and space.

JEC’s in-house design team and Hogan are now engaged in refining seven sector





Left: Kingdom Tower render showing the tower at full height. Source: Adrian Smith + Gordon Gill Architecture

Opposite: Render of Kingdom City showing pedestrian friendly development. Source: Adrian Smith + Gordon Gill Architecture

plans within phase one, each of defined and distinctly different character, and have begun the process of drawing-up plot development guidelines for the approximately one hundred and fifty plots of land created within them. The concept of the walkable city has been put in motion and phase one now has commercial objectives, a number of defined poles of excellence. Phase one continues to contain sizeable water features and landscaped garden elements, and JEC are engaged in evaluating suppliers and technologies for constructing and maintaining them. It is envisaged that they will incorporate spectacle and wonder to match the overlooking Kingdom Tower, and its companions as they emerge over time.

An international class super regional shopping, leisure, and entertainment offering will be put in place. It will be linked by breathtaking and unique animated public open spaces that surround Kingdom Tower and lay the foundation for the concept of the walkable city, a big step toward sustainability. There will be a full provision of social and community facilities as appropriate for city center life lived at the highest level of urban amenity.

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The project will offer a mixed-use environment with an advanced quality of life, state of the art infrastructure, and modern street furnishings and finishings, using cutting-edge technologies and offering generous public open spaces.

It will become the new northern pole of the City of Jeddah, and will anchor and focus the growth of the city along the coast. It will be a

vibrant destination for business, residences of different types, tourism, leisure, entertainment, retail, schooling, medical centers, and government offices and services.

All this, on 5.3 million square meters of land and with 12 million square meters of built-up area, in North Obhur where the City of Jeddah is growing. We will develop a city center that will reposition the city of Jeddah on the international scene of modern regional cities alongside Solidere's Central District of Beirut and Downtown Dubai – becoming the new downtown of uptown Jeddah.

Kingdom City will emerge as investors' and developers' location of choice for development, embodying international quality architecture, the highest standards

in construction, innovative urban planning, and environmental sustainability. It will guide the City of Jeddah and numerous sectors, including real estate, towards previously unforeseen horizons.

The project will create numerous job opportunities for the Saudi workforce and employment at all levels. This will be a mixed use, live-work environment enlivened by place-making and activity; it will be a superb place to live, work, and play.

The master plan will cradle the world's tallest tower, which has already reached a visible stage of construction. Kingdom Tower is set to be a vertical city that redefines the meaning of luxury living, with intelligent office space; a 200-room Four Seasons Hotel

and 121 Four Seasons Serviced Flats; 60 residential floors housing 360 apartments at different levels; and the largest and highest leisure, entertainment space, and observatory in the world.

This stunning new landmark will draw attention to itself like a beacon and be visible to the entire city, and indeed the world, since it is just five (safe) kilometers west of the usual take-off path of aircrafts from Jeddah's King Abdul Aziz International airport. From there, it will be excitedly noted by generations of Hajj pilgrims and other visitors.

