STRUCTURAL CONDITION ASSESSMENT
1235 Lenox Ave
Miami Beach, Florida

H200440

March 13, 2020

PREPARED BY

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Youssef Hachem Consulting Engineering

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STRUCTURAL CONDITION ASSESSMENT for
1235 Lenox Ave
Miami Beach, Florida

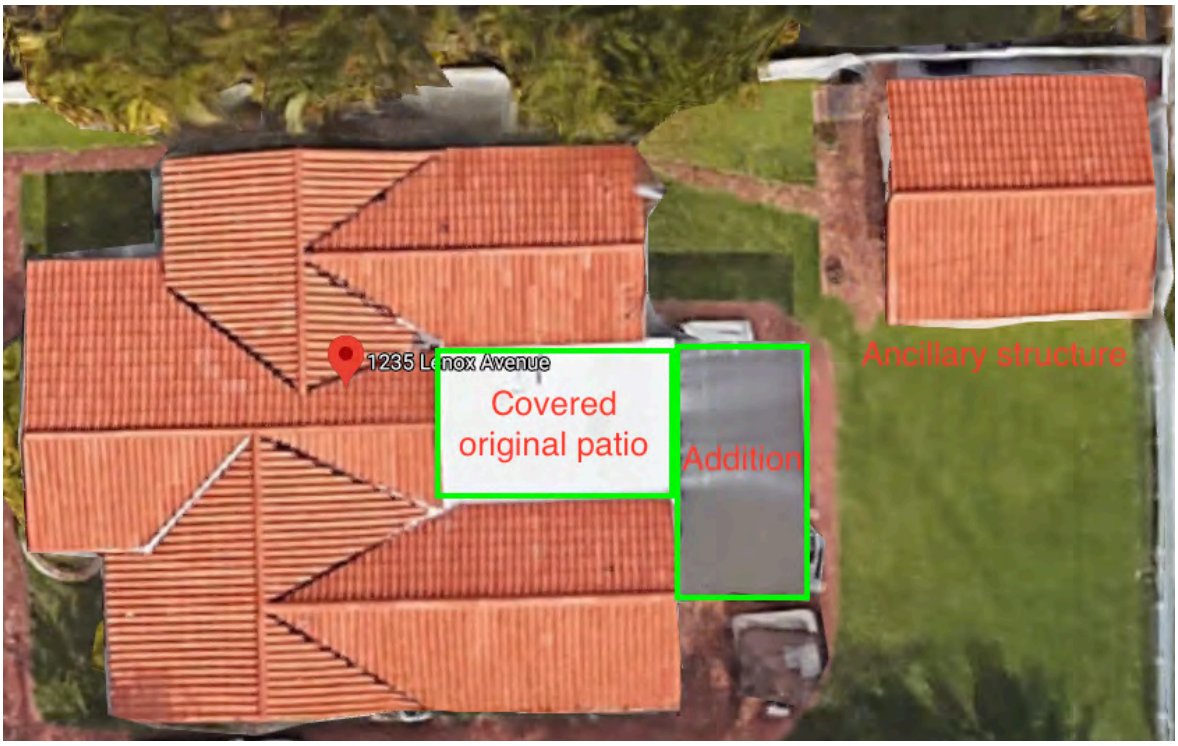
I. INTRODUCTION

General

Per the request of Ownership, we have conducted a visual structural condition assessment on the existing structure located at 1235 Lenox Ave in Miami Beach, Florida. The Building is located in the Miami Beach HPD-6 Ocean Beach Flamingo Park Historic District.

The purpose of the inspection is to assess the structural condition of the structure to determine the feasibility of renovation / raising of the structure.

Based on Miami Dade County tax records, the structure was originally built in 1936 with additions in 1990 and 1992. The total original area is 1,657 square feet, and the area now is 2,519 square feet.



The photo depicts the original house, with its now covered patio and addition to the east of the structure.

There is an ancillary structure at the NE corner of the property. The building's structural members are as follows:

Structural System

The Structure is a single story masonry building. The Building Structural System is as follows:

- Floor:
    - Original house is elevated wood floor framing, with wood planking
    - The Original back porch is slab on grade, now is enclosed and part of the house
    - The back addition is slab on grade
- Roof:
    - Wood frame construction w/ 2x6 joists at 24" o/c, gable ends
    - Wood planking and roof clay tile

The components and cladding of the building, such as doors, windows and roof waterproofing are not addressed in this report. Moreover, Ownership should perform termite and asbestos testing on the building. The electrical and electrical systems are not part of this report.

II. METHODOLOGY

This inspection was visual in nature from the exterior and interior of the building. Our office did not perform any destructive or non-destructive testing, however Ownership did engage NV5, Inc. to perform concrete core samples to test for:

1- Concrete compressive strength
2- Extent of Carbonation
3- Chloride Content

The report in its entirety is in Appendix B. Discussion of the results are to follow in this report.

Currently, there are multiple locations in the building that has damaged wood members (floors and roof), there are signs of distress in the structural members of the building,

which includes masonry, wood, and concrete. Distress signs are cracking, spalling, water damage, and termite damage.

No structural analysis was performed on the building to determine the capacity of the structural systems. It's our opinion that the current structural system of the building does not comply Florida Building Code 2017, HVHZ (High Velocity Hurricane Zone) edition.

III. STRUCTURAL SYSTEMS

Foundations: The building is built on shallow foundations. The foundations support a concrete stem walls (interior and exterior). The interior stem walls support the interior wood stud walls and the exterior stem walls support the exterior masonry walls.

Exterior Walls: The exterior walls of the building are concrete masonry unit (CMU) block bearing walls. The CMU block is the three cell block, which was typical at the time of construction of the building. We could not locate concrete columns in the walls of the original structure. The exterior walls do have concrete tie beam.

Interior Walls: There are two types of interior walls, load bearing and non-load bearing. Both types are wood 2"x4" stud walls. The load bearing walls support the roof. These stud walls are in turn supported by the concrete stem walls and foundations.

Floors: For the original structure, the wood floor joists are 2"x12" spaced at 16" on center and spanning between the stem walls. The covered pation and the addiotn both are concrete slab on grade.

Roof: The roof is conventional wood framed roof, gables end with 2x6 at 24" o/c.

IV. SITE OBSERVATIONS

We have inspected the structure on multiple occasions, and our summary of the evaluation of the existing conditions of the structural components are as follows:

Concrete members; which are tie beams, foundations, roof rafters, and masonry walls have variable levels of deterioration. Almost all concrete beams exhibit concrete spalling, cracking, and deterioration (please see photos). There are several members with exposed reinforcing rebars where the concrete has completely spalled off the members. Reinforcing rebars are corroded in multiple locations. Concrete deterioration is evident in concrete beams to have occurred at full width of beams.

Wood members; The roof of the structure has failed in multiple locations, and the moisture intrusion had caused severe and extensive damage to all the wood members of the covered patio area. There are roof leaks on all corners of the structure, (please see photos). There is moisture damage (rot) of wood, that has caused wood members to deflect, sag, and fail.

Masonry members; which comprise the exterior walls of the building, is mostly in fair condition. There are several cracks in the masonry that are attributed to age, exposure to the elements, and settlement of the shallow foundations.

The components and cladding elements of the building and accessories such as doors, windows, louvers, rails, are all in poor condition. Moreover, the roof waterproofing membrane is also in a poor condition (please see photos).

V. CONCRETE TESTING

Ownership had engaged NV5, a materials testing laboratory to conduct concrete coring on the building so to obtain concrete compressive strength, carbonation depth, and chlorides content. The laboratory extracted (8) concrete samples that were 3" in diameter. The report is enclosed in Appendix B of this report.

- Concrete Compressive Strength: the results of the testing for concrete strength are tabulated and charted as follows:

Core Number	Compressive Strength [PSI]
1	2,890
2	2,070
3	2,700
4	2,770

The Concrete compressive strength ranged from 2070 to 2890 PSI. These numbers are on the low side for buildings of this age. In comparisson, Florida Building Code 2017 edition requires as a minimum 5000 PSI concrete compressive strength.

- Carbonation depth: Carbon dioxide from air reacts with the calcium hydroxide in concrete to form calcium carbonate, this process is called carbonation. Carbonation, naturally starts from the exterior surface and progresses inwards. Carbonation actually increases the compressive strength of concrete, however it also decreases alkalinity, which is essential for corrosion prevention of the reinforcement steel. The results of the testing for carbonation depth are tabulated and charted as follows:

Core Number	Carbonation Depth [inches]
1	1.25
2	8.75
3	4.5
4	3.25

These carbonation depths numbers are deep, and exposes the rebars to corrosion.

- Chloride Content: Chloride salts react with the concrete and reduce its alkalinity, when that happens, the protective layer surrounding the rebars is broken, and rebar corrsion starts. Chloride content was measured at 1" depth, mid depth and end 1" in each core. The results of the testing for Chloride content the concrete cores are tabulated and charted as follows:

Core	Chloride ion Content at interior 1"	Chloride ion Content at mid core	Chloride ion content at exterior 1"
Number	% by cement wt.	% by cement wt.	% by cement wt.
1	0.5640	1.8223	0.8678
2	0.6042	0.7463	0.5686
3	2.2465	1.1358	1.0918
4	0.4467	0.6880	0.5540

American Concrete Institute ACI 318R-14 (table 19.3.2.1) recommends % content of 0.30% by weight of cement, ALL of the samples exceed that value. More importantly, the deeper values have high percent content of chlorides.

VI. STRUCTURAL EVALUATION

There are several factors to be considered in the structural evaluation of this building;

Initial Construction:

Building construction and standards of the 1930's are considered deficient in today's standards. This applies to this structure and other structures built in the 1930's. This building under current building code is deemed deficient. The structure's roof connections for wind uplift forces, and for wind lateral resistance are non-existent. Moreover, openings protection, and CMU reinforcing is also non-existent. To develop this building it has to undergo level III alteration of the Florida Building Code 2017 for existing structures. This means that the building has to be strengthened to comply with the current Florida Building Code. Which means that the roof connection tie downs have to be implemented to strengthen the roof, and lateral load structural systems have to be installed such as shearwalls. Wall openings such as doors and windows and the exterior CMU walls have to reinforced. Hence, the foundations also have to be strengthened to resist such lateral loads.

Materials Status:

Site Conditions

Based on the visual observation in the field, wood members of the building such as the roof, floor joists, and interior stud walls are in poor condition. Many concrete members of the building have to be are cracked, and spalled. Moreover, reinforcing rebars of the concrete members also are in poor condition.

Laboratory Results

The laboratory results for the concrete compressive strength shows capacities of concrete less than 3,000 PSI. Current Florida Building Code calls for 5,000 PSI concrete strength for coastal construction. Although the level of compressive strengths of existing concrete are expected to be less than 5000 PSI, the compressive strength of the concrete of this building are considered low.

The carbonation depths in the concrete are very concerning as they are deep.

The Chloride content in the concrete are higher than the threshold level of 0.30% as recommended by the America Concrete Institute ACI 318R-14. Levels higher than the threshold levels create an environment conducive to rebar corrosion. Chlorides content average at 1" (interior) depth is 0.9654% of cement weight, and at mid depth 1.098%, and at 1" (exterior) depth is 0.771% of cement weight indicates that the chlorides content is above the recommended levels at the surface and much higher levels deeper into the structural members. This leads to continuous reinforcing rebars corrosion. Moreover, its leads to the possibility of use of beach sand or water in the original construction of the building. If that is the case, it is impossible to lower these levels.

VII. RECOMMENDATIONS

Based on the site observations of the conditions of structural members of the building, the laboratory testing of the concrete, the structural members of this building need to be replaced rather than repaired. Hence, in order to do so, these structural members need to be demolished.

APPENDIX A

PHOTOS

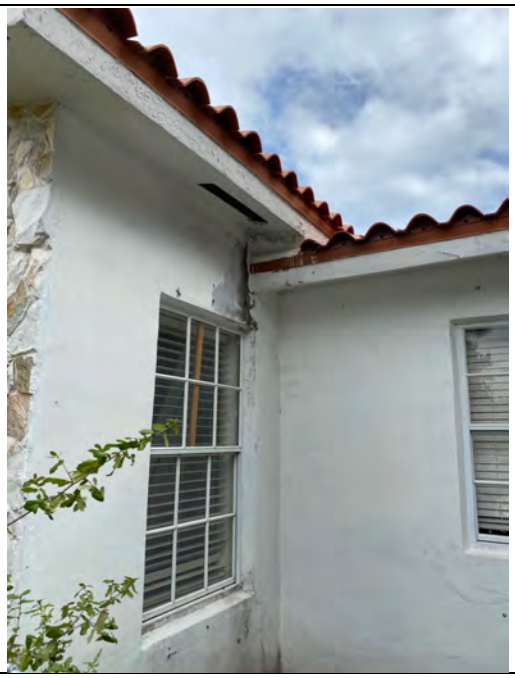


Photo 1- West Elevation

Photo 2- South Elevation

Photo 3 – South Elevation CMU cracking

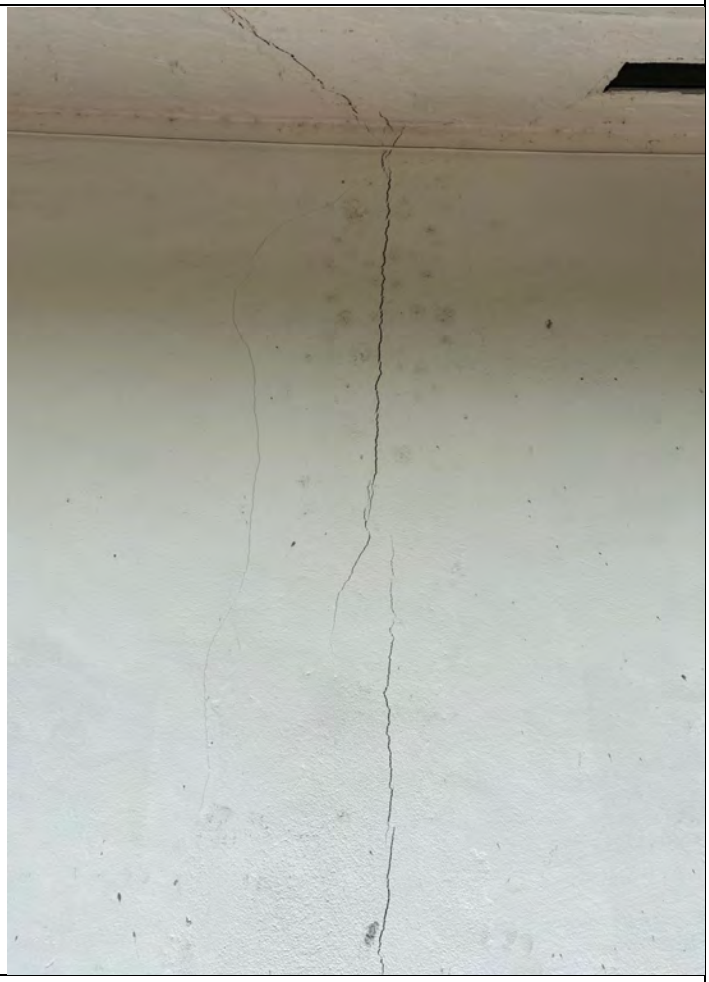


Photo 4 - South Elevation CMU cracking

	
Photo 5- East Elevation	Photo 6 – North East Elevation
	
Photo 7 - North Elevation	Photo 8 – North West Elevation

Photo 9 – Ceiling of covered patio

Photo 10 – Edge beam between covered patio and East addition

Photo 11 – Ceiling of covered patio

Photo 12 – West corner of house

	
Photo 13 – Crawl space under house	Photo 14 - Crawl space under house
	
Photo 15 - Crawl space under house	Photo 16 - Crawl space under house showing damaged floor joists

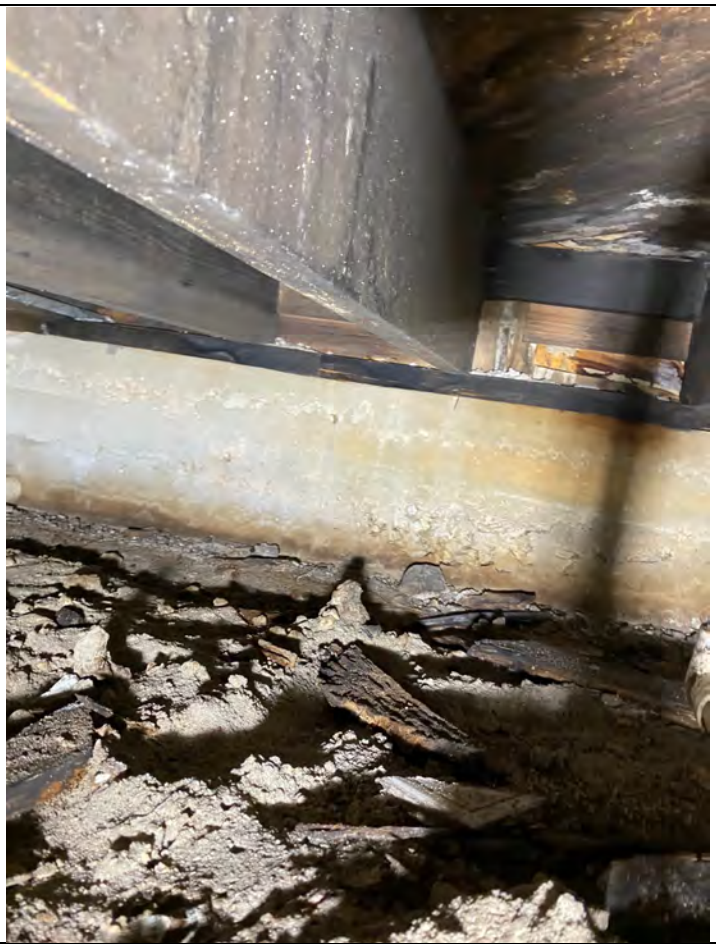


Photo 17 - Crawl space under house

Photo 18 – Roof leaks damage

Photo 19 – Interior of west elevation

Photo 20 – West elevation concrete spalling and corroded rebars

Photo 21 – Termite Damage and SMU

Photo 22 - West elevation concrete spalling and corroded rebars

Photo 23 - Concrete beam spalling, at South elevation

Photo 24 - West elevation concrete spalling and corroded rebars

	
Photo 25 - South elevation concrete spalling and corroded rebars	Photo 26 - South elevation concrete spalling and corroded rebars
	
Photo 27 - North elevation concrete spalling and corroded rebars	Photo 28 - North elevation concrete spalling and corroded rebars

Photo 29 – Covered patio roof damage

Photo 30 - Covered patio roof damage

Photo 31 - Covered patio roof damage

Photo 32 - Covered patio roof damage

	
Photo 33 - Covered patio roof damage	

APPENDIX B

Laboratory testing for concrete

March 12, 2020

Khera A. Osbourne
Design Associate
Clemens Bruns Schaub Architect & Associates, P.A.
3383 Ocean Drive
Vero Beach, Florida 32963

Re: Report of Core Compressive Strength and Chemical Analysis Tests
1235 Lenox Avenue Residence – Concrete Core Tests
1235 Lenox Avenue
Miami Beach, Florida 33139
NV5 Project No. 16832.00

Dear Ms. Osbourne:

NV5, Inc. submits this report in fulfillment with the Scope of Services described in our proposal No. 20-0161 dated March 3, 2020. The work was authorized by acceptance of our professional agreement. This report contains the data collected, describes the procedures used, and presents results for the laboratory tests conducted.

PROJECT INFORMATION

The proposed development will be located at 1235 Lenox Avenue in Miami Beach, Florida. Based on the Miami-Dade County property appraiser's webpage the site corresponds to Folio No. 02-4203-009-7460. It is bounded to the north and south by similar single-family homes, to the east by an alleyway, and to the west by Lenox Avenue. A single-story family home occupies the site.

Mr. Youssef Hachem with YHCE has requested thru an email on March 3, 2020 to extract concrete cores from the structures at the direction of Ms. Khera A. Osbourne with Clemens Bruns Schaub Architect & Associates, PA. NV5 was informed to extract eight (8) cores from the columns and beams of the existing structure at full depth.

- Four (4) cores for compressive strength
- Four (4) cores for chemical analysis (water-soluble calcium chloride and depth of carbonation)

GPR scanning was performed to locate reinforcement steel bars prior core drilling. Sampling and testing were performed in general accordance with appropriate ASTM procedures. The concrete cores were to be extracted from the locations depicted in Figure 1.

Figure 1: 1235 Lenox Ave. - Approximate Concrete Core Locations provided by YHCE

PURPOSE

The purpose of our services on this project was to: provide a report summarizing the data collected from the concrete core compressive strength tests, and chemical analysis tests.

FIELD WORK

NV5 GPR scanned the areas indicated by the structural engineer and collected the core samples on March 6, 2020. Eight (8) concrete cores were retrieved from the existing beams instead of the columns due to core drilling difficulties. The client and structural engineer approved drilling other locations. Due to tightly spaced reinforcing steel, the cores diameter was 3.23 and 3.71 inches. Although the core samples were below the recommended diameter described by ASTM C42-18a, they were drilled in compliance with section 7.1.2 of ASTM C42-18a.

Subsequently, the core samples were bagged within the time limit indicated in ASTM C42-18 standard. The core samples were transported to our laboratory for testing. Photographs of the extracted core locations are included in Appendix A.

LABORATORY TESTING

A. Cores - Compressive Strength Test

The extraction and compressive strength testing of the concrete cores were performed in substantial compliance with ASTM C42-18a, Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete. Core No. 1A, 2A, 3A and 4A were saw cut for appropriate test correction factor of approximately 2:1 length to diameter ratio. The core samples were capped with a high-strength capping compound (TMI CA-0100 Capping Compound) and later subjected to compressive strength testing. The compressive strength results ranged from 2,070 to 2,890 pounds per square inch (psi).

Details of the compressive strength results of the individual core samples are summarized in Table 1 as well as Appendix C - NV5 Report - Core Compressive Strength Results. Photographs of the core samples obtained in the field and tested in the laboratory are included in Appendix B.

B. Cores – Chloride Ion Content Test

The chemical analysis of concrete core No. 1B, 2B, 3B and 4B were labeled and bagged separately and sent to A&S Laboratories to be tested for water-soluble calcium chloride and carbonation. Chloride testing was performed at 1-inch facing the exterior, 1-inch in the middle and the bottom 1-inch facing the interior. Testing was in general accordance with the test method described in ASTM C1218-17, Standard Test Method for Water Soluble Chloride in Mortar and Concrete.

According to the publication 'Design and Control of Concrete Mixtures', chlorides may be introduced into concrete with the separate mix ingredients (admixtures, aggregates, cement, and mixing water) or through exposure to deicing salts, seawater, or salt laden air in coastal environments. An acceptable limit depends primarily upon the type of structure and the environment to which it is exposed during its service life. ACI 318R-14, table 19.3.2.1 shows that the maximum water-soluble chloride ion (Cl^-) content in concrete (percent by weight of cement) shall be 0.30% for non-pre-stressed concrete exposed to moisture but not to an external source of chloride and 0.15% for non-pre-stressed concrete exposed to moisture and an external source of chloride from deicing chemical, salt, brackish water, seawater, or spray from these sources.

Based on the core samples tested, the percent chlorides obtained ranged from 0.2465% to 1.823%. The percent chloride by mass of cement of each individual sample has been included in A&S Laboratories Test Reports shown in Table 1 and in Appendix D.

The percent chlorides presented in the report were based on a 10 gram pulverized sample of the hardened concrete mixture. In the absence of the concrete mix design, we assumed that the cement weight is approximately 400-pound (lbs.) for a 3,000 pounds per square inch (psi) concrete strength. Therefore, the percent chloride by mass of cement is an estimated value to the best of our knowledge and available information.

C. CORES – DEPTH OF CARBONATION TEST

A specific testing method for the Depth of Carbonation testing was not provided. However, a reference to depth of carbonation testing is included in ASTM C856-18, *Standard Practice for Petrographic Examination of Hardened Concrete.*

Carbonation is one of the two main causes of corrosion of steel in concrete and grout; the other is chloride attack. The depth of carbonation was performed on the freshly exposed section of the core samples by spraying with an indicator spray such as phenolphthalein. The concrete core sample turns pink when the concrete is alkaline (above pH 9.2) but remains colorless where the concrete is carbonated, usually as more or less even zone extending from the surface. A&S Laboratories conducted the depth of carbonation up to different content and carbonation was found present in all the core samples. The carbonation test results and photographs are disclosed in Table 1 and in Appendix E.

Table 1: Core Samples – Columns
NV5 Test Results
And A&S Laboratories Chemical Test Results

Core Number	Core Locations	Core Compressive Strength Results (psi)	Chloride Ion Content By Mass of Cement (%)			Core Sample Carbonation Test (in)
			Interior 1"	Center/Middle	Exterior 1"	Full Depth
1A	Ground South Beam	2,890	—	—	—	—
1B	Ground South Beam	—	0.5640	1.8223	0.8678	0.00" - 2.50" 7.00" - 8.25"
2A	Ground SW Beam	2,070	—	—	—	—
2B	Ground SW Beam	—	0.6042	0.7463	0.5686	0.00" – 8.75"
3A	Ground North Beam	2,700	—	—	—	—
3B	Ground North Beam	—	2.2465	1.1358	1.0918	0.00" - 4.50" 7.25" - 7.75"
4A	Ground NW Beam	2,770	—	—	—	—
4B	Ground NW Beam	—	0.4467	0.6880	0.5540	0.00" – 3.25"

CLOSURE

We appreciate the opportunity to provide engineering and material testing services on this project. This report has been prepared for the exclusive use of the current project owners, and other members of the design team for the specific application to the project described in this report. This report has been prepared in accordance with generally accepted local engineering practices; no other warranty is expressed or implied.

If you have questions about information contained in this report, please contact the undersigned at 305-666-3563.

Sincerely,

NV5, Inc.

Ilya Liberman, PhD, CBO
CMT Manager

3/13/2020

Alfredo Budik, P.E.
Senior Engineer
Florida License No. 43884

Distribution: 2 Copies to Addressee via U.S. Mail
Copy to NV5 File

Attachments:
Appendix A: Core Sample Locations (2 pages)
Appendix B: Photographs of The Core Samples (2 pages)
Appendix C: NV5 - Core Compressive Strength Report (1 page)
Appendix D: A&S Lab Report: Percent Chloride by Mass of Cement Test Results (12 pages)
Appendix E: A&S Lab Report: Carbonation Test Results and Photographs (2 pages)

F:\DOC\NV5 Reports\16832.00 - 1235 Lenox Avenue - Concrete Core Tests_1235 Lenox Avenue_Miami Beach_FL_Clemens Bruns Schaub Architect & Associates, PA_Concrete Core Compressive Strength, Chloride Ion Content, Carbonation_Report_03-12-20.docx

APPENDIX A
Extracted Cores
Locations

Figure 2: Core Location 1A, 1B: Ground Floor South Beam

Figure 3: Core Location 2A, 2B: Ground Floor SW Beam

Figure 4: Core Location 3A, 3B: North Beam

Figure 5: Core Location 4A, 4B: NW Beam

APPENDIX B
Photographs of The Core Samples

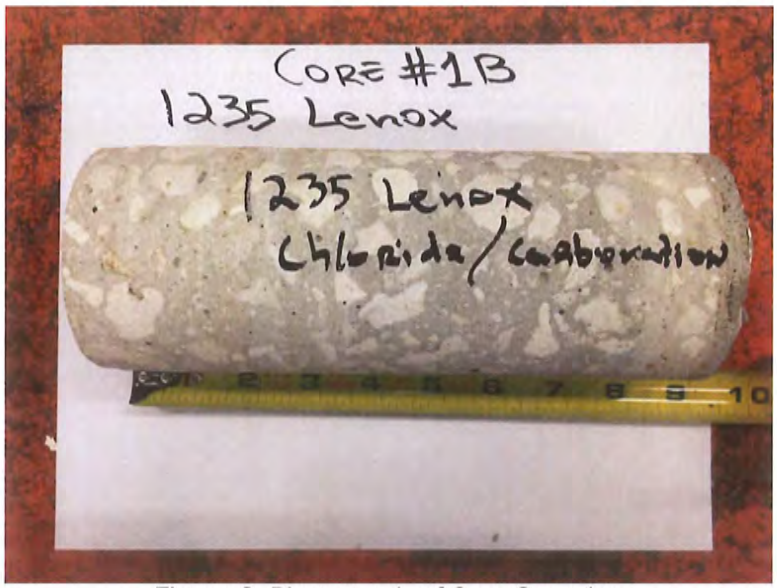


Figure 6: Photograph of Core Samples
(Chloride/Carbonation Samples)

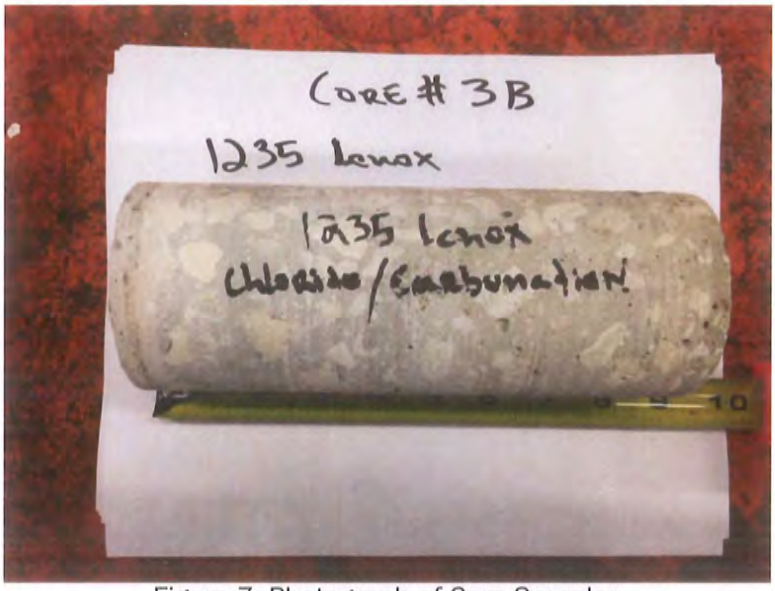


Figure 7: Photograph of Core Samples
(Chloride/Carbonation Samples)

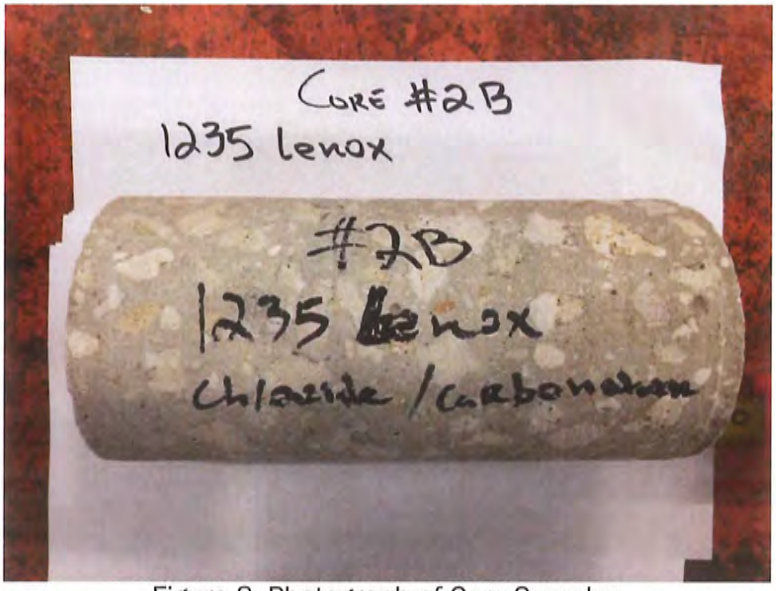


Figure 8: Photograph of Core Samples
(Chloride/Carbonation Samples)

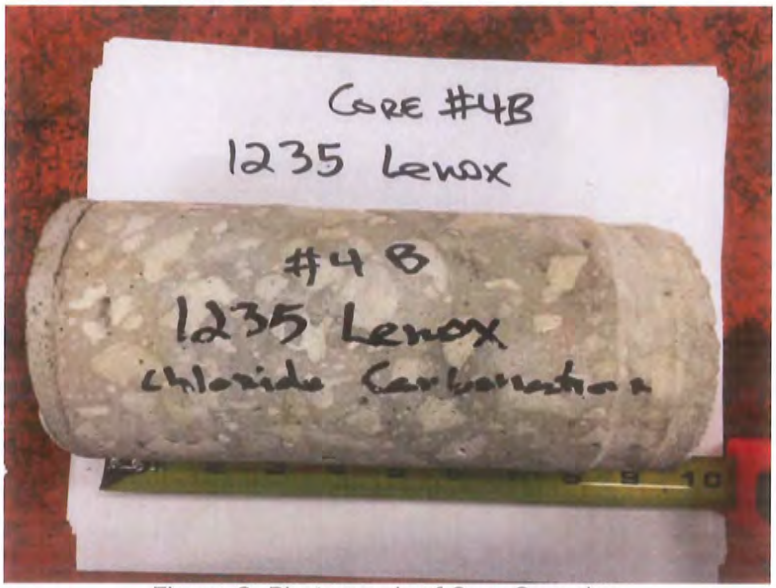


Figure 9: Photograph of Core Samples
(Compression/Chloride/Carbonation Samples)

Figure 10: Photograph of Core Samples
(Compressive Strength Tests)


Figure 11: Core Capping Material Used (CA-0100 Capping Compound

APPENDIX C
NV5 - Core Compressive Strength Report

CORES COMPRESSIVE STRENGTH REPORT

NV5, INC.
14486 COMMERCE WAY, MIAMI LAKES FL 33016
TELEPHONE NO. 305-666-3563 FAX NO.: 305-666-3069

PROJECT NAME: 1235 Lennox Avenue -Concrete Core Test
PROJECT NUMBER: 16832
DATE: 3/11/2020
CLIENT: Clemens Bruns Schaub Architect & Associates
SAMPLE BY: G. Day
SET NO.: 1
CONTRACTOR: YHCE
SPECIFIED STRENGTH: N/P AT N/P DAYS
PAGE NO.: 1
TEST METHOD: In general accordance with ASTM C42-18a
CONCRETE SUPPLIER: N/P

Core Number	Core Location	Core Sample ID	Core Dimensions					Compressive Strength				Fracture Type	Maximum Nominal Aggregate Size	Pour Date	Core Date	Preparation Date	Test Date	Core Weight (lbs.)	Core Unit Weight (lbs./ft³)
			Diameter (inches)	Lengths			Cross Sectional Area (sq.inches)	Maximum Load (lbs.)	L/D	Correction Factor	Approx. Compressive Strength (psi)								
				Original (inches)	w/o cap (inches)	with cap (inches)													
1A	Ground Floor	South Beam	3.23	8.50	6.29	6.43	8.19	23,643	1.99	1.00	**2,890**	2	#57	Not Provided	3/6/2020	3/7/2020	3/11/2020	3.834	128.54
2A	Ground Floor	Southwest Beam	3.71	8.50	7.30	7.47	10.81	22,423	2.01	1.00	**2,070**	2	#57	Not Provided	3/6/2020	3/7/2020	3/11/2020	6.011	131.62
3A	Ground Floor	North Beam	3.23	8.50	6.25	6.41	8.19	22,143	1.98	1.00	**2,700**	2	#57	Not Provided	3/6/2020	3/7/2020	3/11/2020	3.866	130.43
4A	Ground Floor	Northwest Beam	3.23	8.50	6.26	6.42	8.19	22,699	1.99	1.00	**2,770**	2	#57	Not Provided	3/6/2020	3/7/2020	3/11/2020	3.929	132.36

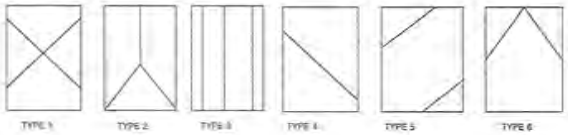
Notes

1 According to ACI 318 and Note 4 of ASTM C42-18, "The concrete represented by the cores is considered structurally adequate if the average strength of three cores is at least 85% of the specified strength and no single core strength is less than 75% of the specified strength". Compressive strength results should be reviewed by the Engineer of Record for acceptance.

2 According to ASTM C42-18, Section 7.3.3 – "Allow the cores to remain in the sealed plastic bags or nonabsorbent containers for at least 5 days after last being wetted and before testing, unless stipulated otherwise by the specifier of tests".

3 Direction of load application is Perpendicular and moisture condition is bagged.

FRACTURE TYPE



3/13/2020

Alfredo Budik, P.E.
Senior Engineer
Florida License No. 43884

NV5

APPENDIX D
A&S Laboratories
Percent Chloride by Mass of Cement Test Results

A & S Laboratories
2550 Success Dr.
Odessa, FL 33556
Phone: (727)375-0388

TEST REPORT

A & S Project Number:	784632
Purchase Order Number	N/A
Customer:	NV5
Project Name:	1235 Lennox Avenue
Attention:	Ralph Numa

The results of tests performed in accordance with ASTM C1218-15 Water Soluble Chloride in Mortar and Concrete are as follows:

Sample Location:	South Beam Core 1B Interior
Client Identification:	N/A
Project Number:	16832
Sample Characteristics:	N/A
Date Core Extracted:	03/06/20
Date Sample Tested:	03/12/20
Design Compressive Strength:	N/A
Cement Weight (lbs.):	400
Chloride Content (mg/kg)	650 ppm
Percent Chloride Content:	0.0650 %
Percent Chloride by Mass of Cement:	0.5640 %*

Gregory P Allen
Lab Director

*This result is based on client supplied data. The percent chloride by mass of cement may be an estimated value. The client should provide a mix design when possible for an accurate calculation.

A & S Laboratories
2550 Success Dr.
Odessa, FL 33556
Phone: (727)375-0388

TEST REPORT

A & S Project Number:	784633
Purchase Order Number	N/A
Customer:	NV5
Project Name:	1235 Lennox Avenue
Attention:	Ralph Numa

The results of tests performed in accordance with ASTM C1218-15 Water Soluble Chloride in Mortar and Concrete are as follows:

Sample Location:	South Beam Core 1B Middle
Client Identification:	N/A
Project Number:	16832
Sample Characteristics:	N/A
Date Core Extracted:	03/06/20
Date Sample Tested:	03/12/20
Design Compressive Strength:	N/A
Cement Weight (lbs.):	400
Chloride Content (mg/kg)	2100 ppm
Percent Chloride Content:	0.2100 %
Percent Chloride by Mass of Cement:	1.8223 %*

Gregory P Allen
Lab Director

*This result is based on client supplied data. The percent chloride by mass of cement may be an estimated value. The client should provide a mix design when possible for an accurate calculation.

A & S Laboratories
2550 Success Dr.
Odessa, FL 33556
Phone: (727)375-0388

TEST REPORT

A & S Project Number:	784634
Purchase Order Number	N/A
Customer:	NV5
Project Name:	1235 Lennox Avenue
Attention:	Ralph Numa

The results of tests performed in accordance with ASTM C1218-15 Water Soluble Chloride in Mortar and Concrete are as follows:

Sample Location:	South Beam Core 1B Exterior
Client Identification:	N/A
Project Number:	16832
Sample Characteristics:	N/A
Date Core Extracted:	03/06/20
Date Sample Tested:	03/12/20
Design Compressive Strength:	N/A
Cement Weight (lbs.):	400
Chloride Content (mg/kg)	1000 ppm
Percent Chloride Content:	0.1000 %
Percent Chloride by Mass of Cement:	0.8678 %*

Gregory P Allen
Lab Director

*This result is based on client supplied data. The percent chloride by mass of cement may be an estimated value. The client should provide a mix design when possible for an accurate calculation.

A & S Laboratories
2550 Success Dr.
Odessa, FL 33556
Phone: (727)375-0388

TEST REPORT

A & S Project Number:	784635
Purchase Order Number	N/A
Customer:	NV5
Project Name:	1235 Lennox Avenue
Attention:	Ralph Numa

The results of tests performed in accordance with ASTM C1218-15 Water Soluble Chloride in Mortar and Concrete are as follows:

Sample Location:	Southwest Beam Core 2B Interior
Client Identification:	N/A
Project Number:	16832
Sample Characteristics:	N/A
Date Core Extracted:	03/06/20
Date Sample Tested:	03/12/20
Design Compressive Strength:	N/A
Cement Weight (lbs.):	400
Chloride Content (mg/kg)	680 ppm
Percent Chloride Content:	0.0680 %
Percent Chloride by Mass of Cement:	0.6042 %*

Gregory P Allen
Lab Director

*This result is based on client supplied data. The percent chloride by mass of cement may be an estimated value. The client should provide a mix design when possible for an accurate calculation.

A & S Laboratories
2550 Success Dr.
Odessa, FL 33556
Phone: (727)375-0388

TEST REPORT

A & S Project Number:	784636
Purchase Order Number	N/A
Customer:	NV5
Project Name:	1235 Lennox Avenue
Attention:	Ralph Numa

The results of tests performed in accordance with ASTM C1218-15 Water Soluble Chloride in Mortar and Concrete are as follows:

Sample Location:	Southwest Beam Core 2B Middle
Client Identification:	N/A
Project Number:	16832
Sample Characteristics:	N/A
Date Core Extracted:	03/06/20
Date Sample Tested:	03/12/20
Design Compressive Strength:	N/A
Cement Weight (lbs.):	400
Chloride Content (mg/kg)	840 ppm
Percent Chloride Content:	0.0840 %
Percent Chloride by Mass of Cement:	0.7463 %*

Gregory P Allen
Lab Director

*This result is based on client supplied data. The percent chloride by mass of cement may be an estimated value. The client should provide a mix design when possible for an accurate calculation.

A & S Laboratories
2550 Success Dr.
Odessa, FL 33556
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TEST REPORT

A & S Project Number:	784637
Purchase Order Number	N/A
Customer:	NV5
Project Name:	1235 Lennox Avenue
Attention:	Ralph Numa

The results of tests performed in accordance with ASTM C1218-15 Water Soluble Chloride in Mortar and Concrete are as follows:

Sample Location:	Southwest Beam Core 2B Exterior
Client Identification:	N/A
Project Number:	16832
Sample Characteristics:	N/A
Date Core Extracted:	03/06/20
Date Sample Tested:	03/12/20
Design Compressive Strength:	N/A
Cement Weight (lbs.):	400
Chloride Content (mg/kg)	640 ppm
Percent Chloride Content:	0.0640 %
Percent Chloride by Mass of Cement:	0.5686 %*

Gregory P Allen
Lab Director

*This result is based on client supplied data. The percent chloride by mass of cement may be an estimated value. The client should provide a mix design when possible for an accurate calculation.

A & S Laboratories
2550 Success Dr.
Odessa, FL 33556
Phone: (727)375-0388

TEST REPORT

A & S Project Number:	784638
Purchase Order Number	N/A
Customer:	NV5
Project Name:	1235 Lennox Avenue
Attention:	Ralph Numa

The results of tests performed in accordance with ASTM C1218-15 Water Soluble Chloride in Mortar and Concrete are as follows:

Sample Location:	North Beam Core 3B Interior
Client Identification:	N/A
Project Number:	16832
Sample Characteristics:	N/A
Date Core Extracted:	03/06/20
Date Sample Tested:	03/12/20
Design Compressive Strength:	N/A
Cement Weight (lbs.):	400
Chloride Content (mg/kg)	280 ppm
Percent Chloride Content:	0.0280 %
Percent Chloride by Mass of Cement:	0.2465 %*

Gregory P Allen
Lab Director

*This result is based on client supplied data. The percent chloride by mass of cement may be an estimated value. The client should provide a mix design when possible for an accurate calculation.

A & S Laboratories
2550 Success Dr.
Odessa, FL 33556
Phone: (727)375-0388

TEST REPORT

A & S Project Number:	784639
Purchase Order Number	N/A
Customer:	NV5
Project Name:	1235 Lennox Avenue
Attention:	Ralph Numa

The results of tests performed in accordance with ASTM C1218-15 Water Soluble Chloride in Mortar and Concrete are as follows:

Sample Location:	North Beam Core 3B Middle
Client Identification:	N/A
Project Number:	16832
Sample Characteristics:	N/A
Date Core Extracted:	03/06/20
Date Sample Tested:	03/12/20
Design Compressive Strength:	N/A
Cement Weight (lbs.):	400
Chloride Content (mg/kg)	1290 ppm
Percent Chloride Content:	0.1290 %
Percent Chloride by Mass of Cement:	1.1358 %*

Gregory P Allen
Lab Director

*This result is based on client supplied data. The percent chloride by mass of cement may be an estimated value. The client should provide a mix design when possible for an accurate calculation.

A & S Laboratories
2550 Success Dr.
Odessa, FL 33556
Phone: (727)375-0388

TEST REPORT

A & S Project Number:	784640
Purchase Order Number	N/A
Customer:	NV5
Project Name:	1235 Lennox Avenue
Attention:	Ralph Numa

The results of tests performed in accordance with ASTM C1218-15 Water Soluble Chloride in Mortar and Concrete are as follows:

Sample Location:	North Beam Core 3B Exterior
Client Identification:	N/A
Project Number:	16832
Sample Characteristics:	N/A
Date Core Extracted:	03/06/20
Date Sample Tested:	03/12/20
Design Compressive Strength:	N/A
Cement Weight (lbs.):	400
Chloride Content (mg/kg)	1290 ppm
Percent Chloride Content:	0.1240 %
Percent Chloride by Mass of Cement:	1.0918 %*

Gregory P Allen
Lab Director

*This result is based on client supplied data. The percent chloride by mass of cement may be an estimated value. The client should provide a mix design when possible for an accurate calculation.

A & S Laboratories
2550 Success Dr.
Odessa, FL 33556
Phone: (727)375-0388

TEST REPORT

A & S Project Number:	784641
Purchase Order Number	N/A
Customer:	NV5
Project Name:	1235 Lennox Avenue
Attention:	Ralph Numa

The results of tests performed in accordance with ASTM C1218-15 Water Soluble Chloride in Mortar and Concrete are as follows:

Sample Location:	Northwest Beam Core 4B Interior
Client Identification:	N/A
Project Number:	16832
Sample Characteristics:	N/A
Date Core Extracted:	03/06/20
Date Sample Tested:	03/12/20
Design Compressive Strength:	N/A
Cement Weight (lbs.):	400
Chloride Content (mg/kg)	500 ppm
Percent Chloride Content:	0.0500 %
Percent Chloride by Mass of Cement:	0.4467 %*

Gregory P Allen
Lab Director

*This result is based on client supplied data. The percent chloride by mass of cement may be an estimated value. The client should provide a mix design when possible for an accurate calculation.

A & S Laboratories
2550 Success Dr.
Odessa, FL 33556
Phone: (727)375-0388

TEST REPORT

A & S Project Number:	784642
Purchase Order Number	N/A
Customer:	NV5
Project Name:	1235 Lennox Avenue
Attention:	Ralph Numa

The results of tests performed in accordance with ASTM C1218-15 Water Soluble Chloride in Mortar and Concrete are as follows:

Sample Location:	Northwest Beam Core 4B Middle
Client Identification:	N/A
Project Number:	16832
Sample Characteristics:	N/A
Date Core Extracted:	03/06/20
Date Sample Tested:	03/12/20
Design Compressive Strength:	N/A
Cement Weight (lbs.):	400
Chloride Content (mg/kg)	770 ppm
Percent Chloride Content:	0.0770 %
Percent Chloride by Mass of Cement:	0.6880 %*

Gregory P Allen
Lab Director

*This result is based on client supplied data. The percent chloride by mass of cement may be an estimated value. The client should provide a mix design when possible for an accurate calculation.

A & S Laboratories
2550 Success Dr.
Odessa, FL 33556
Phone: (727)375-0388

TEST REPORT

A & S Project Number:	784643
Purchase Order Number	N/A
Customer:	NV5
Project Name:	1235 Lennox Avenue
Attention:	Ralph Numa

The results of tests performed in accordance with ASTM C1218-15 Water Soluble Chloride in Mortar and Concrete are as follows:

Sample Location:	Northwest Beam Core 4B Exterior
Client Identification:	N/A
Project Number:	16832
Sample Characteristics:	N/A
Date Core Extracted:	03/06/20
Date Sample Tested:	03/12/20
Design Compressive Strength:	N/A
Cement Weight (lbs.):	400
Chloride Content (mg/kg)	620 ppm
Percent Chloride Content:	0.0620 %
Percent Chloride by Mass of Cement:	0.5540 %*

Gregory P Allen
Lab Director

*This result is based on client supplied data. The percent chloride by mass of cement may be an estimated value. The client should provide a mix design when possible for an accurate calculation.

APPENDIX E
A&S Laboratories Carbonation
Test Results and Photographs

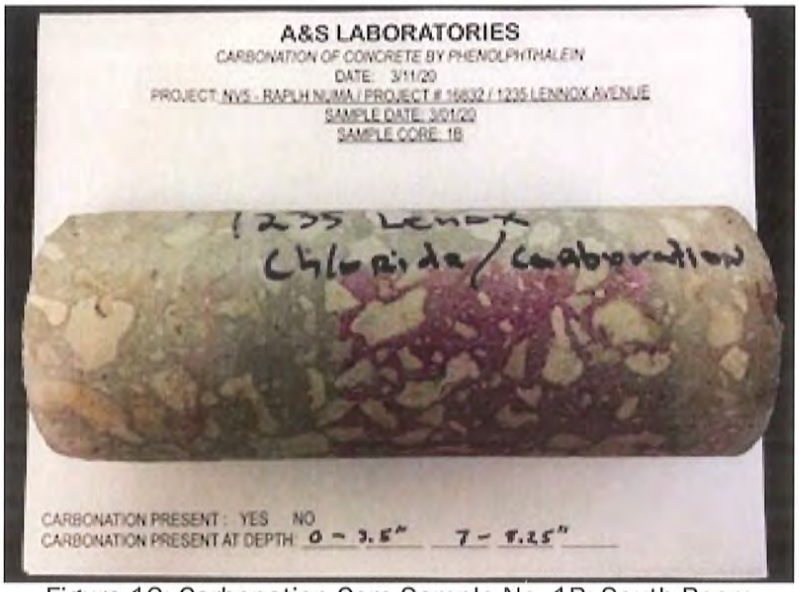


Figure 12: Carbonation Core Sample No. 1B: South Beam

Figure 13: Photograph Core Sample No. 2B: Southwest Beam

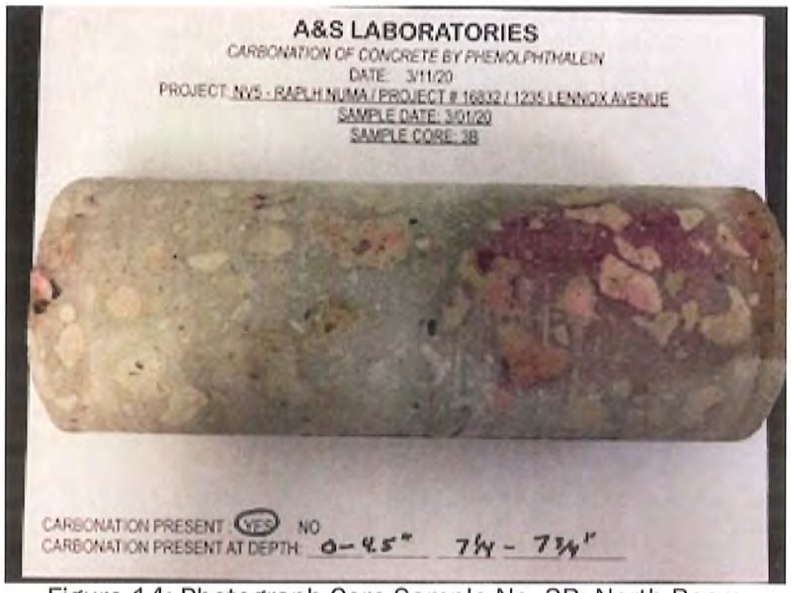


Figure 14: Photograph Core Sample No. 3B: North Beam

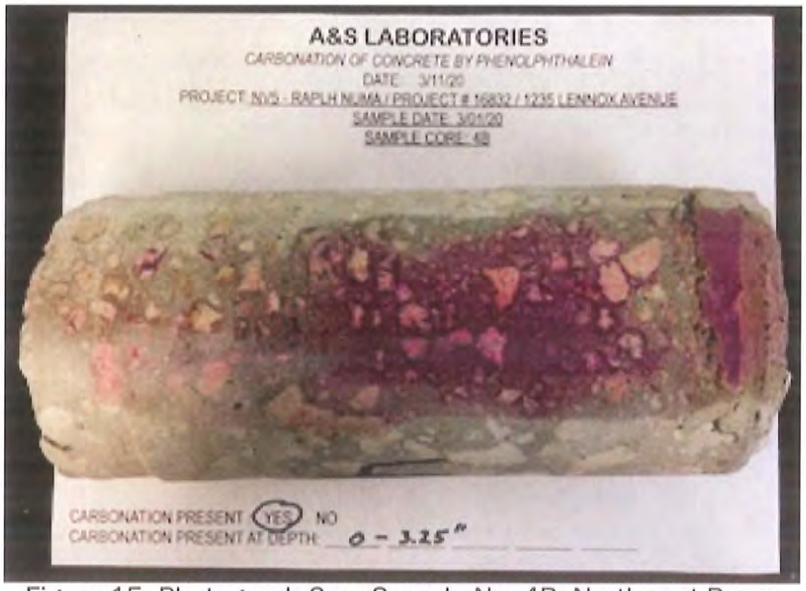
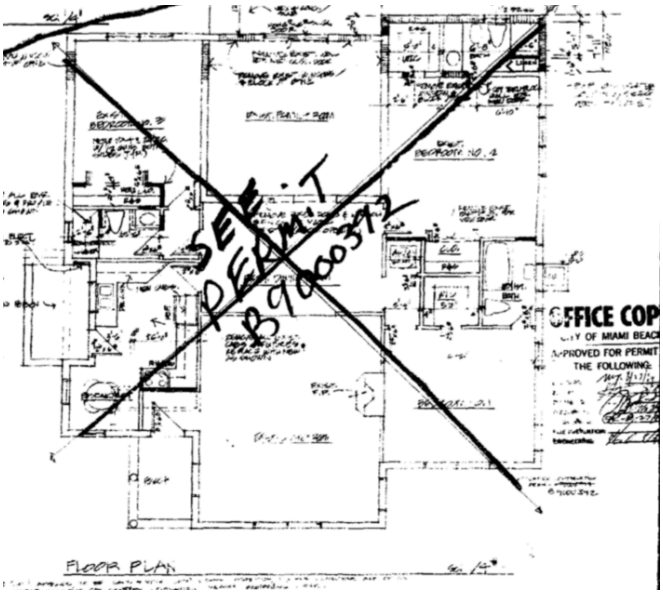


Figure 15: Photograph Core Sample No. 4B: Northwest Beam

ARTHUR J. MARCUS ARCHITECT P.A.
1800 NORTH ANDREWS AVENUE #7F * FORT LAUDERDALE, FLORIDA 33311 * t:305-467-6141
email: arthur.marcus444@att.net * web: www.arthurmarcus.com
AA #26000962

March 16, 2020



to: City of Miami Beach
Historic Preservation Board (HPB)
Miami Beach City Hall
1700 Convention Center Drive
Miami Beach, Florida 33139

cc: Khera A. Osbourne
Clemens Bruns Schaub
Architect & Associates, P.A
3383 Ocean Drive
Vero Beach, Florida 32963

re: 1235 Lenox Avenue
Miami Beach, Florida 33139

EXISTING RESIDENCE

The Owner of this property has retained my professional services as a Registered Architect specializing in Historic Preservation Consulting, to architecturally review this small single family residence in the Flamingo Park Historic District as designed by Albert Anis Architect in 1936 in the Mediterranean Revival / Art Deco Transitional style of architecture.

I visited the property on Wednesday March 4, 2020 and toured the property with Kevin Doud, GC and Peter Lerperger, Owner's Representative, to see the partial extent of suspected damaged areas. We did not uncover any existing surfaces nor did we look at any inside-roof conditions except in those ceiling areas already exposed to view damaged areas.

The only floor plan available for the house is a 1990 architectural permit plan of the residence prior to additions as shown above. Even though crossed out the plan of the house is quite legible - prior to the additions..

Walking around the structure confirmed several building conditions regarding the structural integrity of the structure, as has also been confirmed in the Structural Report.

The original residence contained a certain rustic charm with the red tile pattern framing the arched opening, However the insertion of rectangular windows inside this rather elegant arched opening is more likely what I have labeled as the Contractor Moderne Style.

The 2.11.20 Staff Report on this property states that the alterations to the front façade were completed during this 1990 renovation as shown in left below photo, and I agree with this premise.

1235 Lenox Avenue, 2011 Photograph

Modifications to the front façade in 1990 appear to include the introduction of rough-hewn stone cladding and the removal of the chimney structure along with retaining the unfortunate insertion of windows inside the arched opening. And this opening apparently mimics the original windows shown in left above photo.

BUILDING CONCERNS

After walking around and through the property - on the exterior as well as interior, I have the following observations and major areas of concern.

* Horizontal Structural exterior cracks were very common at the juncture between the foundation walls and the exterior walls above these foundation walls. This may indicate perhaps the shifting and settling of foundation walls all around the residence. At the interiors there are many locations showing the exterior building walls pulling away from the floors - with some of these cracks having sealant inserted into the cracks. These horizontal Structural exterior cracks are troubling since this is a common occurrence almost everywhere around the structure.

* Vertical Structural exterior cracks were noted where additions have been constructed onto the original structure in several locations. This may likely indicate that different buildings and building additions may be settling differently over the years. This is troubling since it is a common occurrence almost everywhere around the structure at the additions.

* Roof leaks are 'everywhere' as reported by the Owner's Representative. Portions of the interior ceiling removed at the Living Room addition show extensive water damage. Admittedly the entire ceiling was not removed to assess the total roof conditions. Possible deterioration and/or damage to structural wood framed ceilings throughout building. Selected ceiling areas uncovered show damage.

* Spalling throughout the structural walls of the residence. Many affected areas of concern have been uncovered to better view the common deterioration of steel rebar inside structural concrete elements. This is troubling since it is a common occurrence almost everywhere.

* In addition to these structural concerns there are additional preservation issues for consideration:

* The extent of demolition which may be required due to the extensive structural deterioration of major building elements begs a different question. The Structural Report states that *"the structural members of this building need to be replaced rather than repaired."*

* At this point the existing structure cannot be renovated according to the Structural Report. Instead a new replica of the original structure will be constructed. This new replica will require new foundations, new exterior walls and new structural elements and new roof. At this point it is a new building or new replication.

* And considering that the new building is a replica of the original - does this original building even rise to the level of architectural significance worthy of such investment? I think not. I would say that it does not even rise to a level of significance in the pantheon of the works of Albert Anis.

As you certainly know, Albert Anis was one of the three major Architects in Miami Beach during the 1930's - 1940's who gave form and spirit to Art Deco architecture - along with the Architects L. Murray Dixon and Henry Hohauser.

In an analysis of Albert Anis Architect designed structures in Miami Beach by Clemens Bruns Schaub Architect & Associates, P.A - the renovation Architect for both 1225 + 1235 Lenox Avenue - there were only three single family residences shown - and 1235 Lenox was one of this three. The other two residence addresses are 1210 Michigan Avenue and 7801 Collins Avenue. The preponderant majority of buildings designed by Anis were hotel and commercial and multi-family residential works.

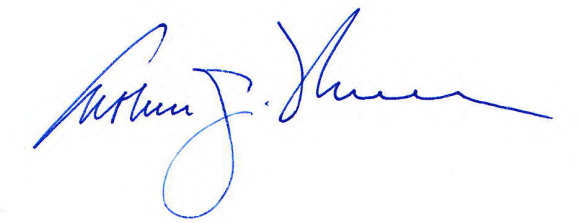
CONCLUSIONS:

As a result of these observations I believe that this structure unfortunately does not rise to a level of architectural significance worthy to build a new replica with new construction - even while being one of the few residences designed by Albert Anis.

Considering the Preservation issues coupled with the Structural deficiencies outlined above and as documented in the Structural Report - I agree that the building needs be demolished. At the same time it is certainly difficult to see a structure designed by Albert Anis be demolished.

I thank you for the opportunity to present these observations.

Yours truly,



Arthur J. Marcus Architect P.A.

cc: Khera Osborne
Kevin Doud
Peter Lerperger

VILLAGE ARCHITECTS

OF KEY BISCAYNE, INC

ARCHITECTS, PLANNERS, INTERIOR DESIGN & PURCHASING

City of Miami Beach
1700 Convention Center Drive
Preservation Officer

Re: 1235 Lenox Avenue

Dear Preservation officer,

I have visited the home located at 1235 Lenox Avenue in the Flamingo Historic Preservation District. The existing residence was built in 1936 by the Michalouer Family. It is a one story cbs residence fronting Lenox Avenue between 12th and 13th Streets and has an alley at the rear property line. The home was built during the period after the depression and before WWII when 476 homes were added to the community. The best description of the house comes from the designation report in which it describes a "Combination or Transitional Styles" or ones that incorporate the features of multiple architectural styles.

The pointed arch living room window is the central feature of the street elevation. This window shape lends itself to being original but the detailing which would define its' style has been lost. We know from the building card that the home was sand blasted in 1958 and there is no documentation available to know what existed before this period. This period of home did not typically have a stucco windowsill or frames like earlier homes and the windows and doors have been replaced over time when the window openings may have been changed.

The entry porch is located to the north of the central pointed arch and has a covered roof extension which is supported by two large round columns with no capital or base details. The entry door frame has at random points on each side a stepped brick pattern in the stucco finish. There is also a corbel under the beam where it extends past the column. This area is very confusing and is about multiple architectural styles which do not belong together.

The roof was first repaired in 1952 and a re-roof was logged in 1983. There currently exist barrel "S" tiles. Although a barrel tile was commonly used, the flat tile was also used. The eave detail is currently a stucco fascia and soffit. This would not have been the original finish but may have been added in 1958 after the sand blasting when the home could have been refinished. We are not able to determine the original condition.

The home has had several additions made to the rear which include the original porch between the two bedroom wings facing the rear yard. A later addition added a new bathroom and closet to the existing rear bedroom making it en suite. Another porch addition was also made that was later enclosed. The public view from the alley has been altered by more than 50% of the elevation and eliminated the central recessed porch.

AA2600208
104 CRANDON BLVD. SUITE 424 KEY BISCAYNE, FLORIDA 33149
PHONE: 305-361-5335 • FAX: 305-361-5329

There is limited information on the original home and specifically as to the style or mix of styles creating a harmonious blend. Without this general information we would be projecting a style which we could not definitively say whether it belongs or does not. This mix of features lends more to multiple renovations than multiple styles of Architecture. I ask that you consider that this single residence not be saved. It does not embody any particular or distinctive characteristics of the type period or method of construction which would enable it to be nominated for historic preservation. The home was built during the second and larger boom and has altered its characteristic beyond the threshold for architectural significance.

Sincerely,

Robert John Graboski
AR 91596