

# PROJECT NARRATIVE

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## USGBC Multifamily Midrise Design Competition

### CONTEXT

This competition entry addresses contextual issues on two levels: the context of New Orleans and its specific requirements relating to climate, geography, overall character and hurricane resistance and the context of the individual site located at 1307 O.C. Haley Blvd and the characteristics of the immediate surrounding neighborhood.

### NEW ORLEANS

**Conditions:** The climate of New Orleans is humid subtropical, meaning it largely cooling load driven with prevalent humidity. Nearly 50% of New Orleans is below sea level and much of the land is soft sand, silt or clay with subsidence being a common issue. New Orleans is world famous for its eclectic architectural styles and distinctive character. Due to the prevalence of hurricanes and tropical storms, building designs must account for both the wind and flooding aspects of these destructive storms.

**Entry Response:** The climate of New Orleans has been addressed through the materials that mitigate heat gain and resist moisture and mechanical systems that maximize energy efficiency in cooling mode and provide multiple means for ventilation. These selections are detailed further in the "Systems and Strategies" section below. The new housing portion of the building has been elevated to 10'-6" above the ground level to reduce the impact of potential flooding and care has been taken to locate the least sensitive functions of the commercial portions of the development on the existing lowest building level. New building materials, poured concrete, insulated concrete forms (ICF), and fiber cement panels have been selected for their moisture resistance and detailed to resist winds of up to 150 mph. Special care was given to designing roof forms over occupied spaces that provide the best wind resistance and large areas of glazing have been outfitted with sliding shutters.

### SITE/NEIGHBORHOOD

**Conditions:** The competition site is located adjacent to the central business district in a neighborhood referred to as "Central City". Central City has a rich history as a multicultural working class neighborhood but began to decline in the 1960s with areas of blight and crime springing up during the second half of the 20<sup>th</sup> century. In the 1990's Dryades Street, the main commercial street of the neighborhood, was renamed Oretha Castle Haley Blvd after a local civil rights activist as part of efforts to revitalize the neighborhood. As of the 2000 census, Central City contained 19,072 people in 8,147 households and had a population density of 13,526/square mile. Despite revitalization efforts, Central City was considered the most dangerous part of the city in 2006, but because large portions of the neighborhood are above sea level and did not sustain flooding during Hurricane Katrina recently more attention has been focused on this neighborhood for development. The Central City Renaissance Alliance is a neighborhood association that is focused exclusively on serving

Central City. In 2004, they created a community plan that focuses on 7 themes that are vital in moving the community forward:

- Strengthening Community Connections
- Telling the Community Story
- Housing in the Community
- Community Beautification
- Employing the Community and Community Wealth Building
- An Educated Community
- A Healthy and Safe Community

**Entry Response:** This entry aims to enhance the Central City neighborhood by providing a variety of spaces that are available for both resident and community use, offering affordable and market rate housing to current and future neighborhood residents and rehabilitating a notable building on a main thoroughfare in the neighborhood. The entry also responds specifically to the CCRA plan in the following ways:

**Strengthening Community Connections:** Some resident amenities within the development are easily able to also serve as community resources, including the community/meeting room, the fitness center and the co-op coffee shop. The leasable areas in the development are also available for new business ventures or community groups. Three out of four of the building façades have been intentionally perforated to draw the community into the center of the development rather than acting as a boundary.

**Housing in the Community:** A wide variety of dwelling unit types have been included in this project ranging from studios to three bedroom units and consisting of both affordable and market rate units. The units are set up as condos to encourage community investment, but lease to own programs could be used to make homeownership more attainable.

**Community Beautification:** The project's site, on one of the main thoroughfares of the community allow the project to have a significant impact on the community by restoring and redeveloping an existing building, providing open space to the community, and creating an impetus for future development on adjacent underutilized parcels.

**Employing the Community:** The cooperative coffee shop provides not only needed commerce within the neighborhood but also an opportunity for residents and employees to be part owners in the business and training opportunities for those looking for work and job skills development.

## DESIGN CONCEPT

The design approach for this entry centers around creating a gradient of public, semi-public and private spaces. The gradient is established by housing commercial and community spaces in the renovated existing building and creating an addition containing the private residential units. A transitional, semi-public space is created in the protected, but publicly

accessible central courtyard and visible terrace spaces for the units. Openings have been punched through the facades of the existing building and the addition in order to make the development porous and inviting to the community. Raising the first floor of the addition 10'-6" above ground level allows us to provide a screened area for tuck under parking and small glimpses of the courtyard beyond as well as needed flood protection.

The obvious approach for the addition would have been to create a single or double-loaded corridor of residential units, but corridors are not optimal for community building and typically result in exterior wall and glazing exposure on only one side of each unit. To combat these issues, small groups of housing units have been created around three main elevators stacks to create mini-communities within the larger 30-unit development. This move also allows the majority of unit types to have glazing on two sides of each unit providing enhanced daylight and more opportunities for natural ventilation.

This development meets all requirements of ADA as well as the Fair Housing Act, providing fully accessible unit types, adaptable unit types and going beyond requirements by meeting visitability and universal design principles for all units.

## LEED APPROACH

A LEED scorecard has been compiled which demonstrates how this entry would comfortably achieve LEED certification at the Platinum level. Care has been taken to achieve significant point levels in each of the credit categories to ensure that the project is an example of comprehensive sustainable design. All points that are being pursued are outlined on the included LEED scorecard and many of the strategies used to achieve them are described in the System and Strategies section below.

## SYSTEMS AND STRATEGIES

***Innovation and Design Process:*** A combination of credits contained in the rating system, approved ID credits and a pilot credits are being used to demonstrate a commitment to innovation and design and moving sustainable design forward. Durability planning was of particular importance on this project with the need to combat ongoing moisture issues from high humidity and potential flooding and high wind speeds from hurricanes. As described above, high mass materials, moisture resistant materials, and appropriate roof forms have been used as primary strategies. A pilot credit has been used for meeting universal design standards in all units and approved ID credits are being used for Food Gardens, Green Cleaning and Acoustic Comfort.

***Location and Linkages:*** The project site is terrific for achieving strategies in the location and linkages category with extensive community resources and existing infrastructure.

***Sustainable Sites:*** Great care has been taken to include pervious areas on the site while minimizing turf and non-native plant species. Green roofs also contribute to the pervious area while helping reduce the heat island effect and producing food. Alternative transportation was also a point of emphasis. The project already has great access to public

transportation and covered, secure bicycle storage and electric car recharging stations have also been provided.

***Water Efficiency:*** Potable water use is minimized by collecting and storing rainwater under the raised courtyard for irrigation and toilet flushing as well as using water efficient fixtures and appliances.

***Energy and Atmosphere:*** A comprehensive approach has been taken to improving energy efficiency for the project. Strategies begin by using highly insulated ICF construction, proper sealing and weather-stripping, efficient low-e windows and light colored roofing to mitigate heat gain in this cooling load driven climate. A central mechanical system that is sub-metered is used to take advantage of economies of scale. A geothermal well field beneath the building is used in two ways. Some wells feed a water loop that supplies radiant heating and cooling through the floor slabs of the building while others supply heat pumps which provide additional cooling through a forced air ventilation system to meet the high cooling demands on the warmest days and provide fresh air. The southern facing roof area on the building addition has also been prepared to accept photovoltaic panels, but credit has not been taken for their use.

***Materials and Resources:*** Poured concrete, insulated concrete forms and prefabricated joists/trusses are the main structural components of the design. All of these materials create very little on-site waste. Interior materials that have low-emissions, rapidly renewable, recycled or regional content have been selected to ensure that environmentally preferable products are used whenever possible.

***Indoor Environmental Quality:*** Units have been highly compartmentalized with floor to deck partitions and appropriate sealing and isolations of mechanical systems to minimize pollutant and ETS mitigation between units. Third party testing for ventilation and cooling distribution will also ensure that systems are functioning appropriately.

***Awareness and Education:*** A comprehensive system for educating residents about the operation and maintenance requirements of their unit, the sustainable strategies employed in the development and means by which they can monitor and influence their energy and water usage has been developed for this project. More information can be found in the Education Plan document.

## COMPETITION ENTRY CREATION

A variety of Autodesk products have been used to design and produce this competition entry. Documentation of the site and existing building as well as development of the design concept, floor plans and sections was done nearly exclusively in Revit Architecture. Green Building Studio was used to analyze climate data and consider some alternatives in building shape and features (footprint depth, floor to floor height, glazing percentages, etc.). Renderings and diagrams were produced using a compositing process that used 3D Studio Max as well as Sketchup and some finishing work in Photoshop.