## TRAFFIC IMPACT ANALYSIS

## 411 Michigan Avenue

411-419 Michigan Ave Miami Beach, FL 33139

Prepared For:
Bizzi & Partners Acquisitions, LLC
55 East 59th Street, 24th floor
New York, NY 10022

Prepared By:
Langan Engineering & Environmental Services, Inc.
15150 NW 79 Court
Miami Lakes, FL 33016
FL Certificate of Authorization No: 6601

John P. Kim, P.E., PTOE P.E. License No. 62400

Eric Schwarz, P.E., LEED AP Principal/Vice President

9 September 2021

Revised: 11 November 2021

300277901

**LANGAN** 

## **Table of Contents**

EXECUTIVE SUMMARY	i
INTRODUCTION	
Project Description	
DESCRIPTION OF EXISTING CONDITIONS	
Roads	
Traffic Volumes	4
Intersection Capacity Analysis (Level of Service)	
PLANNED AND PROGRAMMED ROADWAY IMPROVEMENTS	
FUTURE CONDITIONS	
Background Traffic	6
Site-Generated Trips	
Trip Distribution	
Build Traffic Volumes	8
Site Access & Circulation	9
Driveway Volumes	9
Valet Operation Queuing Analysis	11
Transportation Demand Management Strategies	
CONCLUSIONS	14

## **List of Figures**

Figure 1 - Site Location Map

Figure 2 - Intersection Lane Configurations

Figure 3 - 2021 Existing Peak-Hour Traffic Volumes

Figure 4 - 2023 No-Build Peak-Hour Traffic Volumes

Figure 5a - Project Traffic Distribution - AM

Figure 5b - Project Traffic Distribution - PM

Figure 6 - Project Traffic Assignment

Figure 7 - 2023 Build Peak-Hour Traffic Volumes

Figure 8 - Site Driveway Volumes

#### **List of Tables**

Table 1 - 2021 Existing Conditions Intersection Capacity Analysis Summary

Table 2 - 2023 No-Build Conditions Intersection Capacity Analysis Summary

Table 3 - Trip Generation Estimates

Table 4 - Cardinal Distribution

Table 5 - 2023 Build Conditions Intersection Capacity Analysis Summary

Table 6 - Queuing Analysis Summary

Table 7 - Proposed TDM Strategies

## **Appendices**

Appendix A - Figures

Appendix B - Site Plan

Appendix C - Methodology Letter

Appendix D - Traffic, TAZ, Signal Timing Data, Census Data & FDOT Tables

Appendix E - Intersection Volume Spreadsheets

Appendix F - Intersection Capacity Reports

Appendix G - Trip Generation Data

Appendix H - ITE Excerpts & Queuing Analysis Calculations

#### **EXECUTIVE SUMMARY**

Bizzi & Partners Acquisitions, LLC retained Langan Engineering & Environmental Services, Inc. to prepare a traffic-impact analysis for the 411 Michigan mixed-use development. The 0.94-acre vacant site is at 411-419 Michigan Avenue in Miami Beach, Florida. The proposed development comprises 36,442 square feet of general office space, which will have approximately 200-employees, and 4,320 square-feet of retail uses expected to be built by 2023. We analyzed two signalized intersections and one stop-sign controlled intersection for the 2023 build conditions. The peak-hour capacity analyses with the proposed development's impacts in 2023 yielded the following results:

- All study intersections are expected to operate within their adopted Level of Service (LOS) during the morning and afternoon peak-hours with the development's impacts.
- The proposed driveway connection to Michigan Avenue is expected to operate at LOS A during the morning and afternoon peak-hours.
- The proposed development will not have gate-controlled access at any of the proposed site driveways.
- o The proposed development will have a have a valet-operation that will control parking throughout the entire day. All patrons will be required to use the valet-operation.
- The proposed connection to Michigan Avenue will operate as an egress only driveway, and the proposed connection to the alley abutting the development will operate as an ingress only driveway during all times of the day.
- All patrons will be required to drop-off their vehicles at the vehicle elevator entrance located on the alley. This will allow for efficient valet operation without impacting the public right-ofway.
- The developer plans to lease out three parking spaces abutting the property on Michigan Avenue to assist in vehicle drop-off for non-regular employees that may not know to bring their cars to the car elevator.
- The valet operation will not cause entering traffic to back into the adjacent public roadways with a minimum of six parking attendants to serve expected demand.
- o The development site is within the Urban Infill Area (UIA).
- The development will promote the use of different modes of transportation through the implementation of several TDM strategies.

We conducted intersection-capacity analyses for the existing, no build (future without project) and build (future with project) conditions. The proposed development is expected to generate 1,250 daily, 66 morning peak-hour and 90 afternoon net-new peak-hour trips.

#### INTRODUCTION

Langan was retained by Bizzi & Partners Acquisitions, LLC to prepare this impact-analysis report for the 411 Michigan mixed-use development that will be built by 2023. The site will comprise approximately 0.94 acres at 411-419 Michigan Avenue in Miami Beach, Florida. The development will comprise 36,442 square feet of office space, with approximately 200-employess, and 4,320 square feet of retail uses.

We analyzed two signalized intersections and one stop-sign controlled intersection during the morning and afternoon peak hours. We found that all the study intersections are expected to operate within their adopted LOS during the morning and afternoon peak-hours with and without the proposed project's impacts. The valet operation is expected to generate a queue of three vehicles and need a minimum of six parking attendants to serve the expected demand. The development is proposing to change the operation of the abutting alley from one-way to two-way which will allow the valet-operation to operate efficiently without impacting the public right-of-way. This report presents the traffic-data and traffic-impact analysis for this proposed development.

## **Project Description**

The proposed development will be built on two parcels (Folio Nos.: 02-4203-010-0030 & 02-4203-009-6170). **Appendix A** contains the figures of this report. **Figure 1** illustrates the site location. **Appendix B** contains a copy of the site plans showing the proposed development program and the two proposed driveway connections; one to a public road (Michigan Avenue) and one to an alley. Traffic from the proposed development will enter the site via the alley (abutting the site) directly to the car elevator entrance, and exit to Michigan Avenue. The drop-off and pick-up locations will facilitate the valet-parking operation, and will be managed by valet staff throughout the day using signs and verbal communication. The Michigan Avenue driveway will operate as an egress only driveway, while the alley driveway will operate solely as a right-turn only ingress driveway.

The development will relocate the existing historical house on the site to front Michigan Avenue and will reuse the existing foundations on site. The majority of the 85 parking spaces provided by the proposed development will comprise vehicular lifts which can stack up to three vehicles in one parking space. Nine of the 85 parking spaces will be exclusive carpool spaces. The development will also provide 25 bicycle parking spaces and 5 scooter parking spaces. All visitors and employees will have to use the valet-parking service. The maximum acceptable LOS for

roadways and intersections is LOS D for county and city roads and LOS E for State Urban Minor Arterials (SUMA) between Infill Area and Urban Development Boundary.

## Scope of Study

Langan undertook the following steps to prepare this study in accordance with the methodology discussed with the city's staff. **Appendix C** contains a copy of the methodology letter.

- Collected morning (7 to 9 AM) and afternoon (4 to 6 PM) peak-hour vehicle turningmovement volumes at the following study intersections:
  - Alton Road and 4<sup>th</sup> Street (signalized)
  - o Michigan Avenue and 4<sup>th</sup> Street (unsignalized)
  - o Michigan Avenue and State Road A1A / 5<sup>th</sup> Street (signalized)
  - Collected 24-Hour bidirectional counts on SR-A1A/5<sup>th</sup> Street between Meridian and Euclid avenues
- Used Peak Season Conversion Factors (PSCF) from the Florida Department of Transportation (FDOT) to convert the traffic data into peak-season volumes.
- Developed a COVID-adjustment factor by comparing 2020 traffic data to 2021 traffic data along segments of 5<sup>th</sup> Street to scale the traffic data to account for variations from the true traffic count due to the ongoing Coronavirus pandemic. The COVID-adjustment factor was used in conjunction with the traditional Peak Season Category Factor (PSCF) to estimate the existing traffic data.
- The COVID-adjustment factor calculated for the morning and afternoon peak-hours were 1.46 and 1.62, respectively.
- Prepared trip-generation estimates for the proposed development, based on accepted tripgeneration rates developed by the Institute of Transportation Engineers (ITE).
- Calculated a growth rate for background traffic using FDOT historical data from traffic-count stations near the project.
- Developed trip-distribution estimates for the project, based on the cardinal distribution for the corresponding Traffic Analysis Zone of the Miami-Dade County 2045 Long Range Transportation Plan (LRTP). A computer program used to develop the 2045 LRTP Directional Distribution Report generates directional distributions for each TAZ for the eight secondaryintercardinal directions (NNE; ENE; ESE; SSE; SSW; WSW; WNW; NNW).
- Prepared morning and afternoon peak-hour intersection-capacity analyses for the following conditions at the study intersections: 2021 existing, 2023 future no-build, and 2023 future build.
- Calculated the morning and afternoon peak-hour LOS intersection-capacity analyses of the development's driveways for the 2023 build conditions.

### **DESCRIPTION OF EXISTING CONDITIONS**

Langan visited the study area to collect the lane-configuration and traffic-control data shown in **Figure 2**. **Appendix D** contains the county's signal-timing data.

#### Roads

#### Alton Road

Alton Road is a four-lane, north-south, divided, city-maintained major collector roadway with a 30 MPH posted speed limit.

### 4<sup>th</sup> Street

4<sup>th</sup> Street is a two-lane, east-west, undivided, city-maintained local collector roadway with a 25 MPH posted speed limit.

### Michigan Avenue

Michigan Avenue is a two-lane, undivided, north-south, city-maintained local roadway with a 25 MPH posted speed limit.

## SR-A1A / 5<sup>th</sup> Street

SR-A1A / 5<sup>th</sup> Street is a six-lane divided, east-west, state-maintained principal arterial roadway with a posted speed limit of 35 MPH.

#### **Traffic Volumes**

Traffic-volume data was collected on Thursday, August 5, 2021 from 7:00 to 9:00 AM and 4:00 to 6:00 PM. We applied FDOT's season adjustment factor (1.05) and a COVID-factor to convert the traffic data into peak-season volumes because the data was collected during the ongoing Coronavirus pandemic. We developed peak-hour COVID-adjustment factors (1.46 morning and 1.62 afternoon) by comparing the traffic data collected on 5<sup>th</sup> Street to 2021 traffic counts collected on the same roadway segments. We compared the data of each intersection and determined that the peak hour occurred between 8:00 AM and 9:00 AM and between 4:45 PM and 5:45 PM for the study area. **Figure 3** illustrates the existing weekday morning and afternoon peak-hour traffic volumes. Appendix D contains the traffic data and seasonal-adjustment factors.

## **Intersection Capacity Analysis (Level of Service)**

We conducted 2021 existing-conditions capacity analyses for the study intersections using Synchro software. We found that all study intersections are operating within their adopted LOS.

**Table 1** summarizes the results of the existing-conditions analysis. **Appendix E** contains intersection-volume tables; **Appendix F** contains the capacity-analyses worksheets.

Capacity analyses for stop-sign controlled intersections are calculated for certain intersection approaches, not for the entire intersection. The stop-sign controlled approaches of stop-sign controlled intersections often exceed their adopted LOS during peak hours because all vehicles must stop and incur a delay before proceeding through the intersection. Capacity analysis provides an indication of the adequacy of intersection and roadway facilities to serve traffic demand. The evaluation criteria used to analyze the study intersections is based on the 6<sup>th</sup> Edition Highway Capacity Manual published by the Transportation Research Board.

Table 1 - 2021 Existing Intersection Capacity Analysis Summary

			AN	AM Peak Hour		PM Peak Hour		
Location	Traffic Control	Approach	LOS	<b>Delay</b> (sec/veh)	LOS	<b>Delay</b> (sec/veh)		
Alton Road & 4 <sup>th</sup> Street	Signalized	Overall	С	28.9	С	27.1		
	Stop-sign controlled	EB	А	7.5	А	8.4		
Michigan Avenue & 4th		WB	А	7.5	А	8.7		
Street		NB	Α	7.7	Α	8.5		
		SB	А	7.6	А	8.4		
Michigan Avenue & 5 <sup>th</sup> Street	Signalized	Overall	С	24.5	В	17.5		

#### PLANNED AND PROGRAMMED ROADWAY IMPROVEMENTS

We reviewed the Transportation Planning Organization's 2021 Transportation Improvement Program (2021 through 2025), the county Long Range Transportation Plan (2045) and the FDOT Five Year Work Program (2021 through 2025) and found two planned roadway improvements in the TIP's program network. The proposed improvement project number DT4434321 will construct a pedestrian and bicycle path along the MacArthur Causeway from SR 5/Biscayne Boulevard to SR 907/Alton Road. The second project (No.: TA4466531) will implement the South Beach trolley service route along 5<sup>th</sup> Street. Appendix C includes excerpts from Miami-Dade TIP showing the proposed improvement information.

#### **FUTURE CONDITIONS**

This section of the report covers background traffic growth, site-generated trips, trip distribution, and future traffic volumes. The project should be completed by the end of 2023. We developed 2023 no-build traffic volumes by applying a compounded growth rate to the 2021 volumes. We added site-generated trips to the 2023 no-build traffic volumes to develop 2023 build traffic volumes.

## **Background Traffic**

We conducted intersection capacity analyses and found that all study intersections are expected to operate within their adopted LOS. We performed a growth rate analysis for the most recent five and nine year periods (the ten year period was not available) using FDOT historical traffic volumes. We analyzed the growth rate based on linear, exponential, and decay-exponential approaches and determined that the growth rate with the strongest correlation was the nine year linear-trend. This trend yielded a negative result, and as such we used a 0.5 percent annual growth-rate factor to develop future background volumes. The growth-rate factor accounts for increased background traffic volumes and was applied to the existing volumes. **Figure 4** illustrates the 2023 no-build traffic volumes. **Table 2** summarizes the results of the 2023 no-build conditions capacity analysis. Appendix F contains the capacity-analyses worksheets.

Table 2 - 2023 No Build Intersection Capacity Analysis Summary

	Traffic		AM	Peak Hour	PM	Peak Hour
Location	Control	Approach	LOS	<b>Delay</b> (sec/veh)	LOS	<b>Delay</b> (sec/veh)
Alton Road & 4 <sup>th</sup> Street	Signalized	Overall	С	28.9	С	27.1
	Stop-sign controlled	EB	А	7.5	А	8.4
Michigan Avanua 8, 4th Ctract		WB	А	7.5	А	8.7
Michigan Avenue & 4th Street		NB	Α	7.7	А	8.5
		SB	А	7.6	А	8.4
Michigan Avenue & 5 <sup>th</sup> Street	Signalized	Overall	С	24.5	В	17.5

## **Site-Generated Trips**

The proposed development is expected to generate 1,250 daily, 66 morning peak-hour, and 90 afternoon net-new peak-hour trips. We prepared daily, morning peak-hour and afternoon peakhour trip estimates for the proposed development using equations from the 10<sup>th</sup> Edition of the ITE Trip Generation Manual. We performed the office trip generation calculations based on the expected number of employees to provide a conservative analysis, based on conversations with City Staff. We used the morning rate for the retail uses because the morning peak-hour equation for retail has a 151.78 offset, which results in a minimum trip generation of 152 trips for small area retail buildings. We applied a 34% pass-by rate to retail uses trip generation estimates, based on rates of the ITE Trip Generation Handbook 3<sup>rd</sup> Edition. We also applied a non-vehicular reduction of 20% based on the parking incentives allowed by the City of Miami Beach. In addition, the Miami Beach 2019 Transportation Plan shows that approximately 26% of its population uses transit, bikes and walks. The development will provide 85 off-street vehicle parking spaces, where nine of the 85 parking spaces will be exclusive carpool spaces. In addition the development will provide 25 bicycle long-term parking spaces, five scooter parking spaces and three showers within the development to promote the use of non-vehicular transportation. Table 3 summarizes the trip-generation estimates for the proposed development. Appendix G contains the trip-generation data and includes Miami Beach mode-share data.

**Table 3 - Trip Generation Estimates\*** 

Use	Size		Daily	Wee	kday Morr Hour	ning Peak	Weel	kday Afterr Hour	noon Peak
				ln	Out	Total	In	Out	Total
Proposed Uses									
General Office	200	Employees	853	66	13	79	16	62	78
Shopping Center**	4,320	SF	710	2	2	4	16	19	35
	Total			68	15	83	32	81	113
Non-vehic	cular red	uction (20%)	313	14	3	17	6	16	23
	Ne	t New Trips	1,250	54	12	66	26	65	90

<sup>\*</sup> Based on Trip Generation Manual 10th Ed.

## **Trip Distribution**

We determined the directional distribution of site-generated trips based on the cardinal distribution data for TAZ 652 from the Miami-Dade County 2045 Transportation Model (see Appendix D) and from the development's access to the surrounding roadway network. We interpolated the 2015 and 2045 average directional-distribution values to develop percentages for 2023. **Table 4** shows the proposed development's trip distributions. **Figures 5a** and **5b** show

<sup>\*\*</sup> Shopping Center land use includes 34% afternoon pass-by trip reduction.

the proposed development's traffic distributions to the study intersections. **Figures 6a** and **6b** illustrate the morning and afternoon development-traffic assignments at the study intersections.

**Table 4 - Cardinal Distribution** 

Year	NNE	ENE	ESE	SSE	SSW	wsw	WNW	NNW
2015	22.90%	4.10%	3.50%	2.80%	2.50%	16.70%	19.40%	28.10%
2045	18.80%	3.20%	3.20%	1.60%	2.30%	19.50%	29.70%	21.80%
2023	21.81%	3.86%	3.42%	2.48%	2.45%	17.45%	22.15%	26.42%

#### **Build Traffic Volumes**

We conducted capacity analyses for the study intersections and determined that they are expected to operate within their adopted LOS with the development's impacts. The 2023 build traffic volumes were derived by adding the total site-generated trips to the 2023 no-build traffic volumes. **Figure 7** illustrates the 2023 build morning and afternoon peak-hour traffic volumes. **Table 5** summarizes the 2023 build LOS for the morning and afternoon peak hours.

**Table 5 - 2023 Build Intersection Capacity Analysis Summary** 

	Traffic		AM	Peak Hour	PM	Peak Hour
Location	Control	Approach	LOS	<b>Delay</b> (sec/veh)	LOS	<b>Delay</b> (sec/veh)
Alton Road & 4th Street	Signalized	Overall	С	28.8	С	27.8
	Stop-sign	EB	А	7.7	А	8.5
Michigan Avenue & 4th Street		WB	А	7.5	А	8.8
iviichigan Avenue & 4th Street	controlled	NB	А	7.8	А	8.6
		SB	А	7.7	А	8.5
Michigan Avenue & 5th Street	Signalized	Overall	С	27.8	С	21.2
Driveway	Stop-sign controlled	WB	А	9.3	А	9.3

<sup>\*</sup>The site driveway LOS represents the Michigan Avenue driveway during the AM and PM.

The analysis for the site driveway at Michigan Avenue was done based on the proposed operation of the driveway, which will operate as an egress only driveway during the morning and afternoon peak hours.

#### **Site Access & Circulation**

The proposed connection to Michigan Avenue will operate as an egress only driveway during the morning and afternoon peak hours, and the alley will operate as a right-turn only ingress driveway during the morning and afternoon peak hours. The proposed connection to Michigan Avenue cannot be widen to operate as a two-way driveway all the time due to the existing building at 411 Michigan Avenue and the existing foundations on site. Regular employees will know to drop-off their vehicles are the car elevator entrance, and to pick up their vehicles at the valet drop-off/pick-up location at the main driveway. This will help the valet operations process more vehicles quickly by being directly at the elevator. Appendix B contains the vehicle circulation figures showing how vehicles will arrive to and depart from the site.

## **Driveway Volumes**

We analyzed the development's proposed driveway connections to Michigan Avenue and the alley for the morning and afternoon peak-hour build conditions and found that they will operate at LOS A. Based on the proposed access operation, site traffic will enter the site from the alley and exit via Michigan Avenue. The alley operates as a one-way southbound road. The proposed morning and afternoon peak hour onsite circulation will facilitate the valet-parking operation and ensure the vehicle queues remain within the site and not back into the alley. Even though the developer plans to lease out the three parking spaces on Michigan Avenue, allowing some unexperienced patrons to drop-off their cars there to the valet operators, we assumed that 100% of the traffic will enter through the alley and exit through Michigan Avenue to provide a conservative analysis. Gate-controlled access is not proposed and circulation will be managed by valet staff. Table 5 summarizes the 2023 build LOS of the driveway for the morning and afternoon peak hours traffic volumes. **Figure 8** shows the project's driveway volumes and Appendix F contains the capacity-analyses worksheets.

All visitors and employees will have to valet park their vehicles. The alley is a 20-foot wide, local road that operates in the southbound direction only. The proposed development will have 27 off-street parking spaces on the ground floor and 58 off-street parking spaces on the basement floor with access to the alley through a car elevator. In addition, the development will have three onstreet parking spaces on Michigan Avenue. The car elevator will be approximately 50 feet north of the proposed alley driveway. The parking spaces on the ground floor will be for visitors and the basement parking spaces will be for employees. The valet operation station will be located on the ground floor and by the car elevator in the morning peak-hour, where employees and visitors will be able to drop-off their vehicles and the operators will then park the vehicles on the

ground floor or basement floor using the car elevator. The valet operators will manage traffic flow to provide for efficient operations. The pick-up operation will be handled on the ground floor where the valet operator will retrieve vehicles from the basement and access the site through the alley. Valet patrons will then exit the site through Michigan Avenue. Appendix B includes the circulation diagrams for the valet operation during the morning and afternoon peak hour.

## **Valet Operation Queuing Analysis**

We prepared a queuing analysis for the proposed development's valet operation and found that it will not cause entering traffic to back onto the adjacent public roadway (Michigan Avenue alley). The proposed development will have a valet-parking station on the ground floor with on-site vehicle-stacking area for five vehicles. All visitors and employees will be required to use the valet operation to park their vehicles. The site plan in Appendix B shows the location of the valet booth and the stacking/queuing area. We used the queuing-analysis methodology from the Transportation and Land Development published by the ITE. This methodology requires hourly rates of vehicle arrival and service times for the valet operation to determine vehicle-queue lengths. The queues resulting from this analysis are 95<sup>th</sup> percentile queues, which are those expected to be generated 95 percent of the time.

The development will provide nine parking spaces with triple-stack car lifts at the valet court on the ground floor and 29 parking spaces with double-stack car lifts on the basement floor for a total of 85 parking spaces. Vehicle lifts allow two or three vehicles to occupy one parking space by lifting vehicles above the ground and allowing a second or third vehicle to park underneath one another. The parking spaces on the ground floor will be used exclusively for the visitors and the parking spaces on the basement floor will be for employees. The development will also have three on-street parking spaces along Michigan Avenue. Note that there is more than 120 feet of onsite vehicle stacking between the alley and the valet station.

The vehicle-arrival rate was based on the project's peak-hour trip generation, summarized in Table 3. The development is expected to generate 66 (54 ingress and 12 egress) morning peak-hour trips and 105 (33 ingress and 72 egress) afternoon peak hour trips. We estimated the average service time for the valet operation of 5.29 minutes for the drop-off and 4.47 minutes for the pick-up operations. The service time accounts for the time required for the valet attendant to pick-up/drop-off the car, operate the lift, operate the car elevator and return to the valet station. To provide an extremely conservative analysis, we assumed all vehicles would be dropped-off on Michigan Avenue, rather than directly at the car elevator. The analysis indicates that the valet operation will need a minimum of five attendants on the ground floor and one parking attendant on the basement floor. We used 25 feet to convert the number of queued vehicles to linear feet. **Table 6** summarizes the results of the queuing analysis and indicates that queues for the proposed valet operation are not expected to exceed three vehicles. The analyses indicate that the expected 95th percentile queue lengths will not exceed the length of the queue-storage area. **Appendix H** contains excerpts from ITE, the queuing-analysis and service-time calculations.

**Table 6 - Queuing Analysis Summary** 

Time	eue Length	Exceeds		
Time	(feet)	Vehicles	Feet	Capacity?
AM	120	2	50	NO
PM	120	3	75	NO

Appendix H contains the queuing-analysis and service-time calculations for the valet operations, as well as the parking stacker specifications. The development will coordinate and setup specific timeframes for the use of the proposed loading area along the alley to avoid any conflict with the valet operation. The specific times frames for the loading are will be outside the expected peakhours of pick-up and drop-off.

## **Transportation Demand Management Strategies**

The site abuts SR-A1A (5<sup>th</sup> Street) which provides a wide sidewalk, a bicycle lane, special emphasis crosswalks and a transit stop of the southeast corner of Michigan Avenue and 5<sup>th</sup> Street. The proposed development will provide infrastructure to motivate the use of the available multimodal transportation systems provided by the city and the existing roadway network. This infrastructure will consist of bicycle racks, scooters parking spaces, carpool parking spaces, lockers and showers. In addition, the office spaces will provide Miami-Dade Transit & Miami Beach bus and trolley route information on or near employee bulletin boards to promote the use of public transportation.

The development will work to create Transportation Demand Management (TDM) strategies to support the overall TDM goals of City of Miami Beach and maximize the use of the available transportation systems. The most important action will be doing a regular employees outreach to provide them with the multiple commute options and establish preferences to target TDM efforts. **Table 7** summarizes the proposed TDM strategies.

**Table 7 - Proposed TDM Strategies** 

Action	Details
Employee Survey	Survey employees to determine current commute characteristics establish preferences, and target TDM efforts.
Employee Outreach	Provide employees with information regarding multimodal commute options.
Carpool Support	Provide initial coordination and support in setting up carpool parking spaces for employees.
Bicycle Facilities	On-site bike racks will be available for employees who ride their bikes to work.
Travel Mapping	Transit route maps and schedules will be made available on site to employees and visitors.
Flexible Schedule	On site businesses will be encouraged to offer flexible and compressed work schedules to the extent possible.
Loading Area	The loading area will have specific timeframes outside the pick-up/drop-off peak hours to avoid conflicts with the valet-operation.

#### CONCLUSIONS

Langan performed a traffic-impact analysis for the 411 Michigan development expected to be completed by 2023. The analysis shows the following results for the 2023 build conditions:

- o All study intersections are expected to operate within their adopted LOS during the morning and afternoon peak-hours with and without the development's impacts.
- The proposed driveway connections to Michigan Avenue and alley are expected to operate at LOS A during the morning and afternoon peak-hours.
- The valet operation will not cause entering traffic to back into the adjacent public roadways with a minimum of six parking attendants to serve expected demand.
- o The proposed development will have a have a valet-operation that will control parking throughout the entire day. All patrons will be required to use the valet-operation.
- The proposed connection to Michigan Avenue will operate as an egress only driveway, and the proposed connection to the alley abutting the development will operate as an ingress only driveway during all times of the day.
- All patrons will be required to drop-off their vehicles at the vehicle elevator entrance located on the alley. This will allow for efficient valet operation without impacting the public right-ofway.
- The developer plans to lease out three parking spaces abutting the property on Michigan Avenue to assist in vehicle drop-off for non-regular employees that may not know to bring their cars to the car elevator.
- o The development will not have gate-controlled access at the proposed site driveways.
- o The development site is within the UIA.
- The development will promote the use of different modes of transportation through the implementation of several TDM strategies.

# APPENDIX A FIGURES



15150 NW 79th Court, Suite 200, Miami Lakes, FL 33016 P: 786.264.7221 F: 786.264.7201 www.langan.com

FL CERTIFICATE OF AUTHORIZATION No. 00006601

**411 MICHIGAN** 

MIAMI BEACH MIAMI DADE

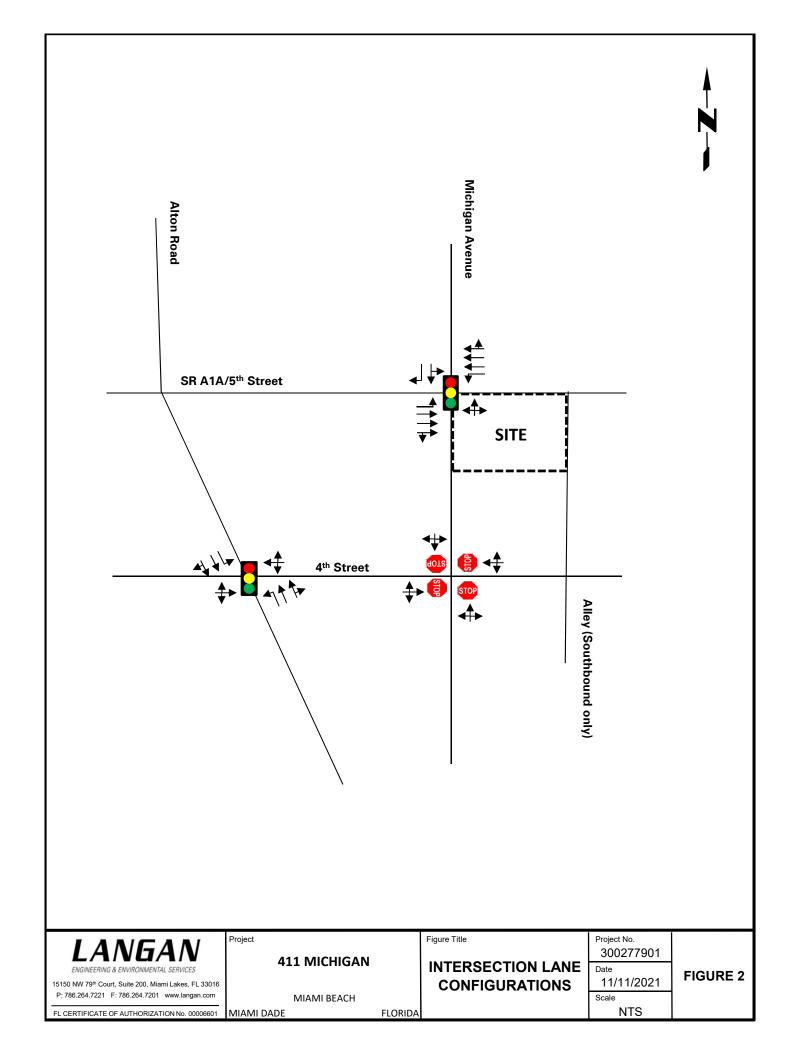
**FLORIDA** 

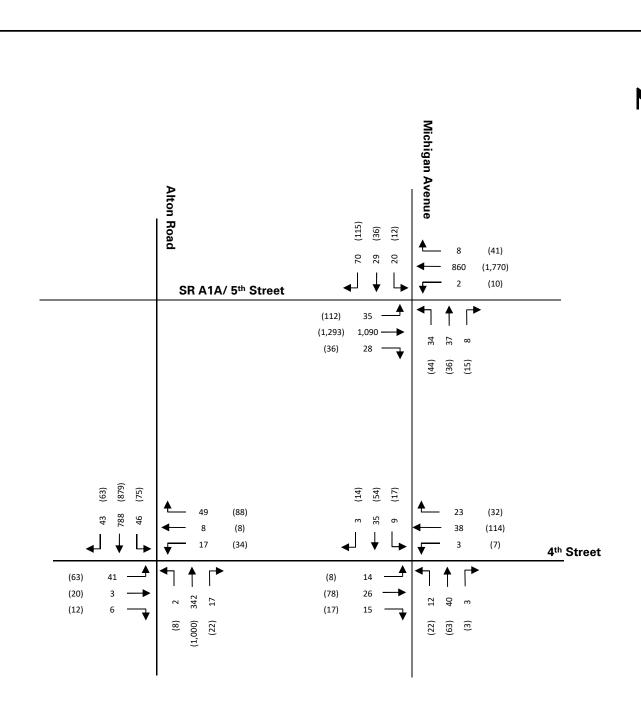
SITE LOCATION MAP

Date 11/11/2021 Scale

NTS

FIGURE 1





## LEGEND

- # AM Peak Hour
- (#) PM Peak Hour

	LA	Λ	G	A	N
F	NGINFFRING	& FNV	RONMEN	TAL SEL	RVICES

15150 NW 79th Court, Suite 200, Miami Lakes, FL 33016 P: 786.264.7221 F: 786.264.7201 www.langan.com

FL CERTIFICATE OF AUTHORIZATION No. 00006601

Project

**411 MICHIGAN** 

MIAMI BEACH MIAMI DADE

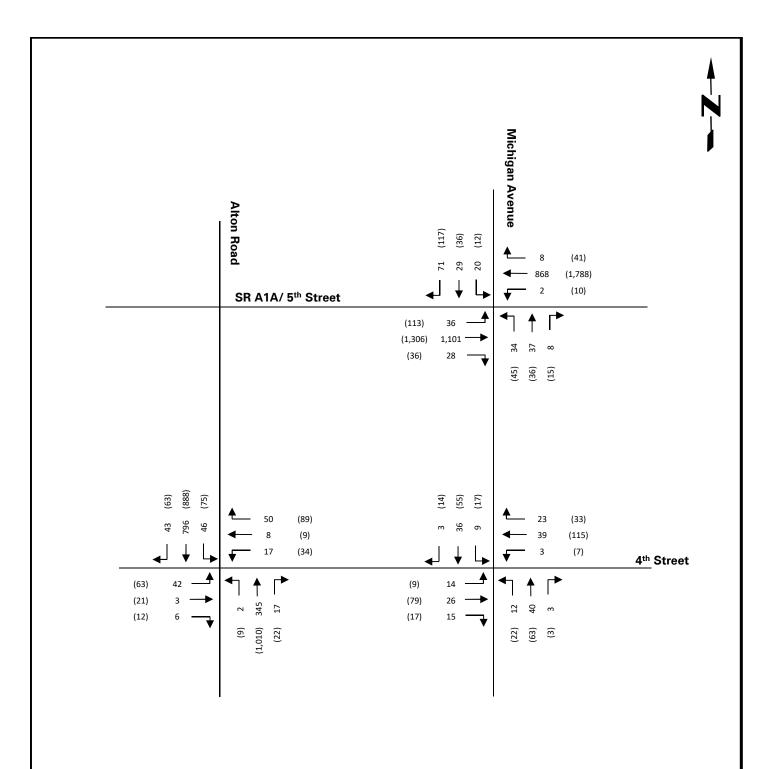
Figure Title

**2021 EXISTING TRAFFIC VOLUMES**  Project No. 300277901 Date

NTS

FIGURE 3 11/11/2021 Scale

FLORIDA



## LEGEND

- # AM Peak Hour
- (#) PM Peak Hour

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

15150 NW 79<sup>th</sup> Court, Suite 200, Miami Lakes, FL 33016 P: 786.264.7221 F: 786.264.7201 www.langan.com

FL CERTIFICATE OF AUTHORIZATION No. 00006601

Project

**411 MICHIGAN** 

MIAMI BEACH MIAMI DADE Figure Title

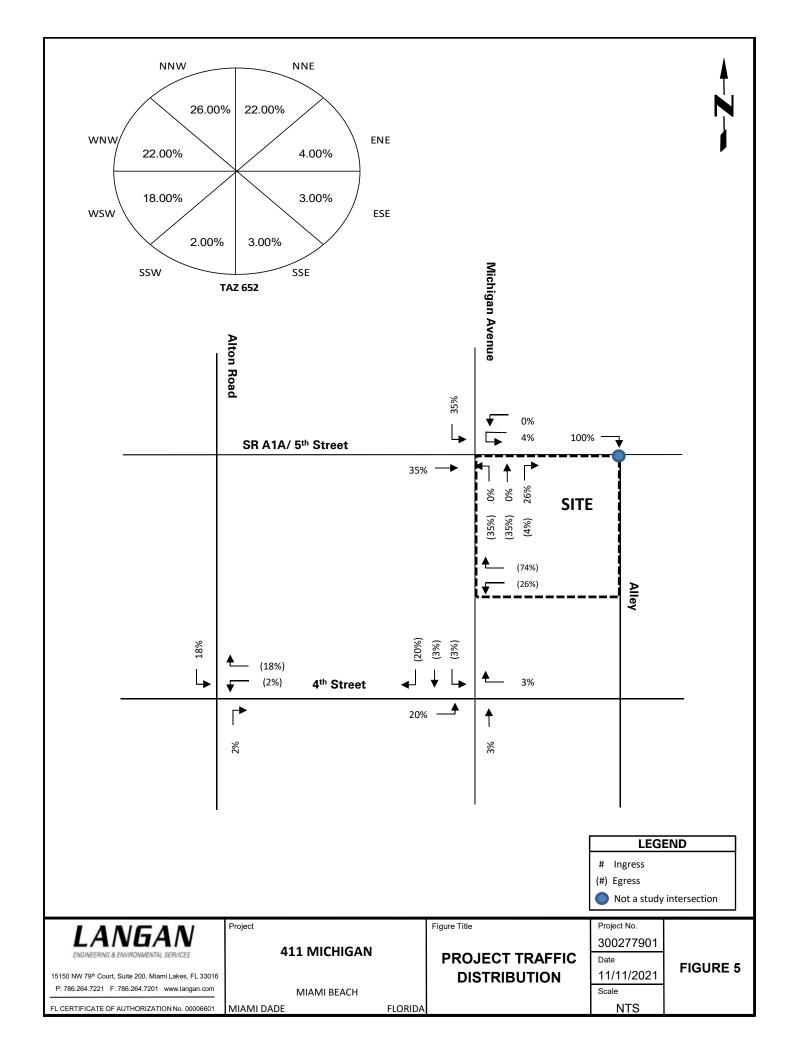
FLORIDA

2023 NO BUILD TRAFFIC VOLUMES

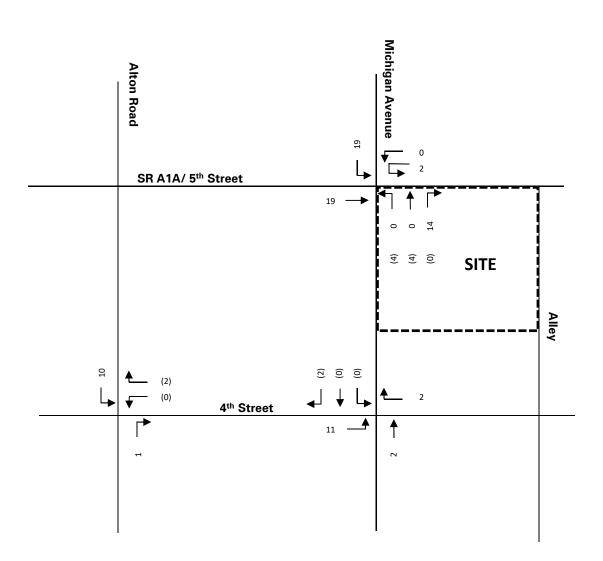
Project No. 300277901 Date

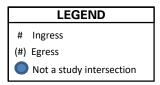
NTS

11/11/2021 FIGURE 4









L	A	٨	lG	A	N
ENGI	NEERING	& EN	VIRONME	ENTAL SE	RVICES

15150 NW 79th Court, Suite 200, Miami Lakes, FL 33016
P: 786.264.7221 F: 786.264.7201 www.langan.com
FL CERTIFICATE OF AUTHORIZATION No. 00006601

16

Project

MIAMI BEACH MIAMI DADE

**411 MICHIGAN** 

Figure Title

FLORIDA

PROJECT TRAFFIC AM

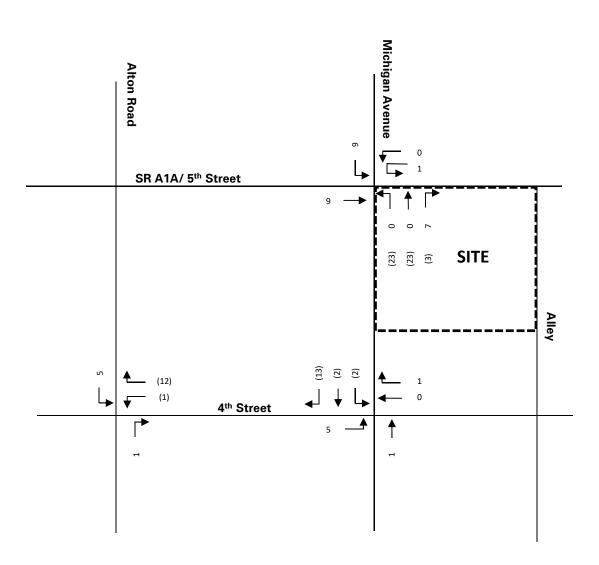
Project No. 300277901 Date 11/11/2021

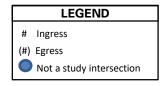
NTS

Scale

FIGURE 6a







LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

15150 NW 79<sup>th</sup> Court, Suite 200, Miami Lakes, FL 33016 P: 786.264.7221 F: 786.264.7201 www.langan.com

P: 786.264.7221 F: 786.264.7201 www.langan.com
FL CERTIFICATE OF AUTHORIZATION No. 00006601

411 MICHIGAN

Project

MIAMI BEACH

Figure Title

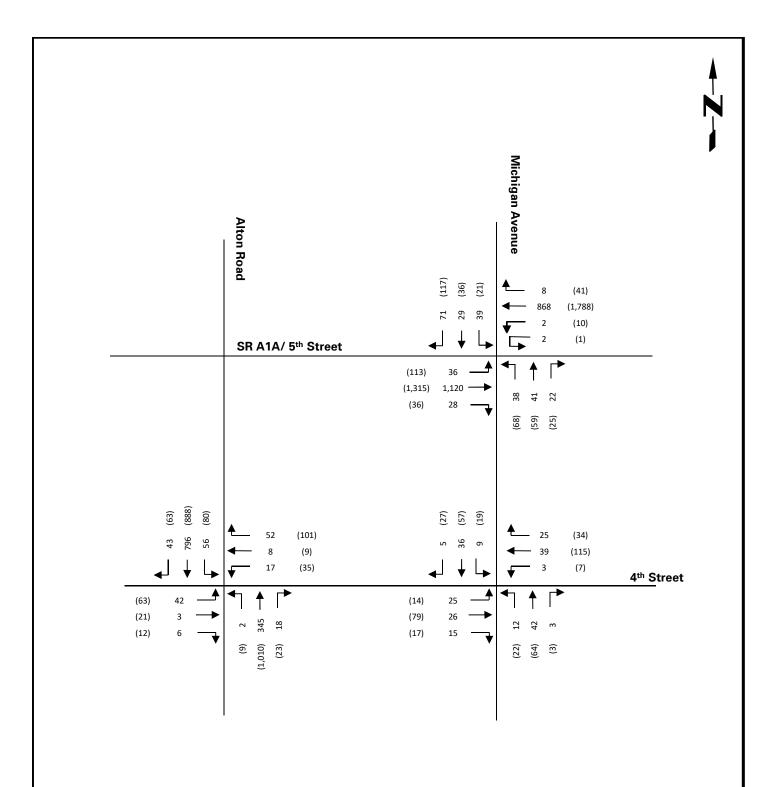
FLORIDA

PROJECT TRAFFIC PM

Project No. 300277901 Date 11/11/2021 Scale

NTS

FIGURE 6b



## LEGEND

- # AM Peak Hour
- (#) PM Peak Hour

15150 NW 79th Court, Suite 200, Miami Lakes, FL 33016 P: 786.264.7221 F: 786.264.7201 www.langan.com

FL CERTIFICATE OF AUTHORIZATION No. 00006601

Project

**411 MICHIGAN** 

MIAMI BEACH MIAMI DADE

Figure Title

FLORIDA

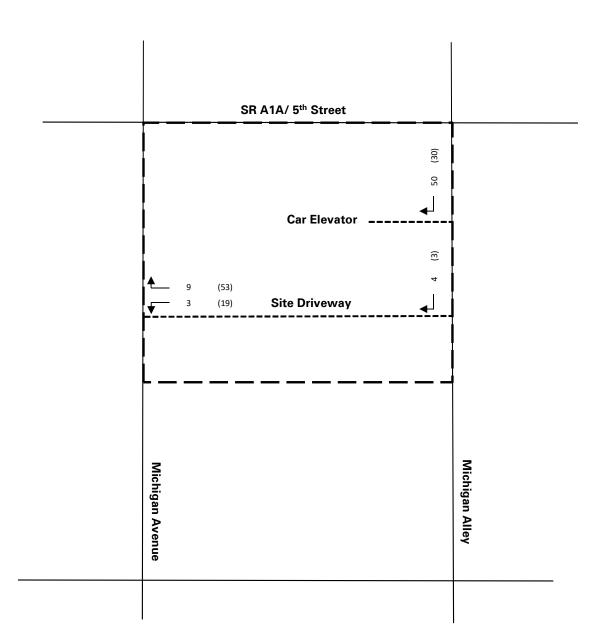
**2023 BUILD TRAFFIC VOLUMES** 

Project No. 300277901

NTS

FIGURE 7 11/11/2021 Scale





\* Assumed 8% of trips will be visitors arriving / departing in the morning and afternoon peak hours and utilizing the site driveway

## LEGEND

- # AM Peak Hour
- (#) PM Peak Hour
- Driveway

ENGINEERING & ENVIRONMENTAL SERVICES

15150 NW 79th Court, Suite 200, Miami Lakes, FL 33016 P: 786.264.7221 F: 786.264.7201 www.langan.com

FL CERTIFICATE OF AUTHORIZATION No. 00006601

Project

**411 MICHIGAN** 

MIAMI BEACH MIAMI DADE

Figure Title

**DRIVEWAY VOLUMES** 

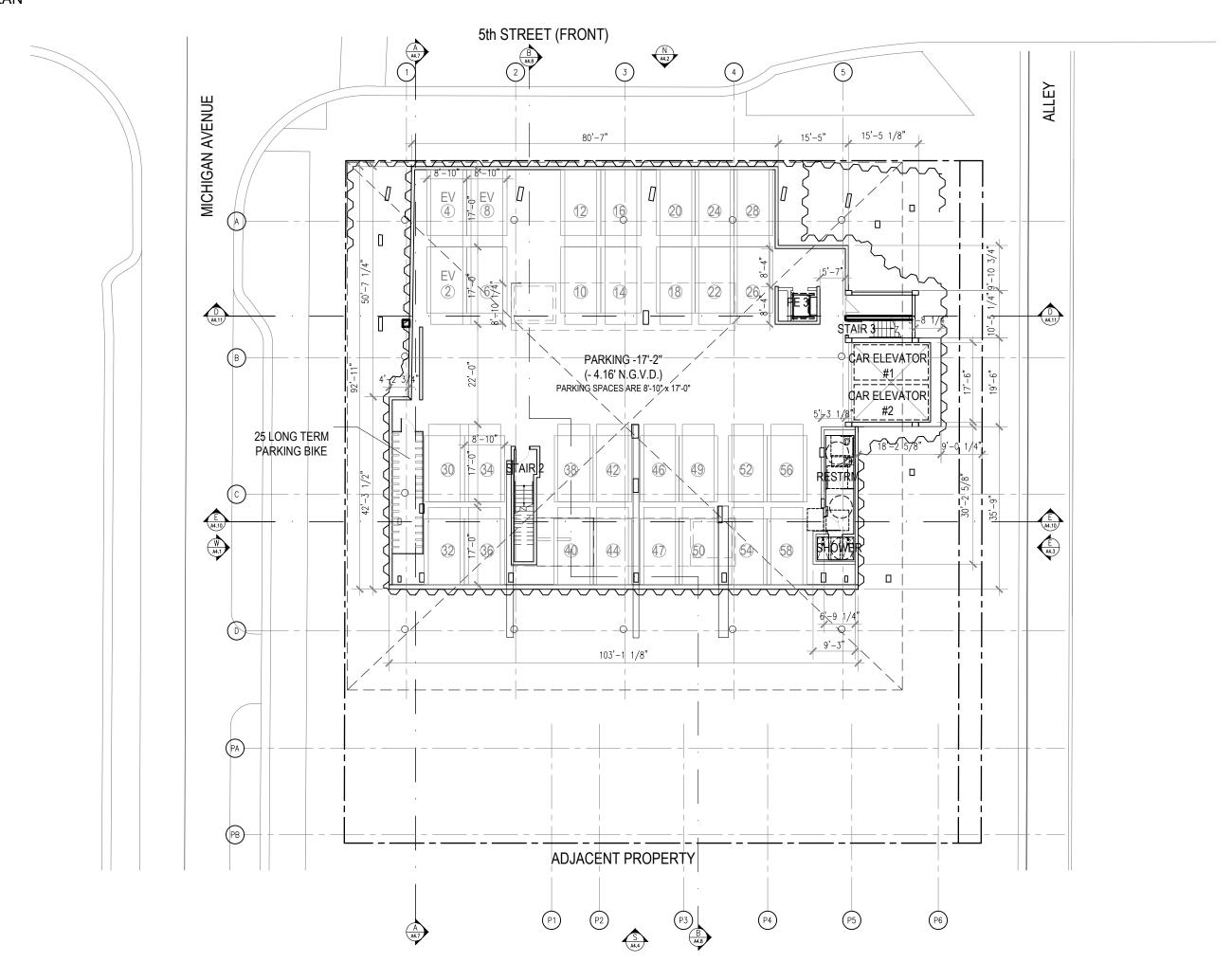
Project No. 300277901 11/11/2021

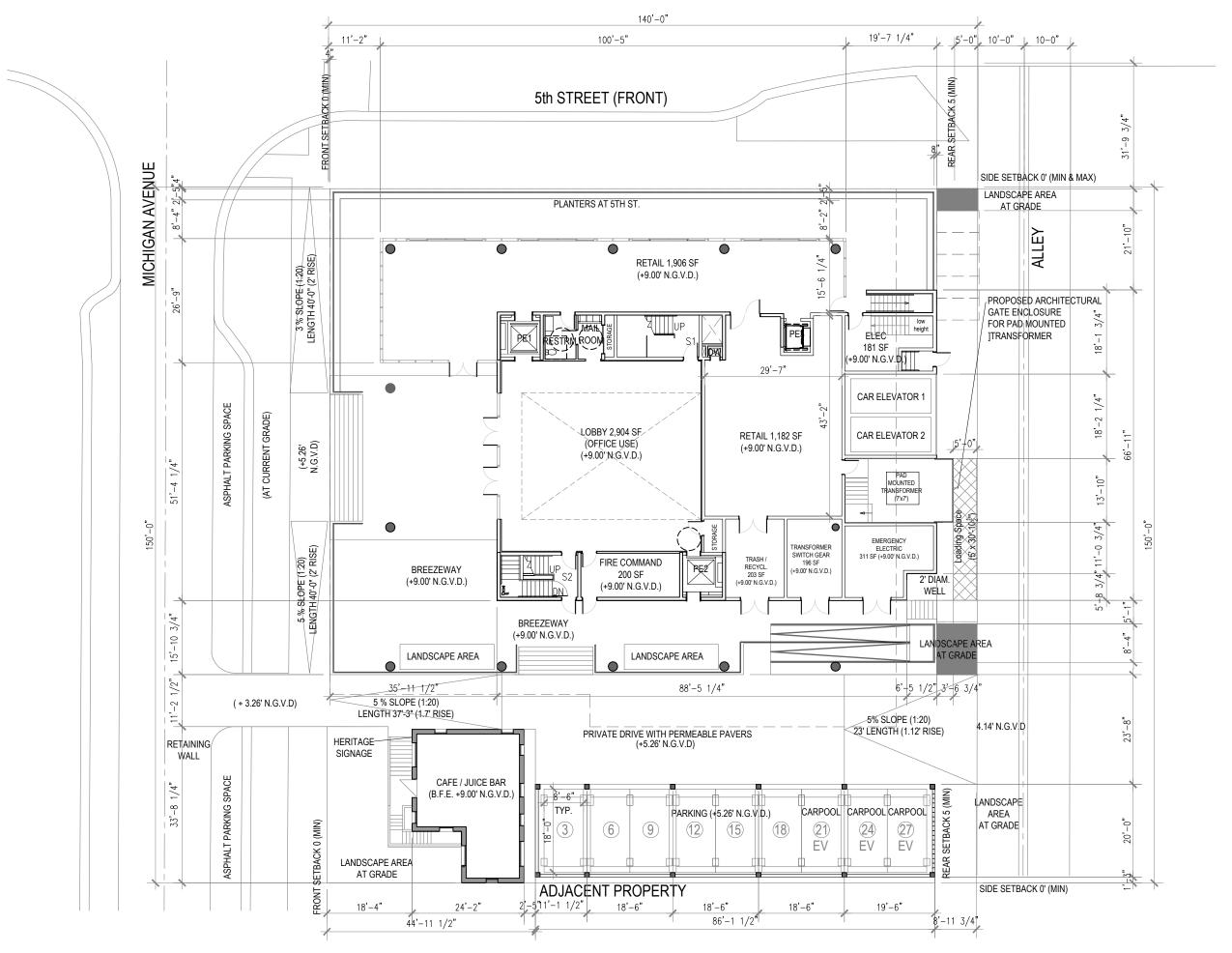
FIGURE 8

FLORIDA

Scale NTS

# APPENDIX B SITE PLAN







Planning Department, 1700 Convention Center Drive, 2nd Floor Miami Beach, Florida 33139, www.miamibeachfl.gov 305.673.7550

## **MULTIFAMILY - COMMERCIAL - ZONING DATA SHEET**

ITEM #	Project Information			
1	Address:	411-419 Michigan Av	e, 944 5 Street	
2	Board and file numbers :	PB21-0469		
3	Folio number(s):	02-4203-010-0030, 0	2-4203-009-6170, 02-4203-00	9-6160
4	Year constructed:	N/A	Zoning District:	CPS-2
5	Based Flood Elevation:	8	Grade value in NGVD:	4
6	Adjusted grade (Flood+Grade/2):	6	Lot Area:	21,000
7	Lot width:	140'	Lot Depth:	150'
8	Minimum Unit Size	N/A	Average Unit Size	N/A
9	Existing use:	N/A	Proposed use:	Commercial

	Zoning Information / Calculations	Maximum	Existing	Proposed	Deficiencies
10	Height	75'	0'		Pursuant to in- process Code Amendment
11	Number of Stories	N/A	N/A	5	
12	FAR	42,000	0	41,936	
13	Gross square footage	N/A	9,500	92,356	
14	Square Footage by use	N/A	9,500	3,123 Retail, 38,813 Offi	ce
15	Number of units Residential	N/A	N/A	N/A	
16	Number of units Hotel	N/A	N/A	N/A	
17	Number of seats	N/A	N/A	N/A	
18	Occupancy load	N/A	N/A	N/A	

	Setbacks	Required	Existing	Proposed	Deficiencies
	Subterranean:				
19	Front Setback facing Michigan:	0	0	0	
20	Side Setback:	0	0	0	
22	Side Setback facing 5th street:	0	0	0	
23	Rear Setback facing Alley:	5'	10'	9'	
	At Grade Parking:				
24	Front Setback facing Michigan:	0	0	0	
25	Side Setback:	0	0	0	
27	Side Setback facing 5th street:	0	0	0	
28	Rear Setback Facing Alley:	5'	10'	9'	
	Pedestal and Tower:				
29	Front Setback facing Michigan:	0	0	4"	
30	Side Setback:	0	1'-6"	0	
31	Side Setback facing 5th street:	0	0	4"	
32	Rear Setback Facing Alley:	5'	10'	9'	
	Parking	Required	Existing	Proposed	Deficiencies
39	Parking District	1	1	1	
40	Total # of parking spaces	84	0	85	103 Required before Reductions (see chart)
41	# of parking spaces per use (Provide a separate chart for a breakdown calculation)	see chart	0	see chart	



## Planning Department, 1700 Convention Center Drive, 2nd Floor Miami Beach, Florida 33139, www.miamibeachfl.gov 305.673.7550

42	# of parking spaces per level (Provide a separate chart for a breakdown calculation)	N/A	0	Basement - 58 Ground Floor -27	
43	Parking Space Dimensions	8.5' x 18'	0	8.5' x 18'	
44	Parking Space configuration (450, 600, 900,				
44	Parallel)	90	0	90	
45	ADA Spaces				
46	Tandem Spaces	N/A	0	15	
47	Drive aisle width	22'	0	22'	
48	Valet drop off and pick up	Υ	N	Υ	
49	Loading zones and Trash collection areas	3	0	1 in alley	Waiver Requested
50	Bicycle parking, location and Number of			25 Long Term in	
50	racks	0	0	Basement	

	Restaurants, Cafes, Bars, Lounges,				
	Nightclubs	Required	Existing	Proposed	Deficiencies
51	Type of use				
52	Number of seats located outside on private				
52	property	N/A	N/A	N/A	
53	Number of seats inside	N/A	N/A	N/A	
54	Total number of seats	N/A	N/A	N/A	
55	Total number of seats per venue (Provide a separate chart for a breakdown calculation)	N/A	N/A	N/A	
56	Total occupant content	N/A	N/A	N/A	
57	Occupant content per venue (Provide a separate chart for a breakdown calculation)	N/A	N/A	N/A	

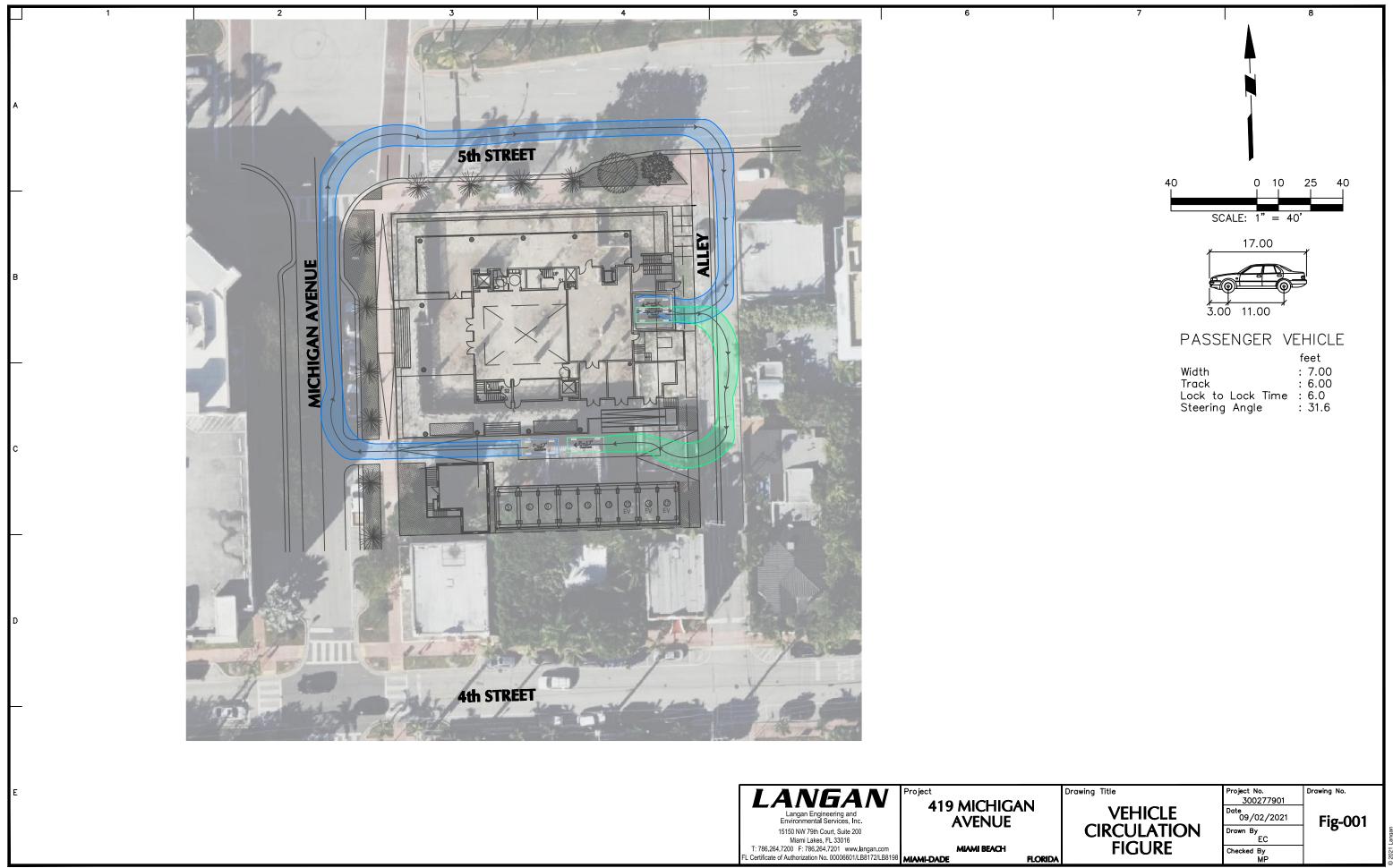
58	Proposed hours of operation	8am-8pm
59	Is this an NIE? (Neighboot Impact	
59	stablishment, see CMB 141-1361)	N
60	Is dancing and/or entertainment proposed?	
60	(see CMB 141-1361)	N
61	Is this a contributing building?	Yes
62	Located within a Local Historic District?	Yes

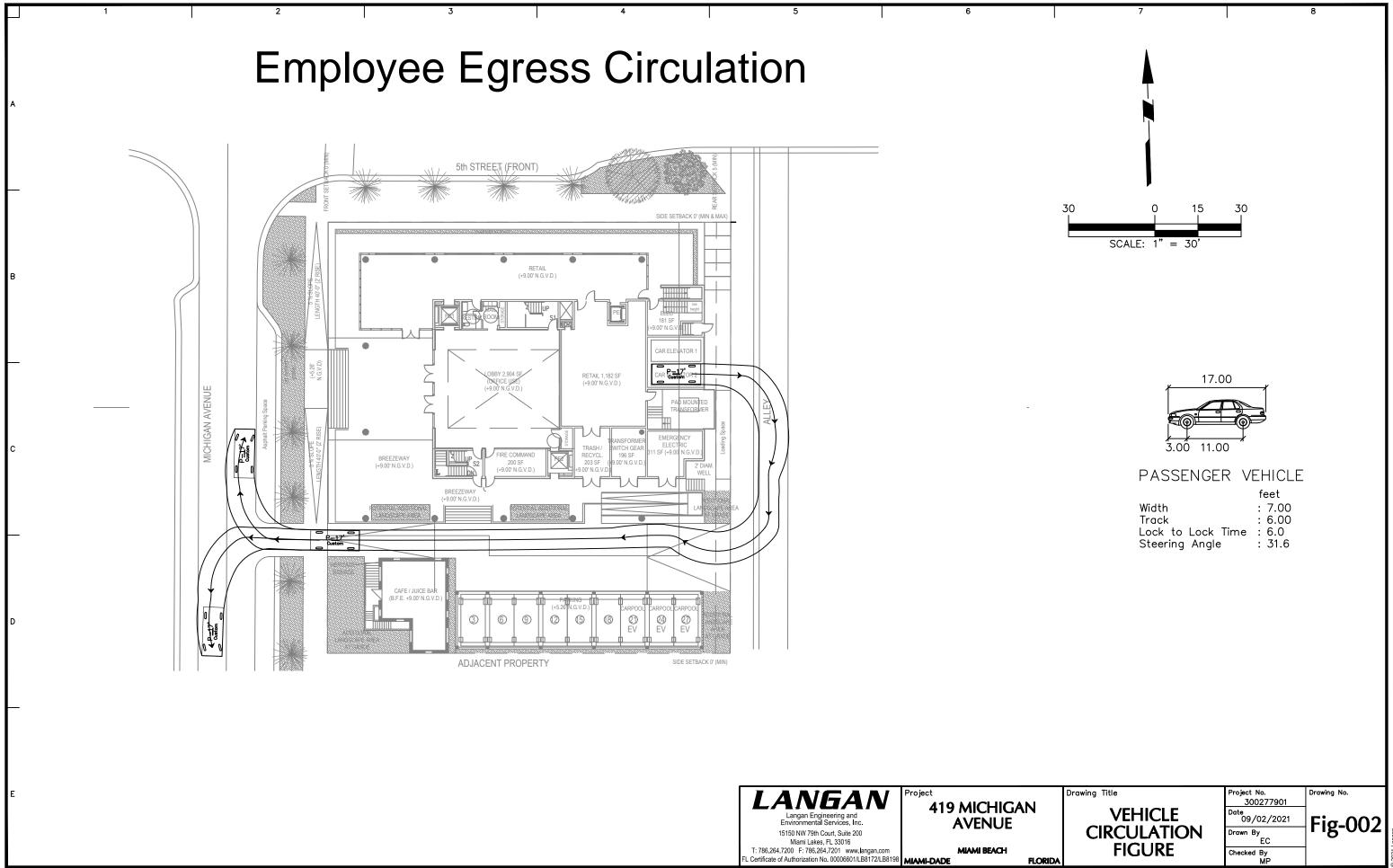
### Notes:

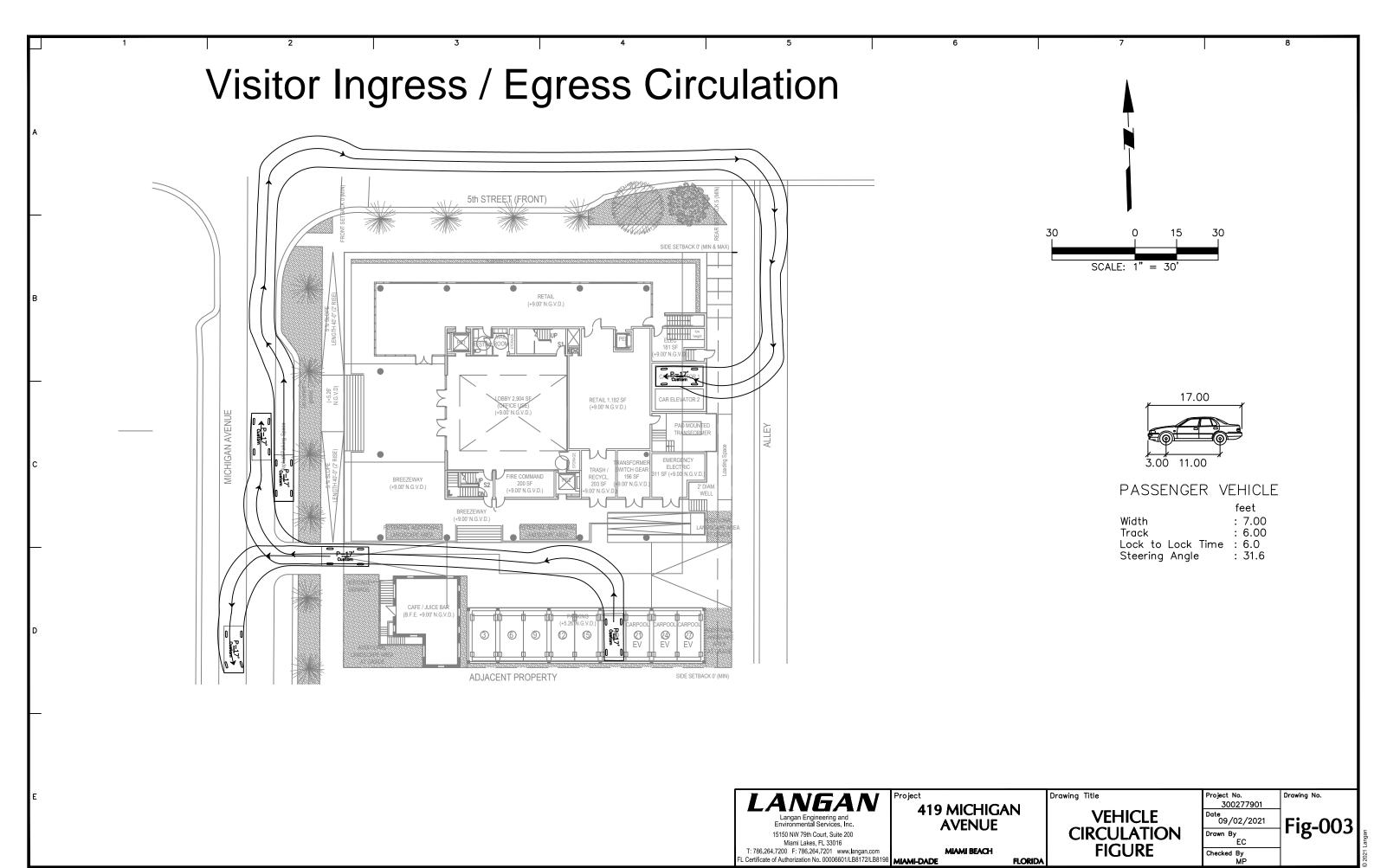
If not applicable write N/A

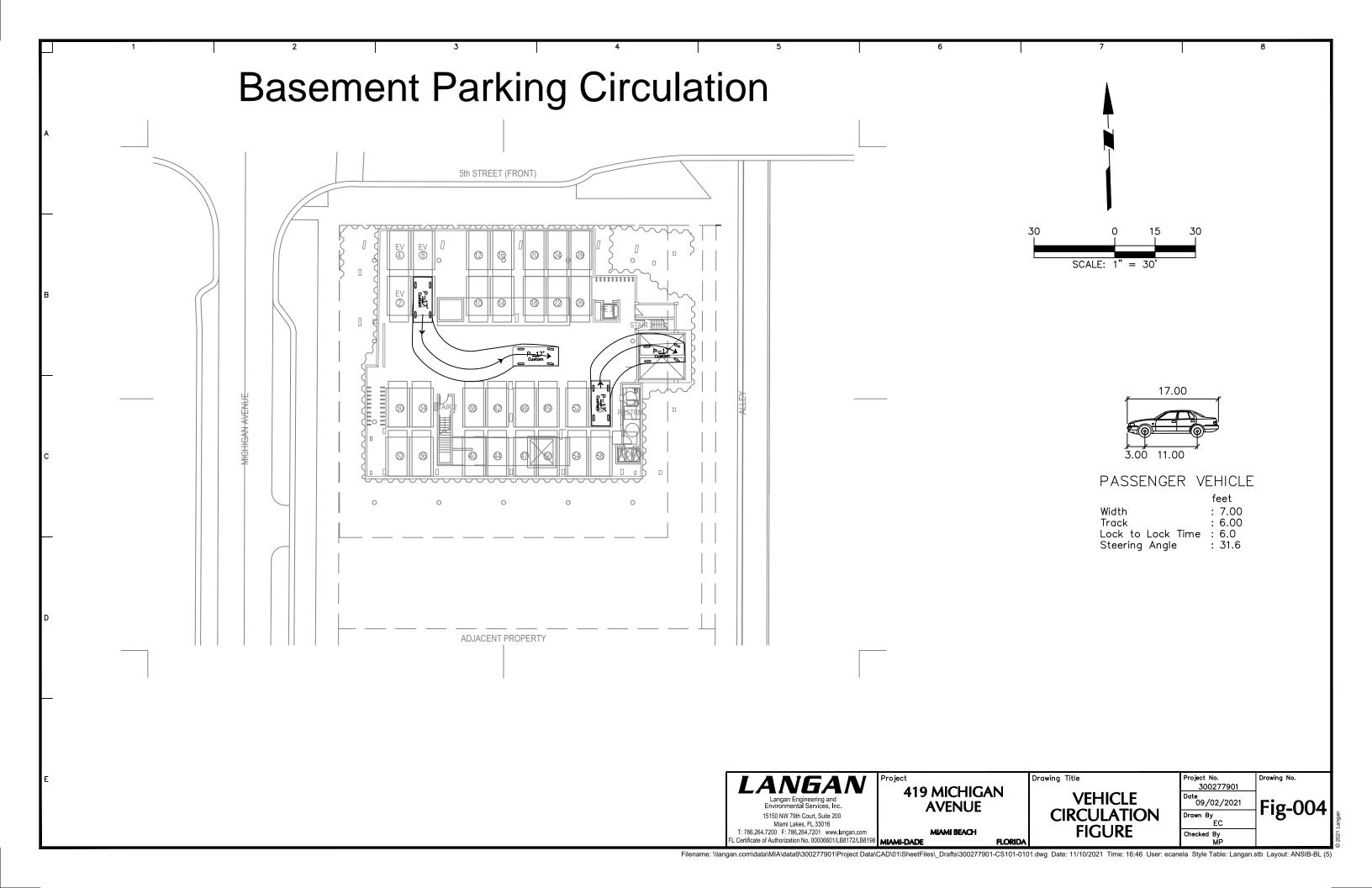
N/A

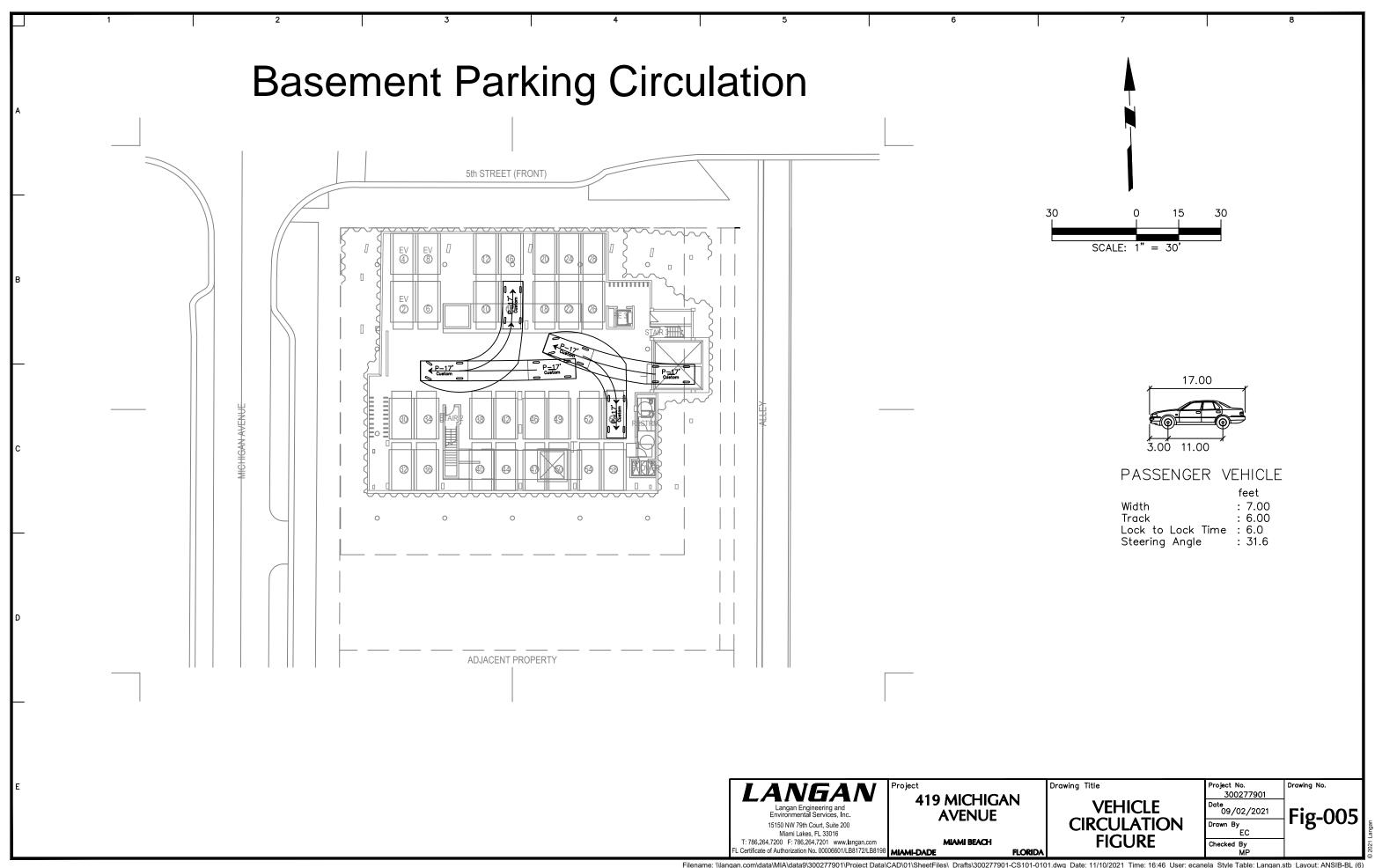
<u> </u>		Total FAR SF	Required # Parking Space
Office or Office Building	Ground floor - One Space per 300 square feet of floor area	2,904	9.7
1	Upper floors - One space per 400 square feet of floor area		
	SF 2nd Floor	8,440	21.1
	SF Typical Floor (3-5) + Roof	24,795	62.0
	Total	36,139	
	Office or Office Building Required Parking		92.8 Spaces
Retail Parking	One space per 300 square feet of floor area		
	Ground Floor Retail Space (New Building)	3,123	10.41
	Retail Required Parking		10 Spaces
en e	TOTAL OFFICE + RETAIL PARKING REQUIRED		102.8 SPACES
Ilternative Parking Incentives - Sec. 130-40		Provided	# Spaces Reduced
Showers	2 parking less for each shower (max -8)	3	6
Scooters - Motorcycles	1 parking less for 3 parkings (max 15%)	5	5
Long term Bikes	1 parking less for 5 parkings (max 15%)	25	5
Short term Bikes	1 parking less for 10 parkings (max 15%)	0	0
Carpool / Vanpool	3 parking less for each parking (max 10%)	9	3
	Total # Reduced Parking Spaces		19
μι 	TOTAL PARKING REQUIRED AFTER DEDUCTIONS		83.8 SPACES
ng Spaces Delivered			
	Existing Cellar	58	
	· ·		
	Triple Stacker	27	

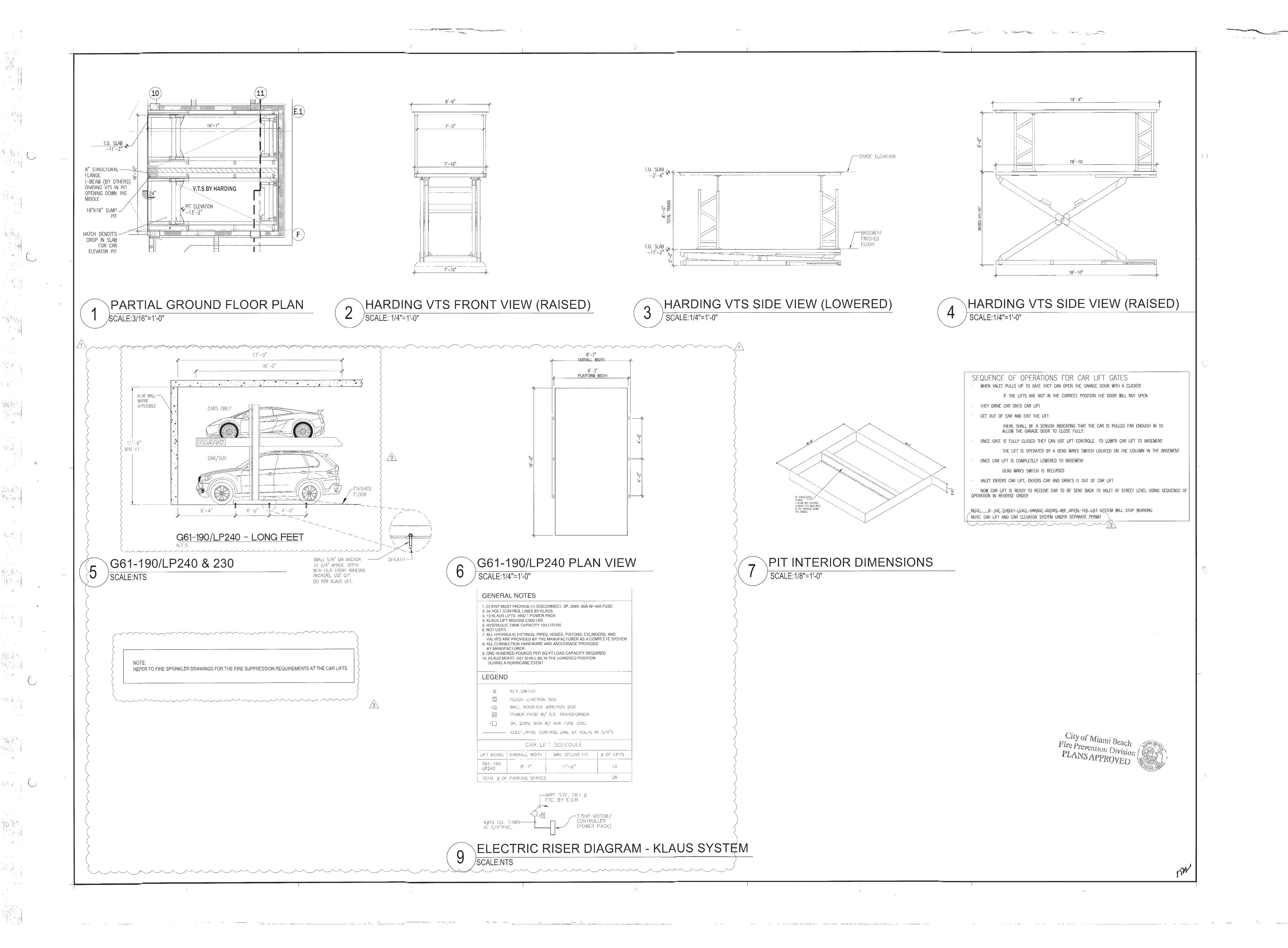














# OFFICE OF THE PROPERTY APPRAISER

## **Summary Report**

Generated On: 8/17/2021

Property Information			
Folio:	02-4203-010-0030		
Property Address:	944 5 ST Miami Beach, FL 33139-6514		
Owner	411 MICHIGAN SOFI OWNER LLC		
Mailing Address	520 W 27 ST NEW YORK, NY 10022 USA		
PA Primary Zone	6503 COMMERCIAL		
Primary Land Use	1081 VACANT LAND - COMMERCIAL : VACANT LAND		
Beds / Baths / Half	0/0/0		
Floors	0		
Living Units	0		
Actual Area	0 Sq.Ft		
Living Area	0 Sq.Ft		
Adjusted Area	0 Sq.Ft		
Lot Size	7,000 Sq.Ft		
Year Built	0		

Assessment Information				
Year	2021	2020	2019	
Land Value	\$3,500,000	\$3,500,000	\$3,500,000	
Building Value	\$0	\$0	\$0	
XF Value	\$0	\$0	\$0	
Market Value	\$3,500,000	\$3,500,000	\$3,500,000	
Assessed Value	\$3,500,000	\$2,818,392	\$2,562,175	

Benefits Information	1			
Benefit	Туре	2021	2020	2019
Non-Homestead Cap	Assessment Reduction		\$681,608	\$937,825
Note: Not all benefits are applicable to all Taxable Values (i.e. County, School				

Short Legal Description
3-4 54 42 34 53 42
WITHAMS RE-SUB PB 9-10
LOTS 1 TO 5 INC LESS N90FT
THEREOF FOR R/W BLK 83
LOT SIZE 140.000 X 50



Taxable Value Information				
	2021	2020	2019	
County				
Exemption Value	\$0	\$0	\$0	
Taxable Value	\$3,500,000	\$2,818,392	\$2,562,175	
School Board				
Exemption Value	\$0	\$0	\$0	
Taxable Value	\$3,500,000	\$3,500,000	\$3,500,000	
City				
Exemption Value	\$0	\$0	\$0	
Taxable Value	\$3,500,000	\$2,818,392	\$2,562,175	
Regional				
Exemption Value	\$0	\$0	\$0	
Taxable Value	\$3,500,000	\$2,818,392	\$2,562,175	

Sales Information					
Previous Sale	Price	OR Book- Page	Qualification Description		
06/11/2021	\$7,000,000	32578-2150	Qual on DOS, multi-parcel sale		
11/05/2020	\$2,100	32194-4520	Federal, state or local government agency		
06/11/2014	\$4,250,000	29190-2460	Qual on DOS, multi-parcel sale		
08/01/2000	\$765,000	19257-3689	Sales which are qualified		

The Office of the Property Appraiser is continually editing and updating the tax roll. This website may not reflect the most current information on record. The Property Appraiser and Miami-Dade County assumes no liability, see full disclaimer and User Agreement at http://www.miamidade.gov/info/disclaimer.asp

Version:

Board, City, Regional).



# OFFICE OF THE PROPERTY APPRAISER

## **Summary Report**

Generated On: 8/17/2021

Property Information			
Folio:	02-4203-009-6170		
Property Address:	419 MICHIGAN AVE Miami Beach, FL 33139-6509		
Owner	411 MICHIGAN SOFI OWNER LLC		
Mailing Address	520 W 27 ST NEW YORK, NY 10022 USA		
PA Primary Zone	6503 COMMERCIAL		
Primary Land Use	1081 VACANT LAND - COMMERCIAL : VACANT LAND		
Beds / Baths / Half	0/0/0		
Floors	0		
Living Units	0		
Actual Area	0 Sq.Ft		
Living Area	0 Sq.Ft		
Adjusted Area	0 Sq.Ft		
Lot Size	7,000 Sq.Ft		
Year Built	0		

Assessment Information					
Year	2021	2020	2019		
Land Value	\$3,500,000	\$3,500,000	\$3,500,000		
Building Value	\$0	\$0	\$0		
XF Value	\$0	\$0	\$0		
Market Value	\$3,500,000	\$3,500,000	\$3,500,000		
Assessed Value	\$3,500,000	\$2,137,837	\$1,943,489		

Benefits Information				
Benefit	Туре	2021	2020	2019
Non-Homestead Cap	Assessment Reduction		\$1,362,163	\$1,556,511
Note: Not all honofits are applicable to all Tayable Values (i.e. County, School				

Note: Not all benefits are applicable to all Taxable Values (i.e. County, Schoo Board, City, Regional).

Short Legal Description		
OCEAN BEACH ADD NO 3 PB 2-81		
LOT 9 BLK 83		
LOT SIZE 50.000 X 140		
OR 19588-3015 0301 6		



Taxable Value Information					
	2021	2020	2019		
County					
Exemption Value	\$0	\$0	\$0		
Taxable Value	\$3,500,000	\$2,137,837	\$1,943,489		
School Board					
Exemption Value	\$0	\$0	\$0		
Taxable Value	\$3,500,000	\$3,500,000	\$3,500,000		
City					
Exemption Value	\$0	\$0	\$0		
Taxable Value	\$3,500,000	\$2,137,837	\$1,943,489		
Regional					
Exemption Value	\$0	\$0	\$0		
Taxable Value	\$3,500,000	\$2,137,837	\$1,943,489		

Sales Information					
Previous Sale	Price	OR Book- Page	Qualification Description		
06/11/2021	\$7,000,000	32578-2150	Qual on DOS, multi-parcel sale		
11/05/2020	\$2,100	32194-4520	Federal, state or local government agency		
06/11/2014	\$4,250,000	29190-2460	Qual on DOS, multi-parcel sale		
03/01/2001	\$870,000	19588-3015	Other disqualified		

The Office of the Property Appraiser is continually editing and updating the tax roll. This website may not reflect the most current information on record. The Property Appraiser and Miami-Dade County assumes no liability, see full disclaimer and User Agreement at http://www.miamidade.gov/info/disclaimer.asp

Version:

# APPENDIX C METHODOLOGY LETTER

### **Maximo Polanco**

**From:** Akcay, Firat < FiratAkcay@miamibeachfl.gov>

**Sent:** Friday, July 23, 2021 10:56 AM

**To:** Maximo Polanco **Cc:** John Kim; Joe Goldberg

**Subject:** [External] RE: 419 Michigan Avenue Traffic Methodology

#### Maximo,

Pleasure to speak with you and your team. Please see notes from today's meeting. Please let me know if I missed anything that was discussed.

#### Parking queueing:

Triple Stacker: Parking queueing study.

Car elevator: Number of spaces is the limiting factor, provide queueing study. Identify alternative parking for spill over.

Narrative on identifying users of parking locations.

Circulation diagram for parking of vehicles. Valet operations plan and assumptions

Breezeway stacking diagram.

## Roadway & Circulation:

Based on your queueing please indicate if the alley (Jerusalem Street) should be converted to NB instead.

Maneuverability Diagrams for the breezeway, alley loading and elevators and basement parking.

#### Intersection LOS Study:

Intersections: Michigan Ave x 4<sup>th</sup> and 5<sup>th</sup> Streets, and Alton Road and 4<sup>th</sup> Street.

Trip Distribution: Agreed on the methodology below.

## Trip Gen:

Develop matrix with # of employees as well.

Average x fitted trip generation figures, assume fitted curve for a conservative analysis

#### Multimodal:

Provide bicycle parking.

Provide lockers and bicycle facilities, if feasible.

#### Clarification:

Retail portion will be restricted to shopping or other uses will be evaluated.



Firat Akcay, M.S.C.E. MBA
Transportation Engineer
Transportation and Mobility Department
1688 Meridian Avenue, Suite 801, Miami Beach, FL 33139
Tel: 305-673-7000, ext 26839

We are committed to providing excellent public service and safety to all who live, work and play in our vibrant, tropical, historic community.