 SG3027 OMB No. 1024-0018

United States Department of the Interior
National Park Service

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NAT. REGISTER OF HISTORIC PLACES
NATIONAL PARK SERVICE

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, How to Complete the National Register of Historic Places Registration Form. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

1. Name of Property

Historic Name: One Shell Square
Other Names/Site Number: N/A
Name of related multiple property listing: N/A

2. Location

Street & Number: 701 Poydras Street
City or town: New Orleans State: LA County: Orleans
Not for Publication: ☐ Vicinity: ☐

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this ☒ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☒ meets ☐ does not meet the National Register Criteria.

I recommend that this property be considered significant at the following level(s) of significance:
☐ national ☐ state ☒ local

Applicable National Register Criteria: ☐ A ☐ B ☒ C ☐ D

Kristin P Sanders August 15, 2018

Signature of certifying official/Title: Kristin Sanders, State Historic Preservation Officer **Date**

Louisiana Department of Culture, Recreation, and Tourism

State or Federal agency/bureau or Tribal Government

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria.

Signature of commenting official: **Date**

Title: **State or Federal agency/bureau or Tribal Government**

4. National Park Certification

I hereby certify that the property is:

✓ entered in the National Register
___ determined eligible for the National Register
___ determined not eligible for the National Register
___ removed from the National Register
___ other, explain: ___________________

10-18-2018

Signature of the Keeper **Date of Action**

5. Classification

Ownership of Property (Check as many boxes as apply.)

x	Private
	Public – Local
	Public – State
	Public – Federal

Category of Property (Check only **one** box.)

x	Building(s)
	District
	Site
	Structure
	object

Number of Resources within Property (Do not include previously listed resources in the count)

Contributing	Non-contributing	
1	0	Buildings
		Sites
		Structures
		Objects
1	0	Total

Number of contributing resources previously listed in the National Register: 0

6. Function or Use

Historic Functions (Enter categories from instructions.): COMMERCE/TRADE / Business

Current Functions (Enter categories from instructions.): COMMERCE/TRADE / Business

7. Description

Architectural Classification (Enter categories from instructions.): Modern Movement / International Style

Materials: (enter categories from instructions.)
foundation: Concrete
walls: Stone / Travertine Limestone
roof: Other / Built-up roof
other:

Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary Paragraph

Completed in 1972, One Shell Square is a 51-story (697-foot) skyscraper joined to a 13-story parking annex at the concourse and plaza levels. The complex occupies the entire block bounded by St. Charles Avenue, Poydras Street, Carondelet Street, and Perdido Street in New Orleans, Louisiana. At the time of its construction, One Shell Square was the tallest building in the Southeast; it remains the tallest building in New Orleans and the state of Louisiana today. The building was designed by Bruce Graham of the Chicago office of Skidmore, Owings, & Merrill (SOM), in association with Wilson, Morris, Crain & Anderson Architects of Houston, and August Perez & Associates of New Orleans. Fazlur Khan of SOM served as the senior structural engineer. The exterior of One Shell Square is clad in Italian travertine limestone and bronze-tinted reflective glass. Tightly spaced bays on all four tower elevations are an expression of the building's innovative "framed tube" structural framing. Designed in the late International Style, One Shell Square is representative of SOM's signature high-rise corporate design aesthetic. The building was named for its lead tenant, the Shell Oil Company, which continues to lease space in the building today. One Shell Square retains a high degree of both exterior and interior integrity, and is eligible for listing on the National Register of Historic Places.

Narrative Description

One Shell Square comprises a 51-story (697-foot) tower and 13-story parking annex, joined by a common street-level concourse and elevated plaza. The podium fills out the entire rectangular block bounded by Poydras Street to the south, Carondelet Street to the west, Perdido Street to the north, and St. Charles Avenue to the east. The property is located just outside of the boundary of the Lower Central Business District Historic District, which jogs to exclude most of the mid- to late-20^{th} century high-rises along Poydras Street. Following its widening from 74 feet to 132 feet in 1966, Poydras Street became a highly desirable corridor for developers looking to build high-rise office towers, and for businesses seeking a prestigious address. Today, the 1.25 mile stretch of Poydras Street connecting the c.1967 International Trade Mart (NR, 2014) to the c.1975 Superdome (NR, 2016) is considered to be the primary spine of the Central Business District.

One Shell Square's site is rectangular in shape, with approximately 341 feet of frontage along Poydras Street, and 249 feet of frontage along St. Charles Avenue (the two primary facades). On the southeast corner of the site, wide travertine steps lead from both streets to the plaza level. Two intermediate landings grace the monumental stairs, adding to the plaza's pedestrian appeal. The lower landing is shaded by magnolia trees, and contains building signage and landscaped planters.

The primary pedestrian access to One Shell Square is from the plaza, which is elevated approximately 14' above grade. The plaza provides access to both the tower, which is set back from Poydras Street on the northeast corner of the site, and the parking annex, which occupies most of the western half of the site. Projecting canopies indicate the location of building entrances. The plaza is covered with travertine pavers, oriented in a grid pattern aligned with the building's modular framing. Pavers slope gently to regularly spaced drains. Guardrails and benches are integrated into the sloping exterior walls of the travertine-clad podium. Together, the elevated plaza and monumental corner steps lend a highly sculptural and formal quality to the building's base. Beneath the plaza, a street-level concourse serves as a linear pedestrian mall, with entrances located on the east and west sides of the building. Vehicular access to the parking garage is provided along Carondelet Street, while access to the loading dock is from Perdido Street.

The site is organized along a 10'x10' structural grid, and both the tower and parking annex follow these modular dimensions. The tower is 18 bays wide (parallel to Poydras) by 13 bays deep, resulting in individual floor plates of roughly 23,400 square feet. The parking garage is 24 bays wide (parallel to Carondelet) by 12 bays deep, with individual floor plates of roughly 28,800 square feet. In all, One Shell Square reportedly contains a gross building area (measured from exterior walls) of 1,719,432 square feet.[1]

One Shell Square was Houston-based developer Gerald D. Hines's first foray into the New Orleans market. Hines selected Skidmore, Owings & Merrill (SOM) of Chicago as the project's architect, with Bruce Graham as principal designer and Fazlur Khan as the senior structural engineer. Hines was already working with both Graham and Khan on the design of One Shell Plaza in Houston, a 50-story tower similar in appearance to One Shell Square, though with a slightly undulating façade and concrete structural frame (distinctions between the two buildings are explained in Section 8). Hines hired Wilson, Morris, Crain & Anderson Architects of Houston, Texas to develop the working drawings for One Shell Square. August Perez & Associates of New Orleans was selected as the local consulting architect.

Rising 51 stories (697 feet), One Shell Square was the tallest building in the southeast at the time of its completion in 1972. Formerly, the title had been held by the c.1966 44-story Wachovia Bank of Georgia building in Atlanta (566 feet). While One Shell Square's record height was surpassed in 1976 by the 72-story Westin Peachtree Plaza in Atlanta (723 feet), it nevertheless remains the tallest structure in New Orleans and the state of Louisiana.

<u>Building Structure and Exterior</u>

Because One Shell Square's structural frame is expressed on the exterior façade (a character-defining feature of many 1960s and 1970s modernist style office buildings), this section will begin with a description of the tower's structural design.

The tower is a "framed tube", a structural system for high-rise construction which is exceptionally efficient at resisting wind loads, certainly a consideration in hurricane-prone New Orleans. The general concept involves a series of tightly spaced columns on the perimeter of the building, tied together at each floor with spandrel beams. Together, these perimeter columns and spandrel beams form a rigid frame that acts as a "tube" cantilevered from grade. The perimeter tube is designed to resist all of the lateral loads acting on the building (i.e., wind loads, seismic loads, etc.). The framed tube is tied back to the central core by simple span structural members, thus allowing for an open floor plan without the need for additional interior columns. This system

[1] Gross building area provided by the owner. Of the 1,719,432 square feet, 1,359,656 square feet is allocated to the tower while 359,776 is allocated to the parking annex. Note that this figure varies slightly from the 1.575 million square feet of building and parking facilities reported in the *Times-Picayune* at the time of the building's construction.

was pioneered by the structural engineer Fazlur Khan, and first used in SOM's c.1964 DeWitt-Chestnut Apartment Building in Chicago.

In the case of One Shell Square, the perimeter is composed of 4-foot wide reinforced concrete columns spaced 10 feet on center. The buildings central core is constructed of structural steel framing, with 18 columns arranged on a 2-bay by 5-bay grid. The perimeter frame is tied back to the central core by simple 30-40' long steel beams spaced 10' on center. Floors are constructed of composite steel decking topped with lightweight concrete. One Shell Square was one of the first examples of such composite construction, combining a concrete perimeter with interior steel framing. The exceptional significance of this approach, and its larger impact on the field of high-rise structural engineering, is further explained in Section 8.

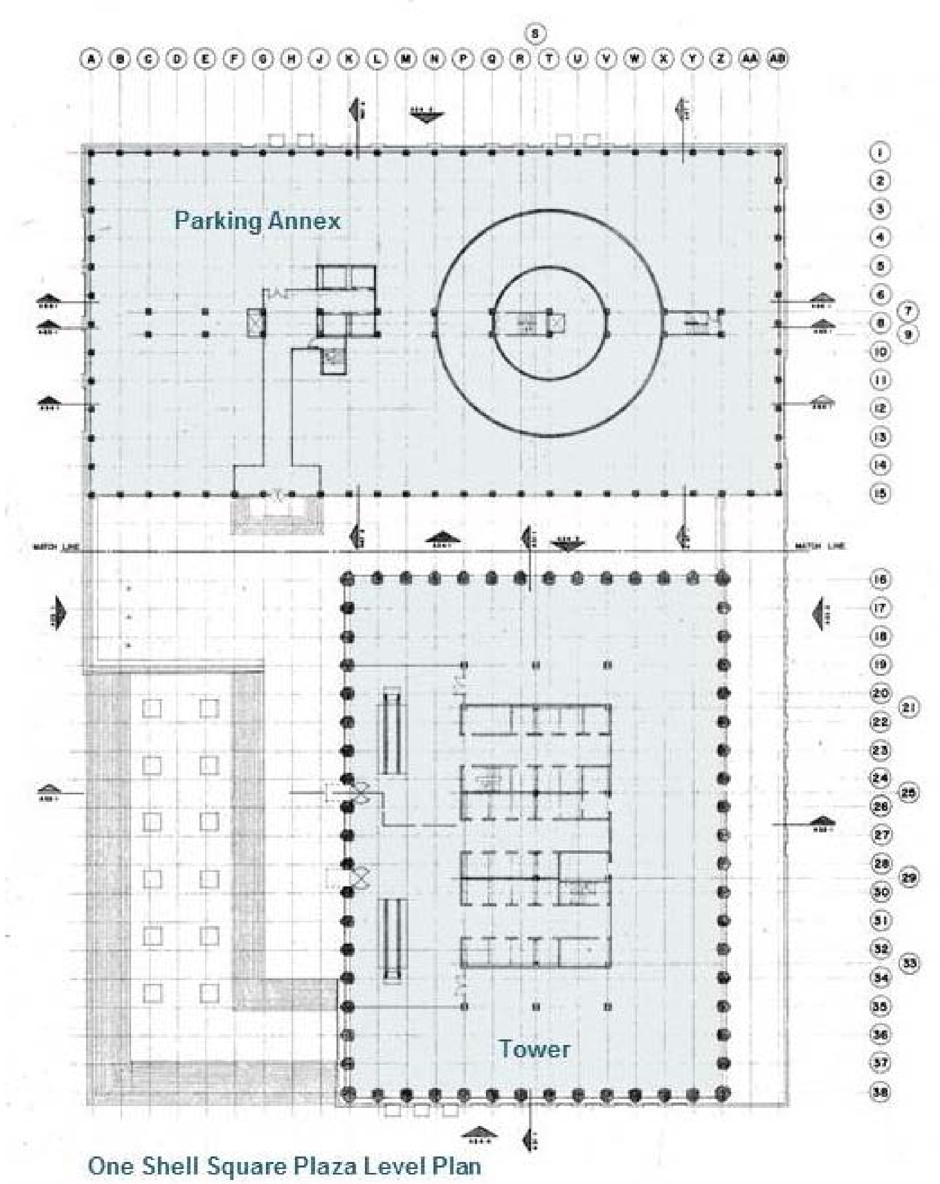

Figure 1: One Shell Square's Plaza Level Plan. Note that the components of the framed tube design (i.e., the tightly spaced columns at the perimeter to resist lateral loads and the interior columns at the core to carry gravity loads) are clearly visible in the plan of the tower. (Explanatory text and graphics by B. Jacob of Clio Associates LLC, overlaid on plaza level plan from Sheet A4, One Shell Square permit drawings, Building Plans collection, City Archives, New Orleans Public Library)

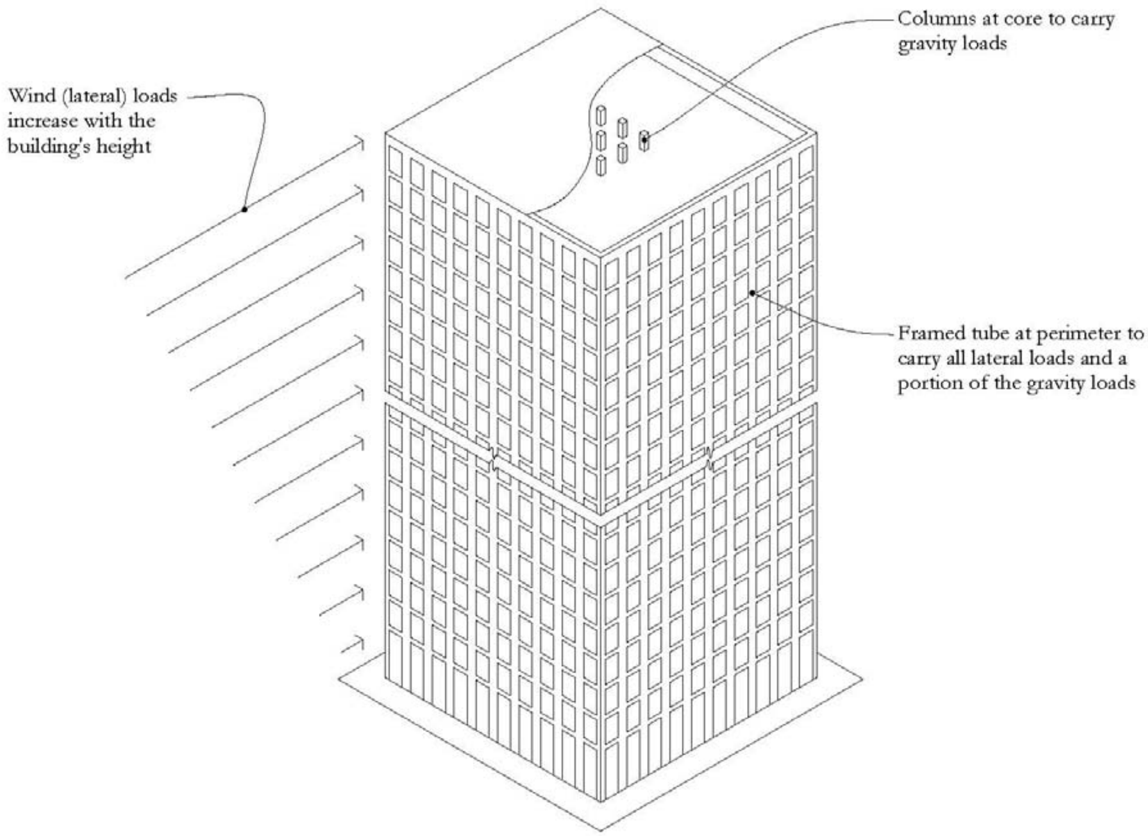

Figure 2: Diagram of a typical framed tube building (Illustration by B. Jacob, Clio Associates LLC)

Figure 3: One Shell Square's exterior wall as seen from the roof of the parking annex (Photograph by B. Jacob, Clio Associates LLC)

One Shell Square's columns taper outward 12" between the 17th floor and the plaza level. As columns increase in thickness towards the base, the face of each column decreases in width from 3'-6" at the 17th floor to 1'-6" at the plaza level. The chamfered corners of each column increase correspondingly, creating a subtle, yet stunning, visual effect when gazing up at the building. The four corners of the tower are chamfered at 45 degrees, and also taper gently outward at the base.

The building follows a classic tripartite design, though the articulation of each component—base, shaft, and capital—is simple and modern, reflective of mid-century architectural norms. A double-height (23'-6") lobby at the plaza level distinguishes the buildings base. Above are nearly identical office floors, with recessed spandrels, reflective bronze-tinted windows, and 13'-0" floor-to-floor heights. The 50th and 51st floors are designed to read as one double-height space, differentiating the building's crown.

The building has a restrained color palette, with the exterior structure clad entirely in cream-colored travertine limestone sourced from a quarry near Tivoli, Italy. While sometimes referred to as "travertine marble", the material is technically a sedimentary limestone rich in calcium carbonate. Travertine is used on the exterior walls of the tower, parking annex, and podium. In addition to the vertical applications, travertine is also used for the plaza and sidewalk paving, the treads and risers of the monumental stairs, benches, and planters. Complementing the travertine is bronze-tinted glazing. Double-paned reflective glass units are set within the 5'-6" wide by 9-foot tall openings at each typical bay, and anchored to the building's structure.

While the building sustained comparatively little damage during Hurricane Katrina in 2005, a campaign was undertaken between 2006 and 2009 to assess the condition of the exterior walls and make repairs as necessary. This involved the re-stabilization of the travertine panels on all facades. The travertine on the mechanical penthouse had to be completely replaced, and a new system was engineered to anchor the stone panels in that highly vulnerable location. All damaged glass was replaced-in-kind, and all exterior joints were recaulked.

The exterior appearance of the parking annex was designed to match the tower. While the two structures share the same bay spacing and travertine cladding, their structural systems are quite different. The annex was built using pre-cast concrete structural members assembled on site. While the annex actually contains thirteen levels, the exterior appearance gives the impression that there are only ten, as the pre-cast spandrels of the exterior frame do not actually align with the edges of the sloped parking floors.
The foundation of One Shell Square was designed using concrete friction piles driven to a depth of 210'. Known by the trade name "Brunspiles", these 18" octagonal precast pre-stressed concrete piles were developed locally. They were first used to support a high-rise building in 1964, when they were employed for both the 45-story Plaza Tower (1964-1969; NR, 2013) and the 33-story International Trade Mart (1964-67; NR, 2014), both located in New Orleans. Before the development of this piling system, it was widely believed that modern high-rise office towers could not be built in New Orleans due to the area's soft deltaic soils and absence of attainable bedrock below grade. In total, 480 piles were used for the tower and 230 piles for the parking annex, each with a 280-ton load capacity. The piles were topped with an 8-foot thick mat of reinforced concrete to distribute the load and minimize settlement.

<u>Building Interior</u>

One Shell Square's main entrance is located on the plaza level of the tower, where two sets of revolving doors lead to a double-height lobby space filled with natural light. The floors are travertine, as are the interior faces of the perimeter columns, and the walls of the three elevator banks. Leasable tenant spaces located on the west and east sides of the plaza level are separated from the lobby by tall sliding glass partitions. Since 1972, the easternmost tenant space has housed a financial institution; some historic features of the banking space remain in place, including the original vault.[2] Ceilings are finished with gypsum board, and the pattern of recessed can lighting, concentrated on the perimeter of the space and above the escalators, is original.

Two escalators connect to the lower concourse level, where most of One Shell Square's retail and service spaces are located. Hine's original intent was to furnish a full suite of amenities—from delis to barbershops—in order to provide an appealing environment for companies and office workers. The concourse level fills out

[2] This space is currently being remodeled for the Whitney Bank, soon to become one of the building's primary tenants. The name of the building will be changed from One Shell Square to the Hancock Whitney Center.

almost the entire block, except for the zone beneath the plaza's monumental stairs, and connects the tower to the parking garage. Shops are arranged along a linear pedestrian mall that spans from St. Charles Avenue to Carondelet Street. Public spaces on the concourse level are finished with original travertine pavers, travertine wall tiles, and acoustic tile ceilings.

Floors 3 through 51 of the tower contain leasable office space. Some floors are partitioned into multiple units, while others are occupied by a single tenant. Originally, the tower's elevator lobbies were finished with travertine paneled walls, carpeted floors, and acoustic tile ceilings. While several floors retain the original travertine panels, others have been remodeled to suit a particular tenant. Common area corridors are typically carpeted, with gypsum board walls and acoustic tile ceilings. Most interior doors within the public spaces are 9-foot tall stained wood slab doors, per the architect's original plans. Initially, a private club and restaurant were located at the top of the tower, though those floors have since been converted to office space. A mechanical penthouse is located on the tower roof.

Vertical circulation is provided via 24 high-speed elevators intended to serve a daytime population of approximately 5,000 office workers. Low-rise elevators serve floors 2-17, mid-rise elevators serve floors 17-34, and high-rise elevators serve floors 34-51. There are also two freight elevators which stop at all floors. The elevators are located within the building's core, which also contains two egress stairs, restrooms, storage, and utility rooms. One Shell Square was also designed with a vertical conveyor system to deliver tenant mail, the first time such a system was employed in New Orleans.

One Shell Square's parking annex contains additional leasable retail/office space, as well as Shell's auditorium, on the plaza level. The 3rd through 12th floors of the annex are designed to park approximately 800 cars. A full-service gym—an original tenant amenity—is located on the 13th floor. The HVAC equipment for the tower, including multiple chillers, compressors, and condensers, is located on the annex roof. One Shell Square was initially designed to have a 4,500 ton cooling capacity, with air delivered to tenant spaces via a dual duct system concealed in the ceiling.

Condition and Integrity

The building has been well maintained since its original construction, and is in overall excellent condition. It has undergone only minor alterations and updates, most due to evolving building codes. In the late 1980s, the building was retrofitted with sprinklers in order to comply with updated requirements for high-rises.[3] In 1989-90, asbestos-containing materials were removed from the building, requiring the replacement of several interior finishes. Most recently, the building's exterior was fully restored following Hurricane Katrina. While many individual tenant spaces have been updated over the years, this is to be expected considering that such flexibility was part of the office tower's original design intent.

In all, alterations to the building's exterior and interior common spaces have been fairly minimal, with no major impact on the overall character of the building. One Shell Square retains a sufficient degree of historic integrity to support the property's nomination to the National Register on the basis of Criterion C and Criteria Consideration G.

- *Location:* Integrity of location is intact. One Shell Square is in its original location.

- *Setting:* The building retains integrity of setting. One Shell Square was among the first high-rise office towers built on Poydras Street. Since that time, additional towers have been constructed along the corridor. It is important to note that this newer construction does not detract from the building's setting, as it was the city's intention from the mid-1960s onward for Poydras Street to develop as the city's premier address for high-rise office buildings.

[3] "State gets serious about sprinklers in high-rises," *New Orleans City Business*, December 28, 1998.

- *Design, Materials, and Workmanship*: While post-Katrina exterior alterations involved the replacement-in-kind of some of the building's exterior cladding and glazing materials, most exterior materials are original, and the building retains its original appearance. The structure's form and massing have not changed since the building's initial construction. Interior alterations of the building's common areas have been mostly limited to code-related upgrades and periodic cosmetic updates, and have not altered the overall organization or character of the building. The plaza level lobby—arguably the most significant interior space—retains a high degree of integrity as well.

- *Feeling* is intact. The building still conveys the impression of a late-mid-century commercial office tower, designed for public accessibility on the lower floors and tenant spaces above.

- *Association*: The Shell Oil Company continues to occupy 18 floors of the building, and is expected to remain a major tenant in the building through at least 2026, when the company's current lease expires. It is worth noting that a transition is currently underway that will change the building's name from One Shell Square to the Hancock Whitney Center. The Whitney Bank (owned by the Hancock Holding Co.), will occupy up to nine floors in the building beginning in 2018, and will open a financial center in the currently vacant bank space on the plaza level. Despite the name change, the building will continue to serve its primary function as a multi-tenanted commercial office tower.

8. Statement of Significance

Applicable National Register Criteria (Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

	A	Property is associated with events that have made a significant contribution to the broad patterns of our history.
	B	Property is associated with the lives of persons significant in our past.
x	**C**	Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
	D	Property has yielded, or is likely to yield, information important in prehistory or history

Criteria Considerations:

	A	Owned by a religious institution or used for religious purposes
	B	Removed from its original location
	C	A birthplace or grave
	D	A cemetery
	E	A reconstructed building, object, or structure
	F	A commemorative property
x	**G**	Less than 50 years old or achieving significance within the past 50 years

Areas of Significance (Enter categories from instructions.): Engineering

Period of Significance: 1969-1972

Significant Dates: 1969-1972

Significant Person (Complete only if Criterion B is marked above): N/A

Cultural Affiliation (only if criterion D is marked above): N/A

Architect/Builder (last name, first name):
Skidmore, Owings & Merrill (SOM), Chicago, Architect
Khan, Fazlur, SOM's Senior Structural Engineer
Graham, Bruce, SOM's Design Partner
Wilson, Morris, Crain & Anderson Architects, Houston, Associate Architect
August Perez & Associates, New Orleans, Associate Architect
Gervais F. Favrot Co., New Orleans, General Contractor

Period of Significance (justification): The period of significance begins in 1969 when plans for the building were announced and ends in 1972 when the building was completed.

Criteria Considerations (explanation, if necessary): The building is required to meet Criteria Consideration G, as it is 46 years old at the time of the nomination. See Statement of Significance summary paragraph below for description of exceptional significance.

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

Although only forty-six years of age, One Shell Square qualifies for the National Register under Criteria Consideration G, and is locally significant under Criterion C: Design, in the area of Engineering, as a significant work by the master engineer Fazlur Rahman Khan. The building represents a critical step in the evolution of the "framed tube", a structural approach to high-rise construction first introduced by Khan in 1964, and refined in subsequent projects including One Shell Square. While earlier framed tube structures had been built in either steel or reinforced concrete, One Shell Square was among the first ***composite*** examples, meaning that it employed a combination of *both* steel and concrete for the building's structural frame. This success of this novel approach in the 51-story One Shell Square—the world's tallest composite building at the time of its construction—marked an important milestone in the evolution of Khan's body of work, and greatly influenced the broader field of high-rise structural engineering. Fazlur Khan was employed by the internationally renowned architecture firm of Skidmore, Owings & Merrill (SOM) for twenty-five years, until his untimely death in 1982, and his innovative structural designs were behind several of SOM's groundbreaking mid-century office towers including the 100-story John Hancock Building in Chicago (1969) and the 110-story Sears Tower (now Willis Tower, completed in 1973). Dominating New Orleans' skyline, One Shell Square was the tallest building in the Southeast at the time of its construction; it remains the tallest building in the city of New Orleans and state of Louisiana today. The building's period of significance begins in 1969, when the project was announced, and ends in 1972 when the building was completed.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

Development of One Shell Square

On July 31, 1969, the *Times-Picayune* published an article announcing plans for a 50-story [sic], $45-million office high-rise complex in downtown New Orleans. Developed by Gerald Hines of Houston, the tower would be named One Shell Square after its lead tenant, the Shell Oil Company. Shell planned to move approximately 1,500 employees into the building and consolidate its New Orleans-area operations.

Renderings accompanying the announcement depicted a stately tower rising above the mostly low-rise buildings of Poydras Street. The architects were identified as Skidmore, Owings & Merrill of Chicago, in association with local firm August Perez and Associates. The article noted that SOM had "won more top design awards from the American Institute of Architects than any other architectural firm. Among its recent major buildings are the towering John Hancock Center in Chicago, One Shell Plaza and the Tenneco Building in Houston, the Chase Manhattan Bank Building in New York City and One Main Place in Dallas." The building was designed to have 131,000 square feet of lower level amenities, parking, (limestone) marble lobbies, the largest open-plan office floor plates in New Orleans, floor to ceiling windows with "dual-pane sound-attenuating reflecting glass with superb reflecting and insulating characteristics," 9-foot high floor to ceiling doors of natural walnut, stainless steel hardware, and a unique mail conveying system.[4]

The project's announcement was widely praised by civic leaders. State Sen. Michael O'Keefe, speaking for the governor, said the building would be a "monumental landmark for people to see what oil means to Louisiana and New Orleans."[5] While the oil and gas industry had been present in the state since the early 1900s, by the mid-20th century several companies had established headquarters in New Orleans to manage their regional drilling, refining, and retail operations. In the 1950s and 60s, several new mid-rise office buildings were built in or near the central business district to cater to the oil and gas industry. These included Texaco, Tidewater, and ODECO. By 1969, Shell was one of the largest producers of oil and condensate in the state, with a major refinery and chemical plant at Norco (1955) and a newer facility at Geismar (1968).[6] The company, which had outgrown its 14-story c.1952 building at O'Keefe and Common Streets, planned to occupy 20 floors of One Shell Square.

Hines was confident in One Shell Square's ability to draw additional tenants. He projected that the building would "help fill the gap in office space availability here" and "put New Orleans in a position to compete with other cities for the establishment of regional and district offices with their high levels of employment."[7] Hines saw New Orleans as a city poised for growth, and had been looking for an opportunity to invest. "New Orleans has all the ingredients—air, rail, port and climate—of a good place to live," he said. Hines was particularly interested in Poydras Street, with its widened cross-section providing ample sunlight, fresh air, and views. His company even acquired a second parcel opposite One Shell Square, though that was not developed until the early 1980s.[8] Hines's acquisitions demonstrated faith in the future of Poydras Street, which he predicted would become "an elegant boulevard for New Orleans" and "a prestige address."[9]

Hines emphasized the importance of locating in a high-profile building. Businesses, he said, "are judged by their surroundings. These include their own offices, the building in which they're housed and the reputation of that building. That's why we concentrate so much of our attention on the reputation of a building. We create each building individually because the businessmen going into it are going to relate to its identity."[10] With over 100 projects completed or under construction—including the 600,000 square foot Galleria complex in Houston, complete with 3-story mall, office building, ice rink, and hotel—Hines was establishing his reputation as a developer of attractive, high-quality Class A offices offering ample amenities and well-appointed public spaces. Hines recognized that Skidmore, Owings & Merrill was a key part of that image. In Houston, Hines had just worked with Bruce Graham and Fazlur Khan of SOM on the design of One Shell Plaza, the significance of which is explained later in Section 8.

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4 "50-Story Office Tower To Go Up," *Times-Picayune,* July 31, 1969.
5 Ibid.
6 "Shell's Half Century in Louisiana," *Times-Picayune Dixie Roto*, September 3, 1972, 9.
7 "50-Story Office Tower To Go Up," *Times-Picayune,* July 31, 1969.
8 This site was located on the block bounded by Poydras Street, St. Charles Avenue, Gravier Street, and Camp Street.
9 *Times-Picayune Dixie Roto*, June 6, 1971, 15.
10 "One Shell Square Developer Believes New Orleans is Going to Grow," *Times-Picayune Dixie Roto*, September 3, 1972, 25.

Hines soon opened a New Orleans office, the company's first outside of Houston, and hired Joe Ranna to oversee the construction of One Shell Square. Pile testing began in the fall of 1969, and was soon followed by demolition, excavation, and site preparation. In the spring of 1970, the building's precast, pre-stressed concrete pilings (480 for tower and 230 for garage) were driven to a depth of 210' and topped with an 8-foot thick concrete mat. Coverage in the *Times-Picayune* quoted structural engineer Fazlur Khan, who noted that the "extreme height of the building and local soil conditions" required a special foundation, designed "to give maximum rigidity and to minimize settlement." Khan also described the building's innovative new system of composite construction: "Small eight-inch wide H-shaped steel columns in two story segments will be set in place and enveloped in concrete to form an outer wall that will lend support. This is a sophisticated system combining steel and concrete."[11]

The general contractor, Gervais F. Favrot Co, had initially anticipated a 24-month construction phase following the foundation work, but the project was ultimately delayed 10 weeks due to labor strikes.
The building's topping out celebration, marking the completion of the structural frame, was held on November 16, 1971, with Mayor Moon Landrieu in attendance. The period of time from pile driving to topping out was seventeen months, a record for a building of that size according to Hines.[12] Shell moved into the building in the summer of 1972. Other original tenants included: Ingram Corporation (another oil company); law, accounting firms, and insurance firms; Louisiana Rating and Fire Prevention Bureau; United States Fidelity and Guaranty Co.; Newark Resources; and investment firm Paine, Webber, Jackson & Curtis, Inc. Hibernia Bank opened a branch on the plaza level, which the *Times-Picayune* called "poetic justice." From 1921 until 1962, the 23-story Hibernia Bank Building was the tallest in the city. It was surpassed in 1962 by the 28-story 225 Baronne Street, which in turn was surpassed by the c.1967 33-story International Trade Mart and the c.1969 45-story Plaza Tower. In 1972, One Shell Square took the title as the city's tallest building.[13]

The building's completion was highly anticipated. The *Times-Picayune* devoted its entire September 2, 1972 Sunday *Dixie-Roto* magazine to coverage of One Shell Square and the Shell Oil Company. This included a color cover titled "The Significance of One Shell Square" with a photograph of the newly completed building next to a photograph of one of Shell's oil rigs. Inside were fourteen feature stories, photographs, and salutes from advertisers. Companies offering congratulations, who had been involved in the building's development and construction, included: Whitney Bank (provider of interim financing); Standard Mortgage Corporation (financing partner); Waguespack, Pratt, Inc. Realtors (exclusive leasing agent for OSS); Standard Roofing Company; Strahan Painting Co.; Gervais F. Favrot Co. (general contractor); W.F. Keller Tile and Floor Covering; New Orleans Building Maintenance (custodial contract); Cary B. Gamble & Associates, Inc. (consulting mechanical and electrical engineers); Boh Bros. (pile driving); Belden Concrete Products (fabricator and erector of the parking annex); Fisk Electric Co.; and International Stone and Erectors, Inc. (supplier and installer of exterior and interior travertine).

Other salutes came from the business community, including the Marriott Hotel, Colonial Bank, Wall Shipyard, Golf City, First National Bank of Commerce, Halliburton Services, Pan-American Life Insurance Co., the New Orleans Saints football team, and several specialized oil production equipment suppliers. One typical example, from Dowell (Dow Chemical Co.), read:

> A standing ovation from Dowell! Our warmest congratulations to Shell Oil Company for adding a dynamic new landmark to the New Orleans skyline. It's always great to see a friend getting up in the world. Shell, always a leader in the Petroleum Industry, now stands tall in New Orleans. Welcome to your new home.[14]

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[11] "Ready 210-foot Pile Driving Operations," *Times-Picayune*, April 19, 1970.
[12] "Shell Oil 'Topping Out' Held," *Times-Picayune*, November 18, 1971.
[13] "Shell Will Have Prominent Neighbors," *Times-Picayune Dixie Roto*, September 3, 1972, 48.
[14] "One Shell Square Developer Believes New Orleans is Going to Grow," *Times-Picayune Dixie Roto*, September 3, 1972, 25.

The City of New Orleans and Mayor Moon Landrieu welcomed the project as well:

> The City of New Orleans salutes One Shell Square on the completion of its magnificent new complex, and on its considerable contribution to the city's growth and economy. New Orleans extends a warm hand of welcome to Shell's officers, employers, employees and their families. You'll find New Orleans to be a friendly and hospitable city, proud of its tradition and proud of its enterprise and unprecedented growth.[15]

Fazlur Khan as a Master Structural Engineer

This section of the nomination addresses Fazlur Khan's importance within the field of structural engineering and establishes his reputation as a master engineer. It describes Khan's upbringing and education, his role in the Chicago office of Skidmore, Owings & Merrill, pivotal projects (particularly those relating to the development and evolution of the framed tube), and the professional honors he received.

Fazlur Rahman Khan was born in 1929 in Dacca (now Dhaka) in British-ruled India (the region later became East Bengal in 1947, East Pakistan in 1955, and Bangladesh in 1971). Urged by his father, a mathematics teacher, to study either physics or engineering, Khan chose engineering. He enrolled in Calcutta's highly regarded Bengal Engineering College in 1946. Because political turmoil forced Khan to return home shortly before his final exams, his bachelor of engineering degree was technically conferred by the University of Dacca. In 1952, Khan received both a Fulbright scholarship and a scholarship from Pakistan's Ministry of Commerce and Education, enabling him to pursue graduate studies in the United States. That fall, he enrolled at the University of Illinois in Urbana-Champaign with the intention of studying pre-stressed concrete. He excelled in the demanding academic environment, taking an above-average course load. Within three years, Khan had earned three degrees: a master's degree in civil engineering, a master's degree in theoretical and applied mechanics, and a doctorate in structural engineering.

At the urging of a friend, he applied in 1955 for a position in the Chicago office of Skidmore, Owings & Merrill (SOM). It was his first time working with architects in a multi-disciplinary environment, and he enjoyed the challenge of applying his technical knowledge to real-world design problems. Khan's projects included the structural design of the dining hall at the Great Lakes Naval Training Center north of Chicago, which had a long-span pre-stressed concrete roof, and the design of several concrete highway and railroad bridges at the U.S. Air Force Academy.

When his visa expired in 1957, Khan returned home with the intention of taking a job with the Pakistani government in fulfillment of his scholarship commitment. Accepting an offer to work with the Karachi Development Authority, Khan found that the work was too administrative and did not offer the intellectual and technical challenge that he craved. During this time, in 1959, Khan married Liselotte Turba, an Austrian woman whom he had met while in the United States.

Khan decided to return to Chicago, and in 1960 resumed his position as a structural engineer at SOM. He was assigned to a number of projects including the United Airlines Executive Offices near O'Hare airport, and the diligence and skill which he brought to his work began to catch the attention of managing partner William Hartman and design partner Bruce Graham. In 1961, SOM was awarded the commission for the 37-story **Brunswick Building** in Chicago's central business district, and Khan was asked to serve as the structural designer. It was Khan's first large-scale high-rise project, and, in retrospect, the first in a long series of technically innovative structural designs that would define the course of his career.

Until the early 1960s, most high-rises were designed using some version of a beam-column (or skeletal) frame, with regularly spaced columns and beams providing structural support. The most basic incarnation of this

[15] Congratulatory advertisement, *Times-Picayune Dixie Roto*, September 3, 1972, 49.

system had actually been in use for some time. It was first popularized for early high-rise construction during the First Chicago School, the period from the 1880s through the mid-1910s, when advancements in elevator technology, cast-iron and steel production, and structural engineering—coupled with strong economic demand—led to the emergence of the first modern tall buildings.[16] William Le Baron Jenney's 10-story Home Insurance Building of 1885, widely considered to be the first American "skyscraper," used a steel and iron frame in lieu of heavy masonry exterior walls to carry the building's loads. Other buildings that exemplified the tenets of the First Chicago School, with its emphasis on function, expression of the building frame, and minimal ornamentation, were Louis Sullivan's 10-story Wainwright Building in St. Louis (1891), and Charles Atwood's 15-story Reliance Building in Chicago (1894). Interestingly, by the early 1900s, reinforced concrete was also emerging as a viable alternative material for some skeletally-framed high-rise buildings.

Architects and engineers practicing between the 1910s and WWII continued to push the height limits of buildings, yet for the most part they were simply employing more massive skeletal frames clad in brick and stone. Many buildings cloaked their structural frames in historically-inspired or Beaux-Arts facades; later stylistic influences included the Art Deco movement. Examples from this period include Cass Gilbert's 60-story Woolworth Building (1913), William Van Alen's 77-story Chrysler Building (1930) and Shreve, Lamb, and Harmon's 102-story Empire State Building (1931), all in New York.

Post-WWII high-rises largely conformed to the ideals of the International Style, influenced by the work of Modernists such as Walter Gropius and Mies van der Rohe. Steel-framed office towers with sleek curtain walls, such as SOM's 24-story Lever House (1952) and Mies's 38-story Seagram Building (1959), set the architectural tone. While skillful engineering allowed for the integration of pilotis and open plazas, most post-WWII high-rises nevertheless continued to rely on permutations of the skeletal frame for their structural system.

Skeletally framed buildings had gradually adopted various techniques in order to resist lateral loads (i.e., wind loads), which increased significantly with a building's height. Within steel-framed buildings, beam-column connections could be detailed as rigid moment-resisting joints; alternatively, diagonal bracing in the form of vertical shear trusses could be added (these were often placed near the central service core). Within concrete-framed buildings, shear walls could be positioned parallel to the direction of the wind for added stiffness, an approach that gained popularity in the mid-20th century.[17] "The accepted design approach around 1960 was to assume that, when present in a beam and column framework, shear walls or vertical shear trusses provided a building's entire wind bracing. This simplification, rooted in limited analytical capacity, convenience, and the habit of accepted methods, enabled engineers to analyze a building structure in a practical way."[18] Rarely were two methods of lateral resistance employed in the same building.

This was the environment Khan faced when confronted with the design of the Brunswick Building. Planning for the project had actually begun in the late 1950s, but stalled as the owner solicited anchor tenants. With the input of the architectural team, led by Bruce Graham and Myron Goldsmith, Khan devised a concrete structure with closely spaced columns on each façade, and an inner core stiffened by shear walls. The exterior columns on each elevation were spaced 9'-4" on center and connected by beams at each floor level, essentially forming four distinct "frames" that would each provide added lateral stiffness for the building. In a surprising discovery, Khan's initial analysis revealed that each pair of exterior frames parallel to the wind direction actually provided almost as much lateral resistance as the shear walls.[19] Khan was keenly interested in the *interaction* between these frames and shear walls, and after further analysis published his findings in the journal of the American Society of Civil Engineers.[20] The system Khan developed for the Brunswick Building, completed in 1965, was

[16] Based loosely on Ada Louise Huxtable's 1984 description of "skyscraper ages," in Lynn S. Beedle, *The Skyscraper and the City: Design, Technology, and Innovation* (Lewiston: Edwin Mellen Press, 2007), 69-84.
[17] Yasmin Khan, *Engineering Architecture: The Vision of Fazlur R. Khan* (New York: Norton, 2004), 60.
[18] Ibid., 61.
[19] Ibid., 65.
[20] Ibid., 69. See also Fazlur R. Khan and John A. Sbarounis, "Interaction of Shear Walls and Frames," *Journal of the*

called the shear wall-frame interaction system. It was considered to be an immediate precursor to the framed tube.[21]

Concurrently, Khan began work on the development of a structural system for the **DeWitt Chestnut Apartments**.[22] SOM had received the commission for the tower in 1961. The building needed to rise approximately 40 stories in order to satisfy program requirements and set itself apart from Mies van der Rohe's iconic 860-880 Lakeshore Drive apartments, which were on an adjacent site. Reinforced concrete was not well suited to the residential program, as shear walls would have interfered with the functioning of the building. Conventional steel framing was considered, but concerns were raised regarding the proposed building's cost.[23]

It was generally accepted that taller buildings cost more per square foot due to the increased stiffening required to resist lateral loads. Khan devised a method of quantitatively measuring the difference in cost (based on material quantity) between a building responding only to gravity loads, and the same building responding to gravity and lateral loads. He termed this differential the "premium for height."[24] In order to make tall buildings economically viable, Khan felt that engineers had to find a way to minimize this additional cost; indeed, this concern was a driving factor behind many of his innovative structural designs.

For the DeWitt Chestnut project, Khan sought a new approach. He visualized how a tall, slender building might respond to varying wind conditions, and determined that it was very much like a vertical cantilever projecting from the ground. "The ability to visualize the workings of a structural form was a natural gift, but Khan also cultivated this talent. To discern a solution suited to the particular character of a problem, he intuited, he needed first to comprehend the fundamental aspects of the problem."[25] In response to the structural challenge posed, Khan envisioned the building as a tall hollow box anchored in the ground, with all of the structure pushed to the perimeter. Of course, windows would be required, which led to the conception of the exterior walls as a grid, or "frame," of tightly spaced perimeter columns and deep spandrel beams.[26] Confident in this approach, Khan proposed the scheme to Bruce Graham, and the team proceeded to develop the concept for the building. The exterior columns were spaced at 5'-6" on center, and spandrel beams were approximately 2-feet deep. Analysis indicated that there was no discernable "premium for height," which was one of Khan's objectives for the project. In fact, in terms of cost, it was the equivalent of a 28-story conventionally framed tower. The 43-story reinforced concrete DeWitt Chestnut building, completed in 1964, was the first framed tube building to be constructed.[27] This marked an important milestone within Khan's career, and a monumental shift within the larger field of structural engineering.

Graham and Khan worked well together on the development of the DeWitt Chestnut building, and would go on to collaborate on several other ground-breaking projects. Both saw the design process of a major building as multi-disciplinary, where structural requirements informed the architecture, and architectural requirements informed the structure. "Unlike the common practice of the architect pre-conceiving the form, Bruce Graham was cooperative with Khan in defining the form based on structural reasoning. This explains why the many buildings designed by them through collaboration are replete with structural expression exhibiting honestly the

Structural Division, ASCE 90, no. 3 (1964): 285-338.
[21] Yasmin Khan, *Engineering Architecture* , 69. While the Brunswick Building has all of the characteristics of a tube-in-tube concrete structure, Khan did not initially conceive of the building that way. As Yasmin Khan notes, the four frames were not *required* to be placed at the perimeter walls to create a tube form, and furthermore, Khan at first thought that tubular structures would require a tighter column spacing. See, also, "Construction's Man of the Year," *Engineering News-Record*, February 10, 1972, 25.
[22] Yasmin Khan, *Engineering Architecture,* 69.
[23] Ibid., 88.
[24] Ibid., 69.
[25] Ibid., 90.
[26] Ibid., 90-93. See also Mir M. Ali, *The Art of the Skyscraper* (New York: Rizzoli, 2001), 95.
[27] Some publications indicate that the building was completed in 1965, however Yasmin Kahn dates the completion to 1964.

natural strength of the buildings."[28] Graham, who had joined SOM in 1949 and was elevated to design partner in 1960, had tremendous respect for Khan and valued both his technical expertise and attention to aesthetics. "Faz," Graham said in 1972, "has an extremely rare understanding of architecture."[29]

The framed tube emerged as a powerful structural system because of both its efficiency, and its flexible open floor plan (interior columns, needed only to carry their share of gravity loads, were typically clustered around the core).[30] The popularity of the framed tube spread, and soon, "its configuration of closely spaced columns and deep spandrel beams became a familiar basis for high-rise planning."[31] However, the system was not without limitations. Khan's analysis found that the framed tube worked optimally in buildings of 40 to 50 stories, but that its effectiveness began to decrease above that range. To build taller, efficiently, the system would need to be refined.[32]

In 1964, SOM began planning began for the **John Hancock Center** in Chicago, which anticipated approximately 1 million square feet of office space, 1 million square feet of residential apartments, and 800,000 square feet of parking on one site. Initial studies showed a preference for dividing the program into two buildings, but ultimately Graham, Khan, and the SOM design team determined that a single tower scheme, separated by function, might be more effective. Khan had been investigating a variation of the framed tube, using diagonal bracing, which he thought would be appropriate for the proposed tower. The concept derived from Khan's work with thesis students at the Illinois Institute of Technology, where he and SOM colleague Myron Goldsmith taught in the school of architecture. "By associating himself with IIT from 1962 onward, Khan had the distinct advantage of collaborating with architectural students and faculty there, and through his supervision of many student research projects he could conceive new structural systems or validate his intuitive concepts about a potential new system. He used many of these systems for actual building projects at SOM."[33]

Khan developed and presented what he termed a "trussed tube" concept for the John Hancock tower. Conceived in steel, the system involved wider-spaced exterior columns tied together with large diagonal members; together, these components created a stiff perimeter tube form. Exterior walls tapered slightly inward, resulting in smaller floor plates towards the top of the building. Analysis found the trussed tube to be an efficient and economical approach for the 100-story tower. Working drawings were developed with the aid of a new in-house computer system, capable of rapidly performing detailed calculations and analyses of the building structure. The building, completed in 1969, was praised for its structural clarity and expression, following in the tradition of the First Chicago School when engineering had been a "stimulus to tall building design."[34] For Khan, the building represented a significant achievement in which he was able to realize the "still-nascent tubular concept in an altogether new way."[35]

Meanwhile, Khan was also testing other ideas to further refine the framed tube. One line of inquiry that interested him involved the interaction between tubes and other means of resisting lateral loads (i.e., shear walls). He applied this thinking to the shear-wall frame interaction system he had previously developed for the Brunswick Building. "By joining the four exterior frames into a perimeter tube and the independent shear walls around the core into an interior tube, he could take advantage of tubular action to create a new, more efficient,

[28] Ali, *Art of the Skyscraper*, 51.
[29] "Construction's Man of the Year," *Engineering News-Record*, February 10, 1972, 23.
[30] Mir M. Ali and Paul J. Armstrong, *Architecture of Tall Buildings* (New York: McGraw-Hill, 1995), 103.
[31] Yasmin Khan, *Engineering Architecture,* 103.
[32] Ibid., 97.
[33] Ali, *Art of the Skyscraper*, 53-54.
[34] David P. Billington, *The Tower and the Bridge: The New Art of Structural Engineering* (New York: Basic Books, 1985), 242.
[35] Yasmin Khan, *Engineering Architecture,* 105.

structural type." [36] Khan would soon have the opportunity to develop and test this "tube-in-tube" concept with **One Shell Plaza** in Houston.

Developer Gerald Hines had begun working with Bruce Graham on an earlier iteration of the project, but a new anchor tenant secured in 1965 resulted in a new and expanded program. The Shell Oil Company would occupy a portion of the 1 million square foot building, and the remainder would be leased as speculative office space. The developer's original intention was to construct a conventional building with reinforced concrete and shear walls. When Khan became involved with the project, he proposed the tube-in-tube system, suggesting that an even taller building could be constructed for a similar unit cost. Khan also suggested further reducing material costs by using lightweight concrete for the structural frame, considered by some to be a risky proposition given the difficulty in obtaining high quality lightweight aggregate concrete.[37] "Despite the lack of precedent, Hines made the decision to proceed with the building scheme, one that realized many firsts: first all-lightweight concrete building, first tube-in-tube structure, tallest building west of the Mississippi, and tallest reinforced concrete building in the world."[38] Exterior perimeter columns were placed 6-feet on center, and connected with deep spandrel beams. The façade was particularly interesting from a visual standpoint. Because of the way the floors were designed (which combined joist- and waffle-slab framing), the beams connecting each corner of the core to the perimeter walls resulted in eight points where loads were increased. To account for this, columns were thickened in these areas, resulting in an undulating façade. As Khan described it "the visual effect obviously breaks the monotony of the disciplined grid and creates an unusual and yet honest structural façade."[39] The 50-story building was completed in 1971. Khan's experience with One Shell Plaza influenced his approach to **One Shell Square** in New Orleans, which also tested innovations in both structural materials and structural systems. The significance of One Shell Square, one of the first composite (i.e., steel and concrete) examples of a framed tube, is explained in the following section.

The **Sears Tower** (now Willis Tower) presented the opportunity for the next iteration of the tubular concept. Design commenced in 1969. Sears had acquired a 3-acre site west of the western edge of Chicago's downtown, and projected a need for approximately 4 million square feet of office space; roughly half would house the company's headquarters, and the remainder would be leased. Working collaboratively with Bruce Graham, Khan designed a "bundled tube" structural system composed of nine interconnected steel tubes, each 75-feet square, arranged in a grid pattern. Two tubes stop at 50th floor, two at the 66th floor, and three more at the 90th floor, while the remaining two tubes continue to the top (110th) floor. The design allows each tube to retain its integrity and rigidity even as the floor area is reduced. The building, completed in 1974, was the tallest in the world until 1998, when its 1,450-foot height was exceeded by the Petronas Towers.

Khan was not interested in innovation simply for the sake of building increasingly tall buildings. He was quoted as saying, "it seems meaningless to develop structural systems for high rise buildings if the results do not have a positive effect toward creating better cities and better environment."[40] As *Engineering News-Record* observed when awarding Khan its "Man of the Year" honor in 1972, "Khan designs for the owner by cutting costs. Khan designs for people by giving close attention to what happens at ground level where people and city's facilities come together. By going high with his structures he leaves maximum space for a surrounding plaza. It's because of this belief that Khan has no qualms about going as high as possible with buildings."[41]

In all, Khan engaged in over 40 major projects involving both concrete and steel during his tenure at SOM. Through the 1970s, he continued to test innovative structural approaches in projects including Two Shell Plaza (1972), notable for its arched transfer of loads, First Wisconsin Center (1973), One Magnificent Mile (1983), and Onterie Center (1985). The latter two examples were completed posthumously, as Khan died of a heart

[36] Yasmin Khan, *Engineering Architecture*, 142-143.
[37] Ibid., 146.
[38] Ibid., 148.
[39] Billington, 238.
[40] "The Future of High Rise in America," *Progressive Architecture*, October 1972, 79.
[41] "Construction's Man of the Year," *Engineering News-Record*, February 10, 1972, 23.

attack while on a business trip to the Middle East in 1982. As David Billington, author of *The Tower and the Bridge: The New Art of Structural Engineering*, put it, the buildings that Khan designed at SOM between 1960 and 1982, constituted "a new approach to tall building design. As with the other great structural artists, Khan was technically a master of engineering. No one practicing structural engineering since World War II has better understood building structures."[42]

Over the course of his career, Khan published more than 100 articles, 35 of which were in professional journals, and his projects were frequently featured in publications such as *Engineering News-Record* and *Progressive Architecture*. He was in high demand as a speaker, and presented his work at numerous international conferences. Khan received several professional awards, and was recognized by *Engineering News-Record* among the "Men Who Served the Best Interests of the Construction Industry" in 1966, 1968, and 1971. In 1972, he was named *Engineering News-Record's* Man of the Year, and his photograph was featured on the cover. The publication's editorial read,

> "In singling out Khan as Man of the Year…ENR's editors were impressed, of course by his innovation upon innovation in the field of structural engineering high-rise buildings. But beyond the height records and the weight savings and cost savings of his designs, beyond the technical genius of this man, a sensitive student of the urban environment stands forth…Fazlur Khan is a leader among the world's designers of great buildings. In this new era of the skyscraper, in this time of concern for human safety, comfort, and convenience in high-rise homes and offices, he is a philosophical leader of thought."[43]

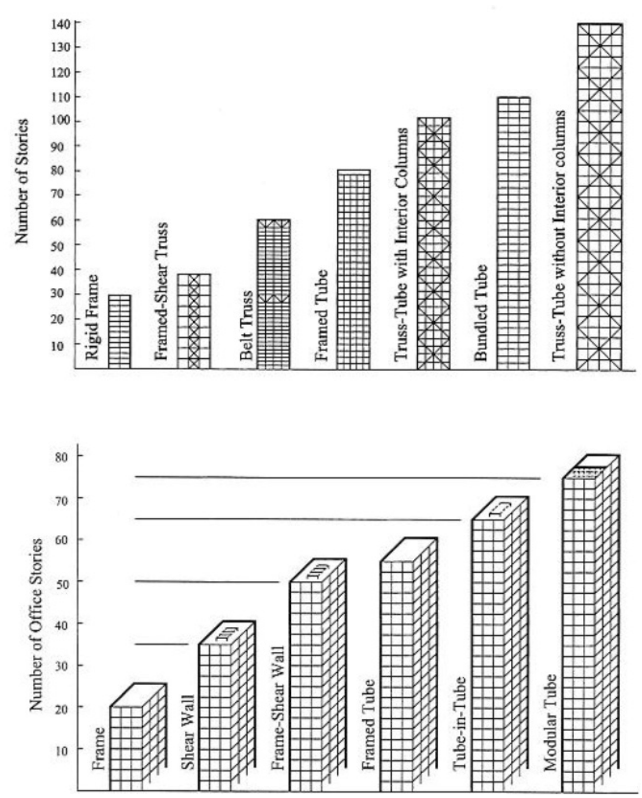

Figure 4: Classification of tall building structural systems by Fazlur Khan (above: steel; below: concrete) from Mir M. Ali and Kyoung Sun Moon, "Structural Developments in Tall Buildings: Current Trends and Future Prospects," *Architectural Science Review* 50, no. 3 (September 2007): 208.

[42] Billington, 235.
[43] Editorial, *Engineering News-Record*, February 10, 1972, 68.

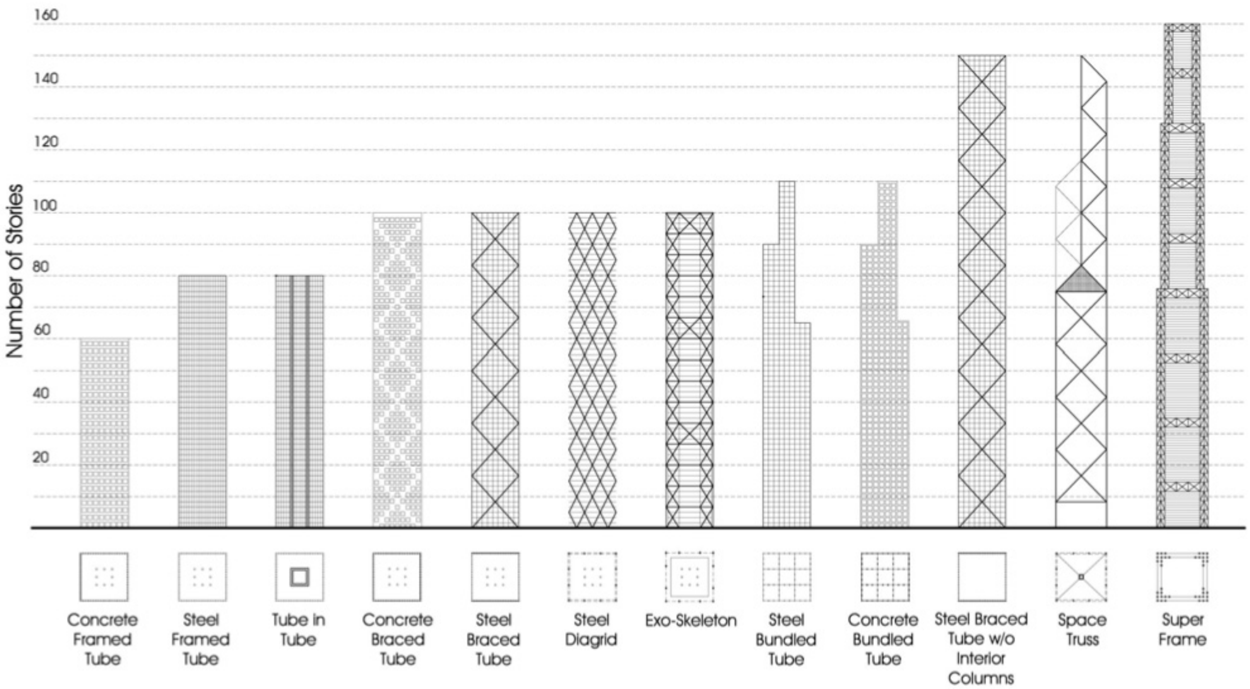

Figure 5: Comparison of exterior structural systems (including several types developed by Fazlur Khan) from Mir M. Ali and Kyoung Sun Moon, "Structural Developments in Tall Buildings: Current Trends and Future Prospects," *Architectural Science Review* 50, no. 3 (September 2007): 211.

The Significance of One Shell Square

This section of the nomination begins by addressing the significance of One Shell Square as an important project within Khan's body of work. It describes the building's innovative composite structural system: how it was developed and used in One Shell Square, why it was considered to be important, and its broader influence on the field of structural engineering. The section concludes by looking at the impact of Khan's work, and the significance of One Shell Square, within the local context of New Orleans.

Engineering Significance

The following account of One Shell Square's design and development draws heavily on "The Composite System: One Shell Square," a chapter in Yasmin Khan's book *Engineering Architecture: The Vision of Fazlur R. Khan*.[44]

While the developer Gerald Hines was generally satisfied with the progress of One Shell Plaza in Houston, he noted that the "lengthy schedule associated with concrete construction was a concern for future projects."[45] It was costly to carry a construction loan for a long period, and construction costs were rising rapidly.[46] Taking these factors into consideration, Khan evaluated the two most common structural materials—structural steel and reinforced concrete. While sometimes combined in individual components (i.e., metal deck flooring with a lightweight concrete topping), steel and concrete were rarely, if ever, used in combination as structural systems. Building on his ongoing experimentation with the framed tube concept, Kahn conceived of a new

[44] Yasmin Khan is the daughter of Fazlur Khan, and a respected structural engineer and author in her own right.
[45] Yasmin Khan, *Engineering Architecture,* 190.
[46] Ibid.

structural system called the "composite tube" that would combine a reinforced concrete load-bearing perimeter wall to resist lateral loads, and a lighter framework of structural steel inside for gravity loads. The aim was to capitalize on the best traits of each material, while eliminating the disadvantages.[47]

There were several details that would need to be worked out (how to separate the trades, how to place small steel columns at the perimeter to facilitate floor framing, and how to temporarily brace the steel structure when the concrete was not yet in place), but the concept seemed promising. Two clients agreed to test Khan's idea. Tishman Realty and Construction, acting as developer and general contractor for a complex of buildings near Union Station in Chicago, agreed to use the composite system for the 36-story Gateway III building, which was already in the planning stages. Tishman had been the general contractor on the John Hancock Building, and so already had direct experience working with Khan to test new design ideas. The other client was Gerald Hines, who was also familiar with Khan's experimental approach from One Shell Plaza. Hines agreed to use the composite system on two buildings: the 24-story Control Data Corporation (CDC) building in Houston, and One Shell Square in New Orleans. Beginning with the smaller building allowed the design team to test the structural approach and work out any issues that arose in the field. Despite an exceedingly tight construction schedule, the CDC building's composite system proved to be a success, and Hines authorized its use on One Shell Square.

The composite system made good sense in New Orleans, where high-rise structures faced two major engineering hurdles: poor bearing material and hurricane force winds. The composite tube was well suited to both challenges. The inherent stiffness of the concrete frame was extremely effective at resisting wind loads, while the relatively light weight of the structural steel framing reduced the gravity loads on the foundation. In addition, the system was designed to streamline construction, thereby reducing the overall construction schedule, and associated costs.

SOM developed One Shell Square's structural plans as well as the building's overall design, but at Hines's request, architectural and mechanical/electrical/plumbing (MEP) working drawings were outsourced to two Houston firms. The New Orleans firm August Perez & Associates was hired as the local architect.

Construction sequencing was critical to the system's success, as it was important to keep the trades separated. Steel erection started first. This involved the placement of the primary steel columns at the building's core, along with small steel erector columns at the building's perimeter. These were tied together with steel beams, and topped with metal deck flooring. Next, the concrete was placed for the floors. Then, reinforcing bars were set in place adjacent to the small steel erector columns at the perimeter, formwork was placed around all of the steel reinforcing (including the erector columns), and the massive concrete columns were poured. Finally, the travertine cladding was anchored to the exterior walls. Steel framing was permitted to advance 12 floors, and the concrete slab 6 floors, ahead of the reinforced concrete perimeter.

The benefits of the composite system were many. The system combined the rigidity and fire-resistant properties of reinforced concrete with the speed of erection of steel framing.[48] Labor-intensive field work (i.e., setting the formwork for concrete floor framing) was eliminated or minimized, thereby reducing construction time.[49] As Lynn Beedle, structural engineer and founder of the Council on Tall Buildings and Urban Habitat noted, "the completion time for a building plays a crucial role in the economics of high-rise buildings."[50] The composite design also reduced the amount of steel required for a job. *Engineering News-Record* reported that Khan's composite buildings "cut structural costs by 15% and steel requirements by 50%."[51] For Khan, the design solved the problem of rising material costs and construction wages. In describing the economic benefits

[47] "Building Design Reduces Steel with Concrete-Tube Wind Bracing," *Engineering News-Record*, June 3, 1971, 18.
[48] Ali, *Art of the Skyscraper*, 48-49.
[49] Ibid, 96.
[50] Beedle, *The Skyscraper and the City*, 267.
[51] "Building Design Reduces Steel with Concrete-Tube Wind Bracing," *Engineering News-Record*, June 3, 1971, 18. See also "Construction's Man of the Year," *Engineering News-Record*, February 10, 1972, 21.

of the composite system, he said “[s]omething had to be done to provide an economic solution to keep up with the office space requirements of cities.’”[52]

The design also solved a problem that had plagued concrete tube-in-tube structures; namely, the requirement that the concrete shear walls continue to the top of the building. Khan described the advantages of the new system:

> In tube-in tube structures the central shear wall core can drastically reduce the flexibility in planning and utilization of the area. For instance, when elevators drop off at different height levels, the free space cannot be retrieved in an efficient way because the shear walls cannot suddenly be eliminated. In tall steel structures the most important advantage, of course, is that the structure can be built at a relatively fast speed, generally one floor every three days, whereas in concrete construction even one floor every seven days is an optimistic projection. In steel buildings the central cores have much more flexibility than in the concrete buildings, and any free area due to dropping off of the elevators can be immediately utilized as a fully rentable area by adjusting the partition walls as necessary. Why not combine the advantages and eliminate the disadvantages in a composite system?”[53]

The June 3, 1971 issue of *Engineering News-Record* featured Khan’s new composite system on its cover, and profiled the three buildings—Gateway III, the CDC Building, and One Shell Square—in a feature article. Such coverage was critical to the dissemination of new ideas and techniques, and *Engineering News-Record* was a widely read and respected industry publication. The article placed Khan’s innovation in context: “Composite buildings, developed by Fazlur R. Khan, partner in charge of structural design at the Chicago office of Skidmore, Owings & Merrill, have roots deep in the evolution of present-day high-rises. Khan has taken the benefits of steel buildings and those of concrete buildings and combined them with the relatively new tubular design concept.”[54]

The following year, in 1972, *Engineering News-Record* honored Fazlur Khan with its “Man of the Year” award. The first page of the article featured photographs of four of Khan’s most significant buildings: the John Hancock Building, One Shell Plaza, the Sears Tower, and One Shell Square. “Combining technical genius with a sensitivity for people and places in which they must live and work in our cities, structural engineer Fazlur Khan has come up with innovation after innovation that cut costs while simultaneously pushing buildings higher. His advances in structural design are contained in the diagonally braced John Hancock Building in Chicago; One Shell Plaza in Houston, the highest all-concrete building in the world; three composite buildings, in Houston, Chicago, and New Orleans; and the Sears Tower, the world’s highest building, under construction in Chicago. All of these structures use the concept called tubular design, which Khan evolved over eight years ago.”[55]

Over the past decades, the relevance and widespread impact of Khan’s composite design has been recognized, with One Shell Square often cited as the first significant example. Professor Mir M. Ali, author of the book *The Art of the Skyscraper: the Genius of Fazlur Khan*, called One Shell Square a “remarkable application of the composite system by Khan,” and “one of the first structures in which [the] composite tubular concept [was] put into practice.[56] Composite systems are now common in high-rise construction. Ali draws a direct connection between Khan’s innovation, and today’s tallest structures: “The introduction of composite construction to tall tubular buildings, first conceived and used by Fazlur Khan of Skidmore, Owings & Merrill

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[52] “Building Design Reduces Steel with Concrete-Tube Wind Bracing,” *Engineering News-Record*, June 3, 1971, 19.
[53] Ali, *Art of the Skyscraper*, 60-61.
[54] “Building Design Reduces Steel with Concrete-Tube Wind Bracing,” *Engineering News-Record*, June 3, 1971, 18.
[55] Ibid. See also “Construction’s Man of the Year,” *Engineering News-Record*, February 10, 1972, 20.
[56] Ali, *Art of the Skyscraper*, 95-96.

(SOM) in the 1960s, has paved the way for supertall composite buildings like the Petronas Towers and the Jin Mao building in the present era."[57]

Yasmin Khan described One Shell Square's significance similarly:

> The composite system that became known following its employment in One Shell Square set the course for supertall building construction as we know it today. The successful combination of two building materials, structural steel, and reinforced concrete, in an economical high-rise structural system opened the door to unbridled composition of structure. The principle of strict division of material lost its authority; this, coupled with the efficient structural systems of 1960s' origin, promised a plethora of potential structural configurations…An attitude of 'mixing and matching' structural steel and reinforced concrete in a structural system gained legitimacy."[58]

Yasmin Khan noted that One Shell Square was not included in *The Architecture of Skidmore, Owings & Merrill, 1963-1973,* the firm's primary record of architectural achievements during this period*.* Perhaps the omission was due to the fact that building's working drawings were outsourced, or the commission was simply considered to be of minor architectural importance. However, "[i]n the history of the firm's structural engineering achievements…the project has considerable interest. More important, the project held great significance for future skyscraper design. It was with this 50-story tower that the relevance of the composite system was confirmed for high-rise construction."[59]

Local Significance

Khan's technological innovation, in combination with a willing developer and an optimistic economic climate, allowed One Shell Square to take shape in a city where it was long believed that skyscrapers rivaling those of Houston and Atlanta simply could not be built. While earlier advances in foundation design had solved the problem posed by the area's weak soils, Khan's innovation addressed the challenge posed by lateral loads, which were especially demanding in a hurricane-prone environment, and which increased significantly with a building's height.

Earlier high-rise buildings constructed in New Orleans in the 1950s and 1960s were typically in the range of 30 stories, and most relied on some form of conventional steel framing strengthened for lateral load resistance. One exception was the 31-story Bank of New Orleans Building (also known as 1010 Common), designed by Bruce Graham and Fazlur Khan of Skidmore Owings & Merrill and constructed between 1967 and 1971. It was a concrete tube-in-tube building, and the first variation of Khan's tubular concept built in New Orleans. However, at 31 stories, it faced a different set of structural constraints compared to a 51-story tower. The composite tube system that Khan developed for One Shell Square, in response to site-specific engineering and economic challenges, would have lasting impact on the field of structural engineering.

The *Times-Picayune's* extensive coverage of One Shell Square both during construction and upon completion reflected the importance of the building to the community. The tower embodied the spirit of progress and modernism that characterized New Orleans in the 1960s and 1970s, when the oil and gas industry was flourishing. That sense of forward-looking optimism, rooted in a city known for history and tradition, was captured in a photo that appeared on the cover of the 1974 *Guide to New Orleans Architecture* published by the local chapter of the American Institute of Architects. In the foreground were 18th and 19th century French Quarter buildings—potent symbols of the city's past—while in the background stood the recently-completed One Shell Square, pointing boldly to the future.

[57] Evolution of Concrete Skyscrapers: from Ingalls to Jin Mao, *Electronic Journal of Structural Engineering* 1, no. 1 (2001): 2.
[58] Yasmin Khan, *Engineering Architecture,* 198-199.
[59] Ibid., 196.

Conclusion

Fazlur Khan was recognized as a brilliant and profoundly talented engineer, whose curiosity and desire to improve on structural systems drove him to innovate. He believed that a "building's architectural expression should emanate from the elegance and simplicity of the structural form that is natural to it."[60]
Many of his groundbreaking achievements in high-rise design were rooted in his search for efficient structural systems capable of resisting lateral loads. One Shell Square, which stands as a defining landmark within the city of New Orleans, represents an important project within this area of research, and within Khan's overall body of work. The building meets the requirements of Criteria Consideration G for properties less than 50 years of age, and is eligible for listing on the National Register under Criterion C: Design in the area of engineering.

Developmental History/Additional historic context information

See above.

9. Major Bibliographical Resources

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[60] Ali, *Art of the Skyscraper*, 51.

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“The Future of High Rise in America.” *Progressive Architecture*, October 1972.

Previous documentation on file (NPS):

__X__ preliminary determination of individual listing (36 CFR 67) has been requested
____ previously listed in the National Register
____ previously determined eligible by the National Register
____ designated a National Historic Landmark
____ recorded by Historic American Buildings Survey #__________
____ recorded by Historic American Engineering Record # __________
____ recorded by Historic American Landscape Survey # __________

Primary location of additional data:

____ State Historic Preservation Office
____ Other State agency
____ Federal agency
____ Local government
____ University
__x__ Other
Name of repository: _New Orleans Public Library_

Historic Resources Survey Number (if assigned): ____N/A___________

10. Geographical Data

Acreage of Property: 1.95 acres

Latitude/Longitude Coordinates:
Datum if other than WGS84:__________
(enter coordinates to 6 decimal places)

1. Latitude: 29.950663 Longitude: -90.071492
2. Latitude: 29.950018 Longitude: -90.071681
3. Latitude: 29.949800 Longitude: -90.070665
4. Latitude: 29.950424 Longitude: -90.070476

Verbal Boundary Description (Describe the boundaries of the property.)
See attached site survey and boundary map.

Boundary Justification (Explain why the boundaries were selected.)
The boundary corresponds to the property limits as indicated on the attached site survey. The project fills the entirety of Square 221 within the First Municipal District of the City of New Orleans.

11. Form Prepared By

name/title: Beth Jacob
organization: Clio Associates LLC
street & number: 1139 Oretha Castle Haley Blvd.
city or town: New Orleans state: LA zip code: 70113
e-mail: beth@clioassociates.com
telephone: (773) 329-3995
date: May 25, 2018

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Additional items:** (Check with the SHPO, TPO, or FPO for any additional items.)

Photographs

Submit clear and descriptive photographs. The size of each image must be 3000x2000 at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn’t need to be labeled on every photograph.

Photo Log
Name of Property: One Shell Square
City or Vicinity: New Orleans
County: Orleans Parish
State: LA
Name of Photographer: John Williams Architects
Date of Photographs: March – May 2018

01 of 20
View along Carondelet Street. Camera facing northeast

02 of 20
View from intersection of Poydras Street & St. Charles Avenue. Camera facing northwest

03 of 20
View along Perdido Street. Camera facing southeast

04 of 20
Parking garage entrance along Carondelet Street. Camera facing northeast

05 of 20
View from intersection of Carondelet Street and Poydras Street. Camera facing northeast

06 of 20
View from intersection of Poydras Street & St. Charles Avenue. Camera facing northwest

07 of 20
View from St. Charles Avenue. Camera facing west

08 of 20
View of plaza along Poydras Street. Camera facing northwest

09 of 20
View of building entrances from plaza. Camera facing northwest

10 of 20
View at 1st floor plaza towards St. Charles Avenue. Camera facing east

11 of 20
View towards Perdido Street between towers at 1st floor plaza. Camera facing north

12 of 20
Annex entrance at 1st floor plaza. Camera facing southwest

13 of 20
Entrance to annex auditorium at 1st floor. Camera facing east

14 of 20
View towards St. Charles Ave. at 1st floor lobby. Camera facing east

15 of 20

View along St. Charles Ave. at 1st floor. Camera facing south

16 of 20
High-rise elevator lobby at 1st floor. Camera facing north

17 of 20
Elevator lobby at Floor 39. Camera facing north

18 of 20
Elevator lobby at Floor 50. Camera facing north

19 of 20
View northwest towards mechanical room. Camera facing northwest

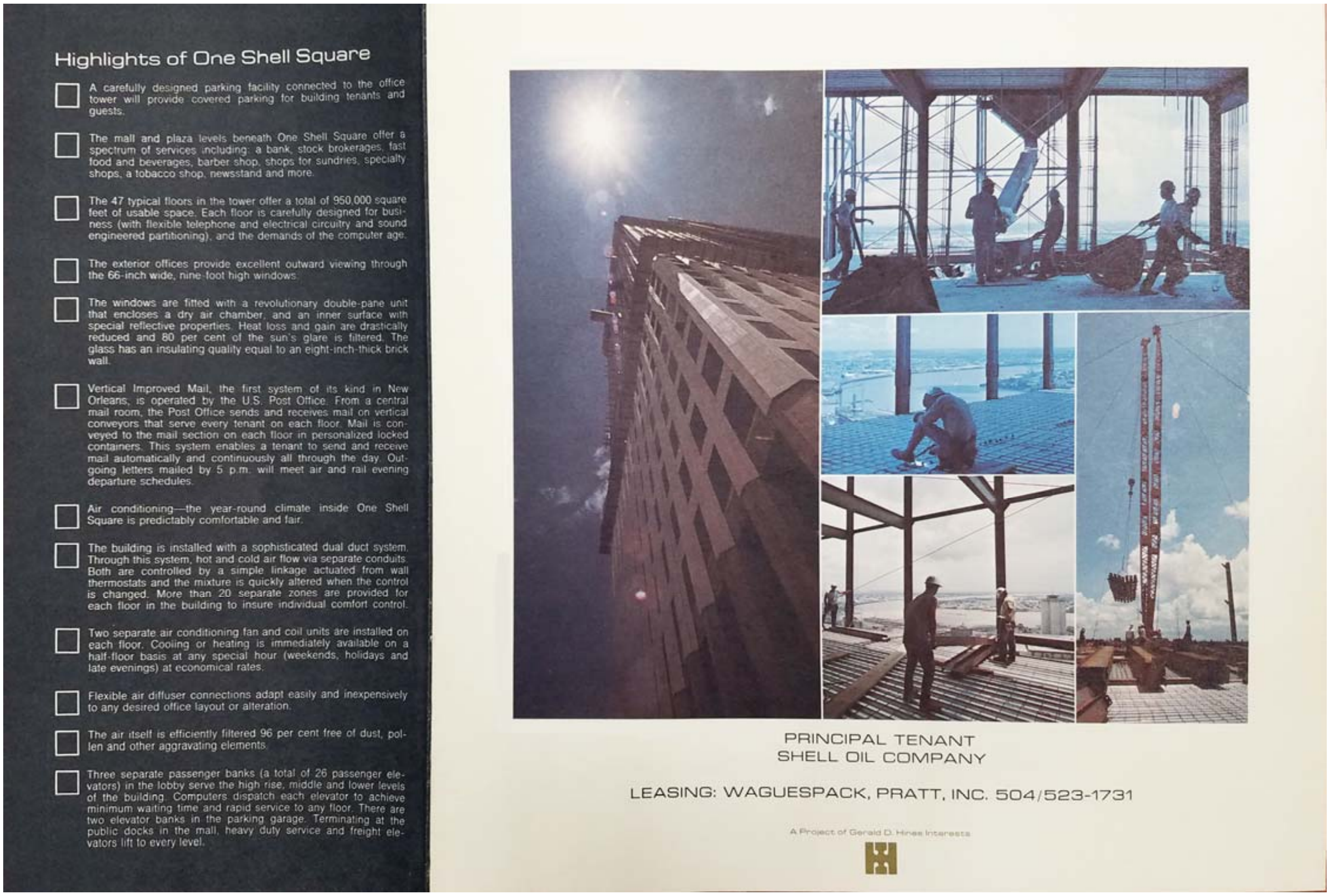
20 of 20
Roof view northeast towards Mississippi River bend at French Quarter. Camera facing northeast

EXHIBIT 1:
Front cover of *One Shell Square: Progress Report 3*, undated (courtesy of the Louisiana Division, New Orleans Public Library). This is one of a series of periodic updates, issued by Gerald D. Hines Interests, showing the construction progress of the building.

One Shell Square
Name of Property

Orleans Parish, LA
County and State

EXHIBIT 2:
Back cover of *One Shell Square: Progress Report 3*, undated (courtesy of the Louisiana Division, New Orleans Public Library). This is one of a series of periodic updates, issued by Gerald D. Hines Interests, showing the construction progress of the building.



Highlights of One Shell Square

- ☐ A carefully designed parking facility connected to the office tower will provide covered parking for building tenants and guests.
- ☐ The mall and plaza levels beneath One Shell Square offer a spectrum of services including: a bank, stock brokerages, fast food and beverages, barber shop, shops for sundries, specialty shops, a tobacco shop, newsstand and more.
- ☐ The 47 typical floors in the tower offer a total of 950,000 square feet of usable space. Each floor is carefully designed for business (with flexible telephone and electrical circuitry and sound engineered partitioning), and the demands of the computer age.
- ☐ The exterior offices provide excellent outward viewing through the 66-inch wide, nine-foot high windows.
- ☐ The windows are fitted with a revolutionary double-pane unit that encloses a dry air chamber, and an inner surface with special reflective properties. Heat loss and gain are drastically reduced and 80 per cent of the sun's glare is filtered. The glass has an insulating quality equal to an eight-inch-thick brick wall.
- ☐ Vertical Improved Mail, the first system of its kind in New Orleans, is operated by the U.S. Post Office. From a central mail room, the Post Office sends and receives mail on vertical conveyors that serve every tenant on each floor. Mail is conveyed to the mail section on each floor in personalized locked containers. This system enables a tenant to send and receive mail automatically and continuously all through the day. Outgoing letters mailed by 5 p.m. will meet air and rail evening departure schedules.
- ☐ Air conditioning—the year-round climate inside One Shell Square is predictably comfortable and fair.
- ☐ The building is installed with a sophisticated dual duct system. Through this system, hot and cold air flow via separate conduits. Both are controlled by a simple linkage actuated from wall thermostats and the mixture is quickly altered when the control is changed. More than 20 separate zones are provided for each floor in the building to insure individual comfort control.
- ☐ Two separate air conditioning fan and coil units are installed on each floor. Cooling or heating is immediately available on a half-floor basis at any special hour (weekends, holidays and late evenings) at economical rates.
- ☐ Flexible air diffuser connections adapt easily and inexpensively to any desired office layout or alteration.
- ☐ The air itself is efficiently filtered 96 per cent free of dust, pollen and other aggravating elements.
- ☐ Three separate passenger banks (a total of 26 passenger elevators) in the lobby serve the high rise, middle and lower levels of the building. Computers dispatch each elevator to achieve minimum waiting time and rapid service to any floor. There are two elevator banks in the parking garage. Terminating at the public docks in the mall, heavy duty service and freight elevators lift to every level.

PRINCIPAL TENANT
SHELL OIL COMPANY

LEASING: WAGUESPACK, PRATT, INC. 504/523-1731

A Project of Gerald D. Hines Interests

EXHIBIT 3:
Cover of the September 3, 1972 *Times-Picayune Dixie Roto* Sunday magazine. The entire issue was devoted to coverage of One Shell Square.

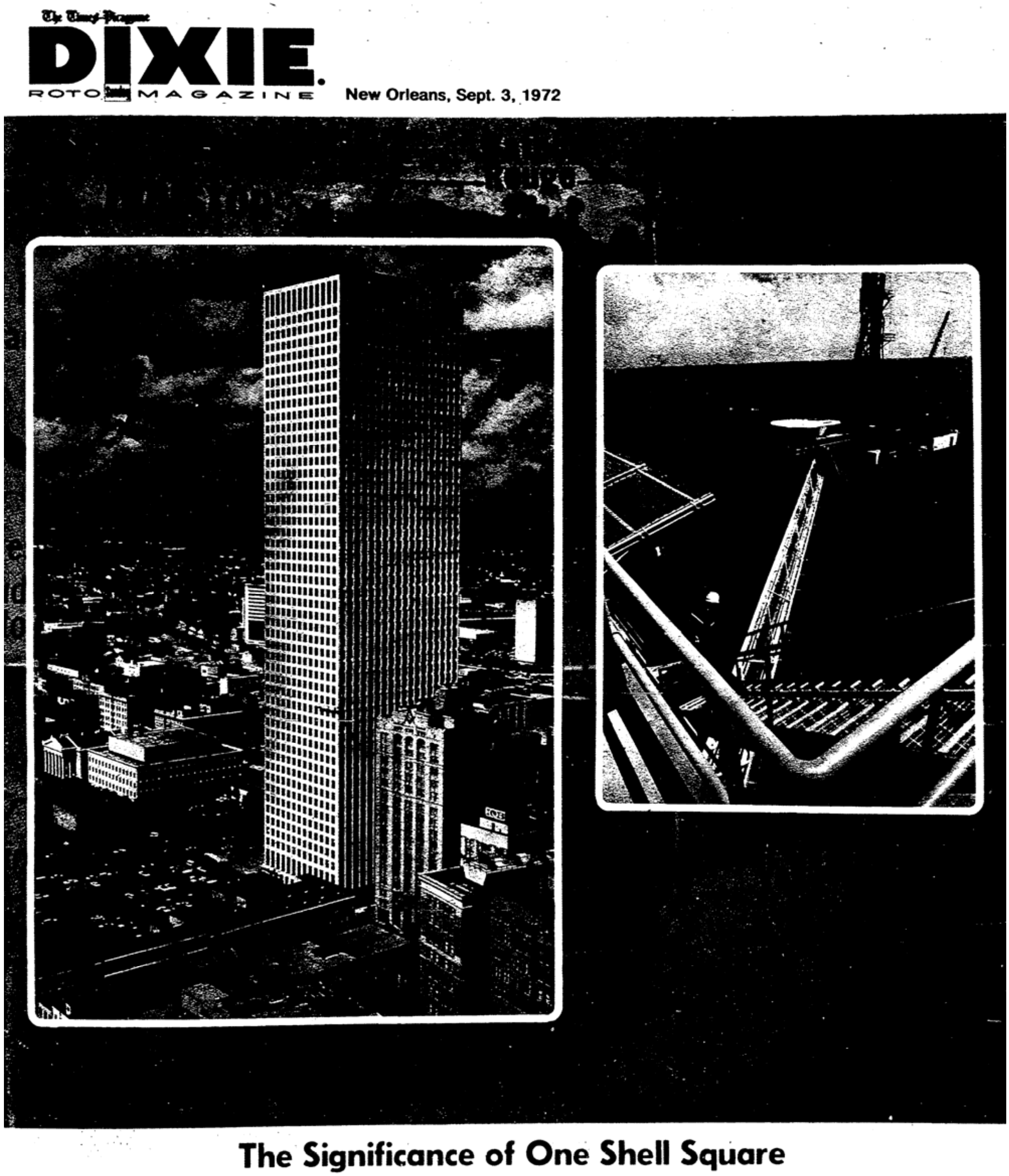
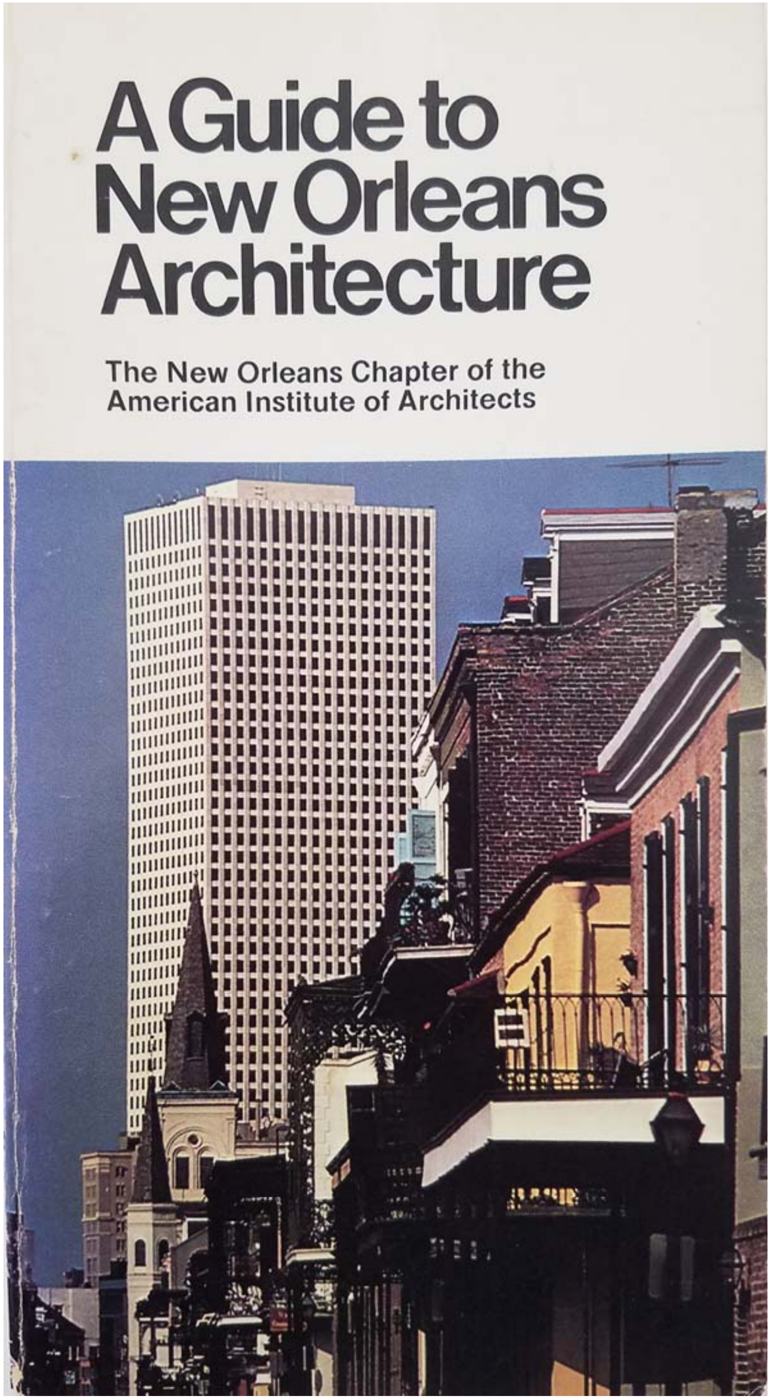


EXHIBIT 4:
Cover of *A Guide to New Orleans Architecture,* published by the New Orleans Chapter of the American Institute of Architects in 1974.



BOUNDARY MAP:
One Shell Square, 701 Poydras Street, New Orleans, Orleans Parish, LA

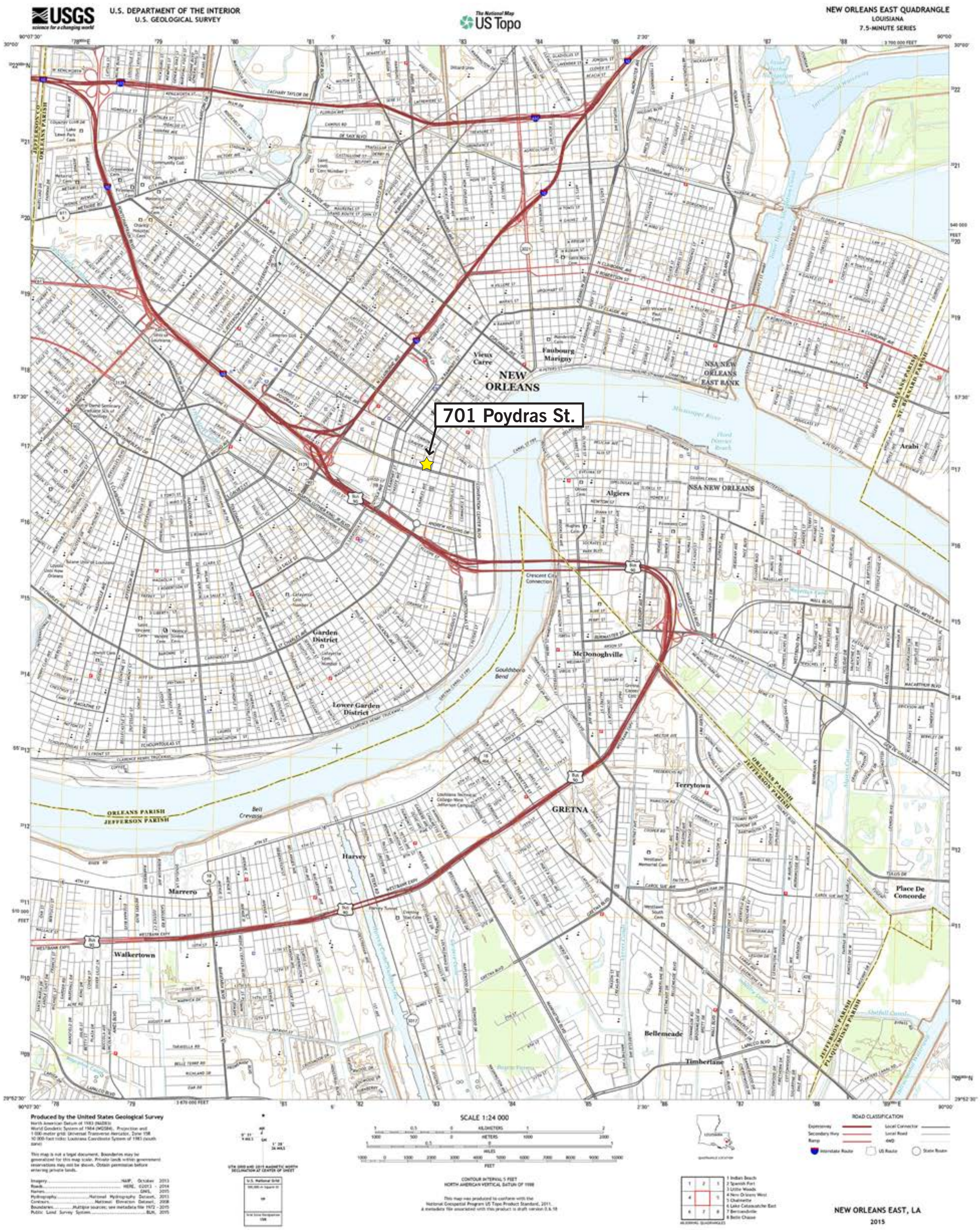
Coordinates:

★	Latitude: 29.950230°	Longitude: -90.071058°
1	Latitude: 29.950663°	Longitude: -90.071492°
2	Latitude: 29.950018°	Longitude: -90.071681°
3	Latitude: 29.949800°	Longitude: -90.070665°
4	Latitude: 29.950424°	Longitude: -90.070476°

North

USGS MAP:

One Shell Square, 701 Poydras Street, New Orleans, Orleans Parish, LA

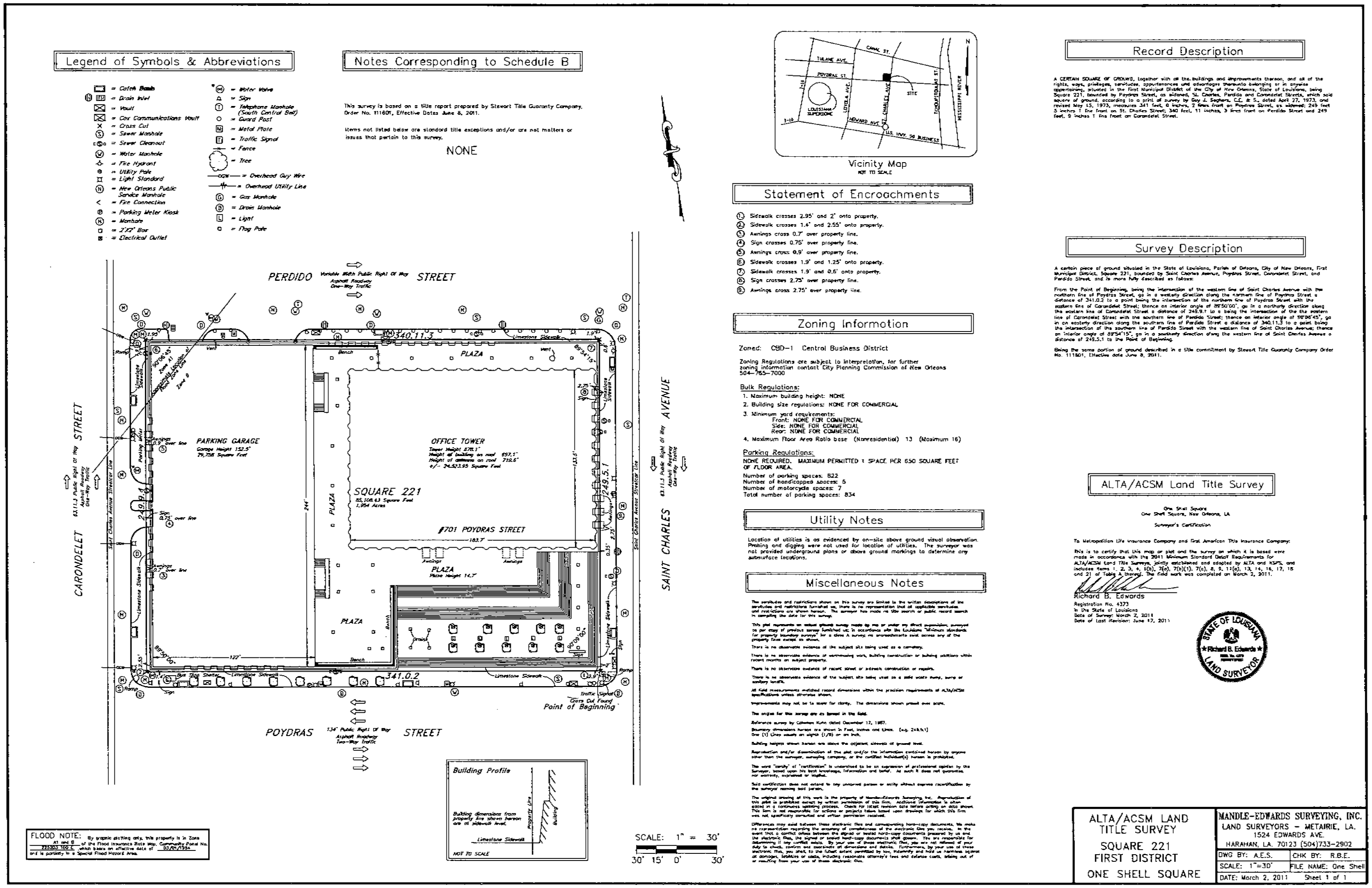


Coordinates:

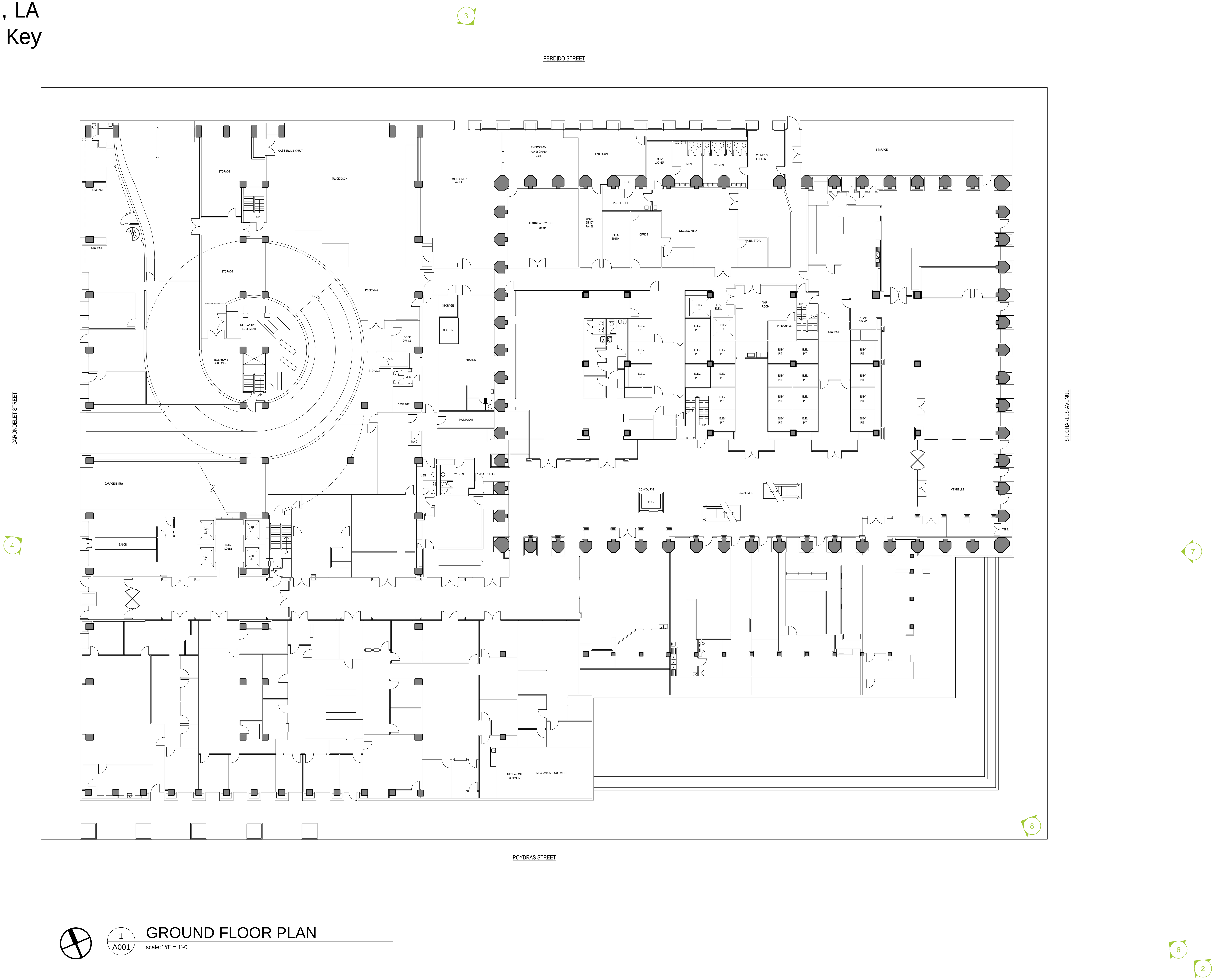
Latitude: 29.950230° Longitude: -90.071058°

North

SURVEY:
One Shell Square, 701 Poydras Street, New Orleans, Orleans Parish, LA



One Shell Square
Orleans Parish, LA
Exterior Photo Key



1 A001 GROUND FLOOR PLAN
scale: 1/8" = 1'-0"

WILLIAMS ARCHITECTS
JOHN C. WILLIAMS ARCHITECTS LLC
824 BARONNE STREET
NEW ORLEANS, LA 70113
PHONE (504)566.0888 I FAX (504)566.0897

These drawings and specifications have been prepared by me or under my close personal supervision and to the best of my professional knowledge and belief comply with applicable codes and requirements.

I (will) (will not) be providing project construction administrative services on this project.

x____________________

ONE SHELL SQUARE NATIONAL
701 Poydras Street, New Orleans, LA 70119

-REVISIONS-

No.	Date	Scope

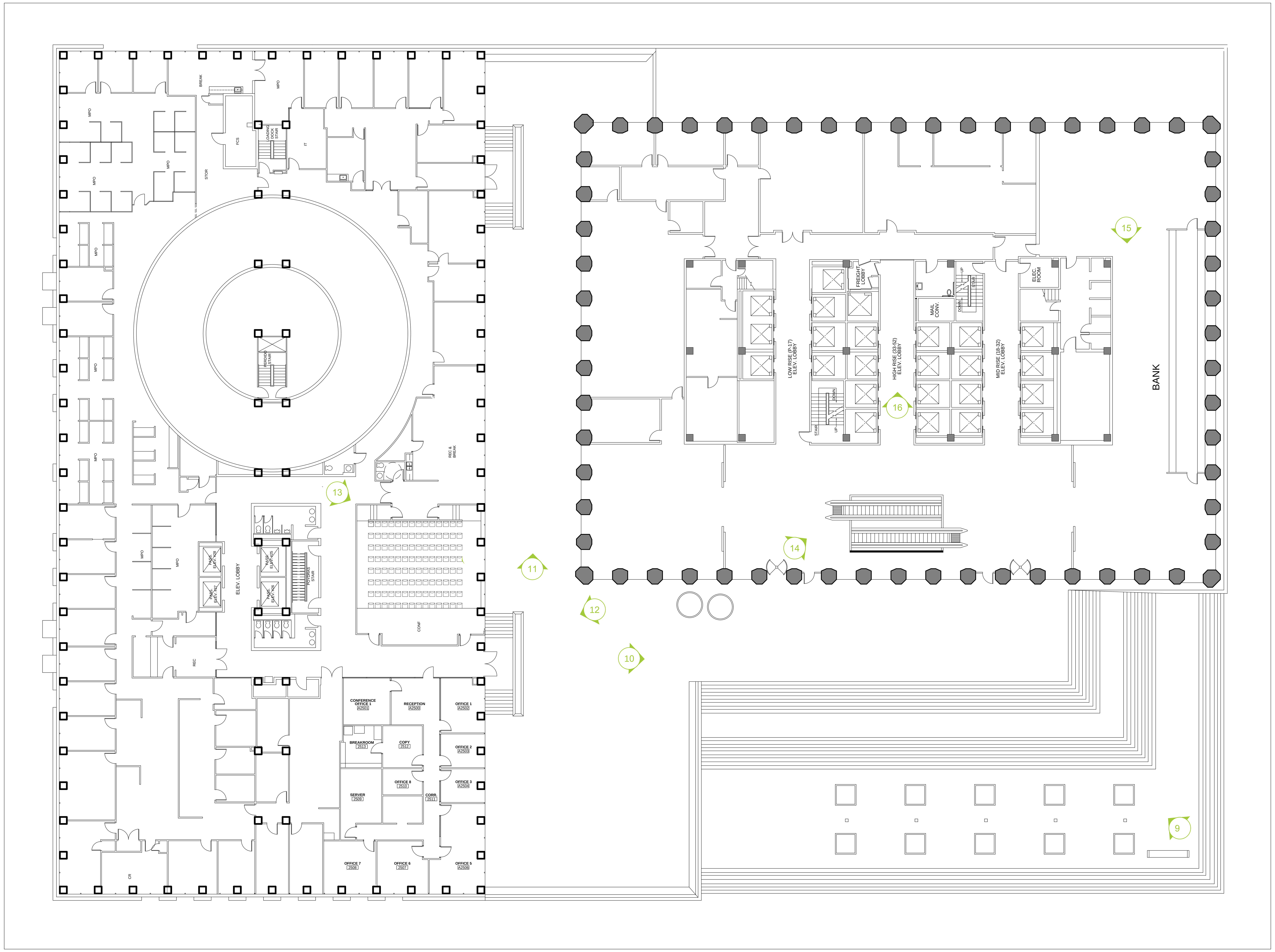
DRAWING
FLOOR PLANS

DRAWING BY DBJ
SCALE VARIES
JOB No.
DATE 5/16/2018

Sheet No.
A001

12/29/2017 3:00:00 PM

One Shell Square
Orleans Parish, LA
First Floor Photo Key



1
A002
FIRST FLOOR PLAN
scale:1/8" = 1'-0"

WILLIAMS ARCHITECTS

JOHN C. WILLIAMS ARCHITECTS LLC
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NEW ORLEANS, LA 70113
PHONE (504)566.0888 I FAX (504)566.0897

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I (will) (will not) be providing project construction administrative services on this project.

x______________________________

ONE SHELL SQUARE NATIONAL

701 Poydras Street, New Orleans, LA 70119

-REVISIONS-

No.	Date	Scope

DRAWING
FLOOR PLANS

DRAWING BY DBJ
SCALE VARIES
JOB No.
DATE 5/16/2018

Sheet No.
A002

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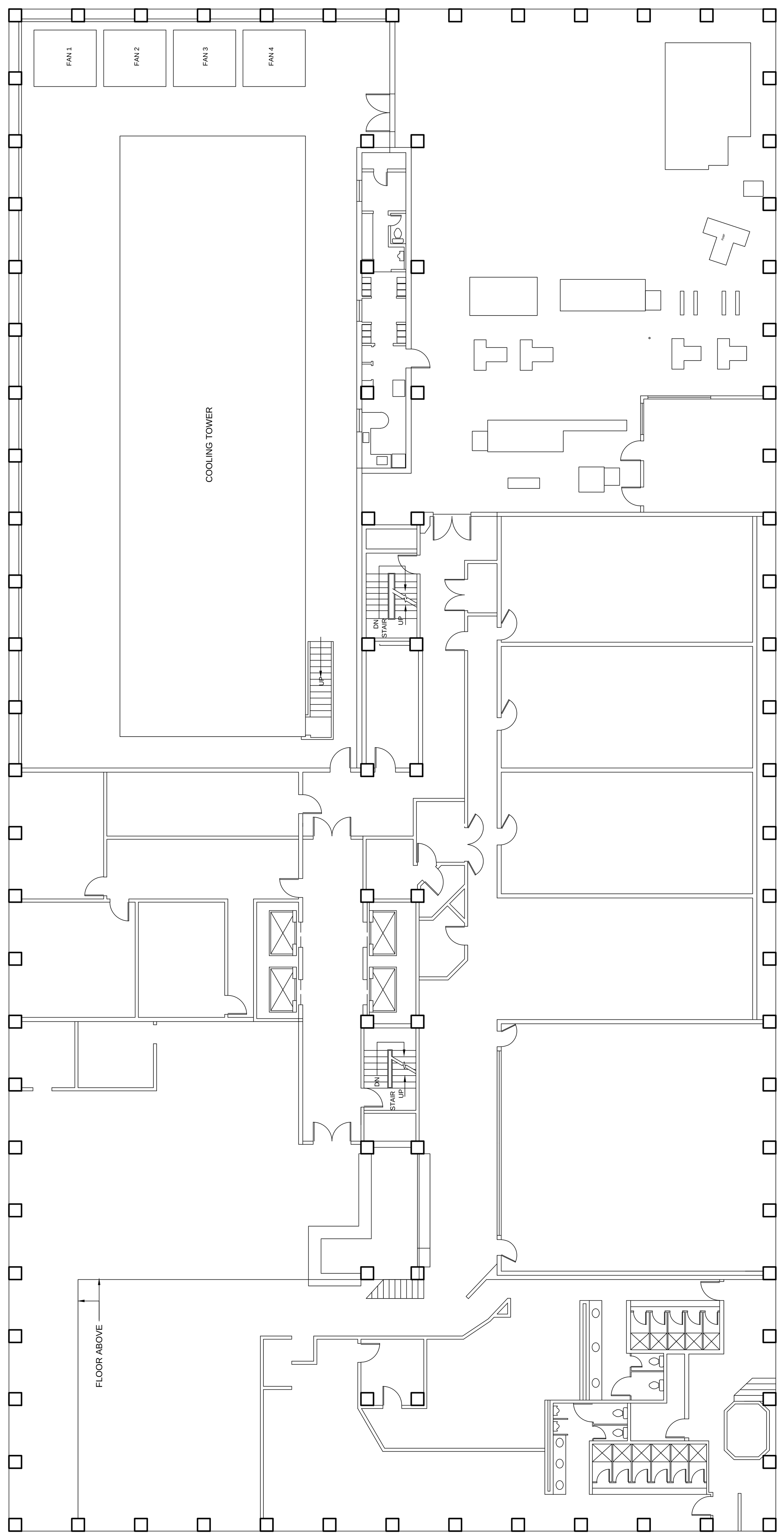
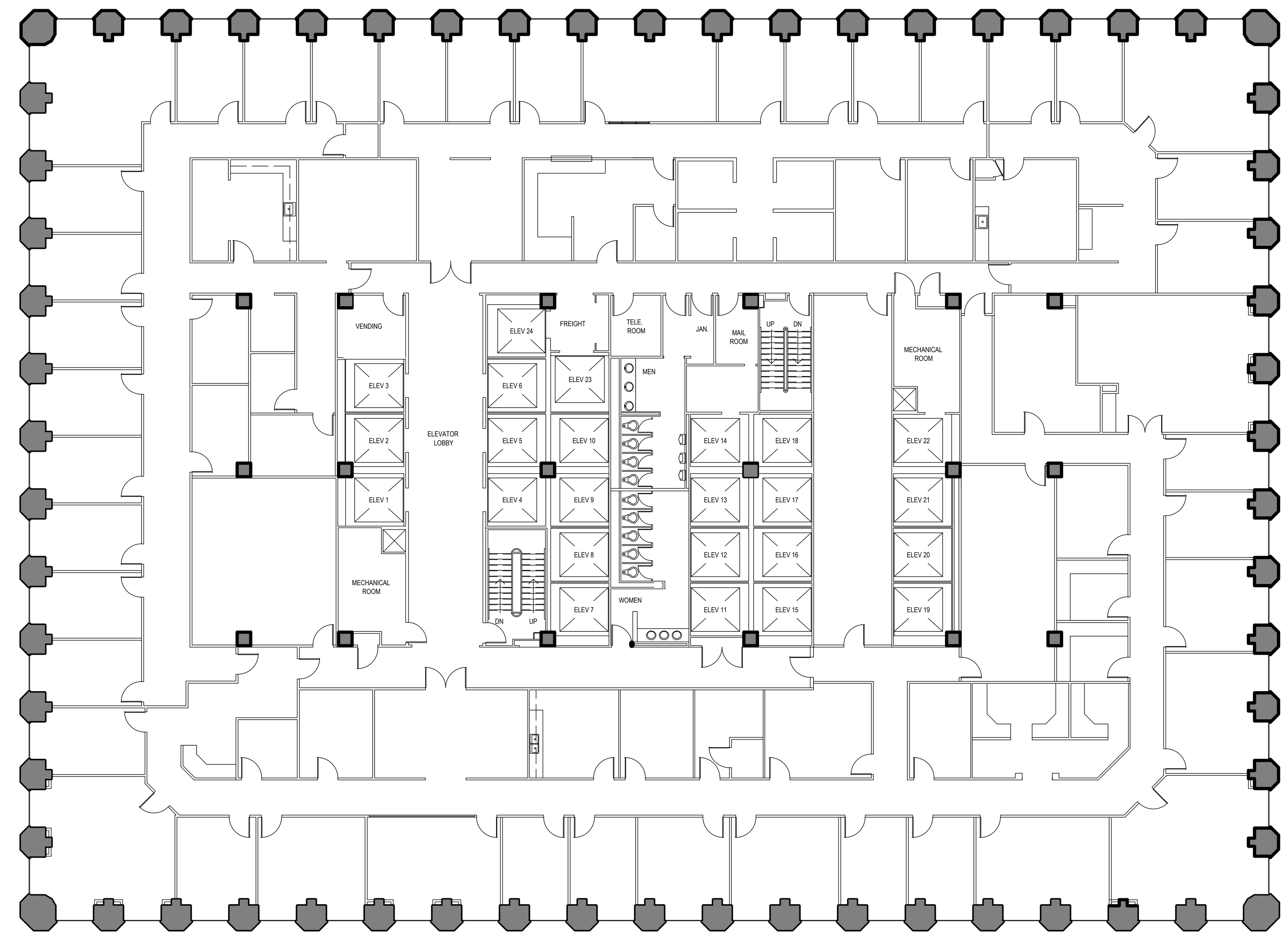
One Shell Square
Orleans Parish, LA
Typical Upper Story





TYPICAL BUILDING FLOOR PLATE

17 ELEVATOR LOBBY FLOOR 39

18 ELEVATOR LOBBY FLOOR 50

1 / A004 TYPICAL FLOOR PLAN
scale:1/8" = 1'-0"

WILLIAMS ARCHITECTS
JOHN C. WILLIAMS ARCHITECTS LLC
824 BARONNE STREET
NEW ORLEANS, LA 70113
PHONE (504)566.0888 | FAX (504)566.0897

These drawings and specifications have been prepared by me or under my close personal supervision and to the best of my professional knowledge and belief comply with applicable codes and requirements.

I (will) (will not) be providing project construction administrative services on this project.

x________________

ONE SHELL SQUARE NATIONAL

701 Poydras Street, New Orleans, LA 70119

-REVISIONS-

No.	Date	Scope

DRAWING
FLOOR PLANS

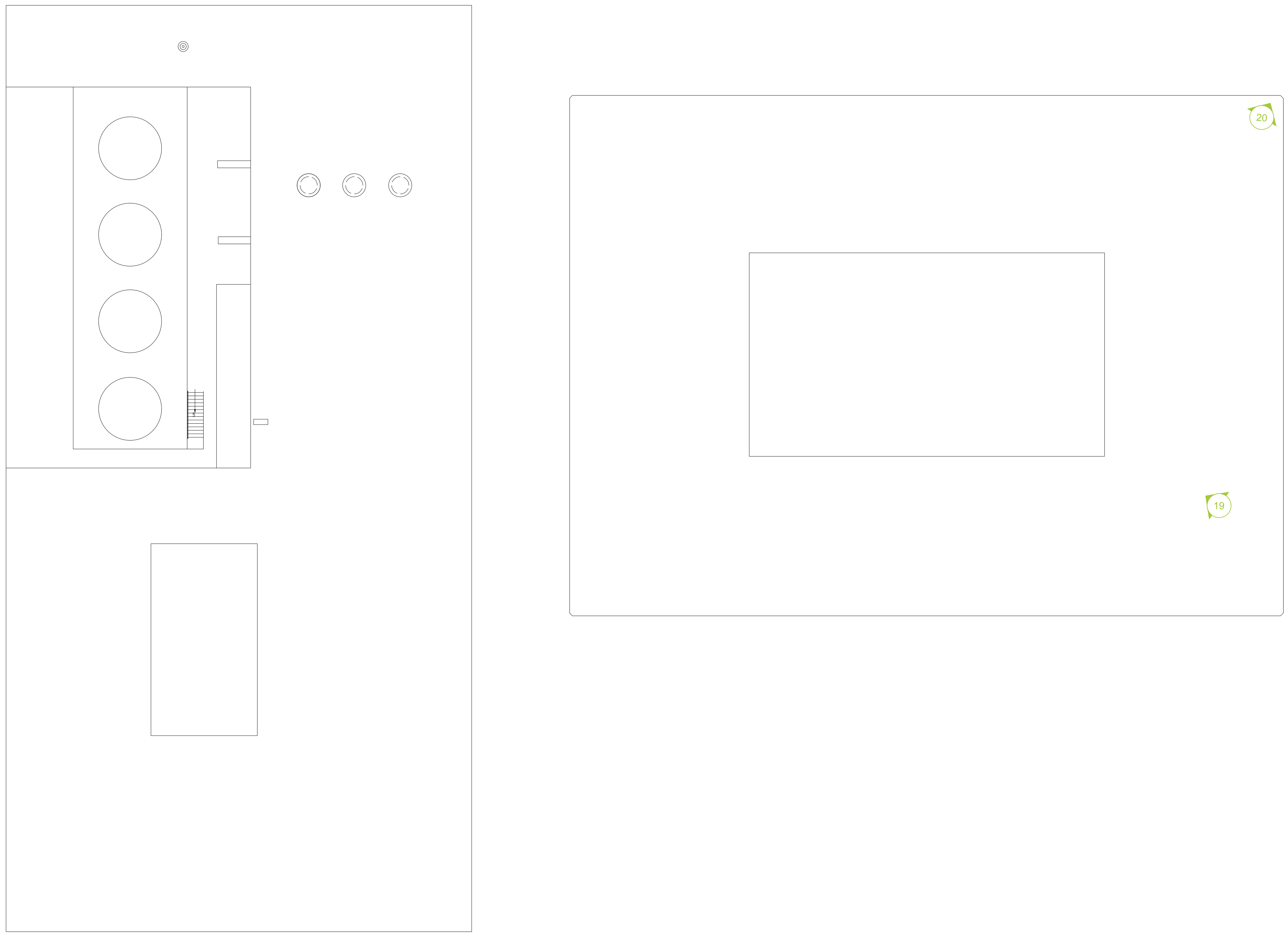
DRAWING BY	DBJ
SCALE	VARIES
JOB No.	
DATE	5/16/2018

Sheet No.

A003

12/29/2017 3:00:00 PM

One Shell Square
Orleans Parish, LA
Roof Photo Key



1
A005
ROOF FLOOR PLAN
scale:1/8" = 1'-0"

WILLIAMS ARCHITECTS
JOHN C. WILLIAMS ARCHITECTS LLC
824 BARONNE STREET
NEW ORLEANS, LA 70113
PHONE (504)566.0888 I FAX (504)566.0897

These drawings and specifications have been prepared by me or under my close personal supervision and to the best of my professional knowledge and belief comply with applicable codes and requirements.

I (will) (will not) be providing project construction administrative services on this project.

x________________________

ONE SHELL SQUARE NATIONAL
701 Poydras Street, New Orleans, LA 70119

-REVISIONS-

No.	Date	Scope

DRAWING
FLOOR PLANS

DRAWING BY DBJ
SCALE VARIES
JOB No.
DATE 5/16/2018

Sheet No.
A004

12/29/2017 3:00:00 PM


RURY INN & SUITES


St. Charles


PARK
SELF PARKING
ENTRANCE ONLY
EXIT ONLY
DAILY RATE SCHEDULE
GARAGE HOURS
AFTER HOURS
LANIER
PARKING


Poydras
ONE WAY


St.Charles


ONE SHELL SQUARE


REGIONS


STANDARD
STANDARD Mortgage Insurance Agency


SHELL OIL CO
AUDITORIUM


FLOORS 34-51
FLOORS 17-34


P
P
P
P


EXIT
39


50
50

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

Requested Action:	Nomination
Property Name:	One Shell Square
Multiple Name:	
State & County:	LOUISIANA, Orleans

Date Received:	Date of Pending List:	Date of 16th Day:	Date of 45th Day:	Date of Weekly List:
9/4/2018	10/1/2018	10/16/2018	10/19/2018	

Reference number:	SG100003027
Nominator:	State

Reason For Review:

__ Appeal	__ PDIL	__ Text/Data Issue
__ SHPO Request	__ Landscape	__ Photo
__ Waiver	__ National	__ Map/Boundary
__ Resubmission	__ Mobile Resource	__ Period
__ Other	__ TCP	X Less than 50 years
	X CLG	

X Accept ______ Return ______ Reject **10/18/2018** Date

Abstract/Summary Comments: The nominatio nfocuses on the engineering of the building and hte engineer who designed it. Utilizing a new variation of "tube in tube" structure, engineer Fazlur Khan (working for SOM) first utilized a composite concrete and steel system, with an outer tube of reinforced concrete and an inner core tube of structural steel. The building and Kahn have been recognized for the engineering achievements and are of exceptional importance at the local level.

Recommendation/ Criteria: Accept / C

Reviewer Jim Gabbert Discipline Historian

Telephone (202)354-2275 Date ______

DOCUMENTATION: see attached comments : No see attached SLR : No

If a nomination is returned to the nomination authority, the nomination is no longer under consideration by the National Park Service.

State of Louisiana
OFFICE OF THE LIEUTENANT GOVERNOR
DEPARTMENT OF CULTURE, RECREATION & TOURISM
OFFICE OF CULTURAL DEVELOPMENT
DIVISION OF HISTORIC PRESERVATION

BILLY NUNGESSER
LIEUTENANT GOVERNOR

RICHARD H. HARTLEY
DEPUTY SECRETARY

KRISTIN P. SANDERS
ASSISTANT SECRETARY

June 1, 2018

Eleanor Burke
1300 Perdido St, 2nd Floor
New Orleans, LA 70112

Dear Ms. Burke:

We are pleased to inform you that the historic property listed below will be considered by the State National Register Review Committee for nomination to the National Register of Historic Places:

One Shell Square
Orleans Parish, LA

The National Register of Historic Places is the federal government's official list of historic properties worthy of preservation. Listing on the National Register provides recognition and assists in preserving our Nation's heritage. Listing of a property provides recognition of its historic significance and assures protective review of federal projects that might adversely affect the character of the historic property. If the property is listed on the National Register, tax credits for rehabilitation and other beneficial provisions may apply. Listing in the National Register does not place limitations on the property by the federal or state government. Public visitation rights are not required of owners. The government will not attach restrictive covenants to the property or seek to acquire them. A draft copy of the nomination and attachment is included with this letter.

One of your responsibilities as a Certified Local Government (CLG) is to review pending National Register nominations of properties within your community. This is required, in part, to detect any errors in fact, but also to provide local insight or knowledge concerning the property. I hope that you will consider the nomination for this property at your next meeting. After providing a reasonable opportunity for public comment, the New Orleans Historic District Commission shall fill out the attached CLG review form as to whether or not, in their opinion, the property meets the National Register criteria. Within 60 calendar days of notice from the State Historic Preservation Office (SHPO), the chief elected official shall transmit their report to the SHPO. If the SHPO does not receive the report and recommendation within 60 calendar days, the nomination process will continue. All comments received will be forwarded to the SHPO Director and the National Register Review Committee for consideration along with the nomination.

We have scheduled the nomination for presentation to the National Register Review Committee on **Thursday, August 9, 2018**, and would like to receive your comments by that time in fulfillment of the comment period. This letter serves as notification initiating the sixty-day comment period.

You are invited to attend the National Register Review Committee meeting at which the nomination will be officially considered. The location and time have not been confirmed yet, but will be found on our website. Should you have any questions about this nomination, please contact Jessica Richardson at 225-219-4595 or at jrichardson@crt.la.gov.

Thanks,

Kristin P Sanders

Kristin Sanders
State Historic Preservation Officer

NEW ORLEANS HISTORIC DISTRICT COMMISSION REPORT FOR:
ONE SHELL SQUARE
NATIONAL REGISTER NOMINATION

NAME OF CLG: City of New Orleans
PROPERTY NAME: one shell square
PROPERTY ADDRESS: 701 Poydras Street
DATE SENT: June 1, 2018
DATE OF NATIONAL REGISTER REVIEW COMMITTEE MEETING: ______

Does the nomination meet the Criteria for Listing on the National Register of Historic Places?
Yes X No____ Criterion: A____ B____ C____ D____

Has public comment been included? Yes X No____ Explain:

☒ The Commission recommends that the property or properties should be listed on the National Register of Historic Places.

The Commission would like to make the following recommendations regarding the nomination (use additional sheets if necessary): ______

☐ The Commission recommends that the property or properties should not be listed on the National Register of Historic Places for the following reasons:

☐ The Commission chooses not to make a recommendation on this nomination for the following reasons:

Jesse LeBlanc
Historic District Commission Chair (Print Name)

[signature]
Signature

8.1.18
Date

[signature]
Chief Elected Official (~~Print Name~~) Signature

LaToya Cantrell
Signature (Printed Name)

8-8-18
Date

State of Louisiana
OFFICE OF THE LIEUTENANT GOVERNOR
DEPARTMENT OF CULTURE, RECREATION & TOURISM
OFFICE OF CULTURAL DEVELOPMENT
DIVISION OF HISTORIC PRESERVATION

BILLY NUNGESSER
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DEPUTY SECRETARY

KRISTIN P. SANDERS
ASSISTANT SECRETARY

DATE: August 31, 2018

TO: Mr. James Gabbert
National Park Service Mail Stop 7228
1849 C Street, NW
Washington, D.C. 20240

FROM: Jessica Richardson, National Register Coordinator
Louisiana Division of Historic Preservation

RE: One Shell Square, Orleans Parish, LA

Jim,

The enclosed disks contain the true and correct copy of the National Register Documentation for One Shell Square to be placed in the National Register of Historic Places. Should you have any questions, please contact me at 225-219-4595, or jrichardson@crt.la.gov.

Thanks,

Jessica JR

Enclosures:

X	CD with PDF of the National Register of Historic Places nomination form
X	CD with electronic images (tiff format)
X	Physical Transmission Letter
X	Physical Signature Page, with original signature
	Other:

Comments:

	Please ensure that this nomination receives substantive review
X	This property has been certified under 36 CFR 67
	The enclosed owner(s) objection(s) do______ do not______ constitute a majority of property owners. (Publicly owned property)
	Other: