ORCO
Owners Representative Construction Observations

Everglades Society for Historic Preservation
City Hall
102 Copeland and Broadway
Everglades City, FL 34139

March 31, 2021

Attn: Kathy Brock, President

Re: Bank of the Everglades - Foundation Assessment

Dear Ms. Brock,

On March 24, 2021, at your request, ORCO had the opportunity to visually inspect the foundation structural elements of Bank of the Everglades Building. The main purpose of the observation is to assess the current condition of these elements prior to finalizing purchase and any building renovations. This observation, conducted by Christopher Hagan PE and Christopher Eseppi PE, included a visual inspection of the complete interior and exterior of the building. Our team accessed the crawl space through an opening in the foundation wall.

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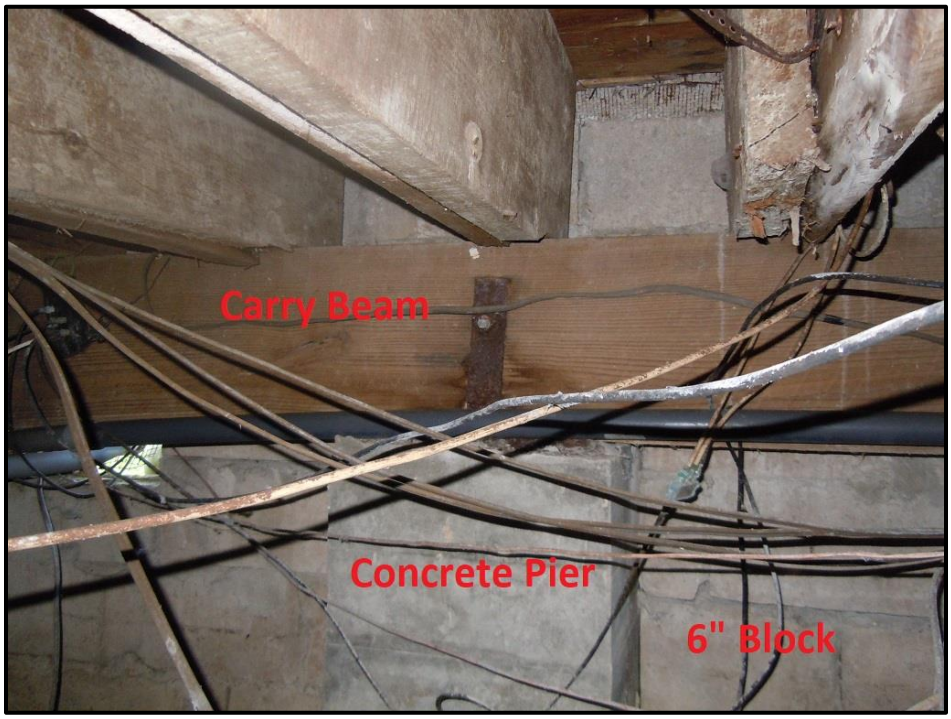
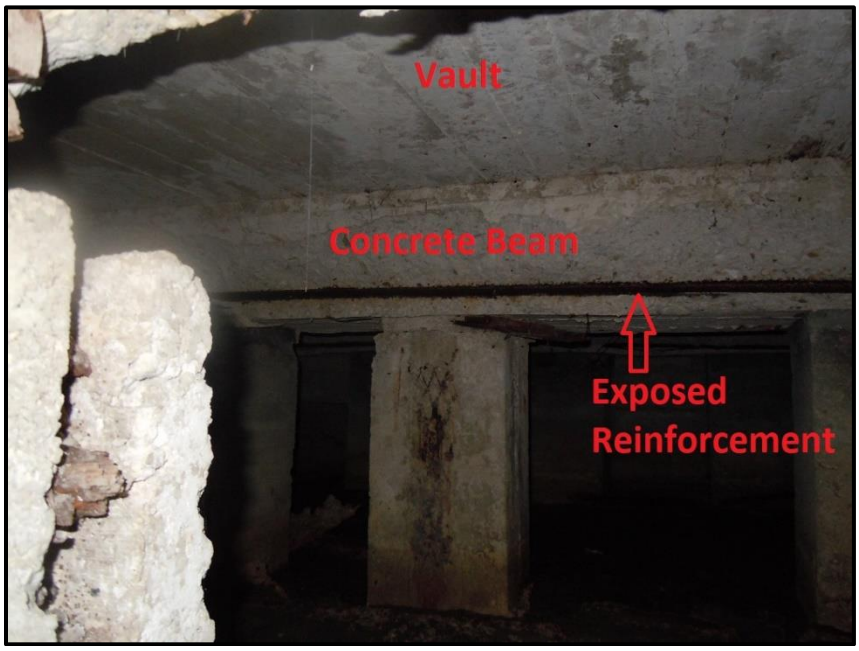
Location:
The building is located at 201 Broadway Ave. West in Everglades City. The original building was constructed in 1926 and a smaller addition was constructed in the early 1950s. According to the National Cooperative Soil Survey, the soils in this area are identified as St Augustine Organic Substratum consisting of a sandy fill of approximately 50” over a 4’ layer of muck. (See attachment) This type of soil consists is not desirable for spread footing foundations.

Existing Foundations:
Based on our visual inspection, there appears to be three types of foundations. The original bank building foundation was constructed using 2’ x 2’ concrete piers along the building perimeter and the center carrying beam at approximately 6’ on center. Without excavating and exposing a pier, we are unable to confirm the bottom of footing elevation. Wood carrying beams are used to support the building above the concrete piers which support a 2”x12” floor system.

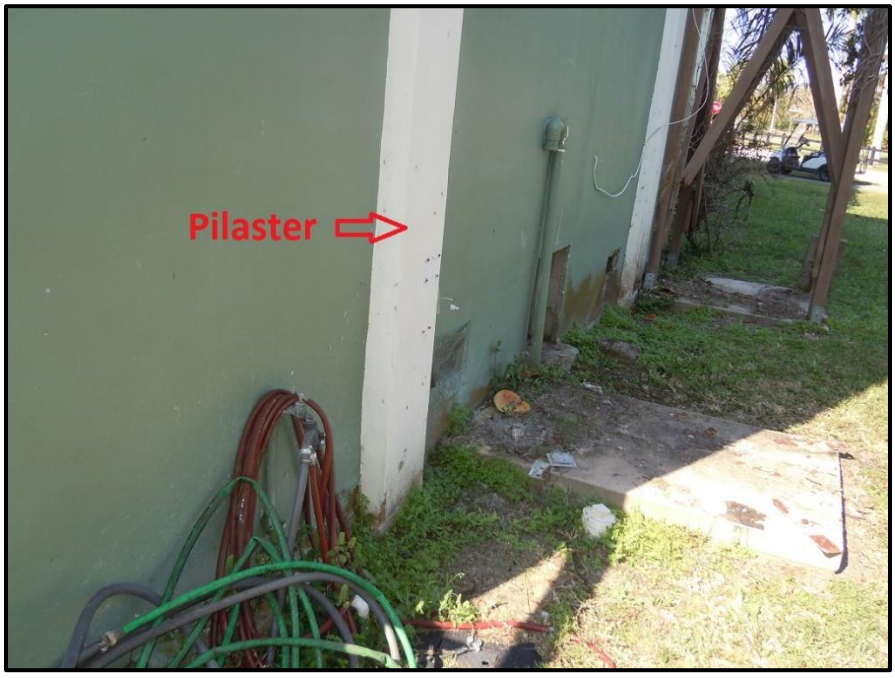


The bank building vault was constructed using wood piles encased in concrete and plaster supporting concrete beams and a concrete floor slab.



The 1950 addition was constructed using concrete spread footings and 8” block bearing walls. Concrete columns were incorporated into the foundation which correspond to the exterior pilasters at the building exterior walls. Without excavation, we are unable to determine if any piles were included in the original construction.

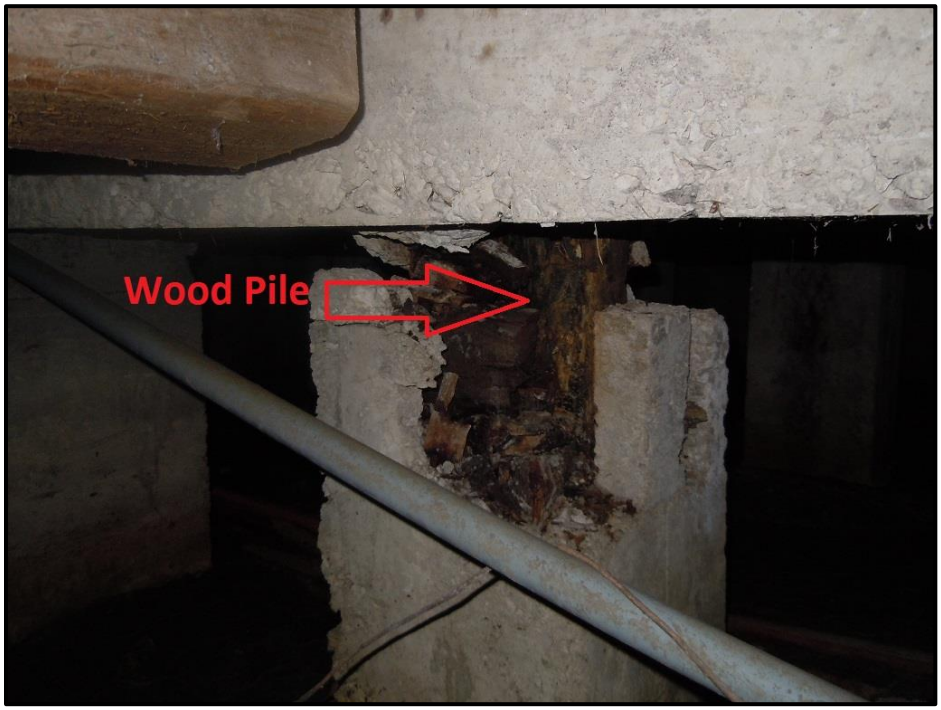

Concrete
Column


Pilaster

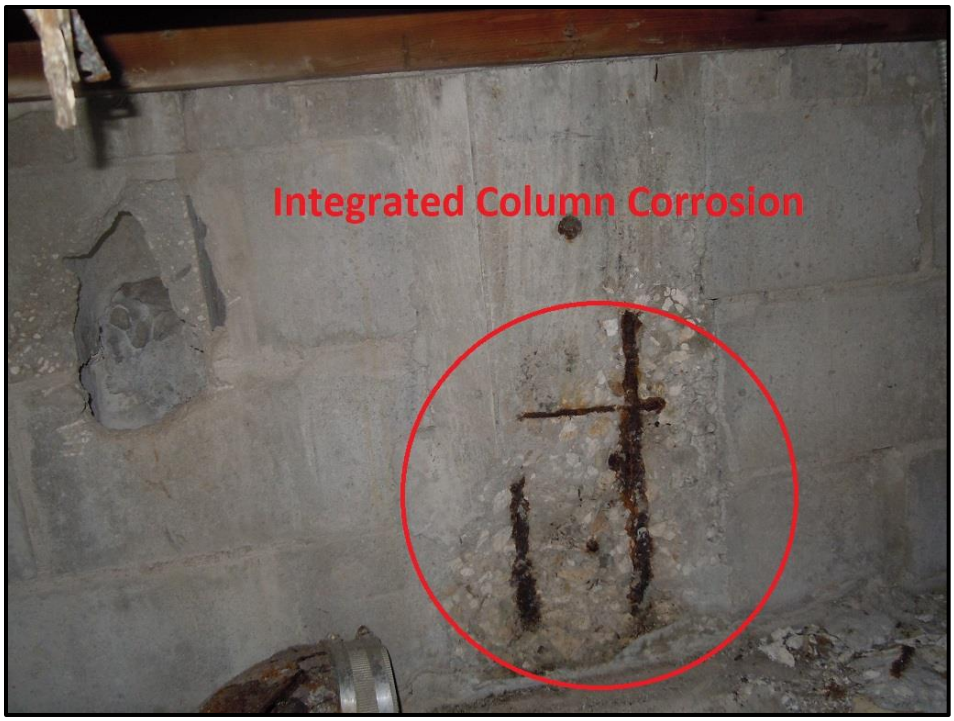
Existing Condition:
Over the past 95 years, to its credit, this building has been able to survive numerous hurricanes and periodic flooding. However, these events as well as the corrosive atmosphere of the ocean environment has taken its toll on the foundation integrity. The existing concrete piers are in poor condition. At least 30% of the concrete piers are cracked and deteriorating. Metal tie down anchors are highly corroded.



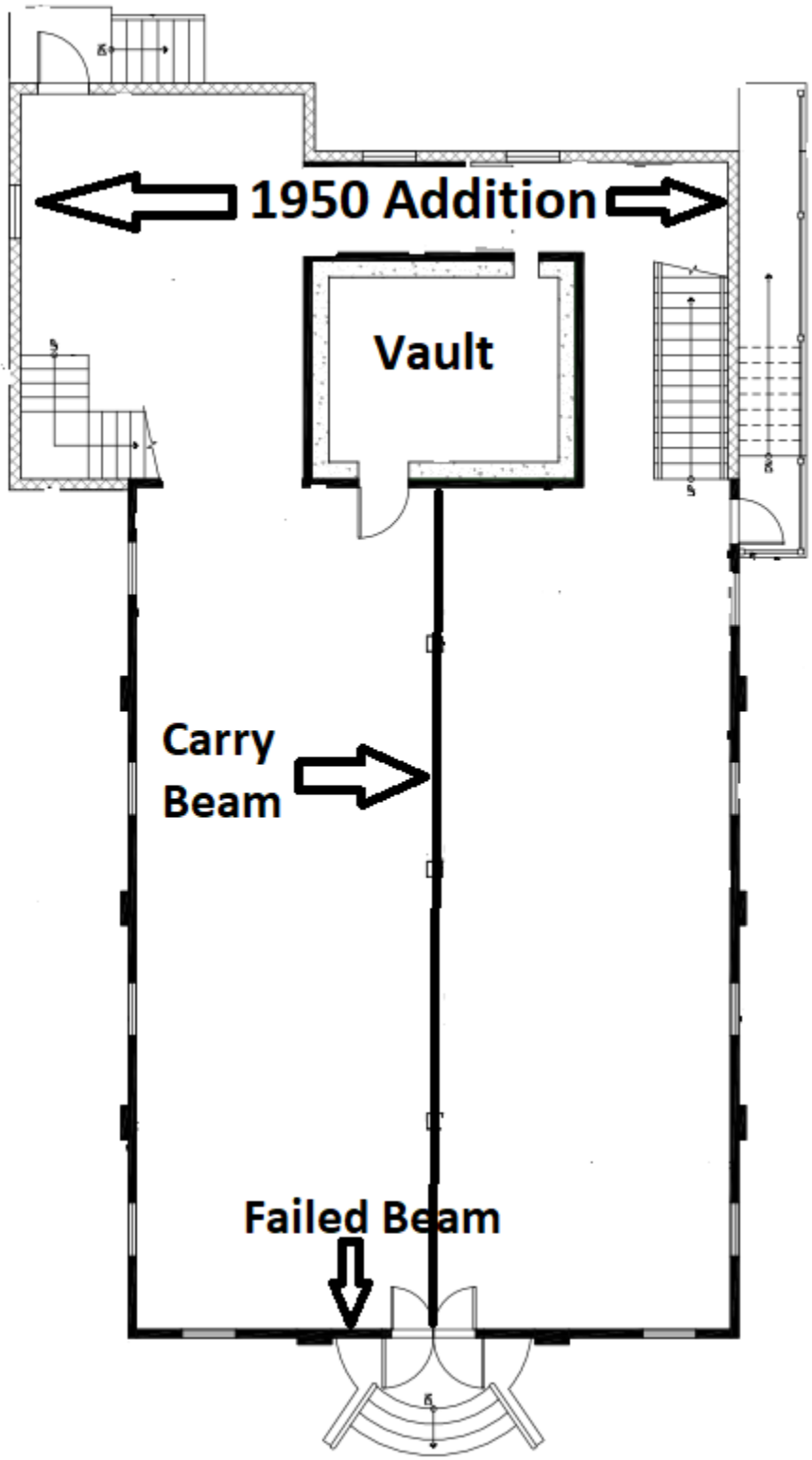

The vault support piles are in poor condition. The concrete encasement is cracked and deteriorated and the wood pile is exposed and deteriorated. The concrete support beam reinforcement is exposed and corroded.



The 1950 addition foundation is in fair condition. The concrete is intact however, there is an area at the North East corner that appears to be washing out. The reinforcement of some of the concrete columns embedded in the masonry walls is exposed and corroded.



The structural wood support system is in fair condition. This wood construction has been exposed to a very moist environment which can reduce the ultimate strength of the system. There are signs of past splice repairs and a carry beam at the main entrance has failed.


1950 Addition
Vault
Carry
Beam
Failed Beam

Recommendations:
This building foundation is dire need of repair and replacement especially noting the future storm and flooding potential. Much of the original bank building piers are visibly crumbling and the anchorage is corroding. We also believe that there are additional areas of unseen failures. We do not recommend continuing with any renovations other than securing the building and patching any leaks without a full replacement of the 1920 building and vault foundation. The 1950 addition foundation should be repaired along with any column failures.

This may require shoring and jacking of the existing structure and removal of the ground floor decking system. Helical piles and grade beams may lend itself as a viable solution. Geotechnical test borings should be performed in order to properly design the new foundation.

As earlier stated, the ground floor deck system is in fair condition. If the foundation can be replaced with the ground floor intact, the failed beams and joist will require repair and reinforcement.

The Florida building code provides several exceptions for registered historical buildings. This will be helpful in limiting code upgrade requirements. We do recommend however that a proper foundation replacement not be overlooked.

Respectfully Submitted,

Digitally signed by Christopher P Eseppi
Date: 2021.04.01 14:54:23 -04'00'

Christopher Eseppi PE

ORCO

ORCO has endeavored to conduct this investigation in a manner consistent with the level of care and skill ordinarily practiced by members of the engineering profession currently practicing in this location and similar circumstances as this project. No other representation, express or implied, is included or intended.

Collier County Area, Florida

35—St. Augustine, organic substratum-Urban land complex, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2y0jb
Elevation: 0 to 20 feet
Mean annual precipitation: 45 to 70 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 360 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

St. augustine, organic substratum, and similar soils: 45 percent
Urban land: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of St. Augustine, Organic Substratum

Setting

Landform: Marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy mine spoil or earthy fill over herbaceous organic material

Typical profile

^C - 0 to 51 inches: paragravelly fine sand
Oab - 51 to 80 inches: muck

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 18 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 4 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Forage suitability group: Forage suitability group not assigned (G155XB999FL)
Other vegetative classification: Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: No

Description of Urban Land

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: No parent material

Interpretive groups

Land capability classification (irrigated): None specified
Forage suitability group: Forage suitability group not assigned (G155XB999FL)
Other vegetative classification: Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: Unranked

Minor Components

Matlacha

Percent of map unit: 4 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: No

Holopaw

Percent of map unit: 3 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Convex, linear
Across-slope shape: Linear, concave
Other vegetative classification: Slough (R155XY011FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Basinger

Percent of map unit: 3 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Convex, concave

Across-slope shape: Linear, concave
Other vegetative classification: Slough (R155XY011FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Myakka

Percent of map unit: 3 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Canaveral

Percent of map unit: 1 percent
Landform: Ridges on marine terraces, flats on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, tread, talf
Down-slope shape: Convex, concave
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: No

Kesson, tidal

Percent of map unit: 1 percent
Landform: Tidal marshes on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Other vegetative classification: Salt Marsh (R155XY009FL), Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Collier County Area, Florida
Survey Area Data: Version 14, Jun 8, 2020