**cope of Work**

**Assessment of Inspection Reporting and Building Conditions in South Florida (Miami-Dade and Broward Counties) – Phase II**

Florida Department of Business and Professional Regulation

Florida Building Commission

and

Engineering School of Sustainable Infrastructure and Environment (ESSIE)

University of Florida (UF)

Project Leader: Jennifer A. Bridge, Ph.D., University of Florida

1. **Introduction**

The 2021 collapse of the Champlain Towers South in Surfside, Florida highlighted the need for a broad assessment of building inspection and maintenance practices in the State of Florida. A critical first step toward this assessment is to gain a clear understanding of the reported condition of existing structures through investigation of available building inspection reports in Miami-Dade and Broward Counties. In October of 2021, this research team (UF ESSIE) began work on a research project to achieve this objective. The scope of the project included the identification and collection of over 250 inspection reports from ten municipalities in these two counties. Analysis and reporting on this inspection data is ongoing and will be completed in June 2022. In parallel with this research, a number of jurisdictions in Florida are considering or have already adopted new building age-based inspection programs or are in the process of amending their existing programs. As these programs are undergoing evaluation and updates, three aspects of their implementation are under scrutiny:

* 1. The age at which building inspections should start (i.e. is 40 years too late?),
  2. the interval at which inspections should occur (currently every 10 years in Miami-Dade and Broward Counties), and
  3. whether structures in close proximity to the coast warrant different inspection standards (i.e. earlier initial inspections and shorter intervals for reinspection).

There are tens of thousands of buildings in Miami-Dade and Broward Counties subject to building safety inspection and recertification programs. To ensure a sufficient minimum sample size of inspection reports for analysis is obtained, a Phase II project is required to increase the sample size of reports. Some of the inspection reports provided by the municipalities did not include critical information related to the initial 40-year inspections prior to repairs being made, thus inhibiting the ability to assess the presence of deficiencies in buildings of this age. A Phase II project will ensure that relevant inspection reporting documentation is obtained, while leveraging the strategies for acquiring, recording, and analyzing inspection report data established in the first project. These data, combined with the data collected in the first phase of the project, will provide the foundation for a comprehensive assessment of current building structural inspection practices that can be used to develop recommendations for inspection practices to enhance the safety of Florida’s building inventory.

The results of the statewide survey and the initial analysis of inspection reports conducted in current research project indicate that visual inspection alone may not be adequate to assess the condition of structures where deterioration has advanced. In particular, defects hidden behind wall finishes and cladding or corrosion in reinforcement may not be evident with current inspection practices. A review of currently available methods and technologies to supplement current inspection practices is required provide an objective assessment their feasibility, cost, accuracy, and potential benefit.

1. **Scope of Work**

*Task 1: Building Inspection Report Acquisition*

* The objective of Task 1 is to determine the quantity and types of inspection reports required to ensure statistical significance of the final analysis results and to request inspection reports from municipalities in Miami-Dade and Broward Counties accordingly.
* UF ESSIE shall review the lists of non-exempt building addresses compiled in the Phase I project to determine how many additional building inspection reports are required for a statistically significant result. This review will also determine the locations and types of buildings that require additional representation in the final dataset.
* UF ESSIE shall request building inspection reports from municipalities in Miami-Dade and Broward Counties until a satisfactory number and type of complete reports are acquired.

*Task 2: Data Aggregation and Analysis*

* The objective of Task 2 is to extract relevant information from the additional inspection reports requested and received during Task 1 and to analyze the extracted data according to the analysis procedures established in the first phase of the research project.
* Upon completion of Task 1, UF ESSIE shall evaluate available inspection reports and accompanying property appraiser data to extract data into a spreadsheet according to the classification methodology developed in the Phase I project
* UF ESSIE shall analyze the aggregated inspection and building data to generate statistics on reported building conditions and inspection practices across a wide range of building, code, site, maintenance, and inspection metrics. This shall include identification of any observed patterns or trends in the data and preparation of appropriate tables and figures to communicate the analysis results.

*Task 3: Inspection Technology Landscape Assessment*

* The objective of Task 3 is to objectively assess and report on destructive and nondestructive structural assessment technologies that are currently available and effective for providing structural condition assessment.
* In parallel with Tasks 1-2, UF ESSIE shall develop a matrix of structural evaluation technologies available to aid in structural inspections that includes the cost, types of evaluation enabled, technology maturity, assessment reliability, whether it is destructive/non-destructive, required access to structural elements, ease-of-use, and inspector training requirements. The technology assessment will also review current code-based guidance for their application.

1. **Staffing**

**PI:** Jennifer Bridge, Ph.D., Associate Professor, Engineering School for Sustainable Infrastructure and Environment, University of Florida

**Co-PI:** Christopher Ferraro, Ph.D., Assistant Professor, Engineering School for Sustainable Infrastructure and Environment, University of Florida

**Co-PI:** Thomas Sputo, Ph.D., P.E., S.E., SI, Consulting Structural Engineer, Sputo and Lammert Engineering

1. **Method of Payment**

A purchase order will be issued to the University of Florida. This project shall start on date of execution of the purchase order and end at the midnight on June 30, 2022. This purchase order shall not exceed $90,000.00 and shall cover all costs for labor, materials and overhead. Payment will be made for the study after the Program Manager and the Florida Building Commission’s Hurricane Research Advisory Committee have approved the final report. Additionally, the Contractor agrees to provide additional documentation requested by the Program Manager to satisfy all payment and audit requirements.

1. **Deliverables**
2. An interim report shall be prepared and delivered no later than February 28, 2023. The interim report shall cover progress to date on all tasks. This report will serve as a progress update that details the current state of research, preliminary results, and descriptions of any issues that may have been encountered. In addition, the interim report shall be formally presented to the Florida Building Commission’s Hurricane Research Advisory Committee at a time agreed to by the Contractor and Department’s Program Manager. The due date may be extended with the approval of the Department’s Program Manager.
3. A draft final report shall be prepared and delivered no later than May 16, 2023, for comments by the Florida Building Commission’s Hurricane Research Advisory Committee. The report shall contain deliverables of the three tasks discussed in Section 2. This shall include summary and analysis of data acquisition, detailed summary of the data statistical analysis, and a comprehensive evaluation of inspection and structural condition assessment technologies. The final report shall be prepared with revisions to address Hurricane Research Advisory Committee comments and delivered no later than June 15, 2023. In addition, the draft final report and the final report shall be formally presented to the Hurricane Research Advisory Committee at a time agreed to by the Contractor and Department’s Program Manager. The due date may be extended with the approval of the Department’s Program Manager.

# Financial Consequences

UF ESSIE is solely responsible for the satisfactory performance of the tasks and completion of the deliverables as described in this Scope of Work. Failure to complete the tasks and deliverables in the time and manner specified in Sections 2 and 5 shall result in a non-payment of invoice until corrective action is completed as prescribed by the program or contract manager.

# Program Manager

The Program Manager for this project is Mo Madani. Mo Madani’s email address is [Mo.Madani@myfloridalicense.com](about:blank) and his phone number is 850-717-1825. The contract manager for this project is Barbara Bryant. Barbara Bryant’s email address is [Barbara.Bryant@myfloridalicense.com](mailto:Barbara.Bryant@myfloridalicense.com) and her phone number is 850-717-1838.