

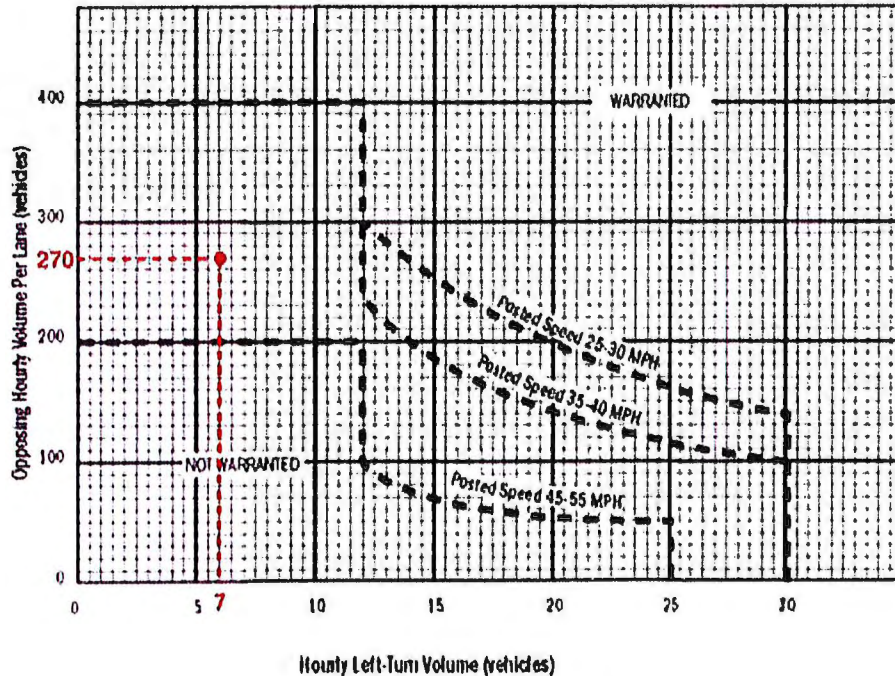
### Improvements Analysis

This memorandum evaluated the needs for turn lanes on Old Spanish Trail to provide access to the project site. This study followed the turn lane warrants as outlined in the *2016 Pima County Subdivision and Development Street Standards*<sup>4</sup>.

Because existing peak hour through volumes are not available, they were estimated based on the average daily traffic in the Old Spanish Trail study segment. It is assumed that 10% of the daily traffic occurs during the peak hour, with 60% of traffic moving in the peak travel direction. Therefore, the directional hourly volume in the study segment is approximately 270 vehicles per hour in the peak direction. To be conservative, the peak direction hourly volume will be used to evaluate both turn lane warrants.

The warrant analysis for a northbound left turn lane on Old Spanish Trail is shown in Figure 5. As seen in the figure, 7 hourly left turns with an opposing hourly volume of 270 vehicles per hour do not warrant a left turn lane on a 40 MPH roadway.

**Figure 5. Left Turn Lane Warrant**

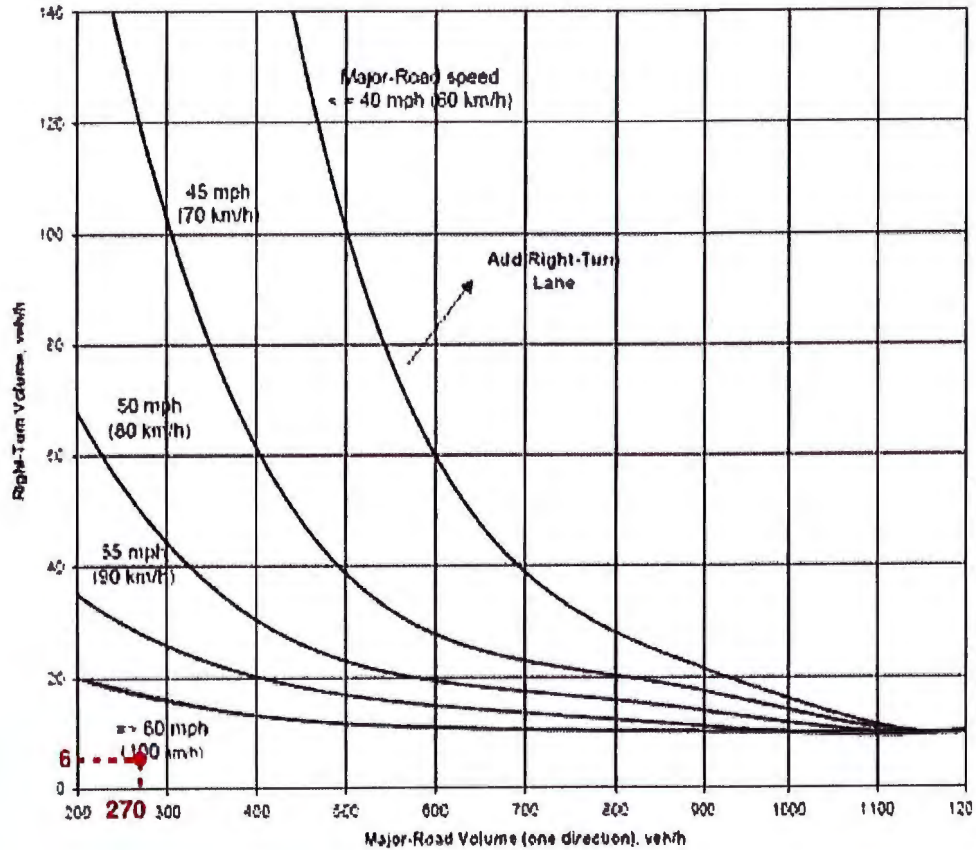


<sup>4</sup> 2016 Pima County Subdivision and Development Street Standards. Available at [https://webcms.pima.gov/UserFiles/Servers/Server\\_6/File/Government/Development%20Services/Building/2016%20SDSS.pdf](https://webcms.pima.gov/UserFiles/Servers/Server_6/File/Government/Development%20Services/Building/2016%20SDSS.pdf)

Kelley Matthews  
February 25, 2019

The warrant analysis for a southbound right turn lane on Old Spanish Trail is shown in Figure 6. As seen in the figure, 6 hourly right turns with a directional hourly volume of 270 vehicles per hour do not warrant a right turn lane on a 40 MPH roadway.

**Figure 6. Right Turn Lane Warrant**



### Summary of Findings

This memorandum presented a summary of the potential traffic impacts associated with the proposed Bike Ranch Resort on Old Spanish Trail south of Cactus Forest Drive (entrance to Saguaro National Park East) and north of Escalante Road. The project is expected to generate 17 new trips during the morning peak hour, and 18 trips in the evening peak hour. Those volumes would represent less than 5% of the peak hour volumes on Old Spanish Trail, and are well below the minimum thresholds used by Pima County for requiring a traffic study (100 peak hour trips), or even a traffic memorandum (25 peak hour trips).

Kelley Matthews  
February 25, 2019

There are eight existing single-family homes in the project site, which generate approximately 6 trips in the morning peak hour and 8 trips in the afternoon peak hour. The total trips generated at the site access driveway (Bike Ranch Resort and existing homes) were evaluated to assess the need for a northbound left turn lane and a southbound right turn lane on Old Spanish Trail to provide access to the project site. Based on the turn lane warrants in the *Pima County Subdivision and Development Street Standards*, no turn lanes are warranted. Sight distance at the access driveway meets design requirements. No other improvements are needed, but it is recommended that stop signs be installed for vehicles exiting the site, to assist visitors to the resort who may be unfamiliar with the intersection.

## BIKE RANCH RESORT BUILDING SITING INFLUENCES

In addition to Old Spanish Trail and Saguaro National Park there are five adjacent residences that primarily influenced the location of Bike Ranch buildings. The siting consideration was based primarily on views. (What would be seen from the eye level of neighbors) In some cases these views are from patio or pool areas). Major existing vegetation, washes and wildlife corridors also influenced the siting.

- A. Saguaro National Park Visitor's Center
- B. Shemroske residence to the west of the Bike Ranch site.
- C. Altman residence to the northwest of the Bike Ranch site.
- D. Bruce residence to the north of the Bike Ranch site.
- E. Bergman residence to the north of the Bike Ranch site.
- F. Colaric residence to the north of the Bike Ranch site.

See site aerial for locations **A, B, C, D, E** and **F**

The first siting consideration was to place most of the Bike Ranch buildings as far as possible from Old Spanish Trail and Saguaro National Park.

- A.** The Bike Barn building (1) is approximately 315 feet from the centerline of Old Spanish Trail and approximately 850 feet from the Park's visitor center building's entry.

Exhibit A is a view from the Visitor's Center towards the Bike Ranch showing an outline of the Bike Barn (1).

See exhibit **A** and photo locations **1, 2** and **3** shown on site aerial.

The remaining siting considerations were the five adjacent residences.

- B.** The **Shemroske** residence (B) is located close to the west boundary of the Bike Ranch property. The closest Bike Ranch building is a two-story casita located approximately 270 feet from the Shemroske residence.

Exhibit B-1 is a view from the residence towards the Bike Ranch. Major vegetation will screen most of the Bike Ranch buildings.

Exhibit B-2 are views of the residence showing the placement of windows facing towards the southeast. The primary views from these windows are to the south of the Bike Ranch buildings. There are no windows facing the northeast, the direction of the Bike Ranch.

The view elevation from the residence is approximately 3038' (3033'+5'). The finish floor elevation of the closest Casita is approximately 3043'.

See exhibit **B1** & **B2** and photo locations **4, 5, 6** and **7** shown on site aerial.

- C.** The **Altman** residence (C) is located northwest of the northwest corner of the Bike Ranch property. The closest Bike Ranch building is a two-story Casita located approximately 360 feet from the pool area of the Altman residence.

Exhibit C is a view of the residence showing the placement of windows facing towards the southeast. The view of the Bike Ranch buildings will be screened by a large amount of vegetation, the distance and the lower elevation of the Altman residence.

The view elevation from the patio is approximately 3038' (3033'+5'). The finish floor elevation of the closest Casita is approximately 3042'.

See exhibit **C1** and photo location **8** shown on site aerial.

- D.** The **Bruce** residence (D) is located close to the north boundary of the Bike Ranch property. The closest Bike Ranch building is a two-story Casita located approximately 216 feet from the corner of the patio of the Bruce residence.

Exhibits D-1 and D-2 are views of the residence showing the placement of windows facing towards the southwest. There are no windows facing the southeast, the direction the Bike Ranch, the location of the Bike Ranch Casitas. It appears the only view of the Bike Ranch buildings will be from the patio looking over a patio wall that screens the Bruce residence's solar panels from their patio.

The view elevation from the patio is approximately 3056' (3051'+5'). The finish floor elevation of the closest Casita is approximately 3040'.

See exhibit **D** and photo locations **9** and **10** shown on site aerial.

- E.** The **Bergman** residence (E) is located close to the north boundary, an east boundary and a west boundary of the Bike Ranch property. The closest Bike Ranch buildings are a two-story Casita located to the west approximately 130 feet from the patio of the Bergman residence. The Ranch House building (2) is located to the south approximately 227 feet from the patio of the Bergman residence. The Maintenance building (3) is located to the east approximately 216 feet from the Bergman residence.

Exhibits E-1 and E-2 are views of the residence showing the placement of windows facing towards the west. There are no windows facing the south and there are minimal windows facing east. It appears the only view of the Bike Ranch buildings to the south will be from the patio looking over a patio wall that screens the Bergman's cell tower from their patio. The sunset view from inside the residence and from the patio to the west will not be obstructed. A small portion of the Casita parapet may be seen. The

Rincon Mountain view from inside the residence and from the residence entry to the east will not be obstructed due to the difference in site elevations.

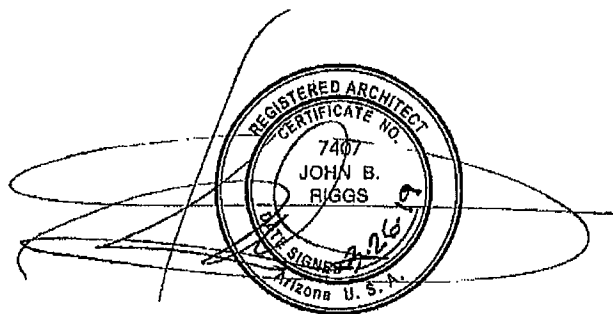
The view elevation from the patio is approximately 3080' (3075'+5'). The finish floor elevation of the Ranch House is approximately 3060'. The finish floor elevation of the closest Casita is approximately 3052'. The view elevation from the entry is approximately 3080' (3075'+5') . The finish floor elevation of the Maintenance is approximately 3070'. The base of the Rincon Mountains is approximately 3060' and the ridge of the mountain is approximately 6000' to 8000'.

See exhibit **E1 & E2** and photo locations **11, 12, 13** and **14** shown on site aerial.

- F.** The **Colaric** residence (F) is located northeast of the Bergman residence and does not abut the Bike Ranch property. The closest Bike Ranch building is a one-story Maintenance building located to the south approximately 220 feet from the Colaric residence pool area.

Exhibit F-1 is a view of the residence showing no windows facing towards the south. It appears there is no view of the Bike Ranch buildings from the Colaric residence. The only view of the Bike Ranch is over the patio wall of the pool area.

See exhibit **F** and photo location **15** shown on site aerial.



Expires 03/31/2022





PHOTO LOCATION 1



PHOTO LOCATION 2



PHOTO LOCATION 3

# EXHIBIT A





4  
SHEMROSKE RESIDENCE  
VIEW FROM BIKE RANCH

SHEMROSKE RESIDENCE  
VIEW TOWARDS BIKE RANCH 5



# EXHIBIT B1

SHEMROSKE RESIDENCE  
6 SOUTHEAST ELEVATION



7  
SHEMROSKE RESIDENCE  
NORTHEAST ELEVATION

EXHIBIT B2



8

ALTMAN RESIDENCE FROM 50 FEET UP

EXHIBIT C



BRUCE RESIDENCE  
FROM THE GROUND 10

9  
BRUCE RESIDENCE FROM 50 FEET UP



# EXHIBIT D