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February 15, 2024

Harrison (Grant) Webster
Transportation Department
1688 Meridian Avenue, Ste. 801r
Miami Beach, FL 33139

RE: 1960 Normandy Drive Traffic Analysis – Study Methodology
Project No. 202213.02

Dear Mr. Webster:

The purpose of this letter is to summarize the traffic impact study methodology for the proposed mixed-use development located at 1960 Normandy Drive in the City of Miami Beach, Florida. The project is to be constructed in a single phase with a build out year of 2026. The property proposed for development is currently occupied by a 4,377-square-foot utility warehouse. Access to the site is to be located on Normandy Drive, Verdun Court and Everglades Court. A preliminary site plan is enclosed. This study methodology letter is an update of an earlier letter and report that were completed in 2022 for a similar development with only 60 dwelling units.

The proposed development is to include 120 residential apartments and 5,091 square feet of retail land use. Our study is proposed to include:

Data Collection/Study Area

Figure 1 – Proposed Study Area (enclosed) is an aerial map showing the study area. Turning-movement counts will be obtained for the hours of 7:00-9:00 a.m. and 4:00-6:00 p.m. on Tuesdays, Wednesdays or Thursdays at the following locations:

- Normandy Drive/71st Street at Bay Drive
- Normandy Drive at Biarritz Drive
- Normandy Drive at Trouville Drive
- Normandy Drive at Verdun Court
- 71st Street at Trouville Drive
- 71st Street at Verdun Court
- JFK Causeway at Treasure Drive
- 71st Street at Rue Notre Dame
- Normandy Drive at Versailles Court/Rue Versailles Drive
- 71st Street at Rue Vendome
- Normandy Drive/71st Street at Bay Drive

Link volumes for the roadway segments between these intersections will be obtained from FDOT and Miami-Dade County data.

All traffic counts will be adjusted to peak season conditions by the application of FDOT's Peak Season Category Factors. Traffic signal timing plans for the signal-controlled intersections will be obtained from Miami-Dade County Public Works Department's online database. Additional roadway geometric data will be obtained from field reviews and aerial maps. All of the collected data will be included in the report appendices.

The study area will include the intersections noted above as well as the project driveway connections to Verdun Court and Normandy Drive.

Trip Generation

Using information contained in the Institute of Transportation Engineers' (ITE) *Trip Generation* manual, 11th edition, project trips were estimated for the proposed development. ITE Land Use Code 221 (Multi-Family Housing, Mid Rise) and ITE Land Use Code 822 (Strip Retail Plaza <40k) were used for the 1960 Normandy Drive project. The existing development on the project site's trip generation was estimated using ITE Land Use Code 170 (Utility).

As the enclosed Trip Generation tables show, the proposed project is expected to generate 758 net new daily trips, 36 net new a.m. peak-hour trips and 48 net new p.m. peak-hour trips.

Trip Distribution

Cardinal distribution information will be obtained from Miami-Dade County's *2045 Long Range Transportation Plan Direction Trip Distribution Report* for Traffic Analysis Zone 625. An interpolation between the 2015 and 2045 data in that document will be used to determine the cardinal distribution for the project. Project trips will be assigned in accordance with the cardinal distribution and any manual adjustments required to reflect roadway conditions such as turn restrictions, one-way roadways, etc.

Multi-Modal Trips Reduction

Due to the urban location of the proposed project, it is expected that some portion of the project's trips will be from other travel modes than passenger vehicles. There are two Miami-Dade County Metrobus routes immediately adjacent to the proposed new development (Routes 79 and L run east-west along SR 934). There is an eastbound bus stop on 71st Street south of the project site at Verdun Court and a westbound bus stop on Normandy Drive one block east of the project site. In addition, sidewalks exist on both Normandy Drive and 71st Street, as well as on intersecting roadways, to serve pedestrian traffic. There is a well-defined bike lane both east and westbound on 71st Street and Normandy Drive, respectively. A multi-modal trip reduction of 16.3 percent has been obtained from U.S. Census Data and will be documented in the traffic impact study.

Background Traffic and Committed Development

A review of historic Annual Average Daily Traffic in the immediate study area revealed that there are three count stations bracketing the site along SR 934 that would permit the calculation of an average five-year growth factor.

Committed development traffic provided by City of Miami Beach staff will be added to the background growth in traffic volumes.

Capacity Analysis

Intersection capacity analyses will be completed for both a.m. and p.m. peak hours using Synchro analysis software. Roadway segment capacity analyses will be completed using traffic data obtained from Miami-Dade County Public Works Department's concurrency database and FDOT's online traffic database. Where appropriate, FDOT's Quality and Level of Service Handbook level of service tables may also be used.

Capacity analyses will be completed for three conditions: Existing, Background (future conditions without project), and Total (future conditions with project). The build-out year will be specified in the analysis and is 2026. If intersection or roadway link capacity deficiencies are discovered, mitigation measures will be recommended.

Queuing Analysis

Based on the current project site plan, no gated entrance/exits are planned. Therefore, no queuing analysis is expected to be required.

Transportation Demand Management

Transportation Demand Management (TDM) techniques will be reviewed to determine those opportunities for improving the proposed 1960 Normandy Drive traffic operations. Some techniques to be used are:

1. Promote use of public transit services by providing information within the site including route schedules and maps.
2. Provide short-term and long-term bicycle storage.
3. Provide enhanced sidewalks and crosswalks throughout the site.

Parking Evaluation

The parking layout and operations will be reviewed to ensure that vehicles may enter and exit the site in an efficient manner. In addition, the number of parking spaces proposed for the development will be evaluated to ensure that sufficient parking spaces are provided for the parking demand.

Report

The study methodology will be summarized in a report that includes documentation of the elements discussed above. Graphic figures will show:

1. Site Location Aerial
2. Studied Intersections and Links

3. Permitted Movements at Studied Intersections
4. Existing and Future Traffic Volumes
5. Trip Distribution
6. Trip Assignment

Tables will include intersection turning-movement counts with peak season and annual growth factors applied, and committed development and project trips added. Tabular summaries of capacity analyses will be prepared that show the level of service, intersection and approach delay, and queue storage length requirements.

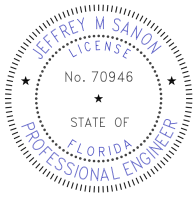
We look forward to your confirmation of this proposed study methodology. Of course, should you have any questions or comments regarding this proposal, please do not hesitate to contact me.

Very truly yours,

Thomas A. Hall
President

TAH/kh

Enclosures



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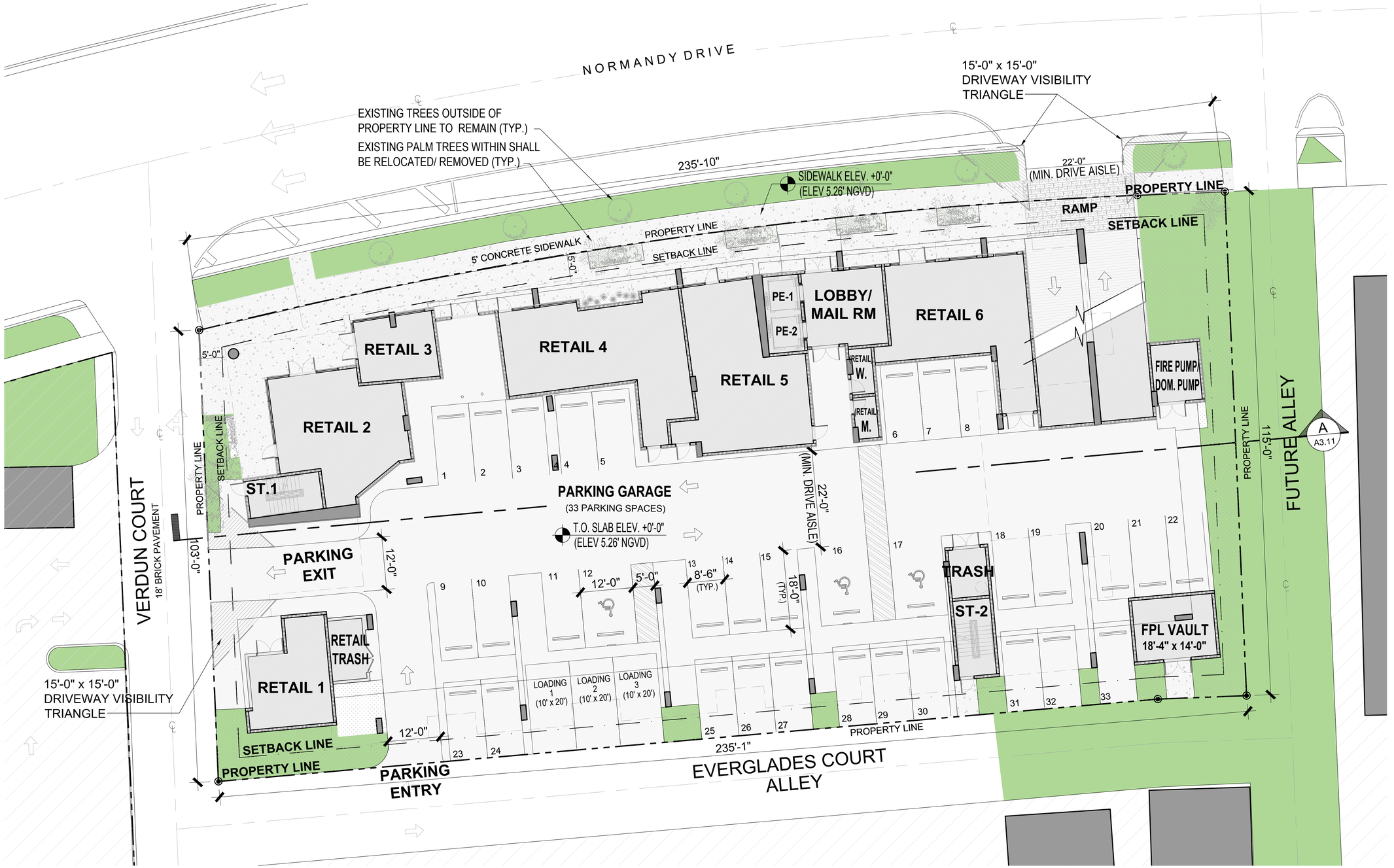


1 / A2.01 **GROUND FLOOR PLAN**
SCALE: 3/32" = 1'-0"

NORTH

0' 5' 10' 20' 30' 50' 100'
GRAPHIC SCALE

D.R.B. SET 2-15-2024

ARCHITECT:

AR0003917

DAC

DESIGN ARCHITECTURE CONSULTANTS

2350 CORAL WAY #302, MIAMI, FL 33145
PH:305-377-8850

SEAL:

TO THE BEST OF MY KNOWLEDGE THESE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND FIRE-SAFETY STANDARDS AS DETERMINED BY THE AUTHORITY HAVING JURISDICTION (AHJ) IN ACCORDANCE WITH THE 2023 FBC SECTION 110.8.4.4 AND CHAPTER 633 OF THE FLORIDA STATUTES.

Design - Architecture - Consultants
AA 26003917

CONSULTANTS:

STRUCTURAL:

MEP:

PROJECT NAME AND ADDRESS:

MIXED USE PROJECT

LOCATED AT
1960 NORMANDY DRIVE
MIAMI BEACH, FLORIDA 33141

ISSUE RECORD:

REVISIONS:

No.	Date	Description

KEY PLAN:

KEY PLAN

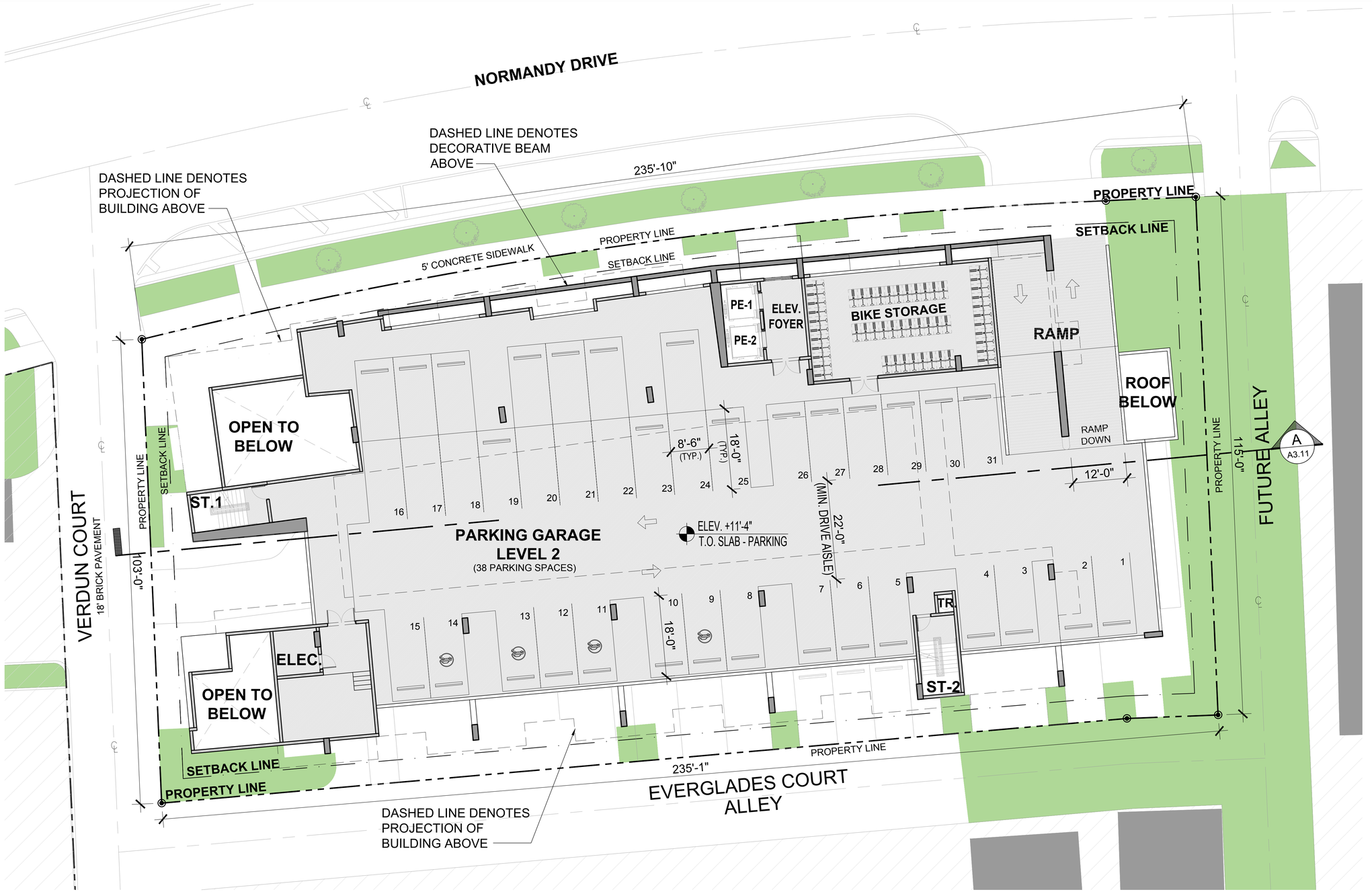
SHEET TITLE

GROUND FLOOR PLAN

Project #:	2309
Scale:	
Drawn:	CH/VF
Checked:	AF

SHEET No.

A2.01



1 / A2.02 **SECOND FLOOR PLAN**
SCALE: 3/32" = 1'-0"

NORTH

0' 5' 10' 20' 30' 50' 100'
GRAPHIC SCALE

D.R.B. SET 2-15-2024

ARCHITECT:
AR0003917
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Scale:	
Drawn:	CH/VF
Checked:	AF

SHEET No.
A2.02

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Figure 1 - Study Area Intersections
1960 Normandy Drive
City of Miami Beach, Florida

Table 5
Daily Trip Generation
1960 Normandy Drive

Land Use	ITE Code	Intensity		Trip Generation Rate[1]	Total Trips			Internal Trips						External Trips			Multimodal Trips[2]		New Trips			Pass-By Capture[3]		New Trips		
					In	Out	Total	In		Out		Total	%	In	Out	Total			In	Out	Total			In	Out	Total
Existing Use																										
Utility	170	4,377	s.f.	Ln(T) = 0.74 Ln(X) + 2.73 (50/50)	23	23	46	0	0.0%	0	0.0%	0	0.0%	23	23	46	7	16.3%	19	19	38	0	0.0%	19	19	38
Sub-Total					23	23	46	0		0		0		23	23	46	7		19	19	38	0		19	19	38
Proposed Use																										
Multifamily Housing (Mid-Rise)	221	120	d.u.	T = 4.77(X) - 46.46 (50/50)	422	423	845	76	18.0%	30	7.0%	106	12.5%	346	393	739	20	16.3%	360	359	719	0	0.0%	360	359	719
Strip Retail Plaza (<40k s.f.)	822	5,091	s.f.	T=54.45(X) (50/50)	139	138	277	11	8.0%	39	28.0%	50	17.9%	128	99	227	0	0.0%	128	99	227	150	66.0%	39	38	77
Sub-Total					561	561	1,122	87		69		156		474	492	966	20		488	458	946	150		399	397	796
Total					**538**	**538**	**1,076**	**87**		**69**		**156**		**451**	**469**	**920**	**12**		**469**	**439**	**908**	**150**		**380**	**378**	**758**

[1] Trip generation data obtained from the Institute of Transportation Engineers' *Trip Generation* manual, 11th Edition, General Urban/Suburban characteristics.
[2] Multimodal trips estimate obained from US Census Bureau's American Community Survey.
[3] Pass-by Capture rate derived from two smallest retail sites' (9,000 s.f. and 17,000 s.f.) rates shown in the ITE's *Trip Generation Handbook*, 3rd Edition.

Table 6
AM Peak Hour Trip Generation
1960 Normandy Drive

Land Use	ITE Code	Intensity		Trip Generation Rate[1]	Total Trips			Internal Trips						External Trips			Multimodal Trips[2]		New Trips			Pass-By Capture[3]		New Trips		
					In	Out	Total	In		Out		Total	%	In	Out	Total			In	Out	Total			In	Out	Total
Existing Use																										
Utility	170	4,377	s.f.	T=2.33(X) (87/13)	9	1	10	0	0.0%	0	0.0%	0	0.0%	9	1	10	2	16.3%	4	4	8	0	0.0%	4	4	8
Sub-Total					9	1	10	0		0		0		9	1	10	2		4	4	8	0		4	4	8
Proposed Use																										
Multifamily Housing (Mid-Rise)	221	120	d.u.	T = 0.44(X) - 11.61 (23/77)	13	47	60	0	0.0%	0	0.0%	0	0.0%	13	47	60	20	16.3%	10	30	40	0	0.0%	20	20	40
Strip Retail Plaza (<40k s.f.)	822	5,091	s.f.	T=2.36(X) (62/38)	7	5	12	0	0.0%	0	0.0%	0	0.0%	7	5	12	0	0.0%	7	5	12	8	66.0%	3	1	4
Sub-Total					20	52	72	0		0		0		20	52	72	20		17	35	52	8		23	21	44
Total					**11**	**51**	**62**	**0**		**0**		**0**		**11**	**51**	**62**	**18**		**13**	**31**	**44**	**8**		**19**	**17**	**36**

[1] Trip generation data obtained from the Institute of Transportation Engineers' *Trip Generation* manual, 11th Edition, General Urban/Suburban characteristics.
[2] Multimodal trips estimate obained from US Census Bureau's American Community Survey.
[3] Pass-by Capture rate derived from two smallest retail sites' (9,000 s.f. and 17,000 s.f.) rates shown in the ITE's *Trip Generation Handbook*, 3rd Edition.

Table 7
PM Peak Hour Trip Generation
1960 Normandy Drive

Land Use	ITE Code	Intensity		Trip Generation Rate[1]	Total Trips			Internal Trips						External Trips			Multimodal Trips[2]		New Trips			Pass-By Capture[3]		New Trips		
					In	Out	Total	In		Out		Total	%	In	Out	Total			In	Out	Total			In	Out	Total
Existing Use																										
Utility	170	4,377	s.f.	Ln(T) = 0.81 Ln(X) + 0.86 (18/82)	1	7	8	0	0.0%	0	0.0%	0	0.0%	1	7	8	1	16.3%	3	4	7	0	0.0%	3	4	7
Sub-Total					1	7	8	0		0		0		1	7	8	1		3	4	7	0		3	4	7
Proposed Use																										
Multifamily Housing (Mid-Rise)	221	120	d.u.	T = 0.39(X) + 0.34 (61/39)	45	27	72	8	18.0%	2	7.0%	10	13.9%	37	25	62	20	16.3%	25	17	42	0	0.0%	25	17	42
Strip Retail Plaza (<40k s.f.)	822	5,091	s.f.	Ln(T) = 0.71 Ln(X) + 2.72 (50/50)	24	25	49	2	8.0%	7	28.0%	9	17.8%	22	18	40	0	0.0%	20	20	40	27	66.0%	6	7	13
Sub-Total					69	52	121	10		9		19		59	43	102	20		45	37	82	27		31	24	55
Total					**68**	**45**	**113**	**10**		**9**		**19**		**58**	**36**	**94**	**18**		**42**	**33**	**75**	**27**		**28**	**20**	**48**

[1] Trip generation data obtained from the Institute of Transportation Engineers' *Trip Generation* manual, 11th Edition, General Urban/Suburban characteristics.
[2] Multimodal trips estimate obained from US Census Bureau's American Community Survey.