

SIMMONS & WHITE
2581 Metrocentre Boulevard West Suite 3
West Palm Beach, Florida 33407
O 561.478.7848 | F 561.478.3738 www.simmonsandwhite.com
Certificate of Authorization Number 3452



TRAFFIC IMPACT STATEMENT

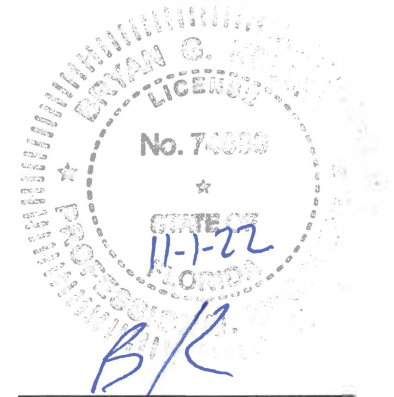
EQUESTRIAN VILLAGE LAGOON WELLINGTON, FLORIDA

Prepared for:

Wellington Commercial Holdings, LLC
3667 120th Avenue South
Wellington, Florida 33414

Job No. 22-129

Date: July 21, 2022
Revised: September 9, 2022
Revised: October 10, 2022
Revised: November 1, 2022



Bryan G. Kelley, P.E.
FL Reg. No. 74006

TABLE OF CONTENTS

1.0	SITE DATA	2
2.0	PURPOSE OF STUDY	3
3.0	TRAFFIC GENERATION – LUPA ANALYSIS	3
4.0	SHORT TERM ANALYSIS – LUPA	6
5.0	ZONING TRAFFIC ANALYSIS	6
6.0	ROADWAY LINK ANALYSIS	7
7.0	INTERSECTION ANALYSIS	8
8.0	SITE RELATED IMPROVEMENTS	12
9.0	CONCLUSION	12

APPENDICES

LUPA ANALYSIS	APPENDIX A
ROADWAY LINK ANALYSIS	APPENDIX B
INTERSECTION ANALYSIS.....	APPENDIX C
SIGNAL TIMING SHEETS	APPENDIX D
TPS DATABASE PRINTOUTS.....	APPENDIX E
INTERSECTION IMPROVEMENTS	APPENDIX F

1.0 SITE DATA

The subject parcel is located in the northeast corner of South Shore Boulevard and Pierson Road in the Village of Wellington and contains approximately 101.74 acres. The Property Control Numbers (PCNs) for the subject parcel are the following:

73-41-44-16-21-001-0000	73-41-44-16-01-001-0010
73-41-44-16-01-001-0020	73-41-44-16-00-000-7030
73-41-44-16-22-001-0010	73-41-44-16-22-001-0020
73-41-44-16-22-001-0030	73-41-44-16-22-001-0040

The property is currently designated as Equestrian Commercial Recreation (96.17 Acres) and Residential F (5.57 Acres) in the Village of Wellington Comprehensive Plan. The property owner is requesting a change in the 101.74 acre parcel's designation to Residential "E" which allows 8 units per acre on the Village of Wellington's Comprehensive Plan.

The site currently consists of the following uses:

Existing Development

- 352 stables
- Exhibitor – 25 Trailers
- Event – 500 Spectators
- Staff – 30 officials

Note the former Player's Club restaurant is also currently approved for 34 multifamily residential units.

The proposed plan of development is to consist of 300 residential dwelling units (29 single family and 271 multifamily) along with ancillary support facilities such as a sports complex and 10-hole golf course that will be available only to residents of the proposed site and Equestrian Village Estates. It is estimated that 75% to 90% of residents within the proposed development will be traveling to and from PBIEC on a daily basis.

The project is estimated to have a build out of 2027 for purposes of the traffic study. Site access is proposed via driveway connections to Pierson Road and South Shore Boulevard. For additional information on site layout, please refer to the Master Plan.

2.0 PURPOSE OF STUDY

This study will analyze the proposed development's impact on the surrounding major thoroughfares within the project's radius of development influence in accordance with the Palm Beach County Unified Land Development Code Article 12 – Traffic Performance Standards and the Village of Wellington Traffic Performance Standards. Additionally, the study will include the analysis for the Land Use Change Plan Amendment.

3.0 TRAFFIC GENERATION – LUPA ANALYSIS

LUPA ANALYSIS

The increase in daily traffic generation due to the requested change in the 101.74 acre parcel's land use designation may be determined by taking the difference between the total traffic generated for the most intensive land use under the existing Equestrian Commercial Recreation and Residential "F" (12 dwelling units per acre) future land use designation and the proposed Residential "E" (8 dwelling units per acre) future land use designation:

Equestrian Commercial Recreation

The most intensive land use for the existing Equestrian Commercial Recreation land use designation is "Multipurpose Recreational Facilities" and "Public Park". The intensity is based on 25% of Multipurpose Recreational Facility (ITE Land Use Code 435) and 75% Public Park (ITE Land Use Code 411) consistent with previous methodologies for Land Use Plan Amendment Traffic Studies within the Village of Wellington. Based on a maximum floor area ratio (FAR) of 10% for the Multipurpose Recreational Facility and the site area consisting of 96.17 acres, the maximum allowable intensity for the designated acreage under the existing Commercial Recreation land use designation is 104,729 S.F. calculated as follows:

$$96.17 \text{ Acres} \times \frac{43,560 \text{ S.F.}}{\text{Acre}} \times 0.10 \text{ FAR} \times 0.25 = 104,729 \text{ S.F.}$$

The Public Park will be considered for the remaining 72.13 acres (96.17 acres x 0.75).

Residential “F” – 12 Dwelling Units per Acre

The most intensive land use for the existing Residential “F” land use designation is “Multifamily Residential”. Based on a maximum of 12 dwelling units per acre and the site area consisting of 5.57 acres, the maximum allowable intensity for the designated acreage under the existing Residential “F” land use designation is 67 dwelling units calculated as follows:

$$5.57 \text{ Acres} \times \frac{12 \text{ DU}}{\text{Acre}} = 67 \text{ DU}$$

Multipurpose Recreational Facility (104,729 S.F.), 72.13 Acre Public Park, and 67 Multifamily Residential Dwelling Units

Table 1-3 calculates the daily traffic generation, AM peak hour traffic generation, and PM peak hour traffic generation for the property under the existing Equestrian Commercial Recreation and Residential F land use designations. The traffic generation has been calculated in accordance with the traffic generation rates listed in the ITE Trip Generation Manual, 11th Edition and on the PBC Traffic website. Based on the maximum allowable building square footage and residential density and the accepted traffic generation rates, the maximum traffic generation for the property under the existing Equestrian Commercial Recreation and Residential “F” land use designation is shown in Tables 1-3 and may be summarized as follows:

Existing Future Land Use

$$\begin{aligned} \text{Daily Traffic Generation} &= 4,834 \text{ tpd} \\ \text{AM Peak Hour Traffic Generation (In/Out)} &= 76 \text{ pht (31 In/45 Out)} \\ \text{PM Peak Hour Traffic Generation (In/Out)} &= 411 \text{ pht (228 In/183 Out)} \end{aligned}$$

Residential “E” – 8 Dwelling Units per Acre

The most intensive land use for the proposed Residential “E” (8 DU/acre) land use designation is “Multi Family Residential”. Based on a maximum density of 8 dwelling units per acre and the site area consisting of 101.74 acres, the maximum allowable number of dwelling units for the designated acreage under the proposed Residential “E” (8 DU/acre) land use designation is 814 dwelling units calculated as follows:

$$101.74 \text{ Acre} \times \frac{8 \text{ Dwelling Units}}{\text{Acre}} = 814 \text{ Dwelling Units}$$

The trip generation for the maximum potential of 814 multi-family dwelling units is shown in Tables 4-6 and may be summarized as follows:

Proposed Future Land Use – Maximum Potential

Daily Traffic Generation = 5,486 tpd
AM Peak Hour Traffic Generation (In/Out) = 326 pht (78 In/248 Out)
PM Peak Hour Traffic Generation (In/Out) = 415 pht (261 In/154 Out)

The above calculations are shown for informational purposes only. The proposed development will be voluntarily restricted to 300 residential dwelling units. To be consistent with the Site Plan, the residential units were broken down into 29 single family dwelling units and 271 multifamily dwelling units. Additionally, trips were added for both the golf course and sports complex to be conservative. As previously stated, these uses are not open to the public and the trips are only intended to represent employee trips and trips from the Equestrian Village Estates residential project. The trip generation for the restricted land use is included in Tables 7-9 and may be summarized as follows:

Proposed Future Land Use – Restricted Potential

Daily Traffic Generation = 2,499 tpd
AM Peak Hour Traffic Generation (In/Out) = 152 pht (48 In/104 Out)
PM Peak Hour Traffic Generation (In/Out) = 204 pht (124 In/80 Out)

The change in traffic generation due to the requested change in the parcels' land use designations is shown in Table 10 for the maximum potential and Table 11 for the restricted potential and may be calculated as follows:

LUPA Trip Difference – Maximum Potential

Daily Traffic Generation = 652 tpd INCREASE
AM Peak Hour Traffic Generation = 250 pht INCREASE
PM Peak Hour Traffic Generation = 4 pht DECREASE

LUPA Trip Difference – Restricted Potential

Daily Traffic Generation = 2,335 tpd DECREASE
AM Peak Hour Traffic Generation = 76 pht INCREASE
PM Peak Hour Traffic Generation = 207 pht DECREASE

Since the change in land use will result in a decrease of daily traffic, the long range (Year 2045) is satisfied. However, a short-term (five year) analysis is required for the increase in traffic for the A.M. peak hour.

4.0 SHORT TERM ANALYSIS – LUPA

The project trips have been distributed to the roadway network as shown in the PROJECT DISTRIBUTION exhibit attached to this report. All roadways in which the project traffic is greater than 1% of the level of service volume threshold is considered significant and requires further analysis. As shown in Table 14 attached to this report, only Pierson Road is considered to have a significant impact. As shown in Table 15, all significantly impacted roadway links on Pierson Road meet the applicable Level of Service requirements.

5.0 ZONING TRAFFIC ANALYSIS

In addition to the LUPA traffic analysis, a traffic analysis has also been performed for the vested use and the proposed use outlined in the Master Plan. The trip generation for the vested use is taken directly from the Equestrian Village Traffic Impact Study prepared by MTP Group dated August 22, 2013. The trip generation for this traffic study is attached for reference and may be summarized as follows:

Existing Use

Daily Traffic Generation = 1,523 tpd
AM Peak Hour Traffic Generation (In/Out) = 218 pht (166 In/52 Out)
PM Peak Hour Traffic Generation (In/Out) = 205 pht (38 In/167 Out)

The trip generation for the proposed 271 multifamily dwelling units and 29 single family dwelling units is shown in Tables 16-18 and is summarized below. As previously stated, the sports complex and golf course are considered ancillary to the use and will only be available to the Lagoon and Estates residents. Some trips have been added to account for employee and Estates trips to the site. Note ITE Land Use Code 430 (Golf Course) and Land Use Code 495 (Recreational Community Center) were used with a reduction factor to account for these additional trips.

Proposed Use

Daily Traffic Generation = 2,499 tpd
AM Peak Hour Traffic Generation (In/Out) = 152 pht (48 In/104 Out)
PM Peak Hour Traffic Generation (In/Out) = 204 pht (124 In/80 Out)

The change in daily traffic generation between the existing and proposed development is shown in Table 19 and may be calculated as follows:

Trip Difference

Daily Traffic Generation = 976 tpd
AM Peak Hour Traffic Generation = -66 pht (-118 In/52 Out)
PM Peak Hour Traffic Generation = -1 pht (86 In/-87 Out)

As shown above, the proposed development results in a reduction in overall trips but an increase in the AM outbound and PM inbound directional trips.

6.0 ROADWAY LINK ANALYSIS

The distribution of project trips was based upon the existing and proposed geometry of the roadway network, a review of the existing and historical travel patterns, and a review of the proposed development and improvements in the area. The distributed traffic for the project at full build-out of the development was assigned to the links until the project traffic was insignificant. Note approximately 20% of the residential trips (18% of the overall trips including the golf course and sports complex employee and Estates trips) were assigned to PBIEC. As previously stated, it is estimated that 75%-90% of residents will be traveling to PBIEC on a daily basis. The 20% assignment is intended to be conservative. Additionally, 2% of trips were assigned to the Estates residential project to account for their use of the golf course and sports complex.

Area Wide Growth Rate Calculations

The area wide historical growth rates were calculated based on count data from 2014 to 2018 and 2018 to 2022. Table 12 calculates the area wide growth rate from 2014 to 2018 which was derived from Palm Beach County and Village of Wellington published traffic counts. An area wide growth rate of 1.29% was determined based on this data and was used for the roadway link analysis. Additionally, Table 13 calculates the area wide growth rates from 2018 to 2022. The area wide growth rate was calculated at -0.47% for this time period. Since many of the intersections analyzed in this traffic study utilized traffic counts from 2018, both growth rates were used in the background growth analysis. A 1.0% growth rate was used to calculate growth from 2018 to 2022 and a 1.29% growth rate was used to calculate growth from 2022 to 2027 for the intersection analysis only. Since the majority of the roadway links were based on 2022 counts, only the 1.29% growth rate was used in roadway link analysis. The overall background growth was determined based on the higher of the aforementioned area wide growth or a 1.0% nominal growth plus committed project trips.

Tables 20-21 shows the project assignment as well as the applicable Level of Service Standard for each of the roadway links until the project assignment is no longer significant. Note the Village of Wellington Level of Service thresholds were used on all Wellington roadways. As shown in Tables 22-23, all significantly impacted links meet the applicable Level of Service standards with the exception of the following roadway segment which is failing based on background conditions without the proposed project:

- South Shore Boulevard from Lake Worth Road to Pierson Road as a 2-lane section during the P.M. peak hour

Per Florida Statutes Chapter 163, Section 3180, improvements needed to address existing failures are not the developer's responsibility. Therefore, the project meets the applicable required listed under "Test One - Part Two" of the Palm Beach County Traffic Performance Standards on all links within the project's radius of development influence.

7.0 INTERSECTION ANALYSIS

Intersection operational analysis is required at each intersection nearest the project's access point and on any roadway link end in which the roadway has an 80% v/c ratio. Based on these criteria, the following intersections were analyzed.

1. South Shore Boulevard at Greenview Shores Boulevard (signalized)
2. South Shore Boulevard at Pierson Road (signalized)
3. South Shore Boulevard at Lake Worth Road (signalized)
4. Fairlane Farms Road at Stribling Road (roundabout)
5. Lake Worth Road at 120th Avenue (TWSC)

The above intersection has been analyzed using Synchro software with HCM 2000 and HCM 6th edition results and the printouts are attached to this report. Note HCM 2000 was used for certain signalized intersections since HCM 6th Edition does not support non-NEMA phasing. Existing signal timing sheets from Palm Beach County Traffic were used in the analysis and signal timing splits were optimized as applicable. The trips from the adjacent Equestrian Village Estates were included. The results demonstrated that the intersections will operate at an acceptable Level of Service with the exception of South Shore Boulevard at Pierson Road and the southbound approach at 120th Avenue at Lake Worth Road. However, both intersections are considered background failures and not a result of the proposed project.

Intersection Analysis – Existing Lane Geometry

Intersection	Peak Hour	Background Conditions		Total Traffic Conditions	
		Average Delay (s/veh)	LOS	Average Delay (s/veh)	LOS
South Shore Blvd at Greenview Shores Blvd	AM	25.2	C	34.1	C
	PM	20.6	C	32.7	C
South Shore Boulevard at Pierson Road	AM	41.7	D	47.7	D
	PM	60.9	E	74.2	E
South Shore Boulevard at Lake Worth Road	AM	17.4	B	19.5	B
	PM	29.5	C	32.4	C
Pierson Road at Stribling Way	AM	10.3	B	10.4	B
	PM	16.7	C	18.3	C
120 th Avenue at Lake Worth Road (SB Approach)	AM	25.4	D	27.5	D
	PM	59.7	F	75.3	F

As part of the previous Equestrian Village approval, the developer was required to either construct a separate eastbound and westbound left turn lane on Pierson Road at South Shore Boulevard or provide a payment in lieu of construction. The developer has recently provided the Village a payment of over \$1.1 million for intersection improvements. A copy of the proposed improvements and cost estimate is included in Appendix F. An analysis has been prepared for the intersection of Pierson Road at South Shore Boulevard with the turn lane improvements. Additionally, while not required for mitigation due to the intersection being a background failure, an analysis of the intersection of Lake Worth Road at 120th Avenue with a traffic signal was also analyzed. The summary of the analysis is provided below:

Intersection Analysis – With Improvements

Intersection	Peak Hour	Background Traffic with Improvements		Total Traffic with Improvements	
		Average Delay (s/veh)	LOS	Average Delay (s/veh)	LOS
South Shore Boulevard at Pierson Road Without WBR	AM	30.8	C	34.8	C
	PM	64.6	E	71.6	E
South Shore Boulevard at Pierson Road With WBR	AM	24.4	C	26.1	C
	PM	41.3	D	46.0	D
120 th Avenue at Lake Worth Road (SB Approach)	AM	7.9	A	8.0	A
	PM	12.5	B	12.9	B

It should be noted the plans prepared by Sexton Engineering Associates, Inc. does not include an exclusive westbound right turn lane on Pierson Road at South Shore Boulevard which as shown above is required for the intersection to operate at LOS D. However, the westbound right turn lane is an improvement needed for the background conditions without the project. As shown above, the proposed turn lane improvements (eastbound left and westbound left) at Pierson Road at South Shore Boulevard improve the overall operations of the intersection and there is projected to be less overall delay than in the background conditions without the improvements. The back of queue analysis is provided below:

Pierson Road at South Shore Boulevard – 95th Percentile Queues

Turn Lane	Peak Hour	Background Conditions - 95 th Percentile Queue (ft)	Total Traffic - 95 th Percentile Queue (ft)	Existing Storage Bay (ft)	Proposed Turn Lane Length in Sexton Engineering Plans
Eastbound Left	AM	100	125	N/A	370
	PM	400	475		
Eastbound Right	AM	100	100		100
	PM	200	200		
Westbound Left	AM	25	25		280
	PM	50	50		
Westbound Right	AM	25	25		N/A
	PM	200	250		
Southbound Left	AM	75	100	315	N/A
	PM	150	175		
Southbound Right	AM	100	125	Drop Lane	N/A
	PM	25	50		
Northbound Left	AM	125	125	470	N/A
	PM	200	200		

8.0 SITE RELATED IMPROVEMENTS

The AM and PM peak hour turning movement volumes and directional distributions at the project entrance(s) for the overall development are shown in Tables 19 and 20 attached with this report and may be summarized as follows:

**DIRECTIONAL
DISTRIBUTION
(TRIPS IN/OUT)**

AM = 48 / 104
PM = 124 / 80

Figure 1 presents the AM and PM peak turning movement volume assignments at the project driveway based on the directional distributions. Site access is proposed via a signalized driveway connection to South Shore Boulevard, a right out only driveway connection to South Shore Boulevard, a full access driveway connection to Pierson Road and an egress only driveway connection to Pierson Road. Based on the Palm Beach County Engineering Guidelines used in determining the need for turn lanes of 75 right turns or 30 left turns in the peak hour, no additional turn lanes appear warranted. Note a southbound left turn lane currently exists on South Shore Boulevard at Pierson Road. Additionally, a driveway analysis was prepared for the full access driveway connection to Pierson Road. The results demonstrated minimal delay for the eastbound left movement due to sufficient westbound gaps further justifying the lack of need for a turn lane.

9.0 CONCLUSION

The proposed redevelopment will result in a decrease in trips for the proposed change in future land use based on the restricted maximum potential. The Master Plan will also result in a reduction of trips from the vested use. Therefore, the proposed project meets the Traffic Performance Standards of both Palm Beach County and the Village of Wellington. Additionally, the developer has already contributed a payment to the Village of Wellington for intersection improvements on Pierson Road at South Shore Boulevard.

EQUESTRIAN VILLAGE LAGOON

07/21/2022
Revised: 09/02/2022
Revised: 10/10/2022
Revised: 11/01/2022

EXISTING FUTURE LAND USE DESIGNATION (EQUESTRIAN COMMERCIAL AND RESIDENTIAL F)

TABLE 1 - Daily Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir In	Split Out	Gross Trips	%	Internalization Total	External Trips	Pass-by %	Trips	Net Trips
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	67	Dwelling Units	6.74		452	10.0%	45	407	0%	0	407
Public Park	411	72.13	Acres	0.78		56	0.0%	0	56	0%	0	56
Multipurpose Recreational Facilities	435	104,729	S.F.	42.17		4,416	1.0%	45	4,371	0%	0	4,371
			Grand Totals:			4,924	1.8%	90	4,834	0%	0	4,834

TABLE 2 - AM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity		Rate/Equation	Dir Split		Gross Trips			Internalization				External Trips			Pass-by		Net Trips		
					In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	67	Dwelling Units	0.4	0.24	0.76	6	21	27	10.0%	1	2	3	5	19	24	0%	0	5	19	24
Public Park	411	72.13	Acres	0.02	0.59	0.41	1	0	1	0.0%	0	0	0	1	0	1	0%	0	1	0	1
Multipurpose Recreational Facilities	435	104,729	S.F.	0.52	0.50	0.50	27	27	54	5.6%	2	1	3	25	26	51	0%	0	25	26	51
		Grand Totals:					34	48	82	7.3%	3	3	6	31	45	76	0%	0	31	45	76

TABLE 3 - PM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity		Rate/Equation		Dir Split		Gross Trips			Internalization				External Trips			Pass-by		Net Trips		
						In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	67	Dwelling Units	0.51	0.63	0.37		21	13	34	10.0%	2	1	3	19	12	31	0%	0	19	12	31
Public Park	411	72.13	Acres	0.11	0.55	0.45		4	4	8	0.0%	0	0	0	4	4	8	0%	0	4	4	8
Multipurpose Recreational Facilities	435	104,729	S.F.	3.58	0.55	0.45		206	169	375	0.8%	1	2	3	205	167	372	0%	0	205	167	372
			Grand Totals:					231	186	417	1.4%	3	3	6	228	183	411	0%	0	228	183	411

Notes:

Internal capture based on 10% of residential trips and balancing the multipurpose recreational trips

ITE 435 Daily and AM calculations based on a Boomers trip generation study that calculated the trips per acre. Using the current ITE 435 PM trip generation rate of 3.58, the daily and AM rates were able to be

	Boomers	Per
ITE Code 435	Acre	1000 SF
Daily	103.9	$103.9/8.82 \times 3.58 = 42.17$
AM	1.27	$1.27/8.82 \times 3.58 = 0.52$
PM	8.82	3.58

EQUESTRIAN VILLAGE LAGOON

07/21/2022
Revised: 09/02/2022
Revised: 10/10/2022
Revised: 11/01/2022

PROPOSED FUTURE LAND USE DESIGNATION (RESIDENTIAL F) - MAXIMUM POTENTIAL

TABLE 4 - Daily Traffic Generation

Landuse	ITE Code	Intensity		Rate/Equation		Dir Split		Gross Trips		Internalization		External Trips		Pass-by		Net Trips	
						In	Out		%	Total				%	Trips		
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	814	Dwelling Units	6.74				5,486	0.0%	0	5,486	0%	0	5,486	0%	0	5,486
			Grand Totals:					5,486	0.0%	0	5,486	0%	0	5,486	0%	0	5,486

TABLE 5 - AM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity		Rate/Equation	Dir Split		Gross Trips			Internalization				External Trips			Pass-by		Net Trips		
					In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	814	Dwelling Units	0.4	0.24	0.76	78	248	326	0.0%	0	0	0	78	248	326	0%	0	78	248	326
			Grand Totals:				78	248	326	0.0%	0	0	0	78	248	326	0%	0	78	248	326

TABLE 6 - PM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity		Rate/Equation	Dir Split		Gross Trips			Internalization				External Trips			Pass-by		Net Trips		
					In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	814	Dwelling Units	0.51	0.63	0.37	261	154	415	0.0%	0	0	0	261	154	415	0%	0	261	154	415
			Grand Totals:				261	154	415	0.0%	0	0	0	261	154	415	0%	0	261	154	415

EQUESTRIAN VILLAGE LAGOON

07/21/2022
Revised: 09/02/2022
Revised: 10/10/2022
Revised: 11/01/2022

PROPOSED FUTURE LAND USE DESIGNATION (RESIDENTIAL F) - RESTRICTED POTENTIAL

TABLE 7 - Daily Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split In Out	Gross Trips	Internalization % Total	External Trips	Pass-by % Trips	Net Trips
Single Family Detached	210	29	Dwelling Units	10	290	0	290	0%	290
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	271	Dwelling Units	6.74	1,827	0	1,827	0%	1,827
Golf Course	430	10	Holes	30.38 x 50%	152	0	152	0%	152
Recreational Community Center	495	79,924	S.F.	28.82 x 10%	230	0	230	0%	230
Grand Totals:					2,499	0.0%	0	0%	0

TABLE 8 - AM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split In Out	Gross Trips In Out Total	Internalization % In Out Total	External Trips In Out Total	Pass-by % Trips	Net Trips In Out Total
Single Family Detached	210	29	Dwelling Units	0.7	5 15 20	0 0 0	5 15 20	0%	5 15 20
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	271	Dwelling Units	0.4	26 82 108	0 0 0	26 82 108	0%	26 82 108
Golf Course	430	10	Holes	1.76 x 50%	7 2 9	0 0 0	7 2 9	0%	7 2 9
Recreational Community Center	495	79,924	S.F.	1.91 x 10%	10 5 15	0 0 0	10 5 15	0%	10 5 15
Grand Totals:					48 104 152	0.0% 0 0 0	48 104 152	0%	0 48 104 152

TABLE 9 - PM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split In Out	Gross Trips In Out Total	Internalization % In Out Total	External Trips In Out Total	Pass-by % Trips	Net Trips In Out Total
Single Family Detached	210	29	Dwelling Units	0.94	20 11 31	0 0 0	20 11 31	0%	20 11 31
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	271	Dwelling Units	0.51	87 51 138	0 0 0	87 51 138	0%	87 51 138
Golf Course	430	10	Holes	2.91 x 50%	8 7 15	0 0 0	8 7 15	0%	8 7 15
Recreational Community Center	495	79,924	S.F.	2.50 x 10%	9 11 20	0 0 0	9 11 20	0%	9 11 20
Grand Totals:					124 80 204	0.0% 0 0 0	124 80 204	0%	0 124 80 204

Notes:

The golf course and sports complex are not open to the public and will only be available for residents of the Lagoon and the Estates. The golf course and recreational community center rates are provided with a reduction factor of 50% and 10%, respectively to account for employees and vehicle trips from the Estates. An internal capture factor was not applied between these uses and the Lagoon residents since the purpose of these trips is to only represent the limited exterior trips. However, the overall trip generation may be conservative due to these amenities reducing exterior trips for the Lagoon residents.

EQUESTRIAN VILLAGE LAGOON

07/21/2022
Revised: 09/02/2022
Revised: 10/10/2022
Revised: 11/01/2022

TABLE 10
TRAFFIC GENERATION DIFFERENCE - FUTURE LAND USE - MAXIMUM POTENTIAL

	DAILY	AM PEAK HOUR			PM PEAK HOUR		
		TOTAL	IN	OUT	TOTAL	IN	OUT
EXISTING DEVELOPMENT =	4,834	76	31	45	411	228	183
PROPOSED DEVELOPMENT =	5,486	326	78	248	415	261	154
INCREASE =	652	250	47	203	4	33	-29

TABLE 11
TRAFFIC GENERATION DIFFERENCE - FUTURE LAND USE - RESTRICTED POTENTIAL

	DAILY	AM PEAK HOUR			PM PEAK HOUR		
		TOTAL	IN	OUT	TOTAL	IN	OUT
EXISTING DEVELOPMENT =	4,834	76	31	45	411	228	183
PROPOSED DEVELOPMENT =	2,499	152	48	104	204	124	80
INCREASE =	-2,335	76	17	59	-207	-104	-103

EQUESTRIAN VILLAGE LAGOON

07/21/2022
Revised: 09/02/2022
Revised: 10/10/2022
Revised: 11/01/2022

TABLE 12
AREA WIDE GROWTH RATE CALCULATIONS - USED FOR 2022-2027 GROWTH

ROADWAY	FROM	TO	2013 PEAK SEASON DAILY TRAFFIC**	2014 PEAK SEASON DAILY TRAFFIC	2018 PEAK SEASON DAILY TRAFFIC	IND. (%)
PIERSON ROAD	OUSLEY FARMS ROAD	SOUTH SHORE BOULEVARD		8,246	10,154	5.34%
PIERSON ROAD	SOUTH SHORE BOULEVARD	120TH AVENUE		4,648	4,743	0.51%
PIERSON ROAD	120TH AVENUE	FAIRLANE FARMS ROAD		5,328	5,871	2.46%
SOUTH SHORE BOULEVARD	50TH STREET SOUTH	LAKE WORTH ROAD		5,095	5,202	0.52%
SOUTH SHORE BOULEVARD	LAKE WORTH ROAD	PIERSON ROAD**	15,592	16,180	18,764	3.77%
SOUTH SHORE BOULEVARD	PIERSON ROAD	GREENVIEW SHORES BOULEVARD		22,822	23,417	0.65%
SOUTH SHORE BOULEVARD	GREENVIEW SHORES BOULEVARD	BIG BLUE TRACE**	20,364	20,385	20,470	0.10%
SOUTH SHORE BOULEVARD	BIG BLUE TRACE	FOREST HILL BOULEVARD**	24,709	25,020	26,302	1.26%
FOREST HILL BOULEVARD	SOUTHERN BOULEVARD	WELLINGTON TRACE **	35,910	36,601	39,502	1.93%
FOREST HILL BOULEVARD	WELLINGTON TRACE N.	WELLINGTON TRACE S.		26,804	27,421	0.57%
FOREST HILL BOULEVARD	WELLINGTON TRACE S.	SOUTH SHORE BOULEVARD**	28,996	29,244	30,258	0.86%
FOREST HILL BOULEVARD	SOUTH SHORE BOULEVARD	STRIBLING WAY		47,955	49,836	0.97%
FOREST HILL BOULEVARD	STRIBLING WAY	SR 7**	48,508	48,409	48,017	-0.20%
40TH STREET	PALM BEACH POINT BOULEVARD	SOUTH SHORE BOULEVARD		N/A	N/A	
LAKE WORTH ROAD	SOUTH SHORE BOULEVARD	120TH AVENUE**	11,928	12,123	12,936	1.64%
LAKE WORTH ROAD	120TH AVENUE	SR 7*		26,600	28,030	1.32%
LAKE WORTH ROAD	SR 7	LYONS ROAD*		37,381	39,252	1.23%
STRIBLING WAY	FOREST HILL BOULEVARD	FAIRLANE FAMRS ROAD		11,376	13,259	3.90%
STRIBLING WAY	FAIRLANE FAMRS ROAD	SR 7**	11,910	12,647	16,078	6.19%
GREENVIEW SHORES BOULEVARD	BINKS FOREST DRIVE	WELLINGTON TRACE		12,848	13,212	0.70%
GREENVIEW SHORES BOULEVARD	WELLINGTON TRACE	SOUTH SHORE BOULEVARD**	18,882	18,973	19,343	0.48%
WELLINGTON TRACE	GREENBRIAR BOULEVARD	Paddock Drive		4,309	4,384	0.43%
WELLINGTON TRACE	Paddock Drive	GREENVIEW SHORES BOULEVARD		4,577	4,422	-0.86%
WELLINGTON TRACE	GREENVIEW SHORES BOULEVARD	BIG BLUE TRACE**	24,475	24,400	24,104	-0.31%
WELLINGTON TRACE	BIG BLUE TRACE	FOREST HILL BOULEVARD**	22,759	22,550	21,732	-0.92%
BIG BLUE TRACE	WELLINGTON TRACE	SOUTHERN BOULEVARD**	13,708	13,227	11,465	-3.51%
BINKS FOREST DRIVE	GREENVIEW SHORES BOULEVARD	SOUTHERN BOULEVARD**	9,589	10,219	13,181	6.57%
GREENBRIAR BOULEVARD	AERO CLUB DRIVE	WELLINGTON TRACE		6,249	6,301	0.21%
GREENBRIAR BOULEVARD	WELLINGTON TRACE	GREENVIEW SHORES BOULEVARD		4,339	4,518	1.02%
AERO CLUB DRIVE	BINKS FOREST ROAD	GREENBRIAR BOULEVARD		5,113	5,817	3.28%
Paddock Drive	WELLINGTON TRACE	GREENVIEW SHORES BOULEVARD		918	1,089	4.36%
Paddock Drive	GREENVIEW SHORES BOULEVARD	BIG BLUE TRACE		2,328	2,438	1.16%
120TH AVENUE	PIERSON ROAD	LAKE WORTH ROAD		N/A	N/A	
120TH AVENUE	LAKE WORTH ROAD	50TH STREET		441	1,056	24.40%
50TH STREET	SOUTH SHORE BOULEVARD	120TH AVENUE		2,349	3,523	10.66%
50TH STREET	120TH AVENUE	WELLINGTON LIMITS		2,247	3,750	13.66%
$\Sigma =$				531,952	559,847	1.29%

AREA WIDE GROWTH RATE USED = 1.29%

Notes:
*2014 volumes from PBC Traffic
** 2013 volumes from PBC Traffic. Adjusted to 2014 volumes using 2013-2018 growth rate for purposes of calculating area wide growth rate

EQUESTRIAN VILLAGE LAGOON

07/21/2022
Revised: 09/02/2022
Revised: 10/10/2022
Revised: 11/01/2022

TABLE 13
AREA WIDE GROWTH RATE CALCULATIONS - USED FOR 2018-2022 GROWTH

ROADWAY	FROM	TO	2018 PEAK SEASON DAILY TRAFFIC	2022 PEAK SEASON DAILY TRAFFIC	IND. (%)
PIERSON ROAD	OUSLEY FARMS ROAD	SOUTH SHORE BOULEVARD*	N/A	N/A	
PIERSON ROAD	SOUTH SHORE BOULEVARD	STRIBLING WAY	4,743	4,238	-2.78%
SOUTH SHORE BOULEVARD	50TH STREET SOUTH	LAKE WORTH ROAD	5,202	4,600	-3.03%
SOUTH SHORE BOULEVARD	LAKE WORTH ROAD	PIERSON ROAD	18,764	16,444	-3.25%
SOUTH SHORE BOULEVARD	PIERSON ROAD	GREENVIEW SHORES BOULEVARD	23,417	19,837	-4.06%
SOUTH SHORE BOULEVARD	GREENVIEW SHORES BOULEVARD	FOREST HILL BOULEVARD*	N/A	N/A	
FOREST HILL BOULEVARD	SOUTHERN BOULEVARD	WELLINGTON TRACE	39,502	47,545	4.74%
FOREST HILL BOULEVARD	WELLINGTON TRACE	SOUTH SHORE BOULEVARD	30,258	28,664	-1.34%
FOREST HILL BOULEVARD	SOUTH SHORE BOULEVARD	SR 7	49,836	53,987	2.02%
40TH STREET	PALM BEACH POINT BOULEVARD	SOUTH SHORE BOULEVARD	N/A	N/A	
LAKE WORTH ROAD	SOUTH SHORE BOULEVARD	120TH AVENUE	12,936	11,164	-3.62%
LAKE WORTH ROAD	120TH AVENUE	SR 7**	28,030	26,539	-1.36%
LAKE WORTH ROAD	SR 7	LYONS ROAD**	39,252	36,640	-1.71%
STRIBLING WAY	FOREST HILL BOULEVARD	FAIRLANE FAMRS ROAD	13,259	13,303	0.08%
STRIBLING WAY	FAIRLANE FAMRS ROAD	SR 7	16,078	14,618	-2.35%
GREENVIEW SHORES BOULEVA	BINKS FOREST DRIVE	WELLINGTON TRACE	13,212	13,082	-0.25%
GREENVIEW SHORES BOULEVA	WELLINGTON TRACE	SOUTH SHORE BOULEVARD	19,343	16,708	-3.59%
WELLINGTON TRACE	GREENVIEW SHORES BOULEVARD	BIG BLUE TRACE	24,104	23,493	-0.64%
WELLINGTON TRACE	BIG BLUE TRACE	FOREST HILL BOULEVARD	21,732	22,600	0.98%
BIG BLUE TRACE	WELLINGTON TRACE	SOUTHERN BOULEVARD*	N/A	N/A	
BINKS FOREST DRIVE	GREENVIEW SHORES BOULEVARD	SOUTHERN BOULEVARD	13,181	13,373	0.36%
GREENBRIAR BOULEVARD	AERO CLUB DRIVE	GREENVIEW SHORES BOULEVARD*	N/A	N/A	
AERO CLUB DRIVE	BINKS FOREST ROAD	GREENBRIAR BOULEVARD*	N/A	N/A	
PADDOCK DRIVE	GREENVIEW SHORES BOULEVARD	BIG BLUE TRACE	2,438	2,667	2.27%
50TH STREET	SOUTH SHORE BOULEVARD	120TH AVENUE	3,523	4,029	4.58%
$\Sigma =$			378,810	373,531	-0.47%

AREA WIDE GROWTH RATE USED = 1.00%

Notes:

*Growth rates above 5% or below 5% were excluded due to being outlier growth rates

**Volumes from PBC (2018-2022)

Existing Trip Generation - From Equestrian Village Traffic Study by MTP Group dated 8/22/2013

Land Use	Amount	Daily Traffic	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Stables	352	732	56	26	30	43	16	27
Exhibitor - Trailer	25	50	5	5	0	5	0	5
Event Spectators	500	666	133	113	20	133	20	113
Staff - Officials	30	75	24	22	2	24	2	22
Net Traffic		1,523	218	166	52	205	38	167

Trip Generation Rates

Land Use	ITE Code	Daily Trip Gen.	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Stables	PBC	2.079	0.16	47%	53%	0.123	38%	62%
Exhibitor - Trailer	Assumed	2.000	0.20	90%	10%	0.20	10%	90%
Event Spectators	*	1.332	0.27	85%	15%	0.27	15%	85%
Staff - Officials	Assumed	2.500	0.80	90%	10%	0.80	10%	90%

* Trip Generation for Events

Independent Variable:

Spectators on typical day: 500
 Vehicle occupancy: 1.5
 Total vehicles: 333
 Total Traffic: 666
 Daily Trip Gen. Rate: 1.332
 AM Peak Hour: 20% of daily
 Directional Split In-Out: 85% - 15%
 PM Peak Hour: 20% of daily
 Directional Split In-Out: 15% - 85%

Stable: Stalls

Based on the table above, the proposed development has the potential to generate 218 net new trips during the a.m. and 205 net new trips during the p.m. peak hour.

Existing and proposed developments in the area, functional classification of the surrounding roadways, and travel time characteristics of the roadway network have been used to estimate project traffic distribution and assignment. The assignment is presented in **Figure 2**.



MTP Group, Inc.

8401 Lake Worth Road, Suite 231
 Lake Worth, Florida 33467-2400
 Phone: (561) 795-0678 Fax: (561) 795-0230
 www.mtpgroup.net

EQUESTRIAN VILLAGE LAGOON

07/21/2022
Revised: 09/02/2022
Revised: 10/10/2022
Revised: 11/01/2022

PROPOSED DEVELOPMENT

TABLE 16 - Daily Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir In	Split Out	Gross Trips	Internalization %	Total	External Trips	Pass-by %	Trips	Net Trips
Single Family Detached	210	29	Dwelling Units	10		290		0	290	0%	0	290
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	271	Dwelling Units	6.74		1,827		0	1,827	0%	0	1,827
Golf Course	430	10	Holes	30.38 x 50%		152		0	152	0%	0	152
Recreational Community Center	495	79,924	S.F.	28.82 x 10%		230		0	230	0%	0	230
Grand Totals:						2,499	0.0%	0	2,499	0%	0	2,499

TABLE 17 - AM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir In	Split Out	Gross Trips In	Gross Trips Out	Gross Trips Total	Internalization %	In	Out	Total	External Trips In	External Trips Out	External Trips Total	Pass-by %	Trips	Net Trips In	Net Trips Out	Net Trips Total
Single Family Detached	210	29	Dwelling Units	0.7	0.26	5	15	20		0	0	0	5	15	20	0%	0	5	15	20
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	271	Dwelling Units	0.4	0.24	26	82	108		0	0	0	26	82	108	0%	0	26	82	108
Golf Course	430	10	Holes	1.76 x 50%	0.79	7	2	9		0	0	0	7	2	9	0%	0	7	2	9
Recreational Community Center	495	79,924	S.F.	1.91 x 10%	0.66	10	5	15		0	0	0	10	5	15	0%	0	10	5	15
Grand Totals:						48	104	152	0.0%	0	0	0	48	104	152	0%	0	48	104	152

TABLE 18 - PM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir In	Split Out	Gross Trips In	Gross Trips Out	Gross Trips Total	Internalization %	In	Out	Total	External Trips In	External Trips Out	External Trips Total	Pass-by %	Trips	Net Trips In	Net Trips Out	Net Trips Total
Single Family Detached	210	29	Dwelling Units	0.94	0.63	20	11	31		0	0	0	20	11	31	0%	0	20	11	31
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	271	Dwelling Units	0.51	0.63	87	51	138		0	0	0	87	51	138	0%	0	87	51	138
Golf Course	430	10	Holes	2.91 x 50%	0.53	8	7	15		0	0	0	8	7	15	0%	0	8	7	15
Recreational Community Center	495	79,924	S.F.	2.50 x 10%	0.47	9	11	20		0	0	0	9	11	20	0%	0	9	11	20
Grand Totals:						124	80	204	0.0%	0	0	0	124	80	204	0%	0	124	80	204

Notes:

The golf course and sports complex are not open to the public and will only be available for residents of the Lagoon and the Estates. The golf course and recreational community center rates are provided with a reduction factor of 50% and 10%, respectively to account for employees and vehicle trips from the Estates. An internal capture factor was not applied between these uses and the Lagoon residents since the purpose of these trips is to only represent the limited exterior trips. However, the overall trip generation may be conservative due to these amenities reducing exterior trips for the Lagoon residents.

EQUESTRIAN VILLAGE LAGOON

07/21/2022
Revised: 09/02/2022
Revised: 10/10/2022
Revised: 11/01/2022

TABLE 19
TRAFFIC GENERATION DIFFERENCE - MASTER PLAN (PROPOSED MINUS EXISTING)

	DAILY	AM PEAK HOUR			PM PEAK HOUR		
		TOTAL	IN	OUT	TOTAL	IN	OUT
EXISTING DEVELOPMENT =	1,523	218	166	52	205	38	167
PROPOSED DEVELOPMENT =	2,499	152	48	104	204	124	80
INCREASE =	976	-66	-118	52	-1	86	-87

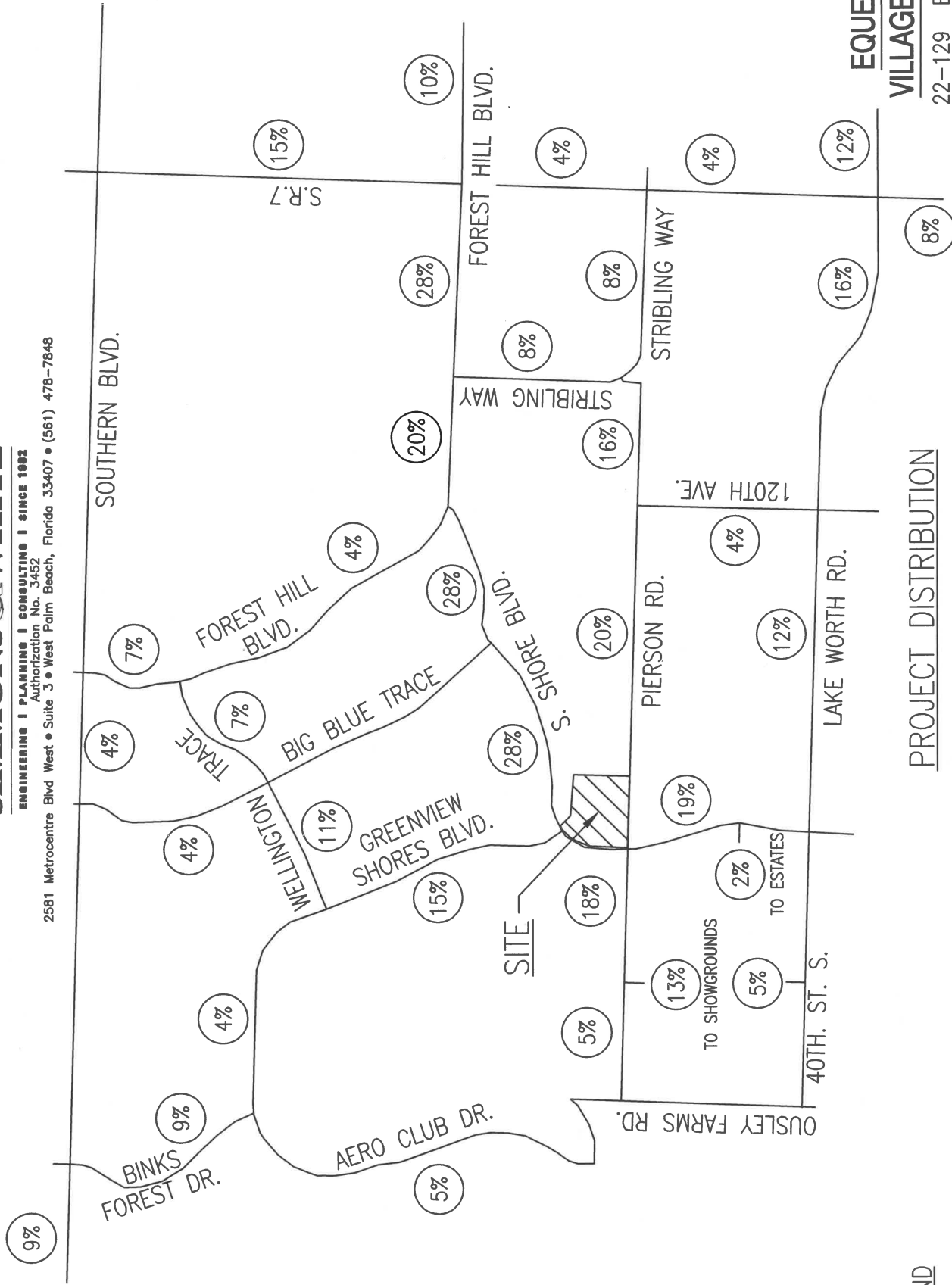
Note:

Existing Development based on Equestrian Village Traffic Impact Study prepared by MTP Group dated August 22, 2013. Trip generation from approved Study attached for reference.



SIMMONS & WHITE

ENGINEERING | PLANNING | CONSULTING | SINCE 1982
 2581 Metrocentre Blvd West • Suite 3 • West Palm Beach, Florida 33407 • (561) 478-7848



LEGEND

(15%) PROJECT DISTRIBUTION

**EQUESTRIAN
VILLAGE LAGOON**

22-129 BK 7/20/22
 REVISED: 10/07/22
 REVISED: 11/01/22

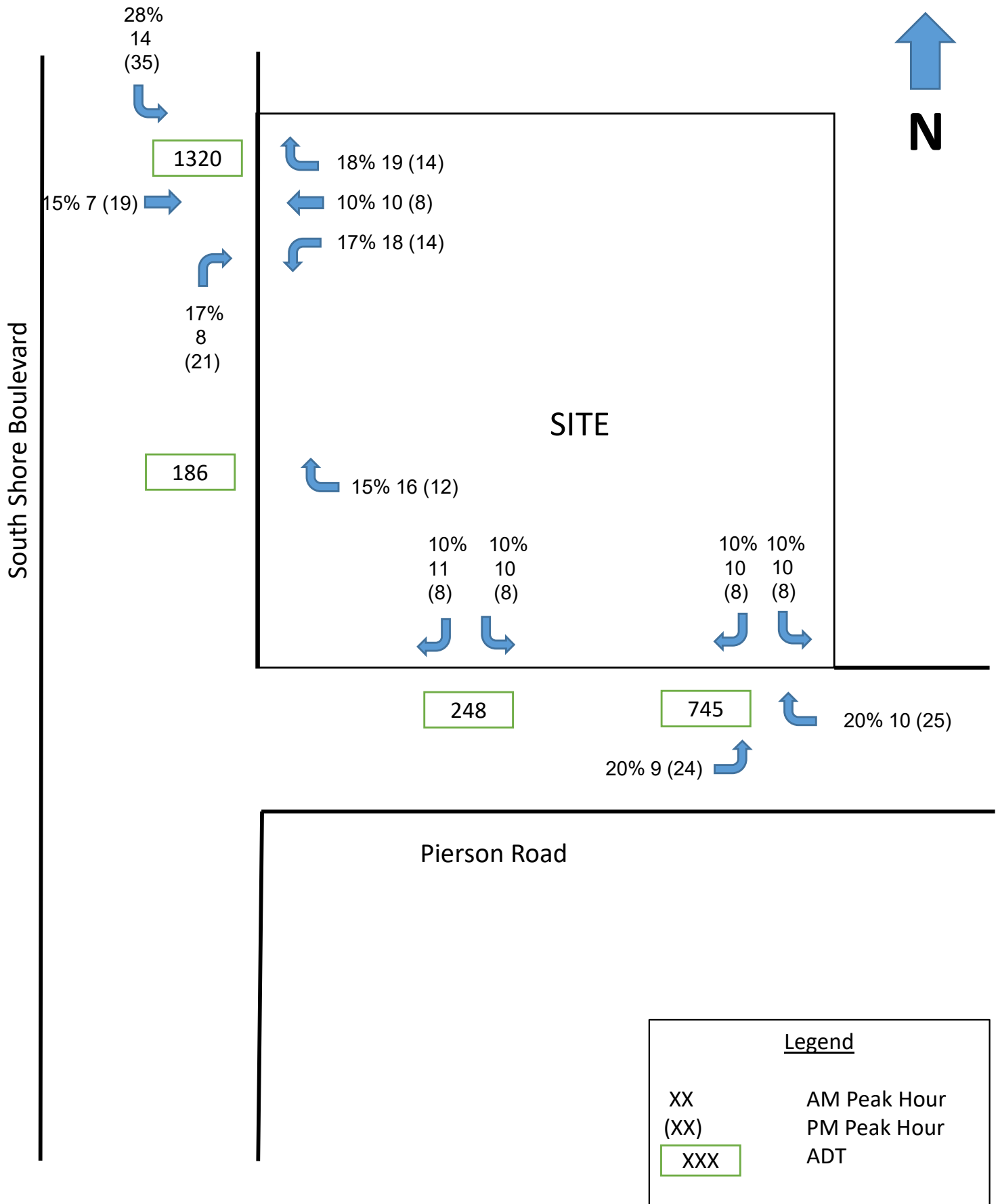


Figure 1 – Turning Movement Worksheet
 Equestrian Village Lagoon
 Project # 22-129