Abstract

At Canes Engineering Associates, our vision for the Merrick Park site development is to revolutionize the area into a mixed use urban center that embraces the values and precedents set by its surrounding area through innovative design and sustainable engineering practices.

Introduction

Our team’s primary goal in The Visionary’s development was sustainability. Through our project integration strategy, we were able to implement a plethora of sustainable features within the building in coordination across all professions.

Sustainable Design Features:

Civil Water/EV Collaboration:
- Recycled AC Condensate/Rainwater Harvesting System
- Stormwater Reuse & Treatment System
- Semi-Intensive Green Roof

MEP/EV Collaboration:
- Solar Pergolas on Roof
- Solar Panels on 3rd Floor Awning
- Datapine Dashboard - SMART System
  - Monitor lighting, temperature, air quality, etc.
- LED Lighting
- Solar powered water pump servicing rainwater reuse system

Civil/EV Collaboration:
- CycleSafe Bike Racks
- Solar-Powered Rectangular Rapid Flash Beacon
- No parking footprint
  - Provide discounts to customers who use alternative transportation

Structural/EV Collaboration:
- Semi-Intensive Green Roof
- Recycled Steel Rebar
- Bamboo/Recycled Steel Mullions on 3rd Floor
- 2-Way Structural System: Waffle Slab

Architecture/EV Collaboration:
- Electrochromic Glass
  - (2nd and 3rd floor of South, East, West Elevations)
- High-First Floor Elevation
- VOC free building materials and fixtures
  - Titanium Dioxide coated precast concrete

Results

The Visionary serves as a mixed-use commercial building at 351 San Lorenzo Avenue in Coral Gables, FL. The bottom two floors are a bookstore/reading room and third floor is a shared office space and the roof is a community garden.

- Arched Entrance
- Waffle Slab
- Circular Central Staircase
- Green Roof
- Rainwater Cistern
- Bike Racks
- LED Lighting
- VRF System
- Non-Potable Water Reuse

Conclusion

The Visionary will be a LEED Gold mixed-use commercial building that will promote social, economic and environmental sustainability through the design precedents of modern engineering. It will become a community center for the Merrick Park area, allowing all citizens to freely interact, relax, and experience what the next generation of building construction can achieve. The Visionary resembles innovation, sustainability, and design excellence, a perfect culmination of the building technology goals for the future.

The Visionary's Financials

<table>
<thead>
<tr>
<th></th>
<th>Pre COVID-19</th>
<th>Post COVID-19</th>
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<tbody>
<tr>
<td>Project Cost</td>
<td>$13,200,000.00</td>
<td>$13,180,000.00</td>
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<tr>
<td>Net Operating Income</td>
<td>$1,100,000.00</td>
<td>$700,000.00</td>
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<tr>
<td>CAP Rate</td>
<td>8.33%</td>
<td>5.67%</td>
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DISCLAIMER: Models use conservative scenarios to exemplify how safe and solid The Visionary is. CAP Rates can increase substantially.

Acknowledgments

Canes Engineering Associates would like to thank all professors, guest lecturers, and the IAB for their time and guidance throughout the year.