Kimley»Horn

December 12, 2019

Josiel Ferrer-Diaz, P.E
City of Miami Beach
Transportation Department
1688 Meridian Avenue, Suite 801
Miami Beach, Florida 33139

Re: Ocean Terrace Redevelopment
Miami Beach, Florida
Traffic Assessment

Dear Mr. Ferrer-Diaz:

Kimley-Horn and Associates, Inc. has performed a traffic assessment for the proposed Ocean Terrace redevelopment bounded by 75th Street to the north, 74th Street to the south, Ocean Terrace to the east, and Collins Avenue to the west in Miami Beach, Florida. Currently, the site is occupied by 16 apartment units, 181 hotel rooms, and 32,149 square feet of retail space. The proposed redevelopment consists of 71 condominium units, 120 hotel rooms, 18,166 square feet of retail space, a 456-seat restaurant, and a 1,643 square-foot bar. A project location map and conceptual site plan is provided in Attachment A-1. Note that the Ocean Terrace right-of-way is proposed to be vacated between 73rd Street to the south and 75th Street to the north.

The traffic assessment's methodology is consistent with the requirements outlined by the City of Miami Beach. Methodology correspondence detailing the study requirements is provided in Attachment B-1. The following sections summarize the trip generation analysis, valet analysis, maneuverability analysis, and transportation demand management (TDM) strategies.

REDEVELOPMENT TRIP GENERATION

Trip generation calculations for the proposed redevelopment were performed using the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 9th Edition. The trip generation for the existing development was determined using ITE Land Use Codes (LUC) 220 (Apartment), 310 (Hotel), and 820 (Shopping Center). LUC 230 (Residential Condominiums/Townhouses), 310 (Hotel), 820 (Shopping Center), 931 (Quality Restaurant), and 925 (Drinking Place) were utilized for the proposed redevelopment. Project trips were estimated for the weekday A.M. and P.M. peak hours.

A multimodal (public transit, bicycle, and pedestrian) factor based on US Census *Means of Transportation to Work* data was reviewed for the census tracts in the vicinity of the redevelopment. A multimodal factor of 29.1 percent (29.1%) was calculated using the Census data. However, to provide a conservative analysis a multimodal factor of 20.0 percent (20.0%) was applied to the trip generation calculations to account for the urban environment in which the project site is located. It is expected that residents, patrons, and guests will choose to walk, bike, or use public transit to and from the proposed redevelopment.

Internal capture is expected between the complementary land uses within the project. Internal capture trips for the project were determined based upon methodology contained in the ITE's *Trip Generation Handbook*, 3rd Edition. An internal capture rate of 2.7 percent (2.7%) was calculated for the existing

development during the A.M. peak hour and 10.2 percent (10.2%) for the P.M. peak hour. An internal capture rate of 5.6 percent (5.6%) is expected for the proposed redevelopment during the A.M. peak hour and 39.8 percent (39.8%) during the P.M. peak hour.

Pass-by capture trip rates were determined based on average rates provided in the ITE's *Trip Generation Handbook*, 3rd Edition. The pass-by rate for the retail land use is 34.0 percent (34.0%) during the P.M. peak hour and the pass-by-rate for the restaurant land use is 44.0 percent (44.0%).

The Ocean Terrace redevelopment is expected to result in a net reduction of 44 A.M. peak hour trips and a net reduction of 68 P.M. peak hour trips. Detailed trip generation calculations are included in Attachment C-1. Table 1 provides a summary of the trip generation for the proposed redevelopment.

Table 1: Trip Generation Summary

Development Plan	A.M. Peak Hour			P.M. Peak Hour		
	In	Out	Total	In	Out	Total
Existing Development	84	61	145	115	113	228
Previously Approved Redevelopment	34	42	76	87	62	149
Proposed Redevelopment	47	54	101	96	64	160
Net Change (existing compared to proposed)	**-37**	**-7**	**-44**	**-19**	**-49**	**-68**

OCEAN TERRACE VALET ANALYSIS

The Ocean Terrace redevelopment will be served by two (2) dedicated valet drop-off/pick-up areas. Two (2) drop-off spaces and two (2) pick-up space are provided at the residential porte-cochere area. A total of six (6) spaces are provided at the hotel/retail/restaurant drop-off/pick-up area. Valet vehicles accessing the residential drop-off/pick-up and hotel/retail/residential drop-off/pick-up area will be driven by a valet attendant to the on-site parking garage. The parking garage consists of 21 tandem parking spaces (42 vehicles), 58 tandem mechanical lifts (116 vehicles), 12 mechanical lifts (24 vehicles), 77 typical parking spaces, and seven (7) ADA parking spaces for a total of 266 parking spaces. All mechanical-lift parking spaces are assumed to be used for valet. Attachment D-1 contains graphics illustrating drop-off/pick-up area stacking and proposed valet routes to and from the site's parking garages.

Self-parking and valet service is available for residents. Self-parking residents will park in the residential parking garage with access from 74th Street. Residents using valet services will use the residential valet drop-off/pick-up areas. For the residential component, it is assumed that 10.0 percent (10.0%) of arrivals and departures will self-park and the remaining 90.0 percent (90.0%) will utilize valet. For the hotel, retail, and restaurant components, it is assumed that 100.0 percent (100.0%) of the arriving patrons will valet as self-parking is not provided for hotel, retail, and restaurant patrons. A taxi/rideshare trip reduction factor of 42.6 percent (42.6%) was applied to the hotel trips based on actual field observation from the Cadillac Hotel located at 3925 Collins Avenue, Miami Beach, to account for patrons arriving via taxi/rideshare trips. Therefore, 57.4 percent (57.4%) of hotel trips were assumed to valet. Detailed data related to the Cadillac Hotel analysis is provided in Attachment D-1.

The valet analysis was conservatively prepared for the weekday P.M. peak hour. The valet trip generation calculations indicate that the development will generate a total of 12 residential valet trips and 182 hotel, retail, and restaurant valet trips during the weekday P.M. peak hour. A summary of expected valet trips is contained in Table 2. Detailed trip generation calculations are included in Attachment D-1.

Table 2: Expected Valet Trips

Valet Station	Land Use Served	Drop-Off	Pick-Up
P.M. Peak Hour			
Residential	71 Condominiums	8	4
Hotel, Retail, and Restaurant	120 Hotel Rooms 18,166 sf of Retail 456-Seat Restaurant 1,643 sf Bar	112	70

The valet queuing operations analysis was performed based on the methodology outlined in ITE's *Transportation and Land Development*, 1988. The analysis was performed to determine if valet operations could accommodate vehicular queues without blocking the crosswalks and travel lanes on 74th Street and 75th Street.

Valet Assumptions

The queuing analysis used the multiple-channel waiting line model with Poisson arrivals and exponential service times. The queuing analysis is based on the coefficient of utilization, ρ, which is the ratio of the average vehicle arrival rate over the average service rate multiplied by the number of channels.

Valet attendants for the residential condominiums, hotel, retail, and restaurant will be stationed at the respective porte-cochere areas and will travel to and from the on-site parking garage. Valet drop-off trip service time was calculated based on the time it would take a valet parking attendant to obtain and park a drop-off vehicle within the on-site parking garage. Valet pick-up trip service time was calculated based on the time it would take a valet parking attendant to bring a parked vehicle back to a patron at the valet porte-cochere area for pick-up. Note that the average mechanical-lift processing time was based on the Klaus Model G61 vehicle lift and accounts for the time to park and retrieve vehicles from all the various positions within the tandem mechanical-lift system. A detailed mechanical-lift processing time analysis is contained in Attachment D-1. The following summarizes the total valet drop-off and pick-up service times.

The calculated average service time for the residential valeted vehicle drop-off is 4.1 minutes. The following summarizes the valet drop-off service time:

- Exchange between valet attendant and driver (0.5 minutes)
- Valet attendant drives vehicle from valet drop-off/pick-up area to on-site parking garage (0.5 minutes)
- Delay occurred for self-parking vehicles (0.5)

- Valet attendant parks vehicle utilizing mechanical lift (1.7 minutes)
- Valet attendant returns to valet station (0.9 minutes)
- Total service rate: **4.1 minutes**

The calculated average service time for the residential valeted vehicle pick-up is 4.0 minutes. The following summarizes the valet pick-up service time:

- Valet attendant proceeds to the garage to retrieve the vehicle (0.9 minutes)
- Valet attendant retrieves vehicle from mechanical-lift (1.6 minutes)
- Valet attendant drives vehicle from parking garage to area to valet drop-off/pick-up area (0.5 minutes)
- Delay occurred for self-parking vehicles (0.5)
- Exchange between valet attendant and driver (0.5 minutes)
- Total service rate: **4.0 minutes**

The calculated average service time for the hotel, retail, and restaurant valeted vehicle drop-off is 4.2 minutes. The following summarizes the hotel, retail, and restaurant valet drop-off service time:

- Exchange between valet attendant and driver (0.5 minutes)
- Valet attendant drives vehicle from valet drop-off/pick-up area to on-site parking garage (0.6 minutes)
- Delay occurred for self-parking vehicles (0.5)
- Valet attendant parks vehicle utilizing mechanical lift (1.7 minutes)
- Valet attendant returns to valet station (0.9 minutes)
- Total service rate: **4.2 minutes**

The calculated average service time for the hotel, retail, and restaurant valeted vehicle pick-up is 4.2 minutes. The following summarizes the hotel, retail, and restaurant valet pick-up service time:

- Valet attendant proceeds to the garage to retrieve the vehicle (0.9 minutes)
- Valet attendant retrieves vehicle from mechanical-lift (1.6 minutes)
- Valet attendant drives vehicle from parking garage to area to valet drop-off/pick-up area (0.7 minutes)
- Delay occurred for self-parking vehicles (0.5)
- Exchange between valet attendant and driver (0.5 minutes)
- Total service rate: **4.2 minutes**

Detailed travel time calculations are included in Attachment D-1.

If the coefficient of utilization (average service rate/valet attendant service capacity) is greater than one (>1), the calculation methodology does not yield a finite queue length. This result indicates overcapacity conditions for the valet area. The valet attendant service capacity is the number of total trips a valet attendant can make in a one-hour period multiplied by the number of valet attendants.

The analysis determined the required queue storage, M, which is exceeded P percent of the time. Since this analysis seeks to examine if the queue length exceeds the storage provided, at a level of

confidence of 95 percent (95%). Two (2) drop-off spaces and two (2) pick-up spaces are provided at the residential drop-off/pick-up area. A total of six (6) spaces are provided at the hotel/retail/restaurant drop-off/pick-up area.

Valet Analysis

An iterative approach was used to determine the number of valet attendants required to accommodate the proposed redevelopment demand during the analysis hour and ensure that the 95th percentile valet queue does not extend beyond the designated valet service area. The valet analysis worksheet is provided in Attachment D-1.

As the site provides separate valet drop-off and pick-up areas for the residential valet, it was determined that a total of two (2) valet attendants are needed for the residential valet drop-off area and one (1) valet attendant is needed for the residential pick-up area during the weekday P.M. peak hour so that the vehicle queues from the drop-off/pick-up areas do not extend beyond the designated valet areas or negatively impact circulation. However, to be conservative, two (2) valet attendants total are recommended at the residential pick-up area during the P.M. peak period to account for multiple vehicles arriving at the same time. A total of 17 valet attendants are required at the hotel, retail, and restaurant drop-off/pick-up area during the weekday P.M. peak hour so that the vehicle queues from the hotel, retail, and restaurant drop-off/pick-up area do not extend beyond the designated valet areas.

Valet Conclusion

Based on the valet operations analysis performed, it was determined that the 95th percentile valet queues will not extend beyond the valet service area and into the public right-of-way or negatively impacting circulation. Based upon the conservative assumptions applied to the traffic demand conditions, it was estimated that a total of two (2) valet attendants are needed for the residential valet drop-off area and one (1) valet attendant is needed for the residential pick-up area during the weekday P.M. peak hour so that the vehicle queues from the drop-off/pick-up areas do not extend beyond the designated valet areas or negatively impact circulation However, to be conservative, two (2) valet attendants total are recommended at the residential pick-up area during the P.M. peak period to account for multiple vehicles arriving at the same time. It was also estimated that 17 valet attendants would be required at the hotel, retail, and restaurant porte-cochere during the weekday P.M. peak hour. It should be noted that projected vehicular volumes and estimated valet processing times were conservatively assumed in the analysis. If it is determined that valet processing times can be performed more efficiently and/or actual traffic volumes are lower than projected, a reduced number of valet attendants may be adequate to serve the site.

MANEUVERABILITY ANALYSIS

The areas included in the maneuverability analysis include the on-site porte-cocheres and loading area. Note that a maneuverability for the parking garage will be prepared as a separate submittal. The analysis was performed using Transoft's *AutoTURN 10* software which applies vehicle turning templates consistent with American Association of State Highway and Transportation Officials' (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 2018. The analysis was prepared using passenger car (P) design vehicles for the porte-cochere. Delivery trucks comparable to P-design vehicles were used for deliveries and loading activities. A refuse truck for a 14-foot trash compactor was used the refuse area. The following summarizes the results of this analysis.

Residential Porte-Cochere

Access to the residential porte-cochere is provided via one (1) driveway along the south side of the property along 74th Street. A P-design vehicle will be able to maneuver into and through the porte-cochere area to access the residential parking garage, refer to Exhibit 1 in Attachment E-1.

Hotel, Retail, and Restaurant Porte-Cochere

Access to the hotel, retail, and restaurant porte-cochere is provided via one (1) driveway along the north side of the property along 75th Street. A P-design vehicle will be able to maneuver into and through the porte-cochere area to access the hotel, retail, and restaurant, refer to Exhibit 1 in Attachment E-1.

Loading and Refuse Areas

Access to the loading area is provided via one (1) service entrance located along the north side of the property. Delivery vans, comparable to P-design vehicles, will be used for loading activities at the site and will be able to maneuver into and out of the loading area as shown in Exhibit 2 in Attachment E. A refuse truck for a 14-foot trash compactor will be able to enter the site and maneuver into and out of the loading area to pick-up and drop-off the refuse compactor as shown in Exhibit 3 in Attachment E-1.

Maneuverability Conclusion

Passenger vehicle traffic will be able to ingress and egress from the site's porte-cocheres without conflicting with oncoming traffic. Additionally, P-design vehicles and refuse trucks are able to ingress and egress the loading area without conflicting with oncoming traffic.

TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

The applicant is considering providing the following TDM strategies to encourage people to use public transportation, use bicycles and walk, use car/vanpools, and find alternatives to the typical workday hours to reduce the impacts of the project traffic on the surrounding roadway network:

- Providing secure bicycle parking (bicycle racks and/lockers).
- Provide transit information within the site including route schedules and maps.
- Designated scooter/motorcycle parking spaces.
- Carpool incentive program for employees.
- Subsidized transit passes for employees.
- Providing wide hallways to accommodate bicycles.
- Elevators that can accommodate bicycles.
- Improved (wide) sidewalks around the site.

CONCLUSION

The analysis results indicate that the proposed redevelopment is expected to result in a reduction of 44 net new vehicle trips during the A.M. peak hour and a reduction of 68 net new vehicle trips during the P.M. peak hour.

The Ocean Terrace valet operations analysis performed determined that the 95th percentile valet queues will not extend beyond the valet drop-off/pick-up areas. Based upon the conservative assumptions applied to the traffic demand conditions, it was estimated that a total of two (2) valet attendants are needed for the residential valet drop-off area and one (1) valet attendant is needed for

the residential pick-up area during the weekday P.M. peak hour so that the vehicle queues from the drop-off/pick-up areas do not extend beyond the designated valet areas or negatively impact circulation However, to be conservative, two (2) valet attendants total are recommended at the residential pick-up area during the P.M. peak period to account for multiple vehicles arriving at the same time. It was also estimated that 17 valet attendants would be required at the hotel, retail, and restaurant porte-cochere during the weekday P.M. peak hour.

Passenger vehicle traffic will be able to ingress and egress from the site's porte-cocheres without conflicting with oncoming traffic. Additionally, P-design vehicles and refuse trucks are able to ingress and egress the loading area without conflicting with oncoming traffic.

TDM strategies are also proposed as part of the redevelopment to reduce the impacts of the project traffic on the surrounding roadway network. The applicant is considering providing secure bicycle parking, providing transit information to guests, designated scooter/motorcycle parking spaces in the garage, a carpool incentive program for employees, subsidized transit passes for employees, wide hallways and large elevators to accommodate bicycles, and wide sidewalks.

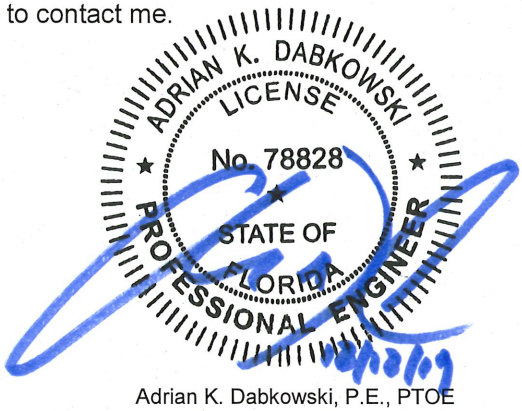
If you have any questions regarding this analysis, please feel free to contact me.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

Adrian K. Dabkowski, P.E., PTOE
Associate

Copy To: Firat Akcay, City of Miami Beach



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Plantation, Florida 33324
CA # 00000696

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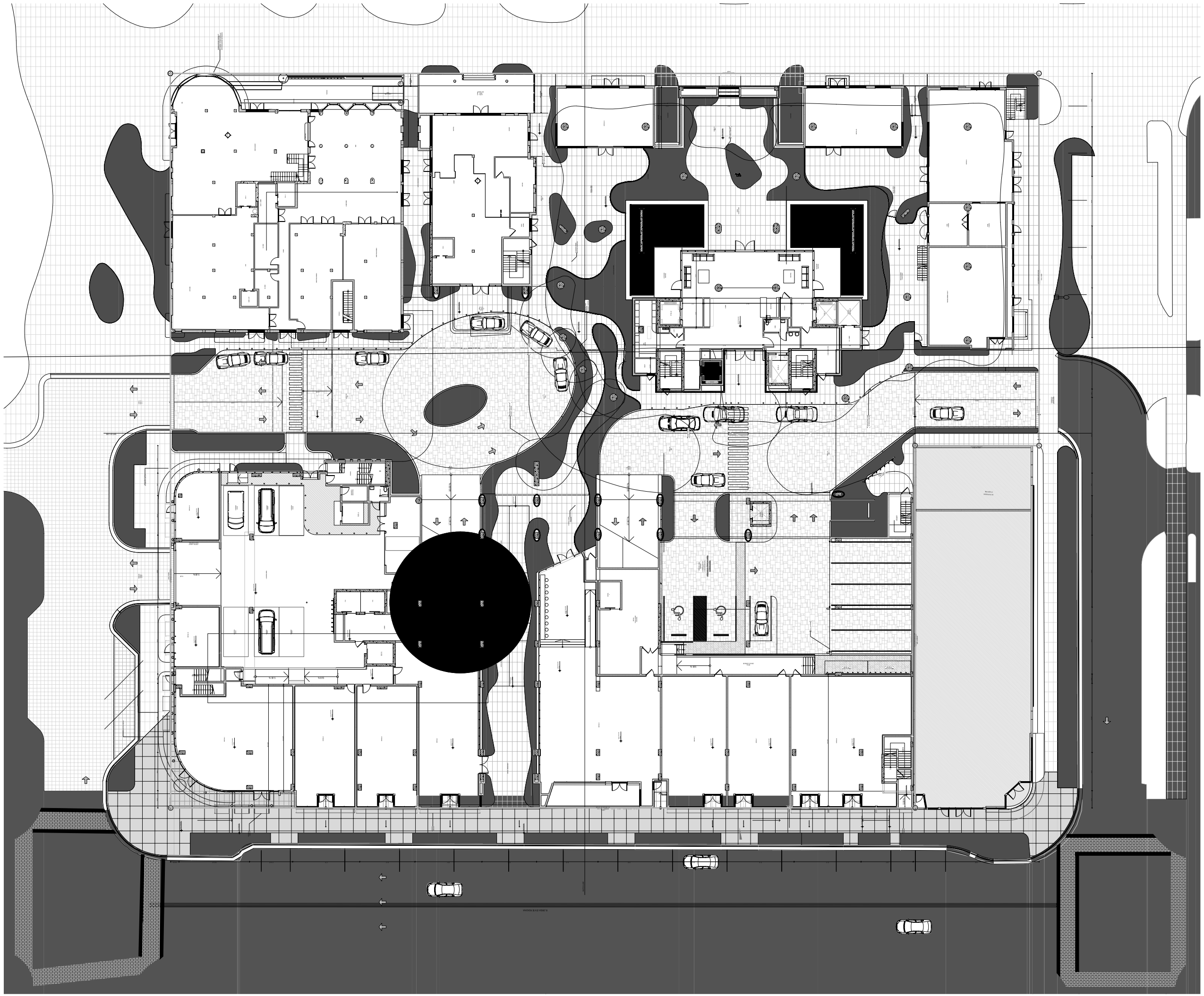
Attachment A-1

Location Map and Conceptual Site Plan

Kimley»Horn

Figure 1
Location Map
Ocean Terrace
Miami Beach, Florida



Attachment B-1

Methodology Correspondence

Kimley»Horn

MEMORANDUM

To: Firat Akcay
City of Miami Beach

Cc: Josiel Ferrer-Diaz, P.E., City of Miami Beach

From: Adrian Dabkowski, P.E., PTOE
Alex Iliev, E.I.

Date: September 6, 2019

Subject: Ocean Terrace
Traffic Assessment Methodology

The purpose of this memorandum is to summarize the traffic assessment methodology for the Ocean Terrace redevelopment bounded by 75th Street to the north, 74rd Street to the south, Ocean Terrace to the east, and Collins Avenue to the west in Miami Beach, Florida. Currently, the existing development consists of 16 condominium units, 181 hotel rooms, and 32,149 square feet of retail space. The site proposed for redevelopment consists 62 condominium units, 110 hotel rooms, 20,000 square feet of retail space, a 456-seat restaurant, and a 1,600 square-foot bar. Please note that the site was previously approved (December 17, 2019) for redevelopment which included 58 condominium units, 78 hotel rooms, 18,022 square feet of retail space, a 288-seat restaurant, and a 4,320 square-foot bar. A project location map and conceptual site plan are provided in Attachment A. The following sections summarize our proposed methodology.

OCEAN TERRACE REDEVELOPMENT

Redevelopment Trip Generation

Trip generation calculations for the proposed redevelopment were performed using the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 9th Edition. The trip generation for the existing development was determined using ITE Land Use Codes (LUC) 220 (Apartment), 310 (Hotel), and 820 (Shopping Center). LUC 230 (Residential Condominiums/Townhouses), 310 (Hotel), 820 (Shopping Center), 931 (Quality Restaurant), and 925 (Drinking Place) were utilized for the proposed redevelopment. Project trips were estimated for the weekday A.M. and P.M. peak hours.

A multimodal (public transit, bicycle, and pedestrian) factor based on US Census *Means of Transportation to Work* data was reviewed for the census tracts in the vicinity of the redevelopment. A multimodal factor of 29.1 percent (29.1%) was calculated using the Census data however, to provide a conservative analysis a multimodal factor of 20 percent (20%) was applied to the trip generation calculations to account for the urban environment in which the project site is located. It is expected that residents, patrons, and guests will choose to walk, bike, or use public transit to and from the proposed redevelopment.

Internal capture is expected between the complementary land uses within the project. Internal capture trips for the project were determined based upon methodology contained in the ITE's *Trip Generation Handbook*, 3rd Edition. An internal capture rate of 2.7 percent (2.7%) was calculated for the existing development during the A.M. peak hour and 10.2 percent (10.2%) for the P.M. peak hour. An internal capture rate of 6.0 percent (6.0%) is expected for the proposed redevelopment during the A.M. peak hour and 39.1 percent (39.1%) during the P.M. peak hour.

Pass-by capture trip rates were determined based on average rates provided in the ITE's *Trip Generation Handbook*, 3rd Edition. The pass-by rate for the retail land use is 34.0 percent (34.0%) during the P.M. peak hour and the pass-by-rate for the restaurant land use is 44.0 percent (44.0%)

Table 1 shows a summary of the existing trip generation vehicular peak hour trips, previously approved trip generation vehicular peak hour trips, and the proposed redevelopment trip generation vehicular peak hour trips. The project is expected to result in a reduction of 51 vehicle trips during the A.M. peak hour and a reduction of 69 vehicle trips during the P.M. peak hour when comparing the proposed redevelopment program to the existing development program. Detailed trip generation calculations are included in Attachment B.

Table 1: Trip Generation Summary

Development Plan	A.M. Peak Hour			P.M. Peak Hour		
	In	Out	Total	In	Out	Total
Existing Development	84	61	145	115	113	228
Previously Approved Redevelopment	34	42	76	87	62	149
Proposed Redevelopment	44	50	94	93	66	159
Net Change (proposed compared to existing)	**-40**	**-11**	**-51**	**-22**	**-47**	**-69**

Maneuverability Analysis

A maneuverability analysis for the site access, parking garage, and loading vehicle access will be performed utilizing Transoft Solutions' *AutoTURN* software. Deficiencies related to maneuverability, traffic flow, and vehicular conflicts will be documented in a technical memorandum.

Transportation Demand Management Strategies

Transportation Demand Management (TDM) strategies will be developed to reduce the impact of project traffic on the surrounding roadway network and promote trip reduction. Typical measures promote bicycling and walking, encourage car/vanpooling and offer alternatives to the typical workday hours.

73RD STREET DROP-OFF ANALYSIS

A vehicle queuing and drop-off/pick-up stacking analysis will be prepared at the existing intersection of 73rd Street and Ocean Terrace. Vehicle accumulations data will be conducted on a Saturday from 10 A.M. to 2 P.M. in one (1) minute intervals. The proposed drop-off/pick-up vehicle accumulation will be projected based on the existing accumulation data collected.

ST. TROPEZ BUILDING

An entry gate analysis will be prepared for parking garage entry points. The entry gate queuing analysis will be prepared for the St. Tropez building from 4 P.M. to 7 P.M. on a typical weekday (Tuesday, Wednesday, or Thursday) in one (1) minute intervals. The purpose of this analysis is to determine any future queue storage deficiencies at the entry gates and provide preliminary recommendations for mitigating these deficiencies.

Currently, no valet operations are present at the St. Tropez building however, a valet analysis will be prepared if future valet operations will be implemented.

74TH STREET-END MANEUVERABILITY

A maneuverability analysis for the 74th Street-end vehicle access will be performed utilizing Transoft Solutions' *AutoTURN* software. Deficiencies related to maneuverability, traffic flow, and vehicular conflicts will be documented in a technical memorandum.

DOCUMENTATION

The results of the trip generation analysis, maneuverability analysis, TDM strategies, 73rd Street and Ocean Terrace vehicle drop-off/pick-up queuing analysis, gate entry analysis at the St. Tropez building, and 74th Street-end maneuverability will be summarized in a technical letter. The letter will summarize the analysis assumptions, results, and will include supporting documents.

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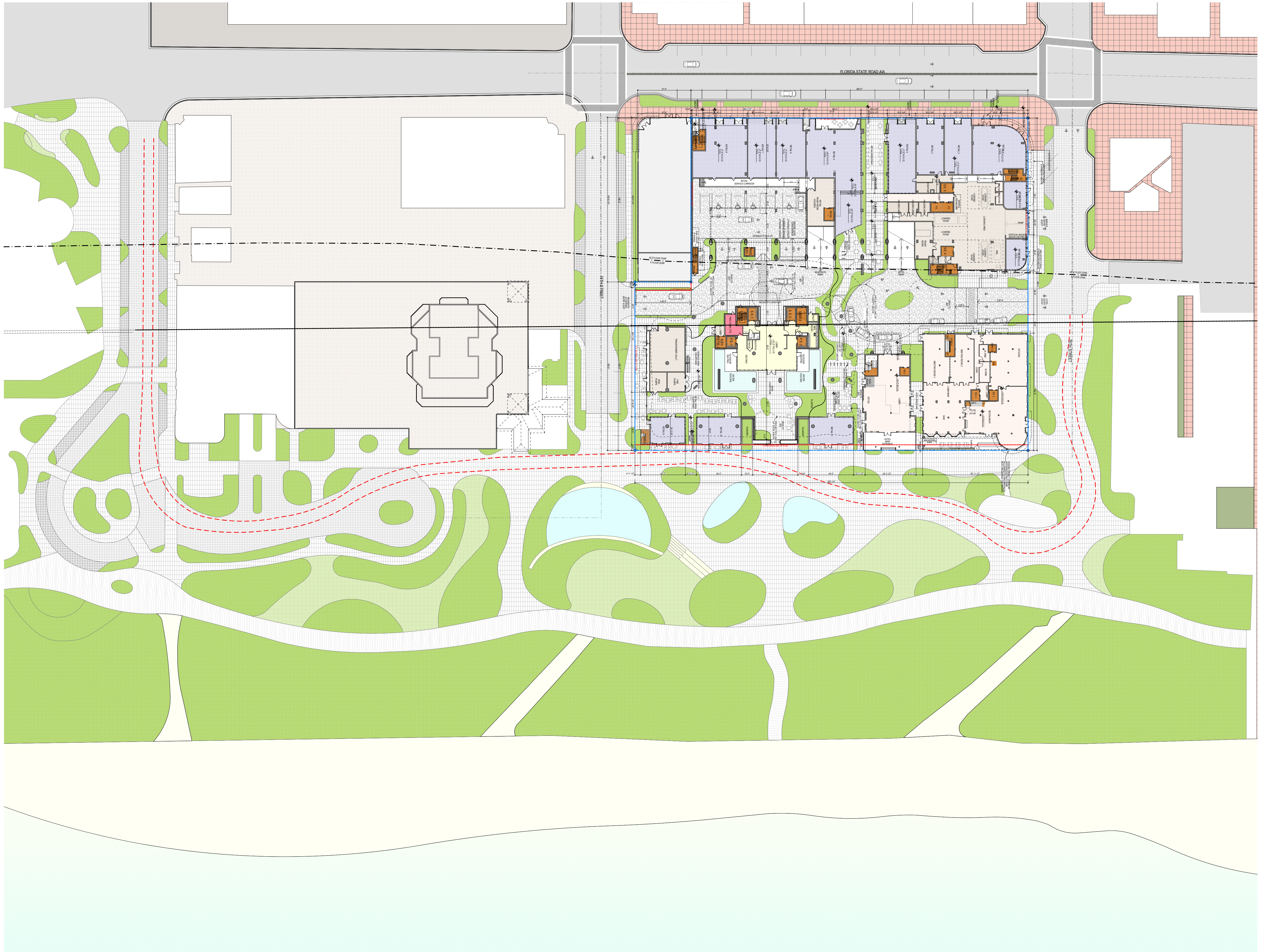
Attachment A

Project Location Map and Conceptual Site Plan

Kimley»Horn

Figure 1
Location Map
Ocean Terrace
Miami Beach, Florida



1 SITE PLAN
SCALE: 1/32" = 1'-0"

N

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architecture international

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OCEAN TERRACE

7400 Ocean Terrace
Miami Beach, FL 33141

A mixed used project by
Ocean Terrace Holdings
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Miami, FL 33136

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Design & Executive Architect

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Luis O. Revuelta
AR-0007972

Date
8/13/2019
Scale
AS SHOWN
Sheet Name

Layout

44.1

Attachment B

Trip Generation Calculations

AM PEAK HOUR TRIP GENERATION COMPARISON

EXISTING WEEKDAY AM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			MULTIMODAL REDUCTION		EXTERNAL TRIPS			INTERNAL CAPTURE		NET NEW EXTERNAL TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent In	Percent Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 1	1	Shopping Center	9	820	32.149	ksf	62%	38%	48	30	78	20.0%	16	38	24	62	3.2%	2	36	24	60	0.0%	0	36	24	60
	2	Hotel	9	310	181	room	59%	41%	57	39	96	20.0%	19	46	31	77	2.6%	2	46	29	75	0.0%	0	46	29	75
	3	Apartment	9	220	16	du	20%	80%	2	10	12	20.0%	2	2	8	10	0.0%	0	2	8	10	0.0%	0	2	8	10
	4																									
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	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
						Total:			107	79	186	20.0%	37	86	63	149	2.7%	4	84	61	145	0.0%	0	84	61	145

ITE Land Use Code	Rate or Equation
820	LN(Y) = 0.61*LN(X)+2.24
310	Y=0.53(X)
220	Y=0.49*(X)+3.73

PROPOSED WEEKDAY AM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			MULTIMODAL REDUCTION		EXTERNAL TRIPS			INTERNAL CAPTURE		NET NEW EXTERNAL TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent In	Percent Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Shopping Center	9	820	20	ksf	62%	38%	12	7	19	20.0%	4	10	5	15	13.3%	2	9	4	13	0.0%	0	9	4	13
	2	Residential/Condominium/Townhouse	9	230	62	du	17%	83%	6	29	35	20.0%	7	5	23	28	3.6%	1	5	22	27	0.0%	0	5	22	27
	3	Hotel	9	310	110	room	59%	41%	34	24	58	20.0%	12	27	19	46	0.0%	0	27	19	46	0.0%	0	27	19	46
	4	Quality Restaurant	9	931	456	seat	50%	50%	7	7	14	20.0%	3	5	6	11	27.3%	3	3	5	8	0.0%	0	3	5	8
	5	Drinking Place	9	925	1.6	ksf	*	*	0	0	0	20.0%	0	0	0	0	27.3%	0	0	0	0	0.0%	0	0	0	0
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
						Total:			59	67	126	20.0%	26	47	53	100	6.0%	6	44	50	94	0.0%	0	44	50	94

ITE Land Use Code	Rate or Equation
820	Y=0.96(X)
230	LN(Y) = 0.8*LN(X)+0.26
310	Y=0.53(X)
931	Y=0.03(X)
925	Y=*(X)

	IN	OUT	TOTAL
NET NEW TRIPS	**-40**	**-11**	**-51**

Note: (1) Drinking Place assumed to be closed during the A.M. peak hour as ITE does not provide a trip generation rate for this time period.

PM PEAK HOUR TRIP GENERATION COMPARISON

EXISTING WEEKDAY PM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			MULTIMODAL REDUCTION		EXTERNAL TRIPS			INTERNAL CAPTURE		NET NEW EXTERNAL TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent In	Percent Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 1	1	Shopping Center	9	820	32.149	ksf	48%	52%	134	146	280	20.0%	56	107	117	224	7.6%	17	102	105	207	34.0%	70	68	69	137
	2	Hotel	9	310	181	room	51%	49%	56	53	109	20.0%	22	45	42	87	9.2%	8	39	40	79	0.0%	0	39	40	79
	3	Apartment	9	220	16	du	65%	35%	17	9	26	20.0%	5	14	7	21	42.9%	9	8	4	12	0.0%	0	8	4	12
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	207	208	415	20.0%	83	166	166	332	10.2%	34	149	149	298	23.5%	70	115	113	228
		820		LN(Y) = 0.67*LN(X)+3.31																						
		310		Y=0.6(X)																						
		220		Y=0.55*(X)+17.65																						

PROPOSED WEEKDAY PM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			MULTIMODAL REDUCTION		EXTERNAL TRIPS			INTERNAL CAPTURE		NET NEW EXTERNAL TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent In	Percent Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Shopping Center	9	820	20	ksf	48%	52%	98	106	204	20.0%	41	78	85	163	35.0%	57	56	50	106	34.0%	36	37	33	70
	2	Residential/Condominium/Townhouse	9	230	62	du	67%	33%	27	14	41	20.0%	8	22	11	33	63.6%	21	8	4	12	0.0%	0	8	4	12
	3	Hotel	9	310	110	room	51%	49%	34	32	66	20.0%	13	27	26	53	24.5%	13	20	20	40	0.0%	0	20	20	40
	4	Quality Restaurant	9	931	456	seat	67%	33%	80	39	119	20.0%	24	64	31	95	45.0%	43	40	12	52	44.0%	23	22	7	29
	5	Drinking Place	9	925	1.6	ksf	66%	34%	12	6	18	20.0%	4	9	5	14	45.0%	6	6	2	8	0.0%	0	6	2	8
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	251	197	448	20.0%	90	200	158	358	39.1%	140	130	88	218	27.1%	59	93	66	159
		820		LN(Y) = 0.67*LN(X)+3.31																						
		230		LN(Y) = 0.82*LN(X)+0.32																						
		310		Y=0.6(X)																						
		931		Y=0.26(X)																						
		925		Y=11.34(X)																						

	IN	OUT	TOTAL
NET NEW TRIPS	**-22**	**-47**	**-69**

Internal Capture Reduction Calculations

Methodology for A.M. Peak Hour and P.M. Peak Hour
based on the *Trip Generation Handbook* , 3rd Edition, published by the Institute of Transportation Engineers

Methodology for Daily
based on the average of the Unconstrained Rates for the A.M. Peak Hour and P.M. Peak Hour

SUMMARY (EXISTING)

GROSS TRIP GENERATION

INPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	38	24	107	117
Restaurant	0	0	0	0
Cinema/Entertainment	0	0	0	0
Residential	2	8	14	7
Hotel	46	31	45	42
	86	63	166	166

INTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	2	0	5	12
Restaurant	0	0	0	0
Cinema/Entertainment	0	0	0	0
Residential	0	0	6	3
Hotel	0	2	6	2
	2	2	17	17

OUTPUT

Total % Reduction	*2.7%*	*10.2%*
Office		
Retail	3.2%	7.6%
Restaurant		
Cinema/Entertainment		
Residential	0.0%	42.9%
Hotel	2.6%	9.2%

EXTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	36	24	102	105
Restaurant	0	0	0	0
Cinema/Entertainment	0	0	0	0
Residential	2	8	8	4
Hotel	46	29	39	40
	84	61	149	149

Internal Capture Reduction Calculations

Methodology for A.M. Peak Hour and P.M. Peak Hour
based on the *Trip Generation Handbook* , 3rd Edition, published by the Institute of Transportation Engineers

Methodology for Daily
based on the average of the Unconstrained Rates for the A.M. Peak Hour and P.M. Peak Hour

SUMMARY (PROPOSED)

GROSS TRIP GENERATION

	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
INPUT	Office	0	0	0	0
	Retail	10	5	78	85
	Restaurant	5	6	73	36
	Cinema/Entertainment	0	0	0	0
	Residential	5	23	22	11
	Hotel	27	19	27	26
		47	53	200	158

INTERNAL TRIPS

	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
OUTPUT	Office	0	0	0	0
	Retail	1	1	22	35
	Restaurant	2	1	27	22
	Cinema/Entertainment	0	0	0	0
	Residential	0	1	14	7
	Hotel	0	0	7	6
		3	3	70	70

OUTPUT	*Total % Reduction*	*6.0%*	*39.1%*
	Office		
	Retail	13.3%	35.0%
	Restaurant	27.3%	45.0%
	Cinema/Entertainment		
	Residential	3.6%	63.6%
	Hotel	0.0%	24.5%

EXTERNAL TRIPS

	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
OUTPUT	Office	0	0	0	0
	Retail	9	4	56	50
	Restaurant	3	5	46	14
	Cinema/Entertainment	0	0	0	0
	Residential	5	22	8	4
	Hotel	27	19	20	20
		44	50	130	88

AM PEAK HOUR TRIP GENERATION

PREVIOUSLY APPROVED WEEKDAY AM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			MULTIMODAL REDUCTION		EXTERNAL TRIPS			INTERNAL CAPTURE		NET NEW EXTERNAL TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Shopping Center	9	820	18.022	ksf	62%	38%	11	6	17	20.0%	3	9	5	14	7.1%	1	9	4	13	0.0%	0	9	4	13
	2	Residential/Condominium/Townhouse	9	230	58	du	17%	83%	6	27	33	20.0%	7	5	22	27	3.7%	1	5	21	26	0.0%	0	5	21	26
	3	Hotel	9	310	78	room	59%	41%	24	17	41	20.0%	8	19	14	33	0.0%	0	19	14	33	0.0%	0	19	14	33
	4	Quality Restaurant	9	931	288	seat	50%	50%	4	4	8	20.0%	2	3	3	6	33.3%	2	1	3	4	0.0%	0	1	3	4
	5	Drinking Place	9	925	4.32	ksf	*	*	0	0	0	20.0%	0	0	0	0	0.0%	0	0	0	0	0.0%	0	0	0	0
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation			**Total:**		45	54	99	20.0%	20	36	44	80	5.0%	4	34	42	76	0.0%	0	34	42	76
		820		Y=0.96(X)																						
		230		LN(Y) = 0.8*LN(X)+0.26																						
		310		Y=0.53(X)																						
		931		Y=0.03(X)																						
		925		Y=*(X)																						

Note: [1] Drinking Place assumed to be closed during the A.M. peak hour as ITE does not provide a trip generation rate for this time period.

PM PEAK HOUR TRIP GENERATION

PREVIOUSLY APPROVED WEEKDAY PM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			MULTIMODAL REDUCTION		EXTERNAL TRIPS			INTERNAL CAPTURE		NET NEW EXTERNAL TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Shopping Center	9	820	18.022	ksf	48%	52%	91	99	190	20.0%	38	73	79	152	32.9%	50	54	48	102	34.0%	35	35	32	67
	2	Residential/Condominium/Townhouse	9	230	58	du	67%	33%	25	13	38	20.0%	8	20	10	30	60.0%	18	8	4	12	0.0%	0	8	4	12
	3	Hotel	9	310	78	room	51%	49%	24	23	47	20.0%	9	19	19	38	23.7%	9	14	15	29	0.0%	0	14	15	29
	4	Quality Restaurant	9	931	288	seat	67%	33%	50	25	75	20.0%	15	40	20	60	43.4%	26	25	9	34	44.0%	15	14	5	19
	5	Drinking Place	9	925	4.32	ksf	66%	34%	32	17	49	20.0%	10	25	14	39	43.4%	17	16	6	22	0.0%	0	16	6	22
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
							Total:		222	177	399	20.0%	80	177	142	319	37.6%	120	117	82	199	25.1%	50	87	62	149

ITE Land Use Code	Rate or Equation
820	LN(Y) = 0.67*LN(X)+3.31
230	LN(Y) = 0.82*LN(X)+0.32
310	Y=0.6(X)
931	Y=0.26(X)
925	Y=11.34(X)

Internal Capture Reduction Calculations

Methodology for A.M. Peak Hour and P.M. Peak Hour
based on the *Trip Generation Handbook* , 3rd Edition, published by the Institute of Transportation Engineers

Methodology for Daily
based on the average of the Unconstrained Rates for the A.M. Peak Hour and P.M. Peak Hour

SUMMARY (PREVIOUSLY APPROVED)

GROSS TRIP GENERATION

	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
INPUT	Office	0	0	0	0
	Retail	9	5	73	79
	Restaurant	3	3	65	34
	Cinema/Entertainment	0	0	0	0
	Residential	5	22	20	10
	Hotel	19	14	19	19
		36	44	177	142

INTERNAL TRIPS

	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
OUTPUT	Office	0	0	0	0
	Retail	0	1	19	31
	Restaurant	2	0	24	19
	Cinema/Entertainment	0	0	0	0
	Residential	0	1	12	6
	Hotel	0	0	5	4
		2	2	60	60

OUTPUT	*Total % Reduction*	*5.0%*	*37.6%*
	Office		
	Retail	7.1%	32.9%
	Restaurant	33.3%	43.4%
	Cinema/Entertainment		
	Residential	3.7%	60.0%
	Hotel	0.0%	23.7%

EXTERNAL TRIPS

	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
OUTPUT	Office	0	0	0	0
	Retail	9	4	54	48
	Restaurant	1	3	41	15
	Cinema/Entertainment	0	0	0	0
	Residential	5	21	8	4
	Hotel	19	14	14	15
		34	42	117	82

B08301

MEANS OF TRANSPORTATION TO WORK
Universe: Workers 16 years and over
2013-2017 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

(226+15+11)/865=29.1%

	Census Tract 39.09, Miami-Dade County, Florida	
	Estimate	Margin of Error
Total:	865	+/-197
Car, truck, or van:	484	+/-121
Drove alone	458	+/-123
Carpooled:	26	+/-23
In 2-person carpool	26	+/-23
In 3-person carpool	0	+/-13
In 4-person carpool	0	+/-13
In 5- or 6-person carpool	0	+/-13
In 7-or-more-person carpool	0	+/-13
Public transportation (excluding taxicab):	226	+/-87
Bus or trolley bus	226	+/-87
Streetcar or trolley car (carro publico in Puerto Rico)	0	+/-13
Subway or elevated	0	+/-13
Railroad	0	+/-13
Ferryboat	0	+/-13
Taxicab	17	+/-17
Motorcycle	0	+/-13
Bicycle	15	+/-22
Walked	11	+/-18
Other means	28	+/-29
Worked at home	84	+/-58

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

Workers include members of the Armed Forces and civilians who were at work last week.

While the 2013-2017 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic

Attachment C-1

Ocean Terrace Trip Generation

Previously Approved Trip Generation

AM PEAK HOUR TRIP GENERATION

PREVIOUSLY APPROVED WEEKDAY AM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			MULTIMODAL REDUCTION		EXTERNAL TRIPS			INTERNAL CAPTURE		NET NEW EXTERNAL TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Shopping Center	9	820	18.022	ksf	62%	38%	11	6	17	20.0%	3	9	5	14	7.1%	1	9	4	13	0.0%	0	9	4	13
	2	Residential/Condominium/Townhouse	9	230	58	du	17%	83%	6	27	33	20.0%	7	5	22	27	3.7%	1	5	21	26	0.0%	0	5	21	26
	3	Hotel	9	310	78	room	59%	41%	24	17	41	20.0%	8	19	14	33	0.0%	0	19	14	33	0.0%	0	19	14	33
	4	Quality Restaurant	9	931	288	seat	50%	50%	4	4	8	20.0%	2	3	3	6	33.3%	2	1	3	4	0.0%	0	1	3	4
	5	Drinking Place	9	925	4.32	ksf	*	*	0	0	0	20.0%	0	0	0	0	0.0%	0	0	0	0	0.0%	0	0	0	0
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation			**Total:**		45	54	99	20.0%	20	36	44	80	5.0%	4	34	42	76	0.0%	0	34	42	76
		820		Y=0.96(X)																						
		230		LN(Y) = 0.8*LN(X)+0.26																						
		310		Y=0.53(X)																						
		931		Y=0.03(X)																						
		925		Y=*(X)																						

Note: [1] Drinking Place assumed to be closed during the A.M. peak hour as ITE does not provide a trip generation rate for this time period.

PM PEAK HOUR TRIP GENERATION

PREVIOUSLY APPROVED WEEKDAY PM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			MULTIMODAL REDUCTION		EXTERNAL TRIPS			INTERNAL CAPTURE		NET NEW EXTERNAL TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Shopping Center	9	820	18.022	ksf	48%	52%	91	99	190	20.0%	38	73	79	152	32.9%	50	54	48	102	34.0%	35	35	32	67
	2	Residential/Condominium/Townhouse	9	230	58	du	67%	33%	25	13	38	20.0%	8	20	10	30	60.0%	18	8	4	12	0.0%	0	8	4	12
	3	Hotel	9	310	78	room	51%	49%	24	23	47	20.0%	9	19	19	38	23.7%	9	14	15	29	0.0%	0	14	15	29
	4	Quality Restaurant	9	931	288	seat	67%	33%	50	25	75	20.0%	15	40	20	60	43.4%	26	25	9	34	44.0%	15	14	5	19
	5	Drinking Place	9	925	4.32	ksf	66%	34%	32	17	49	20.0%	10	25	14	39	43.4%	17	16	6	22	0.0%	0	16	6	22
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
							Total:		222	177	399	20.0%	80	177	142	319	37.6%	120	117	82	199	25.1%	50	87	62	149

ITE Land Use Code	Rate or Equation
820	LN(Y) = 0.67*LN(X)+3.31
230	LN(Y) = 0.82*LN(X)+0.32
310	Y=0.6(X)
931	Y=0.26(X)
925	Y=11.34(X)

Internal Capture Reduction Calculations

Methodology for A.M. Peak Hour and P.M. Peak Hour
based on the *Trip Generation Handbook* , 3rd Edition, published by the Institute of Transportation Engineers

Methodology for Daily
based on the average of the Unconstrained Rates for the A.M. Peak Hour and P.M. Peak Hour

SUMMARY (PREVIOUSLY APPROVED)

GROSS TRIP GENERATION

	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
INPUT	Office	0	0	0	0
	Retail	9	5	73	79
	Restaurant	3	3	65	34
	Cinema/Entertainment	0	0	0	0
	Residential	5	22	20	10
	Hotel	19	14	19	19
		36	44	177	142

INTERNAL TRIPS

	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
OUTPUT	Office	0	0	0	0
	Retail	0	1	19	31
	Restaurant	2	0	24	19
	Cinema/Entertainment	0	0	0	0
	Residential	0	1	12	6
	Hotel	0	0	5	4
		2	2	60	60

OUTPUT	*Total % Reduction*	*5.0%*	*37.6%*
	Office		
	Retail	7.1%	32.9%
	Restaurant	33.3%	43.4%
	Cinema/Entertainment		
	Residential	3.7%	60.0%
	Hotel	0.0%	23.7%

EXTERNAL TRIPS

	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
OUTPUT	Office	0	0	0	0
	Retail	9	4	54	48
	Restaurant	1	3	41	15
	Cinema/Entertainment	0	0	0	0
	Residential	5	21	8	4
	Hotel	19	14	14	15
		34	42	117	82

Current Ocean Terrace Trip Generation

AM PEAK HOUR TRIP GENERATION COMPARISON

EXISTING WEEKDAY AM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			MULTIMODAL REDUCTION		EXTERNAL TRIPS			INTERNAL CAPTURE		NET NEW EXTERNAL TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent In	Percent Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 1	1	Shopping Center	9	820	32.149	ksf	62%	38%	48	30	78	20.0%	16	38	24	62	3.2%	2	36	24	60	0.0%	0	36	24	60
	2	Hotel	9	310	181	room	59%	41%	57	39	96	20.0%	19	46	31	77	2.6%	2	46	29	75	0.0%	0	46	29	75
	3	Apartment	9	220	16	du	20%	80%	2	10	12	20.0%	2	2	8	10	0.0%	0	2	8	10	0.0%	0	2	8	10
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
							Total:		107	79	186	20.0%	37	86	63	149	2.7%	4	84	61	145	0.0%	0	84	61	145

ITE Land Use Code	Rate or Equation
820	LN(Y) = 0.61*LN(X)+2.24
310	Y=0.53(X)
220	Y=0.49*(X)+3.73

PROPOSED WEEKDAY AM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			MULTIMODAL REDUCTION		EXTERNAL TRIPS			INTERNAL CAPTURE		NET NEW EXTERNAL TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent In	Percent Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Shopping Center	9	820	18.166	ksf	62%	38%	11	6	17	20.0%	3	9	5	14	14.3%	2	8	4	12	0.0%	0	8	4	12
	2	Residential/Condominium/Townhouse	9	230	71	du	17%	83%	7	32	39	20.0%	8	6	25	31	3.2%	1	6	24	30	0.0%	0	6	24	30
	3	Hotel	9	310	120	room	59%	41%	38	26	64	20.0%	13	30	21	51	0.0%	0	30	21	51	0.0%	0	30	21	51
	4	Quality Restaurant	9	931	456	seat	50%	50%	7	7	14	20.0%	3	5	6	11	27.3%	3	3	5	8	0.0%	0	3	5	8
	5	Drinking Place	9	925	1.643	ksf	*	*	0	0	0	20.0%	0	0	0	0	27.3%	0	0	0	0	0.0%	0	0	0	0
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
							Total:		63	71	134	20.0%	27	50	57	107	5.6%	6	47	54	101	0.0%	0	47	54	101

ITE Land Use Code	Rate or Equation
820	Y=0.96(X)
230	LN(Y) = 0.8*LN(X)+0.26
310	Y=0.53(X)
931	Y=0.03(X)
925	Y=*(X)

	IN	OUT	TOTAL
NET NEW TRIPS	-37	-7	-44

Note: (1) Drinking Place assumed to be closed during the A.M. peak hour as ITE does not provide a trip generation rate for this time period.

PM PEAK HOUR TRIP GENERATION COMPARISON

EXISTING WEEKDAY PM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			MULTIMODAL REDUCTION		EXTERNAL TRIPS			INTERNAL CAPTURE		NET NEW EXTERNAL TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent In	Percent Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 1	1	Shopping Center	9	820	32.149	ksf	48%	52%	134	146	280	20.0%	56	107	117	224	7.6%	17	102	105	207	34.0%	70	68	69	137
	2	Hotel	9	310	181	room	51%	49%	56	53	109	20.0%	22	45	42	87	9.2%	8	39	40	79	0.0%	0	39	40	79
	3	Apartment	9	220	16	du	65%	35%	17	9	26	20.0%	5	14	7	21	42.9%	9	8	4	12	0.0%	0	8	4	12
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	207	208	415	20.0%	83	166	166	332	10.2%	34	149	149	298	23.5%	70	115	113	228
		820		LN(Y) = 0.67*LN(X)+3.31																						
		310		Y=0.6(X)																						
		220		Y=0.55*(X)+17.65																						

PROPOSED WEEKDAY PM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			MULTIMODAL REDUCTION		EXTERNAL TRIPS			INTERNAL CAPTURE		NET NEW EXTERNAL TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	Percent In	Percent Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Shopping Center	9	820	18.166	ksf	48%	52%	92	99	191	20.0%	38	74	79	153	37.3%	57	53	43	96	34.0%	33	35	28	63
	2	Residential/Condominium/Townhouse	9	230	71	du	67%	33%	30	15	45	20.0%	9	24	12	36	63.9%	23	9	4	13	0.0%	0	9	4	13
	3	Hotel	9	310	120	room	51%	49%	37	35	72	20.0%	14	30	28	58	20.7%	12	23	23	46	0.0%	0	23	23	46
	4	Quality Restaurant	9	931	456	seat	67%	33%	80	39	119	20.0%	24	64	31	95	45.5%	44	39	12	51	44.0%	22	22	7	29
	5	Drinking Place	9	925	1.643	ksf	66%	34%	13	6	19	20.0%	4	10	5	15	45.5%	6	7	2	9	0.0%	0	7	2	9
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation				**Total:**	252	194	446	20.0%	89	202	155	357	39.8%	142	131	84	215	25.6%	55	96	64	160
		820		LN(Y) = 0.67*LN(X)+3.31																						
		230		LN(Y) = 0.82*LN(X)+0.32																						
		310		Y=0.6(X)																						
		931		Y=0.26(X)																						
		925		Y=11.34(X)																						

	IN	OUT	TOTAL
NET NEW TRIPS	**-19**	**-49**	**-68**

Internal Capture Reduction Calculations

Methodology for A.M. Peak Hour and P.M. Peak Hour
based on the *Trip Generation Handbook* , 3rd Edition, published by the Institute of Transportation Engineers

Methodology for Daily
based on the average of the Unconstrained Rates for the A.M. Peak Hour and P.M. Peak Hour

SUMMARY (EXISTING)

GROSS TRIP GENERATION

INPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	38	24	107	117
Restaurant	0	0	0	0
Cinema/Entertainment	0	0	0	0
Residential	2	8	14	7
Hotel	46	31	45	42
	86	63	166	166

INTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	2	0	5	12
Restaurant	0	0	0	0
Cinema/Entertainment	0	0	0	0
Residential	0	0	6	3
Hotel	0	2	6	2
	2	2	17	17

OUTPUT

Total % Reduction	*2.7%*	*10.2%*
Office		
Retail	3.2%	7.6%
Restaurant		
Cinema/Entertainment		
Residential	0.0%	42.9%
Hotel	2.6%	9.2%

EXTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	36	24	102	105
Restaurant	0	0	0	0
Cinema/Entertainment	0	0	0	0
Residential	2	8	8	4
Hotel	46	29	39	40
	84	61	149	149

Internal Capture Reduction Calculations

Methodology for A.M. Peak Hour and P.M. Peak Hour
based on the *Trip Generation Handbook* , 3rd Edition, published by the Institute of Transportation Engineers

Methodology for Daily
based on the average of the Unconstrained Rates for the A.M. Peak Hour and P.M. Peak Hour

SUMMARY (PROPOSED)

GROSS TRIP GENERATION

	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
INPUT	Office	0	0	0	0
	Retail	9	5	74	79
	Restaurant	5	6	74	36
	Cinema/Entertainment	0	0	0	0
	Residential	6	25	24	12
	Hotel	30	21	30	28
		50	57	202	155

INTERNAL TRIPS

	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
OUTPUT	Office	0	0	0	0
	Retail	1	1	21	36
	Restaurant	2	1	28	22
	Cinema/Entertainment	0	0	0	0
	Residential	0	1	15	8
	Hotel	0	0	7	5
		3	3	71	71

OUTPUT	*Total % Reduction*	*5.6%*	*39.8%*
	Office		
	Retail	14.3%	37.3%
	Restaurant	27.3%	45.5%
	Cinema/Entertainment		
	Residential	3.2%	63.9%
	Hotel	0.0%	20.7%

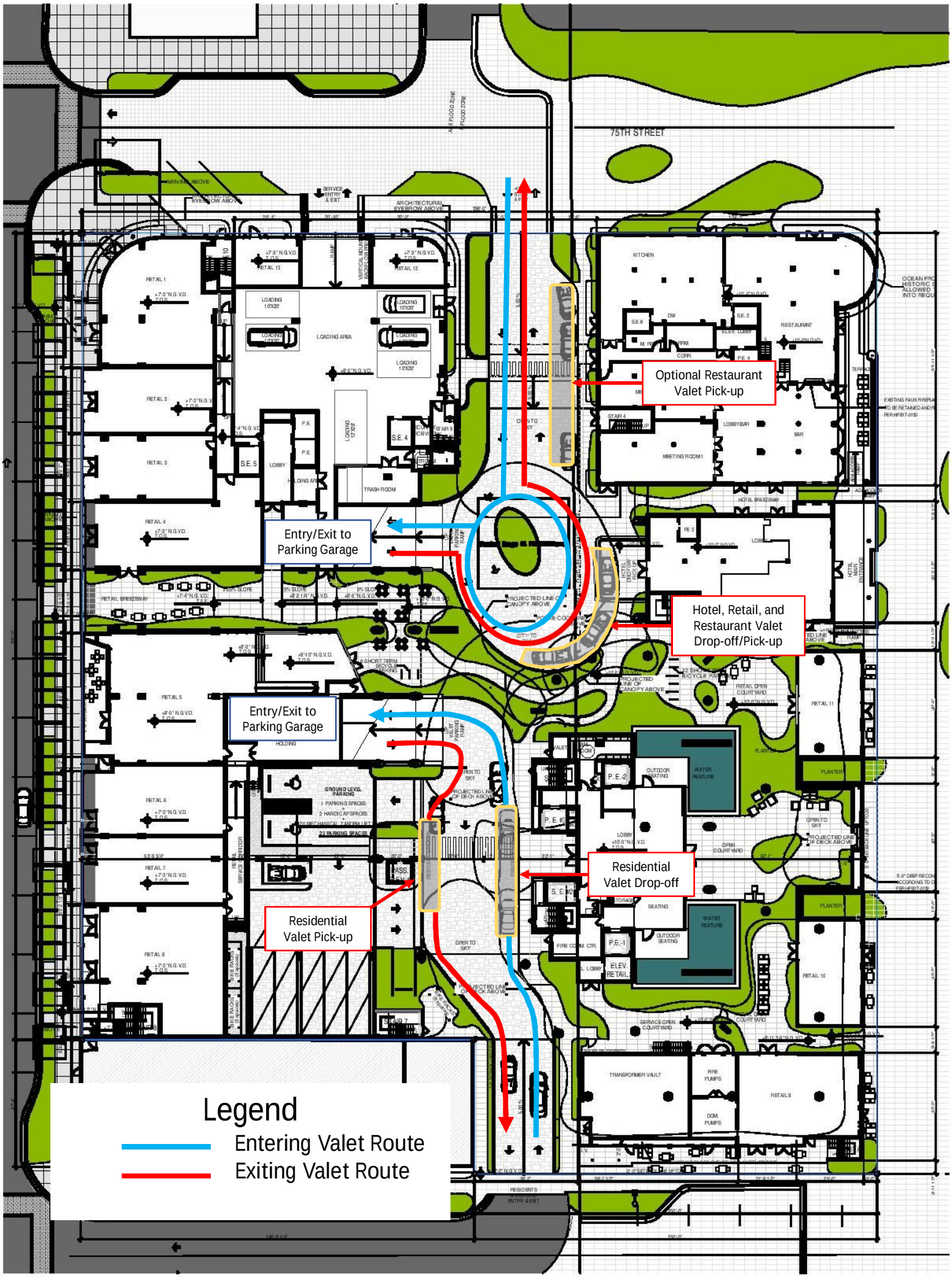
EXTERNAL TRIPS

	Land Use	A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit
OUTPUT	Office	0	0	0	0
	Retail	8	4	53	43
	Restaurant	3	5	46	14
	Cinema/Entertainment	0	0	0	0
	Residential	6	24	9	4
	Hotel	30	21	23	23
		47	54	131	84

Attachment D-1

Ocean Terrace Valet

Vehicle Routing


75TH STREET
Optional Restaurant Valet Pick-up
Entry/Exit to Parking Garage
Hotel, Retail, and Restaurant Valet Drop-off/Pick-up
Entry/Exit to Parking Garage
Residential Valet Drop-off
Residential Valet Pick-up
Legend
Entering Valet Route
Exiting Valet Route

Taxi/Rideshare Percentage – Cadillac Hotel

Prepared by National Data & Surveying Services

Vehicle Classification

Location: The Axis at Brickell- 1111 SW 12th Ave
City: Miami

Day: Tuesday
Date: 7/31/2018

Time	PORTE-COCHERE						PARKING GARAGE	
	DROP OFF/PICK UP						ENTRANCE/EXIT	
	Valet	Taxi	Ride Share (Uber/Lyft)				Valet	Self Parking
			Sticker		No Sticker			
			Driveway	Street	Driveway	Street		
7:30 AM	2	0	0	1	0	1	2	30
7:45 AM	0	0	1	1	0	0	0	26
8:00 AM	2	0	1	1	0	0	2	19
8:15 AM	2	0	0	0	2	1	2	19
8:30 AM	1	0	1	0	2	1	1	15
8:45 AM	1	0	1	0	0	0	1	30
9:00 AM	1	0	1	1	0	0	1	25
9:15 AM	3	0	0	0	0	1	3	35
A.M. Peak Period Total	12	0	5	4	4	4	12	199
	A.M. Peak Period Rideshare %							7.5%
	A.M. Peak Period Self-Park %							87.3%
	A.M. Peak Period Valet %							5.2%
4:00 PM	4	0	0	0	0	1	4	28
4:15 PM	2	0	1	2	1	0	2	17
4:30 PM	1	0	2	0	0	0	1	13
4:45 PM	3	0	2	0	0	0	3	18
5:00 PM	0	0	1	1	0	0	0	24
5:15 PM	3	0	0	0	0	0	3	18
5:30 PM	3	0	0	0	0	0	3	24
5:45 PM	3	0	0	0	0	0	3	19
P.M. Peak Period Total	19	0	6	3	1	1	19	161
	P.M. Peak Period Rideshare %							5.7%
	P.M. Peak Period Self-Park %							84.3%
	P.M. Peak Period Valet %							10.0%

Valet Trip Generation Calculations

PM PEAK HOUR TRIP GENERATION COMPARISON VALET ANALYSIS

PROPOSED WEEKDAY PM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			MULTIMODAL REDUCTION		EXTERNAL TRIPS			INTERNAL CAPTURE		NET NEW EXTERNAL TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
			ITE	ITE		ITE	Percent						MR					IC					PB			
		Land Use	Edition	Code	Scale	Units	In	Out	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total	Percent	Trips	In	Out	Total
GROUP 2	1	Shopping Center	9	820	18.166	ksf	48%	52%	92	99	191	20.0%	38	74	79	153	37.3%	57	53	43	96	34.0%	33	35	28	63
	2	Residential/Condominium/Townhouse	9	230	71	du	67%	33%	30	15	45	20.0%	9	24	12	36	63.9%	23	9	4	13	0.0%	0	9	4	13
	3	Hotel	9	310	120	room	51%	49%	37	35	72	20.0%	14	30	28	58	20.7%	12	23	23	46	0.0%	0	23	23	46
	4	Quality Restaurant	9	931	456	seat	67%	33%	80	39	119	20.0%	24	64	31	95	45.5%	44	39	12	51	44.0%	22	22	7	29
	5	Drinking Place	9	925	1.643	ksf	66%	34%	13	6	19	20.0%	4	10	5	15	45.5%	6	7	2	9	0.0%	0	7	2	9
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
		ITE Land Use Code		Rate or Equation			**Total:**		252	194	446	20.0%	89	202	155	357	39.8%	142	131	84	215	25.6%	55	96	64	160
		820		LN(Y) = 0.67*LN(X)+3.31															**Hotel, Retail, and Restaurant Valet Trips (57.4% of Hotel and 100% of Retail and Restaurant Trips)**						**112**	**70**	**182**
		230		LN(Y) = 0.82*LN(X)+0.32																						
		310		Y=0.6(X)															**Residential Valet Trips (90% of Residential Trips)**						**8**	**4**	**12**
		931		Y=0.26(X)																						
		925		Y=11.34(X)																						

Internal Capture Reduction Calculations

Methodology for A.M. Peak Hour and P.M. Peak Hour
based on the *Trip Generation Handbook* , 3rd Edition, published by the Institute of Transportation Engineers

Methodology for Daily
based on the average of the Unconstrained Rates for the A.M. Peak Hour and P.M. Peak Hour

SUMMARY (PROPOSED)

GROSS TRIP GENERATION

	Land Use	P.M. Peak Hour	
		Enter	Exit
INPUT	Office	0	0
	Retail	74	79
	Restaurant	74	36
	Cinema/Entertainment	0	0
	Residential	24	12
	Hotel	30	28
		202	155

INTERNAL TRIPS

	Land Use	P.M. Peak Hour	
		Enter	Exit
OUTPUT	Office	0	0
	Retail	21	36
	Restaurant	28	22
	Cinema/Entertainment	0	0
	Residential	15	8
	Hotel	7	5
		71	71

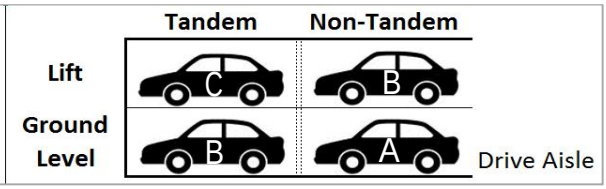
OUTPUT	*Total % Reduction*	*39.8%*
	Office	
	Retail	37.3%
	Restaurant	45.5%
	Cinema/Entertainment	
	Residential	63.9%
	Hotel	20.7%

EXTERNAL TRIPS

	Land Use	P.M. Peak Hour	
		Enter	Exit
OUTPUT	Office	0	0
	Retail	53	43
	Restaurant	46	14
	Cinema/Entertainment	0	0
	Residential	9	4
	Hotel	23	23
		131	84

Mechanical Lift Processing Times

Vehicle Processing Scenarios

Mechanical Lift Layout	
	

Vehicle A (non-tandem) - Drop-Off		
1. Attendant drives onto lift	10	
	10	sec
Vehicle A (non-tandem) - Pick-Up		
1. Attendant drives off of lift	10	
	10	sec
Vehicle B (non-tandem): No Vehicle A - Drop-Off		
1. Attendant maneuvers in front of lift	10	
2. Attendant exits vehicle to lower lift	5	
3. Attendant lowers lift	30	
4. Attendant re-enters vehicle and drives onto lift	15	
5. Attendant exits vehicle	5	
6. Attendant raises lift	30	
	95	sec
Vehicle B (non-tandem): No Vehicle A - Pick-Up		
1. Attendant lowers lift	30	
2. Attendant enters vehicle and drives off of lift	15	
3. Attendant exits vehicle to raise lift	5	
4. Attendant raises lift	30	
5. Attendant re-enters vehicle	5	
	85	sec
Vehicle B (non-tandem): Vehicle A Parked - Drop-Off		
1. Attendant exits Vehicle B	5	
2. Attendant enters Vehicle A	5	
3. Attendant moves Vehicle A to drive aisle	10	
4. Attendant exits Vehicle A	5	
5. Attendant lowers lift	30	
6. Attendant re-enters Vehicle B and drives onto lift	15	
7. Attendant exits Vehicle B	5	
8. Attendant raises lift	30	
9. Attendant re-enters Vehicle A and drives into parking space	15	
10. Attendant exits Vehicle A	5	
	125	sec
Vehicle B (non-tandem): Vehicle A Parked - Pick-Up		
1. Attendant moves Vehicle A underneath lift to drive aisle	10	
2. Attendant exits Vehicle A	5	
3. Attendant lowers lift	30	
4. Attendant enters Vehicle B and drives off of lift	15	
5. Attendant exits Vehicle B to raise lift	5	
6. Attendant raises lift	30	
7. Attendant re-enters Vehicle A and drives into parking space	15	
8. Attendant exits Vehicle A	5	
9. Attendant re-enters Vehicle B	5	
	120	sec

Vehicle Processing Scenarios

Vehicle B/C (Tandem): Vehicle A and B Parked - Drop-Off		
1. Attendant exits Vehicle C	5	
2. Attendant enters Vehicle A	5	
3. Attendant moves Vehicle A to drive aisle	10	
4. Attendant exits Vehicle A	5	
5. Attendant enters Vehicle B and moves to drive aisle	15	
6. Attendant exits Vehicle B	5	
7. Attendant lowers lift	30	
8. Attendant re-enters Vehicle C and drives into lift	15	
9. Attendant exits Vehicle C	5	
10. Attendant raises lift	30	
11. Attendant re-enters Vehicle B and drives into parking space	15	
12. Attendant exits Vehicle B	5	
13. Attendant re-enters Vehicle A and drives into parking space	15	
14. Attendant exits Vehicle A	5	
	165	sec

Vehicle B/C (Tandem): Vehicle A and B Parked - Pick-Up		
1. Attendant moves Vehicle A underneath lift to drive aisle	10	
2. Attendant exits Vehicle A	5	
3. Attendant moves Vehicle B underneath lift to drive aisle	10	
4. Attendant exits Vehicle B	5	
5. Attendant lowers lift	30	
6. Attendant enters Vehicle C and drives of off lift to drive aisle	15	
7. Attendant exits Vehicle C to raise lift	5	
8. Attendant raises lift	30	
9. Attendant re-enters Vehicle B and drives into parking space	15	
10. Attendant exits Vehicle B	5	
11. Attendant re-enters Vehicle A and drives into parking space	15	
12. Attendant exits Vehicle A	5	
13. Attendant re-enters Vehicle C	5	
	155	sec

Average Drop-off Processing Time	99	sec
Average Pick-up Processing Time	93	sec

Valet Travel Times

Ocean Terrace Residential On-Site Parking Calculated Average Travel Time	
VALET DROP-OFF	
VEHICLE TRAVEL TIME	VALET ATTENDANT TRAVEL TIME
Travel Times (Assume) 15 mph speed)	Travel Times (Assume) 5 ft/s speed)
To Valet Garage (In vehicle)	Return from Valet Garage (Walk/Run) to Valet Area
Distance / Travel Time	Distance / Travel Time
0.12 miles / 0.5 minutes	0.05 miles / 0.9 minutes
Controlled Delay 1.0 Minutes	
Average Mechanical Lift Processing Time 1.7 Minutes	
Total Time 4.1 Minutes	

Ocean Terrace Residential On-Site Parking Calculated Average Travel Time	
VALET PICK-UP	
VALET ATTENDANT TRAVEL TIME	VEHICLE TRAVEL TIME
Travel Times (Assume) 5 ft/s speed)	Travel Times (Assume) 15 mph speed)
To Valet Garage (Walk/Run)	Return from Valet Garage (In Vehicle) to Valet Area
Distance / Travel Time	Distance / Travel Time
0.05 miles / 0.9 minutes	0.12 miles / 0.5 minutes
Controlled Delay 1.0 Minutes	
Average Mechanical Lift Processing Time 1.6 Minutes	
Total Time 4.0 Minutes	

Ocean Terrace Hotel, Retail, and Restaurant On-Site Parking Calculated Average Travel Time				
VALET DROP-OFF				
VEHICLE TRAVEL TIME			VALET ATTENDANT TRAVEL TIME	
Travel Times (Assume)	15	mph speed)	Travel Times (Assume)	5 ft/s speed)
To Valet Garage (In vehicle)			Return from Valet Garage (Walk/Run) to Valet Area	
Distance		Travel Time	Distance	Travel Time
0.15	miles	0.6 minutes	0.05 miles	0.9 minutes
Controlled Delay	1.0	Minutes		
Average Mechanical Lift Processing Time	1.7	Minutes		
Total Time	4.2	Minutes		

Ocean Terrace Hotel, Retail, and Restaurant On-Site Parking Calculated Average Travel Time				
VALET PICK-UP				
VALET ATTENDANT TRAVEL TIME			VEHICLE TRAVEL TIME	
Travel Times (Assume)	5	ft/s speed)	Travel Times (Assume)	15 mph speed)
To Valet Garage (Walk/Run)			Return from Valet Garage (In Vehicle) to Valet Area	
Distance		Travel Time	Distance	Travel Time
0.05	miles	0.9 minutes	0.17 miles	0.7 minutes
Controlled Delay	1.0	Minutes		
Average Mechanical Lift Processing Time	1.6	Minutes		
Total Time	4.2	Minutes		

Valet Analysis

Residential Valet Drop-Off Analysis

Highest Demand Condition P.M. Peak Hour

Arrival Rate

IN
8 veh/hr

Service Rate

IN
4.10 mins/veh

Service Time = mins/veh

Number of Valet Attendants (N) =	2	
Level of Confidence =	0.95	
Storage Provided On-Site =	2	vehicles
Total Entering and Exiting Vehicles(q) =	8	veh/hr
Service Capacity per N (60 mins/Service Rate) (Q) =	14.63	veh/hr/pos
Average Service Rate (t) =	4.10	mins/veh
rho (t/Q) =	0.273	

Expected (avg.) number of vehicles in the system	E(m)=	0.04	
Expected (avg.) number of vehicles waiting in queue	E(n)=	0.59	
Mean time in the queue	E(w)=	0.33	mins
Mean time in system	E(t)=	4.43	mins

Proportion of customers who wait (P) (E(w) > 0)=	11.73%	
Probability of a queue exceeding a length (M) P(x > M)=	5.00%	

Queue length which is exceeded 5.00% of the times is equal to 0.1 vehicles

Residential Valet Pick-Up Analysis

Highest Demand Condition P.M. Peak Hour

Arrival Rate

OUT
4

veh/hr

Service Rate

OUT
4.00

mins/veh

4.00 mins/veh

Number of Valet Attendants (N) =	1	
Level of Confidence =	0.95	
Storage Provided On-Site =	2	vehicles
Total Entering and Exiting Vehicles(q) =	4	veh/hr
Service Capacity per N (60 mins/Service Rate) (Q) =	15.00	veh/hr/pos
Average Service Rate (t) =	4.00	mins/veh
rho (t/Q) =	0.267	

Expected (avg.) number of vehicles in the system	E(m)=	0.10	
Expected (avg.) number of vehicles waiting in queue	E(n)=	0.36	
Mean time in the queue	E(w)=	1.45	mins
Mean time in system	E(t)=	5.45	mins

Proportion of customers who wait (P) (E(w) > 0)=	26.67%	
Probability of a queue exceeding a length (M) P(x > M)=	5.00%	

Queue length which is exceeded 5.00% of the times is equal to 0.1 vehicles

Hotel/Retail/Restaurant Valet Drop-Off/Pick-Up Analysis

Highest Demand Condition P.M. Peak Hour

Arrival Rate

IN	OUT	
112	70	veh/hr

Service Rate

IN	OUT	
4.20	4.20	mins/veh

Service Time = 4.20 mins/veh

Number of Valet Attendants (N) =	17	
Level of Confidence =	0.95	
Storage Provided On-Site =	6	vehicles
Total Entering and Exiting Vehicles(q) =	182	veh/hr
Service Capacity per N (60 mins/Service Rate) (Q) =	14.29	veh/hr/pos
Average Service Rate (t) =	4.20	mins/veh
rho (t/Q) =	0.749	

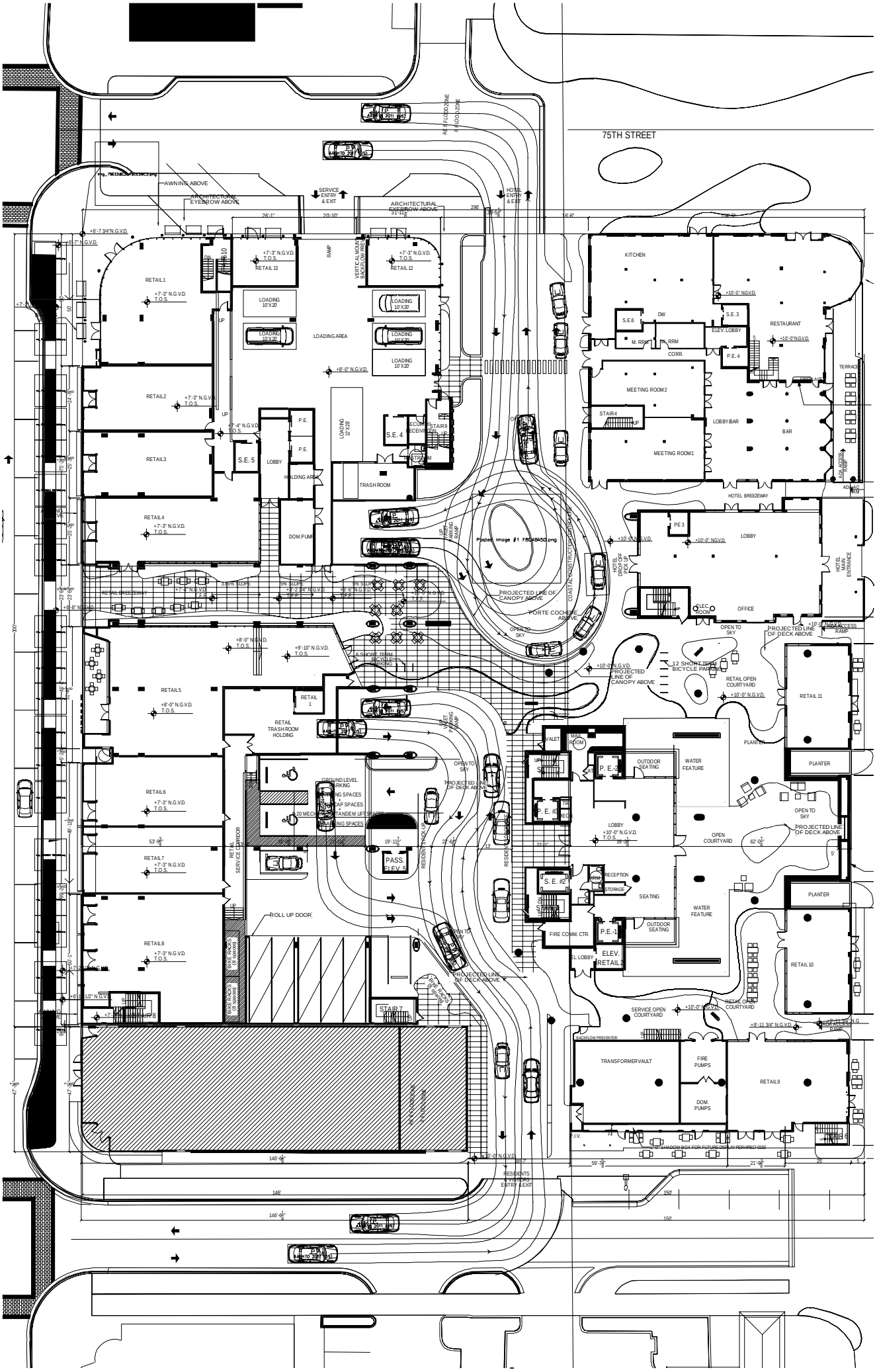
Expected (avg.) number of vehicles in the system	E(m)=	0.57	
Expected (avg.) number of vehicles waiting in queue	E(n)=	13.31	
Mean time in the queue	E(w)=	0.19	mins
Mean time in system	E(t)=	4.39	mins

Proportion of customers who wait (P) (E(w) > 0)=	19.12%	
Probability of a queue exceeding a length (M) P(x > M)=	5.00%	

Queue length which is exceeded 5.00% of the times is equal to 3.4 vehicles

Attachment E-1

Maneuverability Analysis


75TH STREET
AWNINS ABOVE
ARCHITECTURAL EYEBROW ABOVE
SERVICE ENTRY & EXIT
HOTEL ENTRY & EXIT
RETAIL 1
RETAIL 2
RETAIL 3
RETAIL 4
RETAIL 5
RETAIL 6
RETAIL 7
RETAIL 8
RETAIL 9
RETAIL 10
RETAIL 11
RETAIL 12
RETAIL 13
LOADING AREA
LOADING 10'X20'
LOADING 12'X28'
RAMP
TRASH ROOM
RETAIL TRASH ROOM HOLDING
DOM.PUMP
LOBBY
HOLDING AREA
S.E. 4
S.E. 5
S.E. 6
RETAIL BREEZEWAY
RETAIL SERVICE CORRIDOR
ROLL UP DOOR
GROUND LEVEL PARKING
PARKING SPACES
RAMP SPACES
20 MECH. TANDEM LIFT SPACES
PARKING SPACES
PASS. ELEV. 5
STAIR 7
STAIR 8
KITCHEN
DW
M. RR
W. RR
CORR.
ELEV. LOBBY
RESTAURANT
P.E. 4
MEETING ROOM 2
MEETING ROOM 1
STAIR 4
LOBBY BAR
BAR
TERRACE
HOTEL BREEZEWAY
ADA ACCESS RAMP
ADA/MC RAMP
P.E. 3
LOBBY
HOTEL DROP OFF & PICK UP
HOTEL MAIN ENTRANCE
ELEC. ROOM
OFFICE
PROJECTED LINE OF CANOPY ABOVE
PORTE COCHERE ABOVE
COASTAL CONSTRUCTION CONTROL LINE
OPEN TO SKY
PROJECTED LINE OF DECK ABOVE
12 SHORT TERM BICYCLE PARKING
6 LONG TERM BICYCLE PARKING
RETAIL OPEN COURTYARD
VALET
MAIL ROOM
P. E. 2
OUTDOOR SEATING
WATER FEATURE
PLANTER
OPEN COURTYARD
RECEPTION
STORAGE
SEATING
FIRE COMM. CTR.
P.E. 1
ELEV. RETAIL 2
SERVICE OPEN COURTYARD
TRANSFORMER VAULT
FIRE PUMPS
DOM. PUMPS
BACKFLOW PREVENTER
FIRE RISER
RESIDENTS ENTRANCE & EXIT
RESIDENTIAL LOBBY
RESORT CHECK-IN
AE FLOOD ZONE
X FLOOD ZONE
VERTICAL MOUNT BICYCLE RACK
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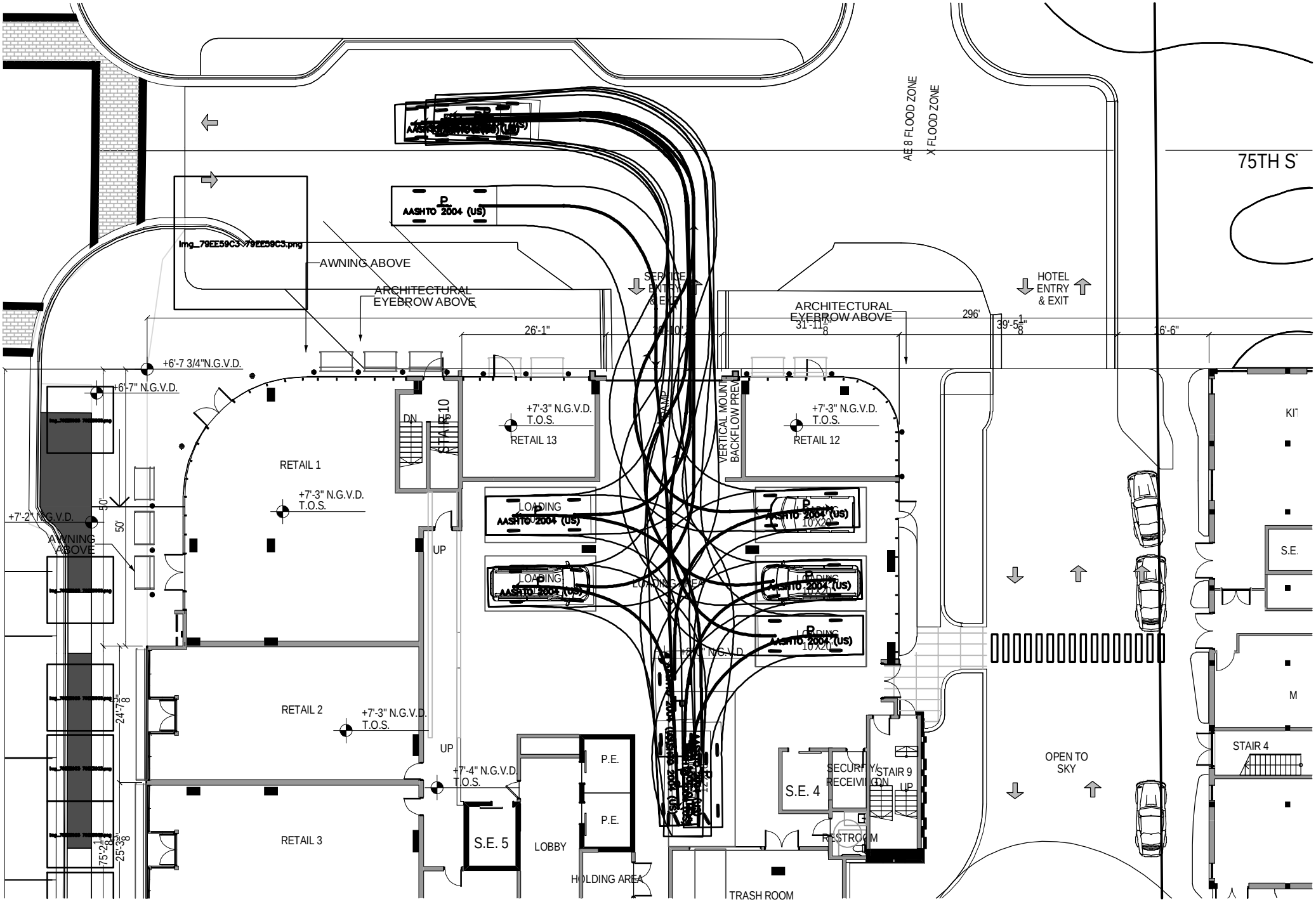
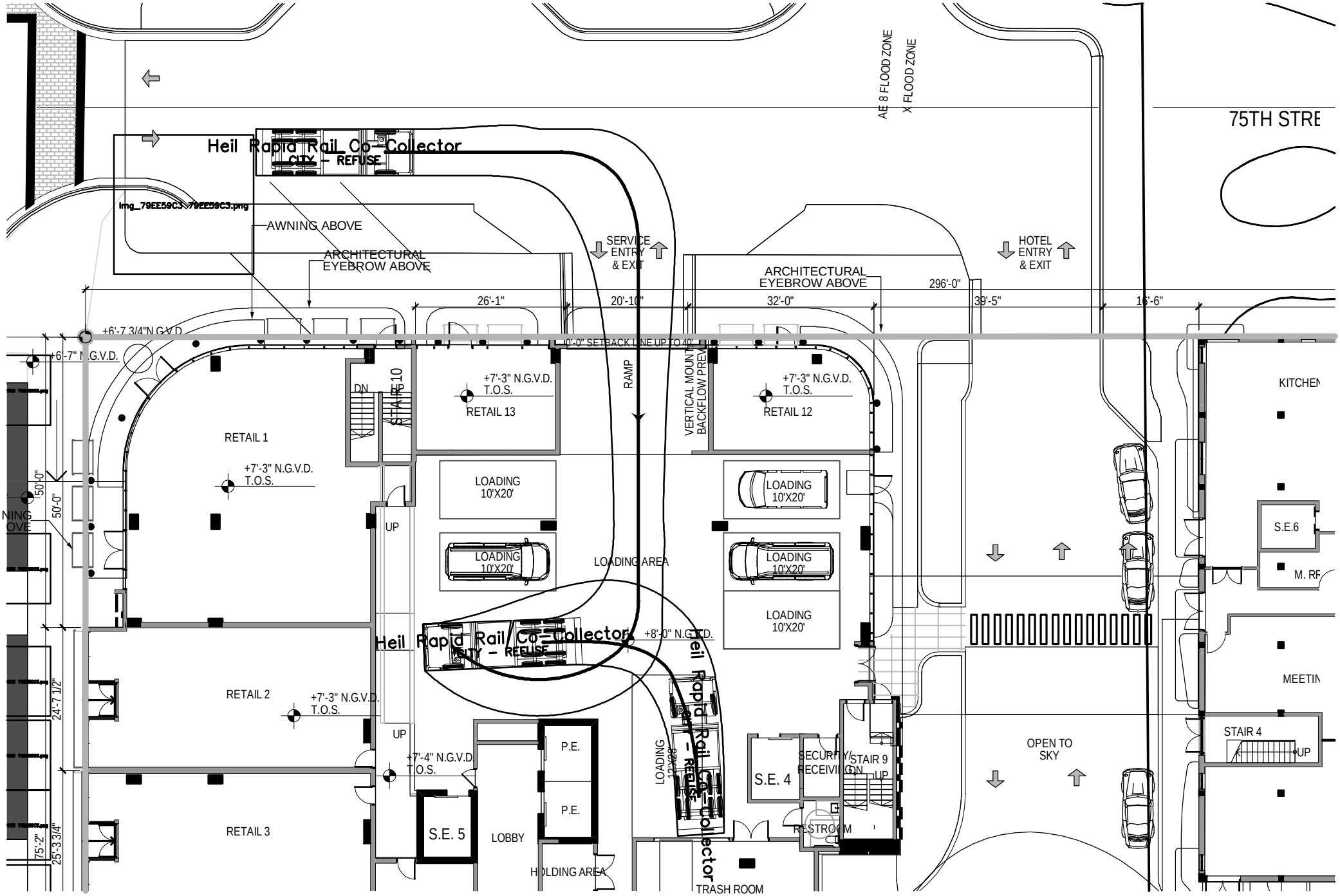

AE 8 FLOOD ZONE
X FLOOD ZONE
75TH S
AWNING ABOVE
ARCHITECTURAL EYEBROW ABOVE
SERVICE ENTRY & EXIT
HOTEL ENTRY & EXIT
ARCHITECTURAL EYEBROW ABOVE
26'-1"
296'
39'-5 1/8"
16'-6"
+6'-7 3/4"N.G.V.D.
+6'-7" N.G.V.D.
+7'-2" N.G.V.D.
AWNING ABOVE
50'
50'
RETAIL 1
+7'-3" N.G.V.D. T.O.S.
DN
STAIR 10
UP
+7'-3" N.G.V.D. T.O.S.
RETAIL 13
RAMP
VERTICAL MOUNT BACKFLOW PREV.
+7'-3" N.G.V.D. T.O.S.
RETAIL 12
LOADING AASHTO 2004 (US)
LOADING AASHTO 2004 (US)
LOADING AASHTO 2004 (US)
LOADING AASHTO 2004 (US)
LOADING AREA
+6'-7" N.G.V.D.
RETAIL 2
+7'-3" N.G.V.D. T.O.S.
UP
+7'-4" N.G.V.D. T.O.S.
P.E.
P.E.
S.E. 5
LOBBY
HOLDING AREA
TRASH ROOM
S.E. 4
SECURITY/ RECEIVING
STAIR 9
UP
RESTROOM
OPEN TO SKY
KI
S.E.
M
STAIR 4
24'-7 7/8"
75'-2 1/8"
25'-3 5/8"


AE 8 FLOOD ZONE
X FLOOD ZONE
75TH STRE
Heil Rapid Rail Co-Collector
CITY - REFUSE
Img_79EE59C3_79EE59C3.png
AWNING ABOVE
ARCHITECTURAL EYEBROW ABOVE
SERVICE ENTRY & EXIT
HOTEL ENTRY & EXIT
ARCHITECTURAL EYEBROW ABOVE
296'-0"
26'-1"
20'-10"
32'-0"
39'-5"
16'-6"
+6'-7 3/4"N.G.V.D.
+6'-7" N.G.V.D.
0'-0" SETBACK LINE UP TO 40'
RAMP
VERTICAL MOUNTED BACKFLOW PREVENTER
DN
UP
STAIR 10
+7'-3" N.G.V.D.
T.O.S.
RETAIL 13
RETAIL 12
RETAIL 1
LOADING 10'X20'
LOADING AREA
150'-0"
50'-0"
NING OVE
KITCHEN
S.E.6
M. RF
MEETIN
STAIR 4
UP
OPEN TO SKY
+8'-0" N.G.V.D.
RETAIL 2
24'-7 1/2"
+7'-4" N.G.V.D.
T.O.S.
P.E.
S.E. 4
SECURITY/ RECEIVING
STAIR 9
RESTROOM
RETAIL 3
75'-2"
25'-3 3/4"
S.E. 5
LOBBY
HOLDING AREA
TRASH ROOM