



## Engineering & Planning, Inc.

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**To:** Rick Brautigan Architecture  
**From:** Shaun G. MacKenzie, P.E.  
**Date:** May 3, 2021  
**Re:** Silver Ball Expansion

The Silver Ball project expansion is located in the Delray Beach TCEA and generates 37 new daily trips based on the 628 SF expansion. A new study and County TPS letter are not required in accordance City Code Section 2.4.3.

Because the project is located within the TCEA and the projected increase in trips is less than 200 daily trips, no traffic study is required. Attached is a traffic statement for the project.

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Shaun G. MacKenzie, P.E.  
PE 61751  
MacKenzie Engineering and Planning, Inc.  
CA 29013

# *TRAFFIC IMPACT ANALYSIS*

## Silver Ball Museum (19 N.E. 3rd Avenue) Delray Beach, FL

*Prepared for:*

Rick Brautigan Architecture, Inc.  
Delray Beach, Florida

*Prepared by:*



Engineering & Planning, Inc.

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## ***EXECUTIVE SUMMARY***

MacKenzie Engineering and Planning, Inc. performed an analysis of the traffic impacts resulting from the proposed project expansion of the Silver Ball Museum located at 19 N.E. 3rd Avenue, Delray Beach, Florida (PCN 12-43-46-16-01-092-0091).

The applicant proposes to add additional floor area to an existing two-story building that houses pinball machines and sells refreshments and limited food options. The 7,697 SF entertainment use proposes a 628 SF expansion to 8,325 total SF.

The proposed changes to the site are projected to generate an increase of 27 daily, 0 AM peak hour, and 2 PM peak hour (1 in, 1 out) trips from the site. The new trips do not significantly impact any roadways or intersections. This traffic impact analysis shows that the proposed Project will meet Palm Beach County's Traffic Performance Standards through December 31, 2022. The project is located within the Delray Beach TCEA and is reporting its impacts consistent with the requirements of the TCEA.

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## LIST OF EXHIBITS

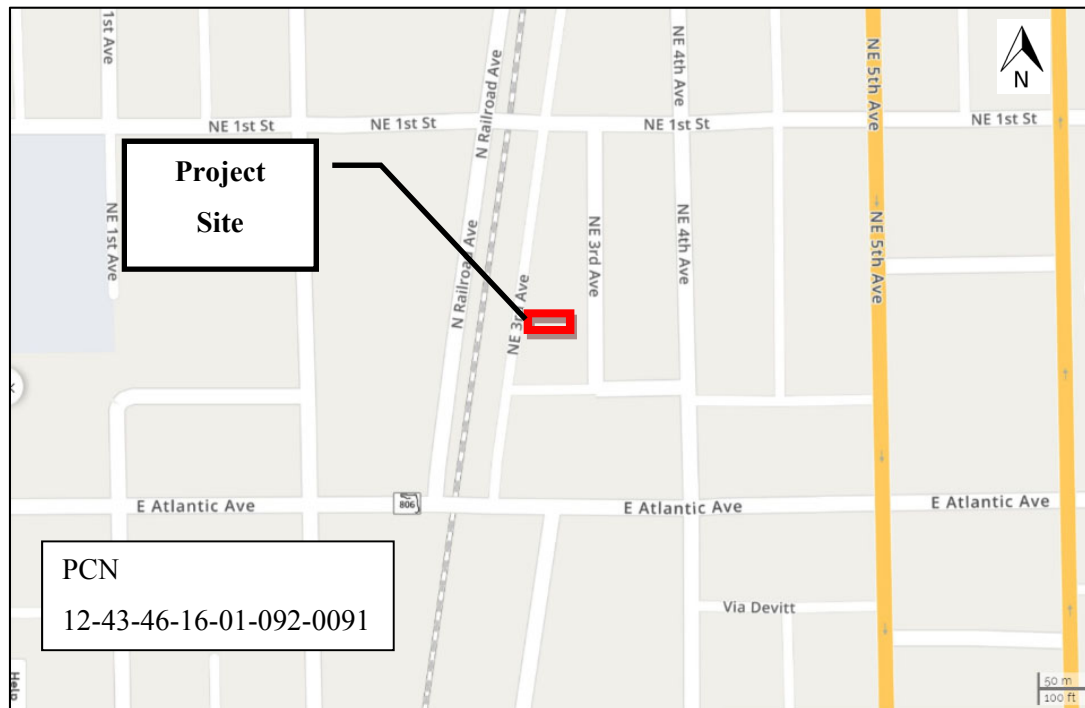
|   |
|---|
| Exhibit 1. Trip Generation  |
| Site Plan   |
| ITE's land use 435 <i>Trip Generation (10<sup>th</sup> Edition)</i> |

## ***INTRODUCTION***

This analysis has been prepared to evaluate traffic impacts resulting from proposed expansion of the 7,697 square-foot (SF) Silver Ball Museum. The Silver Ball Museum is an entertainment venue with pinball machines for entertainment. The use also serves refreshments and limited foods. The Silver Ball Museum proposes an expansion of 628 SF and is located at 19 N.E. 3rd Avenue, Delray Beach, Florida (PCN 12-43-46-16-01-092-0091). The entertainment venue has been occupied and active for five year. Figure 1 illustrates the site location. The project is located within the Delray Beach Transportation Concurrency Exception Area (TCEA).

MacKenzie Engineering & Planning, Inc. was retained to prepare a traffic impact analysis for the project. This document presents the methodology used and the findings of the traffic impact analysis. The analysis was conducted in accordance with the requirements of the Countywide Traffic Performance Standards of Palm Beach County and the Land Development Regulations of the City of Delray Beach. The analysis used current data available from Palm Beach County and the Institute of Transportation Engineers. A buildout year of 2022 is proposed for the project.

**Figure 1. Site Location Map**



## **INVENTORY AND PLANNING DATA**

Rick Brautigan Architecture provided project development information.

### **PROJECT TRAFFIC**

#### **Traffic Generation**

An single use entertainment use is not a defined use by Palm Beach County or within the Institute of Transportation Engineers' (ITE) report, *Trip Generation (10<sup>th</sup> Edition)*. Therefore, "Multipurpose Recreation Facility" was selected as the most similar use within *Trip Generation (10<sup>th</sup> Edition)* (ITE Land Use 435).

#### **Existing Site**

The existing use is 7,697 SF.

#### **Proposed Site**

The proposed use will be 8,325 SF.

The daily and peak hour traffic generation for the development uses the trip generation rates published by Palm Beach County for Land Use 710 (General Office), 220 (Apartment), and 933 (Fast Food Restaurant without a drive-thru). The trip generation rate for pharmacy without a drive through utilized rates from the Institute of Transportation Engineers (ITE) report, *Trip Generation, 9<sup>th</sup> edition* because Palm Beach County does not publish a rate for this use. The Silverball Museum and other similar uses are not open during the weekday AM peak hour and therefore AM peak hour data is not published. ITE also does not publish a daily trip generation rate. Therefore, the daily trip generation rate will be conservatively estimated as 12 times the PM peak hour rate.

The proposed project is expected to generate the following net new external trips:

- 27 daily, 0 AM peak hour, and 2 PM peak hour (1 in, 1 out)

### *Pass-by Trip Capture*

No pass-by capture was applied.

### *Traffic Distribution*

Traffic distribution and assignment was determined using engineering judgment, trip lengths based on the uses and from a review of the roadway network. The overall distribution is summarized by general direction and is depicted below:

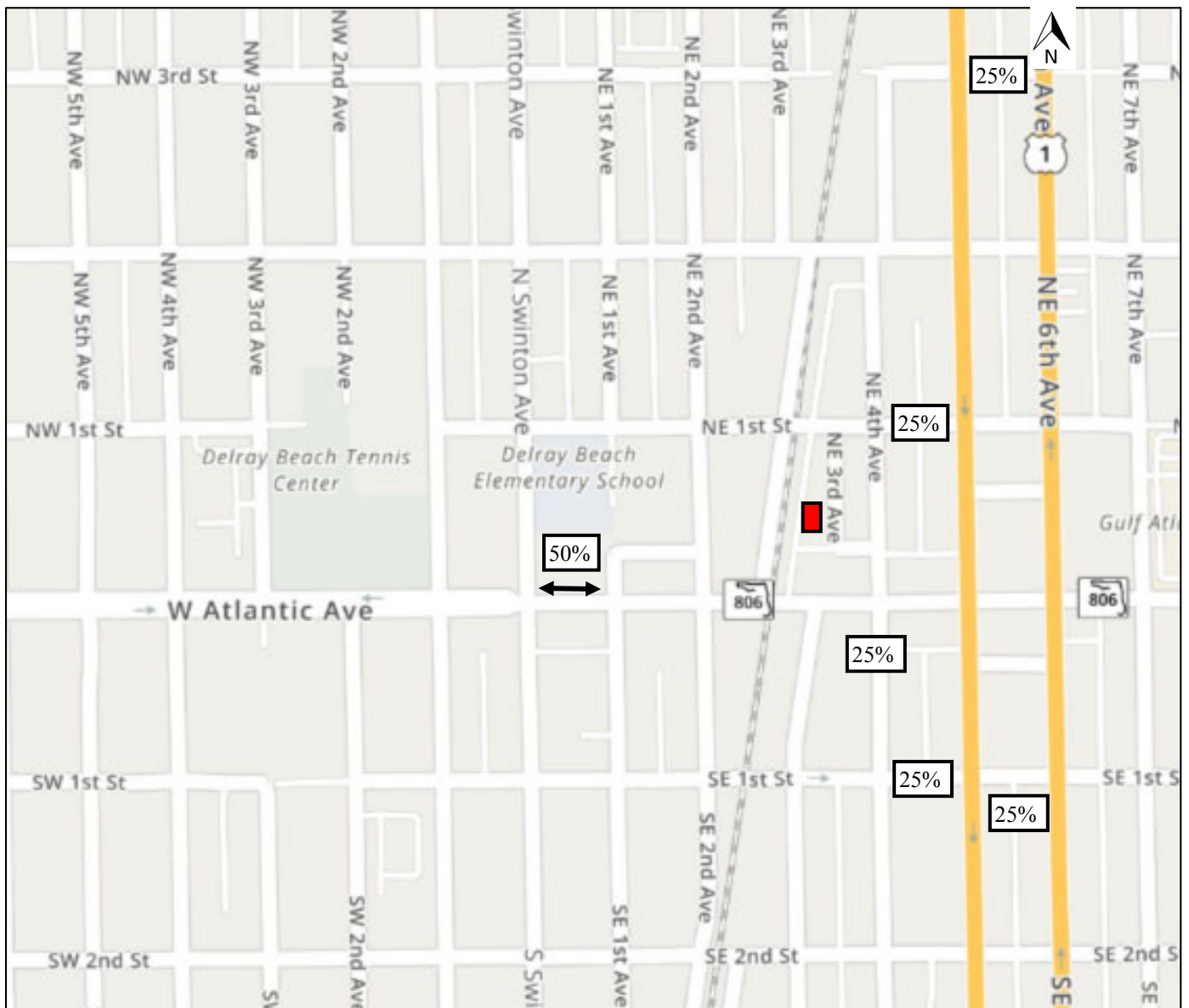
|       |   |            |
|-------|---|------------|
| NORTH | - | 25 percent |
| SOUTH | - | 25 percent |
| WEST  | - | 50 percent |

### *Traffic Assignment*

The increase in daily traffic generation has been assigned to the links within the project's radius of development influence. The distributed external trips for the project were assigned to the roadway network within the radius of influence.

The project assignment is illustrated in Figure 2.

**Figure 2. Traffic Assignment**



### *Radius of Impact*

Based on Table 12.B.2.D-7 3A of Article 12 of the Palm Beach County Unified Land Development Code, for a peak hour trip generation of 2 peak hour trips, the radius of development influence is the directly access link.

## ***ANALYSIS***

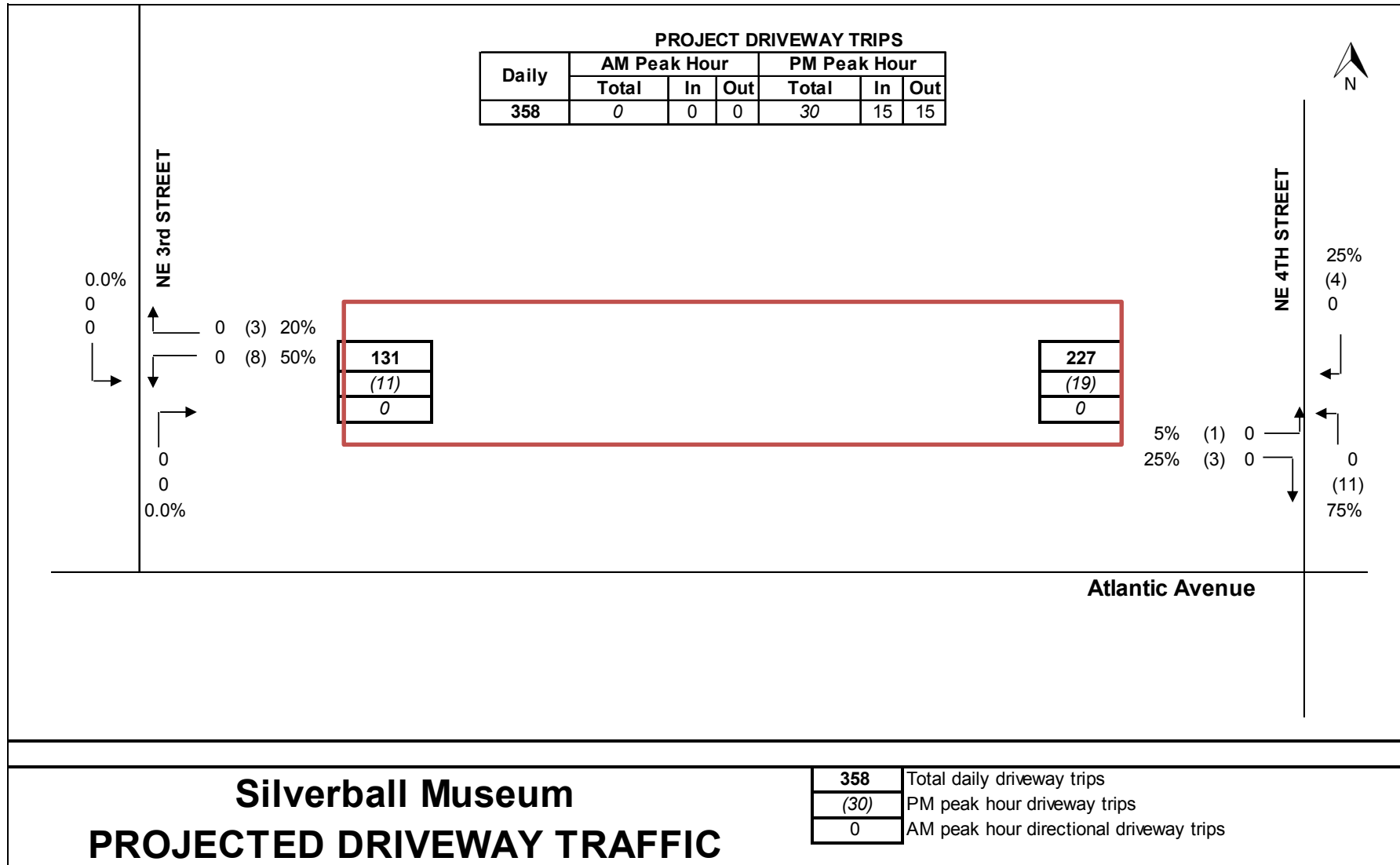
The project is located within the Delray Beach Transportation Concurrency Exception Area (TCEA). No further analysis is needed.

## ***DRIVEWAYS***

### ***Proposed Access***

The applicant has access from NE 3<sup>rd</sup> and NE 4<sup>th</sup> Avenue. Figure 3 displays the driveway volumes.

**Figure 3. Driveway Trips**



## **CONCLUSION**

MacKenzie Engineering and Planning, Inc. performed an analysis of the traffic impacts resulting from the proposed project site located at 19 N.E. 3rd Avenue, Delray Beach, Florida (PCN 12-43-46-16-01-092-0091). The proposed changes to the site are projected to generate an increase of 27 daily, 0 AM peak hour, and 2 PM peak hour (1 in, 1 out) trips from the site. The project is located within the Delray Beach TCEA and does not require analysis.

The driveways do not require turn lanes.

This traffic impact analysis shows that the proposed Project will meet Palm Beach County's Traffic Performance Standards through December 31, 2022. The project is located within the Delray Beach TCEA and is reporting its impacts consistent with the requirements of the TCEA.

| EXHIBIT 1.<br>Silverball Museum<br>Trip Generation             |           |         |             |              |              |      |              |          |     |
|--|-----------|---------|-------------|--------------|--------------|------|--------------|----------|-----|
| Land Use   | Intensity |         | Daily Trips | AM Peak Hour |              |      | PM Peak Hour |          |     |
|  |           |         |             | Total        | In           | Out  | Total        | In       | Out |
| <u>Existing Site Traffic</u>                                   |           |         |             |              |              |      |              |          |     |
| Multipurpose Recreational Facility                             | 7.697     | 1000 SF | 331         | 0            | 0            | 0    | 28           | 14       | 14  |
| <u>Proposed Site Traffic</u>                                   |           |         |             |              |              |      |              |          |     |
| Multipurpose Recreational Facility                             | 8.325     | 1000 SF | 358         | 0            | 0            | 0    | 30           | 15       | 15  |
| NET CHANGE IN TRIPS (FOR THE PURPOSES OF CONCURRENCY)          |           |         | 27          | 0            | 0            | 0    | 2            | 1        | 1   |
| NET CHANGE IN DRIVEWAY VOLUMES                                 |           |         | 27          | 0            | 0            | 0    | 2            | 1        | 1   |
| Note: Trip generation was calculated using the following data: |           |         |             |              |              |      |              |          |     |
| Land Use   | ITE Code  | Unit    | Daily Rate  | Pass-by Rate | AM Peak Hour |      | PM Peak Hour |          |     |
|  |           |         |             |              | in/out       | Rate | in/out       | Equation |     |
| Multipurpose Recreational Facility                             | 435       | 1000 SF | 42.96       | 0%           | 79/21        | 0.00 | 51/49        | 3.58     |     |

s:\jobs - share drive\033 - rba\012 - silver ball museum\silverball museum 4-12-21.xlsx\tgen

PROJECT DATA

Applicable Codes

1. Florida Building Code 2014 Edition, Existing Building Code 2014 Edition

2. Florida Fire Prevention Code 2014 Edition

3. NFPA 1 - Fire Code, Florida Edition

4. NFPA 101 - Life Safety Code, Florida Edition

5. Florida Accessibility Code for Building Construction in Florida Building Code 2014 Edition.

Project Data:

Existing Zoning Classification:

Central Business District (CBD)

Existing Site area:

5,887 s.f. (.14 acres)

Scope of Work:

Level 2 Interior Alteration of Existing 2-story Bldg.: Pinball Games Museum

Existing Floor Area:

Existing 1st Floor.....5,162 s.f.

Existing 2nd Floor.....2,211 s.f.

Added 2nd floor area... 836 s.f.

Total Building Area.....8,209 s.f.

Existing Building Height:

31'-5"

Existing/Proposed Occupancy:

Assembly - A2 (See Life Safety Plans for Occupancy Calculations)

Existing Type of Construction : III-B - FULLY SPRINKLERED

Fire Restrictive Rating For Building Elements

Table 601 FBC

Exterior Bearing Walls (Existing):

2-HRS

Interior Bearing Walls (Existing):

0-HRS

Interior Non-Bearing Walls Exist./New):

0-HRS

Floor/Roof Construction (Existing):

0-HRS

Number of Exits

Section 1015

FBC

Occupancy

Exits required

Exits provided

A2

2

3

FBC 2014 Egress requirements

Dead-end corridors 20' max.

Per FBC Table 1014.3 Common paths of travel shall not be more than 75'.

Per FBC Table 1016.1 Travel Distance to Exits 250' max.

SEE LIFE SAFETY PLANS FOR FURTHER INFORMATION

Fire Protection Notes:

1. Existing fire sprinkler system to remain. Relocate existing fire sprinkler heads as required. Contractor shall provide a letter from a licensed fire sprinkler company stating that existing system has been inspected and complies with requirements for adequate layout, flow, backflow & riser. Submit fully engineered shop drawings for any modification of existing system required.

2. Existing Fire Alarm, fire detection and communication system to remain. Contractor shall verify that it is fully functional and adequate.

FINISH NOTES:

NFPA Interior Finish Schedule per Section 13.3.3 (Existing Assembly)

Floors: No Requirements (13.3.3.5)

Walls: Required/Provided: Class A, B, or C compliance

Ceiling: Required/Provided: Class A, B, or C compliance

1. Unless otherwise noted on finish plan, all finishes to be supplied and installed by G.C.

2. Prepare all surfaces to receive new finishes.

3. All flooring transitions to be smooth and level.

4. Patch and repair slab to receive new finishes as required.

ADA Access Note:

Provide level transition at entrances to building in compliance with ADA. Contractor shall verify all slopes leading up to entry comply.

SCOPE OF WORK:

ADDITION OF INTERIOR MEZZANINE & 2ND STORY CATWALK. SCOPE OF WORK DOES NOT INCREASE RESTAURANT/ BAR AREA

LOCATION MAP

EXISTING BUILDING IS FULLY SPRINKLERED

8

OCCUPANCY CALCULATIONS/PLUMBING FIXTURE COUNT

Existing Building: 435 Occupants

Addition: 70 Occupants

Total: 505 Occupants

PLUMBING FIXTURE COUNT NOTE: Based on the existing plumbing fixtures provided in existing building, the maximum occupant load allowed is 280. GC to install sign by entry door showing 280 as maximum occupant load for building.

\*\*Drinking Fountain: Per Plumbing Florida Building Code Section 410.3, this facility will provide drinking water in a container free of charge, thus a Drinking Fountain is not required

INDEX OF DRAWINGS

BUILDING ARCHITECTURE

RICK BRAUTIGAN ARCHITECTURE, INC.

1025 South Dixie Highway

Delray Beach, Florida, 33483

No.

Title

Issued

A1

Project Data Existing Floor Plans.....

04-26-17

A2

Existing/Proposed 1st Floor Plan/Life Safety.....

04-26-17

A3

Existing/Proposed 2nd Floor Plan/Life Safety.....

04-26-17

A4

Sections & Details.....

04-26-17

Commercial General Notes:

1. The architect will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the work, and he will not be responsible for the contractor's failure to carry out the work in accordance with the contract documents. The architect will not be responsible for or have control or charge over the acts or omissions of the contractor, subcontractors, or any of their agents or employees, or any other persons performing any of the work.

2. All codes having jurisdiction shall be observed strictly in the construction of the project, including all applicable state, city, and county building, zoning, electrical, mechanical, plumbing, fire codes. Contractor shall verify all code requirements and the construction documents.

3. Errors and omissions which may occur in contract documents shall be brought to the attention of the architect in writing and written instructions shall be obtained before proceeding with the work. The contractor will be held responsible for the results of any errors, discrepancies, or omissions which the contractor failed to notify the architect of before construction and /or fabrication of the work.

4. Contractor and subcontractors are to verify all dimensions and job conditions at the job site sufficiently in advance of work to be performed to assure the orderly progress of work. Do not scale drawings. Architect shall be notified in writing, prior to commencing any work, of any errors or discrepancies in drawings or between prepared drawings and field conditions.

5. It is the purpose of these plans and specifications to describe a complete and finished project other than items marked "N.I.C." (not in contract).

6. The contractor shall maintain the premises clean and free of all trash, debris and shall protect all adjacent work from damage, soiling, paint overspray, etc. All fixtures, equipment, glazing, floors, etc. Shall be left clean and ready for occupancy upon completion of the project.

7. All work is to be done under the supervision of the general contractor, in accordance with the owner-contractor agreement.

8. All wood in contact with concrete or masonry or below finished floor is to be pressure treated.

9. All materials and products used for and in construction are required to have applicable products control code approval.

10. Contractor shall carry all necessary insurance as required by law and hold harmless the owner or architect from any loss, liability, claim or demand for damages arising out of or relating to the performance of the work as described by these drawings.

11. The owner shall effect and maintain fire, extended coverage and vandalism insurance for 100% of the insurable value of all construction on the site.

12. The general contractor shall guarantee all work specified and/or described by these drawings free from any defects or malfunctions for a period of one year commencing from the substantial completion date or from the time of occupancy, whichever occurs first. The general contractor is responsible for all work executed by subcontractors or other trades, plumbing equipment.

13. The contractor shall acquire all permits and licenses and pay all fees necessary for the execution of the work.

EXISTING 2nd FLOOR PLAN

EXISTING 1st FLOOR PLAN

Existing Floor Plans

Data Sheet

1/8"=1'-0"

RICK BRAUTIGAN ARCHITECTURE

1025 South Dixie Highway

Delray Beach, FL 33483

Ph: 561.272.9086

Fx: 561.272.5636

AAC002029

Level II Interior Alteration

Silver Ball Museum

19 N.E. 3rd Ave.

Delray Beach,

Florida.

RBA.PN.15115.10

Issued

○ : Permit

○ : GC Bid Set

● 2-5-16: Revision 1

△ Restroom Name's Corrected

△ 3-1-16: Revision 3

Remove Unisex Restroom Note

△ 3-2-16: Revision 4

Revised framing details for catwalk

△ 5-10-16: Fire Dept. Comment.

1. Add Seating per Fire Dept.

△ 6-07-16: Revision

1. Add Food Service Area Square Footage

△ 1-9-17: Occupancy

Revision

△ 5-9-17: 2nd floor addition

PAUL RICHARD BRAUTIGAN, ARCHITECT

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## **Land Use: 435**

### **Multipurpose Recreational Facility**

#### **Description**

A multipurpose recreational facility contains two or more of the following land uses combined at one site: miniature golf, batting cages, video arcade, bumper boats, go-carts, and golf driving range. Refreshment areas may also be provided. Golf course (Land Use 430), miniature golf course (Land Use 431), golf driving range (Land Use 432), batting cages (Land Use 433), rock climbing gym (Land Use 434), and trampoline park (Land Use 436) are related uses.

#### **Additional Data**

The sites were surveyed in the 1990s and the 2000s in Oregon.

#### **Specialized Land Use Data**

A survey conducted in Pennsylvania in 1998 was submitted for an indoor race track facility containing a go-cart racing track, arcade, laser tag, restaurant, and party function rooms. The trip generation rates for this facility differ considerably from those contained in this land use. The site gross floor area was 118,000 square feet. The counted vehicle trips were as follows:

- 235 on a weekday
- 28 during the weekday, AM peak hour of the generator
- 29 during the weekday, PM peak hour of the generator
- 20 during the weekday, PM peak hour of adjacent street traffic
- 277 on a Saturday
- 34 during the Saturday peak hour of the generator

#### **Source Numbers**

583, 611, 618

## Multipurpose Recreational Facility (435)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA  
 On a: Weekday,  
 Peak Hour of Adjacent Street Traffic,  
 One Hour Between 4 and 6 p.m.  
 Setting/Location: General Urban/Suburban  
 Number of Studies: 3  
 1000 Sq. Ft. GFA: 21  
 Directional Distribution: 55% entering, 45% exiting

### Vehicle Trip Generation per 1000 Sq. Ft. GFA

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 3.58         | 2.95 - 4.06    | 4.40               |

### Data Plot and Equation

*Caution – Small Sample Size*

