

May 6, 2021

CocoPlum Nature School c/o Steve Siebert Architecture 466 N. Federal Highway Boynton Beach, FL 33435

ATTN: Steve Siebert RE: CocoPlum Nature School

342 N Swinton Ave, Delray Beach, FL

33444

Traffic Statement Buildout: August 2021

PCN#: 12-43-46-16-01-041-0010

Dear Mr. Siebert:

As requested by the City of Delray Beach, the following traffic analysis has been performed to determine the traffic impacts for a change of use from the previous Daycare operations to the proposed CocoPlum Nature School, a Private School (K-2) use. The previous Daycare operated out of the existing Cason United Methodist Church located on the subject property at the southwest corner of N Swinton Avenue and Lake Ida Road in Delray Beach. The existing Church building footprint will remain unchanged and the proposed Private School will operate out of the Church building. This study follows the methodology of Article 12, Traffic Performance Standards (TPS), of the Palm Beach County Unified Land Development Code (ULDC).

Existing Site and Roadway Conditions

The existing Cason United Methodist Church currently occupies the 19,580 SF building at 342 N Swinton Avenue located on the southwest corner of N Swinton Avenue and Lake Ida Road. The existing building consists of religious use and Daycare use, which has been operational within the last five years. The site currently has three access points: one on Lake Ida Road and two on N Swinton Avenue.

N Swinton Avenue and Lake Ida Road are classified as two-way urban collectors with a posted speed limit of 35 mph. Average daily traffic volumes reported on FDOT's Florida Traffic Online, shows N Swinton Avenue carries 15,100 vehicles per day and Lake Ida Road carries 20,500 vehicles per day.



In the study area, the roadways primarily service residential use and Trinity Delray Lutheran School is located at the northwest corner of N Swinton Avenue and Lake Ida Road.

Project Description

The CocoPlum Nature School is a private (K-2) school proposing to operate out of the existing 19,580 SF Cason United Methodist Church building located on the southwest corner of N Swinton Avenue and Lake Ida Road. For the school year 2021-2022, the proposed CocoPlum Nature School is anticipating a maximum of 27 students. During the following school year 2022-2023 a maximum of 36 students is projected. The School drop-off will be from 7:45-8:00 AM and pick up at 12:00 PM, 2:30 PM, and 2:30-6:00 PM for after care. All students are anticipated use the vehicle drop-off/pick-up feature with no students as walkers.

The Church operations will remain unchanged with worship services offered on Sunday mornings and Wednesday afternoons. Previously, an 80-capacity Daycare operated out the Church building and was operational within the last five years.

Access to the Church building will use the existing three access points: one on Lake Ida Road and two on N Swinton Avenue. A parent drop-off/pick-up area for vehicles will be located at the west end of the building in the west parking lot allowing for 28 car (approximately 560 ft) stacking capacity on-site. The vehicle storage capacity proposed exceeds the School vehicle trip generation projections of 18 vehicles in the morning peak hour and four (4) entering vehicles in the evening peak hour. In addition, the subject property has adequate internal circulation for the ingress and egress of vehicles.

For additional project details, please refer to the **Attached Site Plan (SP1.1)** and the **Life Safety Plan (LS1.1)**.

Trip Generation

The trip generation methodology used for the proposed change of use was prepared utilizing the Palm Beach County Trip Generation Rates dated March 2, 2020. For the existing Church, Land Use Code 560 "Church/Synagogue" was used to represent the current vehicle trips and Land Use Code 565 "Daycare" was used to estimate the previous Daycare vehicle trips. Land Use Code 534 "Private School (K-8)" was used to anticipate the vehicle trips for the proposed CocoPlum Nature School.

The Church building previously included a Daycare use that was operational with-in the last five years. Therefore, a vehicle trip credit of 100 percent was taken for the previous Daycare operations.

Pass-by Trips

Some trips generated from the Church use are anticipated to be from existing traffic passing the project site and are not newly generated trips. Credit against the trip generation of the existing use was taken from these trips based on the pass-by percentages (5%) shown in the Palm Beach County Trip Generation Rates Table. Due to the low pass-by percentage, the number of trips calculated was zero for the AM and PM peak hours, therefore no trips were credited.

Table 1 on the following page is a summary of the proposed CocoPlum Nature School weekday trip generation. It is anticipated that the new Private School will yield two (2) new trips (2 enter, 0 exit) during the AM peak hour and will have a reduction in current trips during the PM peak

hour. Please see the **Attached Palm Beach County Trip Generation** Table for additional information.

Table 1: Trip Generation Summary - Weekday

Land Use Buildout	Daily Trips	AM	l Peak Ho	our	PM Peak Hour			
August 2021		Enter	Exit	Total	Enter	Exit	Total	
Proposed Use: Private School - LUC 534 36 Students	89	18	15	33	4	5	9	
Existing Use: Daycare - LUC 565 80 Students	327	33	29	62	30	33	63	
Pass-by Trips (50%)		-17	<u>-14</u>	<u>-31</u>	<u>-15</u>	<u>-16</u>	<u>-31</u> 32	
Existing External Trips		16	15	31	15	17	32	
Existing Use: Church - LUC 560 19,580 SF	136	4	2	6	4	6	10	
Pass-by Trips (5%)		<u>0</u>	<u>0</u> 2	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	
Existing External Trips		4	2	6	4	6	10	
Net New External Trips ¹	-238	2	0	2	-11	-12	-23	
Total Site Trips 2	225	22	17	39	8	11	19	

Notes:

- 1 The Net New External Trip calcs: Proposed School Existing Daycare.
- 2 The Total Site Trip calcs: Proposed School + Existing Church.

Traffic Performance Standards Analysis

The Traffic Performance Standards (TPS) consists of two tests. The first test requires that the project not add traffic in the radius of development influence which would result in the total traffic exceeding the adopted Level of Service (LOS) at the end of the buildout period. The second test requires that the project not add traffic in the radius of development influence which would cause the total traffic to exceed the adopted LOS at the end of the five-year analysis period.

Based on the project's net new external trip generation of two (2) trips in the morning peak hour and minus (-23) trips during the PM peak hour, the radius of development influence for this analysis only includes the site driveways (ULDC Article 12, Table 12.B.2.D-7 3A), as the two-way trip generation is less than 20 vehicles. Therefore, the Traffic Performance Standards tests are not required.

Trip Distribution & Site Traffic Volumes

The major thoroughfares providing access to the Church building and the CocoPlum Nature School are N Swinton Avenue and Lake Ida Road. A directional distribution of traffic has been done based on the existing traffic volumes and neighborhood roadways. Please refer to the attached **Figure 1** for the Trip Distribution and Site Turning Movement Volumes.

Summary and Conclusions

As a result of this analysis, it is anticipated that the proposed CocoPlum Nature School operations in the existing Cason United Methodist Church will generate a total of two (2) trips

in the morning peak hour and have a reduction of -23 trips during the evening peak hour. The low number of vehicles is anticipated to be negligible and not have adverse impacts on the surrounding traffic operations. Therefore, no changes to the adjacent street network are recommended.

If you should have any questions or require additional information, please feel free to contact me at the number or e-mail address listed below.

Sincerely,

T. Y. Lin International

Meaghan Capitano

Meaghan Capuano, P.E. Transportation Engineer <u>Meaghan.capuano@tylin.com</u> 585.512.2052



This item has been digitally signed and sealed by Meaghan L. Capuano, PE using a Digital Signature and date.

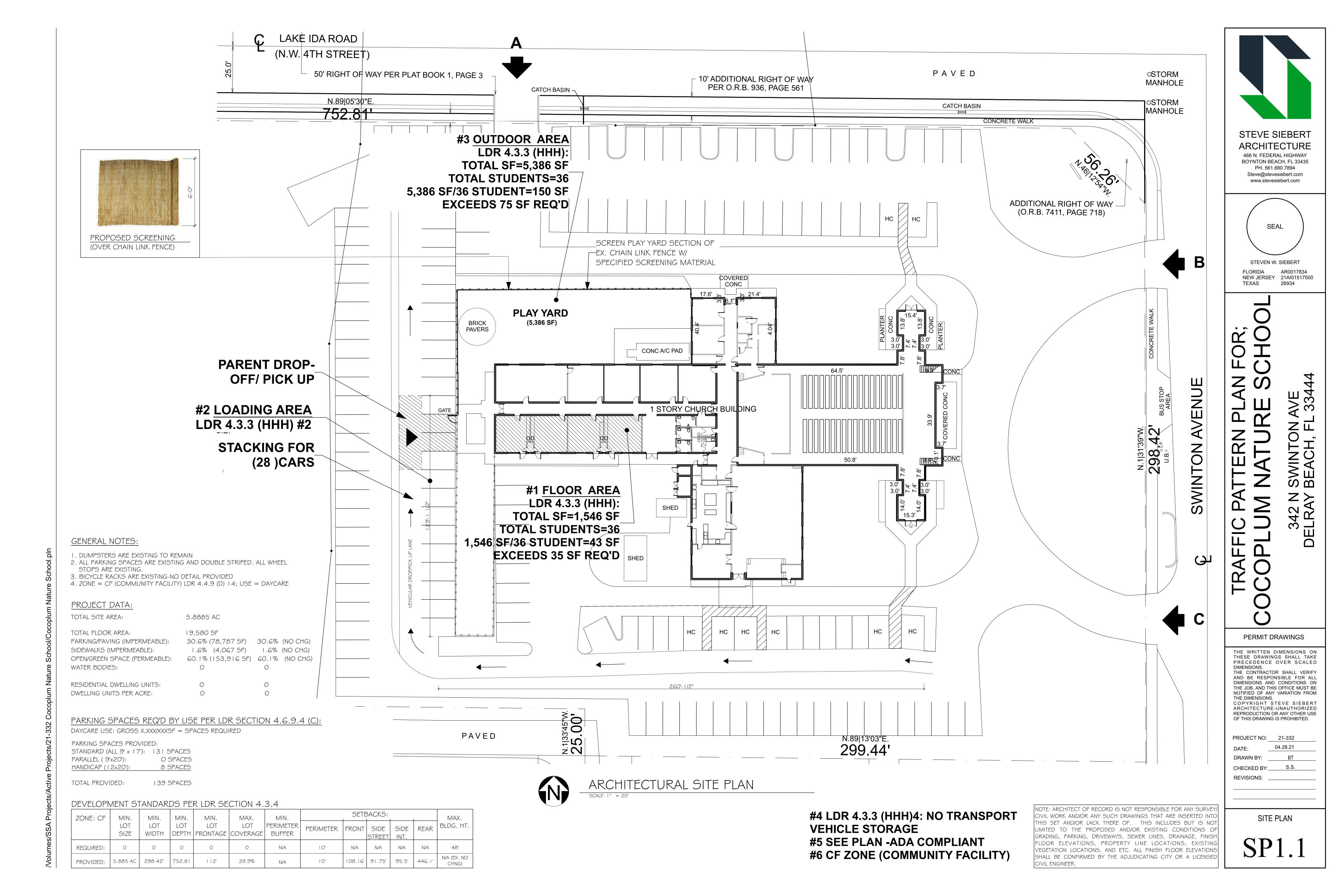
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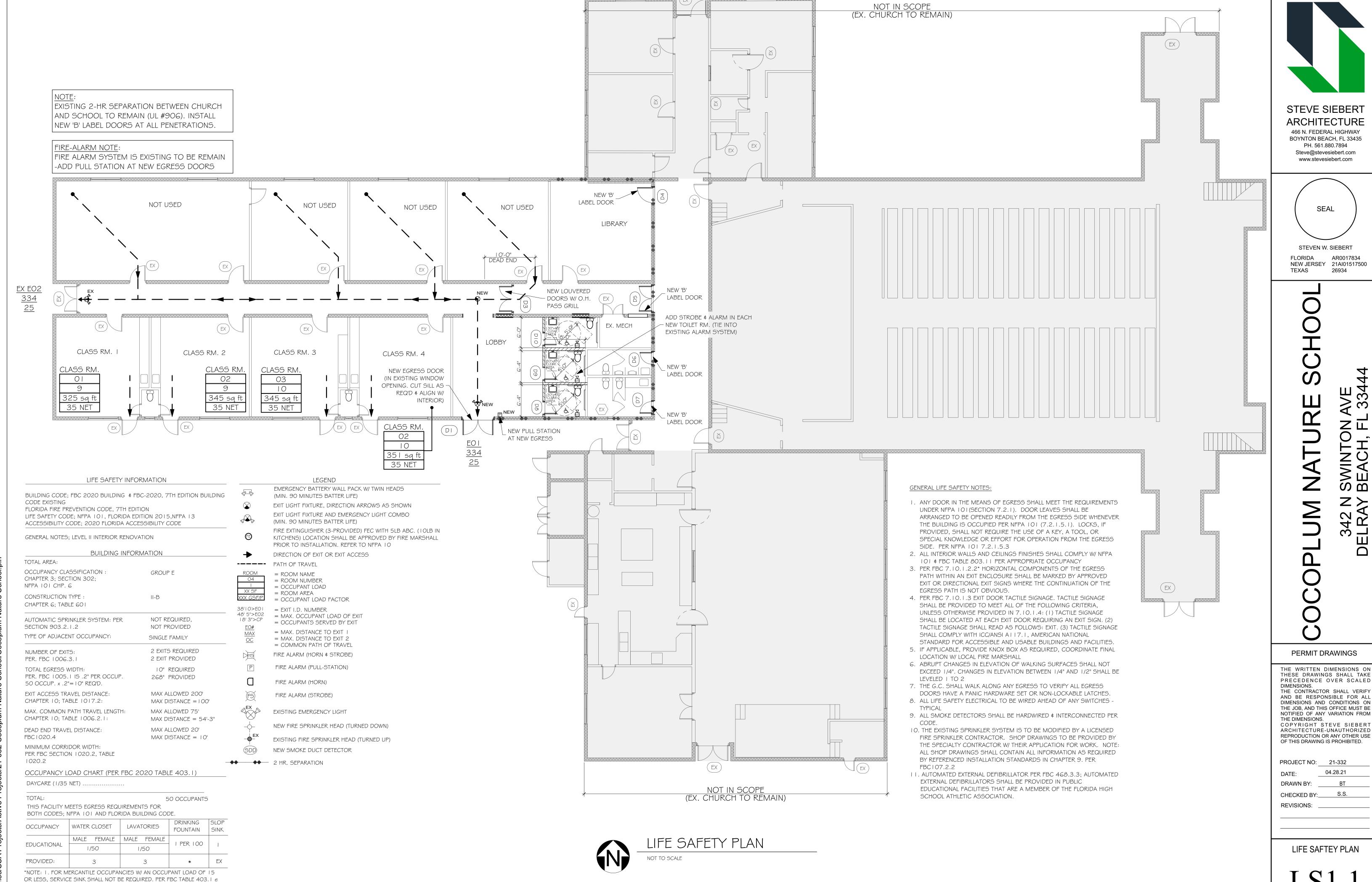
Meaghan L. Capuano, PE Florida License Number: 77127

CAB

Enclosures

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2. DRINKING FOUNTAINS SHALL NOT BE REQUIRED FOR AN OCCUPANT

LOAD OF 15 OR FEWER. PER FBC 410.2

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PROJECT NO: 21-332 04.28.21

Palm Beach County Trip Generation Rates

(Effective with traffic studies submited to the County on or after 4/15/2019)

ITE						AM Peak Hour	PM Peak Hour		
Gr	Landuse	Code	Unit	Daily Rate/Equation	Pass-By %		Rate/Equation	In/Out	Rate/Equation
Industrial	Light Industrial	110	1000 S.F.	4.96	10%	88/12	0.7	13/87	0.63
	Warehouse	150	1000 S.F.	1.74	10%	77/23	0.17	27/73	0.19
	Flex Space - IND FLU	PBC	1000 S.F.	7.86	10%	64/36	1.53	40/60	1.21
<u>l</u> ud	Flex Space - COM FLU	PBC	1000 S.F.	29.67	45%	72/28	2.12	40/60	2.67
	Mini-Warehouse/SS	151	1000 S.F.	1.51	10%	60/40	0.1	47/53	0.17
	Single Family Detached	210	Dwelling Unit	10	0%	25/75	0.74	63/37	Ln(T) = 0.96 Ln(X) + 0.20
	Multifamily Low-Rise Housing upto 2 story (Apartment/Condo/TH)	220	Dwelling Unit	7.32	0%	23/77	0.46	63/37	0.56
Residential	Multifamily Mid-Rise Housing 3-10 story (Apartment/Condo/TH)	221	Dwelling Unit	5.44	0%	26/74	0.36	61/39	0.44
esi	55+ SF Detached	251	Dwelling Unit	4.27	0%	33/67	0.24	61/39	0.30
"	55+ SF Attached	252	Dwelling Unit	3.7	0%	35/65	0.2	55/45	0.26
	Congregate Care Facility	253	Dwelling Unit	2.02	0%	60/40	0.07	53/47	0.18
	Assisted Living Facility	254	Beds	2.6	0%	63/37	0.19	38/62	0.26
Ldg	Hotel	310	Rooms	8.36	10%	59/41	0.47	51/49	0.6
Rec	Movie Theater	444	Seats	1.76	5%	N/A	0	55/45	0.09
Ä	Health Club	492	1000 S.F.	32.93	5%	50/50	1.41	57/43	3.53
	Elementary School	520	Students	1.89	0%	54/46	0.67	48/52	0.17
	Middle/Junior School	522	Students	2.13	0%	54/46	0.58	49/51	0.17
<u>a</u>	High School	530	Students	2.03	0%	67/33	0.52	48/52	0.14
Institutional	Private School (K-8)	534	Students	Use Private K-12 rate	0%	55/45	0.91	46/54	0.26
titu	Private School (K-12)*	536	Students	2.48	0%	61/39	0.80	43/57	0.17
lus	Church/Synagogue ^a	560	1000 S.F.	6.95	5%	60/40	0.33	45/55	0.49
	Day Care	565	Students	4.09	50%	53/47	0.78	47/53	0.79
	Library	590	1000 S.F.	72.05	10%	71/29	1	48/52	8.16
Med	Hospital	610	1000 S.F.	10.72	10%	68/32	0.89	32/68	0.97
Š	Nursing Home	620	Beds	3.06	10%	72/28	0.17	33/67	0.22
ø.	General Office (>5,000 SF GFA)	710	1000 S.F.	Ln(T) = 0.97 Ln(X) + 2.50	10%	86/14	T = 0.94(X) + 26.49	16/84	1.15
	Small Office Building (<=5,000 SF GFA)	712	1000 S.F.	16.19	10%	83/18	1.92	32/68	2.45
Office	Medical Office	720	1000 S.F.	34.8	10%	78/22	2.78	28/72	3.46
°	Medical Office (Reduced) ^b	PBC	1000 S.F.	17.4	10%	78/22	1.39	28/72	1.73
	Government Office	730	1000 S.F.	22.59	10%	75/25	3.34	25/75	1.71

Palm Beach County Trip Generation Rates

(Effective with traffic studies submited to the County on or after 4/15/2019)

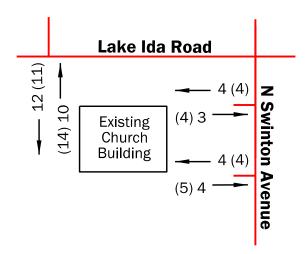
		ΠĒ			·	AM Peak Hour		PM Peak Hour		
Gr	Landuse	Code	Unit	Daily Rate/Equation	Pass-By %	In/Out	Rate/Equation	In/Out	Rate/Equation	
	Nursery (Garden Center)	817	Acre	108.1	0%	N/A'	2.82	N/A'	8.06	
	Nursery (Wholesale)	818	Acre	19.5 ^c	0%	N/A ^l	0.26	N/A ^l	0.45	
	Landscape Services	PBC	Acre ^m	121.70	0%	40/60	34.4	58/42	15.1	
Retail	Gen. Commercial	820	1000 S.F.	$Ln(T) = 0.68 Ln(X) + 5.57^d$	Note e	62/38	0.94	48/52	$Ln(T) = 0.74 Ln(X) + 2.89^f$	
Rei	Automobile Sales (New)	840	1000 S.F.	27.84	15%	73/27	1.87	40/60	2.43	
	Automobile Parts Sales	843	1000 S.F.	55.34	28%	55/45	2.59	48/52	4.91	
	Tire Store	848	1000 S.F.	28.52	28%	64/36	2.72	43/57	3.98	
	Pharmacy + DT	881	1000 S.F.	109.16	50%	53/47	3.84	50/50	10.29	
	Drive-In Bank ^g	912	1000 S.F.	100.03	47%	58/42	9.5	50/50	20.45	
	Quality Restaurant	931	1000 S.F.	83.84	44%	50/50	0.73	67/33	7.8	
	High Turnover Sit-Down Rest.	932	1000 S.F.	112.18	43%	55/45	9.94	62/38	9.77	
es	Fast Food Restaurant w/o DT	933	1000 S.F.	346.23	45%	60/40	25.1	50/50	28.34	
Services	Fast Food Restaurant + DT	934	1000 S.F.	470.95	49%	51/49	40.19	52/48	32.67	
Se	Coffee/Donut Shop w/o DT	936	1000 S.F.	686.67 ^h	45%	51/49	101.14	50/50	36.31	
	Coffee/Donut Shop + DT	937	1000 S.F.	820.38	49%	51/49	88.99	50/50	43.38	
	Gas Station w/Convenience Store ⁱ	FDOT	FP, 1000 S.F.	14.3*PM Trips	61%	50/50	Note j	50/50	12.3*FP+15.5*(X)	
	Carwash (Automated) ^k	PBC	Lane	166.00	0%	50/50	11.97	50/50	13.65	

- a) Weekend peak hour rate = 9.99 per 1,000 s.f. with a 48/52 directional split
- b) To be used only when adjacent to hospital, for Med. Office square footage not to exceed 44% of the hospital square footage
- c) Use caution when using because of very low sample data. Consult with the County before using.
- d) For intensities under 10,000 s.f., use a rate of 125.61 / 1,000 S.F. instead of the equation.
- e) Pass-by percent = 62% for 10,000 s.f. or less, otherwise = 83.18 9.30 * Ln(A) where A is 1,000 s.f. of leasable area
- f) For intensities under 10,000 s.f., use a rate of 9.9 / 1,000 s.f. instead of the equation.
- g) Use these rates for a drive-in bank with up to 4 drive-thru lanes (excl. ATM lane). For additional drive-thru lanes, use per lane rates from ITE Code 912 (124.76 daily, 8.83 AM, 27.15 PM. Use same in/out splits)
- h) ITE rate NA. Rate derived using PM to Daily ratio for ITE Code 937
- i) FP=Fueling Position. Use both FP and Convenience Store size in estimating trips using the provided equation. Note that no internalization between the gas pumps and convenience store, as per ULDC Artice 12, should be applied to estimate the net trips.
- i) Use PM rates
- k) Daily rate taken from PBC trip gen. study. Peak hour rates derived by applying peak to daily ratios for gas station to daily carwash rate
- Assume 50/50
- m) Landscape Services acreage consists of overnight vehicle and equipment storage as well as areas (covered or uncovered) for chemicals, fertilizers, landscape materials (excluding plants) and other items needed for day-to-day operations. Not included are drive aisles, customer/employee parking, structures shared by nursery and landscape services, facilities that solely serve the onsite landscape activities or any nursery growing areas.

Modification History **3/26/2019**: First published

3/2/2020: Added Landscape Services, modification history, edited formatting,

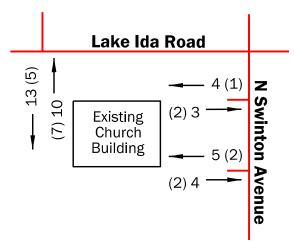
EXISTING SITE TRIPS



NEW SITE TRIPS

Lake Ida Road O (-2) Existing (-2) 0 Church Building (-3) 0 Volume Volume Volume Volume No Winton Avenue

TOTAL PROPOSED SITE TRIPS



CocoPlum Nature School

FIGURE 1

TY:LININTERNATIONAL

TURNING MOVEMENT VOLUMES AM (PM) - PEAK HOURS