

City of Key Colony Beach

P.O. BOX 510141, KEY COLONY BEACH, FL 33051-0141 • PHONE (305) 289-1212
FAX (305) 289-1767



June 27, 2018

Christopher J. Moonis
City Administrator
City of Key Colony Beach
P. O. Box 510141
Key Colony Beach, FL 33051

RE: Key Colony Beach Club

Dear Mr. Moonis:

Questions have been raised, and conflicting interpretations have been made regarding the 50% rule as applied to Key Colony Beach Club. In Ordinance 424-2011 dealing with Floodplain Management, the City adopted this standard: "Substantial improvement means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which, over a 3-year period, equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the initial improvement." Thus, in determining the application of the 50% rule, the following methodology must be applied.

1. Determine the market value of the structure(s) prior to the initial improvements (those improvements made within the past 3 years). This determination must exclude the value of the land. The standard is market value, not replacement cost or some other method of valuation.
2. Determine the costs of the reconstruction, rehabilitation or repairs. Combine this number with the costs for such items incurred during the prior 3-year period.
3. Doing a mathematical calculation, determine whether or not the cost of the proposed reconstruction, rehabilitation or repairs resulting from the calculation in #2 above equals or exceeds 50% of the market value of the structure prior to the initial improvements.

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March 7, 2019

Mr. Chris Moonis
City Administrator/Manager
City of Key Colony Beach
600 West Ocean Drive
Key Colony Beach, FL 33051

Via Email – cmoonis@keycolonybeach.net

**RE: KEY COLONY BEACH ADMINISTRATION BUILDING
FLOOR SETTLEMENT
CITY OF KEY COLONY BEACH, MONROE COUNTY, FL**

Dear Mr. Moonis:

I am writing in reference to the above captioned project. The following documents were reviewed in reference to preparing this report:

1. On behalf of the City of Key Colony Beach (Appendix 1)
 - a. IBTS, 820 Lawrence Road, Suite 126, Kemah, TX 77565 – Site Boring Album – Completed November 16, 2017
 - b. IBTS, 820 Lawrence Road, Suite 126, Kemah, TX 77565 – Photos of City Hall Building taken by Eric Cruz, Program Manager – November 27, 2017
 - c. CSA Group, Mr. Jorge R. Luaces AIA, NCARB, 8200 NW 41st Street, Doral, FL 33166-6207 – Preliminary Visual Evaluation of the City Hall, Post Hurricane Irma Damage, dated December 12, 2017
 - d. U.S. Department of Homeland Security, Federal Emergency Management Agency, National Flood Insurance Program, Elevation Certificate application prepared by Mr. John Paul Grimes, III, P.L.S. of J.P. Grimes Surveyor & Mapper, PO Box 510403, Key Colony Beach, FL 33051-0403 on February 12, 2018
 - e. IBTS, Mr. Eric Cruz, 820 Lawrence Road, Suite 126, Kemah, TX 77565 - Draft cost estimate for the existing City Hall Complex, dated February 19, 2018
 - f. CSA Group, Mr. Roberto Leon, P.E., 8200 NW 41st Street, Doral, FL 33166-6207 – Revised Preliminary Visual Evaluation of the City Hall, Post Hurricane Irma Damage, dated March 19, 2018
 - g. Keystone Experts and Engineers, LLC, Mr. Ronald J. Goff, P.E., Managing Engineer and Mr. William H. Adams, P.E., Forensic Engineer, 558 E. Castle Pine Pkwy, Suite B4-104, Castle Pines, CO 80108 – Revised Engineer's Report, dated August 3, 2018

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Mr. Chris Moonis

**RE: KEY COLONY BEACH ADMINISTRATION BUILDING
FLOOR SETTLEMENT
CITY OF KEY COLONY BEACH, MONROE COUNTY, FL**

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- h. Universal Engineering Sciences, Inc., Ms. Meagen D. Gonzalez, P.G. and Mr. Mark K. Hardy, P.E., 9802 Palm River Road, Tampa, FL 33619 – Floor Elevation and Geophysical Survey, dated August 14, 2018
 - i. CSA Group, Mr. Rafael Jimenez, P.E., 8200 NW 41st Street, Doral, FL 33166-6207 – Condemnation Letter, dated August 22, 2018
 - j. City of Key Colony Beach, Mr. Chris Moonis, City Administrator/Manager, 600 West Ocean Drive, Key Colony Beach, FL 33051 – List of interior and exterior damage caused by disaster #4337DR and what has been repaired prior to inspection
 - k. J.P. Grimes Surveyor & Mapper, Mr. John Paul Grimes, III, P.L.S., PO Box 510403, Key Colony Beach, FL 33051-0403 – Map of Specific Purpose Topographic Survey of Floor of City Hall, dated October 9, 2018
2. On behalf of the Department of Homeland Security, Federal Emergency Management Agency, National Flood Insurance Program (FEMA)
- a. FEMA Site Inspection Report, Facility Description, Category E, Buildings/Vehicles/Equipment, inspected by Mr. Benjamin Suriel, FEMA Site Inspector, Architect; Mr. Howard Whittington and Mr. Howard Whittington, FEMA Site Inspector, Civil Engineer and inspected on December 13, 2017
 - b. FEMA Proof of Loss, prepared by Eagle American Insurance Agency, LLC, 13361 Overseas Highway, Marathon, FL 33050-3550 to the Wright National Flood Insurance, 801 94th Avenue North Street, Petersburg, FL 32114-8108, dated December 17, 2017
 - c. FEMA Public Assistance Program and Policy Guide, FP-104-009-2 / April, 2018
 - d. FEMA Site Inspection Report, Facility Description, Category E, Buildings/Vehicles/Equipment, inspected by Mr. Steve Norton and inspected on February 26, 2018
 - e. Request for Information from Mr. Jeffrey S. Ryan, Technical Specialist, VA Consolidated Resource Center, Public Assistance, Office Response and Recovery FEMA VA DOC, Winchester, VA 22603, in order to determine eligible repair costs and replacements due to Irma related damage, dated July 10, 2018
 - f. Key Colony Beach Request For Information Response to FEMA
 - g. FEMA Damage Description and Dimensions and Scope of Work, Pages 1 – 11 of 11, downloaded on February 11, 2019

Mr. Chris Moonis
RE: **KEY COLONY BEACH ADMINISTRATION BUILDING
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CITY OF KEY COLONY BEACH, MONROE COUNTY, FL**

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3. Miscellaneous Information by Norry Lynch
 - a. Emails between Ms. Norry Lynch, Norry Lynch, Risk Recovery Advisors, LLC, 8154 Gerbera Drive, Naples, FL 34113 and Mr. Roberto Leon, P.E., CSA Group, 8200 NW 41st Street, Doral, FL 33166-6207 regarding water weight, dated October 9, 2018
 - b. A letter prepared by Ms. Norry Lynch, Norry Lynch, Risk Recovery Advisors, LLC, 8154 Gerbera Drive, Naples, FL 34113 to Mr. Roger K. Jones, Public Assistance Infrastructure Branch Director, FEMA Joint Field Office, Orlando, FL advising of the issues with FEMA, dated January 30, 2019
 - c. FEMA's blank Non-Residential, SDE Damage Inspection Worksheet, Pages 1 – 6 of 6; Photo Log, Page 1 of 1; Checklist 1 – Post-Disaster Planning, Pages 1 – 5 of 5; Checklist 2 – Field Preparations, Pages 1 – 2 of 2; Required and Recommended Elements to be Included in a Contractor or Community Estimate of Repairs, Pages 1 – 4 of 4; Recommended Guidelines for Interaction with Structure Owners by SDE Inspectors and Guidance for Estimating Percent Damage for Non-Residential Structures, Pages 1 – 7 of 7
 4. Historical Plans of City Hall
 - a. Plan Sheet 1 of 1 of the Convention Hall, prepared by Robert Karl Frese, A.I.A., Miami FL
 - b. Plan Sheet 1 of 1 of the Foundation Plan for the Convention Hall, prepared by Robert Karl Frese, A.I.A., Miami FL
 - c. Plan Sheets 1 – 2 of 2 for the Service Building Addition, prepared by Paul C. Denson, Jr. & Associates, Inc., Marathon, FL, revised July 1, 1992
 - d. Plan Sheet 1 of 1 for the City Auditorium Retrofit to Limited Storm Shelter, prepared by Paul C. Kenson, Jr., Marathon, FL, dated August 31, 1999
 - e. Plan Sheet 1 of 3 for the Proposed Building Expansion, prepared by Jose E. Blanco, A.I.A., 8490 SW 116 Street, Miami, FL 33156, revised July 7, 1997
 - f. Sheets 1 – 4 of 4 of Historical Building Plans
- A. General statement and building component orientation

This report is prepared in reference to the floor settlement in the administrative office area of the building encompassing the Rear Office, Office Space, Copy Room, Administrative Area, Hallway between the building entrance and the Chamber Room(Marble Hall), the Police Room, Men's Rest Room, Women's Rest Room, Hallway Storage Area, Electrical Chase and Police Chief Office, hereinafter titled "Administrative".



Mr. Chris Moonis
RE: KEY COLONY BEACH ADMINISTRATION BUILDING
FLOOR SETTLEMENT
CITY OF KEY COLONY BEACH, MONROE COUNTY, FL

March 7, 2019
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The portions of the building which have been built at separate times and have supporting foundations on concrete piling and grade beams holding the perimeter concrete block construction and interior floors consist of the first and second floor building code offices, the post office and the chamber room (Marble Hall). None of these areas have any settlement of the perimeter concrete block or the concrete floors and are not part of this report. The perimeter of the "Administrative" section is built on wood piles and wood grade beams and the perimeter concrete block is not settled and is not part of this report.

Orientation in this report is as if this Writer is standing on Ocean Drive and facing the building. The building codes portion of the building is located front, right, first and second floor; the "Administrative" section of the building where floor settlement has occurred is in the center right; the chamber room (Marble Hall) is at the right, rear and the Key Colony Beach Post Office is at the left, rear of the building.

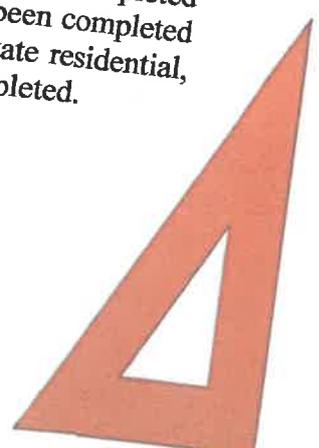
B. Brief Resumes of Dennis R. Peters, P.E. and H. Alan Mooney, P.E.

1. Brief resume of Dennis R. Peters, P.E.

This report is prepared by Dennis R. Peters, P.E., P.L.S. BCO, hereinafter this Writer, who is the President of Criterium Peters Engineers, Inc. and licensed in Pennsylvania as a registered professional engineer, PE 027528E; as a registered professional land surveyor, SU 023626E; as a ICC certified building code official and inspector, BCO 003655. Criterium Peters Engineers, Inc. is a franchisee and associate of corporate Criterium Engineers, mentioned below.

Dennis R. Peters, P.E., is completely familiar with the "Administrative" section of the building, having been in Key Colony Beach as a homeowner and resident during well over six months per year for over 20 years and is also completely familiar with the circumstances which occurred during hurricane Irma damage and flooding in Key Colony Beach, on and after September 10, 2017. Dennis R. Peters, P.E., currently owns residential homes in Key Colony Beach and adjacent Duck Key, six miles to the north towards the mainland of Florida.

Dennis R. Peters, P.E., has over 48 years of structural design experience as well as hands on construction of residential, commercial and industrial buildings ongoing continually throughout his career. Well over 100 inspections, structural design and remedial work have been completed related to flooding damage. "Fact" forensic structural damage inspections have been completed by Dennis R. Peters, P.E., for over 50 insurance companies and hundreds of private residential, commercial and industrial buildings, with well over a thousand investigations completed.



Mr. Chris Moonis

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2. Brief resume of H. Alan Mooney, P.E.

H. Alan Mooney, P.E., is President of Criterium Engineers, one of North America's leading consulting engineer firms, a premier company involved in building related services in the structural, civil, evaluation, project management and similar fields.

Since 1957, Criterium Engineers has evaluated more than 750,000 buildings across the United States and Canada. More than 15,000 buildings and over 100 construction sites per year are inspected.

H. Alan Mooney, P.E., is the founder and President of Criterium Engineers, H. Alan Mooney, P.E., has over 50 years of experience in the civil and structural engineering field, including multi-million dollar engineering and construction projects, forensic engineering, and thousands of commercial building inspections.

H. Alan Mooney, P.E., is a licensed professional engineer in twelve states including Florida. His registration in Florida is under number 81959.

C. Review of referenced documents

All of the published materials referenced in the Appendix and as outlined above have been reviewed by Dennis R. Peters, P.E., in preparation of the opinion related to storm damage and remedial action necessary to bring the "Administration" building section concrete floor slab to pre hurricane Irma condition. This report has been peer reviewed and H. Alan Mooney, P.E., concurs with the content, opinions and remedial work as outlined and described herein. This report is limited to the "Administration" section settled concrete floor slab and the cost to bring this concrete floor back to original floor elevation and pre-hurricane Irma condition, excluding all other items identified in the Department of Homeland Security, Federal Emergency Management Agency, Project # 11456, pages 1 through 11 as enclosed, date download 2/11/19.

The Department of Homeland Security, Federal Emergency Management Agency, Project # 11456, pages 1 through 11 as attached, date download 2/11/19, indicates a CRC Gross Cost of \$913,665.00 which includes wall, door, trim, tile, carpet credits for remedial repair to the existing building. This outline indicates on page 4 of 11, Rear Office and on page 8 of 11, Rear Office that only 72 square feet of concrete slab construction in the "Administrative" section of the building is included in the CRC Gross Cost of \$913,665.00 and the damage was caused by spalling. The entire area of "Administrative" section concrete floor slab which is settled is 2,200 square feet. This report addresses this concrete floor slab and associated cost including piling and horizontal reinforced grade beams to meet Code and install the concrete floor slab to original floor elevation.

Mr. Chris Moonis

RE: KEY COLONY BEACH ADMINISTRATION BUILDING
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The opinion in this report is limited to the storm related damage, cost to remove the concrete floor; cost to install concrete reinforced piles, horizontal reinforced grade beams and new four inch thick concrete floor with wire reinforcing in the "Administrative" section of the building.

D. Our professional opinion regarding the concrete floor slab settlement, based on interviews, reports in the appendices and on site observations in the "Administrative" section of the building.

This Writer is completely familiar with the "Administrative" section of the building as outlined above under B1. Prior to hurricane Irma, which occurred on September 10, 2017, there was minor settlement in several floor areas of the "Administrative" section of the building based on over at least 75 observations by this Writer during the past 20 years. The significant major floor settlement observed by this Writer was during three inspections conducted during November 2018 through January 2019 and this Writer concurs with the findings in the various reports concerning settlement and depth of settlement observed.

This Writer observed the voids under the "Administrative" section slab through the bore holes completed as part of the investigation, with this Writers bore scope and agrees with the void observations in the various reports.

The significant major settlement of the "Administrative" concrete floor slab occurred directly after post hurricane Irma flooding and it is our opinion that this significant major concrete floor slab settlement occurred as a direct result of hurricane Irma flooding and did not occur over a long period of time. It is our opinion that the subsurface sand under the "Administrative" concrete floor slab flowed away from the subsurface during hurricane Irma flooding and caused the large voids under the "Administrative" concrete floor slab. Lack of support from a pre-Irma sand base under the concrete floor slab and now where post Irma voids exist is the direct cause of the settlement of the recent, significant, major concrete floor slab.

An interview with Mr. Ed Borysiewicz, former chief building code official in Key Colony Beach by this Writer and Mr. Borysiewicz indicated that the post office, chamber room (Marble Hall) and the codes office two floors were constructed on concrete piles with horizontal grade beams throughout the floors and the "Administrative" section was constructed with the perimeter only on wood piles and wood grade beams on the perimeter of the building. No interior concrete piles or concrete grade beams were installed under the "Administrative" portion of the building. The entire building perimeter and concrete block construction has not settled as the entire perimeter is either on concrete piles and grade beams or on wood piles and wood grade beams.

Mr. Chris Moonis

RE: **KEY COLONY BEACH ADMINISTRATION BUILDING
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March 7, 2019

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Review of Roberto Leon, P.E. Senior VP of CSA Group email to Norry Lynch indicated that, given the height of water of 3.3 feet (varying reports have elevation up to 3.9 feet) inside of the "Administrative" section of the building during the Irma event that a weight of 211 pounds per square foot was imposed on the concrete slab in the "Administrative" section of the building which would normally have a 50 pound per square foot load. This Writer concurs with this opinion and the substantial additional weight on the concrete floor slab is a contributing factor towards the settlement after voids became present during Irma flooding.

There is discussion in reports that the concrete floor slab in the "Administrative" section failed due to a crack in the concrete floor slab where two foundations abut. This Writer completely viewed all sections of the existing concrete floor slabs and there is no crack where two foundations meet as was reported.

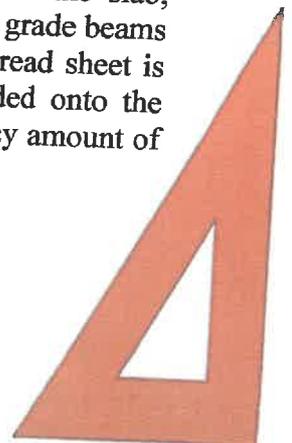
There was discussion concerning pumping cementitious grout under the slab to raise the slab to the original profile. The existing subsurface sand fill is not compacted and installation of grout, which will harden in short order, will result in additional settlement in a reasonably short period of time. Installation of pumped cementitious grout is not a solution to the concrete floor slab settlement problem.

E. Cost Estimate and Conclusion

Review of the FIRM Elevation Certificate prepared by John Paul Grimes III, Surveyor and Mapper, Key Colony Beach, indicates that the entire building is pre-FIRM in a Flood Zone AE-7 with a floor elevation to be met, pre-Irma, of approximately 5.8 feet. Base flood elevation is 7.0 feet. The remedial work will only bring the "Administrative" concrete floor slab to pre-Irma elevation, bearing in mind that approximately 3.3 feet of water was inside of the "Administrative" section of the building.

A separate report will be prepared for a Hazard Mitigation estimate to raise the entire "Administrative" section to a new base flood elevation floor slab of approximately 9 feet above the present BFE of 7 feet based on upcoming Florida Keys FIP remapping and new BFE to be published in the near future.

The cost for demolition of the existing concrete floor slab, subsurface fill under the slab, installation of drilled and concrete reinforced pilings, horizontal reinforced concrete grade beams and new concrete floor with wire reinforcing as outlined on the attached Excel spread sheet is estimated to be \$341,844.30. It is our opinion that this amount needs to be added onto the existing Department of Homeland Security, Federal Emergency Management Agency amount of \$913,665.00.



Mr. Chris Moonis

RE: KEY COLONY BEACH ADMINISTRATION
BUILDING FLOOR SETTLEMENT
CITY OF KEY COLONY BEACH, MONROE COUNTY, FL

March 7, 2019

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Our review, opinions, cost estimates for remedial work and conclusions are given to a reasonable degree of engineering certainty and combined structural building, design and cost investigative services experience of over 90 years. Mr. H. Alan Mooney, P.E., under registered professional engineers Florida license and seal, 81959 has conducted a thorough peer review of this report and concurs with the review, opinions, cost estimates and conclusions.

Please contact us if you have any questions or need anything further at this point concerning this matter.

Sincerely,


Dennis R. Peters, P.E., P.L.S, BCO



H. Alan Mooney, P.E., Florida Registered Professional Engineer No. 81959



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April 5, 2019

Mr. Chris Moonis
City Administrator/Manager
City of Key Colony Beach
600 West Ocean Drive
Key Colony Beach, FL 33051

RE: KEY COLONY BEACH ADMINISTRATION BUILDING
FLOOR SETTLEMENT
CITY OF KEY COLONY BEACH, MONROE COUNTY, PA

Dear Mr. Moonis:

I am writing in reference to the above captioned project and in response to the email, from Mr. Corky Spehrley, dated April 3, 2019 that was addressed to you. Everything that we have completed for the floor settlement is as outlined in the March 7, 2019 report. **The March 7, 2019 report is a fact report based on a reasonable degree of engineering certainty.**

The March 7, 2019 report and attachments was provided to the City of Key Colony Beach for the sole purpose to submit to FEMA for review and consideration for funding of listed repairs. No one from our office has discussed any issues with FEMA representatives or with anyone else concerning preparing any report favorable to the City of Key Colony.

In reference to Mr. Corky Spehrley's statements, in the above mentioned email, I have the following responses in reference to his statements which are non bolded below:

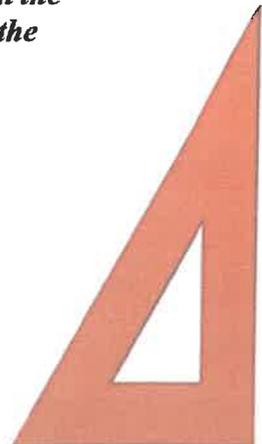
1. "The settlement of the center section was cause by Irma scouring away the supporting sand". *This writer reviewed boring logs and conducted his own bore scope investigation. During that investigation, this writer observed significant major floor settlements and significant voids under the concrete floor slab. It is this writers opinion that the subsurface sand under the "Administration Section" of the concrete floor slab flowed away from the subsurface during hurricane Irma flooding and caused the large voids under the "Administration Section" concrete floor slab. It is this writers opinion there is no other reasonable explanation for the migration of sand away from the subsurface under the concrete floor slab of the "Administration Section" of the building.*

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Mr. Chris Moonis

April 5, 2019

RE: KEY COLONY BEACH ADMINISTRATION BUILDING
FLOOR SETTLEMENT
CITY OF KEY COLONY BEACH, MONROE COUNTY, PA

Page 2

2. ***“The weight of 3.3 feet or more of water caused the floor to sink”. Normal office floors, and in this case, a floor constructed of 4” thick concrete, is expected to support a load of 50 pounds per square foot under ICC Building Code. During the Irma event, it was indicated by Roberto Leon, P.E., Senior VP of CSA Group, that the height of the water on the “Administration Section” was 3.3 feet, possibly 3.9 feet, which would add a stormwater weight of 211 to 250 pounds per square foot load, which is 4 – 5 times greater than what would normally be the expected floor load on a normal office floor. This writer agreed with Roberto Leon’s analysis. This additional weight contributed to the settlement of the “Administration Section” of the building.***

3. ***“There was NO settlement before Irma”. On Page 6 of the March 7, 2019 report, it states that “Prior to hurricane Irma, which occurred on September 10, 2017, there was minor settlement in several floor areas of the “Administration Section” of the building based on over at least 75 observations by this Writer during the past 20 years”.***

Our review, opinions, cost estimates for remedial work and conclusions were given to a reasonable degree of engineering certainty and combined structural building, design and cost investigative services experience of over 90 years. Please review Pages 4 and 5 of our March 7, 2019 report concerning the qualifications of the authors of the March 7, 2019 report.

This writer takes complete offense of Mr. Corky Spehrley’s statement that the March 7, 2019 report is for the purpose of bilking FEMA. This writer has had no discussion with FEMA or any other party concerning slanting a report in favor of either Key Colony Beach or FEMA and this writer has no idea whether or not FEMA will be providing a settlement payment to repair the “Administration Section” of the building based on our report.

The report dated March 5, 2019 was a Draft Only report. Mr. Corky Spehrley telephoned this writer the evening of March 5, 2019 and discussed the building for over an hour. Several additions to the March 5, 2019 draft were prepared to clarify several portions of the March 5, 2019 draft report, now void, and the final report is dated March 7, 2019.

Sincerely,

Dennis R. Peters

Dennis R. Peters, P.E., P.L.S., BCO





IBTS

INSTITUTE FOR BUILDING TECHNOLOGY AND SAFETY
45207 RESEARCH PL.
ASHBURN, VA 20147

Insured: KEY COLONY CITY HALL
Business: 600 W. OCEAN DRIVE
KEY COLONY BEACH, FL 33051

Home: (305) 289-1212

Claim Rep.: Eric Cruz

Estimator: Eric Cruz

Claim Number: KEY COLONY CITY
HALL

Policy Number: KEY COLONY CITY
HALL

Type of Loss: Hurricane

Date of Loss: 9/10/2017

Date Inspected: 11/28/2017

Date Received:

Date Entered: 11/28/2017 1:31 PM

Price List: FLKW7X_NOV17
Restoration/Service/Remodel
Estimate: KEY_COL_CITYHALL



IBTS

INSTITUTE FOR BUILDING TECHNOLOGY AND SAFETY
45207 RESEARCH PL.
ASHBURN, VA 20147

Summary for PUBLIC FACILITY

Line Item Total			2,290,005.94
Material Sales Tax	@	7.500%	63,168.92
Subtotal			2,353,174.86
Overhead	@	10.0%	235,317.79
Profit	@	10.0%	235,317.79
Replacement Cost Value			\$2,823,810.44
Net Claim			\$2,823,810.44

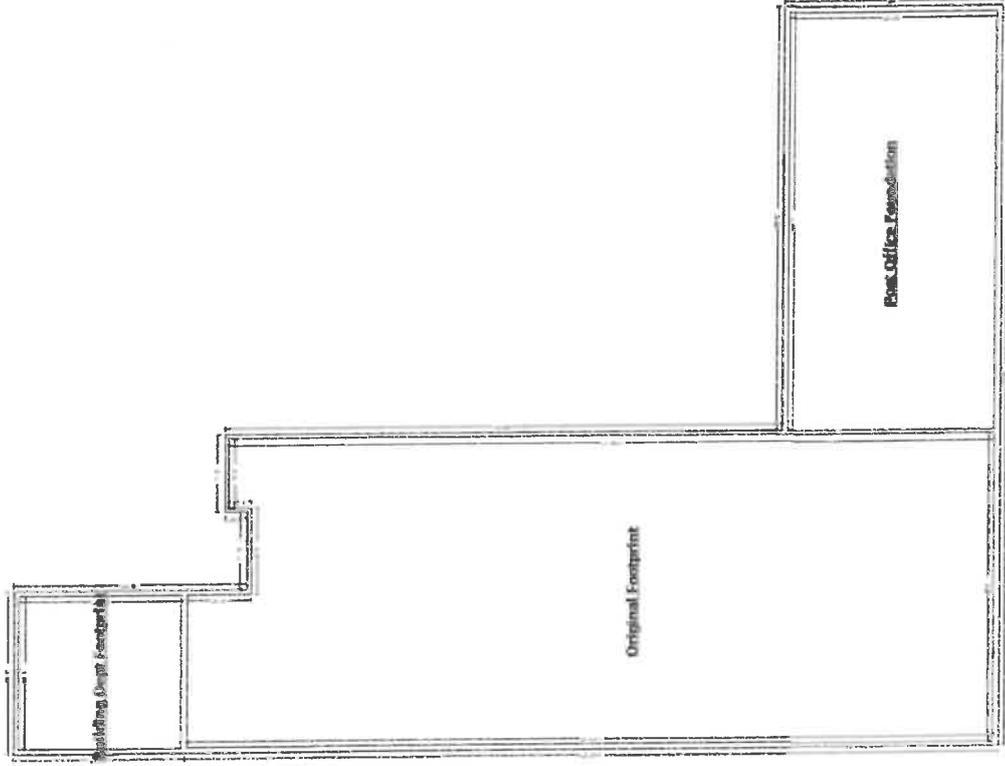
Eric Cruz

Closing Statement:

IBTS is recommending the demolition of the City Hall building.

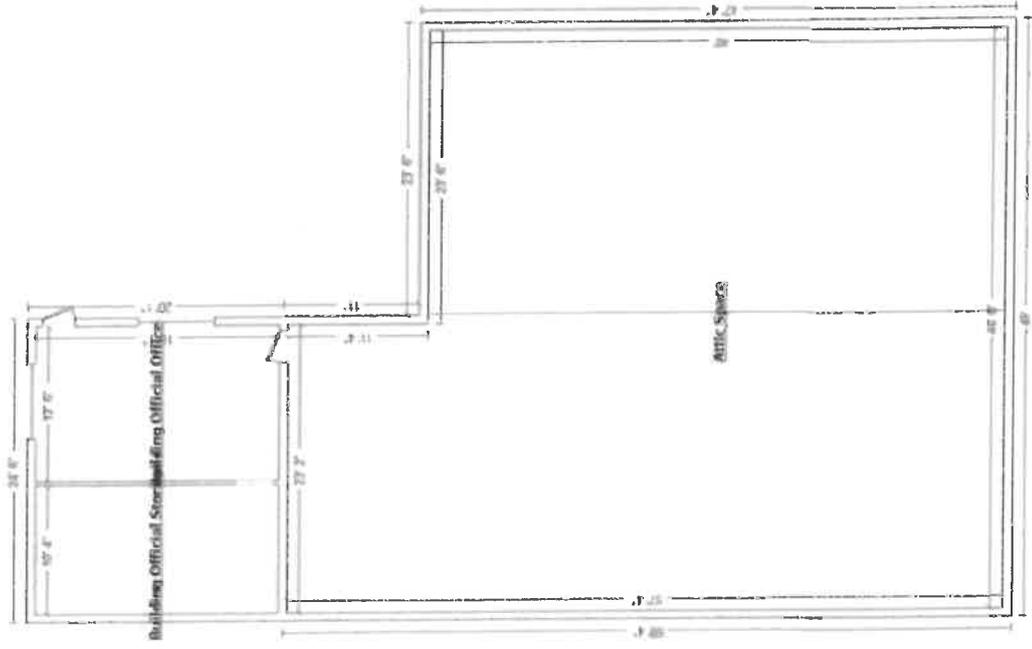
With the destruction of Hurricane Irma, this building is not fit to be occupied. We have based this decision on the estimated cost of repairs to be made to the existing building. This building has sustained critical washout of the sand cushion that the structural slab is resting on. There is evidence of a failing structure in the exterior and interior of the building. There have been several boring made to get a better visualization of this subsidence of material.

Foundation

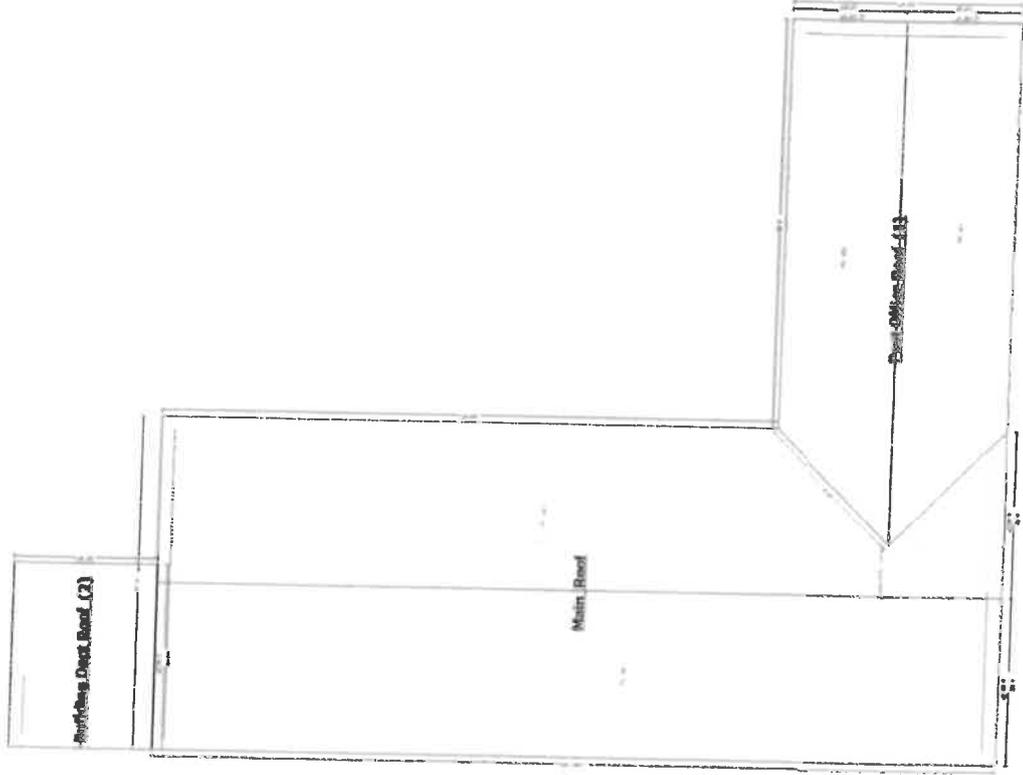


RT

Foundation



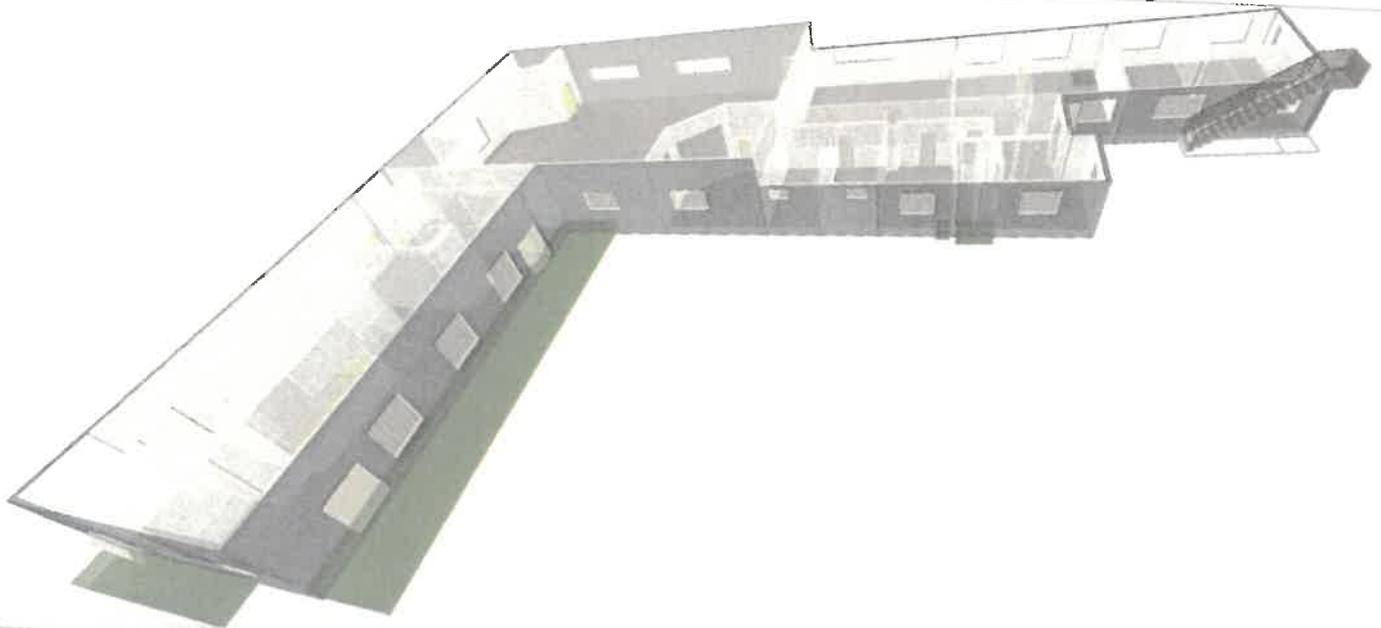
Roof A

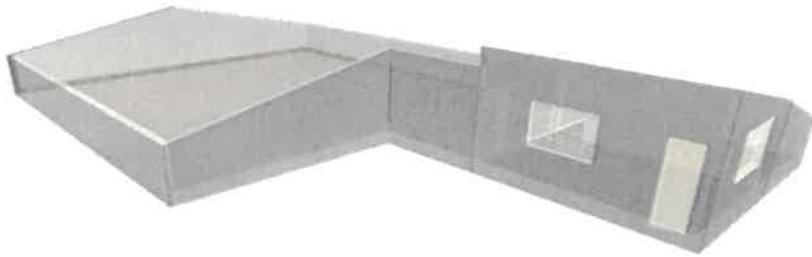


Roof A

KEY_COL_CITYHALL

12/17/2017







**IBTS**

INSTITUTE FOR BUILDING TECHNOLOGY AND SAFETY
45207 RESEARCH PL.
ASHBURN, VA 20147

Insured: KEY COLONY CITY HALL
Business: 600 W. OCEAN DRIVE
KEY COLONY BEACH, FL 33051

Home: (305) 289-1212

Claim Rep.: Eric Cruz

Estimator: Eric Cruz

Claim Number: KEY COLONY CITY
HALL

Policy Number: KEY COLONY CITY
HALL

Type of Loss: Hurricane

Date of Loss: 9/10/2017
Date Inspected: 11/28/2017

Date Received:
Date Entered: 11/28/2017 1:31 PM

Price List: FLKW7X_NOV17
Restoration/Service/Remodel
Estimate: KEY_COL_CITYHALL



IBTS

INSTITUTE FOR BUILDING TECHNOLOGY AND SAFETY
45207 RESEARCH PL.
ASHBURN, VA 20147

Summary for PUBLIC FACILITY

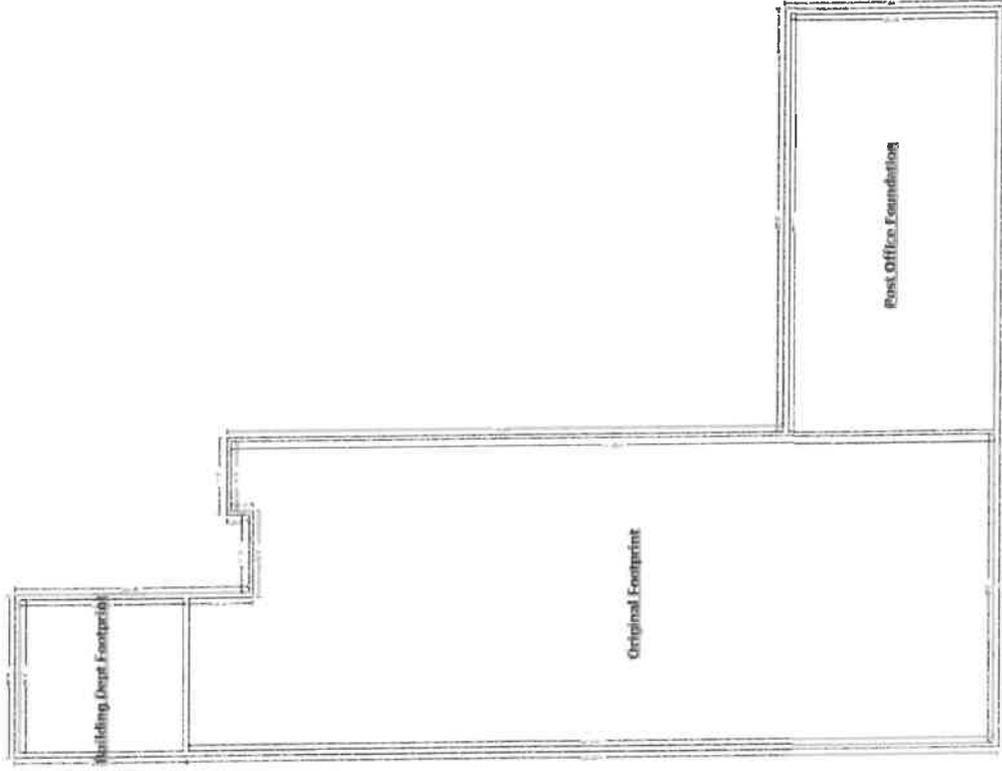
Line Item Total			2,290,005.94
Material Sales Tax	@	7.500%	63,168.92
Subtotal			2,353,174.86
Overhead	@	10.0%	235,317.79
Profit	@	10.0%	235,317.79
Replacement Cost Value			\$2,823,810.44
Net Claim			\$2,823,810.44

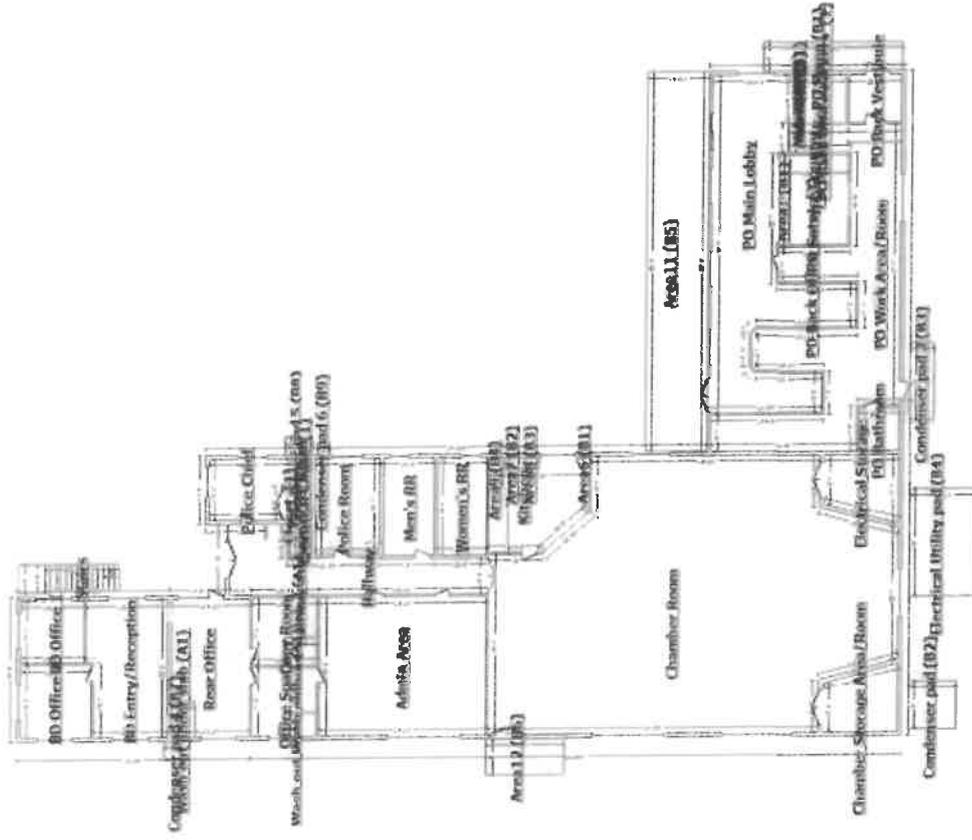
Eric Cruz

Closing Statement:

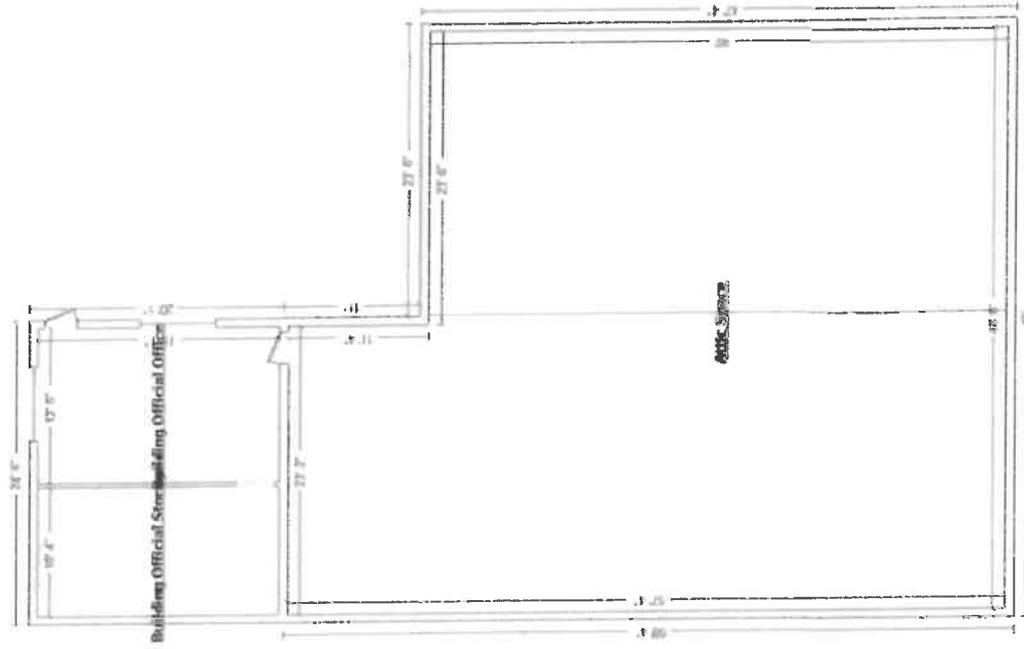
IBTS is recommending the demolition of the City Hall building.

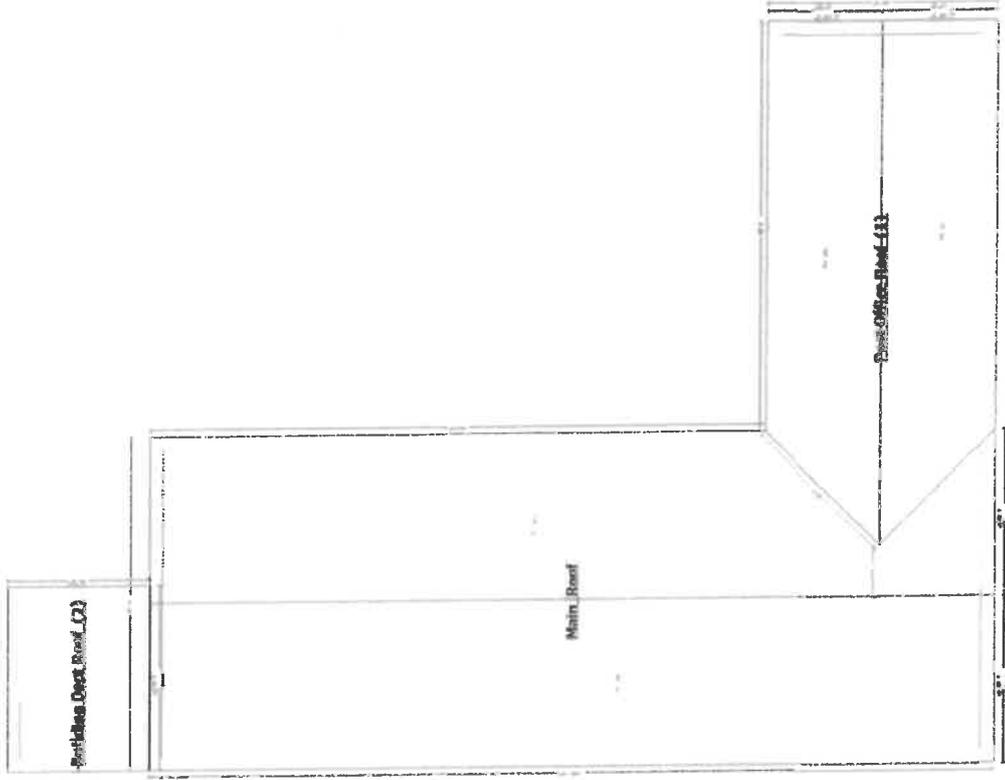
With the destruction of Hurricane Irma, this building is not fit to be occupied. We have based this decision on the estimated cost of repairs to be made to the existing building. This building has sustained critical washout of the sand cushion that the structural slab is resting on. There is evidence of a failing structure in the exterior and interior of the building. There have been several boring made to get a better visualization of this subsidence of material.

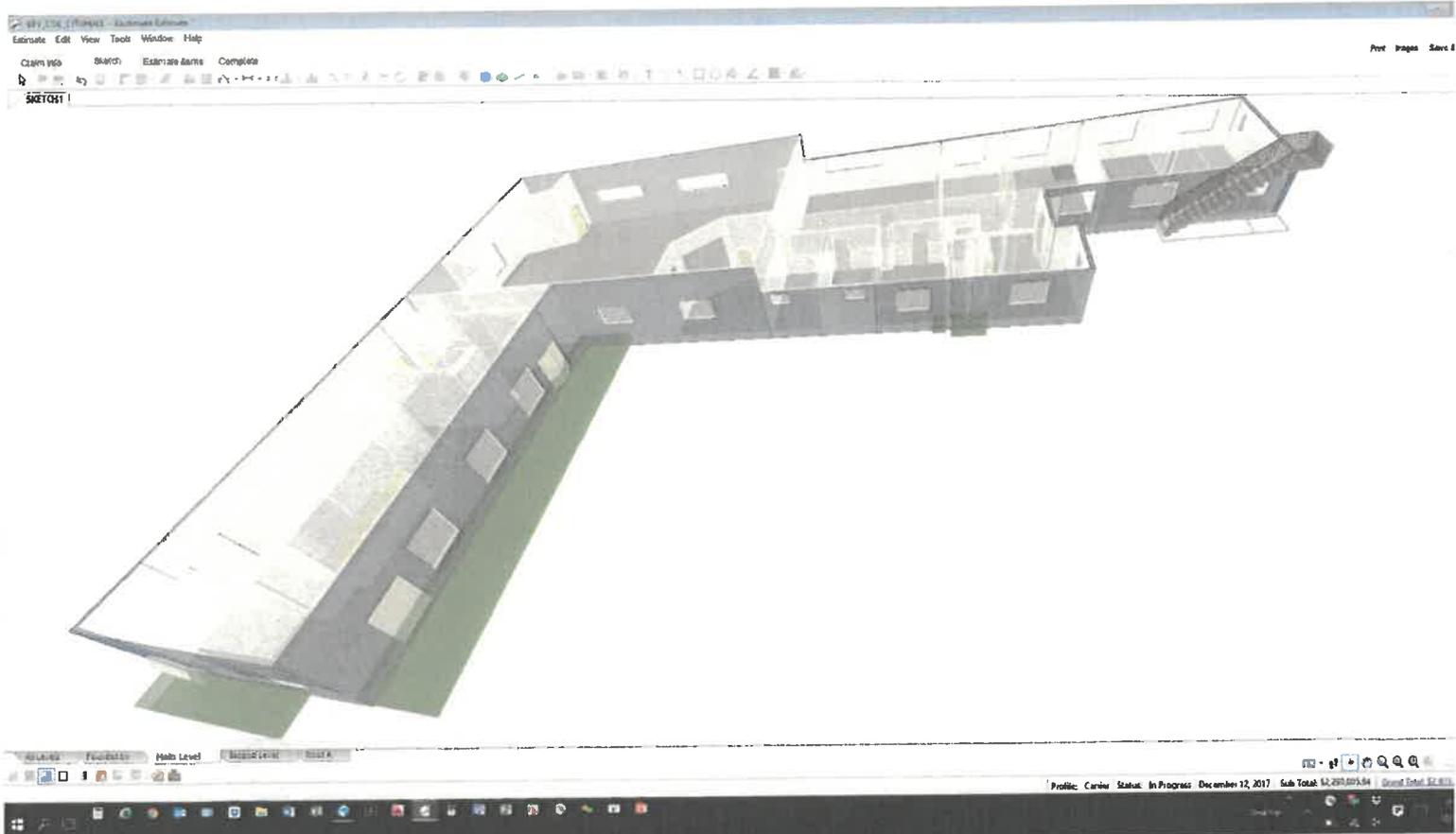




Main Level











David Turner

From: Hovell, Ronald (CTR) <ronald.hovell@associates.fema.dhs.gov>
Sent: Monday, November 15, 2021 10:28 AM
To: Silvia Gransee; KCB Mayor; David Turner; N LYNCH
Cc: Robertson, Hulon (CTR); Grube, Paul; Simerl, Michael
Subject: [External] FW: EHP Request for Information Initiated (FPN) – DR 4337 FL – GM 11458 / PW 06016 – City of Key Colony Beach – Key Colony Beach City Hall Building Damage
Attachments: 20211104 PA 4337-06016 PN 11458 FPN.pdf

EHP has completed their review of this project and has requested that the attached public notice be posted as detailed below.

Please let me know if you have any questions.

Ron

Ron Hovell, P.E.
Program Delivery Manager (PDMG)
FEMA PA | TAC Contractor - FLUOR
Orlando Processing Center DR 4337/4399/4468/4564 FL
Mobile: (202) 702-9216
ronald.hovell@associates.fema.dhs.gov

Subject: EHP Request for Information Initiated (FPN) – DR 4337 FL – GM 11458 / PW 06016 – City of Key Colony Beach – Key Colony Beach City Hall Building Damage

EHP is requesting additional information for the subject project. This RFI is needed for compliance.

The City of Key Colony's Beach City Hall building project is located in flood zone AE. Per 44 CFR Part 9.12, prior to funding obligation we are required to post a final public notice for projects that will take place within a floodplain and/or wetland. The attached Final Public Notice must be posted in a public location, e.g. the project location, and on the Applicant's website, for a minimum of 15 calendar days prior to funding obligation to allow for public involvement and comments on the effects of the project on the community. To determine compliance with EO 11988 the following documents should be provided by PA to EHP no later than 5 business days from the date of this email:

- Please forward the attached public notice to the applicant and request that they post it in the vicinity of the proposed action and on their public website. Once the notice is posted, please provide date-stamped photos of the physical posting location and the link to website posting. The regulatory 15-day period will begin once these photos are received.

SLTT Organization Details

Key Colony Beach, City of (067-94323-99)

Filters

Org Personnel Status: Active

Quick Search:

Last Name	First Name	Middle Initial	Personnel Type	Title	Roles	Emails
Collins	Clare	A	Direct Employee	Project Manager	Alternate PA Coordinator	ccollins@cityofkb.com
Cruz	Eric		Direct Employee	Technical Architect	Authorized Representative	ecruz@cityofkb.com
Lynch	Norry		Direct Employee	Insurance Specialist	Alternate PA Coordinator Authorized Representative	norry@cityofkb.com
Todd	Rebecca		Direct Employee	Primary Contact	Authorized Representative	admin@cityofkb.com
Todd	Rebecca		Direct Employee	Direct Contact	Alternate PA Coordinator	cityofkb@cityofkb.com
Wetzel	Viola	L	Direct Employee	Program Admin	Alternate PA Coordinator Authorized Representative	vwetzel@cityofkb.com

If I recall correctly, Rebecca told me that the City would not be claiming Direct Administrative Costs (DAC). Early on, some projects included DAC but it was pulled out at the City's request. However, it leaves me wondering whether or not you would like to be reimbursed for costs such as for your consultant (Norry) or other DAC. If so, I'm still able to create a Management Cost project for you which would provide funding based on 5% of the value of all of your other projects which would be just over \$290K. Please let me know.

Ron

Ron Hovell, P.E.
 Program Delivery Manager (PDMG)
 FEMA PA | TAC Contractor - FLUOR
 Orlando Processing Center DR 4337/4399/4468/4564 FL
 Mobile: (202) 702-9216

Thanks, that addresses the web site posting, just need the photos: "Once the notice is posted, please provide date-stamped photos of the physical posting location and the link to website posting".

Please give me a call to review the next steps for this project.

Thanks,
Ron

Ron Hovell, P.E.
Program Delivery Manager (PDMG)
FEMA PA | TAC Contractor - FLUOR
Orlando Processing Center DR 4337/4399/4468/4564 FL
Mobile: (202) 702-9216
ronald.hovell@associates.fema.dhs.gov

From: David Turner <cityadministrator@keycolonybeach.net>
Sent: Tuesday, November 16, 2021 9:40 AM
To: Hovell, Ronald (CTR) <ronald.hovell@associates.fema.dhs.gov>
Subject: Fwd: [External] FW: EHP Request for Information Initiated (FPN) – DR 4337 FL – GM 11458 / PW 06016 – City of Key Colony Beach City Hall Building Damage

Hi Ron,
See attached

Dave Turner
City Administrator
City of Key Colony Beach
305.849.0273

Begin forwarded message:

From: Silvia Gransee <cityclerk@keycolonybeach.net>
Date: November 16, 2021 at 8:45:03 AM EST
To: David Turner <cityadministrator@keycolonybeach.net>
Subject: RE: [External] FW: EHP Request for Information Initiated (FPN) – DR 4337 FL – GM 11458 / PW 06016 – City of Key Colony Beach – Key Colony Beach City Hall Building Damage

City of Key Colony Beach

PO Box 510141, Key Colony Beach, FL 33051-0141
Phone Number 305-289-1212 Fax Number 305-289-1767
www.keycolonybeach.net



June 11, 2018

Honorable Bill Nelson, U.S. Senator
Honorable Marco Rubio, U.S. Senator

Honorable Carlos Curbelo, U.S. Representative
Honorable Ted Yoho, U.S. Representative

RE: FEMA PA Code 087-36325-00 / DUNS Number 025057027 Disaster # 4337DR / 4337DR-FL

Honorable Senators and Representatives:

We are writing to request help with IRMA Disaster PW's in the system to receive both reimbursement and critical attention to a specialized project which is the necessary post-Irma repair and reconstruction of our City Hall Complex. We would be most appreciative for your assistance.

We are now in the new 2018 Hurricane Season but we have already had to expense all of our storm reserves plus a \$500,000 line of credit. The total cost of Hurricane IRMA to Key Colony Beach was nearly \$3M. To date, we have received zero (\$0) dollars in reimbursement. To frame our need, our total annual Ad Valorem in KCB is only \$1.5M. Below is a list of some of the projects we believe should have been reimbursed by now. This is not an inclusive list, just the projects we need hard dollars now.

- Cat A (Debris Removal) Project #'s 10259, 10278, 10281
- Cat B (Mold Remediation) Project # 16991
- Cat B (Safety Inspections) Project # 37403

Additionally, as mentioned above, we have a specialized project in the FEMA Portal (# 11458) which is critical for us. We are currently operating in the second oldest City Hall in the Florida Keys, circa 1960. IRMA caused major scouring and flooding to this facility which has recently been declared unsafe for operations. We are moving very quickly to find temporary facilities to house Public Safety and Administration. We would be most appreciative for your help in facilitating this FEMA request at an accelerated pace. This is a critical need facility and we are in desperate need of a new City Hall.

We are sincerely thankful for your good offices in helping us with these requests. Please let me know if there is a particular member of your staff team with whom we could communicate directly regarding these matters.

Please direct all communication to Chris Moonis, City Administrator at 305.849.0273 (cell), cmoonis@keycolonybeach.net. Thank you in advance for all of your help.

Warm Regards,

John DeNeale, Mayor

Christopher Moonis, City Administrator

On Nov 19, 2021, at 8:16 AM, Hovell, Ronald (CTR)
<ronald.hovell@associates.fema.dhs.gov> wrote:

Dave,

Attached is this week's project status report. Project 547303 has been added for management costs per our communications earlier this week. It will be submitted after your final project is obligated and will be based on 5% of the total cost of all of your other projects or roughly \$290,000.

EHP has confirmed receipt of the proof of posting for the project 11458 City Hall Final Public Notice and should be moving the project forward in the near future. The next major steps are:

- FEMA final review
- Recipient final review
- Applicant project review
- Large Project Notification (required for projects over \$1M – goes thru the Office of Legislative Affairs)
- Obligation

Ron

Ron Hovell, P.E.
Program Delivery Manager (PDMG)
FEMA PA | TAC Contractor - FLUOR
DR 4337/4399/4468 FL
Mobile: (202) 702-9216
ronald.hovell@associates.fema.dhs.gov

Hi Annette,

Hope all is well!. I have a question you might be able to assist Key Colony Beach. Please read the paragraph from our consultant below.

I want/need to move forward with the demo of our old City Hall but seem to keep hitting the wall.. I'm not sure if I can expedite the letter mentioned in the email from our consultant or if I can get permission to move forward with demolition without jeopardizing our FEMA claim. The City of Key Colony has been working out of trailers since Irma and it's only a matter of time before a storm devastates our operations.

I look forward to your ideas to help me protect our City and move forward.

This is from our consultant....(Norry Lynch). I feel our consultant is dragging this out at our expense. Hoping to go direct and get permission.

Bottom line I'm looking for this letter or written permission to move forward with demo as our new plans for City Hall are almost complete.

Please be advised that no FEMA employee has the authority to, either verbally or in writing, authorize a departure from the regulations. The only way around the rule that work cannot be started prior to project obligation is a letter to the Governor's Authorized Representative in Tallahassee who can then request the FEMA Region in Atlanta to permit the abatement, building demolition and foundation removal. We must obtain written permission from FEMA before starting any such work otherwise funding will very possibly be jeopardized.

I will send a letter immediately making this request. It will take some time to obtain a response.

Thank you
Dave Turner
City Administrator
City of Key Colony Beach
305.849.0273 cell
305.289.1212 ext.2

This email communication may contain confidential information protected from disclosure by privacy laws and is intended for the use of the individual named above. If the reader of this message is not the intended recipient, this is notice to you that any dissemination, distribution or copying of this communication or any attachment may be a violation of federal and state privacy laws. If you have received this email in error, please notify the sender immediately by return email and delete this message. Please note that Florida has a broad public records law, and that all correspondence to me via email may be subject to disclosure. Under Florida law email addresses are public records.

David Turner

From: Rodriguez, Annette (Rubio) <Annette_Rodriguez@rubio.senate.gov>
Sent: Tuesday, November 16, 2021 11:30 AM
To: David Turner
Subject: RE: [External] looking for permission to demo Irma damaged City Hall

that's great!

From: David Turner <cityadministrator@keycolonybeach.net>
Sent: Tuesday, November 16, 2021 10:00 AM
To: Rodriguez, Annette (Rubio) <Annette_Rodriguez@rubio.senate.gov>
Subject: Re: [External] looking for permission to demo Irma damaged City Hall

Good morning!!!!
Yes I received and have completed all information requests

Thank you so much !

Dave Turner
City Administrator
City of Key Colony Beach
305.849.0273

On Nov 16, 2021, at 9:51 AM, Rodriguez, Annette (Rubio) <Annette_Rodriguez@rubio.senate.gov> wrote:

Good morning Mr. Turner,

Hope this email finds you well. We reached out to FEMA and they informed our office that FEMA issued a Request for Information (RFI) to the City. The City now has 30 days to respond to the RFI.

Best,



ANNETTE RODRIGUEZ
Special Assistant
OFFICE OF UNITED STATES SENATOR MARCO RUBIO
7400 SW 87TH AVENUE, SUITE 270
MIAMI, FL 33173
(305) 596-4224
(305) 596-4345-Fax

From: David Turner <cityadministrator@keycolonybeach.net>
Sent: Friday, November 12, 2021 2:21 PM
To: Rodriguez, Annette (Rubio) <Annette_Rodriguez@rubio.senate.gov>
Subject: looking for permission to demo Irma damaged City Hall

Norry Lynch  Risk Recovery Advisors

October 20, 2021

Melissa Shirah
Governor's Authorized Representative
Florida Division of Emergency Management
2555 Shumard Oak Blvd.
Tallahassee, Florida 32399

DR-4337
Project 6016

Dear Ms. Shirah,

The City of Key Colony Beach has an eligible City Hall project that is in the final stages of FEMA's Environmental and Historic Preservation review, after which obligation is anticipated. The sub-recipient would like to begin hazardous material abatement, demolition of the existing structure and foundation removal as soon as practicable, and requests consideration of a waiver from Region IV so that the initial work may proceed.

Please advise of the process and any requirements for this effort.

Kind regards,

Norry Lynch

Cc: B. Dickinson, FDEM
J. Morales, FDEM
C. Moseley, FDEM

David Turner

From: Hovell, Ronald (CTR) <ronald.hovell@associates.fema.dhs.gov>
Sent: Monday, November 29, 2021 9:58 AM
To: Silvia Gransee; KCB Mayor; David Turner; N LYNCH
Cc: Robertson, Hulon (CTR); Grube, Paul; Simerl, Michael
Subject: [External] DR4337 Key Colony Beach Project Status Report 2021-11-29
Attachments: PA-04-FL-4337-PW-06016_REC - Project 11458 Record of Environmental Consideration.pdf; Key Colony Beach Request Letter.pdf

Dave,

EHP has approved project 11458 for City Hall and the attached Record of Environmental Considerations includes conditions on pages 3 and 4 that should be reviewed as you move forward.

I have also been made aware of the attached request for "a waiver from Region IV so that the work may proceed". I don't believe EHP has any type of waiver available, however, since they have completed their review, it's unclear whether any further action is needed.

Ron

Ron Hovell, P.E.
Program Delivery Manager (PDMG)
FEMA PA | TAC Contractor - FLUOR
DR 4337/4399/4468 FL
Mobile: (202) 702-9216
ronald.hovell@associates.fema.dhs.gov

David Turner

From: Tom Harding <kcbtomharding@gmail.com>
Sent: Monday, May 8, 2023 6:44 AM
To: David Turner
Subject: [External] Key Colony Beach FEMA report comments

Dave, I wanted to summarize my comments on the FEMA report for review of the old city hall. Obviously, it is a significant report that appears the majority of the commission was not aware of since the majority are new to their positions, it would be beneficial to provide a copy at the next meeting. I would also suggest we scan and place on the KCB website for resident review.

Some key points that have not been documented to date, which helps in our decision making process.

1. Storm surge to 6 feet, where the only other data I could find was 4 feet from NOAA
2. Roof damage documented and comment about the roof lifting, which supports replacing the roof if any repair process would be proposed.
3. Old building construction without no structural cross ties to provide lateral stability
4. Storm surge water rose to 4 feet above the main floor, higher than what I was told verbally before.
5. Excellent detailed cost estimates. This format is the same as I have seen from insurance adjusters for a damage assessment, thus I assume a standard software was used consistent with the insurance industry.
6. Documentation of licensed professionals outside of our local building inspectors stating the building needs to be demolished and replaced.

Ideally, it would be beneficial to find the filed electronic copy, including the CSA letter dated December 12, 2017, and the FEMA specialize site inspection dated December 13, 2017. Maybe John knows where these were kept, I would assume knowing Chris, he would have kept a copy on his work PC.

Thank you for finding a great documentation piece to add clarity to the history.

Tom Harding
[Email:kcbtomharding@gmail.com](mailto:kcbtomharding@gmail.com)
734-476-0531

KCB CITY HALL FMA

31-Mar-23

C.W. Corky Spehrley

Attached is a small packet of drawings and data sheets tha summarize the design I have come to for "fixing" City Hall. I know that most people think I just want to fix the original building and offices. That's not the case. Just fixing what we had is not an acceptable solution, because it wold not meet even today's needs, let alone the future needs. What I am actually proposing is to **Fix, Mitigate, and Augment** the existing structure, or **FMA**.

The City Hall building has 3 sections: Post Office, Marble Hall, and Offices. FMA focuses only on the Offices. The sunken Office floor is the root cause of our problems. It was constricted by Sadowski on gooey soil with no pilings under the floor. To repair it requires to remove all interior walls (incl wiring and plumbing) and then drive pin pilings. A new concrete floor is then poured, and the walls are replaced using cost effective (pressure treated) studs and sheetrock. Mitigation is done by raising the floor level about 10 inches, and by using water tolerant cement board for the lower 32" of the walls. This construction meets all laws and building codes, even FEMA. While the City Hall is not a Critical Facility, the Police Department and any EOC facility we choose to add, need to be at 10 ft above MFP (Marble Hall is now 5.76 ft above MFP). To satisfy the height requirement, we will "Augment" the existing by putting an addition on the Sadowski side, It would project about 16 ft towards the Causeway (which is about 100 ft east). Same roof line can be used.

BUILDING COSTS; In 2019 several local contractors gave informal estimates that Fixing would be \$375-\$450K. Add in the minor Mitigation costs and the inflation adjustment and I assume just over \$500k. The addition is 1400 sq ft, and today's construction costs are about \$475-\$500K per sq ft, or \$665-\$700k. Total cost would be about \$1.2Million.

For this modest cost we can "Make City Hall Look and Feel like it used to." Plus we have Prepared for the future.

	Today	FMA	LIVS
Number of Offices	7	9	7
Offices Area, sq ft	782	1212	690
B&G Offices and etc	2	3	4
B&G sq footage	400	959	726
Police & EOC Offices/storage	2-3	5	6
Police & EOC Offices/storage, sq ft	314	959	865
Marble Hall Conference Area, sq ft	2167	2455	2911
Post Office, sq ft	2277	2277	1610

This is a very complex problem, and this summary presentation lacks tons of important details and legal requirements. If you'd like help with the design, or with the legal constraints, please do not hesitate to call me at 305-710-8918 or email me to spehrley@aol.com

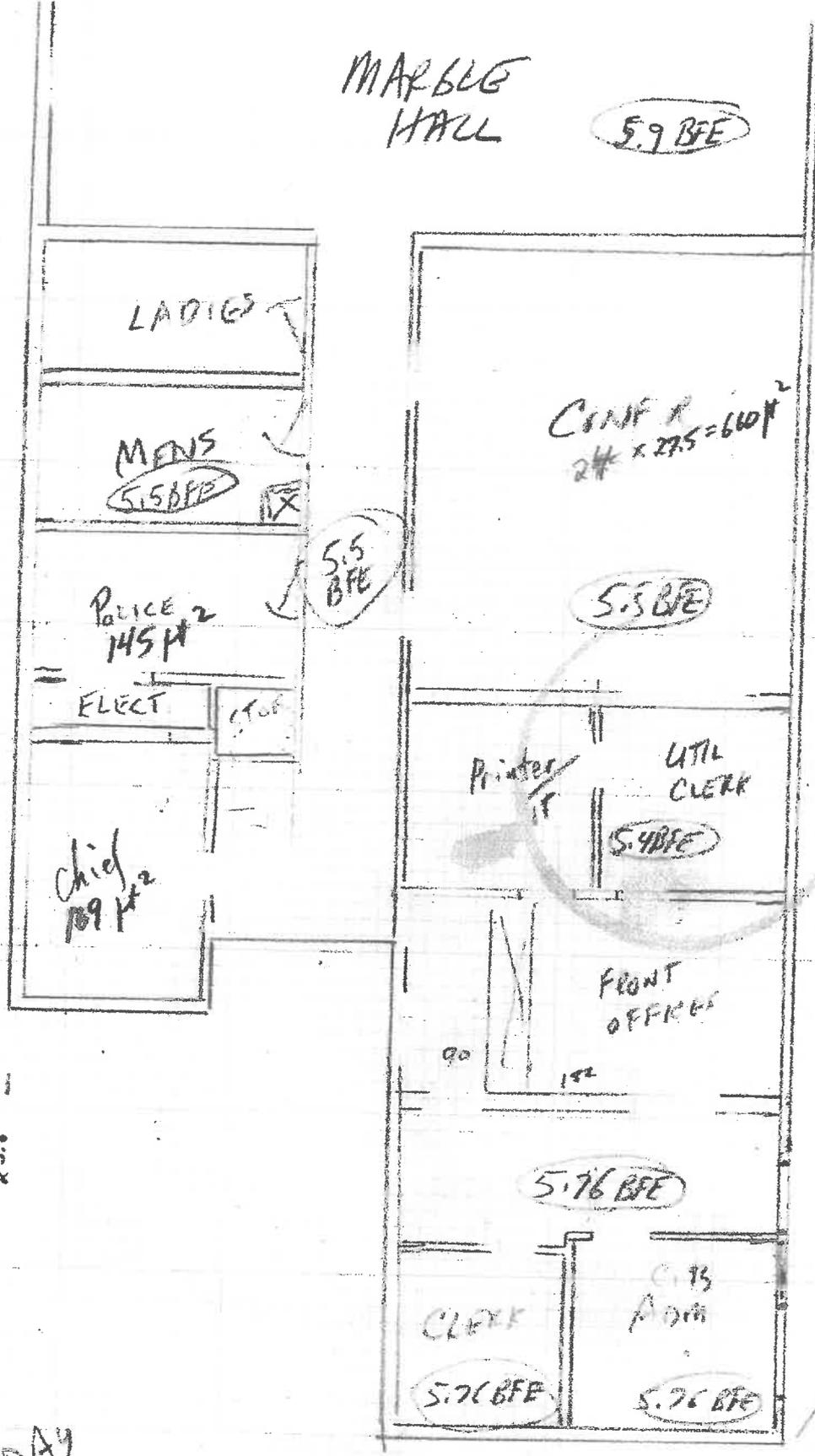
MARBLE HALL

5.9 BFE



FIGURE "TODAY" (AUGUST 2017)

SCALE 10' →



23.6

TODAY

20

10

20

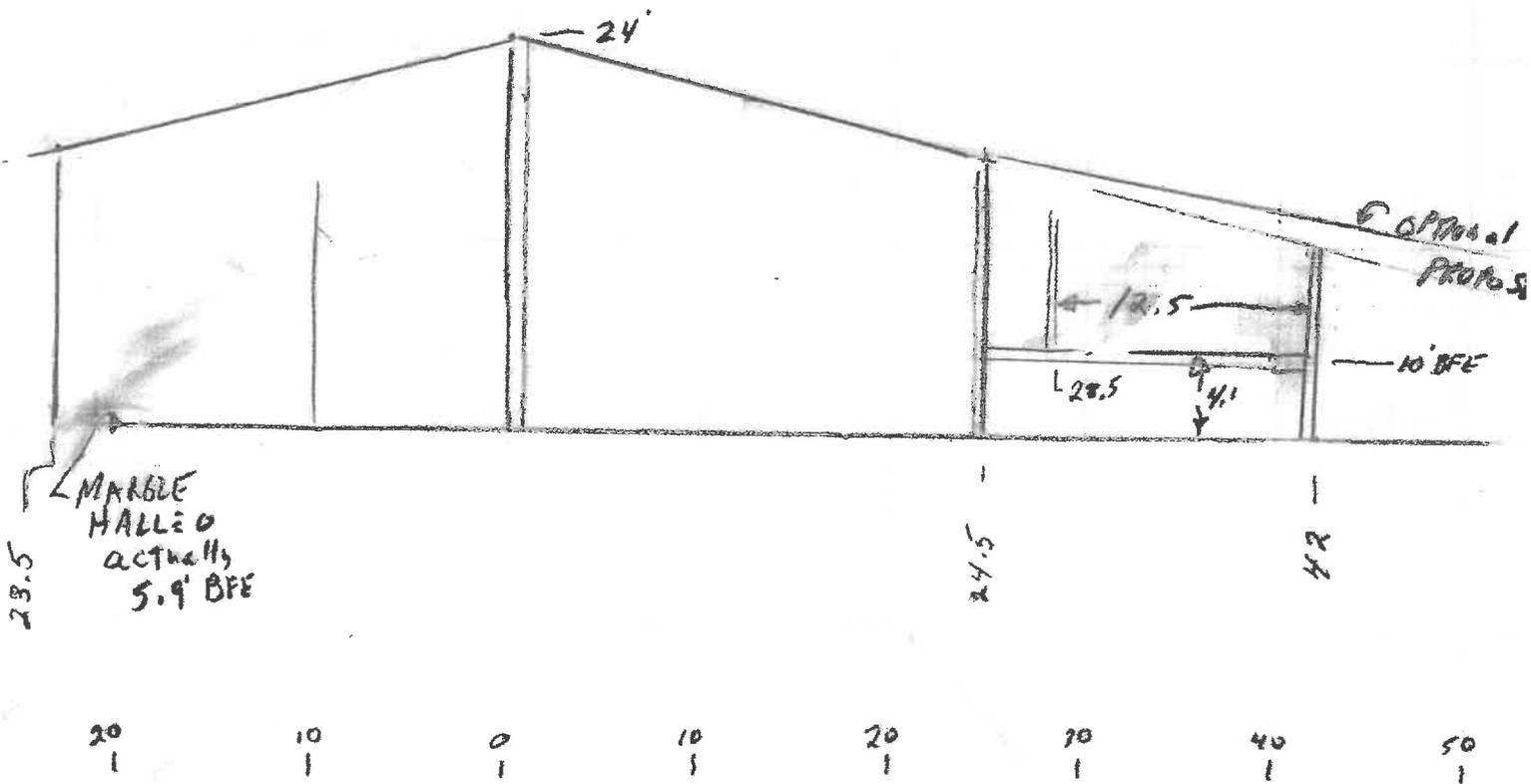
24.6

00

FMA 15 SIDE VIEW
LOOKING NORTH

CWS
2/26/23

10' SCALE



KCB City Hall

Present and Future

CW Spehrley Mar 31 2023

	PRESENT			FMA 15			Latest LIVS	
	Name	Length, Width, N/S, Ft E/W, Ft	Inside Area, Sq Ft	Length, Width, N/S, Ft E/W, Ft	Inside Area, Sq Ft	PERCENT of Present	LIVS 10/5/20 Design Rebuild	
	Conference room	27.4 23	630	14 23	322	51%	422	67%
1	Clerk's Office.	10.5 10.5	110	15.0 10	152	137%	138	125%
1	Clerk's Assisants Office	11.5 12	138	14.0 13	186	134%	109	103%
	City Admin Office						142	
	Administratror's Assistant						109	
	Records/Mailboxes/Hall	8.7 10.5 91		4.5 23.0 104	0	113%		0%
	Front Desk and Visitor Space	7.5 12.5 94	90	12.8 7.5 96	96	106%		0%
4	Clerks/Secretaries (front office)	12 15.2	182	0.0 0.0 318	318	174%		0%
	Storage/Copier	11.6 10.75	125	9.5 10.0 95	95	76%	81	65%
1	Utility Clerk	11.6 11.75	136	11.0 11.8 129	129	95%	109	80%
7			782		1212		688	
	Police Chief Office	15.75 10.7	169	15.3 13.3 202	202	120%	132	78%
	Police or Sargeants Office	8.8 16.5	145	10.0 16.8 168	168		386	266%
	Interview room(or Guest Office)						95	
	Washroom Showers						74	
	EOC Bunkroom, upstairs		0	9.5 13.3 126	126		96	
	Police Storage/Secure		314	20.0 22.0 440	440		96	
	Building Dept , Officials Office	20 12	240	4.0 6.0 24	24	959	82	865
	Building Dept (near storage)	20 10	160	40+/- 16+/- 574	574	144%	129	54%
	Entrance/Waiting Room		0				230	144%
	Building Inspector		400				230	
	B. D. Attic Storage, equivalent	10 20	200	10 20 200	200		137	0%
	Men's Room, Public	8.5 16.5	140	8.5 16.5 140	140	100%	60	43%
	Ladies Room, Public	8.5 16.5	140	8.5 23 196	196	336	60	43%
	Corridor	43 6	258	43.0 6.0 258	258			
	Storeroom	8 5.4	43	4.0 4.0 8	8	266		
	Electricity Panels	4 5	20				137	
	Janitor's Closet	3 11	29	1.8 13.0 23	23		60	208%
	Marble Hall							
	Conference Area		2167		2455	113%	2911	134%
	Storage Areas		312		312	100%	138	44%
	Kitchen		257	16.0 18.0 288	288	112%	168	65%
	Total		2736				3217	
	Post Office	34.5 66	2277	34.5 66 2277	2277	2277	1610	71%
	Generator		0	4.0 10.0 40	40		192	

FMA 15 vs Original

Today we have offices for 7 employees and desks, plus 2 more for B&G. The FMS 15 has offices for 9 desks and 2 Or 3 B&G. Today's B&G space is about 400 sq ft and it is on the second floor and not ADA accessible. The FMA 15 has 574 sq ft, is on the first floor and ADA accessible. Today's Police offices and secure storage is 314 sq ft and is ADA accessible. The FMA 15 Police offices/storage is about 959 sq ft and it also includes Emergency Operations Center. It is not ADA accessible, nor does it need to be. Today the Ladies and Men's rooms are just outside Marble Hall. They are virtual identical in size. The FMA 15 has the two bathrooms just outside Marble Hall. The men's room is where the ladies room was, and is the same size, The Ladies room is across the hall; it's the same width but 40 % longer, housing 3 stalls vs today's 2.

The FMA 15 Marble Hall is virtually the same as today, but the conference area is 12% larger. (The Kitchen is moved to the addition on the rear.)

City of Key Colony Beach

PO Box 510141, Key Colony Beach, FL 33051-0141
Phone Number 305-289-1212 Fax Number 305-289-1767
www.keycolonybeach.net



December 10, 2021

Building Condition
City Hall
Key Colony Beach

Dave Turner,

Dave in response to questions arising about the possibilities of repairing as to replacing City Hall please take into consideration the following issues that I as the Building Official for the City of Key Colony Beach have with trying to repair our structure.

In October of 2017 Hurricane Irma hit Monroe County and Key Colony Beach with sustained winds in the area of Category 3 winds. During this event, a storm surge of 4-6 feet above normal levels inundated the island which in turn damaged our existing City Hall Structure. Approximately 16-36 inches of water entered City Hall during this event which made the unpinned section of the building damaged and unstable for City business use. In this section of City Hall were the Police offices, small commissioner meeting hall, restrooms, and the Administration offices for the city. After a short period of time the previous Building Official of 30+ years deemed this area of the building as an unsafe structure due to the sagging of the concrete floors with apparent substrate materials being scoured from underneath the supporting structure. Mr. Borysiewicz monitored the settlement of the ground slab which continued to settle to the point where he decided it was time to no longer use this facility safely.

The decision to repair or replace the structure was a long and difficult task. Many ideas and issues were brought to the forefront during these discussions such as insurance coverage, major repairs to a 60+ year old structure, and possibilities of replacing the structure to meet FEMA's definition of a Critical Facility which houses our police, EOC, and the daily operations of the City of Key Colony Beach.

I as the Building Official feel that repairs of this structure would be a complete waste of grant, taxpayers, and insurance monies due to the fact that this is a Non-Conforming structure and after repair would still remain a Non-Conforming structure with the distinct possibility of having the same storm surge issue happen again as we seem to be in an active Hurricane storm cycle for years ahead. Some of the issues with trying to repair the building would be as follows how would we be able to pin pile a sinking slab to stabilize the floors. In order to repair pin piles and grade beams would have to be part of the rebuild process. Pin piles would not be able to be installed without removing the entire roof of this structure. Pin piles or pilings would need to be driven to refusal and the area that City Hall currently sits on the depth of refusal for pilings would be approximately 28'+ and we have a current ceiling height of 9'. This example alone shows the need to remove and replace roof in order to even start this process. So without removing the roof none of the substrate structures would be able to be repaired properly. Another issue that I have is that once the building is repaired (if possible) you would still have a repaired City Hall that would be Non-conforming and still be below base flood elevation and when the New FEMA/FIRM maps are adopted it would be considerably more below base flood elevation.

City of Key Colony Beach

PO Box 510141, Key Colony Beach, FL 33051-0141
Phone Number 305-289-1212 Fax Number 305-289-1767
www.keycolonybeach.net

If we were to try and rebuild City Hall in its current state and location I do believe we would be in violation of the Substantial Damage valuation of rebuilding the Hall. At the time of damage the building was valued at 1.02 million dollars which leaves approximately 500,000.00 to repair the building. With the cost of construction and the amount of work that needs to be done and how the work is to be completed I feel that we would be well past the 50% rule which then put us in the position to bring all the facilities structure and operations up to the current FBC building codes. To repair the building in its current state the city would be investing monies into a building that is more than 60 years old, does not have a structurally sound foundation as stated above. All electrical and plumbing would also need to be updated to current Code levels. Current rough estimates put the repair cost well over a million dollars mainly due to the specific issues that need to take place in order to do the repairs properly and according to code.

I feel that City of Key Colony Beach is heading in the right direction trying to build a Critical Facility (500 Year Flood) to replace the existing hurricane damaged structure. By looking to the future FEMA/FIRM maps we can build a structure that will be at BFE +2' very easily to prevent a flooding event from happening to our City Hall again.

Please feel free to contact me with any questions that you may have about the replacement of City Hall for the City of Key Colony Beach.

Thank you



Gerard Roussin
Building Official
Key Colony Beach

12/13/2021

City of Key Colony Beach

P.O. Box 510141, Key Colony Beach, FL 33051-0141
Phone: 305-289-1212
Fax: 305-289-0247
www.keycolonybeach.net

Dave Turner,

In a previous letter I stated that the City Hall Complex for the City of Key Colony Beach is a non-conforming building by the standards of the cities Land Development Regulations Sec.101-190 Non-Conforming Use. What this means is the existing structure was built in the late 1950's early 1960's with the base floor elevation at approximately 5.5' elevation standard NGVD29. The elevation needed for the current active flood zone maps for the City of Key Colony Beach is required to be at an AE7'. Our current Hurricane Irma damaged structure is below that FEMA/NFIP elevation requirement by approximately 1.5'. Under LDR Sec.101-191 Non-Conforming Building there is also a specific code for (1) damage reconstruction which stipulates how long that you have for reconstruction of a non-conforming structure and what the dollar value is of reconstruction which determines either Substantial damage or Substantial improvement. (Sec.101-191 sections 1-3) please see attached LDR pages.

The city hall complex was severely damaged during the storm surge flooding that came with Hurricane Irma to the extent that the previous Building Official of 30+ years determined that the administration offices, police department, restrooms, and small commission meeting room were no longer stable or safe enough to conduct daily work activities after monitoring the amount of floor slab settlement. The surge had help to promote the scouring and settlement of the ground slab in those areas. The repairs needed in this area are remove damaged ground slab, damaged electrical, damaged mechanical, and all finishes. In order to repair the damaged ground slab some type of structural element like pin piles or concrete pilings need to be driven to refusal to stabilize this area. The issue with this type of work is that the complete roof system would need to be removed and replaced in order to drive pilings to refusal depth of over 28'.

Once again as the Building Official for the city of Key Colony Beach I can not support repairing our damaged City Hall Complex with the mindset that we would be repairing a Non-conforming structure which would still be at risk of another storm surge flood event. With the additional issue of having to remove the complete roof system to repair this structure the Substantially damaged dollar amount and time frame to repair a substantially damaged building would then come into effect.

Current FEMA/NFIP maps show an elevation of an AE7' with the new proposed FEMA/NFIP maps that elevation is moving to an AE8' with a new control datum which the city will need to make up an additional 1.5' going from NVGD29 to NAVD88. As the Building Official I have recommended to the city that we need to look to the future and rebuild of City Hall complex based on the

City of Key Colony Beach

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Fax: 305-289-0247

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information provided to us. I have recommended that we build the complex to the Critical Facility 500 year flood elevation which is according to FEMA is base flood elevation plus 2'. I have instructed the city that if we rebuild to these proposed standard's we have greatly mitigated the chances of any future potential damage to our city hall complex by a storm surge event to be minimal.

Our proposed construction of the complex has a finished floor elevation of 11.5' which is 2.5' above what the proposed flood maps show and 3.5' above the current active maps. The administration offices, Police Dept., and EOC are projected to be at 19.5' finished floor elevation which far exceeds any requirements for FEMA.

Thank you



Gerard Roussin
Building Official
Key Colony Beach

12/16/21

City of Key Colony Beach

PO Box 510141, Key Colony Beach, FL 33051-0141
Phone Number 305-289-1212 Fax Number 305-289-1767
www.keycolonybeach.net



April 25, 2018

TO: Christopher J. Moonis, City Administrator

FROM: Edward A. Borysiewicz, Building Official *E. A. Borysiewicz*

RE: Key Colony Beach City Hall Complex
600 West Ocean Drive

I have been your Building Official for over thirty years and have occupied the above referenced structure for that duration of time.

Following Hurricane Irma's wind and storm surge damage on September 10, 2017 extensive washout has occurred under the building.

Due to this washout substantial slab settlement is continuing to occur making the administrative offices of City Hall no longer safe to occupy.

It is my professional opinion and duty as your Building Official of the City of Key Colony Beach to urgently request the main structure including all staff office space and restrooms, be unoccupied and cease any use due to Hurricane Irma damages.

Norry Lynch Risk Recovery Advisors

Florida Office

8154 Gerbera Drive
Naples, Florida 34113
e-mail: recovery@norrylynch.com

Mailing Address

HC 01 Box 9755
Loiza, Puerto Rico 00772

Puerto Rico Office

3503 Ocean Point
Loiza, Puerto Rico 00772
Phone: 561-529-7472

November 3, 2020

Mayor John De Neale

Vice Mayor Ron Sutton

Members of the KCB Commission

Re: City Hall

The purpose of this report is to present an accurate history of both the claim and grant processes concerning City Hall, located at 600 W. Ocean Drive, Key Colony Beach, Florida. The claim process concerns the National Flood Insurance Policy (NFIP) and Public Risk Management (PRM), the excess insurer; the grant process concerns FEMA Public Assistance (PA).

For flood disaster payments, NFIP is primary, excess flood through PRM is secondary and PA is tertiary. Separate claims are filed concurrently and each maintains its own damage file. Each also responds to its own rules. PA supports NFIP claims in terms of paying the unreimbursed out-of-pocket deductible and any Actual Cash Value depreciation applied to the loss. Code upgrade is not available under NFIP and available, in a limited way, through PA. Code upgrade coverage is potentially available through PRM if the primary 500K flood coverage is exhausted.

---CITY HALL

City Hall was significantly damaged during Hurricane Irma in August 2017. Over the subsequent four months, NFIP and PA undertook several, separate inspections as is routine. The only commonality among the inspections was that each documented only cosmetic damage to the building.

---FLORIDA BUILDING CODE - 50% Rule

The Florida Building Code (FBC) governs all buildings in Key Colony Beach. The applicable issue to City Hall is the 50% Rule that requires demolition and reconstruction in the event that damage repair costs exceed 50% of the market value of the building, currently appraised by Monroe County at \$1,052,905.

In the instant case, permitted repair costs to the Administration Area would need to be less than \$526,452.50. The estimated hard cost to pin the slab and rebuild the interior of the Administration Area is approximately \$800-900,000. Be advised that the pandemic is driving local construction costs at about 20% over the norm. By this calculation, the city is precluded from permitting repairs as the cost exceeds 50% of market value.

---FEMA PA - 50% Rule

FEMA calculates its 50% Rule differently from the FBC. FEMA looks at the cost to repair the damage as it existed on the date of loss (excluding current code requirement) and divides it by the replacement cost of the building, including code requirement. Due to the limited square footage of slab damage (approximately 3200 s.f. of a 9000 s.f. footprint), the building does not survive FEMA's 50% rule calculation. Even so, I am close to obtaining authorization for a new elevated replacement structure within the next two or three weeks.

Given that the only permissible alternative is to construct an elevated new building, in the unlikely event FEMA denies the replacement structure, the city will need to determine how to best use any awarded federal dollars to offset the cost of the replacement structure. We will address that issue if replacement of the building is denied.

---THE NFIP

The NFIP retained a contracted adjuster who recorded interior damage to baseboards, tile, doors, contents, etc. Even before the inspection report of December 15, 2017, the floor/floating slab had begun to deflect. In early 2018, NFIP was notified that there was an ongoing problem with the slab.

On August 3, 2018, NFIP issued an engineering inspection of the floating slab and underlying sand foundation. Those findings were that voids under City Hall pre-existed the inundation, therefore the slab failure pre-existed the storm.

In the interim, other inspections were conducted by the excess carrier, discussed in the next section. The NFIP relied on specific foundation-failure exclusions in its policy as well as the pre-existing allegation, however, scouring from wave action is not excluded. Coverage under that aspect of NFIP is currently being sought.

The city hired P.E. Group in April 2020 to re-examine the foundation and render a causation opinion. P.E. Group delivered a report that, while acknowledging stabilized settlement over the years, linked the foundation damage to storm surge and washout of the sand that had been supporting the slab. This was submitted to the NFIP.

In response, the NFIP retained a third engineer who examined the building on October 7, 2020. We await the outcome of this final inspection.

--- EXCESS FLOOD

The excess insurer PRM, whose policy is liable for flood damage that exceeds \$500K as well as code-upgrade costs, has been aware of its exposure from the inception. City Hall could be an expensive outcome for them, given a change in circumstances.

On August 14, 2018, PRM reported Ground Penetrating Radar (GPR) studies of the land under the Administration Offices. Some voids were annotated on the report under both the Admin Area and Marble Hall. The insurer concluded that these 'long-term voids', as it characterized them, were the cause of the foundation failure. In contrast, my position has been that the slab sat on a sand foundation, and that when the ocean receded after the storm, it took enough sand with it to increase the deflection. The insurers chose to ignore evidence of shims supporting file cabinets and anecdotal reports of office chairs rolling downhill after landfall.

--- FEMA PA

PA made several inspections of City Hall in late 2017-early 2018 for a variety of reasons. Initially, PA misled the city's consultant, stating that foundation damage was not eligible. The PA inspector had no authority to make such a determination on-site, and it took FEMA until mid-2019 to acknowledge that a 3200 square-foot section had failed in the Administration Area as a result of the flood.

PA then instructed KCB to go back to the NFIP to reopen the claim as it asserted the insurer(s) owed additional payment.

---CONDEMNATION

The city's position became that while the slab had settled over the years, following Irma, the office could no longer provide a safe working condition as the drywall was deflecting as a result of the slab movement. The Administration Area of the building was condemned.

---HOW DID THIS HAPPEN

The reason for this conundrum is that the city retrofitted the slab in Marble Hall with pin piles in the 1990s. The city elected not to address the slab in the Administration Area even though it had similarly settled. Had the latter's slab been supported by piles, it probably would not have deflected to the degree that it has, and the building would have sustained solely cosmetic damage. Had Marble Hall been left 'as is', both slabs would indubitably have failed, and the building would have easily passed FEMA's 50% Rule, and be on its way to demolition. At present, and for the last two years, I have been arguing with FEMA that the FBC permitting requirements, and compliance with FEMA's Part 9, should justify an elevated replacement structure.

---VOTE TO PROCEED

First, we need to clarify some of the federal jargon used in the grant process. The fact that FEMA refers to a project as Specialized does not mean it is in some way special; rather, it means that the complexity of the issue exceeds the norm. The reference to Specialized does not condone special treatment, for any reason.

Mr. Moonis was aware the city had neither finalized the NFIP settlement nor had received notification of an obligated federal Project Worksheet (PW). When I cautioned him about proceeding with replacement building plan development, he advised that the city wished to proceed anyway, which is certainly the city's prerogative.

---ENGINEERING CONCLUSION

Each engineer, whether retained by the city or the insurers, has recommended the slab be pinned in order to repair the damage. Each ignores, or is not aware of, the fact that a permit to pin the Administration Area cannot be issued under the Florida Building Code.

The claim issues are not finalized. The flood insurer may authorize payment for scouring damage. If it does, and the flood claim payment is 500K or more, it will trigger coverage extended by PRM who might deny coverage based on its GPR inspections but might not be on solid ground if the issue were litigated.

Homeowners must be made to understand that the city cannot undertake slab repair as it will violate the FBC, jeopardizing the Building Official's license, the city's continued participation in the Community Rating System, the homeowners' future eligibility to purchase flood insurance, and potentially create a situation where the city may be ordered to demolish the illegal work.

---RECOMMENDATION

At the end of the day, however, all this speculation is premature until FEMA makes its final decision which is promised shortly. Despite the length of time this has taken, mainly because over \$3M of federal money is at stake over an old dog of a building, all I can ask of the Commission is to have a little faith while I sort out the remaining details within the next few weeks.



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March 19, 2018

Mr. Eric Cruz
Program Manager
IBTS
820 Lawrence Rd., Suite 126
Kemah, Texas 77565.

**RE: City of Key Colony Beach
Preliminary Visual Evaluation of the City Hall
Post Hurricane Irma Damage**

Dear Mr. Cruz:

Thank you once again for the opportunity to be part of the IBTS Team and to continue to participate in recovery projects as we collectively help to rebuild communities impacted by natural disasters.



Pursuant to our site walk through of December 12, 2017 attended by Mr. DuCote and Mr. Eric Cruz from IBTS and by Mr. Edgardo Martinez, PE and Jorge Luaces, AIA from CSA Central, Inc. (CSA), please be advised that at this time **CSA is recommending that the above referenced existing City Hall Complex be demolished and replaced with a new complex.**

The above recommendation is supported by our preliminary visual evaluation of the existing premises, and by other documentation provided by IBTS. We believe that the existing complex has been significantly damaged and that the cost to renovate will be in excess of the current value of the building. The southern portion of the building, specifically that portion below the existing Building Department, showed a crack in the floor extending from the east wall to the west wall indicating that the storm surge from Hurricane Irma penetrated beneath the floor slab causing the foundations and floor slab to displace.



We also evaluated the various recommended guidelines from FEMA, such as 2013 FEMA P-936 "Flood Proofing Non Residential Buildings" Chapter 2 "Design Considerations in Flood Proofing",

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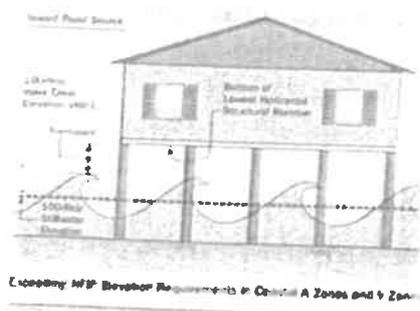


Figure 7. Recommended construction in Coastal A Zone and V Zones.



2011 FEMA P-55 "Coastal Construction Manual", ASCE 7 "Minimum Design Loads for Buildings and Other Structures and Florida Building Code (FBC) 2017 Section 1603.1.7 "Flood Design Data". From revisions on the FEMA Flood Insurance Rate Map (FIRM) Panel 1382K it was determined that the site is located on a Coastal AE Zone. We anticipate that this designation will necessitate the use of an open foundation system in accordance with the diagram to the left of this page. Our preliminary research indicates that the average grade elevation of the site is at approximately +4'-4" putting the existing first floor level of the complex at approximately 3'-0" below the designated FEMA base flood elevation of +7'-0". These are the main reasons to sustain our recommendation to demolish and reconstruct the existing facilities according to the above cited FEMA documents.

The approximate minimum recommended elevation for the first occupied level will be at approximately +11'-0" assuming 2'-0" of freeboard (DFE) and 2'-0" for the structure including a possible hung ceiling required as a plenum to facilitate utilities offsets, MEP distribution, lighting etc.

The existing facility is not suitable for lifting since you currently have a slab on ground that is in poor structural condition with visual evidence of significant uneven settlement caused by the erosion of the sand under the slab during Hurricane Irma. The exterior masonry structural bearing walls are also not feasible for lifting nor should they be allowed to stay as a closed foundation given the Coastal Designation.

The existing footings are all on a pile foundation with an approximate depth of 25'-0" to 30'-0". We could not tell from the visual inspection as to the conditions of the piles nor as their ability to sustain the horizontal forces caused by wave action. We know from the excessive slab settlement that grade beams currently do not exist between the perimeter grade beams in the short direction thus limiting the bracing of the grade beams and pile caps. Further studies including destructive testing can be undertaken if requested to validate these visual findings.

We also briefly looked at some of the MEP equipment which would also need to be elevated above the DFE. Given the age of the equipment we will also recommend that they be replaced with high energy efficient code compliant equipment.

At this time, and in the best interest of the City of Key Colony Beach, in alignment with our understanding of the FEMA regulations, we believe that the damage sustained by this facility in addition to all of the noted technical difficulties makes this building unfeasible as a renovation/elevation. Also, having the Police Station within this structure makes this an Essential Facility as defined by the FBC 2017 as "Buildings and other structures that are intended to remain operational in the event of extreme environmental loading from flood, wind, snow or earthquakes". Another important facility in this building is the United States Postal Service station, which also needs relocation or elevation due to the flood hazards in the area.

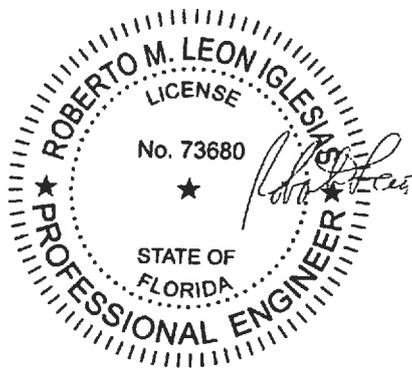
Given the large site footprint and ease of on-site construction logistic, **we are recommending a full reconstruction of the City Hall Complex.**

Please let us know if you have any questions or concerns or if additional information is required of us.

Cordially,



Roberto León, PE
Senior Vice President



Cc.

Mr. Chris Moonis
Mr. Gerard DuCote
Mr. Roberto Leon
Mr. Edgardo Martinez.



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March 19, 2018

**Mr. Eric Cruz
Program Manager
IBTS**

820 Lawrence Rd., Suite 126
Kemah, Texas 77565.

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Preliminary Visual Evaluation of the City Hall
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March 7, 2019

Mr. Chris Moonis
City Administrator/Manager
City of Key Colony Beach
600 West Ocean Drive
Key Colony Beach, FL 33051

Via Email – cmoonis@keycolonybeach.net

**RE: KEY COLONY BEACH ADMINISTRATION BUILDING
FLOOR SETTLEMENT
CITY OF KEY COLONY BEACH, MONROE COUNTY, FL**

Dear Mr. Moonis:

I am writing in reference to the above captioned project. The following documents were reviewed in reference to preparing this report:

1. On behalf of the City of Key Colony Beach (Appendix 1)
 - a. IBTS, 820 Lawrence Road, Suite 126, Kemah, TX 77565 – Site Boring Album – Completed November 16, 2017
 - b. IBTS, 820 Lawrence Road, Suite 126, Kemah, TX 77565 – Photos of City Hall Building taken by Eric Cruz, Program Manager – November 27, 2017
 - c. CSA Group, Mr. Jorge R. Luaces AIA, NCARB, 8200 NW 41st Street, Doral, FL 33166-6207 – Preliminary Visual Evaluation of the City Hall, Post Hurricane Irma Damage, dated December 12, 2017
 - d. U.S. Department of Homeland Security, Federal Emergency Management Agency, National Flood Insurance Program, Elevation Certificate application prepared by Mr. John Paul Grimes, III, P.L.S. of J.P. Grimes Surveyor & Mapper, PO Box 510403, Key Colony Beach, FL 33051-0403 on February 12, 2018
 - e. IBTS, Mr. Eric Cruz, 820 Lawrence Road, Suite 126, Kemah, TX 77565 - Draft cost estimate for the existing City Hall Complex, dated February 19, 2018
 - f. CSA Group, Mr. Roberto Leon, P.E., 8200 NW 41st Street, Doral, FL 33166-6207 – Revised Preliminary Visual Evaluation of the City Hall, Post Hurricane Irma Damage, dated March 19, 2018
 - g. Keystone Experts and Engineers, LLC, Mr. Ronald J. Goff, P.E., Managing Engineer and Mr. William H. Adams, P.E., Forensic Engineer, 558 E. Castle Pine Pkwy, Suite B4-104, Castle Pines, CO 80108 – Revised Engineer's Report, dated August 3, 2018

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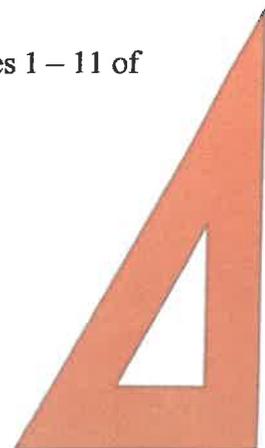
Mr. Chris Moonis

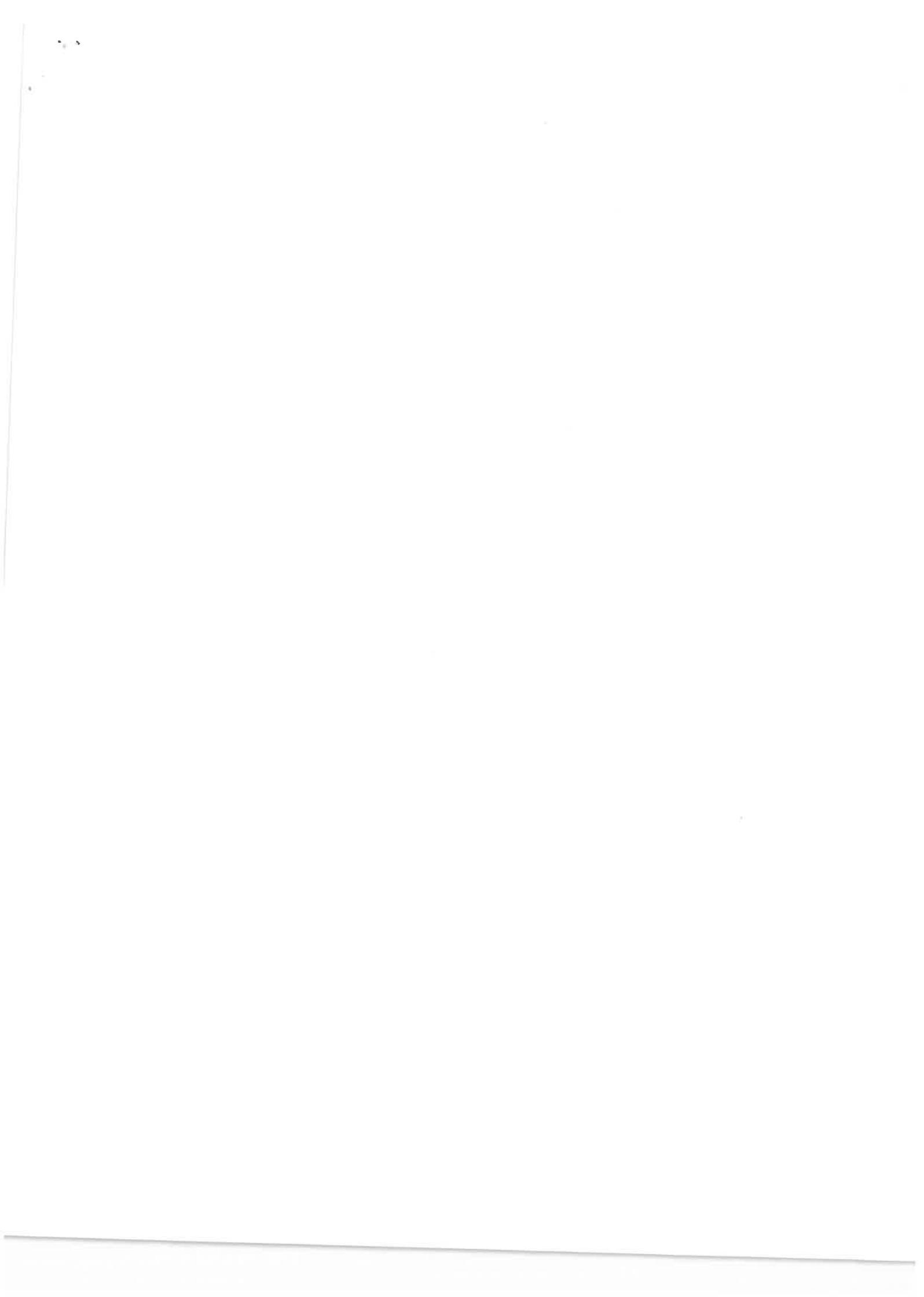
March 7, 2019

**RE: KEY COLONY BEACH ADMINISTRATION BUILDING
FLOOR SETTLEMENT
CITY OF KEY COLONY BEACH, MONROE COUNTY, FL**

Page 2

- h. Universal Engineering Sciences, Inc., Ms. Meagen D. Gonzalez, P.G. and Mr. Mark K. Hardy, P.E., 9802 Palm River Road, Tampa, FL 33619 – Floor Elevation and Geophysical Survey, dated August 14, 2018
 - i. CSA Group, Mr. Rafael Jimenez, P.E., 8200 NW 41st Street, Doral, FL 33166-6207 – Condemnation Letter, dated August 22, 2018
 - j. City of Key Colony Beach, Mr. Chris Moonis, City Administrator/Manager, 600 West Ocean Drive, Key Colony Beach, FL 33051 – List of interior and exterior damage caused by disaster #4337DR and what has been repaired prior to inspection
 - k. J.P. Grimes Surveyor & Mapper, Mr. John Paul Grimes, III, P.L.S., PO Box 510403, Key Colony Beach, FL 33051-0403 – Map of Specific Purpose Topographic Survey of Floor of City Hall, dated October 9, 2018
2. On behalf of the Department of Homeland Security, Federal Emergency Management Agency, National Flood Insurance Program (FEMA)
 - a. FEMA Site Inspection Report, Facility Description, Category E, Buildings/Vehicles/Equipment, inspected by Mr. Benjamin Suriel, FEMA Site Inspector, Architect; Mr. Howard Whittington and Mr. Howard Whittington, FEMA Site Inspector, Civil Engineer and inspected on December 13, 2017
 - b. FEMA Proof of Loss, prepared by Eagle American Insurance Agency, LLC, 13361 Overseas Highway, Marathon, FL 33050-3550 to the Wright National Flood Insurance, 801 94th Avenue North Street, Petersburg, FL 32114-8108, dated December 17, 2017
 - c. FEMA Public Assistance Program and Policy Guide, FP-104-009-2 / April, 2018
 - d. FEMA Site Inspection Report, Facility Description, Category E, Buildings/Vehicles/Equipment, inspected by Mr. Steve Norton and inspected on February 26, 2018
 - e. Request for Information from Mr. Jeffrey S. Ryan, Technical Specialist, VA Consolidated Resource Center, Public Assistance, Office Response and Recovery FEMA VA DOC, Winchester, VA 22603, in order to determine eligible repair costs and replacements due to Irma related damage, dated July 10, 2018
 - f. Key Colony Beach Request For Information Response to FEMA
 - g. FEMA Damage Description and Dimensions and Scope of Work, Pages 1 – 11 of 11, downloaded on February 11, 2019





Mr. Chris Moonis

March 7, 2019

**RE: KEY COLONY BEACH ADMINISTRATION BUILDING
FLOOR SETTLEMENT
CITY OF KEY COLONY BEACH, MONROE COUNTY, FL**

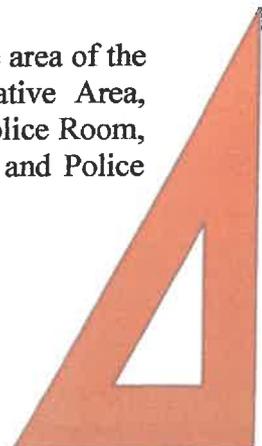
Page 3

3. Miscellaneous Information by Norry Lynch
 - a. Emails between Ms. Norry Lynch, Norry Lynch, Risk Recovery Advisors, LLC, 8154 Gerbera Drive, Naples, FL 34113 and Mr. Roberto Leon, P.E., CSA Group, 8200 NW 41st Street, Doral, FL 33166-6207 regarding water weight, dated October 9, 2018
 - b. A letter prepared by Ms. Norry Lynch, Norry Lynch, Risk Recovery Advisors, LLC, 8154 Gerbera Drive, Naples, FL 34113 to Mr. Roger K. Jones, Public Assistance Infrastructure Branch Director, FEMA Joint Field Office, Orlando, FL advising of the issues with FEMA, dated January 30, 2019
 - c. FEMA's blank Non-Residential, SDE Damage Inspection Worksheet, Pages 1 – 6 of 6; Photo Log, Page 1 of 1; Checklist 1 – Post-Disaster Planning, Pages 1 – 5 of 5; Checklist 2 – Field Preparations, Pages 1 – 2 of 2; Required and Recommended Elements to be Included in a Contractor or Community Estimate of Repairs, Pages 1 – 4 of 4; Recommended Guidelines for Interaction with Structure Owners by SDE Inspectors and Guidance for Estimating Percent Damage for Non-Residential Structures, Pages 1 – 7 of 7

4. Historical Plans of City Hall
 - a. Plan Sheet 1 of 1 of the Convention Hall, prepared by Robert Karl Frese, A.I.A., Miami FL
 - b. Plan Sheet 1 of 1 of the Foundation Plan for the Convention Hall, prepared by Robert Karl Frese, A.I.A., Miami FL
 - c. Plan Sheets 1 – 2 of 2 for the Service Building Addition, prepared by Paul C. Denson, Jr. & Associates, Inc., Marathon, FL, revised July 1, 1992
 - d. Plan Sheet 1 of 1 for the City Auditorium Retrofit to Limited Storm Shelter, prepared by Paul C. Kenson, Jr., Marathon, FL, dated August 31, 1999
 - e. Plan Sheet 1 of 3 for the Proposed Building Expansion, prepared by Jose E. Blanco, A.I.A., 8490 SW 116 Street, Miami, FL 33156, revised July 7, 1997
 - f. Sheets 1 – 4 of 4 of Historical Building Plans

A. General statement and building component orientation

This report is prepared in reference to the floor settlement in the administrative office area of the building encompassing the Rear Office, Office Space, Copy Room, Administrative Area, Hallway between the building entrance and the Chamber Room(Marble Hall), the Police Room, Men's Rest Room, Women's Rest Room, Hallway Storage Area, Electrical Chase and Police Chief Office, hereinafter titled "Administrative".





Mr. Chris Moonis

March 7, 2019

**RE: KEY COLONY BEACH ADMINISTRATION BUILDING
FLOOR SETTLEMENT
CITY OF KEY COLONY BEACH, MONROE COUNTY, FL**

Page 4

The portions of the building which have been built at separate times and have supporting foundations on concrete piling and grade beams holding the perimeter concrete block construction and interior floors consist of the first and second floor building code offices, the post office and the chamber room(Marble Hall). None of these areas have any settlement of the perimeter concrete block or the concrete floors and are not part of this report. The perimeter of the "Administrative" section is built on wood piles and wood grade beams and the perimeter concrete block is not settled and is not part of this report.

Orientation in this report is as if this Writer is standing on Ocean Drive and facing the building. The building codes portion of the building is located front, right, first and second floor; the "Administrative" section of the building where floor settlement has occurred is in the center right; the chamber room (Marble Hall) is at the right, rear and the Key Colony Beach Post Office is at the left, rear of the building.

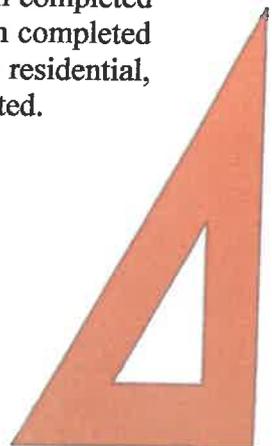
B. Brief Resumes of Dennis R. Peters, P.E. and H. Alan Mooney, P.E.

1. Brief resume of Dennis R. Peters, P.E.

This report is prepared by Dennis R. Peters, P.E., P.L.S. BCO, hereinafter this Writer, who is the President of Criterium Peters Engineers, Inc. and licensed in Pennsylvania as a registered professional engineer, PE 027528E; as a registered professional land surveyor , SU 023626E; as a ICC certified building code official and inspector , BCO 003655. Criterium Peters Engineers, Inc. is a franchisee and associate of corporate Criterium Engineers, mentioned below.

Dennis R. Peters, P.E., is completely familiar with the "Administrative" section of the building, having been in Key Colony Beach as a homeowner and resident during well over six months per year for over 20 years and is also completely familiar with the circumstances which occurred during hurricane Irma damage and flooding in Key Colony Beach, on and after September 10, 2017. Dennis R. Peters, P.E., currently owns residential homes in Key Colony Beach and adjacent Duck Key, six miles to the north towards the mainland of Florida.

Dennis R. Peters, P.E., has over 48 years of structural design experience as well as hands on construction of residential, commercial and industrial buildings ongoing continually throughout his career. Well over 100 inspections, structural design and remedial work have been completed related to flooding damage. "Fact" forensic structural damage inspections have been completed by Dennis R. Peters, P.E., for over 50 insurance companies and hundreds of private residential, commercial and industrial buildings, with well over a thousand investigations completed.





Mr. Chris Moonis

March 7, 2019

RE: **KEY COLONY BEACH ADMINISTRATION BUILDING
FLOOR SETTLEMENT
CITY OF KEY COLONY BEACH, MONROE COUNTY, FL**

Page 5

2. Brief resume of H. Alan Mooney, P.E.

H. Alan Mooney, P.E., is President of Criterium Engineers, one of North America's leading consulting engineer firms, a premier company involved in building related services in the structural, civil, evaluation, project management and similar fields.

Since 1957, Criterium Engineers has evaluated more than 750,000 buildings across the United States and Canada. More than 15,000 buildings and over 100 construction sites per year are inspected.

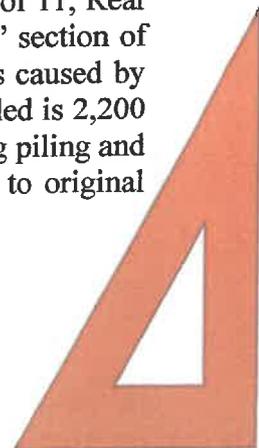
H. Alan Mooney, P.E., is the founder and President of Criterium Engineers, H. Alan Mooney, P.E., has over 50 years of experience in the civil and structural engineering field, including multi-million dollar engineering and construction projects, forensic engineering, and thousands of commercial building inspections.

H. Alan Mooney, P.E., is a licensed professional engineer in twelve states including Florida. His registration in Florida is under number 81959.

C. Review of referenced documents

All of the published materials referenced in the Appendix and as outlined above have been reviewed by Dennis R. Peters, P.E., in preparation of the opinion related to storm damage and remedial action necessary to bring the "Administration" building section concrete floor slab to pre hurricane Irma condition. This report has been peer reviewed and H. Alan Mooney, P.E., concurs with the content, opinions and remedial work as outlined and described herein. This report is limited to the "Administration" section settled concrete floor slab and the cost to bring this concrete floor back to original floor elevation and pre-hurricane Irma condition, excluding all other items identified in the Department of Homeland Security, Federal Emergency Management Agency, Project # 11456, pages 1 through 11 as enclosed, date download 2/11/19.

The Department of Homeland Security, Federal Emergency Management Agency, Project # 11456, pages 1 through 11 as attached, date download 2/11/19, indicates a CRC Gross Cost of \$913,665.00 which includes wall, door, trim, tile, carpet credits for remedial repair to the existing building. This outline indicates on page 4 of 11, Rear Office and on page 8 of 11, Rear Office that only 72 square feet of concrete slab construction in the "Administrative" section of the building is included in the CRC Gross Cost of \$913,665.00 and the damage was caused by spalling. The entire area of "Administrative" section concrete floor slab which is settled is 2,200 square feet. This report addresses this concrete floor slab and associated cost including piling and horizontal reinforced grade beams to meet Code and install the concrete floor slab to original floor elevation.



Mr. Chris Moonis

March 7, 2019

**RE: KEY COLONY BEACH ADMINISTRATION BUILDING
FLOOR SETTLEMENT
CITY OF KEY COLONY BEACH, MONROE COUNTY, FL**

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The opinion in this report is limited to the storm related damage, cost to remove the concrete floor; cost to install concrete reinforced piles, horizontal reinforced grade beams and new four inch thick concrete floor with wire reinforcing in the "Administrative" section of the building.

D. Our professional opinion regarding the concrete floor slab settlement, based on interviews, reports in the appendices and on site observations in the "Administrative" section of the building.

This Writer is completely familiar with the "Administrative" section of the building as outlined above under B1. Prior to hurricane Irma, which occurred on September 10, 2017, there was minor settlement in several floor areas of the "Administrative" section of the building based on over at least 75 observations by this Writer during the past 20 years. The significant major floor settlement observed by this Writer was during three inspections conducted during November 2018 through January 2019 and this Writer concurs with the findings in the various reports concerning settlement and depth of settlement observed.

This Writer observed the voids under the "Administrative" section slab through the bore holes completed as part of the investigation, with this Writers bore scope and agrees with the void observations in the various reports.

The significant major settlement of the "Administrative" concrete floor slab occurred directly after post hurricane Irma flooding and it is our opinion that this significant major concrete floor slab settlement occurred as a direct result of hurricane Irma flooding and did not occur over a long period of time. It is our opinion that the subsurface sand under the "Administrative" concrete floor slab flowed away from the subsurface during hurricane Irma flooding and caused the large voids under the "Administrative" concrete floor slab. Lack of support from a pre-Irma sand base under the concrete floor slab and now where post Irma voids exist is the direct cause of the settlement of the recent, significant, major concrete floor slab.

An interview with Mr. Ed Borysiewicz, former chief building code official in Key Colony Beach by this Writer and Mr. Borysiewicz indicated that the post office, chamber room (Marble Hall) and the codes office two floors were constructed on concrete piles with horizontal grade beams throughout the floors and the "Administrative" section was constructed with the perimeter only on wood piles and wood grade beams on the perimeter of the building. No interior concrete piles or concrete grade beams were installed under the "Administrative" portion of the building. The entire building perimeter and concrete block construction has not settled as the entire perimeter is either on concrete piles and grade beams or on wood piles and wood grade beams.

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Mr. Chris Moonis

March 7, 2019

RE: **KEY COLONY BEACH ADMINISTRATION BUILDING
FLOOR SETTLEMENT
CITY OF KEY COLONY BEACH, MONROE COUNTY, FL**

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Review of Roberto Leon, P.E. Senior VP of CSA Group email to Norry Lynch indicated that, given the height of water of 3.3 feet (varying reports have elevation up to 3.9 feet) inside of the "Administrative" section of the building during the Irma event that a weight of 211 pounds per square foot was imposed on the concrete slab in the "Administrative" section of the building which would normally have a 50 pound per square foot load. This Writer concurs with this opinion and the substantial additional weight on the concrete floor slab is a contributing factor towards the settlement after voids became present during Irma flooding.

There is discussion in reports that the concrete floor slab in the "Administrative" section failed due to a crack in the concrete floor slab where two foundations abut. This Writer completely viewed all sections of the existing concrete floor slabs and there is no crack where two foundations meet as was reported.

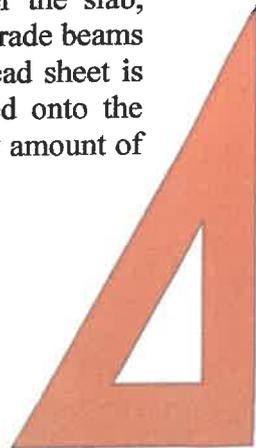
There was discussion concerning pumping cementitious grout under the slab to raise the slab to the original profile. The existing subsurface sand fill is not compacted and installation of grout, which will harden in short order, will result in additional settlement in a reasonably short period of time. Installation of pumped cementitious grout is not a solution to the concrete floor slab settlement problem.

E. Cost Estimate and Conclusion

Review of the FIRM Elevation Certificate prepared by John Paul Grimes III, Surveyor and Mapper, Key Colony Beach, indicates that the entire building is pre-FIRM in a Flood Zone AE-7 with a floor elevation to be met, pre-Irma, of approximately 5.8 feet. Base flood elevation is 7.0 feet. The remedial work will only bring the "Administrative" concrete floor slab to pre-Irma elevation, bearing in mind that approximately 3.3 feet of water was inside of the "Administrative" section of the building.

A separate report will be prepared for a Hazard Mitigation estimate to raise the entire "Administrative" section to a new base flood elevation floor slab of approximately 9 feet above the present BFE of 7 feet based on upcoming Florida Keys FIP remapping and new BFE to be published in the near future.

The cost for demolition of the existing concrete floor slab, subsurface fill under the slab, installation of drilled and concrete reinforced pilings, horizontal reinforced concrete grade beams and new concrete floor with wire reinforcing as outlined on the attached Excel spread sheet is estimated to be \$341,844.30. It is our opinion that this amount needs to be added onto the existing Department of Homeland Security, Federal Emergency Management Agency amount of \$913,665.00.





Mr. Chris Moonis

March 7, 2019

RE: KEY COLONY BEACH ADMINISTRATION
BUILDING FLOOR SETTLEMENT
CITY OF KEY COLONY BEACH, MONROE COUNTY, FL

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Our review, opinions, cost estimates for remedial work and conclusions are given to a reasonable degree of engineering certainty and combined structural building, design and cost investigative services experience of over 90 years. Mr. H. Alan Mooney, P.E., under registered professional engineers Florida license and seal, 81959 has conducted a thorough peer review of this report and concurs with the review, opinions, cost estimates and conclusions.

Please contact us if you have any questions or need anything further at this point concerning this matter.

Sincerely,

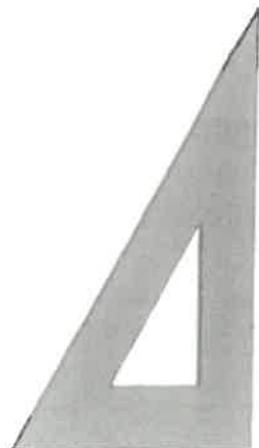
Dennis R. Peters, P.E., P.L.S, BCO



H. Alan Mooney, P.E., Florida Registered Professional Engineer No. 81959



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April 5, 2019

Mr. Chris Moonis
City Administrator/Manager
City of Key Colony Beach
600 West Ocean Drive
Key Colony Beach, FL 33051

RE: KEY COLONY BEACH ADMINISTRATION BUILDING
FLOOR SETTLEMENT
CITY OF KEY COLONY BEACH, MONROE COUNTY, PA

Dear Mr. Moonis:

I am writing in reference to the above captioned project and in response to the email, from Mr. Corky Spehrley, dated April 3, 2019 that was addressed to you. Everything that we have completed for the floor settlement is as outlined in the March 7, 2019 report. **The March 7, 2019 report is a fact report based on a reasonable degree of engineering certainty.**

The March 7, 2019 report and attachments was provided to the City of Key Colony Beach for the sole purpose to submit to FEMA for review and consideration for funding of listed repairs. No one from our office has discussed any issues with FEMA representatives or with anyone else concerning preparing any report favorable to the City of Key Colony.

In reference to Mr. Corky Spehrley's statements, in the above mentioned email, I have the following responses in reference to his statements which are non bolded below:

1. "The settlement of the center section was cause by Irma scouring away the supporting sand". *This writer reviewed boring logs and conducted his own bore scope investigation. During that investigation, this writer observed significant major floor settlements and significant voids under the concrete floor slab. It is this writers opinion that the subsurface sand under the "Administration Section" of the concrete floor slab flowed away from the subsurface during hurricane Irma flooding and caused the large voids under the "Administration Section" concrete floor slab. It is this writers opinion there is no other reasonable explanation for the migration of sand away from the subsurface under the concrete floor slab of the "Administration Section" of the building.*

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Mr. Chris Moonis

April 5, 2019

RE: KEY COLONY BEACH ADMINISTRATION BUILDING
FLOOR SETTLEMENT
CITY OF KEY COLONY BEACH, MONROE COUNTY, PA

Page 2

2. ***“The weight of 3.3 feet or more of water caused the floor to sink”. Normal office floors, and in this case, a floor constructed of 4” thick concrete, is expected to support a load of 50 pounds per square foot under ICC Building Code. During the Irma event, it was indicated by Roberto Leon, P.E., Senior VP of CSA Group, that the height of the water on the “Administration Section” was 3.3 feet, possibly 3.9 feet, which would add a stormwater weight of 211 to 250 pounds per square foot load, which is 4 – 5 times greater than what would normally be the expected floor load on a normal office floor. This writer agreed with Roberto Leon’s analysis. This additional weight contributed to the settlement of the “Administration Section” of the building.***
3. ***“There was NO settlement before Irma”. On Page 6 of the March 7, 2019 report, it states that “Prior to hurricane Irma, which occurred on September 10, 2017, there was minor settlement in several floor areas of the “Administration Section” of the building based on over at least 75 observations by this Writer during the past 20 years”.***

Our review, opinions, cost estimates for remedial work and conclusions were given to a reasonable degree of engineering certainty and combined structural building, design and cost investigative services experience of over 90 years. Please review Pages 4 and 5 of our March 7, 2019 report concerning the qualifications of the authors of the March 7, 2019 report.

This writer takes complete offense of Mr. Corky Spehrley’s statement that the March 7, 2019 report is for the purpose of bilking FEMA. This writer has had no discussion with FEMA or any other party concerning slanting a report in favor of either Key Colony Beach or FEMA and this writer has no idea whether or not FEMA will be providing a settlement payment to repair the “Administration Section” of the building based on our report.

The report dated March 5, 2019 was a Draft Only report. Mr. Corky Spehrley telephoned this writer the evening of March 5, 2019 and discussed the building for over an hour. Several additions to the March 5, 2019 draft were prepared to clarify several portions of the March 5, 2019 draft report, now void, and the final report is dated March 7, 2019.

Sincerely,

Dennis R. Peters

Dennis R. Peters, P.E., P.L.S., BCO

