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Trip Generation Comparison

Parking Master Plan

Desert Mountain Parcel 19
Scottsdale, Arizona

Traffic Impact Mitigation Analysis

June 15, 2016

Expires 3-31-2017

Prepared by:
Stanley Consultants, Inc.

Stanley Consultants

7-PP-2017

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APPENDICES

1. INTRODUCTION AND EXECUTIVE SUMMARY

Stanley Consultants, Inc. was retained by DM 19, LLC to complete a Traffic Impact Mitigation Analysis (TIMA) for the proposed Desert Mountain Parcel 19 (DM 19), located in the northeast quadrant of the Cave Creek Road/Pima Road intersection in Scottsdale, Arizona. The site is currently vacant and is located approximately three miles northeast of the Carefree Highway and Scottsdale Road intersection. The project site location is shown in Figure 1.

The purpose of this study is to complete a traffic impact analysis of the proposed rezoning of the DM 19 and quantify the potential traffic impacts of the proposed development to the existing traffic operations.

Executive Summary

The proposed Desert Mountain development would rezone the site from commercial and industrial to R4 residential and will include an 18 hole par 3 golf course. The primary access to the site will be via Cave Creek Road (Access 1) and a secondary access for residents only will be via Pima Road (Access 2). The conceptual site plan is shown in Figure 2. The proposed development is anticipated to generate an average of 1273 daily trips including 71 trips during the AM peak hour and 103 trips during the PM peak hour. The proposed development is anticipated to generate substantially fewer vehicular trips as compared to the currently approved plan.

The study area included the following three intersections:

1. Cave Creek Road/Pima Road
2. Cave Creek Road/Twilight Trail-Access 1
3. Pima Road/Access 2

All the study intersections are expected to operate at an overall LOS B or better during both peak hours without and with the addition of project generated traffic. An eastbound left-turn lane and westbound right-turn lane on Cave Creek Road at project Access 1 is recommended.

The proposed development will not disrupt or disturb the residential street operations on the south side of Cave Creek Road.

DESERT MOUNTAIN PARCEL 19 (DM19)
TRAFFIC IMPACT MITIGATION ANALYSIS

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FIGURE 1

PROJECT SITE LOCATION

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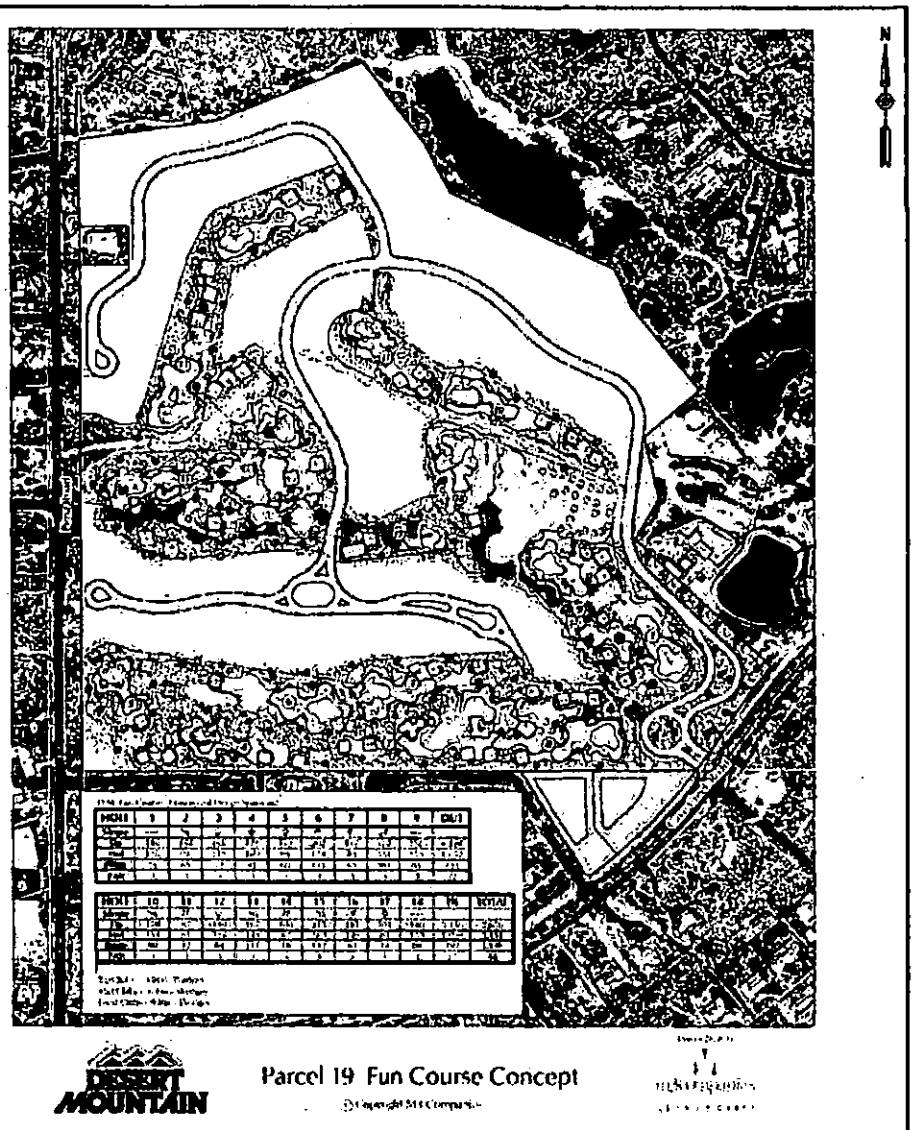
Figure 1 – Project Site Location



DESERT MOUNTAIN PARCEL 19 (DM19)
TRAFFIC IMPACT MITIGATION ANALYSIS

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FIGURE 2

CONCEPTUAL SITE PLAN

Figure 2 – Conceptual Site Plan

2. PROPOSED DEVELOPMENT

The proposed DM 19 site is located on the northeast corner of the Cave Creek Road/Pima Road intersection in Scottsdale, Arizona. It is bounded by residential development to the north, golf course/Scottsdale fire station to the east, residential development/Cave Creek Road to the south and Pima Road to the west. The site is currently vacant and zoned commercial and industrial. The proposed Desert Mountain development would rezone the site to R4 residential and includes 190 residential units and an 18 hole par 3 golf course. The proposed development is anticipated to be constructed and open by 2019. The site is proposed to be accessed via Cave Creek Road (Access 1) and Pima Road (Access 2).

The proposed Access 1 on Cave Creek Road would be aligned opposite Twilight Trail that is located approximately one half mile east of Pima Road. Access 1 will be the primary entry/exit and will provide full access to/from the site for both residential and golf-related trips.

The proposed Access 2 on Pima Road would be located approximately one half mile north of Cave Creek Road. This access will be gated and will only be operated by residents.

3. STUDY AREA

The study area is located in the northeast corner of the Cave Creek Road/Pima Road intersection in Scottsdale, Arizona, approximately three miles northeast of the Carefree Highway/Scottsdale Road intersection. The study area roadway segments include Cave Creek Road, Pima Road, and Twilight Trail. The study intersections include the following two existing intersections and one proposed intersection.

1. Cave Creek Road/Pima Road
2. Cave Creek Road/Twilight Trail (Access 1)
3. Cave Creek Road/Access 2 (future intersection)

Existing Roadway System

Cave Creek Road is a Town of Carefree facility adjacent to the project site. It runs east-west with two lanes in each direction and separated by a landscaped median. It is classified as an arterial street according to the Town of Carefree Transportation Plan, June 2008. The posted speed limit on Cave Creek Road east of Pima Road is 40 miles per hour and west of Pima Road is 35 miles per hour.

Pima Road is a north-south street with one lane in each direction of travel. According to the Town of Carefree Transportation Plan, June 2008, Pima Road is classified as a minor collector north of Cave Creek Road and as an arterial south of Cave Creek Road. Pima

Road, south of Stagecoach Pass Road, is classified as a minor rural arterial by City of Scottsdale Transportation Master Plan, January 2008. The posted speed limit on Pima Road south of Cave Creek Road is 35 miles per hour and north of Cave Creek Road is 25 miles per hour.

Twilight Trail is a north-south residential street and has one lane in each direction. It extends from Cave Creek Road on the north to Stagecoach Pass Road on the south.

Existing Intersections

Cave Creek Road/Pima Road has stop signs on all approaches and is called an all-way stop-controlled intersection. The Cave Creek Road eastbound and westbound approaches each include one left-turn lane, one through lane and one shared through/right-turn lane. The eastbound approach has a short (two-car) right-turn-only lane. The northbound and southbound Pima Road approaches each have one shared left-turn/through lane and one right-turn lane.

Cave Creek Road/Twilight Trail is an unsignalized, tee intersection. The eastbound and westbound Cave Creek Road approaches are free-flow and include one through lane and one shared through/right-turn lane. The northbound Twilight Trail approach is stop controlled and includes one shared left/right-turn lane. It should be noted that with the proposed development, project Access 1 will be aligned opposite to Twilight tail and will become the north leg of this intersection.

Existing lane configurations and traffic control are shown in Figure 3.

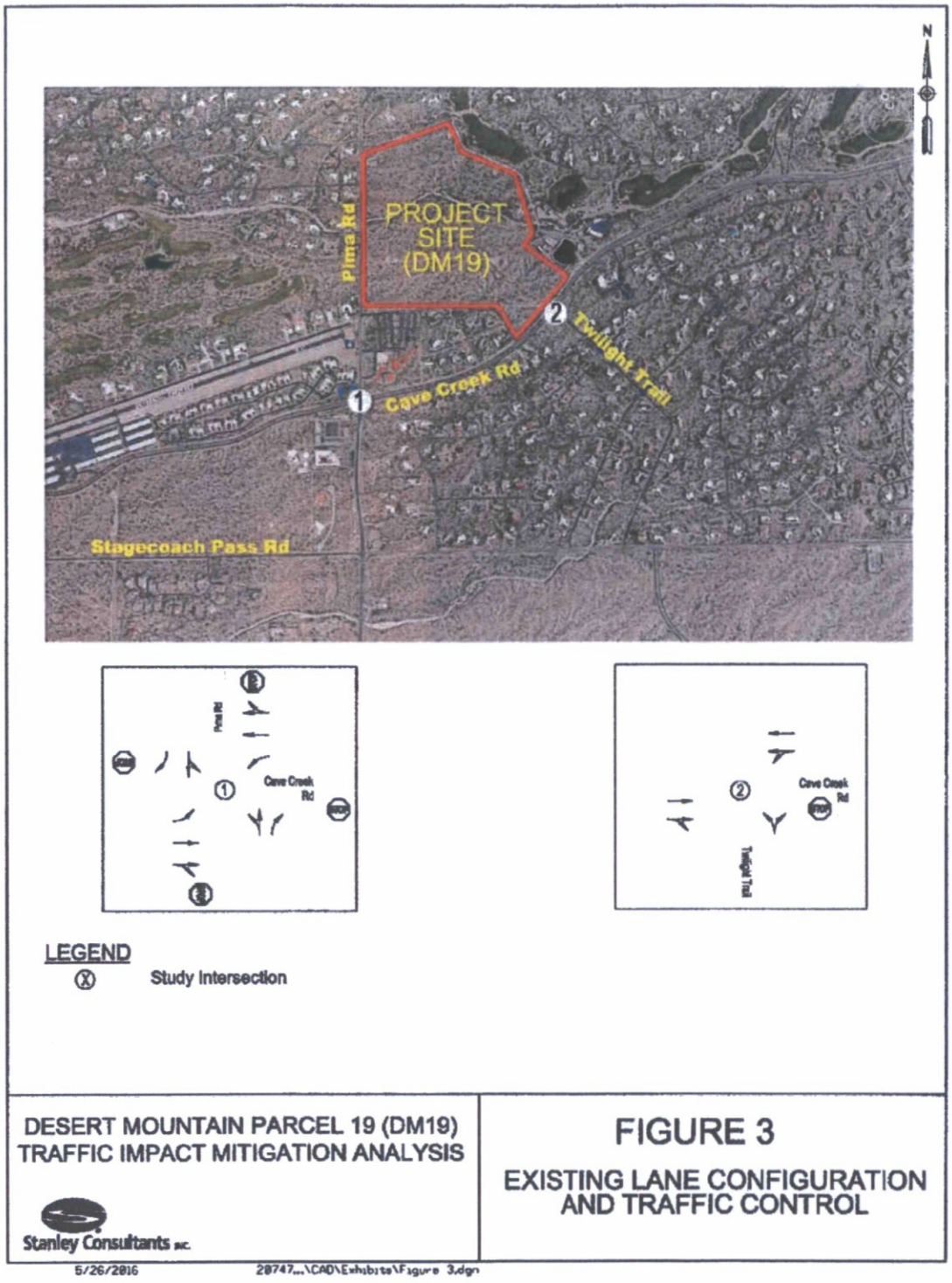


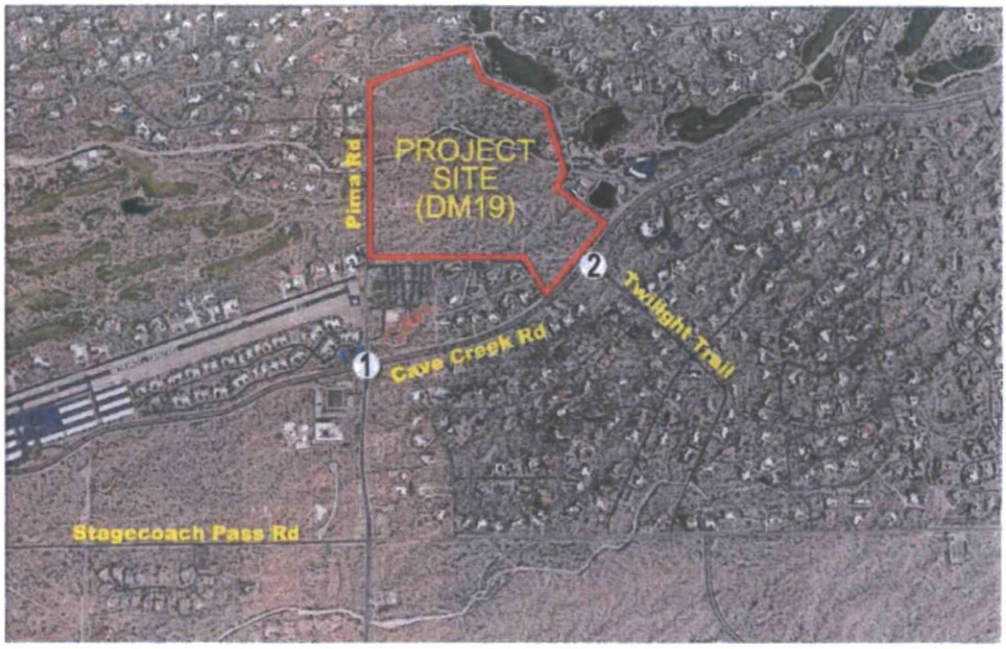
Figure 3 – Existing Lane Configuration and Traffic Control

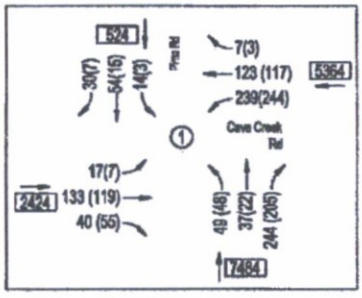
4. EXISTING CONDITIONS TRAFFIC ANALYSIS

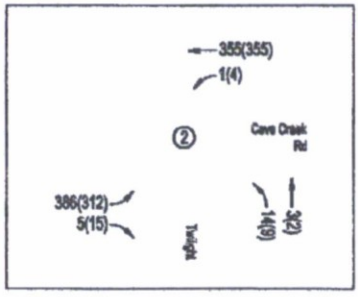
Traffic Volumes

Cave Creek Road/Pima Road: Traffic counts for a 24-hour period on each approach of the Cave Creek Road/Pima Road intersection were collected by Traffic Research and Analysis (TRA), Inc., on Thursday, May 3, 2016. The AM and PM peak hour turning-movement counts at this intersection and 24-hour counts on each approach are shown in Figure 4.

Cave Creek Road/Twilight Trail: At this intersection, existing turning movement counts were not collected. The AM and PM peak hour turning movement volumes to/from Twilight Trail was estimated. The existing land use on the east and west side of Twilight Trail between Cave Creek Road and Stagecoach Pass includes single family residential homes. For a worst case analysis, it was assumed that 30 single family residential homes will be using Twilight Trail to access Cave Creek Road. AM and PM peak hour trips generated by 30 homes were estimated by using the standard rates published by the Institute of Transportation Engineers (ITE) in the Trip Generation Manual, 9th Edition, 2012 for a Single Family Residential (ITE code 210) land use. Based on the above information, 23 AM peak hour trips (6 in/17 out) and 30 PM peak hour trips (19 in/11 out) will be generated. These trips were distributed at the intersection by assuming that 20 percent of the trips will travel to/from east on Cave Creek Road and the remaining 80 percent of the trips will travel to/from west on Cave Creek Road. Additionally, the westbound approach volume on Cave Creek Road at Pima Road was carried backwards to the intersection of Cave Creek Road/Twilight Trail. Also, the eastbound volumes on Cave Creek Road just east of Pima Road were carried forward to the Cave Creek Road/Twilight Trail intersection. The through volumes on Cave Creek Road were balanced between Twilight Trail and Pima Road. The resulting AM and PM peak hour turning movement volumes at this intersection are shown in Figure 4.







LEGEND

Ⓧ	Study Intersection
XX(XX)	AM (PM) Peak Hour Volumes
XX	Average Daily Traffic (One Direction)

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TRAFFIC IMPACT MITIGATION ANALYSIS

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FIGURE 4

EXISTING 2016 TRAFFIC VOLUMES

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Figure 4 – Existing 2016 Traffic Volumes

Crash Data

The City of Scottsdale provided crash data for the intersection of Pima Road and Stagecoach Pass Road for 2011 to 2015. The Crash Experience Warrant for a traffic signal is not satisfied at Pima Road and Stagecoach Pass Road. The Town of Carefree provided Crash Location Summaries for 2012 through 5-31-2016 for the intersection of Cave Creek Road/Pima Road. The Town of Carefree did not have any reported crashes at Cave Creek Road/Twilight Trail. The crash data by intersection by year are summarized in Table 1 below and the crash data is presented in Appendix B.

Table 1 – Crash Data on Pima Road

Intersection	Number of Crashes by Year				
	2012	2013	2014	2015	2016 thru 5-31
Cave Creek Road/Pima Road	5	4	8	3	3
Stagecoach Pass Road/Pima Road	2	0	3	1	NA

Note: NA = Not Available

Level of Service Methodology

Level of Service (LOS) is a qualitative description of roadway operations based on a quantitative analysis. It is used to rank, describe and label traffic operations on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, LOS A represents free flow conditions with little or no delay and LOS F represents overloaded and severely congested conditions.

The study intersections were analyzed using methodologies published in the Highway Capacity Manual (HCM), Transportation Research Board, 2010. This source contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle.

The LOS for the Cave Creek Road/Twilight Trail intersection where the Twilight Trail approach is stop-controlled was analyzed using the "Two-Way Stop-Controlled" intersection capacity method from the HCM. This methodology determines a LOS for each minor-street movement (or shared movement), as well as major-street left turns by estimating the level of average delay in seconds per vehicle. Results are presented for individual movements. LOS is not defined for the intersection as a whole or for the major-street approaches. The weighted overall average delay for the 2-way stop sign intersection is provided for information in the LOS tables.

The study intersection of Cave Creek Road/Pima Road with stop signs on all approaches was analyzed using the "All-Way Stop-Controlled" Intersection methodology from the HCM. This methodology evaluates delay for each approach based on turning movements,

opposing and conflicting traffic volumes, and the number of lanes. Average vehicle delay is computed for the intersection as a whole, and is then related to a LOS.

The ranges of delay associated with the various levels of service are indicated in Table 2.

Table 2 – Intersection Level of Service Criteria

Level of Service (LOS)	Two-Way Stop-Controlled Control Delay (sec/vehicle)	All-Way Stop-controlled Control Delay (sec/vehicle)
A	0 to10	0 to10
B	>10 to 15	>10 to 15
C	> 15 to 25	> 15 to 25
D	> 25 to 35	> 25 to 35
E	> 35 to 50	> 35 to 50
F	> 50	> 50

Source: Highway Capacity Manual, Transportation Research Board 2010, Exhibit 19-1 and 20-2

City of Scottsdale LOS Guidance

According to the City of Scottsdale Transportation Master Plan, January 2008, vehicular LOS D or better should be maintained at all signalized intersections with the exception of those intersections located within a designated core, a roadway with an urban character designation, or mixed-use area where lower levels of service are acceptable if other factors such as walkability, transit access, and aesthetic or right-of-way (ROW) considerations are overriding. At non-signalized intersections with moderate traffic volumes, levels of service below D may be appropriate. Where low volume locations intersect with high volume locations, LOS F is not unusual, but should be considered for mitigation if alternative access is not available.

Existing Conditions Capacity Analysis

Under Existing Conditions, all the study intersections operate at an overall LOS B or better during both peak hours. All the stop-controlled approaches operate at LOS C or better. A summary of the levels of service calculations are shown in Table 3 and the Capacity Analysis summary sheets are provided in Appendix C.

Table 3 – Existing Conditions Intersection Levels of Service

No.	Intersection Name	Control Type	Peak Hour	Overall Delay – LOS	Approach – Delay/LOS
1	Cave Creek Road/Pima Road	All-way Stop	AM	13.4 – B	EB – 11.4/B
					WB – 15.1/C
					NB – 13.3/B
					SB – 11.2/B
			PM	12.6 – B	EB – 10.6/B
					WB – 14.4/B
					NB – 11.8/B
					SB – 10.1/B
2	Cave Creek Road/Twilight Trail	Stop (NB)	AM	0.3	NB – 13.2/B
			PM	0.2	NB – 12.3/B

Notes: Delay is measured in average seconds per vehicle in Synchro; LOS = Level of Service

5. PROJECTED TRAFFIC

Trip Generation (Proposed Development)

The project site is currently vacant and zoned commercial. The proposed DM 19 development would rezone the site to R4 residential and includes 190 residential units and an 18 hole par 3 golf course. The anticipated trip generation for the proposed development was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in the Trip Generation Manual, 9th Edition, 2012. The ITE rates are based on studies that measured the trips for various land uses. The rates are expressed in terms of trips per unit of land use. The trip rates and number of trips generated are presented for an average weekday and the AM and PM peak hour of the adjacent street traffic. The ITE trip rates used for the updated site plan include the following:

- ITE Code 251 – Senior Adult Housing-Detached
- ITE Code 260 – Recreational Homes
- ITE Code 430 – Golf Course

For trip generation analysis, it was assumed that 70 percent of the total residential units would be recreational homes (133 units), while the remaining 30 percent would be senior adult housing detached units (57 units). The proposed development would include a short golf course. However, to provide a conservative analysis, a full size 18-hole golf course was used for trip generation.

The proposed development is anticipated to generate an average of 1,273 daily trips including 71 trips during the AM peak hour and 103 trips during the PM peak hour.

Internal Trips Reduction

The ITE Trip Generation Manual includes data and methodologies that can be applied to determine the proportion of internal trips that may occur within a development area that includes a variety of land uses. For the proposed development, internal trips would consist of residents patronizing on-site golf course. Although some of these internal trips will be made by walking and golf carts, it was assumed they would all be made by automobile. For internal reduction, it was assumed that 30 percent of the short golf course traffic would come from the on-site residents and the remaining 70 percent would come off-site. None of the internal trips will leave the site.

Net-New Trips (External Trips)

After subtracting the internal trips from total trip generation, the proposed development would generate an average of 887 weekday daily trips including 49 trips during the AM peak hour and 71 trips during the PM peak hour.

A summary of the trip generation analysis is provided in Table 4.

Table 4 – Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Proposed											
Senior Adult Housing Detached	57 du	3.68	210	0.22	13	4	9	0.27	15	9	6
Recreational Homes	133 du	3.16	420	0.16	21	14	7	0.26	35	14	21
Golf Course	18 holes	35.74	643	2.06	37	29	8	2.92	53	27	26
Total Trips (External +Internal)		**1273**			**71**	**47**	**24**		**103**	**50**	**53**
Internal Trip Reduction		*-30%*		*-30%*				*-30%*			
From Golf to Residential			*-193*		*-11*	-9	*-2*		*-16*	-8	*-8*
From Residential to Golf			*-193*		*-11*	-2	*-9*		*-19*	-8	*-8*
Net-New Residential Trips (External)			437		23	16	7		34	15	19
Net-New Golf Trips (External)			450		26	20	6		37	19	18
Total External Trips			**887**		**49**	**36**	**13**		**71**	**34**	**37**

Note: du = dwelling unit

Trip Generation Comparison

The project site is vacant and zoned commercial and industrial. The currently approved development plan includes a mixed-use development including residential units, light industrial, and commercial office/retail land use. A summary of the trip generation for the currently approved plan is provided in Appendix D. The proposed Desert Mountain development would rezone the site to include residential units and a golf course. A comparison of trips generated by the currently approved plan and the proposed development is provided in Table 5.

Table 5 – Trip Generation Comparison

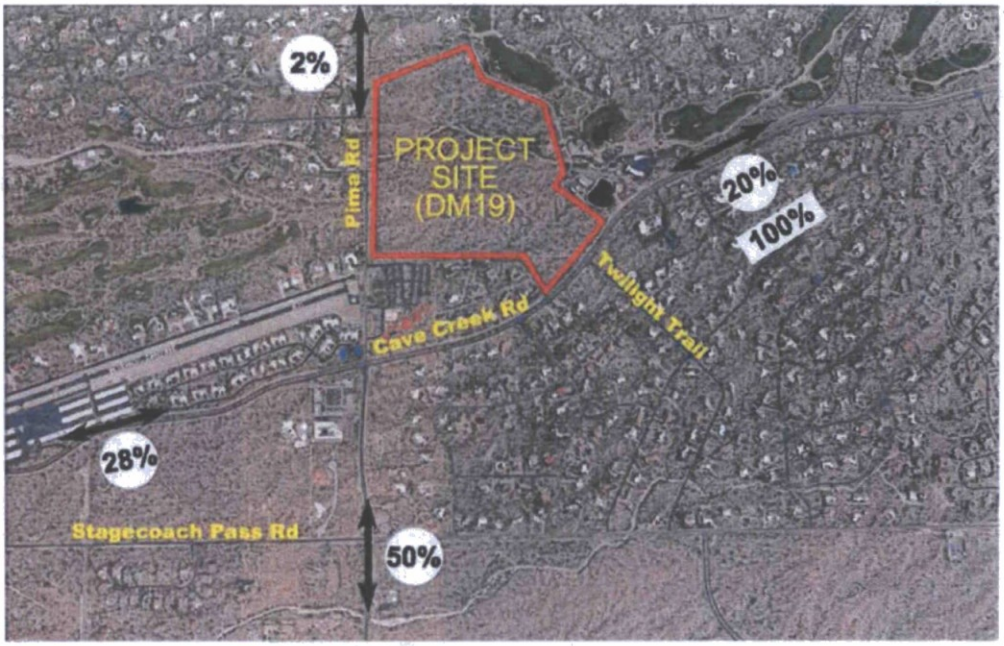
Trips	Currently Approved Plan			Proposed Development		
	Total	**AM**	**PM**	**Total**	**AM**	**PM**
External + Internal	9,969	859	1,126	1,273	71	103
External	8,367	784	971	887	49	71

As shown in Table 5, the proposed development is anticipated to generate approximately 11% of the number of vehicular trips of the currently approved commercial development plan.

Trip Distribution/Assignment

Access to the project site will be provided via Cave Creek Road (Access 1) and Pima Road (Access 2). Access 1 off of Cave Creek Road would be the primary access point and used by residents and golf traffic. Access 2 would be restricted to residents only. For the proposed project, two trip distribution patterns were developed: one for residents only and the other for golf traffic. The resident's only trip distribution pattern was developed based on the existing traffic volumes near the study area, proximity of other Desert Mountain communities located east of the project site and general knowledge of the area. The trip distribution pattern for residential traffic is shown in Figure 5. The golf course will not be open for public play. The residents residing in other Desert Mountain communities located on the east side of the project site will have access to the proposed DM 19 golf course. It was therefore assumed that all the external golf-related traffic would access the site to/from the east on Cave Creek Road via Access 1. The golf-related trip distribution of 100% to the east is also shown in Figure 5.

Based on the trip distribution pattern shown in Figure 5, the trips were assigned to the study intersections. For residential trips, it was assumed that nearly 75 percent of the trips would use Access 1 off of Cave Creek Road, while the remaining 25 percent would use Access 2 off on Pima Road. The assigned trips are shown in Figure 6.



LEGEND

XX% Residential Development Trip Distribution

XX% Golf Related Trip Distribution

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FIGURE 5

TRIP DISTRIBUTION

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Figure 5 – Trip Distribution

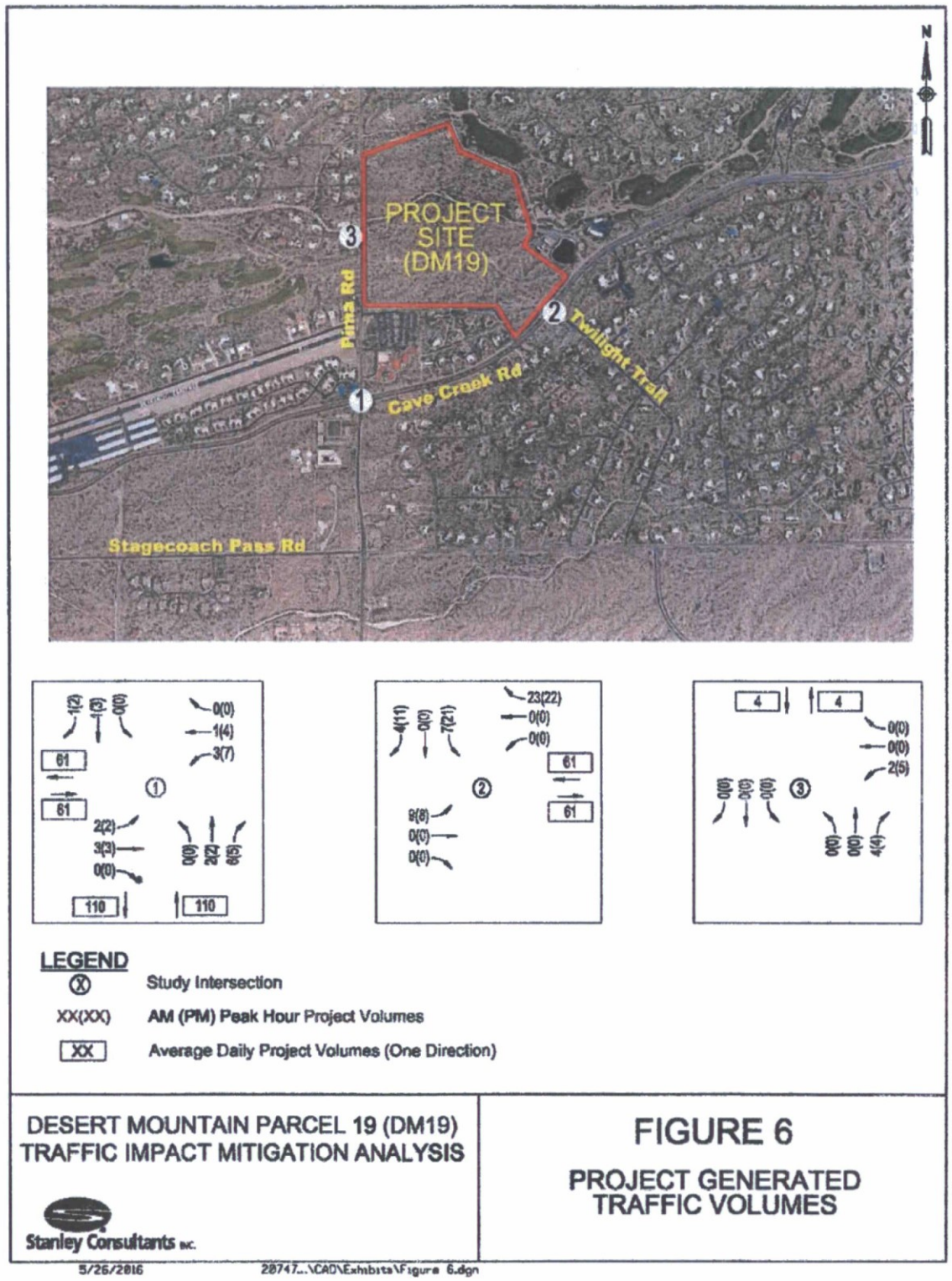


Figure 6 – Project Generated Traffic Volumes

6. EXISTING PLUS PROJECT TRAFFIC ANALYSIS

The project trips were added to the existing traffic volumes to estimate existing plus project conditions and are shown in Figure 7. The existing lane configurations and traffic control at the Cave Creek Road/Pima Road were used for this analysis. However, the lane configurations at the remaining two access driveway intersections were modified as follows:

Cave Creek Road/Twilight Trail-Access 1: At this intersection the southbound project Access 1 approach was modeled as stop-controlled and included one shared left/through/right-turn lane. The eastbound Cave Creek Road approach included one left-turn lane, one through lane, and one shared through/right-turn lane. The westbound Cave Creek Road approach included one shared left/through lane, one through lane, and one right-turn lane. The northbound Twilight Trail approach was stop-controlled and included one shared left/through/right-turn lane.

Pima Road/Access 2: At this intersection the northbound and southbound Pima Road approaches were modeled as free flow and the westbound project Access 2 approach was modeled as stop-controlled. The northbound Pima Road approach included one shared through/right-turn lane. The southbound Pima Road approach included one shared left/through lane. The westbound project Access 2 approach included one shared left/right-turn lane.

With the addition of project traffic to existing volumes and utilizing the lane configurations discussed above, all the intersections are anticipated to operate at an overall LOS B or better during both peak hours. All the stop-controlled approaches are also expected to operate at LOS C or better during both peak hours. A summary of the levels of service calculations are shown in Table 6 and the detail LOS summary sheets are provided in Appendix C.

Table 6 – Existing Plus Project Conditions Intersection Levels of Service

No.	Intersection Name	Control Type	Peak Hour	Overall Delay – LOS	Approach – Delay/LOS
1	Cave Creek Road/Pima Road	All-way Stop	AM	13.6 – B	EB – 11.5/B
					WB – 15.4/C
					NB – 13.5/B
					SB – 11.3/B
			PM	13.0 – B	EB – 10.8/B
					WB – 15.0/B
					NB – 12.1/B
					SB – 10.3/B
2	Cave Creek Road/Twilight Trail-Access 1	Stop (NB & SB)	AM	0.6	NB – 14.6/B
					SB – 13.0/B
			PM	0.9	NB – 13.4/B
					SB – 13.1/B
3	Pima Road/Access 2	Stop (WB)	AM	0.1	WB – 9.4/A
			PM	0.7	WB – 8.8/A

Notes: Delay is measured in average seconds per vehicle in Synchro; LOS = Level of Service

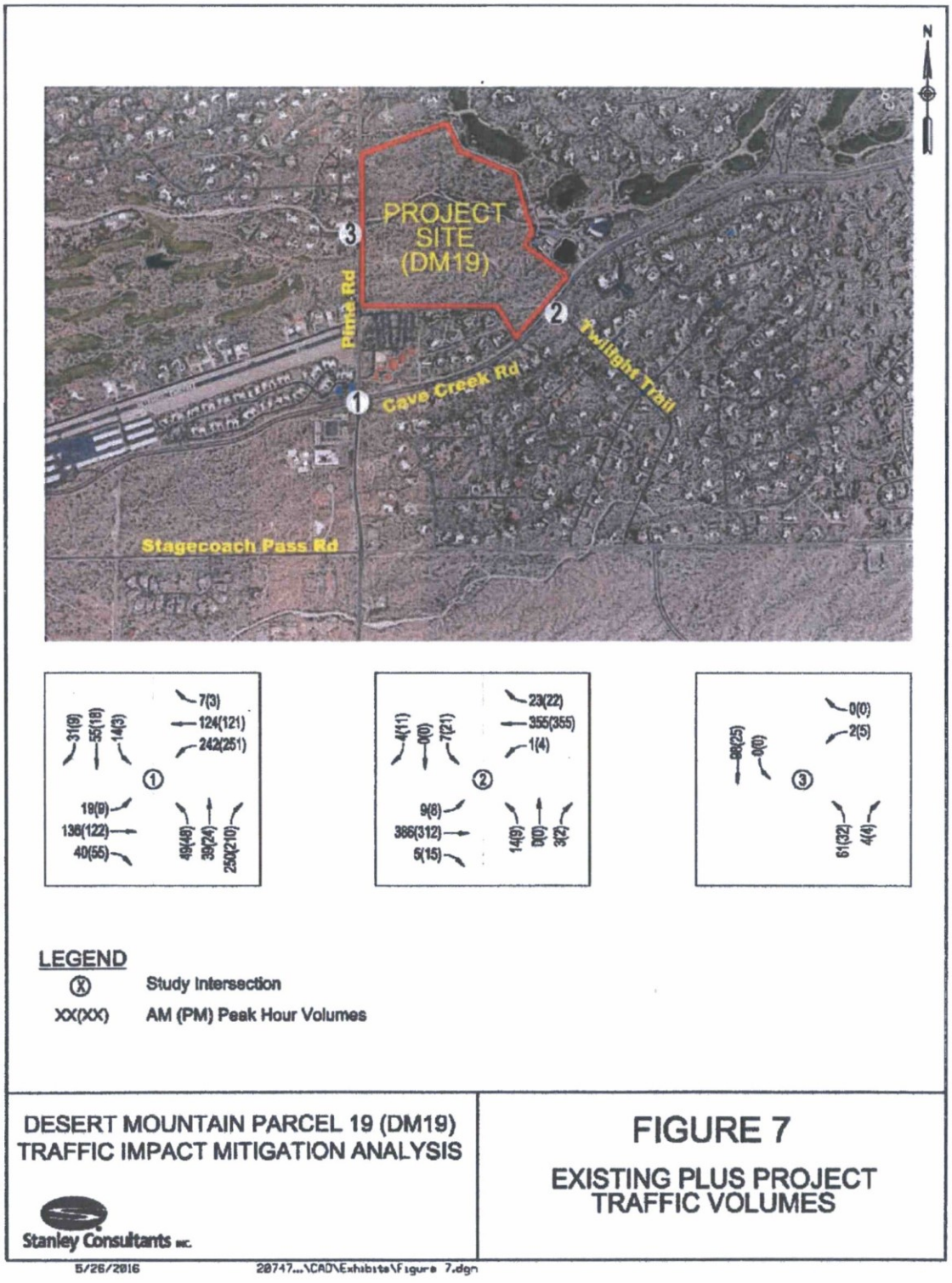


Figure 7 – Existing Plus Project Traffic Volumes

Turn Lanes at Access 1

At the intersection of Cave Creek Road/Twilight Trail-Access 1, several turn lanes at the site main entrance are highly recommended for traffic safety and traffic operational benefits. Even though the proposed site will have relatively low traffic volumes, it is recommended that the Access 1 include an eastbound left-turn lane, a westbound left-turn lane, a westbound right-turn lane and a separate southbound right-turn lane. Left-turn lanes allow improved visibility of opposing traffic and also improve safety by moving the left-turn vehicles out of the through lanes. The southbound right-turn lane will improve traffic operations by keeping the southbound through and left-turning vehicles from blocking and delaying the easy southbound right turn movement. The westbound right-turn lane will help traffic exiting the site be clear that the approaching westbound vehicle is either turning into the site or continuing through to the west. All turn lanes should provide a minimum of 100 feet of storage.

7. PIMA ROAD/STAGECOACH PASS ROAD INTESECTION DISCUSSION/TRAFFIC CONCERNS

Intersection and Roadway Characteristics

The intersection of Pima Road/Stagecoach Pass Road is located approximately 1,600 feet south of Cave Creek Road/Pima Road intersection. Pima Road/Stagecoach Pass is a four-legged, unsignalized intersection. The northbound and southbound Pima Road approaches are free flow and each consist of one left-turn lane and one shared through/right-turn lane. The eastbound and westbound Stagecoach Pass Road approaches are stop-controlled and each consist of one shared left/through/right-turn lane. Stagecoach Pass Road is a border between the City of Scottsdale to the south and the Town of Carefree to the north. As a result, this intersection is jointly controlled by the two jurisdictions.

Pima Road is a north-south roadway with one lane in each direction of travel. It is classified as an arterial by the Town of Carefree, north of Stagecoach Pass and is classified as a rural minor arterial by the City of Scottsdale south of Stagecoach Pass Road. The posted speed limit on Pima Road is 35 miles per hour north of Stagecoach Pass Road and 45 miles per hour south of Stagecoach Pass Road.

Stagecoach Pass Road is an east-west roadway with one lane in each direction of travel. It is classified as a rural minor-collector street in the vicinity of Pima Road. The posted speed limit on Stagecoach Pass Road is 25 miles per hour east of Pima Road and 35 miles per hour west of Pima Road.

Town of Carefree Traffic Concerns

Stagecoach Pass Road east of Pima Road is the border between Carefree and Scottsdale. Homes on the north side of Stagecoach Pass Road and east of Pima Road are in the Town of Carefree. Some individuals from the Town of Carefree and the Velvet Shadows subdivision located south of Cave Creek Road across from the DM 19 site have expressed concerns that traffic generated from the proposed DM 19 development would leave the site and proceed straight south across Cave Creek Road onto the residential street Twilight Trail while on their way to get onto southbound Pima Road. The proposed DM 19 access off of Cave Creek Road is proposed to be aligned opposite Twilight Trail. Based on the concerns raised by the Town and by the residents, the alternative routes using the major streets and using the residential streets cutting through the Velvet Shadows subdivision were evaluated.

Based on the proposed DM 19 trip distribution and assignment pattern discussed in the previous section, 50 percent of the residential trips generated by the proposed development would travel from the site to/from Pima Road south of Stagecoach Pass Road. There are two possible alternative routes/options to go south onto Pima Road from the proposed site/s main entrance on Cave Creek Road. The reverse trip from northbound Pima Road to the site was also evaluated.

Option 1 (Preferred Route)

Leaving the site and wanting to go south on Pima Road, make a right-turn onto Cave Creek Road via proposed Access 1, travel two blocks west, make a left-turn onto southbound Pima Road at the four-way stop-controlled intersection, and travel south on Pima Road past Stagecoach Pass Road. The total distance travelled between the project access point on Cave Creek Road and Stagecoach Pass Road just north of Pima Road is approximately 0.77 miles. When returning to the site from the south on Pima Road, the preferred route is to travel northbound on Pima Road past Stagecoach Pass Road, turn right onto Cave Creek Road at the four-way stop intersection, and turn left into the site project Access 1.

Option 2 (Less Desirable Route)

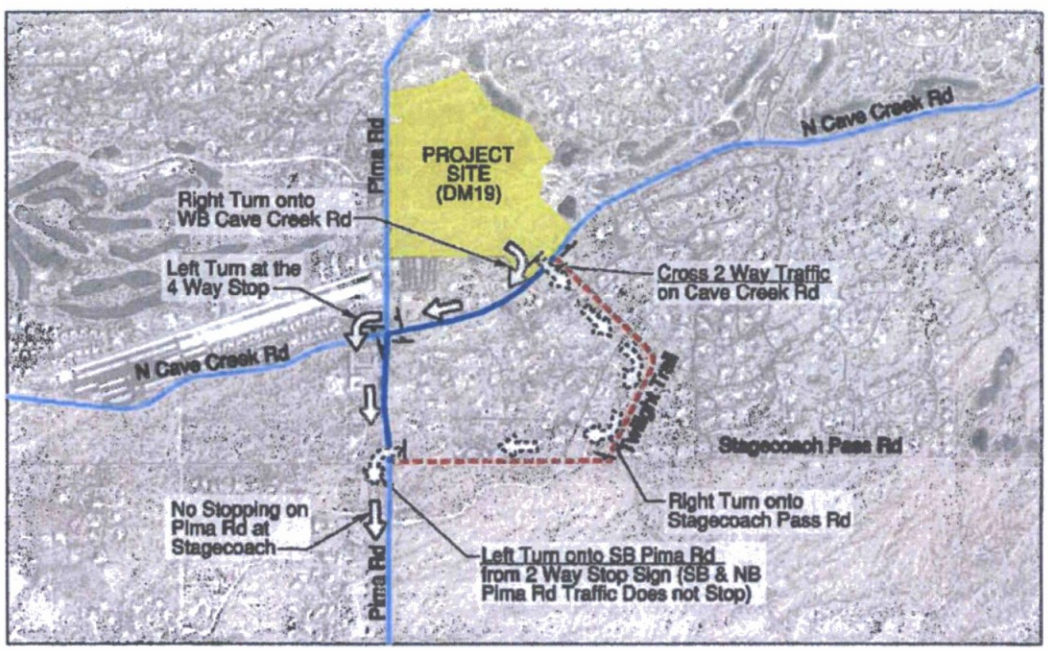
Leaving the site and wanting to go south on Pima Road, at the stop sign on Cave Creek Road, proceed straight south from project Access 1 across Cave Creek Road into the Velvet Shadows residential subdivision, travel on the residential street, Twilight Trail, to the stop sign, turn right onto Stagecoach Pass Road and make a left-turn at 2-way stop-controlled Pima Road/Stagecoach Pass Road intersection (Stagecoach Pass Road is stop-controlled and Pima Road is free flow) to proceed south on Pima Road. The total distance travelled between the project Access 1 on Cave Creek Road and Pima Road

just east of Stagecoach Pass Road is approximately 1.15 miles. When returning to the site from the south on Pima Road, make a right-turn onto Stagecoach Pass Road, turn left onto residential Street Twilight Trail, travel north to the stop sign at Cave Creek Road, and proceed straight across Cave Creek Road into the site. It should be noted that through traffic on Cave Creek Road does not stop while northbound traffic on Twilight Trail and southbound traffic existing the site via Cave Creek Road would stop. The alternative routes from the site to southbound on Pima Road are shown in Figure 8. The alternative routes from south Pima Road to the site main entrance are shown in Figure 9.

Alternative Options Comparison

Option 2 appears to be more difficult and not a short-cut for several reasons as follows:

- According to the Town of Carefree General Plan 2030, November 2012, Cave Creek Road is classified as an arterial roadway with an average daily traffic (ADT) of 11,000 vehicles (2008 data) east of Pima Road. Making a right turn from the project site onto Cave Creek Road is both safer and easier than waiting for a large gap and going straight across a four-lane arterial roadway with a landscaped median. The safety concern is crossing relatively high traffic volumes that are moving eastbound and westbound on Cave Creek Road at or near the speed limit. The driver has to look for traffic in both directions and find a suitable gap to cross a nearly five-lane arterial roadway to proceed straight south into the neighborhood. It is significantly easier and safer to make a right-turn onto westbound Cave Creek Road than to proceed straight across two directions of free-flow traffic on Cave Creek Road.
- Travelling on a residential street is slower and less comfortable than travelling on an arterial street like Cave Creek Road and Pima Road.
- Turning left from Cave Creek Road onto Pima Road at the Cave Creek Road/Pima Road 4-way stop-controlled intersection is much easier and safer than the two movements required in Option 2. At the 4-way stop intersection, the queue of traffic gradually moves up until you are looking at the other vehicles and confirming whose turn it is next to proceed. While it is more complicated for the driver than traveling through a traffic signal or a roundabout, the low speed and close proximity of the conflicting vehicles make a left turn a little slow but typically very safe.
- The Option 2 movements of proceeding straight across Cave Creek Road into the residential neighborhood, and turning left onto Pima Road from Stagecoach Pass Road at a 2-way stop-controlled intersection where Pima Road northbound-southbound traffic does not stop are both problematic and more difficult than using the major streets and a 4-way stop intersection.
- The total distance traveled in Option 2 is approximately 1.15 miles which is more than as compared to 0.77 miles in Option 1.



LEGEND

Option 1: Preferred Route (Faster and Safer) (Distance = 0.77 miles)

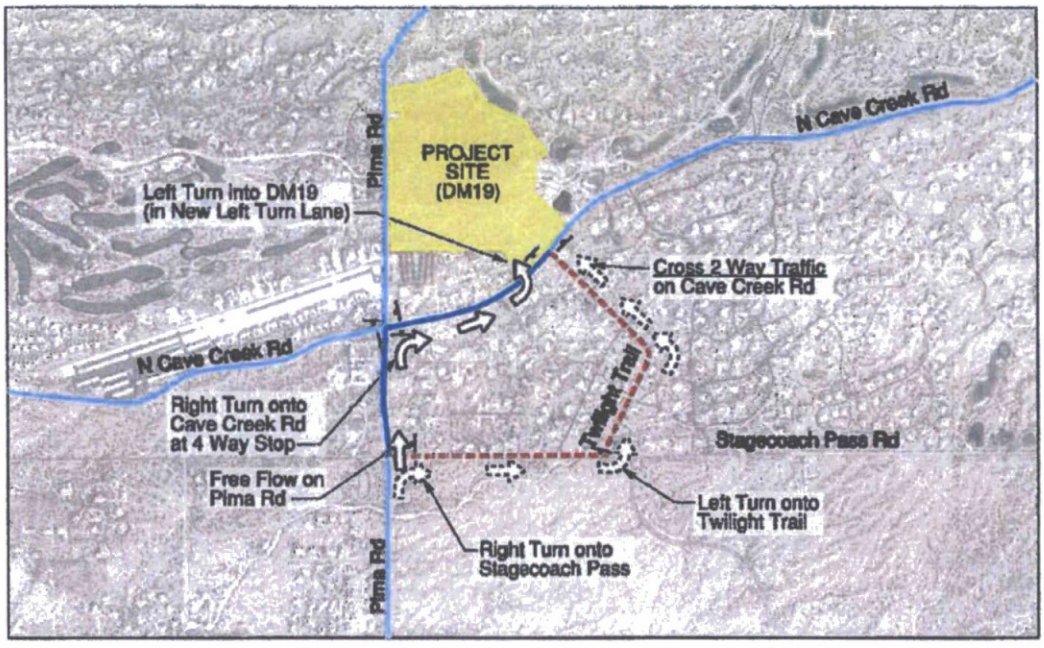
Option 2: Less Desirable Route (Distance = 1.15 miles)

Stop Sign

DESERT MOUNTAIN PARCEL 19 (DM19) TRAFFIC IMPACT MITIGATION ANALYSIS	FIGURE 8 ALTERNATE ROUTES FROM DESERT MOUNTAIN PARCEL TO SOUTH PIMA ROAD
Stanley Consultants INC.	

5/26/2016 28747...\CAD\Exhibits\Figure 8.dgn

Figure 8 – Alternate Routes from Desert Mountain Parcel to South Pima Road



LEGEND

Option 1: Preferred Route (Faster and Safer) (Distance = 0.77 miles)

Option 2: Less Desirable Route (Distance = 1.15 miles)

Stop Sign

DESERT MOUNTAIN PARCEL 19 (DM19) TRAFFIC IMPACT MITIGATION ANALYSIS	FIGURE 9 ALTERNATE ROUTES FROM SOUTH PIMA ROAD TO DESERT MOUNTAIN PARCEL 19
Stanley Consultants INC.	

5/26/2016 20747...\CAD\Exhibits\Figure 9.dgn

Figure 9 – Alternate Routes from South Pima Road to Desert Mountain Parcel 19

A few motorists may try the alternative Option 2 route through the residential neighborhood, but it is estimated and predicted that none of the traffic generated by the proposed Desert Mountain development will prefer Option 2 route through the neighborhood to the south on Pima Road. The trips generated by the proposed development were assigned to the roadway network based on alternative Option 1. The project is expected to add 220 daily vehicular trips onto southbound Pima Road north of Stagecoach Pass Road. The project is not expected to add any traffic on Stagecoach Pass Road east of Pima Road.

It is anticipated that the traffic proceeding straight across Cave Creek Road to Velvet Shadows will be limited to Velvet Shadows residents and neighbors going to and from the site with very few if any cutting through to get to Pima Road southbound. It is anticipated that the new proposed development will not disrupt or disturb the residential street operations to the south.

City of Scottsdale Draft Traffic Signal Warrant Study

The City of Scottsdale prepared a Draft Traffic Signal Warrant Study, April 2016 for the intersection of Pima Road/Stagecoach Pass Road. The study reviewed all the nine traffic signal warrants defined in the 2009 Manual on Uniform Traffic Control Devices (MUTCD) and Warrant 1: Eight Hour Vehicular Volume, Warrant 2: Four Hour Vehicular Volume and Warrant 3: Peak Hour Vehicular Volume were met at this intersection. A traffic signal is warranted at this intersection. However, the City's draft report recommends consideration the construction of a roundabout at this intersection due to the reduced number of crashes, reduced number of serious injury and fatal accidents, the reduced traffic delay and the reduced speeds of a roundabout versus a traffic signal.

8. CONCLUSIONS AND RECOMMENDATIONS

- The proposed DM19 development would rezone the site from commercial development to 190 residential units and one short golf course.
- The proposed project is expected to generate an average of 887 net-new daily external vehicular trips, including 49 trips during the AM peak hour and 71 trips during the PM peak hour.
- The proposed development (887 trips) will generate 11 percent of the vehicular trips that would be generated by the existing approved commercial plan (8,367 trips).
- Under existing conditions, the study intersections operate at an overall LOS B or better and all the stop-controlled approaches operate at an overall LOS C or better during both peak hours.
- With the addition of project traffic to existing traffic volumes, the study intersections are expected to operate at the same LOS as existing conditions.

- The proposed development will not disrupt or disturb the residential street operations on the south side of Cave Creek Road.
- At the intersection of Pima Road/Stagecoach Pass Road, a traffic signal is warranted based on the City of Scottsdale Draft Traffic Signal Warrant Study, April 2016. However, the City has recommended to consider the construction of a roundabout at this intersection.

Recommendation

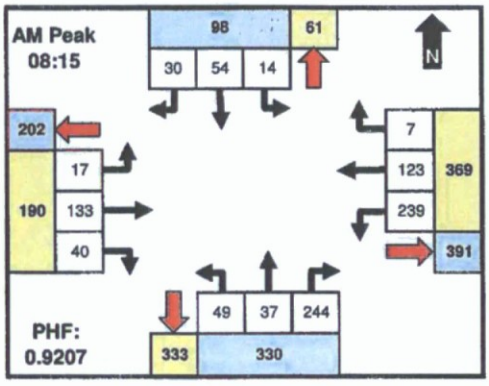
At the intersection of Cave Creek Road/Twilight Trail Access 1, it is recommended that the site access improvements include an eastbound left-turn lane, a westbound left-turn lane, a westbound right-turn lane, and a separate southbound right-turn lane, all with a minimum of 100 feet of storage length.

APPENDIX A
Traffic Volumes

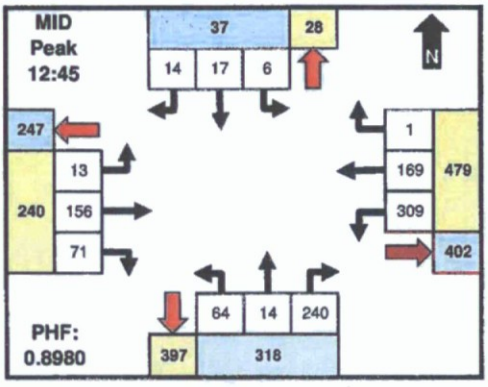
TRAFFIC RESEARCH & ANALYSIS, INC.
Specializing in Traffic Data Collection

3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

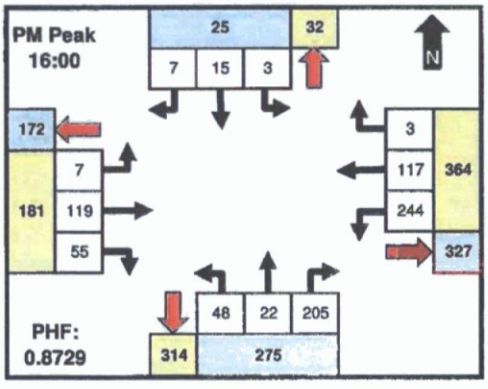
Intersection TMC: 1602476
Count Date: 5/3/2016



	From North PIMA RD				From East CAVE CREEK RD				From South PIMA RD				From West CAVE CREEK RD				INTSEC
Time	LT	Thru	RT	Ped	LT	Thru	RT	Ped	LT	Thru	RT	Ped	LT	Thru	RT	Ped	TOTAL
8:00	1	4	1	0	60	24	2	0	8	9	59	0	5	34	10	0	217
8:15	2	7	1	0	64	36	3	0	8	5	56	0	2	41	9	0	234
8:30	6	29	12	0	56	29	0	0	15	8	65	0	6	31	11	0	268
8:45	0	8	7	0	55	31	4	0	15	9	62	0	6	37	14	0	248
9:00	6	10	10	0	64	27	0	0	11	15	61	0	3	24	6	0	237
9:15	0	8	4	0	69	26	0	0	12	3	57	0	0	28	9	0	216
9:30	0	7	5	0	67	33	0	0	9	6	62	0	1	24	5	0	219
9:45	2	4	0	0	63	36	0	0	15	7	59	0	3	35	15	0	239
Total	17	77	40	0	498	242	9	0	93	62	481	0	26	254	79	0	1878
Pk Hr																	8:15 AM
Pk Vol	14	54	30	0	239	123	7	0	49	37	244	0	17	133	40	0	987
PHF	0.583	0.466	0.625	0.000	0.934	0.854	0.438	0.000	0.817	0.617	0.936	0.000	0.708	0.811	0.714	0.000	0.921



Time	LT	Thru	RT	Ped	LT	Thru	RT	Ped	LT	Thru	RT	Ped	LT	Thru	RT	Ped	TOTAL
12:00	0	8	2	0	64	33	2	0	19	2	53	0	2	34	14	0	233
12:15	1	6	4	0	67	32	5	0	17	7	52	0	5	29	15	0	240
12:30	2	7	2	0	56	36	1	0	15	5	51	0	3	23	19	0	220
12:45	2	4	4	0	72	39	0	0	22	3	47	0	4	36	23	0	256
13:00	2	6	1	0	71	40	1	0	24	4	65	0	1	36	9	0	260
13:15	1	6	4	0	79	41	0	0	9	0	53	0	6	43	17	0	259
13:30	1	1	5	0	87	49	0	0	9	7	75	0	2	41	22	0	299
13:45	0	7	6	0	70	44	0	0	15	1	33	0	4	34	16	0	230
Total	9	45	28	0	566	314	9	0	130	29	429	0	27	276	135	0	1997
Pk Hr																	12:45 PM
Pk Vol	6	17	14	0	309	169	1	0	64	14	240	0	13	156	71	0	1074
PHF	0.750	0.708	0.700	0.000	0.888	0.862	0.250	0.000	0.667	0.500	0.800	0.000	0.542	0.907	0.772	0.000	0.898



Time	LT	Thru	RT	Ped	LT	Thru	RT	Ped	LT	Thru	RT	Ped	LT	Thru	RT	Ped	TOTAL
16:00	1	5	3	0	70	37	0	0	12	4	59	0	2	31	18	0	242
16:15	2	2	2	0	63	26	1	0	9	7	44	0	4	30	13	0	203
16:30	0	4	2	0	53	26	1	0	11	8	50	0	1	33	6	0	195
16:45	0	4	0	0	58	28	1	0	16	3	52	0	0	25	18	0	205
17:00	2	9	4	0	58	23	2	0	17	2	45	0	3	23	7	0	195
17:15	0	4	2	0	66	29	0	0	9	2	41	0	3	31	21	0	208
17:30	0	4	3	0	64	20	2	0	14	3	45	0	3	25	9	0	192
17:45	0	2	1	0	45	20	1	0	13	9	31	0	1	15	10	0	148
Total	5	34	17	0	477	209	8	0	101	38	367	0	17	213	102	0	1588
Pk Hr																	4:00 PM
Pk Vol	3	15	7	0	244	117	3	0	48	22	205	0	7	119	55	0	845
PHF	0.375	0.750	0.583	0.000	0.871	0.791	0.750	0.000	0.750	0.688	0.869	0.000	0.438	0.902	0.764	0.000	0.873

Intersection Statistics

Per	Peak Hour	Pk Hr Vol	Peak Intvl	Pk Intv Vol	PHF
AM	8:15 AM	987	8:30 AM	268	0.921
MID	12:45 PM	1074	1:30 PM	299	0.898
PM	4:00 PM	845	4:00 PM	242	0.873

Peak Hour Statistics by Approach

Per	Peak Hour	Vol	PHF	Peak Hour	Vol	PHF	Peak Hour	Vol	PHF	Peak Hour	Vol	PHF
AM	8:30 AM	100	0.532	9:00 AM	385	0.963	8:30 AM	333	0.946	8:00 AM	206	0.904
MID	12:00 PM	42	0.955	1:00 PM	482	0.886	12:45 PM	318	0.855	12:45 PM	240	0.909
PM	4:45 PM	32	0.533	4:00 PM	364	0.850	4:00 PM	275	0.917	4:00 PM	181	0.887

Comments

Approach & Departure Volumes (No Peds)

Per	Approach	Depart	Approach	Depart	Approach	Depart	Approach	Depart
AM	134	97	749	752	636	654	359	375
MID	82	65	889	714	588	746	438	472
PM	56	63	694	585	506	613	332	327

Traffic Research & Analysis, Inc.
3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

Client: Stanley
File Number: 1602472
Route: N CAVE CREEK RD
Location: W of N PIMA RD

Site Ref: 1
Direction: EB
Latitude: 33.8
Longitude: -111.

Count Date	5/5/2016																Aver
Count Time	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM
00:00	0	50															0
00:15	0	49															0
00:30	0	45															0
00:45	0	63															0
01:00	0	46															0
01:15	0	66															0
01:30	0	65															0
01:45	0	54															0
02:00	0	65															0
02:15	0	49															0
02:30	0	44															0
02:45	0	49															0
03:00	0	45															0
03:15	0	38															0
03:30	0	51															0
03:45	0	52															0
04:00	8	51															8
04:15	1	47															1
04:30	2	40															2
04:45	2	43															2
05:00	4	33															4
05:15	7	55															7
05:30	6	37															6
05:45	13	26															13
06:00	16	23															16
06:15	20	18															20
06:30	17	11															17
06:45	29	9															29
07:00	38	9															38
07:15	33	15															33
07:30	44	18															44
07:45	41	14															41
08:00	49	12															49
08:15	52	9															52
08:30	48	18															48
08:45	57	10															57
09:00	33	5															33
09:15	37	12															37
09:30	30	13															30
09:45	53	7															53
10:00	52	9															52
10:15	57	1															57
10:30	50	2															50
10:45	51	0															51
11:00	53	1															53
11:15	40	2															40
11:30	49	1															49
11:45	50	0															50
Totals	1042	1382	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1042
Day Total	2424		0		0		0		0		0		0		0		24
AM Pct	43.0%																43.
Peak Hour	9:45	13:15															9:45
Peak Volume	212	250															212
P.H.F	0.9298	0.9470															0.9298

Traffic Research & Analysis, Inc.
3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

1180
8928
rage
PM
50
49
45
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44
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45
38
51
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51
47
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33
55
37
26
23
18
11
9
9
15
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1382
24
0%
13:15
250
0.9470

Traffic Research & Analysis, Inc.
3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

Client: Stanley
File Number: 1602474
Route: N PIMA RD
Location: S of E CAVE CREEK RD

Site Ref: 1
Direction: NB
Latitude: 33.8169
Longitude: -111.8913

Count Date	5/5/2016																Average	
Count Time	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
00:00	2	130															2	130
00:15	0	159															0	159
00:30	2	121															2	121
00:45	2	146															2	146
01:00	1	182															1	182
01:15	4	120															4	120
01:30	3	182															3	182
01:45	1	97															1	97
02:00	0	149															0	149
02:15	1	137															1	137
02:30	1	131															1	131
02:45	2	122															2	122
03:00	1	150															1	150
03:15	1	129															1	129
03:30	1	130															1	130
03:45	1	146															1	146
04:00	3	127															3	127
04:15	9	105															9	105
04:30	15	120															15	120
04:45	36	129															36	129
05:00	25	110															25	110
05:15	32	94															32	94
05:30	31	103															31	103
05:45	48	86															48	86
06:00	36	113															36	113
06:15	82	89															82	89
06:30	95	60															95	60
06:45	113	56															113	56
07:00	121	66															121	66
07:15	126	67															126	67
07:30	158	68															158	68
07:45	186	61															186	61
08:00	143	61															143	61
08:15	117	64															117	64
08:30	152	55															152	55
08:45	179	43															179	43
09:00	156	44															156	44
09:15	130	32															130	32
09:30	157	38															157	38
09:45	164	32															164	32
10:00	129	18															129	18
10:15	111	15															111	15
10:30	124	11															124	11
10:45	116	8															116	8
11:00	132	10															132	10
11:15	138	5															138	5
11:30	129	3															129	3
11:45	142	2															142	2
Totals	3358	4126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3358	4126
Day Total	7484		0		0		0		0		0		0		0		7484	
AM Pct	44.9%																44.9%	
Peak Hour	8:45	12:45															8:45	12:45
Peak Volume	622	630															622	630
P.H.F	0.8687	0.8654															0.8687	0.8654

Traffic Research & Analysis, Inc.
3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

Client:	Stanley	Site Ref:	1
File Number:	1602475	Direction:	SB
Route:	PIMA RD	Latitude:	33.8193
Location:	N of E CAVE CREEK RD	Longitude:	-111.8913

Count Date	5/5/2016																Average	
Count Time	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
00:00	0	9															0	9
00:15	0	10															0	10
00:30	0	11															0	11
00:45	0	9															0	9
01:00	0	10															0	10
01:15	2	10															2	10
01:30	1	8															1	8
01:45	0	13															0	13
02:00	0	6															0	6
02:15	0	23															0	23
02:30	0	10															0	10
02:45	2	6															2	6
03:00	1	11															1	11
03:15	0	11															0	11
03:30	0	6															0	6
03:45	0	6															0	6
04:00	0	10															0	10
04:15	1	5															1	5
04:30	1	6															1	6
04:45	1	3															1	3
05:00	0	15															0	15
05:15	0	6															0	6
05:30	0	8															0	8
05:45	4	2															4	2
06:00	1	5															1	5
06:15	3	4															3	4
06:30	4	5															4	5
06:45	3	1															3	1
07:00	5	3															5	3
07:15	6	3															6	3
07:30	14	1															14	1
07:45	7	0															7	0
08:00	5	0															5	0
08:15	6	7															6	7
08:30	48	13															48	13
08:45	16	2															16	2
09:00	25	0															25	0
09:15	13	1															13	1
09:30	13	0															13	0
09:45	6	1															6	1
10:00	7	0															7	0
10:15	9	0															9	0
10:30	8	1															8	1
10:45	9	0															9	0
11:00	4	0															4	0
11:15	14	0															14	0
11:30	13	0															13	0
11:45	11	0															11	0
Totals	263	261	0	0	0	0	0	0	0	0	0	0	0	0	0	0	263	261
Day Total	524		0		0		0		0		0		0		0		524	
AM Pct	50.2%																50.2%	
Peak Hour	8:30	13:45															8:30	13:45
Peak Volume	102	52															102	52
P.H.F	0.5313	0.5652															0.5313	0.5652

Traffic Research & Analysis, Inc.
3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

Client:	Stanley	Site Ref:	1
File Number:	1602473	Direction:	WB
Route:	N CAVE CREEK RD	Latitude:	33.8188
Location:	E of N PIMA RD	Longitude:	-111.8891

Count Date	5/5/2016																Average	
Count Time	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
00:00	2	92															2	92
00:15	0	119															0	119
00:30	0	99															0	99
00:45	1	120															1	120
01:00	1	119															1	119
01:15	2	126															2	126
01:30	0	140															0	140
01:45	1	121															1	121
02:00	0	130															0	130
02:15	0	133															0	133
02:30	0	130															0	130
02:45	1	140															1	140
03:00	1	120															1	120
03:15	1	106															1	106
03:30	0	101															0	101
03:45	0	105															0	105
04:00	8	113															8	113
04:15	1	93															1	93
04:30	4	82															4	82
04:45	4	91															4	91
05:00	7	84															7	84
05:15	12	94															12	94
05:30	11	88															11	88
05:45	25	70															25	70
06:00	30	78															30	78
06:15	37	59															37	59
06:30	31	49															31	49
06:45	53	36															53	36
07:00	69	39															69	39
07:15	60	26															60	26
07:30	79	23															79	23
07:45	74	23															74	23
08:00	89	20															89	20
08:15	104	17															104	17
08:30	93	10															93	10
08:45	94	11															94	11
09:00	93	15															93	15
09:15	100	22															100	22
09:30	111	19															111	19
09:45	105	17															105	17
10:00	107	20															107	20
10:15	113	7															113	7
10:30	125	9															125	9
10:45	132	7															132	7
11:00	116	6															116	6
11:15	122	2															122	2
11:30	95	3															95	3
11:45	114	2															114	2
Totals	2228	3136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2228	3136
Day Total	5364		0		0		0		0		0		0		0		5364	
AM Pct	41.5%																41.5%	
Peak Hour	10:30	14:00															10:30	14:00
Peak Volume	495	533															495	533
P.H.F	0.9375	0.9518															0.9375	0.9518

APPENDIX B

Crash Data

Maricopa County Sheriff's Office
Location History

Period covered: January 1, 2012 to September 23, 2013

Incident/DR #	XRef Incident #	Disposition	Date	Time	Incident Location	Description of Call Type	Final Call Type	Deputy Serial #
MA12004289		8	1/8/2012 12:16:20 PM		E CAVE CREEK RD/N PIMA RD ,CRF	VEHICLE ACCIDENT W/INJURIES	962	S1481
MA12049718		8	3/22/2012 8:10:21 AM		E CAVE CREEK RD/N PIMA ,CRF	VEHICLE ACCIDENT W/INJURIES	962	S0997
MA12101315		8	6/7/2012 10:53:52 AM		E CAVE CREEK RD/N PIMA ,CRF	VEHICLE ACCIDENT NO INJURY	961	S1813
MA12105441		8	6/13/2012 8:23:13 PM		E CAVE CREEK RD/N PIMA ,CRF	VEHICLE ACCIDENT NO INJURY	961	S0950
MA12134068		10	7/28/2012 7:40:51 AM		E CAVE CREEK RD/N PIMA ,CRF	INJURED/SICK PERSON	901	S1179
MA13031502		8	2/16/2013 3:48:06 PM		E CAVE CREEK RD/N PIMA RD ,CRF	VEHICLE ACCIDENT FATALITY	963	S1179
MA13128644		8	7/5/2013 3:03:55 PM		E CAVE CREEK RD/N PIMA ,CRF	VEHICLE ACCIDENT W/INJURIES	962	S1179

Disposition Descriptions

1 Information Received
2 Police Service Report Written (DR) Incident # is DR #
3 Unable to Locate/Gone on Arrival
4 Civil Matter
5 Detail Completed
6 Offense Report Written (DR) Incident # is DR #
7 Field interview card completed
8 Vehicle Accident Report Written (DR) Incident # is DR #
9 Assist to other Agency-
10 Turned Over to other Agency
11 Property Invoice (only) Written (DR) Incident # is DR #
12 Tow Truck Request (only) Written (DR) Incident # is DR #
13 Cancel Incident Prior to unit being Dispatched
14 Cancel Incident after Unit has been Dispatched

Maricopa County Sheriff's Office

Location History

Period covered: September 24, 2013 to May 31, 2016

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC13223818	IR13189397		11/21/2013	11:14:37	771609 - A476

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC13226990	IR13189753		11/26/2013	09:21:03	117502 -

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

N PIMA RD/E CAVE CREEK RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC14006587	IR14000796		01/11/2014	13:10:54	771285 - A433

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC14020884	IR14002655		02/02/2014	12:35:20	119326 -

Description of Event:

VEHICLE CRASH NO INJURY HIT AND RUN 961

Event Location ***Location Name:***

N PIMA RD/E CAVE CREEK RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC14034790	IR14004364		02/22/2014	14:52:10	771647 - A434

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC14052665	IR14006602		03/20/2014	16:50:39	771609 - G476

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC14116282	IR14014529		06/24/2014	14:52:20	771179 - A434

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC14170080	IR14020971		09/10/2014	06:53:31	771869 - A430

Description of Event:

VEHICLE CRASH W/INJURIES

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC14230738	IR14028556		12/08/2014	20:54:15	770920 - L433

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC14230942	IR14028577		12/09/2014	08:33:30	771256 - A434

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

N PIMA RD/E CAVE CREEK RD :JUST NOF

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC15041194	IR15004978		02/27/2015	13:55:50	771356 - A434

Description of Event:

VEHICLE CRASH NO INJURY 961 INVOLVING ALCOHOL

Event Location ***Location Name:***

N PIMA RD/E CAVE CREEK RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC15170962	IR15019929		08/10/2015	13:47:48	771179 - A434

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC15285997	IR15032965		12/25/2015	18:20:45	772059 - L434

Description of Event:

VEHICLE CRASH NO INJURY HIT AND RUN 961

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC16094247	IR16010732		04/22/2016	15:49:42	771609 - A476

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC16108646	IR16012387		05/09/2016	13:38:01	772047 - A434

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

N PIMA RD/E CAVE CREEK RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC16114098	IR16013036		05/15/2016	18:23:16	771414 - L430

Description of Event:

VEHICLE CRASH W/INJURIES

Event Location ***Location Name:***

N PIMA RD/E CAVE CREEK RD

CITY OF SCOTTSDALE '11 -'12 COLLISION SUMMARY

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS
11-06062	110312	1639	PIMA		STAGECOACH PASS	RD	AT		1	1	0	0	3	0	4	1	E	S	4	
12-22365	121009	0703	PIMA	RD	STAGECOACH PASS	RD	AT		1	1	0	0	7	1	4	1	SB	NB	3	
12-26524	121129	1039	PIMA	RD	STAGECOACH PASS	RD	W	250	1	3	0	0	7	1	6	1	WB	WB	3	

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS

KEY (January 1, 2011-June 21,2011)

INJURY SEVERITY: 1=NO INJURY, 2=POSSIBLE INJURY, 3=NON-INCAPACITATING INJURY, 4=INCAPACITATING INJURY, 5=FATAL INJURY, 99=NOT REPORTED / UNKNOWN

PHYSICAL CONDITION: 0=NO APPARENT INFLUENCE, 1=ILLNESS, 2=PHYSICAL IMPAIRMENT, 3=FELL ASLEEP / FATIGUED 4=ALCOHOL, 5=DRUGS, 6=MEDICATIONS, A=NO TEST GIVEN, B=TEST GIVEN, C=TEST REFUSED, D=TESTING UNKNOWN, 97=OTHER, 99=UNKNOWN

VIOLATION: 0=NO IMPROPER ACTION, 1=SPEED TOO FAST FOR CONDITIONS, 2=EXCEEDED LAWFUL SPEED 3=FAILED TO YIELD RIGHT-OF-WAY, 4=FOLLOWED TOO CLOSELY. 5=FAILED TO OBEY STOP SIGN, 6=FAILED TO STOP FOR RED SIGNAL, 7=DISREGAREDED TRAFFIC SIGNAL 8=MADE IMPROPER TURN, 9=DROVE/RODE IN OPPOSING TRAFFIC LANE, 10=KNOWINGLY OPERATED WITH FAULTY / MISSING EQUIPMENT, 11=REQUIRED MOTORCYCLE SAFETY EQUIPMENT NOT USED, 12=PASSED IN NO PASSING ZONE, 13=UNSAFE LANE CHANGE, 14=FAILED TO KEEP IN PROPER LANE, 15=DISREGARDED PAVEMENT MARKINGS, 16=OTHER UNSAFE PASSING, 17=INATTENTION/DISTRACTION, 18=DID NOT USE CROSSWALK, 19=WALKED ON WRONG SIDE OF ROAD, 20 ELECTRONIC COMMUNICATIONS DEVICE, 97=OTHER, 99 UNKNOWN

ACTION: 1=GOING STRAIGHT AHEAD, 2=SLOWING IN TRAFFICWAY, 3=STOPPED IN TRAFFICWAY, 4=MAKING LEFT TURN, 5=MAKING RIGHT TURN, 6=MAKING U-TURN, 7=OVERTAKING/PASSING, 8=CHANGING LANES, 9=NEGOTIATING A CURVE, 10=BACKING, 11=AVOIDING VEH/OBJ/PED/CYCLIST/ANIMAL, 12=ENTERING PARKING POSITION, 13=LEAVING PARKING POSITION, 14=PROPERLY PARKED, 15=IMPROPERLY PARKED, 16=DRIVERLESS MOVING VEHICLE, 17=CROSING ROAD, 18=WALKING WITH TRAFFIC, 19=WALKING AGAINST TRAFFIC, 20=STANDING, 21=LYING, 22=GETTING ON OR OFF VEHICLE, 23=WORKING ON/PUSHING VEHICLE, 24=WORKING ON ROAD, 97=OTHER, 99=UKNOWN

MANNER OF COLLISION: 1=SINGLE VEHICLE, 2=ANGLE (front to side) SAME DIRECTION, 3=ANGLE (front to side) OPPOSITE DIRECTION, 4=ANGLE (front to side) RIGHT ANGLE, 5=ANGLE - DIRECTION NOT SPECIFIED, 6=REAR END, 7=HEAD-ON, 8=SIDESWIPE, SAME DIRECTION, 9=SIDESWIPE, OPPOSITE DIRECTION, 10=REAR-TO-SIDE 11=REAR-TO-REAR 97=OTHER 99=UNKNOWN D=U-Turn, @=Pedestrian, #=Pedalcycle

KEY (June 22, 2011-December 31,2012)

INJURY SEVERITY: 1=NO INJURY, 2=POSSIBLE INJURY, 3=NON-INCAPACITATING INJURY, 4=INCAPACITATING INJURY, 5=FATAL INJURY, 99=NOT REPORTED / UNKNOWN

PHYSICAL CONDITION: 0=NO APPARENT INFLUENCE, 1=ILLNESS, 2=PHYSICAL IMPAIRMENT, 3=FELL ASLEEP / FATIGUED 4=ALCOHOL, 5=DRUGS, 6=MEDICATIONS, A=NO TEST GIVEN, B=TEST GIVEN, C=TEST REFUSED, D=TESTING UNKNOWN, 97=OTHER, 99=UNKNOWN

VIOLATION: 1=NO IMPROPER ACTION, 2=SPEED TOO FAST FOR CONDITIONS, 3=EXCEEDED LAWFUL SPEED 4=FOLLOWED TOO CLOSELY. 5=RAN STOP SIGN, 6=DISREGAREDED TRAFFIC SIGNAL7=MADE IMPROPER TURN, 8=DROVE/RODE IN OPPOSING TRAFFIC LANE, 9=KNOWINGLY OPERATED WITH FAULTY / MISSING EQUIPMENT, 10=REQUIRED MOTORCYCLE SAFETY EQUIPMENT NOT USED, 11=PASSED IN NO PASSING ZONE, 12=UNSAFE LANE CHANGE, 13=FAILED TO KEEP IN PROPER LANE, 14=DISREGARDED PAVEMENT MARKINGS, 15=OTHER UNSAFE PASSING, 16=INATTENTION/DISTRACTION, 17=DID NOT USE CROSSWALK, 18=WALKED ON WRONG SIDE OF ROAD, 19=ELECTRONIC COMMUNICATIONS DEVICE, 97=OTHER, 99 UNKNOWN

ACTION: 1=GOING STRAIGHT AHEAD, 2=SLOWING IN TRAFFICWAY, 3=STOPPED IN TRAFFICWAY, 4=MAKING LEFT TURN, 5=MAKING RIGHT TURN, 6=MAKING U-TURN, 7=OVERTAKING/PASSING, 8=CHANGING LANES, 9=NEGOTIATING A CURVE, 10=BACKING, 11=AVOIDING VEH/OBJ/PED/CYCLIST/ANIMAL, 12=ENTERING PARKING POSITION, 13=LEAVING PARKING POSITION, 14=PROPERLY PARKED, 15=IMPROPERLY PARKED, 16=DRIVERLESS MOVING VEHICLE, 17=CROSING ROAD, 18=WALKING WITH TRAFFIC, 19=WALKING AGAINST TRAFFIC, 20=STANDING, 21=LYING, 22=GETTING ON OR OFF VEHICLE, 23=WORKING ON/PUSHING VEHICLE, 24=WORKING ON ROAD, 97=OTHER, 99=UKNOWN

MANNER OF COLLISION: 1=SINGLE VEHICLE, 2=ANGLE (front to side, other than left turn), 3=LEFT TURN, 4=REAR END, 5=HEAD-ON (front to front, other than left turn), 6=SIDESWIPE (same direction), 7=SIDESWIPE (opposite direction), 8=REAR-TO-SIDE, 9=REAR TO REAR, 97=OTHER, 99=UNKNOWN

TOTAL **3**

CITY OF SCOTTSDALE '13 -'14 COLLISION SUMMARY

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS
14-27050	141216	0651	PIMA	RD	STAGECOACH PASS	RD	AT		1	1	0	0	97	1	4	97	SB	SB	3	CAR/BICYCLE
14-22373	141017	1554	PIMA	RD	STAGECOACH PASS	RD	AT		1	1	97	0	97	1	1	1	wb	nb	2	
14-16986	140807	1500	PIMA	RD	STAGECOACH PASS	RD	AT		3	1	0	0	97	1	1	1	EB	SB	2	

KEY

INJURY SEVERITY: 1=NO INJURY, 2=POSSIBLE INJURY, 3=NON-INCAPACITATING INJURY, 4=INCAPACITATING INJURY, 5=FATAL INJURY, 99=NOT REPORTED / UNKNOWN

PHYSICAL CONDITION: 0=NO APPARENT INFLUENCE, 1=ILLNESS, 2=PHYSICAL IMPAIRMENT, 3=FELL ASLEEP / FATIGUED 4=ALCOHOL, 5=DRUGS, 6=MEDICATIONS, A=NO TEST GIVEN, B=TEST GIVEN, C=TEST REFUSED, D=TESTING UNKNOWN, 97=OTHER, 99=UNKNOWN

VIOLATION: 1=NO IMPROPER ACTION, 2=SPEED TOO FAST FOR CONDITIONS, 3=EXCEEDED LAWFUL SPEED 4=FOLLOWED TOO CLOSELY, 5=RAN STOP SIGN, 6=DISREGAREDED TRAFFIC SIGNAL7=MADE IMPROPER TURN, 8=DROVE/RODE IN OPPOSING TRAFFIC LANE, 9=KNOWINGLY OPERATED WITH FAULTY / MISSING EQUIPMENT, 10=REQUIRED MOTORCYCLE SAFETY EQUIPMENT NOT USED, 11=PASSED IN NO PASSING ZONE, 12=UNSAFE LANE CHANGE, 13=FAILED TO KEEP IN PROPER LANE, 14=DISREGARDED PAVEMENT MARKINGS, 15=OTHER UNSAFE PASSING, 16=INATTENTION/DISTRACTION, 17=DID NOT USE CROSSWALK, 18=WALKED ON WRONG SIDE OF ROAD, 19=ELECTRONIC COMMUNICATIONS DEVICE, 20=FAILED TO YIELD RIGHT OF WAY (added August 2014), 97=OTHER, 99 UNKNOWN

ACTION: 1=GOING STRAIGHT AHEAD, 2=SLOWING IN TRAFFICWAY, 3=STOPPED IN TRAFFICWAY, 4=MAKING LEFT TURN, 5=MAKING RIGHT TURN, 6=MAKING U-TURN, 7=OVERTAKING/PASSING, 8=CHANGING LANES, 9=NEGOTIATING A CURVE, 10=BACKING, 11=AVOIDING VEH/OBJ/PED/CYCLIST/ANIMAL, 12=ENTERING PARKING POSITION, 13=LEAVING PARKING POSITION, 14=PROPERLY PARKED, 15=IMPROPERLY PARKED, 16=DRIVERLESS MOVING VEHICLE, 17=CROSING ROAD, 18=WALKING WITH TRAFFIC, 19=WALKING AGAINST TRAFFIC, 20=STANDING, 21=LYING, 22=GETTING ON OR OFF VEHICLE, 23=WORKING ON/PUSHING VEHICLE, 24=WORKING ON ROAD, 97=OTHER, 99=UNKNOWN

MANNER OF COLLISION: 1=SINGLE VEHICLE, 2=ANGLE (front to side, other than left turn), 3=LEFT TURN, 4=REAR END (front to rear), 5=HEAD-ON (front to front, other than left turn), 6=SIDESWIPE (same direction), 7=SIDESWIPE (opposite direction), 8=REAR-TO-SIDE, 9=REAR TO REAR, 97=OTHER, 99=UNKNOWN

TOTAL **3**

CITY OF SCOTTSDALE '15 -'16 COLLISION SUMMARY

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS
15-13326	150613	1633	PIMA	RD	STAGECOACH	PASS	E	101	3		0		1		1		WB		1	

KEY

INJURY SEVERITY: 1=NO INJURY, 2=POSSIBLE INJURY, 3=NON-INCAPACITATING INJURY, 4=INCAPACITATING INJURY, 5=FATAL INJURY, 99=NOT REPORTED / UNKNOWN

PHYSICAL CONDITION: 0=NO APPARENT INFLUENCE, 1=ILLNESS, 2=PHYSICAL IMPAIRMENT, 3=FELL ASLEEP / FATIGUED 4=ALCOHOL, 5=DRUGS, 6=MEDICATIONS, A=NO TEST GIVEN, B=TEST GIVEN, C=TEST REFUSED, D=TESTING UNKNOWN, 97=OTHER, 99=UNKNOWN

VIOLATION: 1=NO IMPROPER ACTION, 2=SPEED TOO FAST FOR CONDITIONS, 3=EXCEEDED LAWFUL SPEED 4=FOLLOWED TOO CLOSELY, 5=RAN STOP SIGN, 6=DISREGAREDED TRAFFIC SIGNAL7=MADE IMPROPER TURN, 8=DROVE/RODE IN OPPOSING TRAFFIC LANE, 9=KNOWINGLY OPERATED WITH FAULTY / MISSING EQUIPMENT, 10=REQUIRED MOTORCYCLE SAFETY EQUIPMENT NOT USED, 11=PASSED IN NO PASSING ZONE, 12=UNSAFE LANE CHANGE, 13=FAILED TO KEEP IN PROPER LANE, 14=DISREGARDED PAVEMENT MARKINGS, 15=OTHER UNSAFE PASSING, 16=INATTENTION/DISTRACTION, 17=DID NOT USE CROSSWALK, 18=WALKED ON WRONG SIDE OF ROAD, 19=ELECTRONIC COMMUNICATIONS DEVICE, 20=FAILED TO YIELD RIGHT OF WAY (added August 2014), 97=OTHER, 99 UNKNOWN

ACTION: 1=GOING STRAIGHT AHEAD, 2=SLOWING IN TRAFFICWAY, 3=STOPPED IN TRAFFICWAY, 4=MAKING LEFT TURN, 5=MAKING RIGHT TURN, 6=MAKING U-TURN, 7=OVERTAKING/PASSING, 8=CHANGING LANES, 9=NEGOTIATING A CURVE, 10=BACKING, 11=AVOIDING VEH/OBJ/PED/CYCLIST/ANIMAL, 12=ENTERING PARKING POSITION, 13=LEAVING PARKING POSITION, 14=PROPERLY PARKED, 15=IMPROPERLY PARKED, 16=DRIVERLESS MOVING VEHICLE, 17=CROSING ROAD, 18=WALKING WITH TRAFFIC, 19=WALKING AGAINST TRAFFIC, 20=STANDING, 21=LYING, 22=GETTING ON OR OFF VEHICLE, 23=WORKING ON/PUSHING VEHICLE, 24=WORKING ON ROAD, 97=OTHER, 99=UKNOWN

MANNER OF COLLISION: 1=SINGLE VEHICLE, 2=ANGLE (front to side, other than left turn), 3=LEFT TURN, 4=REAR END (front to rear), 5=HEAD-ON (front to front, other than left turn), 6=SIDESWIPE (same direction), 7=SIDESWIPE (opposite direction), 8=REAR-TO-SIDE, 9=REAR TO REAR, 97=OTHER, 99=UNKNOWN

TOTAL **1**

APPENDIX C
Capacity Analysis

Intersection	
Intersection Delay, s/veh	13.4
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	17	133	40	0	239	123	7	0	49	37	244
Future Vol, veh/h	0	17	133	40	0	239	123	7	0	49	37	244
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	18	145	43	0	260	134	8	0	53	40	265
Number of Lanes	0	1	2	0	0	1	2	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	3	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	3
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	11.4	15.1	13.3
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	57%	0%	100%	0%	0%	100%	0%	0%	21%	0%
Vol Thru, %	43%	0%	0%	100%	53%	0%	100%	85%	79%	0%
Vol Right, %	0%	100%	0%	0%	47%	0%	0%	15%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	86	244	17	89	84	239	82	48	68	30
LT Vol	49	0	17	0	0	239	0	0	14	0
Through Vol	37	0	0	89	44	0	82	41	54	0
RT Vol	0	244	0	0	40	0	0	7	0	30
Lane Flow Rate	93	265	18	96	92	260	89	52	74	33
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.184	0.449	0.04	0.195	0.177	0.518	0.165	0.095	0.156	0.062
Departure Headway (Hd)	7.187	6.199	7.786	7.276	6.937	7.29	6.781	6.678	7.609	6.799
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	502	583	462	495	520	499	532	540	474	529
Service Time	4.887	3.899	5.492	4.982	4.643	4.99	4.481	4.378	5.32	4.51
HCM Lane V/C Ratio	0.185	0.455	0.039	0.194	0.177	0.521	0.167	0.096	0.156	0.062
HCM Control Delay	11.5	13.9	10.8	11.7	11.1	17.6	10.8	10.1	11.7	10
HCM Lane LOS	B	B	B	B	B	C	B	B	B	A
HCM 95th-tile Q	0.7	2.3	0.1	0.7	0.6	2.9	0.6	0.3	0.5	0.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	14	54	30
Future Vol, veh/h	0	14	54	30
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	15	59	33
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	3
HCM Control Delay	11.2
HCM LOS	B

Lane

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	386	5	1	355	14	3
Future Vol, veh/h	386	5	1	355	14	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	420	5	1	386	15	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	425	0	617	212
Stage 1	-	-	-	-	422	-
Stage 2	-	-	-	-	195	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1131	-	422	793
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	819	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1131	-	422	793
Mov Cap-2 Maneuver	-	-	-	-	422	-
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	818	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	460	-	-	1131	-
HCM Lane V/C Ratio	0.04	-	-	0.001	-
HCM Control Delay (s)	13.2	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	7	119	55	0	244	117	3	0	48	22	205
Future Vol, veh/h	0	7	119	55	0	244	117	3	0	48	22	205
Peak Hour Factor	0.92	0.87	0.87	0.87	0.92	0.87	0.87	0.87	0.92	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	8	137	63	0	280	134	3	0	55	25	236
Number of Lanes	0	1	2	0	0	1	2	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	3	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	3
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	10.6	14.4	11.8
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	69%	0%	100%	0%	0%	100%	0%	0%	17%	0%
Vol Thru, %	31%	0%	0%	100%	42%	0%	100%	93%	83%	0%
Vol Right, %	0%	100%	0%	0%	58%	0%	0%	7%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	205	7	79	95	244	78	42	18	7
LT Vol	48	0	7	0	0	244	0	0	3	0
Through Vol	22	0	0	79	40	0	78	39	15	0
RT Vol	0	205	0	0	55	0	0	3	0	7
Lane Flow Rate	80	236	8	91	109	280	90	48	21	8
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.153	0.381	0.016	0.17	0.19	0.523	0.154	0.082	0.042	0.015
Departure Headway (Hd)	6.86	5.817	7.208	6.701	6.288	6.707	6.201	6.15	7.305	6.516
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	521	617	495	533	568	536	577	581	488	546
Service Time	4.617	3.574	4.972	4.465	4.052	4.46	3.954	3.904	5.083	4.294
HCM Lane V/C Ratio	0.154	0.382	0.016	0.171	0.192	0.522	0.156	0.083	0.043	0.015
HCM Control Delay	10.9	12.1	10.1	10.8	10.5	16.6	10.1	9.5	10.4	9.4
HCM Lane LOS	B	B	B	B	B	C	B	A	B	A
HCM 95th-tile Q	0.5	1.8	0	0.6	0.7	3	0.5	0.3	0.1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	3	15	7
Future Vol, veh/h	0	3	15	7
Peak Hour Factor	0.92	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	3	17	8
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	3
HCM Control Delay	10.1
HCM LOS	B

Lane

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	312	15	4	355	9	2
Future Vol, veh/h	312	15	4	355	9	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	339	16	4	386	10	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	355	0	549	178
Stage 1	-	-	-	-	347	-
Stage 2	-	-	-	-	202	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1200	-	466	834
Stage 1	-	-	-	-	687	-
Stage 2	-	-	-	-	812	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1200	-	464	834
Mov Cap-2 Maneuver	-	-	-	-	464	-
Stage 1	-	-	-	-	687	-
Stage 2	-	-	-	-	809	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	505	-	-	1200	-
HCM Lane V/C Ratio	0.024	-	-	0.004	-
HCM Control Delay (s)	12.3	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	19	136	40	0	242	124	7	0	49	39	250
Future Vol, veh/h	0	19	136	40	0	242	124	7	0	49	39	250
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	21	148	43	0	263	135	8	0	53	42	272
Number of Lanes	0	1	2	0	0	1	2	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	3	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	3
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	11.5	15.4	13.5
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	56%	0%	100%	0%	0%	100%	0%	0%	20%	0%
Vol Thru, %	44%	0%	0%	100%	53%	0%	100%	86%	80%	0%
Vol Right, %	0%	100%	0%	0%	47%	0%	0%	14%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	88	250	19	91	85	242	83	48	69	31
LT Vol	49	0	19	0	0	242	0	0	14	0
Through Vol	39	0	0	91	45	0	83	41	55	0
RT Vol	0	250	0	0	40	0	0	7	0	31
Lane Flow Rate	96	272	21	99	93	263	90	53	75	34
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.189	0.464	0.045	0.201	0.181	0.529	0.168	0.097	0.16	0.064
Departure Headway (Hd)	7.235	6.253	7.854	7.343	7.008	7.357	6.848	6.744	7.683	6.875
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	499	579	458	492	515	495	527	535	469	523
Service Time	4.935	3.953	5.56	5.049	4.714	5.057	4.548	4.444	5.395	4.586
HCM Lane V/C Ratio	0.192	0.47	0.046	0.201	0.181	0.531	0.171	0.099	0.16	0.065
HCM Control Delay	11.6	14.2	10.9	11.9	11.3	18	10.9	10.2	11.9	10.1
HCM Lane LOS	B	B	B	B	B	C	B	B	B	B
HCM 95th-tile Q	0.7	2.4	0.1	0.7	0.7	3	0.6	0.3	0.6	0.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	14	55	31
Future Vol, veh/h	0	14	55	31
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	15	60	34
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	3
HCM Control Delay	11.3
HCM LOS	B

Lane

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	9	386	5	1	355	23	14	0	3	7	0	4
Future Vol, veh/h	9	386	5	1	355	23	14	0	3	7	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	0	-	100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	420	5	1	386	25	15	0	3	8	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	386	0	0	425	0	0	637	830	212	617	833	193
Stage 1	-	-	-	-	-	-	442	442	-	388	388	-
Stage 2	-	-	-	-	-	-	195	388	-	229	445	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1169	-	-	1131	-	-	362	304	793	374	303	816
Stage 1	-	-	-	-	-	-	564	575	-	607	607	-
Stage 2	-	-	-	-	-	-	788	607	-	753	573	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1169	-	-	1131	-	-	357	301	793	370	300	816
Mov Cap-2 Maneuver	-	-	-	-	-	-	357	301	-	370	300	-
Stage 1	-	-	-	-	-	-	559	570	-	602	606	-
Stage 2	-	-	-	-	-	-	783	606	-	743	568	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	14.6	13
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	395	1169	-	-	1131	-	-	462
HCM Lane V/C Ratio	0.047	0.008	-	-	0.001	-	-	0.026
HCM Control Delay (s)	14.6	8.1	-	-	8.2	-	-	13
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	2	0	61	4	0	98
Future Vol, veh/h	2	0	61	4	0	98
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	0	66	4	0	107

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	175	68	0	0	71	0
Stage 1	68	-	-	-	-	-
Stage 2	107	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	815	995	-	-	1529	-
Stage 1	955	-	-	-	-	-
Stage 2	917	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	815	995	-	-	1529	-
Mov Cap-2 Maneuver	815	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	917	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	815	1529	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s)	-	-	9.4	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	9	122	55	0	251	121	3	0	48	24	210
Future Vol, veh/h	0	9	122	55	0	251	121	3	0	48	24	210
Peak Hour Factor	0.92	0.87	0.87	0.87	0.92	0.87	0.87	0.87	0.92	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	140	63	0	289	139	3	0	55	28	241
Number of Lanes	0	1	2	0	0	1	2	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	3	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	3
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	10.8	15	12.1
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	67%	0%	100%	0%	0%	100%	0%	0%	14%	0%
Vol Thru, %	33%	0%	0%	100%	43%	0%	100%	93%	86%	0%
Vol Right, %	0%	100%	0%	0%	57%	0%	0%	7%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	72	210	9	81	96	251	81	43	21	9
LT Vol	48	0	9	0	0	251	0	0	3	0
Through Vol	24	0	0	81	41	0	81	40	18	0
RT Vol	0	210	0	0	55	0	0	3	0	9
Lane Flow Rate	83	241	10	93	110	289	93	50	24	10
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.159	0.396	0.021	0.177	0.195	0.544	0.162	0.086	0.05	0.019
Departure Headway (Hd)	6.934	5.901	7.306	6.799	6.39	6.787	6.281	6.232	7.39	6.613
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	516	608	488	525	559	531	569	573	482	538
Service Time	4.699	3.665	5.076	4.569	4.16	4.545	4.039	3.989	5.177	4.4
HCM Lane V/C Ratio	0.161	0.396	0.02	0.177	0.197	0.544	0.163	0.087	0.05	0.019
HCM Control Delay	11	12.5	10.2	11	10.7	17.4	10.3	9.6	10.6	9.5
HCM Lane LOS	B	B	B	B	B	C	B	A	B	A
HCM 95th-tile Q	0.6	1.9	0.1	0.6	0.7	3.2	0.6	0.3	0.2	0.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	3	18	9
Future Vol, veh/h	0	3	18	9
Peak Hour Factor	0.92	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	3	21	10
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	3
HCM Control Delay	10.3
HCM LOS	B

Lane

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	8	312	15	4	355	22	9	0	2	21	0	11
Future Vol, veh/h	8	312	15	4	355	22	9	0	2	21	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	0	-	100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	339	16	4	386	24	10	0	2	23	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	386	0	0	355	0	0	567	760	178	582	768	193
Stage 1	-	-	-	-	-	-	365	365	-	395	395	-
Stage 2	-	-	-	-	-	-	202	395	-	187	373	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1169	-	-	1200	-	-	406	334	834	396	330	816
Stage 1	-	-	-	-	-	-	627	622	-	602	603	-
Stage 2	-	-	-	-	-	-	781	603	-	797	617	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1169	-	-	1200	-	-	397	330	834	392	326	816
Mov Cap-2 Maneuver	-	-	-	-	-	-	397	330	-	392	326	-
Stage 1	-	-	-	-	-	-	622	617	-	597	601	-
Stage 2	-	-	-	-	-	-	767	601	-	789	612	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	13.4	13.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	439	1169	-	-	1200	-	-	477
HCM Lane V/C Ratio	0.027	0.007	-	-	0.004	-	-	0.073
HCM Control Delay (s)	13.4	8.1	-	-	8	-	-	13.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	5	0	32	4	0	25
Future Vol, veh/h	5	0	32	4	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	0	35	4	0	27

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	64	37	0	0	39	0
Stage 1	37	-	-	-	-	-
Stage 2	27	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	942	1035	-	-	1571	-
Stage 1	985	-	-	-	-	-
Stage 2	996	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	942	1035	-	-	1571	-
Mov Cap-2 Maneuver	942	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	996	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	942	1571	-
HCM Lane V/C Ratio	-	-	0.006	-	-
HCM Control Delay (s)	-	-	8.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

APPENDIX D

Currently Approved Zoning

YIELD ANALYSIS

PARCELS/AC	PRODUCT TYPE	UNITS	MAX BLDG. HT/ STORIES
A 4.74 AC	Industrial (I-1) 100,000 SF	0	36'/2 ST.
B 23.35 AC	Commercial Retail (C-2) 100,000 SF	0	35'/2 ST.
C 25.56 AC	Commercial Office (CO) 400,000 SF	0	48'/2 ST.
D 18.8 AC	Residential (R1-7)	59	
E 4.89 AC	Residential (R1-35)	3	

LEGEND

Parcel Boundary

Property Boundary

0 100 200 400 800

4.3.14

MONTEREY HOMES

Desert Mountain Parcel 19

Currently Approved Plan

DRAFT

SWABACK PARTNERS pll
Architecture · Planning · Interior Design

Desert Mountain Parcel 19 Currrently Approved Plan (site plan dated 4-3-2014)

Vehicular Trip Rates & Trips

Parcel/Acre (AC)	Product Type	Number of Units	Units	ITE Land Use Number	ITE Land Use No./Type	Weekday Trip Rate per Unit	Weekday Total Trips	AM PEAK Trip Rate per Unit	AM PEAK Number of Trips	AM PEAK In Trips	AM PEAK Out Trips	PM PEAK Trip Rate per Unit	PM PEAK Number of Trips	PM PEAK In Trips	PM PEAK Out Trips
A/4.74	Industrial (I-1)	100	ksf	110	General Light Industrial	6.97	697	0.92	92	81	11	0.97	97	12	85
D/18.8; E/4.89	Residential (R1-7,R1-35)	62	units	210	Single Family Detached Housing	9.52	590	0.75	47	12	35	1.00	62	39	23
C/25.56	Commercial Office (CO)	400	ksf	710	General Office Building	11.03	4412	1.56	624	549	75	1.49	596	101	495
B/23.35	Commercial Retail (C-2)	100	ksf	820	Shopping Center	42.70	4270	0.96	96	60	36	3.71	371	178	193
					Total Trips		9969		859	702	157		1126	330	796
		Internal Reduction (Based on ITE rates for Residential, Retail and Office)				6%	-598	6%	-52	-26	-26	6%	-68	-34	-34
		Total Vehicular Trips Entering and Leaving the Site (without Internal Trips)					9371		807	676	131		1058	296	762
		Pass-by Reduction (Based on ITE rates for Land Use 820 Shopping Center)				25%	1003	25%	23	14	8	25%	87	42	45
					Net-New Trips on Cave Creek Road (External)		8367		784	662	123		971	254	717

Notes:

1. Parcel A - INDUSTRIAL Floor Area Ratio per site plan = (100,000 sq ft) / (4.74Acres) (43,560 sq ft/ acre) = 0.48 FAR
2. Parcel B - Commercial OFFICE Floor Area Ratio per site plan = (400,000 sq ft) / (25.56 Acres) (43,560 sq ft/ acre) = .09 FAR
3. Parcel C - Commercial RETAIL Floor Area Ratio per site plan = (100,000 sq ft) / (23.35 Acres) (43,560 sq ft/ acre) = .10 FAR
4. Estimates of Pass By Trips are based on Table 5.6 of ITE Trip Gen Manual, 9th Edition
5. Pass By Trips are vehicles driving by the site on Cave Creek Road for another trip purpose, but stop at the site.

Stanley Consultants INC.

Desert Mountain Parcel 19
Technical Memo
Resolution of Traffic Issues
October 25, 2016
Prepared By: Stanley Consultants, Inc.

Introduction

The proposed Desert Mountain Parcel 19 (DM 19) site is currently vacant and located on the northeast corner of the Cave Creek Road/Pima Road intersection in Scottsdale, Arizona. The proposed Desert Mountain development will include 190 residential units and an 18 hole par 3 golf course. For the proposed development, a Traffic Impact Mitigation Analysis Study dated June 15, 2016 was prepared by Stanley Consultants.

Several traffic concerns or issues have been raised by the City of Scottsdale and by the Town of Carefree. This technical memorandum is a response, clarification and correction of the June 15, 2016 traffic study prepared for Desert Mountain 19. The items addressed are:

1) Traffic generated by the site in the report is lower than typical residential development
2) The traffic volumes analyzed are lower than during the heavy traffic winter months
3) The amount of traffic that will utilize the secondary site access on Pima Road will be much higher than assumed

Traffic Concern 1: The projected trip generation from Desert Mountain Parcel 19 assumes no standard residential housing, only senior adult detached and recreational housing. We believe that the type of product being proposed by this development will attract a mix of single family detached, senior adult detached and recreational housing that should be reflected in an updated Traffic Impact Analysis.

Resolution of Concern 1: The proposed Desert Mountain Parcel 19 development will include 190 residential units. The Traffic Impact Mitigation Analysis Study dated June 15, 2016, prepared by Stanley Consultants assumed that 70 percent of the total residential units would be recreational homes and the remaining 30 percent would be senior adult detached units. This mix of housing types was based on our understanding of the current residential mix of the Desert Mountain community. To provide a worst case, conservative analysis, an additional capacity analysis was conducted at the study intersections for the proposed development assuming that all 190 residential units would be single family detached units. This is not an expected type of housing for the subject property. The Parcel 19 is expected to have a residential mix similar to the existing Desert Mountain master planned community which has a high percentage of recreational housing and senior housing. The capacity analysis results assuming 100% single family detached units indicate that the study intersection of Pima Road and Cave Creek Road will experience a slight increase in vehicular delay as compared to existing (current) conditions but will operate at an overall acceptable LOS C or better during both peak

hours. Assuming that all the new DM19 residents are all single family type residents, with no senior or recreational residents, the proposed Desert Mountain Development will have an insubstantial impact at the intersection of Pima Road/Cave Creek Road. A Level of Service Comparison chart is provided in **Attachment 1** and **Attachment 2** is the September 29, 2016 Technical Memorandum Capacity Analysis with 100% SFDU.

Actual traffic data for the existing Desert Mountain community was obtained on Friday October 21, 2016. The traffic volume that enters and leaves the Desert Mountain community was provided for the previous 12 months along with the number of homes during this period. The data and analysis are provided in **Attachment 3**; Desert Mountain Traffic Volumes and Vehicular Trips Per Home. The average daily trip rates for Desert Mountain range from 1.3 to 2.3 and the average trip rate is 1.8 vehicular trips per day per housing unit. This average trip rate of 1.8 is much lower than the average rate of 3.3 utilized in the Traffic Impact Mitigation Analysis Study dated June 15, 2016,

In summary, concerned reviewers suggested that the typical single family trip rate of 9.52 trips per dwelling unit should be utilized to estimate the traffic volume for the Desert Mountain Parcel 19 residents. The average trip rate for Desert Mountain traffic in the last 12 months averaged 1.8 vehicular trips per day. The highest month trip rate for Desert Mountain traffic in the last 12 months is 2.3 vehicular trips per day. The average trip rate of 3.3 vehicular trips per day utilized in the June 15, 2016 traffic study is much higher than the average and the highest month Desert Mountain trip rate and is clearly a conservative estimate and nearly double the community they are joining.

NOTE: Although the average trip rate for single family detached units is not considered a reasonable estimate of the expected traffic, a capacity analysis was performed at the three intersections as if the residents were all working families and the results show that all three intersections will operate at a Level of Service (LOS) C. LOS A, B, C and D are all acceptable LOS. When a LOS E intersection delays are expected, mitigation is required per City of Scottsdale standards.

Traffic Concern 2: The development team gathered their traffic count data at the end of tourism/winter season (May). Traffic Counts are significantly higher in the winter months than the summer months in this area. Traffic counts from May do not accurately reflect existing peak conditions.

Resolution of Concern 2: There were two sets of approach traffic volume data that were reviewed and are summarized below and also shown in Exhibit 1.

Pima Road/Cave Creek Road – **May, 2016** Approach Volume Counts (veh/day) Collected by TRA for DM 19 Traffic Analysis
NB on Pima Road, south of Cave Creek Road = 7,484
SB on Pima Road, north of Cave Creek Road = 524
EBon Cave Creek Road, west of Pima Road = 2,424
WB on Cave Creek Road, east of Pima Road = 5,364

Pima Road/Stagecoach Pass Road – **March, 2016** Approach Volume Counts by City of Scottsdale
NB on Pima Road, south of Stagecoach Pass Road = 5,673
SB on Pima Road, north of Stagecoach Pass Road = 5,229
EB on Stagecoach Pass Road, west of Pima Road = 821
WB on Stagecoach Pass Road, east of Pima Road = 1,324

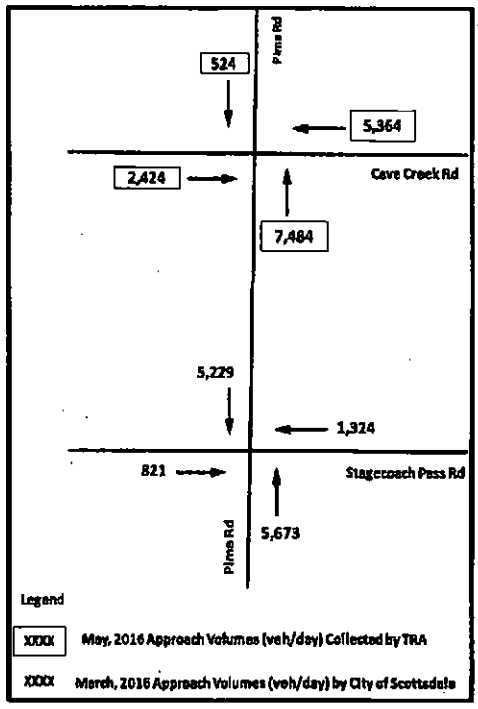


Exhibit 1

Based on the traffic volumes at the above two locations, the bi-directional average daily traffic (ADT) volumes on Pima Road between Cave Creek Road and Stagecoach Pass Road were determined for both City of Scottsdale and TRA traffic volumes and then compared. In order to determine the ADT's, the southbound traffic volumes just south of Cave Creek Road and northbound traffic volumes just north of Stagecoach Pass Road were estimated as follows:

- The southbound traffic volumes on Pima Road just south of Cave Creek Road were estimated by using the turning movement counts at Pima Road/Cave Creek Road intersection collected by TRA in May, 2016. The turning movement count percentages were applied to the respective approach volumes to estimate the southbound volumes just south of Cave Creek Road.
- The northbound traffic volumes on Pima Road just north of Stagecoach Pass Road were estimated by using the City of Scottsdale approach traffic volumes collected in March, 2016. The eastbound and westbound approach traffic volumes on Stagecoach Pass Road were distributed equally to/from northbound and southbound Pima Road.

The resulting traffic volumes and average daily traffic volumes are shown in Exhibit 2.

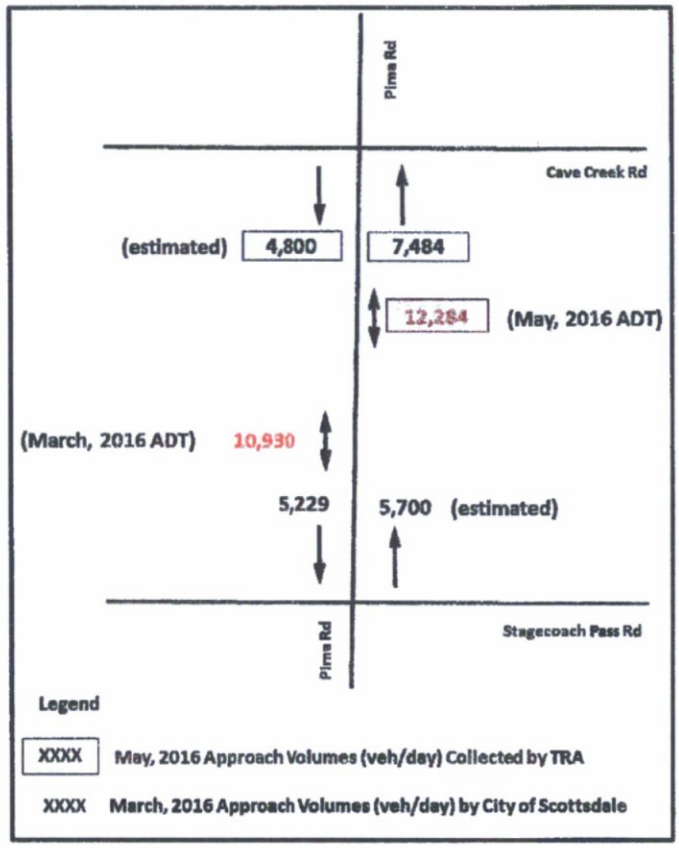


Exhibit 2: Approach Volumes and ADT's

As shown in Exhibit 2, the ADT on Pima Road between Cave Creek Road and Stagecoach Pass Road collected in May, 2016 is approximately 12,284 veh/day and in March, 2016 is approximately 10,930 veh/day. The ADT on Pima Road in the month of May was approximately 1,300 vehicles higher than in March and therefore, when preparing the traffic study, the higher traffic volumes collected in May, 2016 were utilized for traffic analysis.

Traffic Concern 3: The amount of traffic that will utilize the secondary site access on Pima Road will be much higher than assumed.

Resolution of Concern 3: The residents at the proposed Desert Mountain Parcel 19 Development will be able to utilize the secondary access off of Pima Road. In the Traffic Impact Mitigation Analysis Study dated June 15, 2016, it was assumed that 25 percent of the residents would utilize the secondary access to Pima Road. It is possible and reasonable that as many as one-half of the residents could utilize the secondary access. This would mean that an equal amount of residential traffic would utilize the primary and secondary access points.

Based on the redistribution of the residential traffic from 75% to and from the main entrance to 50% to the main entrance and 50% to the secondary access, Attachment 4 shows the changes in the site traffic volumes. Capacity analyses were run with these new traffic volumes and the results are presented below.

Delay and Level of Service with Redistribution of the Residential Traffic to 50%/50%
Secondary Access on Pima Road
- WB AM Peak Hour delay = 9.5 sec/veh, LOS A
- WB PM Peak Hour delay = 8.9 sec/veh, LOS A

Pima Road & Cave Creek Road
- Intersection AM Peak Hour delay = 13.7 sec/veh, LOS B
- Intersection PM Peak Hour delay = 13.0 sec/veh, LOS B

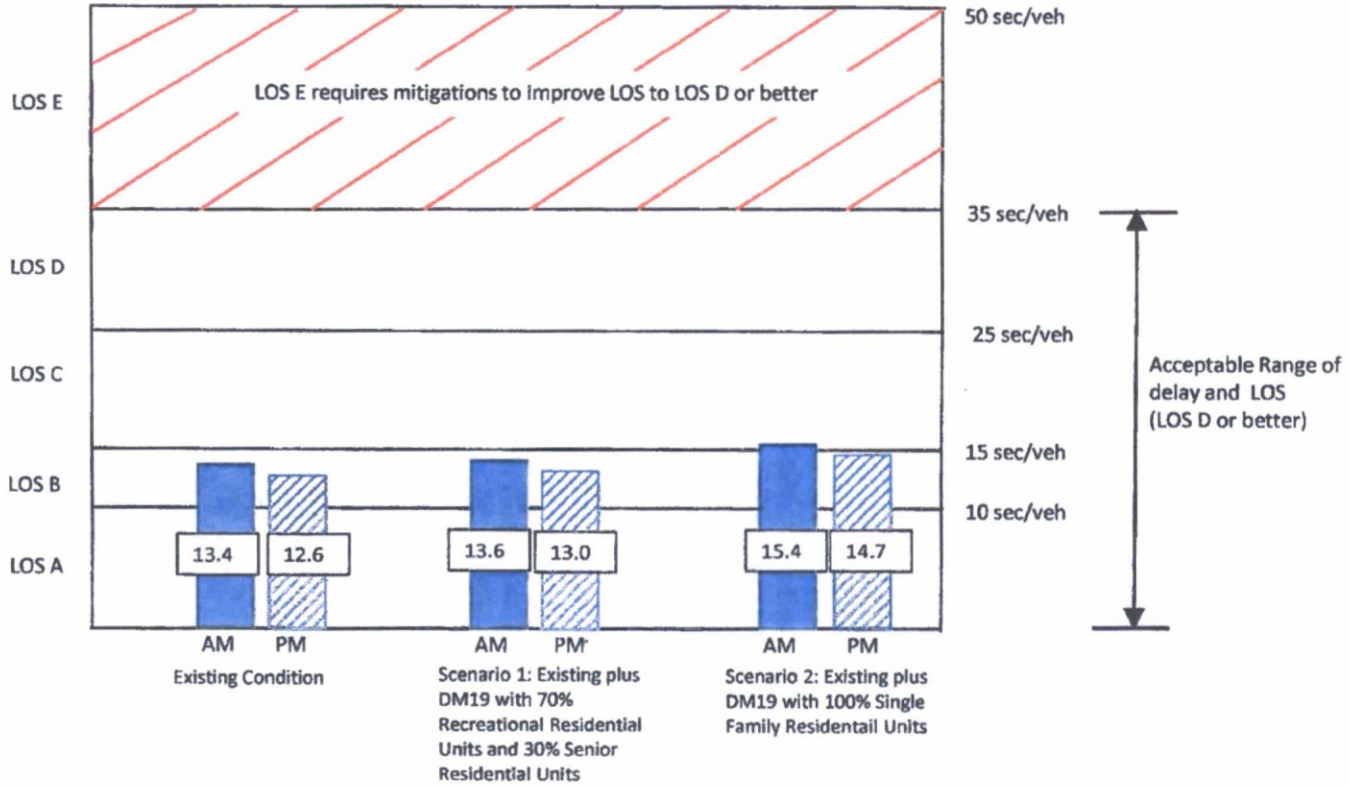
Primary Access on Cave Creek Road
- SB AM Peak Hour delay = 13.3 sec/veh, LOS B
- NB AM Peak Hour delay = 14.4 sec/veh, LOS B
- SB PM Peak Hour delay = 13.3 sec/veh, LOS B
- NB PM Peak Hour delay = 13.4 sec/veh, LOS B

In summary, the change from assuming 25 % of the residential traffic would utilize the secondary access to assuming 50% would utilize the secondary access is insignificant.

Desert Mountain Parcel 19 Level of Service (LOS) Comparison

Stanley Consultants INC.

Cave Creek Road/Pima Road Intersection



XX.X = seconds of delay/vehicle

Stanley Consultants INC.

Desert Mountain Parcel 19
Technical Memo
Capacity Analysis with 100% Single Family Residential Units
September 29, 2016
Prepared By: Stanley Consultants, Inc.

Introduction

The proposed Desert Mountain Parcel 19 (DM 19) site is currently vacant and located on the northeast corner of the Cave Creek Road/Pima Road intersection in Scottsdale, Arizona. The proposed Desert Mountain development will include 190 residential units and an 18 hole par 3 golf course. For the proposed development, a Traffic Impact Mitigation Analysis Study dated June 15, 2016 was prepared by Stanley Consultants. In the Traffic Impact Mitigation Analysis Study, it was assumed that 70 percent of the total residential units would be recreational homes, while the remaining 30 percent would be senior adult housing detached units. The purpose of this technical memorandum is to present the results of the capacity analysis at the study intersections for the proposed development assuming that all the 190 residential units would be single family detached residential units.

Trip Generation

The project site is currently vacant and zoned commercial. The proposed DM 19 development would rezone the site to R4 residential and include 190 residential units and an 18 hole par 3 golf course. The anticipated trip generation for the proposed development was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in the Trip Generation Manual, 9th Edition, 2012. The ITE rates are based on studies that measured the trips for various land uses. The rates are expressed in terms of trips per unit of land use. The trip rates and number of trips generated are presented for an average weekday and the AM and PM peak hour of the adjacent street traffic. The ITE trip rates used for the updated site plan include the following:

- ITE Code 210 – Single Family Detached Housing
- ITE Code 430 – Golf Course

For trip generation analysis, it was assumed that all the residential units would be single family detached units. The proposed development would include a short golf course. However, to provide a conservative analysis, a full size 18-hole golf course was used for trip generation.

The proposed development is anticipated to generate an average of 2,452 daily trips including 180 trips during the AM peak hour and 243 trips during the PM peak hour.

Internal Trips Reduction

The ITE Trip Generation Manual includes data and methodologies that can be applied to determine the proportion of internal trips that may occur within a development area that includes a variety of land uses. For the proposed development, internal trips would consist of residents patronizing on-site golf course. Although some of these internal trips will be made by walking and golf carts, it was assumed they would all be made by automobile. For internal reduction, it was assumed that 30 percent of the short golf course traffic would come from the on-site residents and the remaining 70 percent would come off-site. None of the internal trips will leave the site.

Net-New Trips (External Trips)

After subtracting the internal trips from total trip generation, the proposed development would generate an average of 2,066 weekday daily trips including 158 trips during the AM peak hour and 211 trips during the PM peak hour. A summary of the trip generation analysis is provided in Table 11.

Table 1 – Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Proposed											
Single Family Detached Housing	190 du	9.52	1,809	0.75	143	36	107	1.00	190	120	70
Golf Course	18 holes	35.74	643	2.06	37	29	8	2.92	53	27	26
Total Trips (External + Internal)		**2,452**			**180**	**65**	**115**		**243**	**147**	**96**
Internal Trip Reduction		*-30%*		*-30%*				*-30%*			
From Golf to Residential			*-193*		*-11*	-9	*-2*		*-16*	-8	*-8*
From Residential to Golf			*-193*		*-11*	-2	*-9*		*-19*	-8	*-8*
Net-New Residential Trips (External)			1,616		132	34	98		174	112	62
Net-New Golf Trips (External)			450		26	20	6		37	19	18
Total External Trips			**2,066**		**158**	**54**	**104**		**211**	**131**	**80**

Note: du = dwelling unit

Trip Distribution/Assignment

Access to the project site will be provided via Cave Creek Road (Access 1) and Pima Road (Access 2). Access 1 off of Cave Creek Road would be the primary access point and used by residents and golf traffic. Access 2 would be restricted to residents only. The golf course will not be open for public play. The residents residing in other Desert Mountain communities located on the east side of the project site will have access to the proposed DM 19 golf course. The trip distribution pattern was taken from the previous Traffic Impact Mitigation Analysis Study. Based on the trip distribution, trips were assigned to the study intersections.

Capacity Analysis

The study intersections were analyzed using the "Two-Way Stop-Controlled" and "All-Way Stop-Controlled" intersection methodologies presented in the *2010 Highway Capacity Manual*. Synchro traffic analysis software was used to perform the capacity analysis for the study intersections.

Existing Conditions

Under Existing Conditions, all the study intersections operate at an overall LOS B or better during both peak hours. All the stop-controlled approaches operate at LOS C or better. A summary of the levels of service calculations are shown in Table 2.

Table 2 – Existing Conditions Intersection Levels of Service

No.	Intersection Name	Control Type	Peak Hour	Overall Delay – LOS	Approach – Delay/LOS
1	Cave Creek Road/Pima Road	All-way Stop	AM	13.4 – B	EB – 11.4/B WB – 15.1/C NB – 13.3/B SB – 11.2/B
			PM	12.6 – B	EB – 10.6/B WB – 14.4/B NB – 11.8/B SB – 10.1/B
2	Cave Creek Road/Twilight Trail	Stop (NB)	AM	0.3 – A	NB – 13.2/B
			PM	0.2 – A	NB – 12.3/B

Notes: Delay is measured in average seconds per vehicle in Synchro; LOS = Level of Service

Existing Conditions plus DM 19 Project

The project trips were added to the existing traffic volumes to evaluate existing plus project conditions. The lane configurations and traffic control used in the previous Traffic Impact Mitigation Analysis Study were also used for this analysis. With the addition of DM 19 project trips to existing traffic volumes, all the intersections are anticipated to operate at an overall LOS C or better during both peak hours. All the stop-controlled approaches are also expected to operate at LOS C or better during both peak hours. A summary of the levels of service calculations are shown in Table 13.

Table 1 – Existing Plus Project Conditions Intersection Levels of Service

No.	Intersection Name	Control Type	Peak Hour	Overall Delay – LOS	Approach – Delay/LOS
1	Cave Creek Road/Pima Road	All-way Stop	AM	15.4 – C	EB – 12.2/B WB – 18.2/C NB – 14.9/B SB – 12.1/B
			PM	14.7 – B	EB – 11.7/B WB – 17.2/C NB – 14.0/B SB – 10.9/B
2	Cave Creek Road/Twilight Trail-Access 1	Stop (NB & SB)	AM	1.6 – A	NB – 15.7/C SB – 12.3/B
			PM	1.9 – A	NB – 15.8/C

3	Pima Road/Access 2	Stop (WB)	AM	1.2 – A	SB – 14.1/B WB – 9.6/A
			PM	1.4 – A	WB – 9.0/A

Notes: Delay is measured in average seconds per vehicle in Synchro; LOS = Level of Service

Conclusions

- Under existing conditions, all the study intersections operate at an acceptable overall LOS B or better during both peak hours. All the stop-controlled approaches also operate at LOS C or better during both peak hours.

- With the addition of DM 19 project trips to existing traffic volumes, all the study intersections are expected to operate at an overall LOS C or better during both peak hours. All the stop-controlled approaches are also anticipated to operate at LOS C or better during both peak hours.

Desert Mountain Traffic Volumes & Vehicular Trips Per Home

Traffic volumes and number of homes data was provided by Desert Mountain Club, October 2016
Vehicular Trip Analysis based on most recent 12 month period

		2015			2016									
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	
2015	Avg Daily Arrivals/month	1087	1475	1560	1674	1776	1970	1858	1470	1482	1396	1521	1944	
2015	Avg Daily Departures/month	1087	1475	1560	1674	1776	1970	1858	1470	1482	1396	1521	1944	
2015	Avg Daily Trips/month	2174	2950	3120	3348	3552	3940	3716	2940	2964	2792	3042	3888	
	# of homes	1720	1725	1729	1729	1733	1734	1740	1747	1752	1757	1761	1764	
Average Vehicular Offsite Trips per Day/Home		**1.3**	**1.7**	**1.8**	**1.9**	**2.0**	**2.3**	**2.1**	**1.7**	**1.7**	**1.6**	**1.7**	**2.2**	Avg/Month **1.8**

Summary

The AVERAGE daily trip rate for the year is 1.8 vehicular trips per SFDU
The HIGHEST daily trip rate for the year is 2.3 vehicular trips per SFDU

2000 to 4000 vehicle trips are generated by Desert Mountain each day
1000 to 2000 trips out of DM & 1000 to 2000 trips into DM

The HIGHEST trip rates occured in Feb 2.0, March 2.3, April 2.1 and Sept 2.2
Next highest trip rates occured in Nov 1.7, Dec 1.8, Jan 1.9, May 1.7, June 1.7 and Aug 1.7
The LOWEST trip rates occured in Oct 1.3 and July 1.5

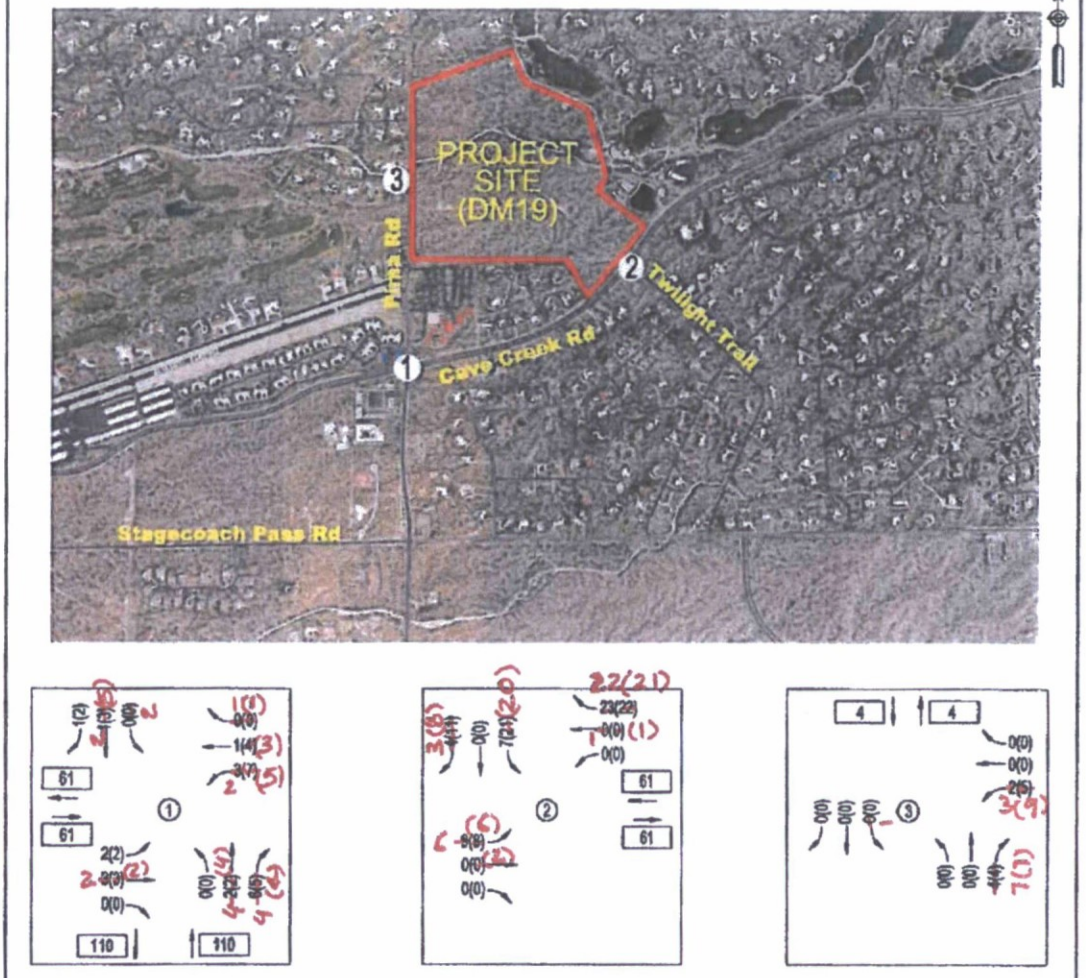


Figure 6 – Project Generated Traffic Volumes

Stanley Consultants INC.

Desert Mountain Parcel 19
Technical Memo
Capacity Analysis with 100% Single Family Residential Units
September 29, 2016
Prepared By: Stanley Consultants, Inc.

Introduction

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Proposed											
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Golf Course	18 holes	35.74	643	2.06	37	29	8	2.92	53	27	26
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Internal Trip Reduction		*-30%*		*-30%*				*-30%*			
From Golf to Residential			*-193*		*-11*	-9	*-2*		*-16*	-8	*-8*
From Residential to Golf			*-193*		*-11*	-2	*-9*		*-19*	-8	*-8*
Net-New Residential Trips (External)			1,616		132	34	98		174	112	62
Net-New Golf Trips (External)			450		26	20	6		37	19	18
Total External Trips			**2,066**		**158**	**54**	**104**		**211**	**131**	**80**

Note: du = dwelling unit

Trip Distribution/Assignment

Access to the project site will be provided via Cave Creek Road (Access 1) and Pima Road (Access 2). Access 1 off of Cave Creek Road would be the primary access point and used by residents and golf traffic. Access 2 would be restricted to residents only. The golf course will not be open for public play. The residents residing in other Desert Mountain communities located on the east side of the project site will have access to the proposed DM 19 golf course. The trip distribution pattern was taken from the previous Traffic Impact Mitigation Analysis Study. Based on the trip distribution, trips were assigned to the study intersections.

Capacity Analysis

The study intersections were analyzed using the "Two-Way Stop-Controlled" and "All-Way Stop-Controlled" intersection methodologies presented in the *2010 Highway Capacity Manual*. Synchro traffic analysis software was used to perform the capacity analysis for the study intersections.

Existing Conditions

Under Existing Conditions, all the study intersections operate at an overall LOS B or better during both peak hours. All the stop-controlled approaches operate at LOS C or better. A summary of the levels of service calculations are shown in Table 2.

Table 2 – Existing Conditions Intersection Levels of Service

No.	Intersection Name	Control Type	Peak Hour	Overall Delay – LOS	Approach – Delay/LOS
1	Cave Creek Road/Pima Road	All-way Stop	AM	13.4 – B	EB – 11.4/B
					WB – 15.1/C
					NB – 13.3/B
					SB – 11.2/B
			PM	12.6 – B	EB – 10.6/B
					WB – 14.4/B
					NB – 11.8/B
					SB – 10.1/B
2	Cave Creek Road/Twilight Trail	Stop (NB)	AM	0.3 – A	NB – 13.2/B
			PM	0.2 – A	NB – 12.3/B

Notes: Delay is measured in average seconds per vehicle in Synchro; LOS = Level of Service

Existing Conditions plus DM 19 Project

The project trips were added to the existing traffic volumes to evaluate existing plus project conditions. The lane configurations and traffic control used in the previous Traffic Impact Mitigation Analysis Study were also used for this analysis. With the addition of DM 19 project trips to existing traffic volumes, all the intersections are anticipated to operate at an overall LOS C or better during both peak hours. All the stop-controlled approaches are also expected to operate at LOS C or better during both peak hours. A summary of the levels of service calculations are shown in Table 13.

Table 1 – Existing Plus Project Conditions Intersection Levels of Service

No.	Intersection Name	Control Type	Peak Hour	Overall Delay – LOS	Approach – Delay/LOS
1	Cave Creek Road/Pima Road	All-way Stop	AM	15.4 – C	EB – 12.2/B
					WB – 18.2/C
					NB – 14.9/B
					SB – 12.1/B
			PM	14.7 – B	EB – 11.7/B
					WB – 17.2/C
					NB – 14.0/B
					SB – 10.9/B
2	Cave Creek Road/Twilight Trail-Access 1	Stop (NB & SB)	AM	1.6 – A	NB – 15.7/C
					SB – 12.3/B
			PM	1.9 – A	NB – 15.8/C

					SB – 14.1/B
3	Pima Road/Access 2	Stop (WB)	AM	1.2 – A	WB – 9.6/A
			PM	1.4 – A	WB – 9.0/A

Notes: Delay is measured in average seconds per vehicle in Synchro; LOS = Level of Service

Conclusions

- Under existing conditions, all the study intersections operate at an acceptable overall LOS B or better during both peak hours. All the stop-controlled approaches also operate at LOS C or better during both peak hours.

- With the addition of DM 19 project trips to existing traffic volumes, all the study intersections are expected to operate at an overall LOS C or better during both peak hours. All the stop-controlled approaches are also anticipated to operate at LOS C or better during both peak hours.

Desert Mountain Parcel 19
Scottsdale, Arizona

Traffic Impact Mitigation Analysis

June 15, 2016

Expires 3-31-2017

Prepared by:
Stanley Consultants, Inc.

Stanley Consultants

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APPENDICES

1. INTRODUCTION AND EXECUTIVE SUMMARY

Stanley Consultants, Inc. was retained by DM 19, LLC to complete a Traffic Impact Mitigation Analysis (TIMA) for the proposed Desert Mountain Parcel 19 (DM 19), located in the northeast quadrant of the Cave Creek Road/Pima Road intersection in Scottsdale, Arizona. The site is currently vacant and is located approximately three miles northeast of the Carefree Highway and Scottsdale Road intersection. The project site location is shown in Figure 1.

The purpose of this study is to complete a traffic impact analysis of the proposed rezoning of the DM 19 and quantify the potential traffic impacts of the proposed development to the existing traffic operations.

Executive Summary

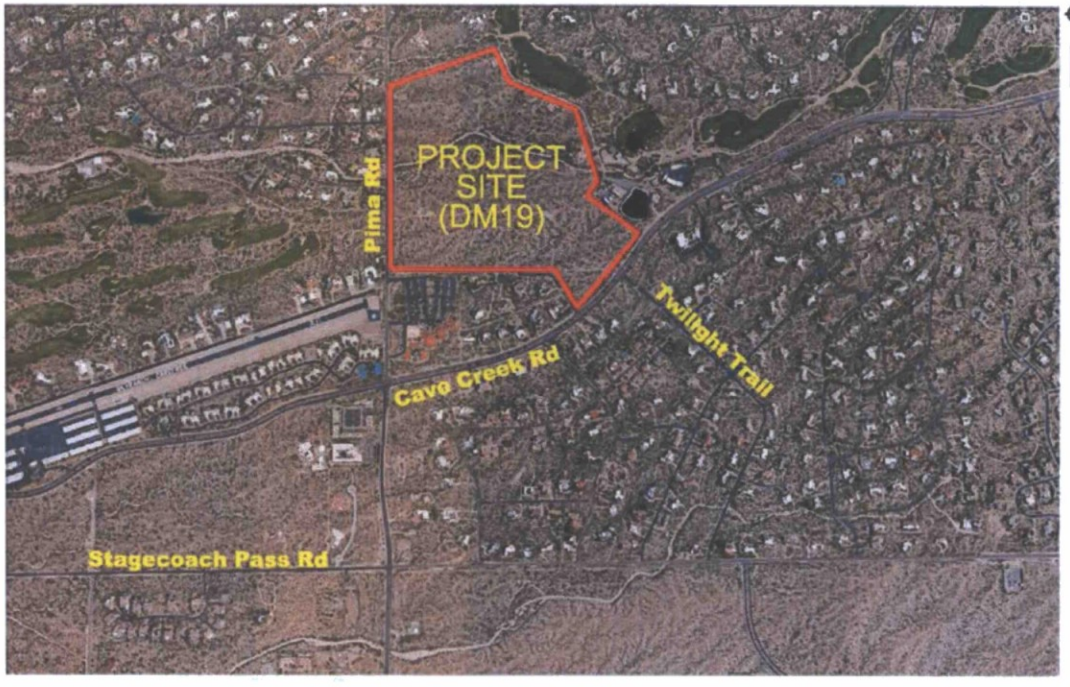
The proposed Desert Mountain development would rezone the site from commercial and industrial to R4 residential and will include an 18 hole par 3 golf course. The primary access to the site will be via Cave Creek Road (Access 1) and a secondary access for residents only will be via Pima Road (Access 2). The conceptual site plan is shown in Figure 2. The proposed development is anticipated to generate an average of 1273 daily trips including 71 trips during the AM peak hour and 103 trips during the PM peak hour. The proposed development is anticipated to generate substantially fewer vehicular trips as compared to the currently approved plan.

The study area included the following three intersections:

1. Cave Creek Road/Pima Road
2. Cave Creek Road/Twilight Trail-Access 1
3. Pima Road/Access 2

All the study intersections are expected to operate at an overall LOS B or better during both peak hours without and with the addition of project generated traffic. An eastbound left-turn lane and westbound right-turn lane on Cave Creek Road at project Access 1 is recommended.

The proposed development will not disrupt or disturb the residential street operations on the south side of Cave Creek Road.



DESERT MOUNTAIN PARCEL 19 (DM19)
TRAFFIC IMPACT MITIGATION ANALYSIS

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FIGURE 1

PROJECT SITE LOCATION

Figure 1 – Project Site Location

DESERT MOUNTAIN PARCEL 19 (DM19)
TRAFFIC IMPACT MITIGATION ANALYSIS

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FIGURE 2

CONCEPTUAL SITE PLAN

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Figure 2 – Conceptual Site Plan

2. PROPOSED DEVELOPMENT

The proposed DM 19 site is located on the northeast corner of the Cave Creek Road/Pima Road intersection in Scottsdale, Arizona. It is bounded by residential development to the north, golf course/Scottsdale fire station to the east, residential development/Cave Creek Road to the south and Pima Road to the west. The site is currently vacant and zoned commercial and industrial. The proposed Desert Mountain development would rezone the site to R4 residential and includes 190 residential units and an 18 hole par 3 golf course. The proposed development is anticipated to be constructed and open by 2019. The site is proposed to be accessed via Cave Creek Road (Access 1) and Pima Road (Access 2).

The proposed Access 1 on Cave Creek Road would be aligned opposite Twilight Trail that is located approximately one half mile east of Pima Road. Access 1 will be the primary entry/exit and will provide full access to/from the site for both residential and golf-related trips.

The proposed Access 2 on Pima Road would be located approximately one half mile north of Cave Creek Road. This access will be gated and will only be operated by residents.

3. STUDY AREA

The study area is located in the northeast corner of the Cave Creek Road/Pima Road intersection in Scottsdale, Arizona, approximately three miles northeast of the Carefree Highway/Scottsdale Road intersection. The study area roadway segments include Cave Creek Road, Pima Road, and Twilight Trail. The study intersections include the following two existing intersections and one proposed intersection.

1. Cave Creek Road/Pima Road
2. Cave Creek Road/Twilight Trail (Access 1)
3. Cave Creek Road/Access 2 (future intersection)

Existing Roadway System

Cave Creek Road is a Town of Carefree facility adjacent to the project site. It runs east-west with two lanes in each direction and separated by a landscaped median. It is classified as an arterial street according to the Town of Carefree Transportation Plan, June 2008. The posted speed limit on Cave Creek Road east of Pima Road is 40 miles per hour and west of Pima Road is 35 miles per hour.

Pima Road is a north-south street with one lane in each direction of travel. According to the Town of Carefree Transportation Plan, June 2008, Pima Road is classified as a minor collector north of Cave Creek Road and as an arterial south of Cave Creek Road. Pima

Road, south of Stagecoach Pass Road, is classified as a minor rural arterial by City of Scottsdale Transportation Master Plan, January 2008. The posted speed limit on Pima Road south of Cave Creek Road is 35 miles per hour and north of Cave Creek Road is 25 miles per hour.

Twilight Trail is a north-south residential street and has one lane in each direction. It extends from Cave Creek Road on the north to Stagecoach Pass Road on the south.

Existing Intersections

Cave Creek Road/Pima Road has stop signs on all approaches and is called an all-way stop-controlled intersection. The Cave Creek Road eastbound and westbound approaches each include one left-turn lane, one through lane and one shared through/right-turn lane. The eastbound approach has a short (two-car) right-turn-only lane. The northbound and southbound Pima Road approaches each have one shared left-turn/through lane and one right-turn lane.

Cave Creek Road/Twilight Trail is an unsignalized, tee intersection. The eastbound and westbound Cave Creek Road approaches are free-flow and include one through lane and one shared through/right-turn lane. The northbound Twilight Trail approach is stop controlled and includes one shared left/right-turn lane. It should be noted that with the proposed development, project Access 1 will be aligned opposite to Twilight tail and will become the north leg of this intersection.

Existing lane configurations and traffic control are shown in Figure 3.

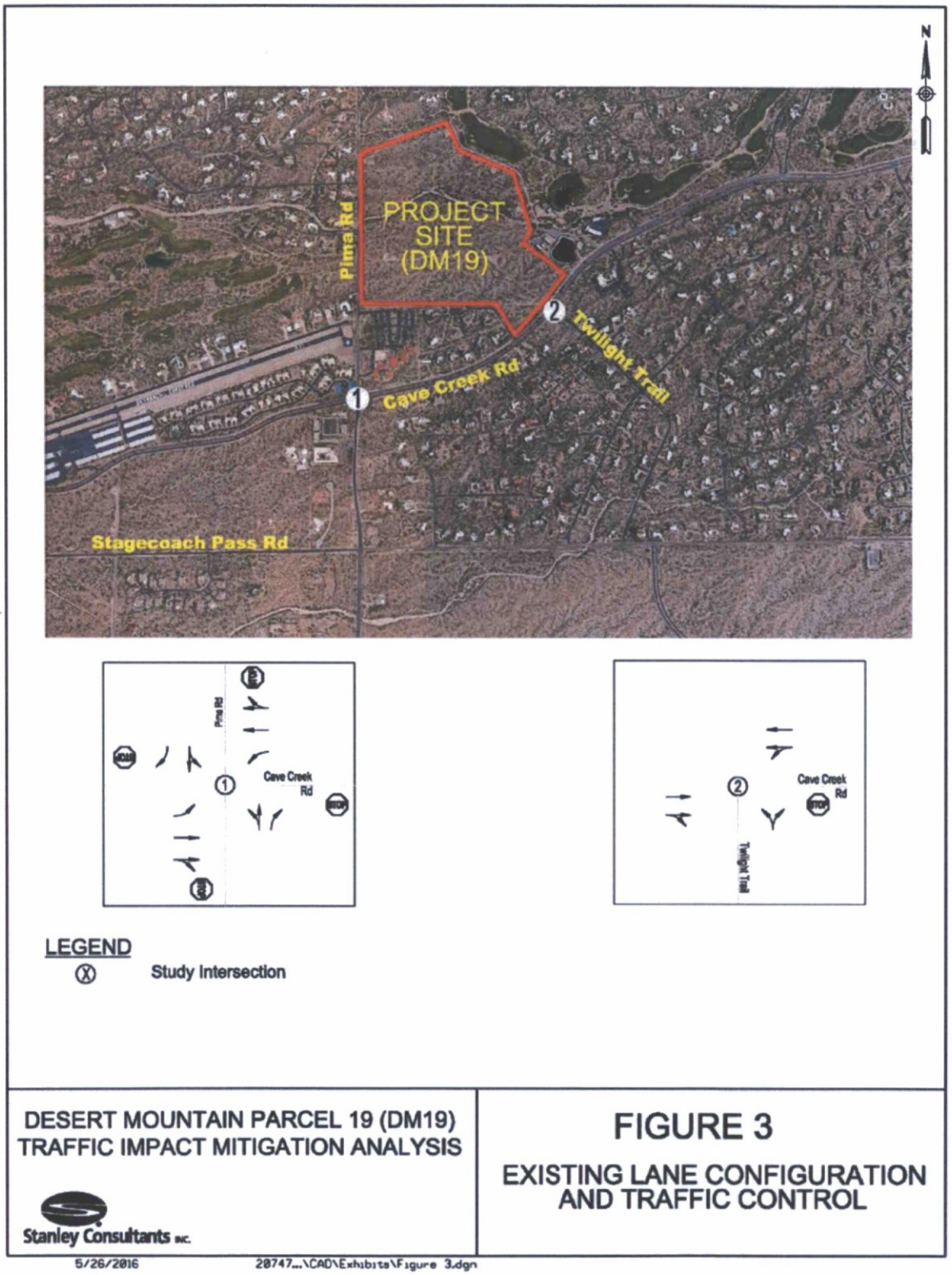


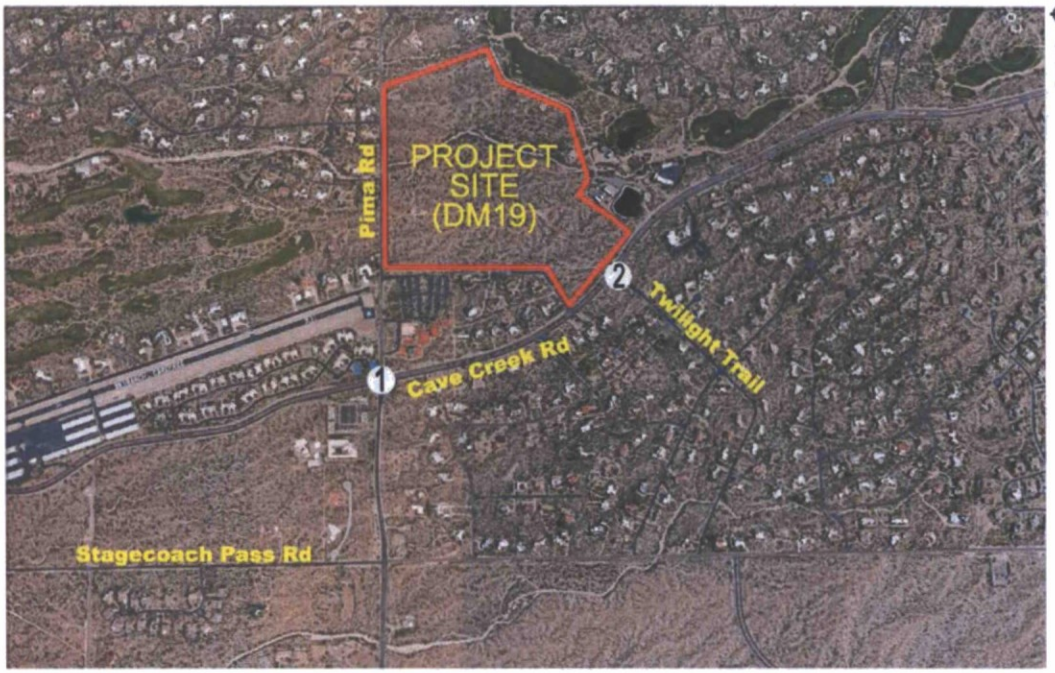
Figure 3 – Existing Lane Configuration and Traffic Control

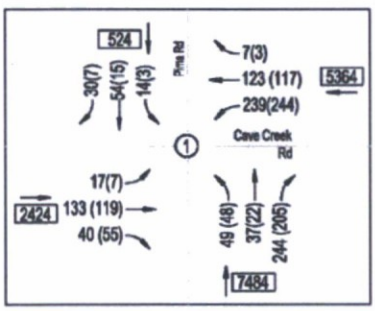
4. EXISTING CONDITIONS TRAFFIC ANALYSIS

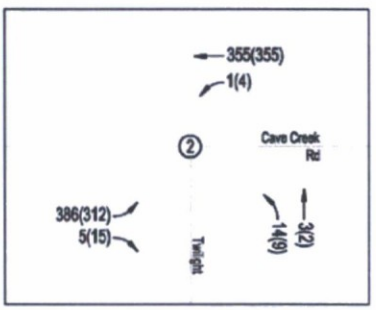
Traffic Volumes

Cave Creek Road/Pima Road: Traffic counts for a 24-hour period on each approach of the Cave Creek Road/Pima Road intersection were collected by Traffic Research and Analysis (TRA), Inc., on Thursday, May 3, 2016. The AM and PM peak hour turning-movement counts at this intersection and 24-hour counts on each approach are shown in Figure 4.

Cave Creek Road/Twilight Trail: At this intersection, existing turning movement counts were not collected. The AM and PM peak hour turning movement volumes to/from Twilight Trail was estimated. The existing land use on the east and west side of Twilight Trail between Cave Creek Road and Stagecoach Pass includes single family residential homes. For a worst case analysis, it was assumed that 30 single family residential homes will be using Twilight Trail to access Cave Creek Road. AM and PM peak hour trips generated by 30 homes were estimated by using the standard rates published by the Institute of Transportation Engineers (ITE) in the Trip Generation Manual, 9th Edition, 2012 for a Single Family Residential (ITE code 210) land use. Based on the above information, 23 AM peak hour trips (6 in/17 out) and 30 PM peak hour trips (19 in/11 out) will be generated. These trips were distributed at the intersection by assuming that 20 percent of the trips will travel to/from east on Cave Creek Road and the remaining 80 percent of the trips will travel to/from west on Cave Creek Road. Additionally, the westbound approach volume on Cave Creek Road at Pima Road was carried backwards to the intersection of Cave Creek Road/Twilight Trail. Also, the eastbound volumes on Cave Creek Road just east of Pima Road were carried forward to the Cave Creek Road/Twilight Trail intersection. The through volumes on Cave Creek Road were balanced between Twilight Trail and Pima Road. The resulting AM and PM peak hour turning movement volumes at this intersection are shown in Figure 4.







LEGEND

Ⓧ	Study Intersection
XX(XX)	AM (PM) Peak Hour Volumes
XX	Average Daily Traffic (One Direction)

DESERT MOUNTAIN PARCEL 19 (DM19) TRAFFIC IMPACT MITIGATION ANALYSIS Stanley Consultants INC.	FIGURE 4 EXISTING 2016 TRAFFIC VOLUMES

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Figure 4 – Existing 2016 Traffic Volumes

Crash Data

The City of Scottsdale provided crash data for the intersection of Pima Road and Stagecoach Pass Road for 2011 to 2015. The Crash Experience Warrant for a traffic signal is not satisfied at Pima Road and Stagecoach Pass Road. The Town of Carefree provided Crash Location Summaries for 2012 through 5-31-2016 for the intersection of Cave Creek Road/Pima Road. The Town of Carefree did not have any reported crashes at Cave Creek Road/Twilight Trail. The crash data by intersection by year are summarized in Table 1 below and the crash data is presented in Appendix B.

Table 1 – Crash Data on Pima Road

Intersection	Number of Crashes by Year				
	2012	2013	2014	2015	2016 thru 5-31
Cave Creek Road/Pima Road	5	4	8	3	3
Stagecoach Pass Road/Pima Road	2	0	3	1	NA

Note: NA = Not Available

Level of Service Methodology

Level of Service (LOS) is a qualitative description of roadway operations based on a quantitative analysis. It is used to rank, describe and label traffic operations on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, LOS A represents free flow conditions with little or no delay and LOS F represents overloaded and severely congested conditions.

The study intersections were analyzed using methodologies published in the Highway Capacity Manual (HCM), Transportation Research Board, 2010. This source contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle.

The LOS for the Cave Creek Road/Twilight Trail intersection where the Twilight Trail approach is stop-controlled was analyzed using the "Two-Way Stop-Controlled" intersection capacity method from the HCM. This methodology determines a LOS for each minor-street movement (or shared movement), as well as major-street left turns by estimating the level of average delay in seconds per vehicle. Results are presented for individual movements. LOS is not defined for the intersection as a whole or for the major-street approaches. The weighted overall average delay for the 2-way stop sign intersection is provided for information in the LOS tables.

The study intersection of Cave Creek Road/Pima Road with stop signs on all approaches was analyzed using the "All-Way Stop-Controlled" Intersection methodology from the HCM. This methodology evaluates delay for each approach based on turning movements,

opposing and conflicting traffic volumes, and the number of lanes. Average vehicle delay is computed for the intersection as a whole, and is then related to a LOS.

The ranges of delay associated with the various levels of service are indicated in Table 2.

Table 2 – Intersection Level of Service Criteria

Level of Service (LOS)	Two-Way Stop-Controlled Control Delay (sec/vehicle)	All-Way Stop-controlled Control Delay (sec/vehicle)
A	0 to10	0 to10
B	>10 to 15	>10 to 15
C	> 15 to 25	> 15 to 25
D	> 25 to 35	> 25 to 35
E	> 35 to 50	> 35 to 50
F	> 50	> 50

Source: Highway Capacity Manual, Transportation Research Board 2010, Exhibit 19-1 and 20-2

City of Scottsdale LOS Guidance

According to the City of Scottsdale Transportation Master Plan, January 2008, vehicular LOS D or better should be maintained at all signalized intersections with the exception of those intersections located within a designated core, a roadway with an urban character designation, or mixed-use area where lower levels of service are acceptable if other factors such as walkability, transit access, and aesthetic or right-of-way (ROW) considerations are overriding. At non-signalized intersections with moderate traffic volumes, levels of service below D may be appropriate. Where low volume locations intersect with high volume locations, LOS F is not unusual, but should be considered for mitigation if alternative access is not available.

Existing Conditions Capacity Analysis

Under Existing Conditions, all the study intersections operate at an overall LOS B or better during both peak hours. All the stop-controlled approaches operate at LOS C or better. A summary of the levels of service calculations are shown in Table 3 and the Capacity Analysis summary sheets are provided in Appendix C.

Table 3 – Existing Conditions Intersection Levels of Service

No.	Intersection Name	Control Type	Peak Hour	Overall Delay – LOS	Approach – Delay/LOS
1	Cave Creek Road/Pima Road	All-way Stop	AM	13.4 – B	EB – 11.4/B
					WB – 15.1/C
					NB – 13.3/B
					SB – 11.2/B
			PM	12.6 – B	EB – 10.6/B
					WB – 14.4/B
					NB – 11.8/B
					SB – 10.1/B
2	Cave Creek Road/Twilight Trail	Stop (NB)	AM	0.3	NB – 13.2/B
			PM	0.2	NB – 12.3/B

Notes: Delay is measured in average seconds per vehicle in Synchro; LOS = Level of Service

5. PROJECTED TRAFFIC

Trip Generation (Proposed Development)

The project site is currently vacant and zoned commercial. The proposed DM 19 development would rezone the site to R4 residential and includes 190 residential units and an 18 hole par 3 golf course. The anticipated trip generation for the proposed development was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in the Trip Generation Manual, 9th Edition, 2012. The ITE rates are based on studies that measured the trips for various land uses. The rates are expressed in terms of trips per unit of land use. The trip rates and number of trips generated are presented for an average weekday and the AM and PM peak hour of the adjacent street traffic. The ITE trip rates used for the updated site plan include the following:

- ITE Code 251 – Senior Adult Housing-Detached
- ITE Code 260 – Recreational Homes
- ITE Code 430 – Golf Course

For trip generation analysis, it was assumed that 70 percent of the total residential units would be recreational homes (133 units), while the remaining 30 percent would be senior adult housing detached units (57 units). The proposed development would include a short golf course. However, to provide a conservative analysis, a full size 18-hole golf course was used for trip generation.

The proposed development is anticipated to generate an average of 1,273 daily trips including 71 trips during the AM peak hour and 103 trips during the PM peak hour.

Internal Trips Reduction

The ITE Trip Generation Manual includes data and methodologies that can be applied to determine the proportion of internal trips that may occur within a development area that includes a variety of land uses. For the proposed development, internal trips would consist of residents patronizing on-site golf course. Although some of these internal trips will be made by walking and golf carts, it was assumed they would all be made by automobile. For internal reduction, it was assumed that 30 percent of the short golf course traffic would come from the on-site residents and the remaining 70 percent would come off-site. None of the internal trips will leave the site.

Net-New Trips (External Trips)

After subtracting the internal trips from total trip generation, the proposed development would generate an average of 887 weekday daily trips including 49 trips during the AM peak hour and 71 trips during the PM peak hour.

A summary of the trip generation analysis is provided in Table 4.

Table 4 – Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Proposed											
Senior Adult Housing Detached	57 du	3.68	210	0.22	13	4	9	0.27	15	9	6
Recreational Homes	133 du	3.16	420	0.16	21	14	7	0.26	35	14	21
Golf Course	18 holes	35.74	643	2.06	37	29	8	2.92	53	27	26
Total Trips (External +Internal)		**1273**			**71**	**47**	**24**		**103**	**50**	**53**
Internal Trip Reduction		*-30%*		*-30%*				*-30%*			
From Golf to Residential			*-193*		*-11*	-9	*-2*		*-16*	-8	*-8*
From Residential to Golf			*-193*		*-11*	-2	*-9*		*-19*	-8	*-8*
Net-New Residential Trips (External)			437		23	16	7		34	15	19
Net-New Golf Trips (External)			450		26	20	6		37	19	18
Total External Trips			**887**		**49**	**36**	**13**		**71**	**34**	**37**

Note: du = dwelling unit

Trip Generation Comparison

The project site is vacant and zoned commercial and industrial. The currently approved development plan includes a mixed-use development including residential units, light industrial, and commercial office/retail land use. A summary of the trip generation for the currently approved plan is provided in Appendix D. The proposed Desert Mountain development would rezone the site to include residential units and a golf course. A comparison of trips generated by the currently approved plan and the proposed development is provided in Table 5.

Table 5 – Trip Generation Comparison

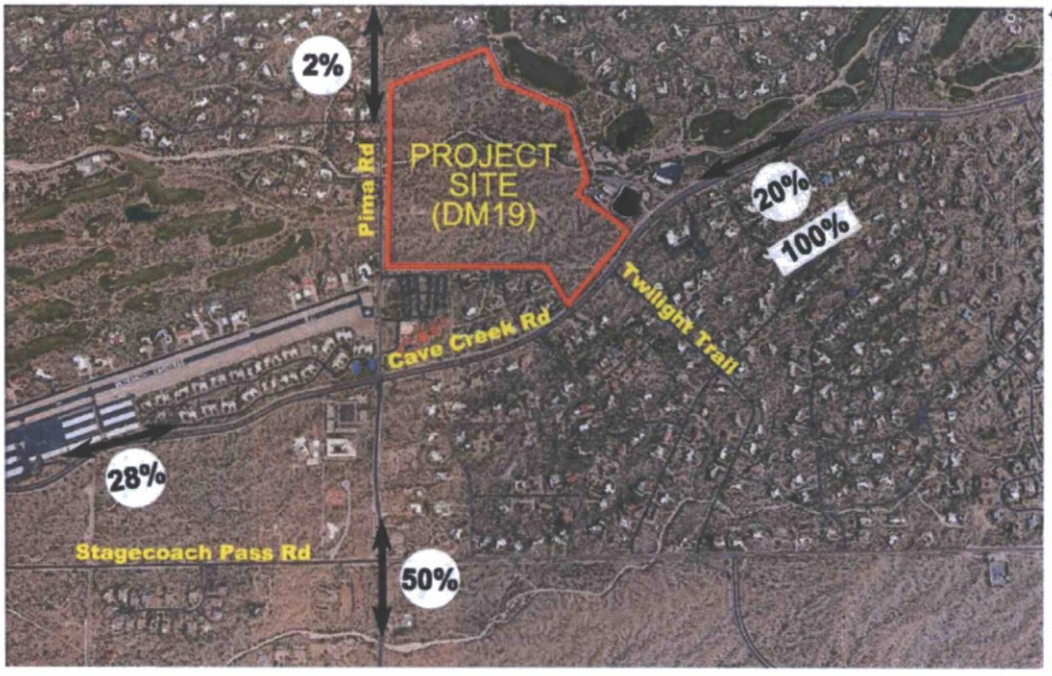
Trips	Currently Approved Plan			Proposed Development		
	Total	**AM**	**PM**	**Total**	**AM**	**PM**
External + Internal	9,969	859	1,126	1,273	71	103
External	8,367	784	971	887	49	71

As shown in Table 5, the proposed development is anticipated to generate approximately 11% of the number of vehicular trips of the currently approved commercial development plan.

Trip Distribution/Assignment

Access to the project site will be provided via Cave Creek Road (Access 1) and Pima Road (Access 2). Access 1 off of Cave Creek Road would be the primary access point and used by residents and golf traffic. Access 2 would be restricted to residents only. For the proposed project, two trip distribution patterns were developed: one for residents only and the other for golf traffic. The resident's only trip distribution pattern was developed based on the existing traffic volumes near the study area, proximity of other Desert Mountain communities located east of the project site and general knowledge of the area. The trip distribution pattern for residential traffic is shown in Figure 5. The golf course will not be open for public play. The residents residing in other Desert Mountain communities located on the east side of the project site will have access to the proposed DM 19 golf course. It was therefore assumed that all the external golf-related traffic would access the site to/from the east on Cave Creek Road via Access 1. The golf-related trip distribution of 100% to the east is also shown in Figure 5.

Based on the trip distribution pattern shown in Figure 5, the trips were assigned to the study intersections. For residential trips, it was assumed that nearly 75 percent of the trips would use Access 1 off of Cave Creek Road, while the remaining 25 percent would use Access 2 off on Pima Road. The assigned trips are shown in Figure 6.



LEGEND

(XX%) Residential Development Trip Distribution

[XX%] Golf Related Trip Distribution

DESERT MOUNTAIN PARCEL 19 (DM19) TRAFFIC IMPACT MITIGATION ANALYSIS	FIGURE 5 TRIP DISTRIBUTION

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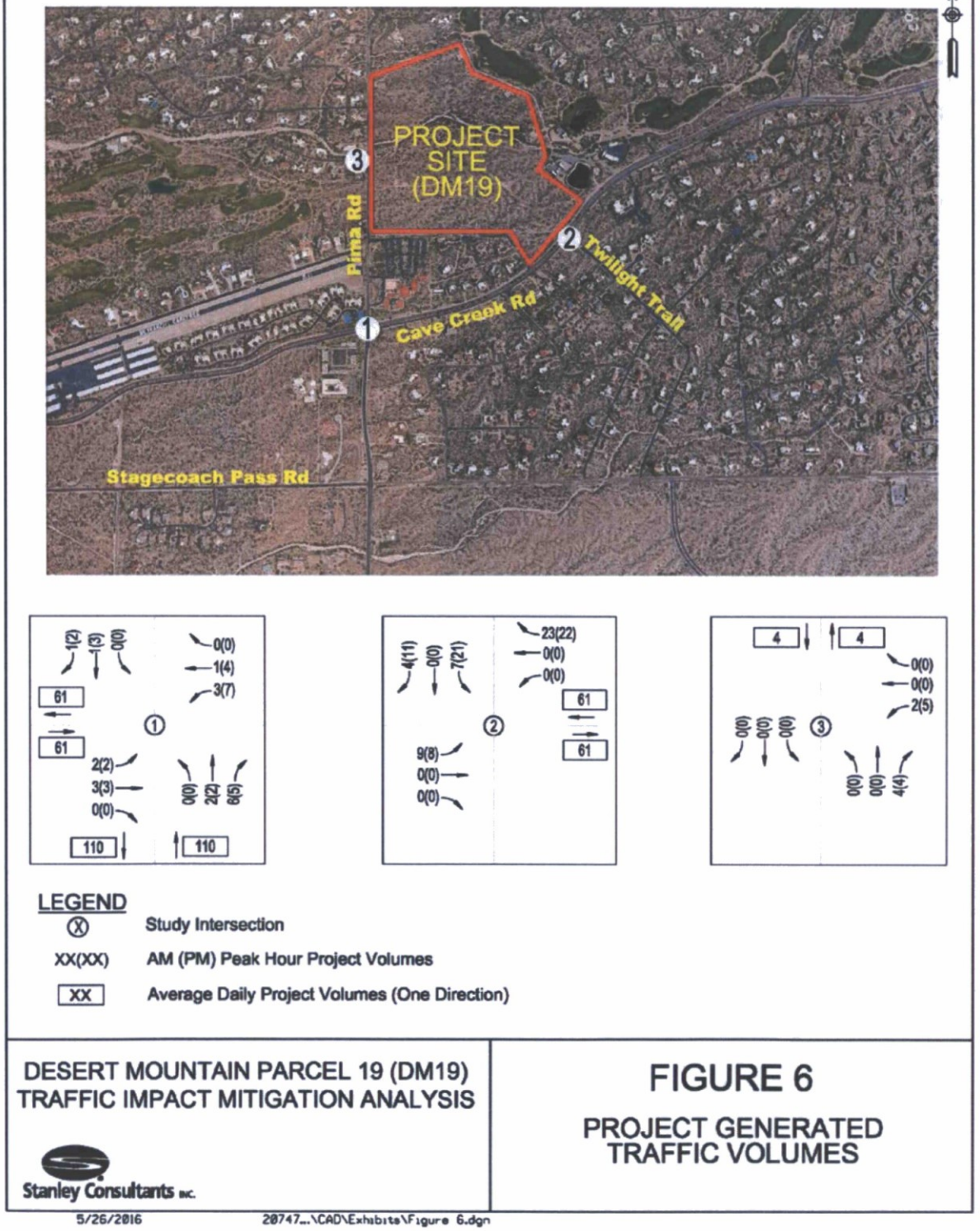
Figure 5 – Trip Distribution



DESERT MOUNTAIN PARCEL 19 (DM19)
TRAFFIC IMPACT MITIGATION ANALYSIS

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FIGURE 6

PROJECT GENERATED TRAFFIC VOLUMES

Figure 6 – Project Generated Traffic Volumes

6. EXISTING PLUS PROJECT TRAFFIC ANALYSIS

The project trips were added to the existing traffic volumes to estimate existing plus project conditions and are shown in Figure 7. The existing lane configurations and traffic control at the Cave Creek Road/Pima Road were used for this analysis. However, the lane configurations at the remaining two access driveway intersections were modified as follows:

Cave Creek Road/Twilight Trail-Access 1: At this intersection the southbound project Access 1 approach was modeled as stop-controlled and included one shared left/through/right-turn lane. The eastbound Cave Creek Road approach included one left-turn lane, one through lane, and one shared through/right-turn lane. The westbound Cave Creek Road approach included one shared left/through lane, one through lane, and one right-turn lane. The northbound Twilight Trail approach was stop-controlled and included one shared left/through/right-turn lane.

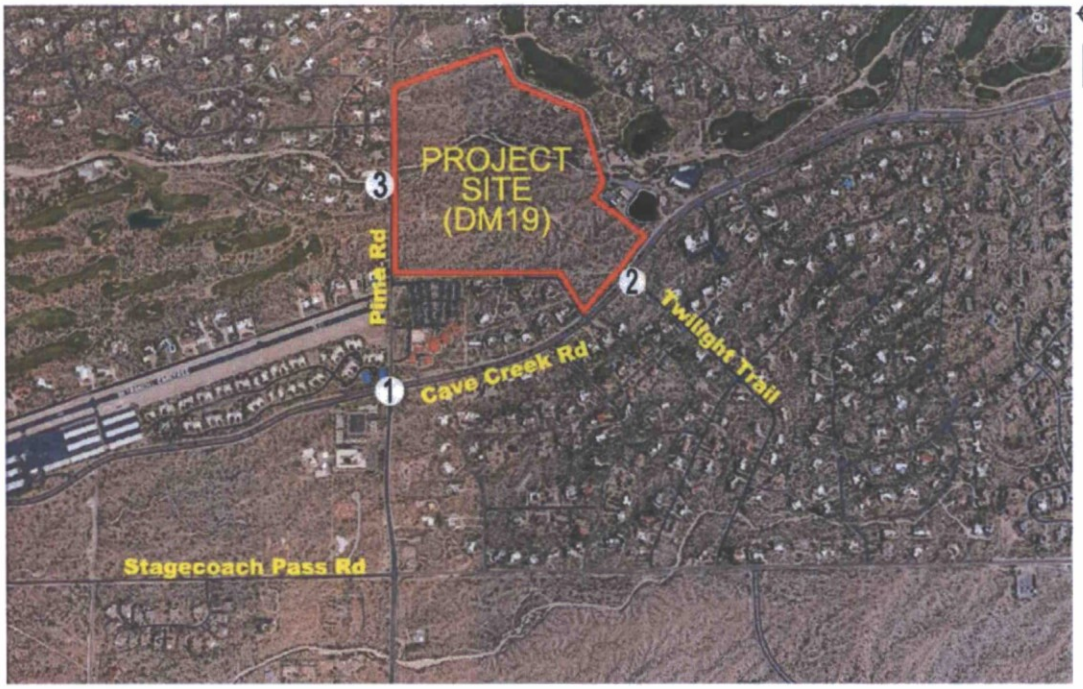
Pima Road/Access 2: At this intersection the northbound and southbound Pima Road approaches were modeled as free flow and the westbound project Access 2 approach was modeled as stop-controlled. The northbound Pima Road approach included one shared through/right-turn lane. The southbound Pima Road approach included one shared left/through lane. The westbound project Access 2 approach included one shared left/right-turn lane.

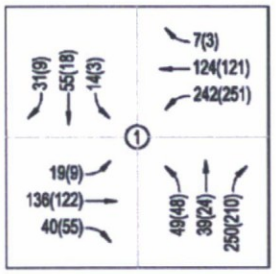
With the addition of project traffic to existing volumes and utilizing the lane configurations discussed above, all the intersections are anticipated to operate at an overall LOS B or better during both peak hours. All the stop-controlled approaches are also expected to operate at LOS C or better during both peak hours. A summary of the levels of service calculations are shown in Table 6 and the detail LOS summary sheets are provided in Appendix C.

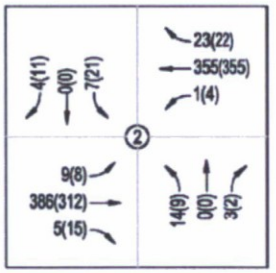
Table 6 – Existing Plus Project Conditions Intersection Levels of Service

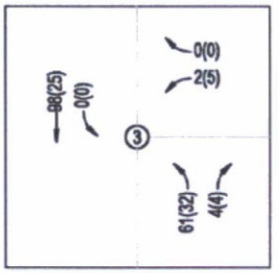
No.	Intersection Name	Control Type	Peak Hour	Overall Delay – LOS	Approach – Delay/LOS
1	Cave Creek Road/Pima Road	All-way Stop	AM	13.6 – B	EB – 11.5/B
					WB – 15.4/C
					NB – 13.5/B
					SB – 11.3/B
			PM	13.0 – B	EB – 10.8/B
					WB – 15.0/B
					NB – 12.1/B
					SB – 10.3/B
2	Cave Creek Road/Twilight Trail-Access 1	Stop (NB & SB)	AM	0.6	NB – 14.6/B
					SB – 13.0/B
			PM	0.9	NB – 13.4/B
					SB – 13.1/B
3	Pima Road/Access 2	Stop (WB)	AM	0.1	WB – 9.4/A
			PM	0.7	WB – 8.8/A

Notes: Delay is measured in average seconds per vehicle in Synchro; LOS = Level of Service









LEGEND

Ⓧ	Study Intersection
XX(XX)	AM (PM) Peak Hour Volumes

DESERT MOUNTAIN PARCEL 19 (DM19)
TRAFFIC IMPACT MITIGATION ANALYSIS

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FIGURE 7

EXISTING PLUS PROJECT TRAFFIC VOLUMES

5/26/2016 20747...\CAD\Exhibits\Figure 7.dgn

Figure 7 – Existing Plus Project Traffic Volumes

Turn Lanes at Access 1

At the intersection of Cave Creek Road/Twilight Trail-Access 1, several turn lanes at the site main entrance are highly recommended for traffic safety and traffic operational benefits. Even though the proposed site will have relatively low traffic volumes, it is recommended that the Access 1 include an eastbound left-turn lane, a westbound left-turn lane, a westbound right-turn lane and a separate southbound right-turn lane. Left-turn lanes allow improved visibility of opposing traffic and also improve safety by moving the left-turn vehicles out of the through lanes. The southbound right-turn lane will improve traffic operations by keeping the southbound through and left-turning vehicles from blocking and delaying the easy southbound right turn movement. The westbound right-turn lane will help traffic exiting the site be clear that the approaching westbound vehicle is either turning into the site or continuing through to the west. All turn lanes should provide a minimum of 100 feet of storage.

7. PIMA ROAD/STAGECOACH PASS ROAD INTESECTION DISCUSSION/TRAFFIC CONCERNS

Intersection and Roadway Characteristics

The intersection of Pima Road/Stagecoach Pass Road is located approximately 1,600 feet south of Cave Creek Road/Pima Road intersection. Pima Road/Stagecoach Pass is a four-legged, unsignalized intersection. The northbound and southbound Pima Road approaches are free flow and each consist of one left-turn lane and one shared through/right-turn lane. The eastbound and westbound Stagecoach Pass Road approaches are stop-controlled and each consist of one shared left/through/right-turn lane. Stagecoach Pass Road is a border between the City of Scottsdale to the south and the Town of Carefree to the north. As a result, this intersection is jointly controlled by the two jurisdictions.

Pima Road is a north-south roadway with one lane in each direction of travel. It is classified as an arterial by the Town of Carefree, north of Stagecoach Pass and is classified as a rural minor arterial by the City of Scottsdale south of Stagecoach Pass Road. The posted speed limit on Pima Road is 35 miles per hour north of Stagecoach Pass Road and 45 miles per hour south of Stagecoach Pass Road.

Stagecoach Pass Road is an east-west roadway with one lane in each direction of travel. It is classified as a rural minor-collector street in the vicinity of Pima Road. The posted speed limit on Stagecoach Pass Road is 25 miles per hour east of Pima Road and 35 miles per hour west of Pima Road.

Town of Carefree Traffic Concerns

Stagecoach Pass Road east of Pima Road is the border between Carefree and Scottsdale. Homes on the north side of Stagecoach Pass Road and east of Pima Road are in the Town of Carefree. Some individuals from the Town of Carefree and the Velvet Shadows subdivision located south of Cave Creek Road across from the DM 19 site have expressed concerns that traffic generated from the proposed DM 19 development would leave the site and proceed straight south across Cave Creek Road onto the residential street Twilight Trail while on their way to get onto southbound Pima Road. The proposed DM 19 access off of Cave Creek Road is proposed to be aligned opposite Twilight Trail. Based on the concerns raised by the Town and by the residents, the alternative routes using the major streets and using the residential streets cutting through the Velvet Shadows subdivision were evaluated.

Based on the proposed DM 19 trip distribution and assignment pattern discussed in the previous section, 50 percent of the residential trips generated by the proposed development would travel from the site to/from Pima Road south of Stagecoach Pass Road. There are two possible alternative routes/options to go south onto Pima Road from the proposed site/s main entrance on Cave Creek Road. The reverse trip from northbound Pima Road to the site was also evaluated.

Option 1 (Preferred Route)

Leaving the site and wanting to go south on Pima Road, make a right-turn onto Cave Creek Road via proposed Access 1, travel two blocks west, make a left-turn onto southbound Pima Road at the four-way stop-controlled intersection, and travel south on Pima Road past Stagecoach Pass Road. The total distance travelled between the project access point on Cave Creek Road and Stagecoach Pass Road just north of Pima Road is approximately 0.77 miles. When returning to the site from the south on Pima Road, the preferred route is to travel northbound on Pima Road past Stagecoach Pass Road, turn right onto Cave Creek Road at the four-way stop intersection, and turn left into the site project Access 1.

Option 2 (Less Desirable Route)

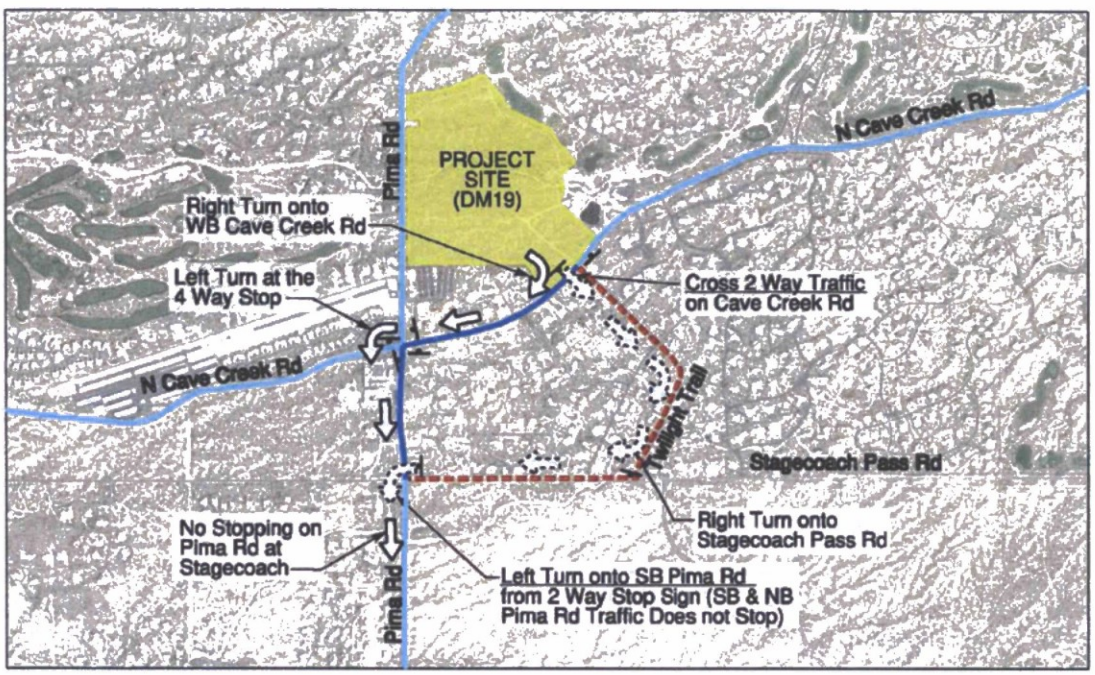
Leaving the site and wanting to go south on Pima Road, at the stop sign on Cave Creek Road, proceed straight south from project Access 1 across Cave Creek Road into the Velvet Shadows residential subdivision, travel on the residential street, Twilight Trail, to the stop sign, turn right onto Stagecoach Pass Road and make a left-turn at 2-way stop-controlled Pima Road/Stagecoach Pass Road intersection (Stagecoach Pass Road is stop-controlled and Pima Road is free flow) to proceed south on Pima Road. The total distance travelled between the project Access 1 on Cave Creek Road and Pima Road

just east of Stagecoach Pass Road is approximately 1.15 miles. When returning to the site from the south on Pima Road, make a right-turn onto Stagecoach Pass Road, turn left onto residential Street Twilight Trail, travel north to the stop sign at Cave Creek Road, and proceed straight across Cave Creek Road into the site. It should be noted that through traffic on Cave Creek Road does not stop while northbound traffic on Twilight Trail and southbound traffic existing the site via Cave Creek Road would stop. The alternative routes from the site to southbound on Pima Road are shown in Figure 8. The alternative routes from south Pima Road to the site main entrance are shown in Figure 9.

Alternative Options Comparison

Option 2 appears to be more difficult and not a short-cut for several reasons as follows:

- According to the Town of Carefree General Plan 2030, November 2012, Cave Creek Road is classified as an arterial roadway with an average daily traffic (ADT) of 11,000 vehicles (2008 data) east of Pima Road. Making a right turn from the project site onto Cave Creek Road is both safer and easier than waiting for a large gap and going straight across a four-lane arterial roadway with a landscaped median. The safety concern is crossing relatively high traffic volumes that are moving eastbound and westbound on Cave Creek Road at or near the speed limit. The driver has to look for traffic in both directions and find a suitable gap to cross a nearly five-lane arterial roadway to proceed straight south into the neighborhood. It is significantly easier and safer to make a right-turn onto westbound Cave Creek Road than to proceed straight across two directions of free-flow traffic on Cave Creek Road.
- Travelling on a residential street is slower and less comfortable than travelling on an arterial street like Cave Creek Road and Pima Road.
- Turning left from Cave Creek Road onto Pima Road at the Cave Creek Road/Pima Road 4-way stop-controlled intersection is much easier and safer than the two movements required in Option 2. At the 4-way stop intersection, the queue of traffic gradually moves up until you are looking at the other vehicles and confirming whose turn it is next to proceed. While it is more complicated for the driver than traveling through a traffic signal or a roundabout, the low speed and close proximity of the conflicting vehicles make a left turn a little slow but typically very safe.
- The Option 2 movements of proceeding straight across Cave Creek Road into the residential neighborhood, and turning left onto Pima Road from Stagecoach Pass Road at a 2-way stop-controlled intersection where Pima Road northbound-southbound traffic does not stop are both problematic and more difficult than using the major streets and a 4-way stop intersection.
- The total distance traveled in Option 2 is approximately 1.15 miles which is more than as compared to 0.77 miles in Option 1.



LEGEND

Option 1: Preferred Route (Faster and Safer) (Distance = 0.77 miles)

Option 2: Less Desirable Route (Distance = 1.15 miles)

Stop Sign

DESERT MOUNTAIN PARCEL 19 (DM19) TRAFFIC IMPACT MITIGATION ANALYSIS Stanley Consultants INC.	FIGURE 8 ALTERNATE ROUTES FROM DESERT MOUNTAIN PARCEL TO SOUTH PIMA ROAD

5/26/2016 20747...\CAD\Exhibits\Figure 8.dgn

Figure 8 – Alternate Routes from Desert Mountain Parcel to South Pima Road

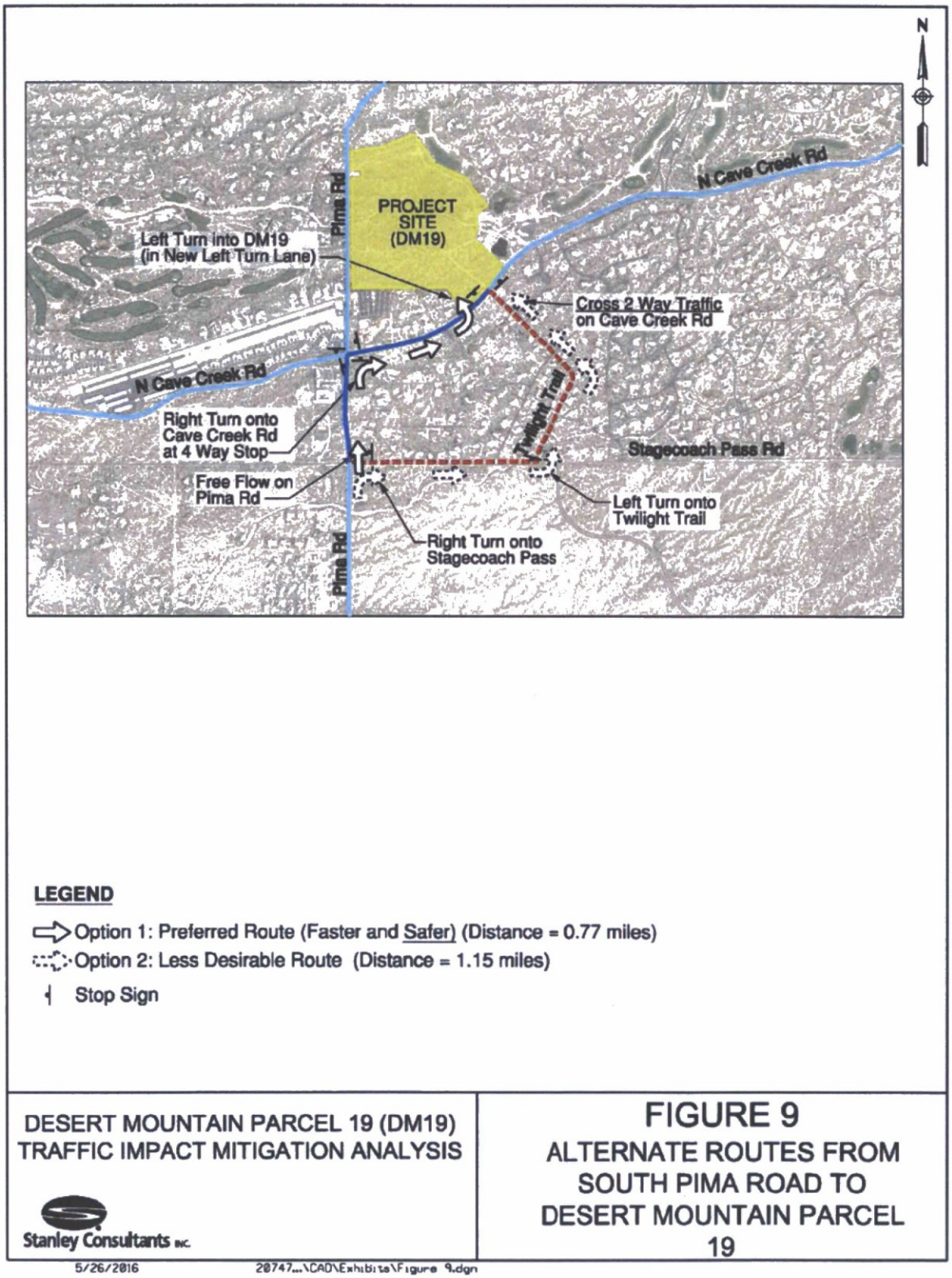


Figure 9 – Alternate Routes from South Pima Road to Desert Mountain Parcel 19

A few motorists may try the alternative Option 2 route through the residential neighborhood, but it is estimated and predicted that none of the traffic generated by the proposed Desert Mountain development will prefer Option 2 route through the neighborhood to the south on Pima Road. The trips generated by the proposed development were assigned to the roadway network based on alternative Option 1. The project is expected to add 220 daily vehicular trips onto southbound Pima Road north of Stagecoach Pass Road. The project is not expected to add any traffic on Stagecoach Pass Road east of Pima Road.

It is anticipated that the traffic proceeding straight across Cave Creek Road to Velvet Shadows will be limited to Velvet Shadows residents and neighbors going to and from the site with very few if any cutting through to get to Pima Road southbound. It is anticipated that the new proposed development will not disrupt or disturb the residential street operations to the south.

City of Scottsdale Draft Traffic Signal Warrant Study

The City of Scottsdale prepared a Draft Traffic Signal Warrant Study, April 2016 for the intersection of Pima Road/Stagecoach Pass Road. The study reviewed all the nine traffic signal warrants defined in the 2009 Manual on Uniform Traffic Control Devices (MUTCD) and Warrant 1: Eight Hour Vehicular Volume, Warrant 2: Four Hour Vehicular Volume and Warrant 3: Peak Hour Vehicular Volume were met at this intersection. A traffic signal is warranted at this intersection. However, the City's draft report recommends consideration the construction of a roundabout at this intersection due to the reduced number of crashes, reduced number of serious injury and fatal accidents, the reduced traffic delay and the reduced speeds of a roundabout versus a traffic signal.

8. CONCLUSIONS AND RECOMMENDATIONS

- The proposed DM19 development would rezone the site from commercial development to 190 residential units and one short golf course.
- The proposed project is expected to generate an average of 887 net-new daily external vehicular trips, including 49 trips during the AM peak hour and 71 trips during the PM peak hour.
- The proposed development (887 trips) will generate 11 percent of the vehicular trips that would be generated by the existing approved commercial plan (8,367 trips).
- Under existing conditions, the study intersections operate at an overall LOS B or better and all the stop-controlled approaches operate at an overall LOS C or better during both peak hours.
- With the addition of project traffic to existing traffic volumes, the study intersections are expected to operate at the same LOS as existing conditions.

- The proposed development will not disrupt or disturb the residential street operations on the south side of Cave Creek Road.
- At the intersection of Pima Road/Stagecoach Pass Road, a traffic signal is warranted based on the City of Scottsdale Draft Traffic Signal Warrant Study, April 2016. However, the City has recommended to consider the construction of a roundabout at this intersection.

Recommendation

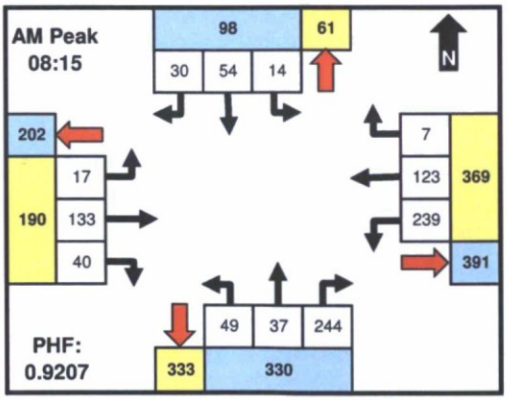
At the intersection of Cave Creek Road/Twilight Trail Access 1, it is recommended that the site access improvements include an eastbound left-turn lane, a westbound left-turn lane, a westbound right-turn lane, and a separate southbound right-turn lane, all with a minimum of 100 feet of storage length.

APPENDIX A
Traffic Volumes

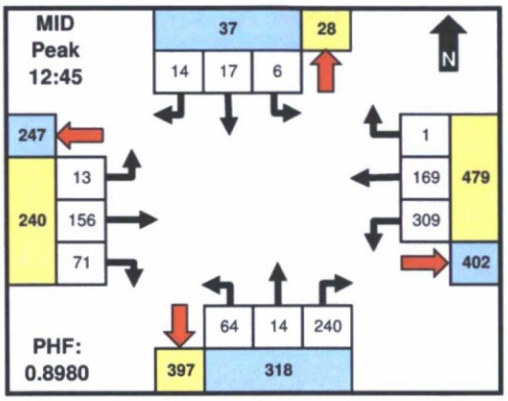
Specializing in Traffic Data Collection

Phoenix, AZ 85018
(602) 840-1500

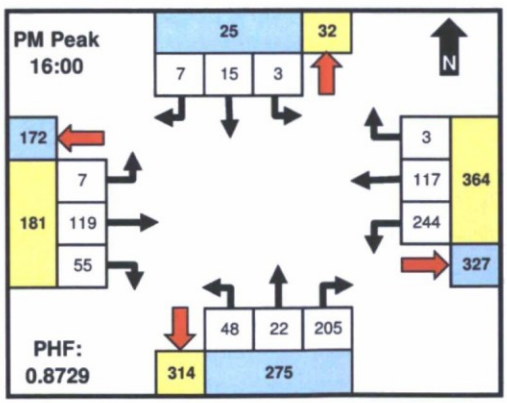
Intersection TMC: 1602476
Count Date: 5/3/2016



	From North PIMA RD				From East CAVE CREEK RD				From South PIMA RD				From West CAVE CREEK RD				INTSEC
Time	LT	Thru	RT	Ped	LT	Thru	RT	Ped	LT	Thru	RT	Ped	LT	Thru	RT	Ped	TOTAL
8:00	1	4	1	0	60	24	2	0	8	9	59	0	5	34	10	0	217
8:15	2	7	1	0	64	36	3	0	8	5	56	0	2	41	9	0	234
8:30	6	29	12	0	56	29	0	0	15	8	65	0	6	31	11	0	268
8:45	0	8	7	0	55	31	4	0	15	9	62	0	6	37	14	0	248
9:00	6	10	10	0	64	27	0	0	11	15	61	0	3	24	6	0	237
9:15	0	8	4	0	69	26	0	0	12	3	57	0	0	28	9	0	216
9:30	0	7	5	0	67	33	0	0	9	6	62	0	1	24	5	0	219
9:45	2	4	0	0	63	36	0	0	15	7	59	0	3	35	15	0	239
Total	17	77	40	0	498	242	9	0	93	62	481	0	26	254	79	0	1878
Pk Hr																	8:15 AM
Pk Vol	14	54	30	0	239	123	7	0	49	37	244	0	17	133	40	0	987
PHF	0.583	0.466	0.625	0.000	0.934	0.854	0.438	0.000	0.817	0.617	0.938	0.000	0.708	0.811	0.714	0.000	0.921



Time	LT	Thru	RT	Ped	LT	Thru	RT	Ped	LT	Thru	RT	Ped	LT	Thru	RT	Ped	TOTAL
12:00	0	8	2	0	64	33	2	0	19	2	53	0	2	34	14	0	233
12:15	1	6	4	0	67	32	5	0	17	7	52	0	5	29	15	0	240
12:30	2	7	2	0	56	36	1	0	15	5	51	0	3	23	19	0	220
12:45	2	4	4	0	72	39	0	0	22	3	47	0	4	36	23	0	256
13:00	2	6	1	0	71	40	1	0	24	4	65	0	1	36	9	0	260
13:15	1	6	4	0	79	41	0	0	9	0	53	0	6	43	17	0	259
13:30	1	1	5	0	87	49	0	0	9	7	75	0	2	41	22	0	299
13:45	0	7	6	0	70	44	0	0	15	1	33	0	4	34	16	0	230
Total	9	45	28	0	566	314	9	0	130	29	429	0	27	276	135	0	1997
Pk Hr																	12:45 PM
Pk Vol	6	17	14	0	309	169	1	0	64	14	240	0	13	156	71	0	1074
PHF	0.750	0.708	0.700	0.000	0.888	0.862	0.250	0.000	0.667	0.500	0.800	0.000	0.542	0.907	0.772	0.000	0.898



Time	LT	Thru	RT	Ped	LT	Thru	RT	Ped	LT	Thru	RT	Ped	LT	Thru	RT	Ped	TOTAL
16:00	1	5	3	0	70	37	0	0	12	4	59	0	2	31	18	0	242
16:15	2	2	2	0	63	26	1	0	9	7	44	0	4	30	13	0	203
16:30	0	4	2	0	53	26	1	0	11	8	50	0	1	33	6	0	195
16:45	0	4	0	0	58	28	1	0	16	3	52	0	0	25	18	0	205
17:00	2	9	4	0	58	23	2	0	17	2	45	0	3	23	7	0	195
17:15	0	4	2	0	66	29	0	0	9	2	41	0	3	31	21	0	208
17:30	0	4	3	0	64	20	2	0	14	3	45	0	3	25	9	0	192
17:45	0	2	1	0	45	20	1	0	13	9	31	0	1	15	10	0	148
Total	5	34	17	0	477	209	8	0	101	38	367	0	17	213	102	0	1588
Pk Hr																	4:00 PM
Pk Vol	3	15	7	0	244	117	3	0	48	22	205	0	7	119	55	0	845
PHF	0.375	0.750	0.583	0.000	0.871	0.791	0.750	0.000	0.750	0.688	0.869	0.000	0.438	0.902	0.764	0.000	0.873

Intersection Statistics

Per	Peak Hour	Pk Hr Vol	Peak Intvl	Pk Intv Vol	PHF
AM	8:15 AM	987	8:30 AM	268	0.921
MID	12:45 PM	1074	1:30 PM	299	0.898
PM	4:00 PM	845	4:00 PM	242	0.873

Peak Hour Statistics by Approach

Per	Peak Hour	Vol	PHF	Peak Hour	Vol	PHF	Peak Hour	Vol	PHF	Peak Hour	Vol	PHF
AM	8:30 AM	100	0.532	9:00 AM	385	0.963	8:30 AM	333	0.946	8:00 AM	206	0.904
MID	12:00 PM	42	0.955	1:00 PM	482	0.886	12:45 PM	318	0.855	12:45 PM	240	0.909
PM	4:45 PM	32	0.533	4:00 PM	364	0.850	4:00 PM	275	0.917	4:00 PM	181	0.887

Comments

Approach & Departure Volumes (No Peds)

Per	Approach	Depart	Approach	Depart	Approach	Depart	Approach	Depart
AM	134	97	749	752	636	654	359	375
MID	82	65	889	714	588	746	438	472
PM	56	63	694	585	506	613	332	327

Traffic Research & Analysis, Inc.
3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

Client:	Stanley	Site Ref:	1
File Number:	1602472	Direction:	EB
Route:	N CAVE CREEK RD	Latitude:	33.8
Location:	W of N PIMA RD	Longitude:	-111.

Count Date	5/5/2016																Aver
Count Time	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM
00:00	0	50															0
00:15	0	49															0
00:30	0	45															0
00:45	0	63															0
01:00	0	46															0
01:15	0	66															0
01:30	0	65															0
01:45	0	54															0
02:00	0	65															0
02:15	0	49															0
02:30	0	44															0
02:45	0	49															0
03:00	0	45															0
03:15	0	38															0
03:30	0	51															0
03:45	0	52															0
04:00	8	51															8
04:15	1	47															1
04:30	2	40															2
04:45	2	43															2
05:00	4	33															4
05:15	7	55															7
05:30	6	37															6
05:45	13	26															13
06:00	16	23															16
06:15	20	18															20
06:30	17	11															17
06:45	29	9															29
07:00	38	9															38
07:15	33	15															33
07:30	44	18															44
07:45	41	14															41
08:00	49	12															49
08:15	52	9															52
08:30	48	18															48
08:45	57	10															57
09:00	33	5															33
09:15	37	12															37
09:30	30	13															30
09:45	53	7															53
10:00	52	9															52
10:15	57	1															57
10:30	50	2															50
10:45	51	0															51
11:00	53	1															53
11:15	40	2															40
11:30	49	1															49
11:45	50	0															50
Totals	1042	1382	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1042
Day Total	2424		0		0		0		0		0		0		0		24
AM Pct	43.0%																43.
Peak Hour	9:45	13:15															9:45
Peak Volume	212	250															212
P.H.F	0.9298	0.9470															0.9298

Traffic Research & Analysis, Inc.
3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

1180
8928
rage
PM
50
49
45
63
46
66
65
54
65
49
44
49
45
38
51
52
51
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40
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33
55
37
26
23
18
11
9
9
15
18
14
12
9
18
10
5
12
13
7
9
1
2
0
1
2
1
0
1382
24
0%
13:15
250
0.9470

Traffic Research & Analysis, Inc.
3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

Client:	Stanley	Site Ref:	1
File Number:	1602474	Direction:	NB
Route:	N PIMA RD	Latitude:	33.8169
Location:	S of E CAVE CREEK RD	Longitude:	-111.8913

Count Date	5/5/2016																Average	
Count Time	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
00:00	2	130															2	130
00:15	0	159															0	159
00:30	2	121															2	121
00:45	2	146															2	146
01:00	1	182															1	182
01:15	4	120															4	120
01:30	3	182															3	182
01:45	1	97															1	97
02:00	0	149															0	149
02:15	1	137															1	137
02:30	1	131															1	131
02:45	2	122															2	122
03:00	1	150															1	150
03:15	1	129															1	129
03:30	1	130															1	130
03:45	1	146															1	146
04:00	3	127															3	127
04:15	9	105															9	105
04:30	15	120															15	120
04:45	36	129															36	129
05:00	25	110															25	110
05:15	32	94															32	94
05:30	31	103															31	103
05:45	48	86															48	86
06:00	36	113															36	113
06:15	82	89															82	89
06:30	95	60															95	60
06:45	113	56															113	56
07:00	121	66															121	66
07:15	126	67															126	67
07:30	158	68															158	68
07:45	186	61															186	61
08:00	143	61															143	61
08:15	117	64															117	64
08:30	152	55															152	55
08:45	179	43															179	43
09:00	156	44															156	44
09:15	130	32															130	32
09:30	157	38															157	38
09:45	164	32															164	32
10:00	129	18															129	18
10:15	111	15															111	15
10:30	124	11															124	11
10:45	116	8															116	8
11:00	132	10															132	10
11:15	138	5															138	5
11:30	129	3															129	3
11:45	142	2															142	2
Totals	3358	4126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3358	4126
Day Total	7484		0		0		0		0		0		0		0		7484	
AM Pct	44.9%																44.9%	
Peak Hour	8:45	12:45															8:45	12:45
Peak Volume	622	630															622	630
P.H.F	0.8687	0.8654															0.8687	0.8654

Traffic Research & Analysis, Inc.
3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

Client:	Stanley	Site Ref:	1
File Number:	1602475	Direction:	SB
Route:	PIMA RD	Latitude:	33.8193
Location:	N of E CAVE CREEK RD	Longitude:	-111.8913

Count Date	5/5/2016																Average	
Count Time	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
00:00	0	9															0	9
00:15	0	10															0	10
00:30	0	11															0	11
00:45	0	9															0	9
01:00	0	10															0	10
01:15	2	10															2	10
01:30	1	8															1	8
01:45	0	13															0	13
02:00	0	6															0	6
02:15	0	23															0	23
02:30	0	10															0	10
02:45	2	6															2	6
03:00	1	11															1	11
03:15	0	11															0	11
03:30	0	6															0	6
03:45	0	6															0	6
04:00	0	10															0	10
04:15	1	5															1	5
04:30	1	6															1	6
04:45	1	3															1	3
05:00	0	15															0	15
05:15	0	6															0	6
05:30	0	8															0	8
05:45	4	2															4	2
06:00	1	5															1	5
06:15	3	4															3	4
06:30	4	5															4	5
06:45	3	1															3	1
07:00	5	3															5	3
07:15	6	3															6	3
07:30	14	1															14	1
07:45	7	0															7	0
08:00	5	0															5	0
08:15	6	7															6	7
08:30	48	13															48	13
08:45	16	2															16	2
09:00	25	0															25	0
09:15	13	1															13	1
09:30	13	0															13	0
09:45	6	1															6	1
10:00	7	0															7	0
10:15	9	0															9	0
10:30	8	1															8	1
10:45	9	0															9	0
11:00	4	0															4	0
11:15	14	0															14	0
11:30	13	0															13	0
11:45	11	0															11	0
Totals	263	261	0	0	0	0	0	0	0	0	0	0	0	0	0	0	263	261
Day Total	524		0		0		0		0		0		0		0		524	
AM Pct	50.2%																50.2%	
Peak Hour	8:30	13:45															8:30	13:45
Peak Volume	102	52															102	52
P.H.F	0.5313	0.5652															0.5313	0.5652

Traffic Research & Analysis, Inc.
3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

Client:	Stanley	Site Ref:	1
File Number:	1602473	Direction:	WB
Route:	N CAVE CREEK RD	Latitude:	33.8188
Location:	E of N PIMA RD	Longitude:	-111.8891

Count Date	5/5/2016																Average	
Count Time	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
00:00	2	92															2	92
00:15	0	119															0	119
00:30	0	99															0	99
00:45	1	120															1	120
01:00	1	119															1	119
01:15	2	126															2	126
01:30	0	140															0	140
01:45	1	121															1	121
02:00	0	130															0	130
02:15	0	133															0	133
02:30	0	130															0	130
02:45	1	140															1	140
03:00	1	120															1	120
03:15	1	106															1	106
03:30	0	101															0	101
03:45	0	105															0	105
04:00	8	113															8	113
04:15	1	93															1	93
04:30	4	82															4	82
04:45	4	91															4	91
05:00	7	84															7	84
05:15	12	94															12	94
05:30	11	88															11	88
05:45	25	70															25	70
06:00	30	78															30	78
06:15	37	59															37	59
06:30	31	49															31	49
06:45	53	36															53	36
07:00	69	39															69	39
07:15	60	26															60	26
07:30	79	23															79	23
07:45	74	23															74	23
08:00	89	20															89	20
08:15	104	17															104	17
08:30	93	10															93	10
08:45	94	11															94	11
09:00	93	15															93	15
09:15	100	22															100	22
09:30	111	19															111	19
09:45	105	17															105	17
10:00	107	20															107	20
10:15	113	7															113	7
10:30	125	9															125	9
10:45	132	7															132	7
11:00	116	6															116	6
11:15	122	2															122	2
11:30	95	3															95	3
11:45	114	2															114	2
Totals	2226	3136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2226	3136
Day Total	5364		0		0		0		0		0		0		0		5364	
AM Pct	41.5%																41.5%	
Peak Hour	10:30	14:00															10:30	14:00
Peak Volume	495	533															495	533
P.H.F	0.9375	0.9518															0.9375	0.9518

APPENDIX B
Crash Data

Maricopa County Sheriff's Office
Location History

Period covered: January 1, 2012 to September 23, 2013

Incident/DR #	XRef Incident #	Disposition	Date	Time	Incident Location	Description of Call Type	Final Call Type	Deputy Serial #
MA12004289		8	1/8/2012 12:16:20 PM		E CAVE CREEK RD/N PIMA RD ,CRF	VEHICLE ACCIDENT W/INJURIES	962	S1481
MA12049718		8	3/22/2012 8:10:21 AM		E CAVE CREEK RD/N PIMA ,CRF	VEHICLE ACCIDENT W/INJURIES	962	S0997
MA12101315		8	6/7/2012 10:53:52 AM		E CAVE CREEK RD/N PIMA ,CRF	VEHICLE ACCIDENT NO INJURY	961	S1813
MA12105441		8	6/13/2012 8:23:13 PM		E CAVE CREEK RD/N PIMA ,CRF	VEHICLE ACCIDENT NO INJURY	961	S0950
MA12134068		10	7/28/2012 7:40:51 AM		E CAVE CREEK RD/N PIMA ,CRF	INJURED/SICK PERSON	901	S1179
MA13031502		8	2/16/2013 3:48:06 PM		E CAVE CREEK RD/N PIMA RD ,CRF	VEHICLE ACCIDENT FATALITY	963	S1179
MA13128644		8	7/5/2013 3:03:55 PM		E CAVE CREEK RD/N PIMA ,CRF	VEHICLE ACCIDENT W/INJURIES	962	S1179

Disposition Descriptions

1 Information Received
2 Police Service Report Written (DR) Incident # is DR #
3 Unable to Locate/Gone on Arrival
4 Civil Matter
5 Detail Completed
6 Offense Report Written (DR) Incident # is DR #
7 Field interview card completed
8 Vehicle Accident Report Written (DR) Incident # is DR #
9 Assist to other Agency-
10 Turned Over to other Agency
11 Property Invoice (only) Written (DR) Incident # is DR #
12 Tow Truck Request (only) Written (DR) Incident # is DR #
13 Cancel Incident Prior to unit being Dispatched
14 Cancel Incident after Unit has been Dispatched

Maricopa County Sheriff's Office
Location History

Period covered: September 24, 2013 to May 31, 2016

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC13223818	IR13189397		11/21/2013	11:14:37	771609 - A476

Description of Event:

VEHICLE CRASH NO INJURY

Event Location — *Location Name:*

E CAVE CREEK RD/N PIMA RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC13226990	IR13189753		11/26/2013	09:21:03	117502 -

Description of Event:

VEHICLE CRASH NO INJURY

Event Location — *Location Name:*

N PIMA RD/E CAVE CREEK RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC14006587	IR14000796		01/11/2014	13:10:54	771285 - A433

Description of Event:

VEHICLE CRASH NO INJURY

Event Location — *Location Name:*

E CAVE CREEK RD/N PIMA RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC14020884	IR14002655		02/02/2014	12:35:20	119326 -

Description of Event:

VEHICLE CRASH NO INJURY HIT AND RUN 961

Event Location — *Location Name:*

N PIMA RD/E CAVE CREEK RD

Event #	IR #	Cross Reference Event	Date	Time	Deputy/DO Serial # - Unit
MC14034790	IR14004364		02/22/2014	14:52:10	771647 - A434

Description of Event:

VEHICLE CRASH NO INJURY

Event Location — *Location Name:*

E CAVE CREEK RD/N PIMA RD

MC14052665	IR14006602		03/20/2014 16:50:39	771609 - G476

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	*IR #*	*Cross Reference Event*	*Date*	*Time*	*Deputy/DO Serial # - Unit*
MC14116282	IR14014529		06/24/2014	14:52:20	771179 - A434

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	*IR #*	*Cross Reference Event*	*Date*	*Time*	*Deputy/DO Serial # - Unit*
MC14170080	IR14020971		09/10/2014	06:53:31	771869 - A430

Description of Event:

VEHICLE CRASH W/INJURIES

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	*IR #*	*Cross Reference Event*	*Date*	*Time*	*Deputy/DO Serial # - Unit*
MC14230738	IR14028556		12/08/2014	20:54:15	770920 - L433

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	*IR #*	*Cross Reference Event*	*Date*	*Time*	*Deputy/DO Serial # - Unit*
MC14230942	IR14028577		12/09/2014	08:33:30	771256 - A434

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

N PIMA RD/E CAVE CREEK RD :JUST NOF

Event #	*IR #*	*Cross Reference Event*	*Date*	*Time*	*Deputy/DO Serial # - Unit*
MC15041194	IR15004978		02/27/2015	13:55:50	771356 - A434

Description of Event:

VEHICLE CRASH NO INJURY 961 INVOLVING ALCOHOL

Event Location ***Location Name:***

N PIMA RD/E CAVE CREEK RD

MC15170962	IR15019929		08/10/2015	13:47:48	771179 - A434

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	*IR #*	*Cross Reference Event*	*Date*	*Time*	*Deputy/DO Serial # - Unit*
MC15285997	IR15032965		12/25/2015	18:20:45	772059 - L434

Description of Event:

VEHICLE CRASH NO INJURY HIT AND RUN 961

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	*IR #*	*Cross Reference Event*	*Date*	*Time*	*Deputy/DO Serial # - Unit*
MC16094247	IR16010732		04/22/2016	15:49:42	771609 - A476

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

E CAVE CREEK RD/N PIMA RD

Event #	*IR #*	*Cross Reference Event*	*Date*	*Time*	*Deputy/DO Serial # - Unit*
MC16108646	IR16012387		05/09/2016	13:38:01	772047 - A434

Description of Event:

VEHICLE CRASH NO INJURY

Event Location ***Location Name:***

N PIMA RD/E CAVE CREEK RD

Event #	*IR #*	*Cross Reference Event*	*Date*	*Time*	*Deputy/DO Serial # - Unit*
MC16114098	IR16013036		05/15/2016	18:23:16	771414 - L430

Description of Event:

VEHICLE CRASH W/INJURIES

Event Location ***Location Name:***

N PIMA RD/E CAVE CREEK RD

CITY OF SCOTTSDALE '11 -'12 COLLISION SUMMARY

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS
11-06062	110312	1639	PIMA		STAGECOACH PASS	RD	AT		1	1	0	0	3	0	4	1	E	S	4	
12-22365	121009	0703	PIMA	RD	STAGECOACH PASS	RD	AT		1	1	0	0	7	1	4	1	SB	NB	3	
12-26524	121129	1039	PIMA	RD	STAGECOACH PASS	RD	W	250	1	3	0	0	7	1	6	1	WB	WB	3	

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS

KEY (January 1, 2011-June 21,2011)

INJURY SEVERITY: 1=NO INJURY, 2=POSSIBLE INJURY, 3=NON-INCAPACITATING INJURY, 4=INCAPACITATING INJURY, 5=FATAL INJURY, 99=NOT REPORTED / UNKNOWN

PHYSICAL CONDITION: 0=NO APPARENT INFLUENCE, 1=ILLNESS, 2=PHYSICAL IMPAIRMENT, 3=FELL ASLEEP / FATIGUED 4=ALCOHOL, 5=DRUGS, 6=MEDICATIONS, A=NO TEST GIVEN, B=TEST GIVEN, C=TEST REFUSED, D=TESTING UNKNOWN, 97=OTHER, 99=UNKNOWN

VIOLATION: 0=NO IMPROPER ACTION, 1=SPEED TOO FAST FOR CONDITIONS, 2=EXCEEDED LAWFUL SPEED 3=FAILED TO YIELD RIGHT-OF-WAY, 4=FOLLOWED TOO CLOSELY. 5=FAILED TO OBEY STOP SIGN, 6=FAILED TO STOP FOR RED SIGNAL, 7=DISREGAREDED TRAFFIC SIGNAL 8=MADE IMPROPER TURN, 9=DROVE/RODE IN OPPOSING TRAFFIC LANE, 10=KNOWINGLY OPERATED WITH FAULTY / MISSING EQUIPMENT, 11=REQUIRED MOTORCYCLE SAFETY EQUIPMENT NOT USED, 12=PASSED IN NO PASSING ZONE, 13=UNSAFE LANE CHANGE, 14=FAILED TO KEEP IN PROPER LANE, 15=DISREGARDED PAVEMENT MARKINGS, 16=OTHER UNSAFE PASSING, 17=INATTENTION/DISTRACTION, 18=DID NOT USE CROSSWALK, 19=WALKED ON WRONG SIDE OF ROAD, 20 ELECTRONIC COMMUNICATIONS DEVICE, 97=OTHER, 99 UNKNOWN

ACTION: 1=GOING STRAIGHT AHEAD, 2=SLOWING IN TRAFFICWAY, 3=STOPPED IN TRAFFICWAY, 4=MAKING LEFT TURN, 5=MAKING RIGHT TURN, 6=MAKING U-TURN, 7=OVERTAKING/PASSING, 8=CHANGING LANES, 9=NEGOTIATING A CURVE, 10=BACKING, 11=AVOIDING VEH/OBJ/PED/CYCLIST/ANIMAL, 12=ENTERING PARKING POSITION, 13=LEAVING PARKING POSITION, 14=PROPERLY PARKED, 15=IMPROPERLY PARKED, 16=DRIVERLESS MOVING VEHICLE, 17=CROSING ROAD, 18=WALKING WITH TRAFFIC, 19=WALKING AGAINST TRAFFIC, 20=STANDING, 21=LYING, 22=GETTING ON OR OFF VEHICLE, 23=WORKING ON/PUSHING VEHICLE, 24=WORKING ON ROAD, 97=OTHER, 99=UKNOWN

MANNER OF COLLISION: 1=SINGLE VEHICLE, 2=ANGLE (front to side) SAME DIRECTION, 3=ANGLE (front to side) OPPOSITE DIRECTION, 4=ANGLE (front to side) RIGHT ANGLE, 5=ANGLE - DIRECTION NOT SPECIFIED, 6=REAR END, 7=HEAD-ON, 8=SIDESWIPE, SAME DIRECTION, 9=SIDESWIPE, OPPOSITE DIRECTION, 10=REAR-TO-SIDE 11=REAR-TO-REAR 97=OTHER 99=UNKNOWN D=U-Turn, @=Pedestrian, #=Pedalcycle

KEY (June 22, 2011-December 31,2012)

INJURY SEVERITY: 1=NO INJURY, 2=POSSIBLE INJURY, 3=NON-INCAPACITATING INJURY, 4=INCAPACITATING INJURY, 5=FATAL INJURY, 99=NOT REPORTED / UNKNOWN

PHYSICAL CONDITION: 0=NO APPARENT INFLUENCE, 1=ILLNESS, 2=PHYSICAL IMPAIRMENT, 3=FELL ASLEEP / FATIGUED 4=ALCOHOL, 5=DRUGS, 6=MEDICATIONS, A=NO TEST GIVEN, B=TEST GIVEN, C=TEST REFUSED, D=TESTING UNKNOWN, 97=OTHER, 99=UNKNOWN

VIOLATION: 1=NO IMPROPER ACTION, 2=SPEED TOO FAST FOR CONDITIONS, 3=EXCEEDED LAWFUL SPEED 4=FOLLOWED TOO CLOSELY. 5=RAN STOP SIGN, 6=DISREGAREDED TRAFFIC SIGNAL7=MADE IMPROPER TURN, 8=DROVE/RODE IN OPPOSING TRAFFIC LANE, 9=KNOWINGLY OPERATED WITH FAULTY / MISSING EQUIPMENT, 10=REQUIRED MOTORCYCLE SAFETY EQUIPMENT NOT USED, 11=PASSED IN NO PASSING ZONE, 12=UNSAFE LANE CHANGE, 13=FAILED TO KEEP IN PROPER LANE, 14=DISREGARDED PAVEMENT MARKINGS, 15=OTHER UNSAFE PASSING, 16=INATTENTION/DISTRACTION, 17=DID NOT USE CROSSWALK, 18=WALKED ON WRONG SIDE OF ROAD, 19=ELECTRONIC COMMUNICATIONS DEVICE, 97=OTHER, 99 UNKNOWN

ACTION: 1=GOING STRAIGHT AHEAD, 2=SLOWING IN TRAFFICWAY, 3=STOPPED IN TRAFFICWAY, 4=MAKING LEFT TURN, 5=MAKING RIGHT TURN, 6=MAKING U-TURN, 7=OVERTAKING/PASSING, 8=CHANGING LANES, 9=NEGOTIATING A CURVE, 10=BACKING, 11=AVOIDING VEH/OBJ/PED/CYCLIST/ANIMAL, 12=ENTERING PARKING POSITION, 13=LEAVING PARKING POSITION, 14=PROPERLY PARKED, 15=IMPROPERLY PARKED, 16=DRIVERLESS MOVING VEHICLE, 17=CROSING ROAD, 18=WALKING WITH TRAFFIC, 19=WALKING AGAINST TRAFFIC, 20=STANDING, 21=LYING, 22=GETTING ON OR OFF VEHICLE, 23=WORKING ON/PUSHING VEHICLE, 24=WORKING ON ROAD, 97=OTHER, 99=UKNOWN

MANNER OF COLLISION: 1=SINGLE VEHICLE, 2=ANGLE (front to side, other than left turn), 3=LEFT TURN, 4=REAR END, 5=HEAD-ON (front to front, other than left turn), 6=SIDESWIPE (same direction), 7=SIDESWIPE (opposite direction), 8=REAR-TO-SIDE, 9=REAR TO REAR, 97=OTHER, 99=UNKNOWN

TOTAL **3**

CITY OF SCOTTSDALE '13 -'14 COLLISION SUMMARY

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS
14-27050	141216	0651	PIMA	RD	STAGECOACH PASS	RD	AT		1	1	0	0	97	1	4	97	SB	SB	3	CAR/BICYCLE
14-22373	141017	1554	PIMA	RD	STAGECOACH PASS	RD	AT		1	1	97	0	97	1	1	1	wb	nb	2	
14-16986	140807	1500	PIMA	RD	STAGECOACH PASS	RD	AT		3	1	0	0	97	1	1	1	EB	SB	2	

KEY

INJURY SEVERITY: 1=NO INJURY, 2=POSSIBLE INJURY, 3=NON-INCAPACITATING INJURY, 4=INCAPACITATING INJURY, 5=FATAL INJURY, 99=NOT REPORTED / UNKNOWN

PHYSICAL CONDITION: 0=NO APPARENT INFLUENCE, 1=ILLNESS, 2=PHYSICAL IMPAIRMENT, 3=FELL ASLEEP / FATIGUED 4=ALCOHOL, 5=DRUGS, 6=MEDICATIONS, A=NO TEST GIVEN, B=TEST GIVEN, C=TEST REFUSED, D=TESTING UNKNOWN, 97=OTHER, 99=UNKNOWN

VIOLATION: 1=NO IMPROPER ACTION, 2=SPEED TOO FAST FOR CONDITIONS, 3=EXCEEDED LAWFUL SPEED 4=FOLLOWED TOO CLOSELY. 5=RAN STOP SIGN, 6=DISREGAREDED TRAFFIC SIGNAL7=MADE IMPROPER TURN, 8=DROVE/RODE IN OPPOSING TRAFFIC LANE, 9=KNOWINGLY OPERATED WITH FAULTY / MISSING EQUIPMENT, 10=REQUIRED MOTORCYCLE SAFETY EQUIPMENT NOT USED, 11=PASSED IN NO PASSING ZONE, 12=UNSAFE LANE CHANGE, 13=FAILED TO KEEP IN PROPER LANE, 14=DISREGARDED PAVEMENT MARKINGS, 15=OTHER UNSAFE PASSING, 16=INATTENTION/DISTRACTION, 17=DID NOT USE CROSSWALK, 18=WALKED ON WRONG SIDE OF ROAD, 19=ELECTRONIC COMMUNICATIONS DEVICE, 20=FAILED TO YIELD RIGHT OF WAY (added August 2014), 97=OTHER, 99 UNKNOWN

ACTION: 1=GOING STRAIGHT AHEAD, 2=SLOWING IN TRAFFICWAY, 3=STOPPED IN TRAFFICWAY, 4=MAKING LEFT TURN, 5=MAKING RIGHT TURN, 6=MAKING U-TURN, 7=OVERTAKING/PASSING, 8=CHANGING LANES, 9=NEGOTIATING A CURVE, 10=BACKING, 11=AVOIDING VEH/OBJ/PED/CYCLIST/ANIMAL, 12=ENTERING PARKING POSITION, 13=LEAVING PARKING POSITION, 14=PROPERLY PARKED, 15=IMPROPERLY PARKED, 16=DRIVERLESS MOVING VEHICLE, 17=CROSING ROAD, 18=WALKING WITH TRAFFIC, 19=WALKING AGAINST TRAFFIC, 20=STANDING, 21=LYING, 22=GETTING ON OR OFF VEHICLE, 23=WORKING ON/PUSHING VEHICLE, 24=WORKING ON ROAD, 97=OTHER, 99=UKNOWN

MANNER OF COLLISION: 1=SINGLE VEHICLE, 2=ANGLE (front to side, other than left turn), 3=LEFT TURN, 4=REAR END (front to rear), 5=HEAD-ON (front to front, other than left turn), 6=SIDESWIPE (same direction), 7=SIDESWIPE (opposite direction), 8=REAR-TO-SIDE, 9=REAR TO REAR, 97=OTHER, 99=UNKNOWN

TOTAL **3**

CITY OF SCOTTSDALE '15 -'16 COLLISION SUMMARY

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS
15-13326	150613	1633	PIMA	RD	STAGECOACH	PASS	E	101	3		0		1		1		WB		1	

KEY

INJURY SEVERITY: 1=NO INJURY, 2=POSSIBLE INJURY, 3=NON-INCAPACITATING INJURY, 4=INCAPACITATING INJURY, 5=FATAL INJURY, 99=NOT REPORTED / UNKNOWN

PHYSICAL CONDITION: 0=NO APPARENT INFLUENCE, 1=ILLNESS, 2=PHYSICAL IMPAIRMENT, 3=FELL ASLEEP / FATIGUED 4=ALCOHOL, 5=DRUGS, 6=MEDICATIONS, A=NO TEST GIVEN, B=TEST GIVEN, C=TEST REFUSED, D=TESTING UNKNOWN, 97=OTHER, 99=UNKNOWN

VIOLATION: 1=NO IMPROPER ACTION, 2=SPEED TOO FAST FOR CONDITIONS, 3=EXCEEDED LAWFUL SPEED 4=FOLLOWED TOO CLOSELY. 5=RAN STOP SIGN, 6=DISREGAREDED TRAFFIC SIGNAL7=MADE IMPROPER TURN, 8=DROVE/RODE IN OPPOSING TRAFFIC LANE, 9=KNOWINGLY OPERATED WITH FAULTY / MISSING EQUIPMENT, 10=REQUIRED MOTORCYCLE SAFETY EQUIPMENT NOT USED, 11=PASSED IN NO PASSING ZONE, 12=UNSAFE LANE CHANGE, 13=FAILED TO KEEP IN PROPER LANE, 14=DISREGARDED PAVEMENT MARKINGS, 15=OTHER UNSAFE PASSING, 16=INATTENTION/DISTRACTION, 17=DID NOT USE CROSSWALK, 18=WALKED ON WRONG SIDE OF ROAD, 19=ELECTRONIC COMMUNICATIONS DEVICE, 20=FAILED TO YIELD RIGHT OF WAY (added August 2014), 97=OTHER, 99 UNKNOWN

ACTION: 1=GOING STRAIGHT AHEAD, 2=SLOWING IN TRAFFICWAY, 3=STOPPED IN TRAFFICWAY, 4=MAKING LEFT TURN, 5=MAKING RIGHT TURN, 6=MAKING U-TURN, 7=OVERTAKING/PASSING, 8=CHANGING LANES, 9=NEGOTIATING A CURVE, 10=BACKING, 11=AVOIDING VEH/OBJ/PED/CYCLIST/ANIMAL, 12=ENTERING PARKING POSITION, 13=LEAVING PARKING POSITION, 14=PROPERLY PARKED, 15=IMPROPERLY PARKED, 16=DRIVERLESS MOVING VEHICLE, 17=CROSING ROAD, 18=WALKING WITH TRAFFIC, 19=WALKING AGAINST TRAFFIC, 20=STANDING, 21=LYING, 22=GETTING ON OR OFF VEHICLE, 23=WORKING ON/PUSHING VEHICLE, 24=WORKING ON ROAD, 97=OTHER, 99=UKNOWN

MANNER OF COLLISION: 1=SINGLE VEHICLE, 2=ANGLE (front to side, other than left turn), 3=LEFT TURN, 4=REAR END (front to rear), 5=HEAD-ON (front to front, other than left turn), 6=SIDESWIPE (same direction), 7=SIDESWIPE (opposite direction), 8=REAR-TO-SIDE, 9=REAR TO REAR, 97=OTHER, 99=UNKNOWN

TOTAL **1**

APPENDIX C
Capacity Analysis

Intersection	
Intersection Delay, s/veh	13.4
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	17	133	40	0	239	123	7	0	49	37	244
Future Vol, veh/h	0	17	133	40	0	239	123	7	0	49	37	244
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	18	145	43	0	260	134	8	0	53	40	265
Number of Lanes	0	1	2	0	0	1	2	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	3	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	3
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	11.4	15.1	13.3
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	57%	0%	100%	0%	0%	100%	0%	0%	21%	0%
Vol Thru, %	43%	0%	0%	100%	53%	0%	100%	85%	79%	0%
Vol Right, %	0%	100%	0%	0%	47%	0%	0%	15%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	86	244	17	89	84	239	82	48	68	30
LT Vol	49	0	17	0	0	239	0	0	14	0
Through Vol	37	0	0	89	44	0	82	41	54	0
RT Vol	0	244	0	0	40	0	0	7	0	30
Lane Flow Rate	93	265	18	96	92	260	89	52	74	33
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.184	0.449	0.04	0.195	0.177	0.518	0.165	0.095	0.156	0.062
Departure Headway (Hd)	7.187	6.199	7.786	7.276	6.937	7.29	6.781	6.678	7.609	6.799
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	502	583	462	495	520	499	532	540	474	529
Service Time	4.887	3.899	5.492	4.982	4.643	4.99	4.481	4.378	5.32	4.51
HCM Lane V/C Ratio	0.185	0.455	0.039	0.194	0.177	0.521	0.167	0.096	0.156	0.062
HCM Control Delay	11.5	13.9	10.8	11.7	11.1	17.6	10.8	10.1	11.7	10
HCM Lane LOS	B	B	B	B	B	C	B	B	B	A
HCM 95th-tile Q	0.7	2.3	0.1	0.7	0.6	2.9	0.6	0.3	0.5	0.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	14	54	30
Future Vol, veh/h	0	14	54	30
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	15	59	33
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	3
HCM Control Delay	11.2
HCM LOS	B

Lane

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	386	5	1	355	14	3
Future Vol, veh/h	386	5	1	355	14	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	420	5	1	386	15	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	425	0	617	212
Stage 1	-	-	-	-	422	-
Stage 2	-	-	-	-	195	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1131	-	422	793
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	819	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1131	-	422	793
Mov Cap-2 Maneuver	-	-	-	-	422	-
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	818	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	460	-	-	1131	-
HCM Lane V/C Ratio	0.04	-	-	0.001	-
HCM Control Delay (s)	13.2	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	7	119	55	0	244	117	3	0	48	22	205
Future Vol, veh/h	0	7	119	55	0	244	117	3	0	48	22	205
Peak Hour Factor	0.92	0.87	0.87	0.87	0.92	0.87	0.87	0.87	0.92	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	8	137	63	0	280	134	3	0	55	25	236
Number of Lanes	0	1	2	0	0	1	2	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	3	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	3
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	10.6	14.4	11.8
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	69%	0%	100%	0%	0%	100%	0%	0%	17%	0%
Vol Thru, %	31%	0%	0%	100%	42%	0%	100%	93%	83%	0%
Vol Right, %	0%	100%	0%	0%	58%	0%	0%	7%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	205	7	79	95	244	78	42	18	7
LT Vol	48	0	7	0	0	244	0	0	3	0
Through Vol	22	0	0	79	40	0	78	39	15	0
RT Vol	0	205	0	0	55	0	0	3	0	7
Lane Flow Rate	80	236	8	91	109	280	90	48	21	8
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.153	0.381	0.016	0.17	0.19	0.523	0.154	0.082	0.042	0.015
Departure Headway (Hd)	6.86	5.817	7.208	6.701	6.288	6.707	6.201	6.15	7.305	6.516
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	521	617	495	533	568	536	577	581	488	546
Service Time	4.617	3.574	4.972	4.465	4.052	4.46	3.954	3.904	5.083	4.294
HCM Lane V/C Ratio	0.154	0.382	0.016	0.171	0.192	0.522	0.156	0.083	0.043	0.015
HCM Control Delay	10.9	12.1	10.1	10.8	10.5	16.6	10.1	9.5	10.4	9.4
HCM Lane LOS	B	B	B	B	B	C	B	A	B	A
HCM 95th-tile Q	0.5	1.8	0	0.6	0.7	3	0.5	0.3	0.1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	3	15	7
Future Vol, veh/h	0	3	15	7
Peak Hour Factor	0.92	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	3	17	8
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	3
HCM Control Delay	10.1
HCM LOS	B

Lane

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	312	15	4	355	9	2
Future Vol, veh/h	312	15	4	355	9	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	339	16	4	386	10	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	355	0	549	178
Stage 1	-	-	-	-	347	-
Stage 2	-	-	-	-	202	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1200	-	466	834
Stage 1	-	-	-	-	687	-
Stage 2	-	-	-	-	812	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1200	-	464	834
Mov Cap-2 Maneuver	-	-	-	-	464	-
Stage 1	-	-	-	-	687	-
Stage 2	-	-	-	-	809	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	505	-	-	1200	-
HCM Lane V/C Ratio	0.024	-	-	0.004	-
HCM Control Delay (s)	12.3	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	19	136	40	0	242	124	7	0	49	39	250
Future Vol, veh/h	0	19	136	40	0	242	124	7	0	49	39	250
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	21	148	43	0	263	135	8	0	53	42	272
Number of Lanes	0	1	2	0	0	1	2	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	3	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	3
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	11.5	15.4	13.5
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	56%	0%	100%	0%	0%	100%	0%	0%	20%	0%
Vol Thru, %	44%	0%	0%	100%	53%	0%	100%	86%	80%	0%
Vol Right, %	0%	100%	0%	0%	47%	0%	0%	14%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	88	250	19	91	85	242	83	48	69	31
LT Vol	49	0	19	0	0	242	0	0	14	0
Through Vol	39	0	0	91	45	0	83	41	55	0
RT Vol	0	250	0	0	40	0	0	7	0	31
Lane Flow Rate	96	272	21	99	93	263	90	53	75	34
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.189	0.464	0.045	0.201	0.181	0.529	0.168	0.097	0.16	0.064
Departure Headway (Hd)	7.235	6.253	7.854	7.343	7.008	7.357	6.848	6.744	7.683	6.875
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	499	579	458	492	515	495	527	535	469	523
Service Time	4.935	3.953	5.56	5.049	4.714	5.057	4.548	4.444	5.395	4.586
HCM Lane V/C Ratio	0.192	0.47	0.046	0.201	0.181	0.531	0.171	0.099	0.16	0.065
HCM Control Delay	11.6	14.2	10.9	11.9	11.3	18	10.9	10.2	11.9	10.1
HCM Lane LOS	B	B	B	B	B	C	B	B	B	B
HCM 95th-tile Q	0.7	2.4	0.1	0.7	0.7	3	0.6	0.3	0.6	0.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	14	55	31
Future Vol, veh/h	0	14	55	31
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	15	60	34
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	3
HCM Control Delay	11.3
HCM LOS	B

Lane

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	9	386	5	1	355	23	14	0	3	7	0	4
Future Vol, veh/h	9	386	5	1	355	23	14	0	3	7	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	0	-	100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	420	5	1	386	25	15	0	3	8	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	386	0	0	425	0	0	637	830	212	617	833	193
Stage 1	-	-	-	-	-	-	442	442	-	388	388	-
Stage 2	-	-	-	-	-	-	195	388	-	229	445	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1169	-	-	1131	-	-	362	304	793	374	303	816
Stage 1	-	-	-	-	-	-	564	575	-	607	607	-
Stage 2	-	-	-	-	-	-	788	607	-	753	573	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1169	-	-	1131	-	-	357	301	793	370	300	816
Mov Cap-2 Maneuver	-	-	-	-	-	-	357	301	-	370	300	-
Stage 1	-	-	-	-	-	-	559	570	-	602	606	-
Stage 2	-	-	-	-	-	-	783	606	-	743	568	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	14.6	13
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	395	1169	-	-	1131	-	-	462
HCM Lane V/C Ratio	0.047	0.008	-	-	0.001	-	-	0.026
HCM Control Delay (s)	14.6	8.1	-	-	8.2	-	-	13
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	2	0	61	4	0	98
Future Vol, veh/h	2	0	61	4	0	98
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	0	66	4	0	107

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	175	68	0	0	71	0
Stage 1	68	-	-	-	-	-
Stage 2	107	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	815	995	-	-	1529	-
Stage 1	955	-	-	-	-	-
Stage 2	917	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	815	995	-	-	1529	-
Mov Cap-2 Maneuver	815	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	917	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	815	1529	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s)	-	-	9.4	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	9	122	55	0	251	121	3	0	48	24	210
Future Vol, veh/h	0	9	122	55	0	251	121	3	0	48	24	210
Peak Hour Factor	0.92	0.87	0.87	0.87	0.92	0.87	0.87	0.87	0.92	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	140	63	0	289	139	3	0	55	28	241
Number of Lanes	0	1	2	0	0	1	2	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	3	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	3
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	10.8	15	12.1
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	67%	0%	100%	0%	0%	100%	0%	0%	14%	0%
Vol Thru, %	33%	0%	0%	100%	43%	0%	100%	93%	86%	0%
Vol Right, %	0%	100%	0%	0%	57%	0%	0%	7%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	72	210	9	81	96	251	81	43	21	9
LT Vol	48	0	9	0	0	251	0	0	3	0
Through Vol	24	0	0	81	41	0	81	40	18	0
RT Vol	0	210	0	0	55	0	0	3	0	9
Lane Flow Rate	83	241	10	93	110	289	93	50	24	10
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.159	0.396	0.021	0.177	0.195	0.544	0.162	0.086	0.05	0.019
Departure Headway (Hd)	6.934	5.901	7.306	6.799	6.39	6.787	6.281	6.232	7.39	6.613
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	516	608	488	525	559	531	569	573	482	538
Service Time	4.699	3.665	5.076	4.569	4.16	4.545	4.039	3.989	5.177	4.4
HCM Lane V/C Ratio	0.161	0.396	0.02	0.177	0.197	0.544	0.163	0.087	0.05	0.019
HCM Control Delay	11	12.5	10.2	11	10.7	17.4	10.3	9.6	10.6	9.5
HCM Lane LOS	B	B	B	B	B	C	B	A	B	A
HCM 95th-tile Q	0.6	1.9	0.1	0.6	0.7	3.2	0.6	0.3	0.2	0.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	3	18	9
Future Vol, veh/h	0	3	18	9
Peak Hour Factor	0.92	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	3	21	10
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	3
HCM Control Delay	10.3
HCM LOS	B

Lane

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	8	312	15	4	355	22	9	0	2	21	0	11
Future Vol, veh/h	8	312	15	4	355	22	9	0	2	21	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	0	-	100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	339	16	4	386	24	10	0	2	23	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	386	0	0	355	0	0	567	760	178	582	768	193
Stage 1	-	-	-	-	-	-	365	365	-	395	395	-
Stage 2	-	-	-	-	-	-	202	395	-	187	373	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1169	-	-	1200	-	-	406	334	834	396	330	816
Stage 1	-	-	-	-	-	-	627	622	-	602	603	-
Stage 2	-	-	-	-	-	-	781	603	-	797	617	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1169	-	-	1200	-	-	397	330	834	392	326	816
Mov Cap-2 Maneuver	-	-	-	-	-	-	397	330	-	392	326	-
Stage 1	-	-	-	-	-	-	622	617	-	597	601	-
Stage 2	-	-	-	-	-	-	767	601	-	789	612	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	13.4	13.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	439	1169	-	-	1200	-	-	477
HCM Lane V/C Ratio	0.027	0.007	-	-	0.004	-	-	0.073
HCM Control Delay (s)	13.4	8.1	-	-	8	-	-	13.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	5	0	32	4	0	25
Future Vol, veh/h	5	0	32	4	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	0	35	4	0	27

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	64	37	0	0	39	0
Stage 1	37	-	-	-	-	-
Stage 2	27	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	942	1035	-	-	1571	-
Stage 1	985	-	-	-	-	-
Stage 2	996	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	942	1035	-	-	1571	-
Mov Cap-2 Maneuver	942	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	996	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	942	1571	-
HCM Lane V/C Ratio	-	-	0.006	-	-
HCM Control Delay (s)	-	-	8.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

APPENDIX D

Currently Approved Zoning

YIELD ANALYSIS

PARCELS/AC	PRODUCT TYPE	UNITS	MAX BLDG. STORI
A 4.74 AC	Industrial (I-1) 100,000 SF	0	36'/2
B 23.35 AC	Commercial Retail (C-2) 100,000 SF	0	35'/2
C 25.56 AC	Commercial Office (CO) 400,000 SF	0	48'/2
D 18.8 AC	Residential (R1-7)	59	
E 4.89 AC	Residential (R1-35)	3	

LEGEND

Parcel Boundary

Property Boundary

0 100 200 400 800

.3.14

NTEREY OMES

Desert Mountain Parcel 19

Currently Approved Plan

DRAFT

SWABACK PARTNERS
Architecture • Planning • Interior D

Desert Mountain Parcel 19 Currrently Approved Plan (site plan dated 4-3-2014)

Vehicular Trip Rates & Trips

Parcel/Acre (AC)	Product Type	Number of Units	Units	ITE Land Use Number	ITE Land Use No./Type	Weekday Trip Rate per Unit	Weekday Total Trips	AM PEAK Trip Rate per Unit	AM PEAK Number of Trips	AM PEAK In Trips	AM PEAK Out Trips	PM PEAK Trip Rate per Unit	PM PEAK Number of Trips	PM PEAK In Trips	PM PEAK Out Trips
A/4.74	Industrial (I-1)	100	ksf	110	General Light Industrial	6.97	697	0.92	92	81	11	0.97	97	12	85
D/18.8; E/4.89	Residential (R1-7,R1-35)	62	units	210	Single Family Detached Housing	9.52	590	0.75	47	12	35	1.00	62	39	23
C/25.56	Commercial Office (CO)	400	ksf	710	General Office Building	11.03	4412	1.56	624	549	75	1.49	596	101	495
B/23.35	Commercial Retail (C-2)	100	ksf	820	Shopping Center	42.70	4270	0.96	96	60	36	3.71	371	178	193
					Total Trips		9969		859	702	157		1126	330	796
	Internal Reduction (Based on ITE rates for Residential, Retail and Office)					6%	-598	6%	-52	-26	-26	6%	-68	-34	-34
	Total Vehicular Trips Entering and Leaving the Site (without Internal Trips)						**9371**		**807**	**676**	**131**		**1058**	**296**	**762**
	Pass-by Reduction (Based on ITE rates for Land Use 820 Shopping Center)					25%	1003	25%	23	14	8	25%	87	42	45
					Net-New Trips on Cave Creek Road (External)		**8367**		**784**	**662**	**123**		**971**	**254**	**717**

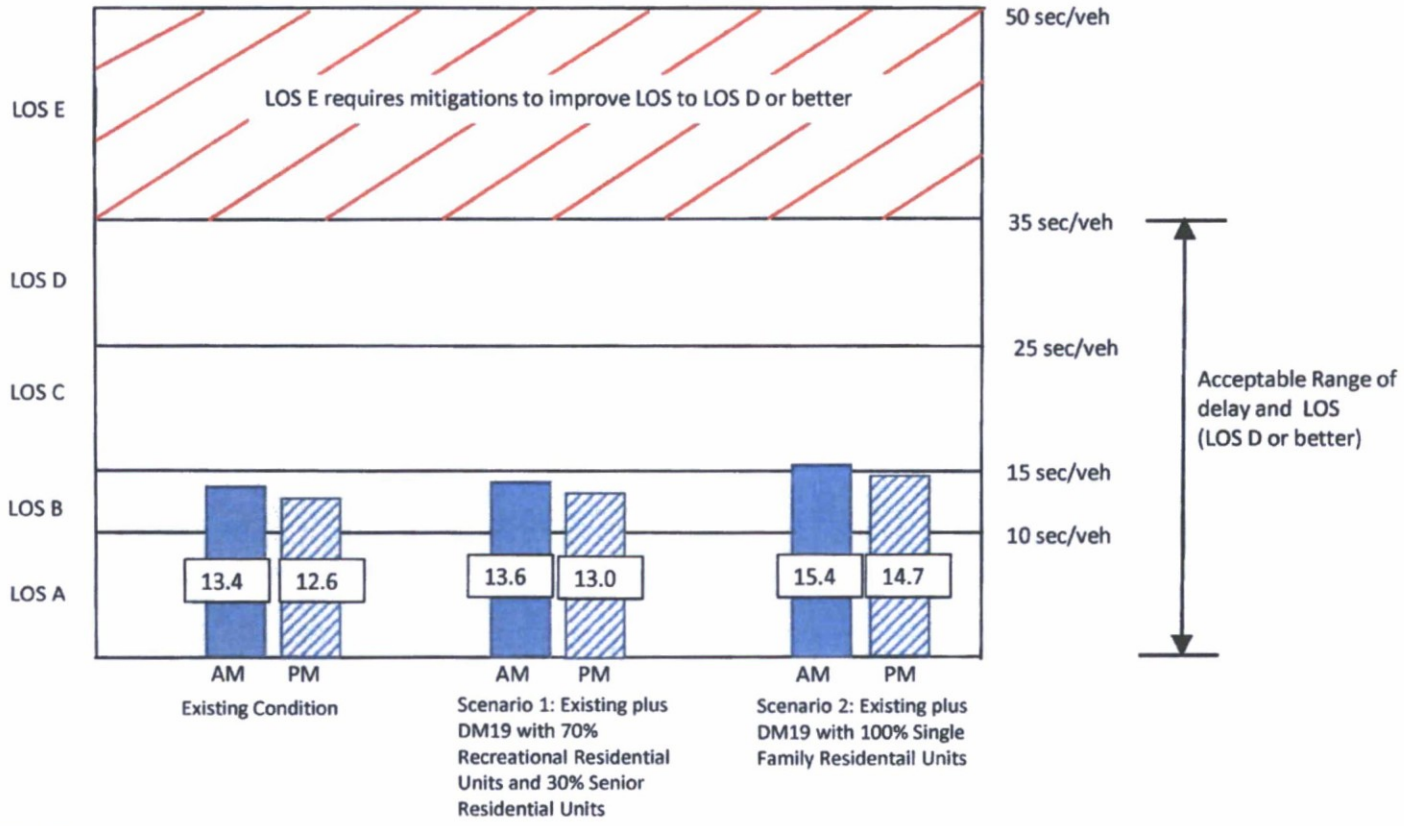
Notes:

1. Parcel A - INDUSTRIAL Floor Area Ratio per site plan = (100,000 sq ft) / (4.74Acres) (43,560 sq ft/ acre) = 0.48 FAR
2. Parcel B - Commercial OFFICE Floor Area Ratio per site plan = (400,000 sq ft) / (25.56 Acres) (43,560 sq ft/ acre) = .09 FAR
3. Parcel C - Commercial RETAIL Floor Area Ratio per site plan = (100,000 sq ft) / (23.35 Acres) (43,560 sq ft/ acre) = .10 FAR
4. Estimates of Pass By Trips are based on Table 5.6 of ITE Trip Gen Manual, 9th Edition
5. Pass By Trips are vehicles driving by the site on Cave Creek Road for another trip purpose, but stop at the site.

Desert Mountain Parcel 19 Level of Service (LOS) Comparison

Stanley Consultants INC.

Cave Creek Road/Pima Road Intersection



XX.X = seconds of delay/vehicle

Stanley Consultants INC

Desert Mountain Parcel 19
Technical Memo
Capacity Analysis with 100% Single Family Residential Units
September 29, 2016
Prepared By: Stanley Consultants, Inc.

Introduction

The proposed Desert Mountain Parcel 19 (DM 19) site is currently vacant and located on the northeast corner of the Cave Creek Road/Pima Road intersection in Scottsdale, Arizona. The proposed Desert Mountain development will include 190 residential units and an 18 hole par 3 golf course. For the proposed development, a Traffic Impact Mitigation Analysis Study dated June 15, 2016 was prepared by Stanley Consultants. In the Traffic Impact Mitigation Analysis Study, it was assumed that 70 percent of the total residential units would be recreational homes, while the remaining 30 percent would be senior adult housing detached units. The purpose of this technical memorandum is to present the results of the capacity analysis at the study intersections for the proposed development assuming that all the 190 residential units would be single family detached residential units.

Trip Generation

The project site is currently vacant and zoned commercial. The proposed DM 19 development would rezone the site to R4 residential and include 190 residential units and an 18 hole par 3 golf course. The anticipated trip generation for the proposed development was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in the Trip Generation Manual, 9th Edition, 2012. The ITE rates are based on studies that measured the trips for various land uses. The rates are expressed in terms of trips per unit of land use. The trip rates and number of trips generated are presented for an average weekday and the AM and PM peak hour of the adjacent street traffic. The ITE trip rates used for the updated site plan include the following:

- ITE Code 210 – Single Family Detached Housing
- ITE Code 430 – Golf Course

For trip generation analysis, it was assumed that all the residential units would be single family detached units. The proposed development would include a short golf course. However, to provide a conservative analysis, a full size 18-hole golf course was used for trip generation.

The proposed development is anticipated to generate an average of 2,452 daily trips including 180 trips during the AM peak hour and 243 trips during the PM peak hour.

Internal Trips Reduction

The ITE Trip Generation Manual includes data and methodologies that can be applied to determine the proportion of internal trips that may occur within a development area that includes a variety of land uses. For the proposed development, internal trips would consist of residents patronizing on-site golf course. Although some of these internal trips will be made by walking and golf carts, it was assumed they would all be made by automobile. For internal reduction, it was assumed that 30 percent of the short golf course traffic would come from the on-site residents and the remaining 70 percent would come off-site. None of the internal trips will leave the site.

Net-New Trips (External Trips)

After subtracting the internal trips from total trip generation, the proposed development would generate an average of 2,066 weekday daily trips including 158 trips during the AM peak hour and 211 trips during the PM peak hour. A summary of the trip generation analysis is provided in Table 11.

Table 1 – Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Proposed											
Single Family Detached Housing	190 du	9.52	1,809	0.75	143	36	107	1.00	190	120	70
Golf Course	18 holes	35.74	643	2.06	37	29	8	2.92	53	27	26
Total Trips (External + Internal)		**2,452**			**180**	**65**	**115**		**243**	**147**	**96**
Internal Trip Reduction		*-30%*		*-30%*				*-30%*			
From Golf to Residential			*-193*		*-11*	-9	*-2*		*-16*	-8	*-8*
From Residential to Golf			*-193*		*-11*	-2	*-9*		*-19*	-8	*-8*
Net-New Residential Trips (External)			1,616		132	34	98		174	112	62
Net-New Golf Trips (External)			450		26	20	6		37	19	18
Total External Trips			**2,066**		**158**	**54**	**104**		**211**	**131**	**80**

Note: du = dwelling unit

Trip Distribution/Assignment

Access to the project site will be provided via Cave Creek Road (Access 1) and Pima Road (Access 2). Access 1 off of Cave Creek Road would be the primary access point and used by residents and golf traffic. Access 2 would be restricted to residents only. The golf course will not be open for public play. The residents residing in other Desert Mountain communities located on the east side of the project site will have access to the proposed DM 19 golf course. The trip distribution pattern was taken from the previous Traffic Impact Mitigation Analysis Study. Based on the trip distribution, trips were assigned to the study intersections.

Capacity Analysis

The study intersections were analyzed using the "Two-Way Stop-Controlled" and "All-Way Stop-Controlled" intersection methodologies presented in the *2010 Highway Capacity Manual*. Synchro traffic analysis software was used to perform the capacity analysis for the study intersections.

Existing Conditions

Under Existing Conditions, all the study intersections operate at an overall LOS B or better during both peak hours. All the stop-controlled approaches operate at LOS C or better. A summary of the levels of service calculations are shown in Table 2.

Table 2 – Existing Conditions Intersection Levels of Service

No.	Intersection Name	Control Type	Peak Hour	Overall Delay – LOS	Approach – Delay/LOS
1	Cave Creek Road/Pima Road	All-way Stop	AM	13.4 – B	EB – 11.4/B
					WB – 15.1/C
					NB – 13.3/B
					SB – 11.2/B
			PM	12.6 – B	EB – 10.6/B
					WB – 14.4/B
					NB – 11.8/B
					SB – 10.1/B
2	Cave Creek Road/Twilight Trail	Stop (NB)	AM	0.3 – A	NB – 13.2/B
			PM	0.2 – A	NB – 12.3/B

Notes: Delay is measured in average seconds per vehicle in Synchro; LOS = Level of Service

Existing Conditions plus DM 19 Project

The project trips were added to the existing traffic volumes to evaluate existing plus project conditions. The lane configurations and traffic control used in the previous Traffic Impact Mitigation Analysis Study were also used for this analysis. With the addition of DM 19 project trips to existing traffic volumes, all the intersections are anticipated to operate at an overall LOS C or better during both peak hours. All the stop-controlled approaches are also expected to operate at LOS C or better during both peak hours. A summary of the levels of service calculations are shown in Table 13.

Table 1 – Existing Plus Project Conditions Intersection Levels of Service

No.	Intersection Name	Control Type	Peak Hour	Overall Delay – LOS	Approach – Delay/LOS
1	Cave Creek Road/Pima Road	All-way Stop	AM	15.4 – C	EB – 12.2/B
					WB – 18.2/C
					NB – 14.9/B
					SB – 12.1/B
			PM	14.7 – B	EB – 11.7/B
					WB – 17.2/C
					NB – 14.0/B
					SB – 10.9/B
2	Cave Creek Road/Twilight Trail-Access 1	Stop (NB & SB)	AM	1.6 – A	NB – 15.7/C
					SB – 12.3/B
			PM	1.9 – A	NB – 15.8/C

					SB – 14.1/B
3	Pima Road/Access 2	Stop (WB)	AM	1.2 – A	WB – 9.6/A
			PM	1.4 – A	WB – 9.0/A

Notes: Delay is measured in average seconds per vehicle in Synchro; LOS = Level of Service

Conclusions

- Under existing conditions, all the study intersections operate at an acceptable overall LOS B or better during both peak hours. All the stop-controlled approaches also operate at LOS C or better during both peak hours.

- With the addition of DM 19 project trips to existing traffic volumes, all the study intersections are expected to operate at an overall LOS C or better during both peak hours. All the stop-controlled approaches are also anticipated to operate at LOS C or better during both peak hours.

Desert Mountain Traffic Volumes & Vehicular Trips Per Home

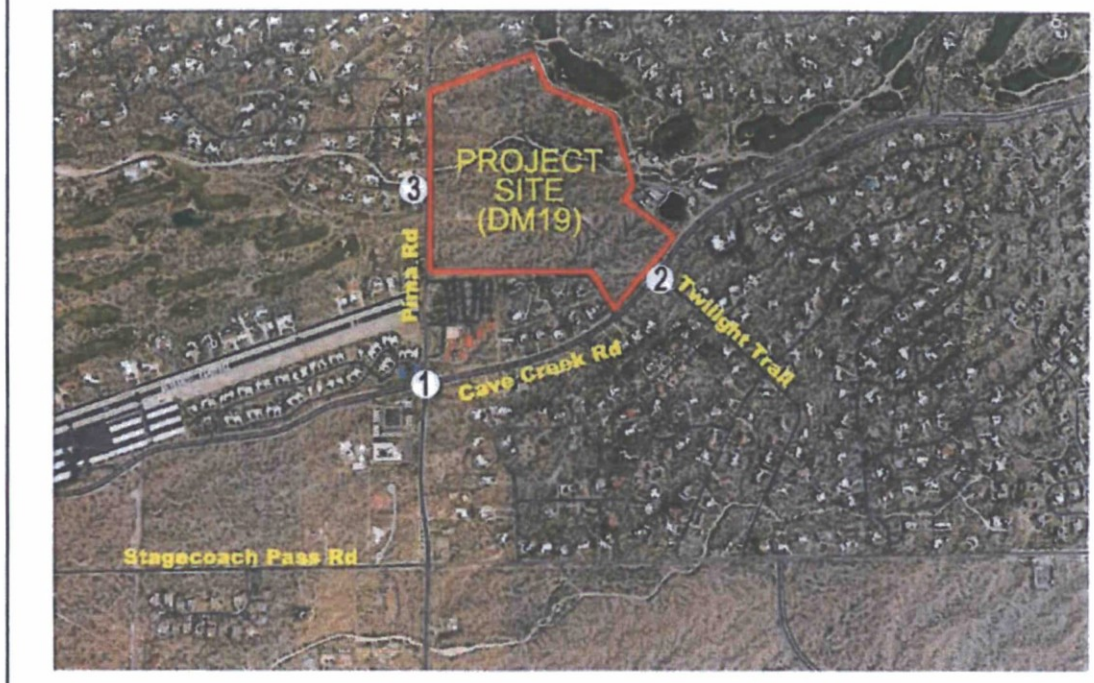
Traffic volumes and number of homes data was provided by Desert Mountain Club, October 2016
Vehicular Trip Analysis based on most recent 12 month period

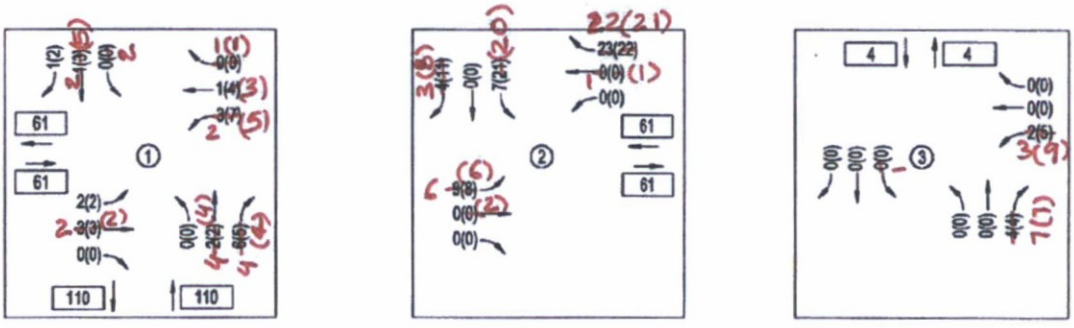
		2015			2016									
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	
2015	Avg Daily Arrivals/month	1087	1475	1560	1674	1776	1970	1858	1470	1482	1396	1521	1944	
2015	Avg Daily Departures/month	1087	1475	1560	1674	1776	1970	1858	1470	1482	1396	1521	1944	
2015	Avg Daily Trips/month	2174	2950	3120	3348	3552	3940	3716	2940	2964	2792	3042	3888	
	# of homes	1720	1725	1729	1729	1733	1734	1740	1747	1752	1757	1761	1764	
Average Vehicular Offsite Trips per Day/Home		1.3	1.7	1.8	1.9	2.0	2.3	2.1	1.7	1.7	1.6	1.7	2.2	Avg/Month 1.8

Summary

The AVERAGE daily trip rate for the year is 1.8 vehicular trips per SFDU
The HIGHEST daily trip rate for the year is 2.3 vehicular trips per SFDU

2000 to 4000 vehicle trips are generated by Desert Mountain each day
1000 to 2000 trips out of DM & 1000 to 2000 trips into DM
The HIGHEST trip rates occured in Feb 2.0, March 2.3, April 2.1 and Sept 2.2
Next highest trip rates occured in Nov 1.7, Dec 1.8, Jan 1.9, May 1.7, June 1.7 and Aug 1.7
The LOWEST trip rates occured in Oct 1.3 and July 1.5





LEGEND

Ⓧ	Study Intersection
XX(XX)	AM (PM) Peak Hour Project Volumes
XX	Average Daily Project Volumes (One Direction)

DESERT MOUNTAIN PARCEL 19 (DM19)
TRAFFIC IMPACT MITIGATION ANALYSIS

Stanley Consultants INC.

FIGURE 6

PROJECT GENERATED TRAFFIC VOLUMES

5/26/2016 28747...\CAD\Exhibits\Figure 6.dgn

Figure 6 – Project Generated Traffic Volumes

Stanley Consultants INC.

Desert Mountain Parcel 19
Technical Memo
Resolution of Traffic Issues
October 25, 2016
Prepared By: Stanley Consultants, Inc.

Introduction

The proposed Desert Mountain Parcel 19 (DM 19) site is currently vacant and located on the northeast corner of the Cave Creek Road/Pima Road intersection in Scottsdale, Arizona. The proposed Desert Mountain development will include 190 residential units and an 18 hole par 3 golf course. For the proposed development, a Traffic Impact Mitigation Analysis Study dated June 15, 2016 was prepared by Stanley Consultants.

Several traffic concerns or issues have been raised by the City of Scottsdale and by the Town of Carefree. This technical memorandum is a response, clarification and correction of the June 15, 2016 traffic study prepared for Desert Mountain 19. The items addressed are:

1) Traffic generated by the site in the report is lower than typical residential development
2) The traffic volumes analyzed are lower than during the heavy traffic winter months
3) The amount of traffic that will utilize the secondary site access on Pima Road will be much higher than assumed

Traffic Concern 1: The projected trip generation from Desert Mountain Parcel 19 assumes no standard residential housing, only senior adult detached and recreational housing. We believe that the type of product being proposed by this development will attract a mix of single family detached, senior adult detached and recreational housing that should be reflected in an updated Traffic Impact Analysis.

Resolution of Concern 1: The proposed Desert Mountain Parcel 19 development will include 190 residential units. The Traffic Impact Mitigation Analysis Study dated June 15, 2016, prepared by Stanley Consultants assumed that 70 percent of the total residential units would be recreational homes and the remaining 30 percent would be senior adult detached units. This mix of housing types was based on our understanding of the current residential mix of the Desert Mountain community. To provide a worst case, conservative analysis, an additional capacity analysis was conducted at the study intersections for the proposed development assuming that all 190 residential units would be single family detached units. This is not an expected type of housing for the subject property. The Parcel 19 is expected to have a residential mix similar to the existing Desert Mountain master planned community which has a high percentage of recreational housing and senior housing. The capacity analysis results assuming 100% single family detached units indicate that the study intersection of Pima Road and Cave Creek Road will experience a slight increase in vehicular delay as compared to existing (current) conditions but will operate at an overall acceptable LOS C or better during both peak

hours. Assuming that all the new DM19 residents are all single family type residents, with no senior or recreational residents, the proposed Desert Mountain Development will have an insubstantial impact at the intersection of Pima Road/Cave Creek Road. A Level of Service Comparison chart is provided in **Attachment 1** and **Attachment 2** is the September 29, 2016 Technical Memorandum Capacity Analysis with 100% SFDU.

Actual traffic data for the existing Desert Mountain community was obtained on Friday October 21, 2016. The traffic volume that enters and leaves the Desert Mountain community was provided for the previous 12 months along with the number of homes during this period. The data and analysis are provided in **Attachment 3**; Desert Mountain Traffic Volumes and Vehicular Trips Per Home. The average daily trip rates for Desert Mountain range from 1.3 to 2.3 and the average trip rate is 1.8 vehicular trips per day per housing unit. This average trip rate of 1.8 is much lower than the average rate of 3.3 utilized in the Traffic Impact Mitigation Analysis Study dated June 15, 2016,

In summary, concerned reviewers suggested that the typical single family trip rate of 9.52 trips per dwelling unit should be utilized to estimate the traffic volume for the Desert Mountain Parcel 19 residents. The average trip rate for Desert Mountain traffic in the last 12 months averaged 1.8 vehicular trips per day. The highest month trip rate for Desert Mountain traffic in the last 12 months is 2.3 vehicular trips per day. The average trip rate of 3.3 vehicular trips per day utilized in the June 15, 2016 traffic study is much higher than the average and the highest month Desert Mountain trip rate and is clearly a conservative estimate and nearly double the community they are joining.

NOTE: Although the average trip rate for single family detached units is not considered a reasonable estimate of the expected traffic, a capacity analysis was performed at the three intersections as if the residents were all working families and the results show that all three intersections will operate at a Level of Service (LOS) C. LOS A, B, C and D are all acceptable LOS. When a LOS E intersection delays are expected, mitigation is required per City of Scottsdale standards.

Traffic Concern 2: The development team gathered their traffic count data at the end of tourism/winter season (May). Traffic Counts are significantly higher in the winter months than the summer months in this area. Traffic counts from May do not accurately reflect existing peak conditions.

Resolution of Concern 2: There were two sets of approach traffic volume data that were reviewed and are summarized below and also shown in Exhibit 1.

Pima Road/Cave Creek Road – **May, 2016** Approach Volume Counts (veh/day) Collected by TRA for DM 19 Traffic Analysis
NB on Pima Road, south of Cave Creek Road = 7,484
SB on Pima Road, north of Cave Creek Road = 524
EBon Cave Creek Road, west of Pima Road = 2,424
WB on Cave Creek Road, east of Pima Road = 5,364

Pima Road/Stagecoach Pass Road – **March, 2016** Approach Volume Counts by City of Scottsdale
NB on Pima Road, south of Stagecoach Pass Road = 5,673
SB on Pima Road, north of Stagecoach Pass Road = 5,229
EB on Stagecoach Pass Road, west of Pima Road = 821
WB on Stagecoach Pass Road, east of Pima Road = 1,324

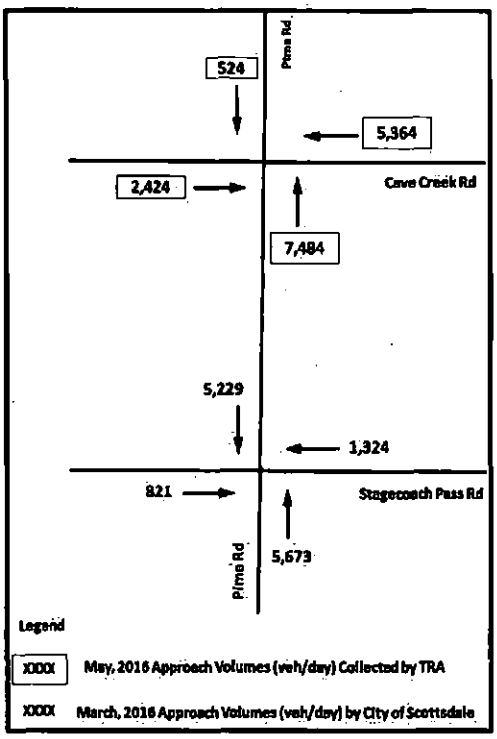


Exhibit 1

Based on the traffic volumes at the above two locations, the bi-directional average daily traffic (ADT) volumes on Pima Road between Cave Creek Road and Stagecoach Pass Road were determined for both City of Scottsdale and TRA traffic volumes and then compared. In order to determine the ADT's, the southbound traffic volumes just south of Cave Creek Road and northbound traffic volumes just north of Stagecoach Pass Road were estimated as follows:

- The southbound traffic volumes on Pima Road just south of Cave Creek Road were estimated by using the turning movement counts at Pima Road/Cave Creek Road intersection collected by TRA in May, 2016. The turning movement count percentages were applied to the respective approach volumes to estimate the southbound volumes just south of Cave Creek Road.
- The northbound traffic volumes on Pima Road just north of Stagecoach Pass Road were estimated by using the City of Scottsdale approach traffic volumes collected in March, 2016. The eastbound and westbound approach traffic volumes on Stagecoach Pass Road were distributed equally to/from northbound and southbound Pima Road.

The resulting traffic volumes and average daily traffic volumes are shown in Exhibit 2.

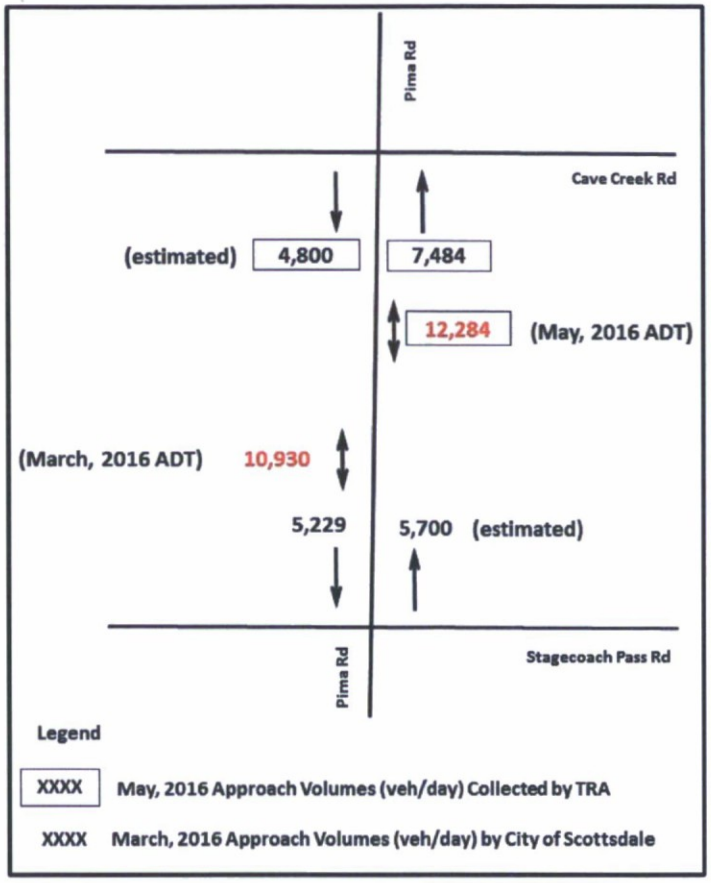


Exhibit 2: Approach Volumes and ADT's

As shown in Exhibit 2, the ADT on Pima Road between Cave Creek Road and Stagecoach Pass Road collected in May, 2016 is approximately 12,284 veh/day and in March, 2016 is approximately 10,930 veh/day. The ADT on Pima Road in the month of May was approximately 1,300 vehicles higher than in March and therefore, when preparing the traffic study, the higher traffic volumes collected in May, 2016 were utilized for traffic analysis.

Traffic Concern 3: The amount of traffic that will utilize the secondary site access on Pima Road will be much higher than assumed.

Resolution of Concern 3: The residents at the proposed Desert Mountain Parcel 19 Development will be able to utilize the secondary access off of Pima Road. In the Traffic Impact Mitigation Analysis Study dated June 15, 2016, it was assumed that 25 percent of the residents would utilize the secondary access to Pima Road. It is possible and reasonable that as many as one-half of the residents could utilize the secondary access. This would mean that an equal amount of residential traffic would utilize the primary and secondary access points.

Based on the redistribution of the residential traffic from 75% to and from the main entrance to 50% to the main entrance and 50% to the secondary access, Attachment 4 shows the changes in the site traffic volumes. Capacity analyses were run with these new traffic volumes and the results are presented below.

Delay and Level of Service with Redistribution of the Residential Traffic to 50%/50%
Secondary Access on Pima Road
- WB AM Peak Hour delay = 9.5 sec/veh, LOS A
- WB PM Peak Hour delay = 8.9 sec/veh, LOS A

Pima Road & Cave Creek Road
- Intersection AM Peak Hour delay = 13.7 sec/veh, LOS B
- Intersection PM Peak Hour delay = 13.0 sec/veh, LOS B

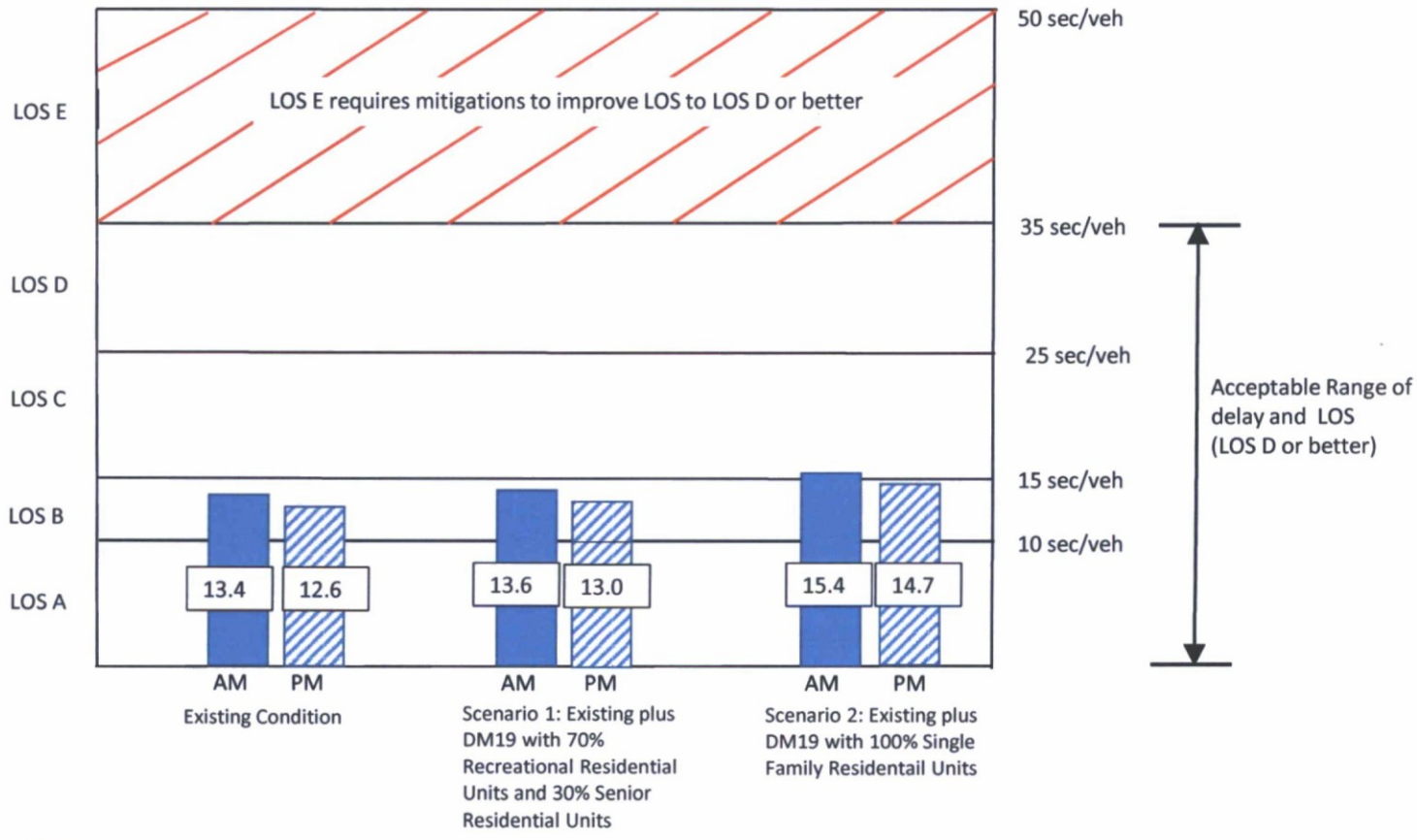
Primary Access on Cave Creek Road
- SB AM Peak Hour delay = 13.3 sec/veh, LOS B
- NB AM Peak Hour delay = 14.4 sec/veh, LOS B
- SB PM Peak Hour delay = 13.3 sec/veh, LOS B
- NB PM Peak Hour delay = 13.4 sec/veh, LOS B

In summary, the change from assuming 25 % of the residential traffic would utilize the secondary access to assuming 50% would utilize the secondary access is insignificant.

Desert Mountain Parcel 19 Level of Service (LOS) Comparison

Stanley Consultants INC.

Cave Creek Road/Pima Road Intersection



XX.X = seconds of delay/vehicle

Treatment Plan
Phase II Data Recovery at AZ U:1:433(ASM), Scottsdale, Maricopa County, Arizona

Prepared for:
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January 12, 2017
Submittal 2

Technical Report No. 165088d

ABSTRACT AND MANAGEMENT SUMMARY

Report Title	Treatment Plan Phase II Data Recovery at AZ U:1:433(ASM), Scottsdale, Maricopa County, Arizona
Agency/ Legal Nexus	City of Scottsdale (COS) Revised Code, Chapter 46, Article VI.
ARI Accession No.	To be assigned
Project No.	165088
Report Date	January 12, 2017
Project Description	Previously, Logan Simpson conduct Phase I cultural resources testing for DM19, LLC at AZ U:1:433(ASM), a prehistoric archaeological site recorded by Lausten (2004) and Hill (2016). The site is situated on private land within a proposed 91-acre housing development near the intersection of Cave Creek Road and Pima Road in Scottsdale, Maricopa County, Arizona. The proposed housing development is subject to compliance with the COS Revised Code, Chapter 46, Article VI and compliance with the Arizona Burial Law (A.R.S. §41-865). Construction of the housing development cannot avoid the site's location and Phase I cultural resources testing identified preserved subsurface resources. In recognition of the preserved resources, the site was recommended eligible for the Arizona and National Register of Historic Places (A/NRHP) (Bustoz 2016). The COS concurred with the recommendation and requested DM19, LLC conduct Phase II data recovery excavations. This treatment plan provides a research design and plan of work for conducting Phase II cultural resources excavations at AZ U:1:433(ASM) that complies with COS Revised Code, Chapter 46, Article VI and the Arizona Burial Law (A.R.S. §41-865).
Location	Within portions of the NW¼ and the N½ of the SW¼ of Section 31, T6N, R5E, Gila and Salt River Base Line and Meridian (USGS 7.5' Quadrangle Cave Creek, Ariz., 1965/1981).
Land Ownership	Private
Number of Sites	1
Eligibility status	Recommended eligible

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SECTION I. INTRODUCTION

DM19, LLC is proposing to construct a 91-acre housing development near the intersection of Pima Road and Cave Creek Road in north Scottsdale, Maricopa County, Arizona (Figure 1). The housing development will affect one previously reported site on private land, AZ U:1:433(ASM). The site is located within the City of Scottsdale (COS), a Certified Local Government (CLG) as defined by the State Historic Preservation Office (SHPO). The COS has established regulations governing the treatment of cultural resources in the COS Revised Code, Chapter 46, Article VI. In addition, the site is subject to compliance with the Arizona Burial Law (A.R.S. §41-865).

The area of potential effects (APE) is the site boundary located within portions of the NW¼ and the N½ of the SW¼ of Section 31, T6N, R5E, Gila and Salt River Base Line and Meridian (USGS 7.5' Quadrangle Cave Creek, Ariz., 1965/1981) (Figure 2). Currently, the site is situated on alluvial fan in open desert west of an existing golf course and water treatment/blending facility. The site is adjacent to a former storage yard that was graded for parking and storage and has a gravel pad for a former temporary building. A wash along the site's northern edge has been truncated by the golf course and is partially filled from grading of the parking lot. Galloway Wash is approximately 50 m south of the site. The archaeological site area measures approximately 30 m by 17 m, encompassing 0.13 acres. The former storage yard may have truncated the site boundary.

Site AZ U:1:433(ASM) was initially recorded during an 8-acre survey (Lausten 2004) of a proposed arsenic-related water treatment facility; the survey was conducted in compliance with the Bureau of Reclamation (Reclamation) regulations. Subsequently, AZ U:1:433(ASM) was redefined during an archaeological survey of a proposed 91-acre housing development (Hill 2016). Phase I cultural resources testing of AZ U:1:433(ASM) for Arizona and National Register of Historic Places (A/NRHP) eligibility was completed and identified subsurface archaeological resources. Buried resources included a prehistoric midden and artifacts, including red ware ceramics dating to the Hohokam Classic period. On the basis of the preserved subsurface midden and artifacts the site was recommended eligible for the A/NRHP. Avoidance of the site was recommended with the contingency that if avoidance was not possible, Phase II data recovery excavations should be implemented (Bustoz 2016).

Logan Simpson has prepared this Treatment Plan for Phase II data recovery excavations at the request of DM19, LLC to mitigate the adverse effects to, and to recover any scientific value remaining, at AZ U:1:433(ASM). The Work Plan (Section VI below) is consistent with the Secretary of the Interior's Standards and Guidelines (48 CFR §44716–42), and takes into account the Advisory Council on Historic Preservation's (1980) publication, *Treatment of Archaeological Properties: A Handbook*, and the reporting standards developed by the Arizona State Lands Department (ASLD), SHPO, and the Arizona State Museum (ASM), in *Recommended Standards for Monitoring, Testing, and Data Recovery.*

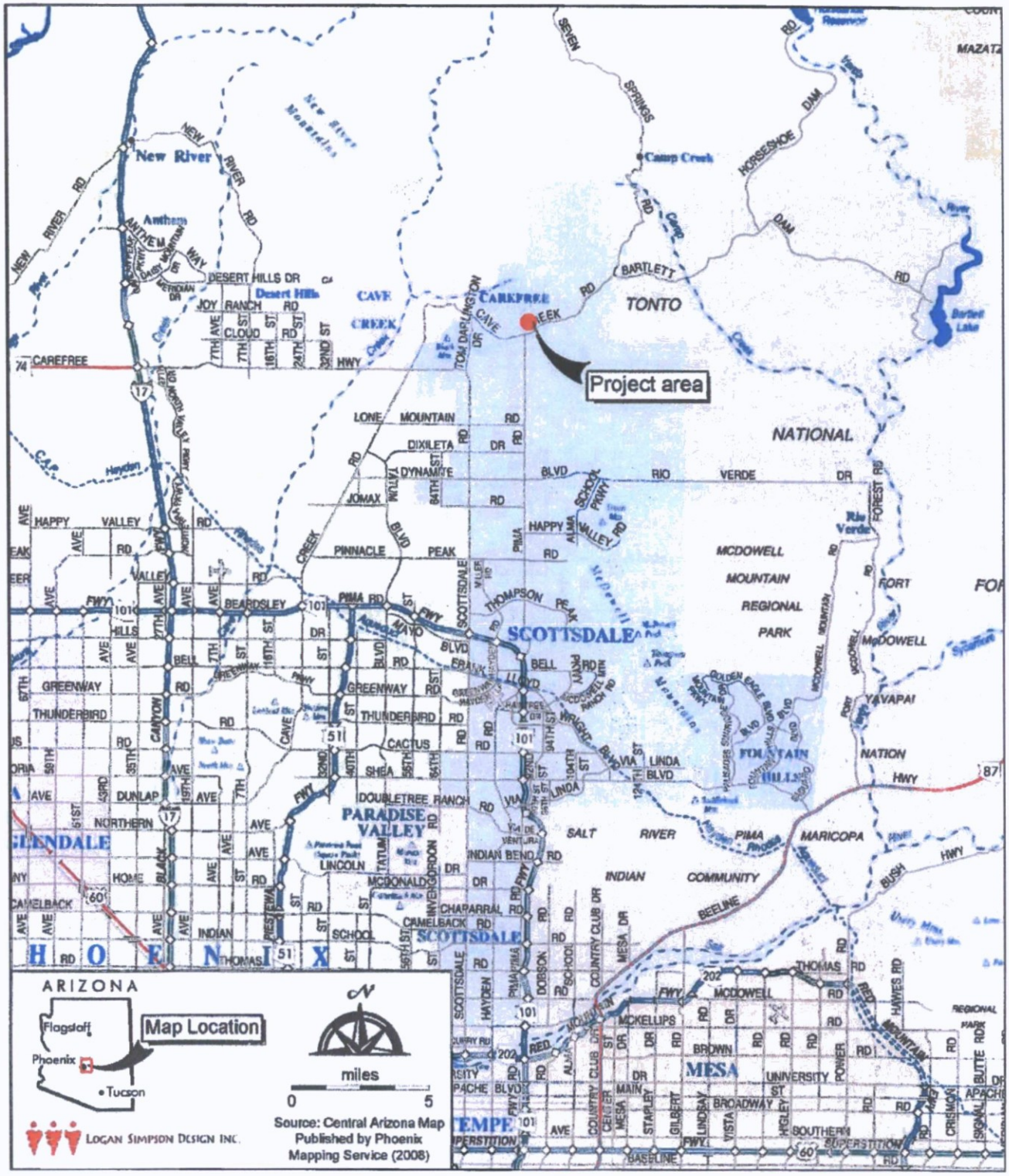

Figure 1. Location of the DM19, LLC project area.

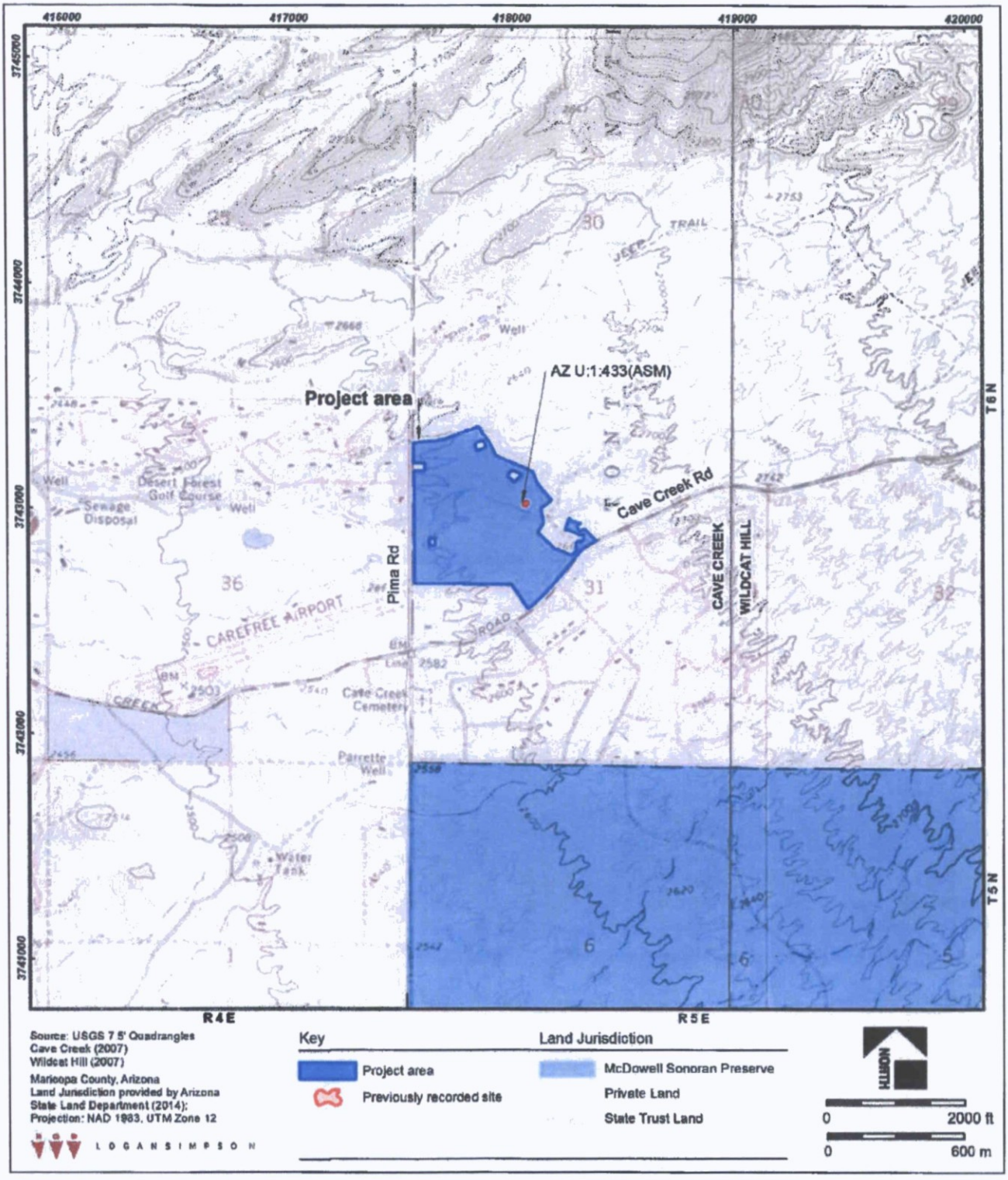

Figure 2. Location of AZ U:1:433(ASM) within DM19, LLC project area.

Human remains are not expected at AZ U:1:433(ASM) because of its small size. If human remain or certain animals that may have been deliberately interred as part of Hohokam rituals or belief systems (including but not limited to eagles, other raptors, macaws, and dogs) are encountered, Logan Simpson will notify ASM, as stipulated in the Arizona Burial Law (A.R.S. §41-865). The site is within traditional lands of the Salt River Pima-Maricopa Indian Community (SRPMIC) and the community is the presumed affiliated Tribe under the Arizona Burial Law (A.R.S. §41-865). Any discoveries of human remains with or without associate funerary objects and certain whole or partial animal burials with or without associated objects will be dealt with according to the requests of the SRPMIC.

SECTION II. PHYSICAL SETTING

The project area is situated at an approximate elevation of 2,640 ft above mean sea level (amsl) and is located in the Basin and Range Physiographic Province, which is characterized by low desert surrounded by fault-block mountain ranges (Chronic 1983). The region is part of the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community (Turner and Brown 1994), which has high temperatures and generally low precipitation. Indigenous plants have adapted to survive the Sonoran Desert weather and precipitation extremes. Vegetation found in the area consists of paloverde and ironwood trees, plus cactus and other xeric-adapted species, e.g., saguaro, cholla, prickly pear, creosote bush, and bursage. Riparian species—reeds, cattail, desert willow, and sycamore—previously occurred along the Cave Creek floodplain and near springs.

Animals that live in the Sonoran desert tend to be small and adapted to extreme heat and limited moisture regimes. Many of the small mammals, e.g., mice, rats, ground squirrels, have physical adaptations that help conserve water. Larger mammals found in the region, e.g., cottontails, black-tailed jackrabbits, radiate heat through special anatomical features. Other animals have adapted to the environment by remaining inactive in the heat of the day, e.g., coyotes, fox, and bobcats. The largest mammals in the area are deer and bighorn sheep, which require a plentiful supply of water (Rea 1997).

Temperature in the desert region is one of extremes; highs of 120-degrees Fahrenheit are recorded in the hot summers and occasional below-freezing temperatures are recorded in the winters (Seller and Hill 1972). The region has a bimodal distribution of precipitation almost equally divided between summer and winter. Winter storms cover broad fronts and provide gentle rains that may continue for days, which allow the water to soak into the ground. In contrast, the summer monsoon often brings brief, violent, localized storms that deposit large amounts of rain in a short period of time and create flash floods (Brown 1982).

The project area is a Pleistocene-aged alluvial fan intergraded with bajada deposits. This physical setting is a dissected upland adjacent to Galloway Wash, the largest drainage in the site's vicinity and located approximately 50 m to the south. A side branch of Galloway Wash traverses the northern boundary of the site and is partially filled from modern grading events; this small wash also is truncated to the east by a modern golf course. Water was previously available from seasonal seeps and springs approximately 2 miles to the southwest in Galloway Wash (Schoonover 2002).

The local geology consists of pre-Cambrian granite and metasedimentary rocks and Cenozoic alluvial deposits on a Pleistocene-age alluvial fan. Erosion and weathering of parent material from the surrounding mountain bedrock provides sediment to bajadas (alluvial fans). Washes descend the hill slopes and deposit increasingly finer-grained materials farther away from mountains as the erosive energy of the wash dissipates across level surfaces. Water flows down the alluvial fan into Galloway Wash, which joins Cave Creek.

Topographic features surrounding the site include Lone Mountain (3,372 ft amsl) approximately 1.5 miles to the northeast and Black Mountain (3,398 ft amsl) approximately 3 miles to the southwest. Lone Mountain is an outlier of Continental Mountain, 5 miles north of the project area in the modern Tonto National Forest. The mountain chain is composed of granitic and metamorphic rocks (Reynolds 1988).

SECTION III. PROJECT IMPACTS

Logan Simpson has prepared this Treatment Plan for Phase II data recovery excavations at the request of DM19, LLC to mitigate the adverse effects to, and to recover any scientific value remaining at AZ U:1:433(ASM). Previous NRHP-eligibility testing demonstrated that the site has preserved subsurface resources (Bustoz 2016). The Phase I test excavations determined the location, integrity, and distribution of surface artifacts and subsurface cultural features.

Based on the results of the NRHP-eligibility testing investigations, Logan Simpson proposed data recovery excavations at intact features and cultural deposits that have the potential for yielding significant archaeological information, which render the site eligible for listing in the A/NRHP under Criterion D. The COS has concurred with the recommendation and this data recovery Treatment Plan identifies the field and laboratory methods to be implemented to recover information from the site.

The Treatment Plan includes the following:

- An overview of previous cultural resource studies and an assessment of prehistoric cultural development in the foothills of northern Scottsdale.
- A research design outlining the research themes and questions that will guide the Phase II data recovery excavations and specify the data requirements to address these questions.
- A work plan specifying the field and laboratory methods to be employed.
- The analytical methods that will be used to recover significant values from the site.

CULTURAL CONTEXT

The earliest confirmed occupations in the Southwest during the Paleoindian period date from approximately 9500–8500 B.C., but very few archaeological remains from this period have been detected in the Phoenix Basin, which implies intermittent and brief occupations. Recovered artifacts mostly consists of isolated surface finds of Clovis points (Crownover 1994; Huckell 1982; North et al. 2004, 2005) and a few buried megafaunal kill sites in alluvial contexts with associated lithic assemblages (Gaines et al. 2009; Haury et al. 1994; Haynes 1980, 2011). Based on these scant data, the Paleoindian period in the north Scottsdale region appears to be characterized by dispersed mobile groups that primarily hunted now-

extinct megafauna and possibly supplemented their diet with collected wild plants (Waters 1986). Most Paleoindian period remains are either buried beneath substantial Holocene alluvial deposits or have been destroyed as a result of millennia of consistent erosion.

A period of climatic amelioration set in around 8500 B.C. triggering substantial changes in subsistence practices. This period (8500 B.C.–A.D. 1), known as the Southwestern Archaic, is characterized by small, mobile groups that exploited a variety of plant resources and hunted medium-sized to small game. This subsistence pattern persisted through the Early Archaic (8500–5000 B.C.) and Middle Archaic (5000–1500 B.C.) periods. The Archaic period is largely characterized by a trend of cyclical migratory patterns that allowed mobile groups to procure plant and animal resources that were available in various upland and lowland environmental settings at different times of the year. An Early Archaic habitation, including two non-contemporaneous pit structures and several pits, was recently identified in the western Phoenix Basin near the confluence of the Salt, Gila, and Agua Fria rivers (Graves et al. 2009). This site has provided the only solid evidence published to date for seasonal habitation during the Early Archaic period in the Phoenix Basin. Unfortunately, few artifacts were found in association with these features, which limited the project team's ability to interpret subsistence and land use patterns. Middle and Late Archaic projectile points have been found at the Brown's Ranch site (AZ U:1:23[ASM]) and several boulder rock shelters in north Scottsdale have Late Archaic components (Wright 2002a, 2002b). Also, sites with extensive Early, Middle, and Late Archaic period components—including Middle and Late Archaic period residential features and thousands of extramural-pit features—were recently investigated along the Agua Fria River in the western Phoenix Basin (Hall and Wegener 2015).

The subsistence economy during the Early and Middle Archaic periods was predicated on hunting and plant-processing, especially in areas along primary or secondary drainages, which may have drawn these mobile groups to locations along floodplains that were suitable for the later development of agriculture (Roth and Freeman 2008). Gathering of local plant resources occurred in upland areas.

During the Late Archaic/Early Agricultural period (1500 B.C.–A.D. 1), mobile groups increasingly established occupations in locations that could sustain plant cultivation along large drainages. Late Archaic/Early Agricultural period groups residing in these areas practiced low-level maize horticulture and constructed substantial storage facilities, resulting in semi-sedentary settlements (Huckell 1995; Mabry 1998). Starting around 500 B.C., several large and seasonally occupied villages with communal structures and small irrigation networks were established along the Santa Cruz River floodplain in the Tucson Basin (Mabry 1998). These villages were supported by maize agriculture and collection of riparian resources, but seasonal exploitation of upland bajada resources persisted.

Few sites with Late Archaic/Early Agricultural period components have been documented in the Phoenix Basin. Moreover, those few sites produced little or no evidence for crop cultivation. Recent investigations at multiple sites with Late Archaic/Early Agricultural period components in the western Phoenix Basin produced no evidence for crop cultivation (Hall and Wegener 2015). Two recently investigated Late Archaic/Early Agricultural period sites along Queen Creek also produced no evidence for crop cultivation, although it is possible that groups in the Queen Creek area actively encouraged mesquite growth

(Wegener and Ciolek-Torrello 2011). Based on this limited evidence, it appears that Late Archaic/Early Agricultural period inhabitants in the Phoenix basin did not invest heavily in domesticated food production; rather, these groups appear to have maintained a mobile subsistence strategy focused on procurement of wild plant resources, such as cactus and mesquite.

The succeeding Early Formative period (A.D. 1–750) is characterized primarily by the introduction and early development of semi-sedentary agrarian villages and early ceramic container technologies (Garraty 2011; Lindeman and Wallace 2004). The Early Formative period can be considered a period of transition, during which the reliance on maize farming increased throughout southern and central Arizona (Mabry 2000). In specific areas—such as the Tucson Basin, where both Late Archaic/Early Agricultural and Early Formative villages have been recorded—settlement locations reflect a general continuity from the Late Archaic/Early Agricultural period settlement pattern. In the Salt-Gila River area of the Phoenix Basin, current understanding of the initial phase of the early Formative period (Red Mountain phase; A.D. 1–450) is limited to data derived from a few sites (Mabry 2000). The Red Mountain phase is evidenced by the site components at Pueblo Patricio (Cable and Doyel 1987; Henderson 1995), La Escuela Cuba (Hackbarth 1992), the Red Mountain Site (Morris 1969), Finch Camp along middle Queen Creek (Wegener and Ciolek-Torrello 2011), and various briefly occupied limited-activity sites (Hackbarth 1998; Kenny 1987; Phillips et al. 2001; Rogge 2009). The evidence from these sites suggests habitation in small hamlets composed of groups of pit houses, many of which included flexed inhumations beneath the house floors (Mabry 2000).

The latter half of the Early Formative encompasses the Vahki, Estrella, Sweetwater, and Snaketown, collectively defined as the Pioneer period, A.D. 450–750 (Gladwin et al. 1937; Haury 1976). The date range for these phases is based on limited excavation and artifact data and is best characterized as a continuation of the broad regional Early Formative period cultural development in the Phoenix Basin. Irrigation was developed in the Phoenix Basin by the Vahki phase (A.D. 450–650/700), which opened up farming opportunities on the terraces above the floodplain (Henderson 1989; Woodson 2010:13–14); however, some archaeologists have argued that irrigation canals were not constructed on the terraces before the Snaketown phase (Doyel 1993; Wilcox and Shenk 1977). These phases also witnessed the earliest painted pottery traditions, starting with a red ware tradition during the Vahki phase and development of the Hohokam Red-on-buff/gray tradition during the later Estrella, Sweetwater, and Snaketown phases. In addition, Abbott (2009:543, 546) has shown that a specialized craft production community located in the eastern South Mountain area began manufacturing and exporting plain ware jars on a large-scale to communities throughout the Phoenix Basin during the Vahki phase, which persisted through the end of the early Sacaton phase around A.D. 1020. Other characteristics of these phases include settlements with plaza-oriented layouts, the construction of square Type P-4 houses (first identified at the village of Snaketown in the middle Gila River Valley; Gladwin et al. 1937; Haury 1976:68; Wilcox et al. 1981), and a mortuary pattern that incorporated a combination of pit or trench cremations and flexed or semiflexed inhumations (Doyel 1991).

Recent assessments have suggested that the suite of cultural traits and developments that marked the beginnings of the regional Hohokam cultural tradition do not appear to have been fully developed until the Snaketown phase or possibly as late as the middle of the Gila Butte phase of the Colonial period around

A.D. 750 (Dean 1991; Doyel 1991; Wallace et al. 1995; Wilcox 1979; Wilcox and Sternberg 1983). Elements of an integrated cultural tradition started as early as A.D. 700 during the Snaketown phase (Doyel 1991) or by the end of that phase (Wallace et al. 1995), although a much earlier origin beginning in the Vahki phase originally was proposed (Gladwin et al. 1937). These traits reflect the development of a widely shared and integrated belief and ritual system and the inception of a regional interaction system, including widespread adoption of public architectural forms, such as ballcourts, and development of a mortuary cremation complex, large-scale irrigation agriculture, and naturalistic iconography. A possible ballcourt at Pinnacle Peak Village and a smaller ballcourt at the Dixileta site are evidence of substantial Hohokam villages in northern Scottsdale (COS 2016; Gilman 1993).

During the Pre-Classic period (A.D. 750–1150), the Phoenix Basin was the primary hub of Hohokam regional development and expansion. The emerging Hohokam cultural pattern during the Snaketown phase of the Pioneer period was manifested by continued construction of canals (Wilcox and Shenk 1977) and urn burials (Haury 1976). Trash mounds first appeared during this span, and one at Snaketown was capped with caliche, possibly a precursor to the later platform mounds (Haury 1976). The earliest evidence of Hohokam occupation or interaction is first identified outside the Phoenix Basin during this span in locations such as the lower Verde River, Queen Creek area, San Pedro River valley, and Tucson Basin (Crown 1991). Dry-farming methods became common at sites in these peripheral areas (bajadas), which documents a trend of population growth and expansion.

The first half of the Pre-Classic, the Colonial period (A.D. 750–950), is characterized by the establishment of large villages throughout much of central and southern Arizona. Habitations typically consisted of courtyard groups, which generally include several houses surrounding on a common living or workspace (Howard 1985; Wilcox et al. 1981). Small hamlets and villages typically consisted of an informal arrangement of one or two courtyard groups, with associated trash mounds, cemetery areas, and roasting pits arrayed around the margins of courtyards. Larger villages are characterized by formal arrangements of courtyard groups surrounding one or more large plazas and communal cemeteries (Howard 1985; Wilcox and Sternberg 1983). The introduction of ballcourts in some larger villages by the early Colonial period (Gila Butte phase) indicates the beginnings of hierarchical site differentiation and intercommunity integration. Ballcourts increased in number, becoming the principal form of public architecture during the Colonial period.

The late Colonial period (Santa Cruz phase) and subsequent Sedentary period (also known as the Sacaton phase; A.D. 950–1150) were marked by substantial growth in the number and size of Hohokam settlements and an expansion of the many canal networks in the Phoenix Basin (Doyel 1991). Densely populated villages with Hohokam-style village layouts proliferated throughout much of present-day Arizona. By the Sedentary period, ballcourts were represented not only in the Phoenix Basin but throughout much of central and southern Arizona. The extensive ballcourt village system likely integrated large portions of Arizona into an exchange network that moved commodities between settlements and possibly served to diffuse intercommunity strife. The number of villages, hamlets, and farmsteads also increased along peripheral drainages, such as Queen Creek. Non-irrigation agricultural intensification and the extensive use of agricultural rock pile fields in upland and bajada locations for cultivation of xerophytic crops (agave and

cholla) developed at least by the late Sedentary or early Classic periods (Fish et al. 1992; Masse 1991). Pre-Classic sites have been found west of AZ :U:1:433(ASM) along washes that drain into Cave Creek (Schoonover 2002).

The Pre-Classic trend of increasing habitation size and outward expansion of Hohokam traits became untenable by the latter half of the Sedentary period (after ca. A.D. 1060). During the latter Sedentary period, the regional system of interconnected ballcourt villages collapsed (Abbott 2006). The collapse may have been prompted by a period of persistent agricultural shortfalls related to a multiyear episode of downcutting and widening of the Salt and Gila rivers channels, causing unstable and unpredictable flow regimes for canal irrigation (Waters and Ravesloot 2001). Hence, the latter part of the Sacaton phase (ca. A.D. 1060–1150) appears to have been a time of economic and demographic disruption, leading to widespread migration and reorganization. Warfare or low-level conflict and associated dislocations have been posited as a contributing cause of the collapse of the ballcourt system (Rice and LeBlanc 2001). Other possible problems contributing to the system collapse is heavy flooding and arroyo-cutting resulting in reduced access to resources, as reported at various sites in the Tucson Basin during the Sedentary period (Doelle and Wallace 1986) and along Cave Creek during the late Sedentary and early Classic period (Phillips 1998; Schaafsma and Briggs 2007).

By the beginning of the early Classic period (Soho phase; A.D. 1150–1300), change in the structure of Hohokam communities is evidenced by a shift in burial practices from cremations to inhumations, a more localized exchange network (Abbott 2000), and the development of new domestic and public architectural forms, including post-reinforced and adobe-walled structures and walled compounds (Bayman 2001; Crown 1991). Construction of large platform mounds in the more prominent villages started during the late Sedentary period. Platform mounds represented an important public component of a new community organization pattern manifested not only in the Phoenix Basin but in other settlements over a much wider region, including the Tonto and Tucson basins and lower San Pedro River Valley. The platform mound apparently evolved in function from an initial nonresidential, special-purpose facility to a residence used by a specific residential group (Gregory 1991). A study of the Pueblo Grande platform mound in Phoenix challenged the idea that the late Classic period (Civano phase; A.D. 1300–1450) platform mounds provided full-time residences for elite households, and it further supports the proposition that power was diffuse and non-centralized (see Downum and Bostwick 2003).

A hierarchy of settlement types emerged in conjunction with the Classic-period community restructuring. These included villages with only one or a few walled residential compounds; villages with one or more platform mound compounds as well as other compounds; and large settlements, such as Casa Grande with a platform mound and numerous compounds and a Great House (Wilcox 1991). These various Classic period settlements that formed the site hierarchy comprised distinct and socially integrated canal communities: sociopolitical organizations consisting of a number of integrated villages that included one or more platform mound villages serving as administrative centers and distributed along a single canal or canal system (Abbott 2000; Howard 1987). Away from large river systems, Classic period Hohokam sites have been found in upland settings, including distributed villages with platform mounds (Ciolek-Torrello et al. 1988).

North of the Salt River Valley the Classic period is characterized by masonry pueblo architecture (Bruder 2002; Cox 2005), that is possible evidence of a culture distinct from the Hohokam. The Carefree Ranch site (Bruder 2002) and numerous Classic period sites in Maricopa County's Spur Cross Ranch Conservation Area (Cox 2005) have masonry structures that indicate a connection with pueblo cultures to the north.

The decline of buff wares and replacement with polychromes in the later phase may represent a change in religious belief systems (Crown 1994). People throughout much of central and southern Arizona may have very deliberately procured and used Roosevelt Red Ware as a means of expressing a tangible symbolic affiliation and association with a new and growing religious or ritual tradition. Crown (1994) makes a credible argument that Roosevelt Red Ware pottery and the motifs depicted in them expressed specific religious ideas and concepts, thus communicating the pottery users' participation in a regional movement, which she labeled the "Southwestern Cult." Deteriorating social or environmental conditions during the late Soho phase or Civano phase could have stimulated involvement in a cult and religious movement (Abbott 2000:202–206; Crown 1994). The pan-regional "Southwestern Cult" functioned partially to mediate human relationships with the natural and supernatural realms (Crown 1994). This widespread belief system helped integrate migrant communities and facilitate aggregation of previously unaffiliated families and groups. Cult beliefs were partly expressed through painted designs on the elaborate polychrome serving vessels. Roosevelt Red Ware production was not centralized in one location, according to Crown (1994), as was the case with buff wares during the Pre-Classic period, but likely manufactured on a small scale for low-level exchanges, suggesting participation among a decentralized and extensive network of potters.

The period of Hohokam decline during the late Classic period has long been a focus intense interest and debate among archaeologist. Sires (1983) tentatively defined the Polvorón phase to define a terminal Classic period occupation represented by dispersed ranchería-style settlements consisting of individual pit structures arranged in clusters (Doyel 1995). This phase might represent a period of abrupt change in community organization and integration following the collapse of the late Classic platform mound communities after a period of drought and flooding destroyed the canal systems (Doyel 1995; Nials et al. 1989); however, researchers continue to debate whether the phase is valid. Chenault (2000), for example, argues "... that not to separate Polvorón from the Civano phase obscures variability and change at the end of the cultural sequence that may relate to the nature and causes of the Hohokam collapse." Henderson and Hackbarth (2000), on the basis of overlapping dates between the Civano and Polvorón phases, argue instead that the characteristics of the latter are not temporally discrete but a reflection of cultural variability within the Classic period.

Protohistoric and Historic

Archaeological evidence from the Salt River Valley demonstrates that the region was largely abandoned after the Classic period. During the protohistoric period the area was used as a resource zone and travel corridor. Historic groups to the north of the valley were Yavapai (Gilpin and Phillips 1999) and Apache to the east and northeast (Gifford 1936). Both groups tended to be mobile and relied upon a mix of hunted

and collected resources with some bands also planting small fields of domestic crops. Gifford (1932, 1936) considered the Yavapai most closely aligned in terms of cultural traits with the upland Yuman Walapai and Havasupai of northwestern Arizona.

By the time of Spanish contact in the mid-to-late sixteenth century, most *Akimel O'odham* (Pima) settlements were heavily concentrated the middle Gila River Valley and relied upon irrigation agriculture along with collection of plant resources and hunting (Spicer 1962). The *Akimel O'odham* are considered the descendants of the Hohokam in the Phoenix Basin (Doyel 1991; Haury 1976). Loendorf and colleagues (2013:279–281) offer multiple lines of archaeological evidence for continuity in economic practices, settlement patterns, and house-construction techniques from the late prehistoric through early historic periods in the Middle Gila River Valley, making a strong case for Hohokam–O'odham continuity. Likely the prehistoric–historic transition is marked by some combination of continuous occupation and limited inward and outward migration by individuals or families seeking new socioeconomic opportunities. Historic Pima settlements were small rancherías composed of individual households living near fields close to the river and reliant upon small-scale irrigation ditches. During the historic period, the Pima and their allies the Maricopa (*Pee Posh*) provided crucial resources to immigrants along the Gila Trail as early as 1848 (DeJong 2007, 2009). Pima and Maricopa migrants from the Gila River expanded into the Salt River Valley in the 1870s after a military base, Fort McDowell, was established on the Verde River to disrupt Apache raiding parties traveling through the Salt River Valley.

The protohistoric antecedents of the Yavapai and Apache migrated seasonally between different environmental zones in the uplands, as suggested by the temporary nature of the occupied sites north and northeast of the Salt River (Wright 2002a). Small, triangular projectile points used during the protohistoric period are similar to point styles the historic Yavapai used (Moreno 2002). Likewise, ceramics associated with the Yavapai are Tizon Brown Ware, a paddle-and-anvil, hand-smoothed, sand-tempered, and poorly oxidized vessel type that has continuity with the protohistoric and historic occupation. Surfaces of Tizon ceramics often exhibit distinctive wiping marks similar to protohistoric ceramics (Dobyns and Euler 1958; Euler and Dobyns 1985; Pilles 1981; Whittlesey and Benaron 1997). Yavapai sites have been found in the uplands north and east of AZ U:1:433(ASM).

Historic Euro-American

Spanish Colonial (1591–1821) and Mexican Republic (1821–1848) influence ostensibly extended into the Salt River Valley. In reality, however, Euro-American settlement near the project area did not start in earnest until the nineteenth century when gold was discovered in Arizona (Keane and Rogge 1992). Placer deposits at Rich Hill near Wickenburg—the first gold strike in the central Arizona Territory—and later at Lynx Creek near Prescott, were the reason miners entered the areas northwest of Phoenix (Johnson 1972). Farms and ranches in the Salt River Valley were established to feed the prospectors, beginning with the farms that were irrigated by a prehistoric canal that was reopened in 1867 by the Swilling Irrigating and Canal Company (Zarbin 1997). The influx of miners and ranchers created conflict with the indigenous Yavapai and Apache as their traditional lands and water sources were usurped. Raids and counter raids made life in the region tenuous and led to the miners' demand that the military provide protection. In the

late 1860s a sizable military presence was established in Arizona to engage the Indians, but it was not until 1871 that the Apache and Yavapai were defeated, opening the Salt River Valley to extensive Anglo and Hispanic farming.

SECTION IV. PREVIOUS RESEARCH

Thirty-one previous archaeological investigations have been conducted within one mile of AZ U:1:433(ASM), as summarized in Hill (2016). Six of the previous surveys have occurred wholly or partially within a 91-acre parcel owned by DM19, LLC (Davis 2003a, 2003b; Lausten 2004, Lundin 2001, 2002; Webb and Courtright 2002). Few cultural resources were encountered in the 91 acres; however, one site (AZ U:1:433[ASM]) previously was recorded (Lausten 2004).

Sites within one mile of AZ U:1:433(ASM) include one prehistoric artifact scatter (AZ U:1:391[ASM]), one historic road (AZ U:1:134[ASM]), and one historic dump (AZ U:1:136[ASM]). Site AZ U:1:391(ASM) is the nearest prehistoric location to AZ U:1:433(ASM) and is described as an artifact scatter with a rock ring (a possible basket rest). The rock ring suggests the site was a resource collection loci, a site function based upon Goodyear (1975), which documented the traditional *O'odham* use of rock rings during saguaro fruit collection. Beyond the one-mile radius study area are several large Pre-Classic and Classic period habitation sites that are surrounded by collection and processing sites. The largest sites in the vicinity are AZ U:1:30(ASU), AZ U:1:31(ASU), and AZ U:1:129(ASM), all located approximately 2–3 miles northeast of the DM19, LLC project area. These Pre-Classic and Classic period villages are surrounded by field houses and collection/processing sites used by residents of the villages (Bruder 2002).

Three miles to the west-northwest of AZ U:1:433(ASM) is a Colonial and Sedentary period hamlet (Schoonover 2002) and 6.5 miles to the northwest is the large complex of Pre-Classic and Classic period sites in the Spur Cross Conservation Area (North 2002). Prehistoric residents of these sites could have exploited resources in the areas near their habitation sites, creating small artifact scatters across the landscape, occasionally with features. The resources they exploited at these sites are unknown, but thought to be a wide range of plant products such as saguaro fruit, cholla buds, prickly pear, and others.

Significantly, excavated sites in the region that have been identified as "field houses" based on surface characteristics and proximity to large villages have been often redefined as more substantial farmsteads because of the rich and diverse artifact associations found in excavated contexts (Wenker 2002). The dense midden at AZ U:1:433(ASM) suggests it may represent a similar type of farmstead settlement, not a resource collection locus because the substantial size of the midden would be unlikely to develop at a temporarily occupied seasonal collection and processing site.

Site AZ U:1:433(ASM) is situated between a partially filled branch of Galloway Wash (traversing the northern site boundary), Galloway Wash (50 m to the south and southwest), and a former graded surface used as a storage yard (to the south). The current boundary of AZ U:1:433(ASM) is an oval approximately 30 m by 17 m; however as originally recorded, (Lausten 2004) described AZ U:1:433(ASM) as a 17-m by 10-m artifact scatter with 156 ceramics and 35 flake-stone artifacts. An artifact concentration of 12 "large"

Gila Plain sherds was located within a 50-cm by 75-cm depression near the northeast corner of the site. Ceramic types observed included Gila Plain, Wingfield Plain, and Middle Gila Buffware. Lausten (2004) speculated that the depressed ground surface beneath the artifact cluster with "large" sherds was the surface manifestations of a buried pit house. If correct, the large sherds could be evidence of a house with numerous ceramic vessels, similar to the structures reported by Wenker (2002).

The site was redefined by Logan Simpson in 2014 in advance of a 91-acre survey for Meritage Home (Hill 2016). The 2016 survey observed a surface assemblage that included approximately 300 sherds and 10 flaked-stone artifacts; ceramic types observed were Wingfield Plain and Gila Plain. The resurvey also revised the original site measurement, increasing the site size to 30-m by 17-m and estimating that the artifact concentration included 150–200 sherds, none of which were described as "large". The absence of the 12 "large" sherds mentioned by Lausten (2004) and the wider distribution of artifacts suggest that between 2004 and 2016 the site's surface was disturbed, possibly when a temporary parking lot and portable building on a gravel pad were installed.

Phase I eligibility testing was conducted at AZ U:1:433(ASM) on November 3, 2016 (Bustoz 2016), in compliance with an approved NRHP-eligibility testing Work Plan (Hackbarth 2016). The testing involved resurvey, mapping, surface artifact collection, backhoe trench excavations, and feature recording. A midden feature was recognized as an elevated mound and during recorded as Feature 1. Three backhoe trenches were excavated in the site, two of which bisected the midden. The trenching strategy represents an 8.2 percent sample of the site's surface area. Sixty meters of trenching was excavated to a maximum depth of 1.4 m and 0.7 m wide. Following feature recording, the trenches were backfilled (Figure 3).

Feature 1 (midden) is approximately 10 m (north to south) by 10 m (east to west) and 0.42 m in thickness and corresponds to the area of ashy soil and elevated artifact densities identified during the surface inspection of the site. The midden is composed of dark gray, lightly compacted sandy silt that exhibits a high amount of ash, charcoal flecking, granite pebbles, and organic material. The surface of Feature 1 has a mounded appearance and is slightly higher in elevation relative to the surrounding site.

Artifacts recovered from the midden and the modern ground surface included ceramic, and flake stone, and faunal bone (Table 1). The ceramic collection has a number of red ware ceramics as well as jar body sherds that exhibit "puki" derived shoulders that suggest a Hohokam Classic period occupation. Artifacts were recovered from the site's surface where trenches were excavated, from backdirt piles, and from in situ locations within the profiles of the trenches. Feature 1 is temporally affiliated with the Classic period (A.D. 1150–1450) based on the presence of red ware and diagnostic ceramic manufacturing techniques.

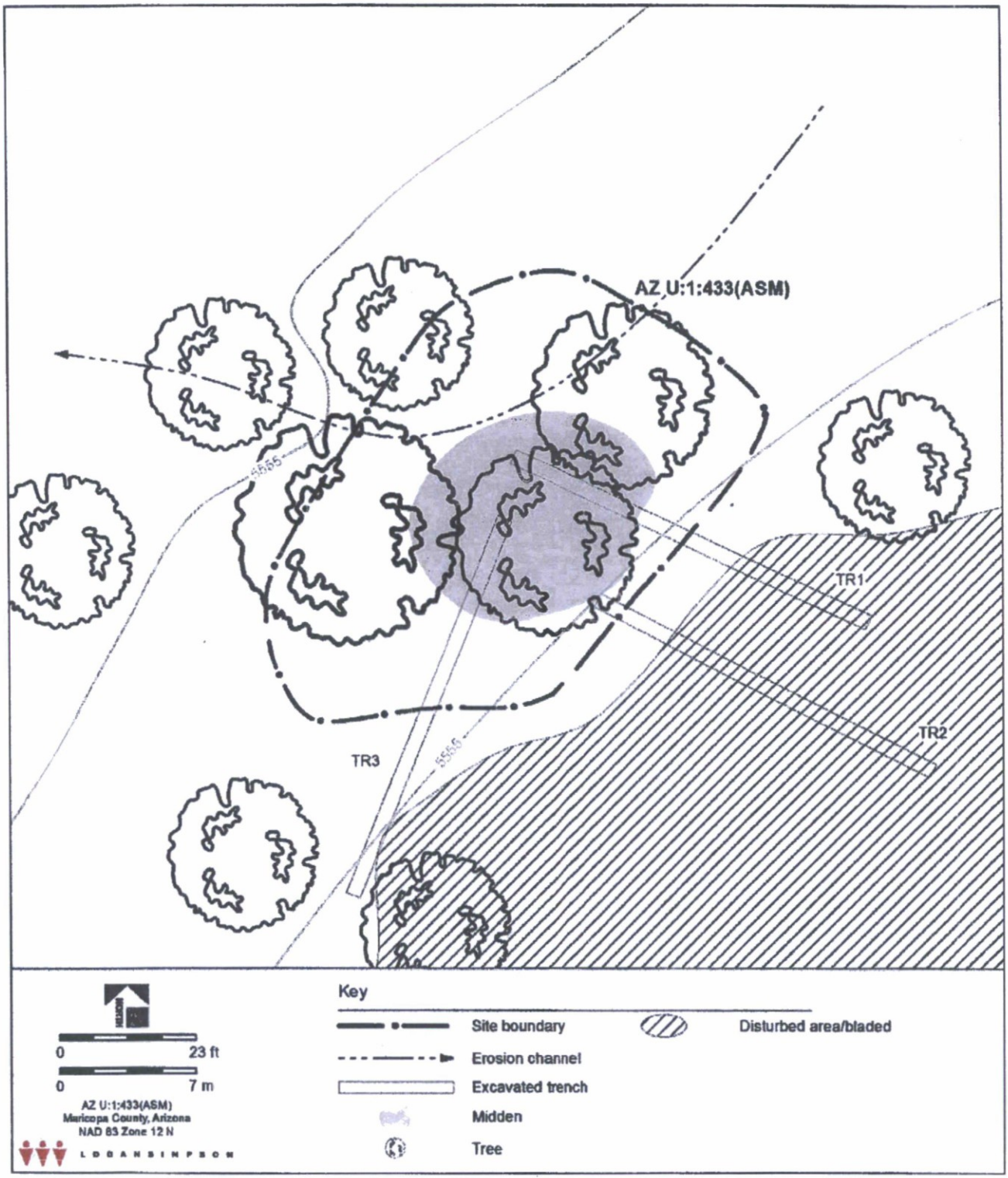

Figure 3. Site boundary, branch wash, location of trenches, feature, and nearby disturbance.

Table 1. Artifact counts by provenience.

Provenience	Ceramics	Flake stone	Total
Surface collection	254	33	**287**
Artifact concentration	148	2	**150**
Trench 1 profile	9	—	**9**
Trench 1 back dirt	82	9	**91**
Trench 3 profile	6	—	**6**
Trench 3 back dirt	27	4	**31**
Counts	**526**	**48**	**574**

The site has experienced some disturbance during previous construction of the adjoining storage yard. Ground cover outside of the disturbance is moderate to heavy and visibility ranges from 50 to 75 percent open. In addition to the relatively dense vegetation, some construction materials and scattered debris obscure the modern ground surface.

SECTION V. RESEARCH DESIGN

Phase I testing of AZ U:1:433(ASM) was conducted under the historic context, *Prehistoric Resource Exploitation of the North Scottsdale Uplands, A.D. 1050 to A.D. 1350*. The testing determined that subsurface features are preserved at the site and that temporally and functionally diagnostic artifacts are present. Research domains appropriate to this historic context can accommodate the Phase II data recovery phase investigations by investigating four broad research themes: site setting/environment, chronology, site function/activities, and subsistence.

SITE SETTING/ENVIRONMENT

The site's setting is in an upland resource zone on an alluvial fan near Galloway Wash. Residents of large nearby villages may have used AZ U:1:433(ASM) for a relatively lengthy period of time, long enough to have created a midden (Feature 1). The site's setting suggests prehistoric residents of AZ U:1:433(ASM) likely exploited upland resources and also may have grown domestic crops in small fields adjacent to Galloway Wash. Seasonal water flows from the wash may have been diverted onto small, scattered agricultural fields, or else water flowing in the wash may have provided sufficient moisture to support encouraged plant communities along the wash margins.

Regardless of how food or other resources were produced at the site, the buried deposits in Feature 1 and surrounding features are likely to contain evidence of what resources were used at the site and available in the surrounding environment. Collection of upland resources that were brought into AZ U:1:433(ASM) would be expected and could inform about collecting and hunting activities and possibly seasonal strategies. Upland plant resources would be expected to include a variety of cacti species, yucca and

agave, grasses and forbs, and possibly mesquite. Faunal resources in the area would include large and small mammals, birds, and reptiles that could be used for everyday subsistence or ritual and specialized activities.

The vicinity of Cave Creek, five miles to the west, is known to have been occupied during the late Pre-Classic period when effective moisture was greater than currently available (Phillips 1998). It is possible that the upland area along Galloway Wash was similarly more mesic than currently the case and capable of supporting a year-round occupation. If correct, the site's setting would have had an environment substantially different in terms of plant resources and water flow regimes than currently present. Local rainfall and intermittent seasonal runoff confined to the Galloway Wash channel may have been sufficient to support a small prehistoric population scattered along the wash, including a household at AZ U:1:433(ASM). The duration of site use and the resources available to the site's residents could be examined from Phase II data recovery investigations. Short periods of occupation and repeated reuse of the site may be documented, or alternatively, relatively long and uninterrupted periods of residence may have occurred. Evidence of the environmental resources these individuals used and brought into the site can be expected in soil samples and artifacts left in the midden.

Research Questions:

- *What plant and animal resources are present at AZ U:1:433(ASM)?*
- *Are any plant and animal resources suggestive of an effective environment different from the current setting?*
- *Is there evidence for agricultural production or natural resource collection? Or both activities?*

Data Requirements

Plant resources in the adjoining environmental setting may be identified from studies of pollen, flotation, and phytolith samples collected from the midden and other features that may be discovered during Phase II excavations. Samples from the midden would sample a wide range of activities because it probably represents a final repository for waste materials from numerous activities that were discarded after use during the site's occupation. Furthermore, animal burrowing and other natural transforms may have mixed the midden deposits so that a random sample of midden soil may be expected to include a wide variety of resources present in the midden.

Soil samples from features other than the midden may have less variety, but could be representative of specific activities conducted at the site. For example, thermal pits or processing pits could retain evidence of the types of fuel or other resources available on the alluvial fan. Some samples could also indicate what plant resources were collected and cooked or processed in thermal features. Samples collected from house floors would also provide information specific to human activity conducted inside structures.

A systematic sampling strategy should be applied to the midden and other features to recover soil samples for pollen, flotation, and phytolith studies. Taphonomy of the sample's context should be understood to interpret what the results represent.

CHRONOLOGY

A sample of the Phase I ceramics was examined for chronological information; the presence of red ware sherds implied a Hohokam Classic period occupation at AZ U:1:433(ASM) (Bustoz 2016). Additional chronological information will be sought from subsurface artifacts and subsurface features during Phase II data recovery. Excavation of features will be completed to recover charred materials for accelerated mass spectrometry (AMS) radiocarbon samples, clay-lined hearths for archaeomagnetic samples, and possibly ceramics for thermosluminescence (TL) assays. Ceramics to be submitted for TL analyses should be accompanied with soil collected from associated contexts to ensure an adequate supply of options to be submitted.

Stratigraphy at the site is relatively simple (Bustoz 2016), but fluvial deposition may have buried artifacts or other features beyond Feature 1. Careful evaluation of trench profiles and horizontal stripping may discover strata or features that could provide relative dates of features and artifacts. Locations away from the area of modern grading, especially under tree canopies, may be better preserved than elsewhere at the site. Broad and intensive excavations to locate and expose buried features should be conducted to locate chronometric samples. Chronometric samples and temporally sensitive artifacts may be collected and submitted for analysis to assist in defining the age of the site.

Research Questions:

- *What is the temporal association of features at AZ U:1:433(ASM)?*
- *Are multiple occupations represented and if so, what is the overall length of occupation?*
- *Are superimposed features present that could inform of short-term occupations?*

Data Requirements

A relative site chronology will be assessed primarily through a study of temporally diagnostic artifacts such as red wares, decorated ceramics, projectile points, and ground-stone tools. Additionally, an attempt will be made to obtain radiocarbon, archaeomagnetic, and TL assays from meaningful contexts for absolute dates. Chronometric samples from excavated structures and extramural pit features will be sought to establish absolute ages and relative contemporaneity of features within the project area.

Temporal patterning of features will be assessed through the tabulation of diagnostic local and nonlocal ceramic types and wares from intact contexts across the project area. Remodeling and superposition of architectural features also may provide information about the relative sequence of features that chronometric samples cannot resolve.

Horizontal stripping of soil will be used to expose the distribution of subsurface features, if present. Exposed features will indicate the spatial extent of the site's subsurface context and possibly document the stratigraphic relationships of surface contexts and subsurface features. The archaeologists will examine the

geomorphological context of exposed features for chronological evidence including differences in vertical strata and the presence of potential chronometric samples. The location of temporally diagnostic artifacts will be documented.

SITE FUNCTION/ACTIVITIES

Determining the spatial distribution of features within the site and identifying the activities represented at the features is a primary goal of this archaeological investigation. Determining what activities occurred in the project area will allow for a greater understanding of the site function and activities within small sites in northern Scottsdale. Within the site, subsurface features and surface artifacts may not be in the same locations. For example, resource processing features such as thermal features may have been placed away from locations where people conducted other activities (sleeping, food consumption, socializing) while at the site. Therefore, mechanical excavations may extend outside of the surface artifact scatter.

The areal size and thickness of the midden (Feature 1) is sufficient to have been created during a long-term habitation, such as a farmstead. Therefore, we anticipate one or more architectural features may be present along with extramural pits used for cooking, storage, processing, and waste disposal. Modern grading within the site may have removed surface remains, but the truncated base of features may be preserved in the disturbed areas. In addition, the areas beneath modern trees have not been disturbed and are likely locations for preserved features. Portions of the site covered by gravel pads and dozer piles may also have subsurface features and will be investigated.

Research Questions:

- *What types of features are present and how are they distributed across the project area?*
- *What activities were carried out in the project area?*
- *If multiple occupations are identified, is there evidence for a change in activities represented in the project area through time?*

Data Requirements:

The identification of activity types within the project area will be assessed through the detailed analyses of artifacts and interpretation of the features excavated during Phase II. Architectural features such as surface structures, pit houses, and/or ramadas will be identified from horizontal floors or surfaces, possibly slab-lined pits, the presence of postholes, hearths, and possibly subfloor pits. Extramural pits will be assessed for evidence of thermal activities (heat-affected soil, charcoal, ash), processing (residual soils), storage (bell-shaped pit or constricted orifice), or trash disposal (organic soils, high density of artifacts). The spatial relationships of the features will be established with accurate maps of the site and features.

Once activity types are identified in the project area, the types of features will be compared to excavation results for other small sites in northern Scottsdale and surrounding area (e.g. Hackbarth 2006; Schoonover 2002; Wenker 2002). A regional perspective will be used in an effort to establish commonalities in terms of site size, activities and function.

SUBSISTENCE

The theme of subsistence subsumes patterns of resource acquisition, agricultural production, and resource use. The theme involves the identification and characterization of the types of subsistence resources that may have been acquired, produced, and exploited at or near AZ U:1:433(ASM). The theme of subsistence also involves a consideration of the types of tools and containers used for various subsistence-related activities at the sites. The types of lithic fabrication processes evident at the sites should provide information as to the extent to which tools were used for conducting various activities, including flaked-stone artifacts and ground-stone artifacts for subsistence-related tasks. An analysis of lithic fabrication will provide a basis for studying cultural behavioral patterns underlying the prehistoric exploitation of landscape resources. Ceramic containers used for storage, serving, or cooking food may be recognized from vessel form, wear patterns, and shape.

Investigation of AZ U:1:433(ASM) may provide the opportunity to investigate Classic period subsistence strategies in the uplands (e.g. Gasser and Kwiatkowski 1991). Prehistoric populations are known to have employed a variety of irrigation and non-irrigation techniques to manage water for agricultural purposes and to encourage non-domesticated resources (e.g. Foster et al. 2002). It is assumed that the occupants of AZ U:1:433(ASM) subsisted primarily on a variety of cultigens (corn, beans, squash). This diet was supplemented with a variety of encouraged and semi-domesticated plants, wild plants, and hunted small and large animals. The diverse farming technologies and supplemental reliance on wild-plant resources, such as cactus and mesquite, ensured a relatively reliable food supply for most of prehistory. Small farmsteads situated some distance from large habitation villages and generally equidistance from each other provided adequate space for households residing in small sites to exploit natural resources without coming into conflict with their neighbors over resource avialability.

The location of AZ U:1:433(ASM) near Galloway Wash could have been intentional and related to management of seasonal floodwaters. Farming along the margins of the wash may have involved diverting floodwaters onto fields or pot watering of resources planted above the potential flood zone. Encouraged plants such as agave or mesquite could have benefitted from water flows in the wash or occasional watering efforts.

Faunal remains are likely to be recovered from the midden and represent both exploited resources and post-deposition intrusions. Care will be used to assess the faunal resources' taphonomy and determine what might have been consumed or used for ritual purposes, as distinct from materials unrelated to the prehistoric occupation. Large and small mammal bones as well as rodents and birds are anticipated and will be identified in terms of use (charring, cut/butchering, crushing, marrow extraction, and tool production).

Research Questions:

- *What types of domestic and wild plants were prepared or consumed in the project area?*
- *Can we determine the degree to which populations were dependent on maize?*
- *Is there evidence for the use of encouraged and wild plant foods?*

- *Is there evidence of the use of wild fauna for food?*
- *What inferences can be made concerning farming techniques?*
- *What food-processing and storage technologies were used?*

Data Requirements:
Data to address this research theme will be derived from environmental data obtained from field assessments of the modern plant communities, and from fossil pollen, phytoliths, archaeobotanical samples, and faunal remains obtained from intact deposits and tested features. It will be necessary to recover paleobotanical remains such as pollen, phytolith, and macrobotanical remains; other potential sources of subsistence data may be derived from protein studies using gas chromatography of ceramics and analysis of faunal remains.

Distinguishing between subsistence evidence and natural background data will be evaluated by proportions of pollen types, size of domesticates pollen grains, evidence of burning, cutting, or charring or other factors suggestive of intentional use of a resource. The characterization of the flaked- and ground-stone assemblages will provide additional data to assess types of subsistence activities that occurred at the sites. It may be possible to identify water management or agricultural features near the modern wash near the midden.

SECTION VI. WORK PLAN

This Phase II data recovery work plan is consistent with the Secretary of the Interior's Standards and Guidelines (48 CFR §44716–42), and takes into account the Advisory Council on Historic Preservation's (1980) publication, *Treatment of Archaeological Properties: A Handbook*, and the reporting standards developed by the ASLD, SHPO, and the Arizona State Museum (ASM), *Recommended Standards for Monitoring, Testing, and Data Recovery*.

This work plan details excavation methods and archaeological feature recording methods to be used at AZ U:1:433(ASM) during Phase II investigations. The goals of data recovery are to collect sufficient information to address the research questions of Site Setting/Environment, Chronology, Site Function/Activities, and Subsistence.

The investigations will explore the landscape where surface artifacts have been documented, document the content, extent and composition of the midden (Feature 1), locate and document additional subsurface features, examine areas adjacent to the midden and surface artifacts, and recovery information from newly discovered cultural features.

PHASE II DATA RECOVERY PLAN-OF-WORK

This Phase II data recovery work plan details the excavation methods to follow within undisturbed areas (under trees northeast and west of the midden), under modern berms north of the midden, under a former building pad northeast of the midden, and disturbed areas extending southeast of the midden. All significant features or deposits will be archaeologically investigated per feature-specific procedures

described below. Phase II field methods will include mechanical excavation, the stripping of overburden from the project area and complete excavation of the midden using a combination of hand and mechanical excavations. Feature types that may be expected include the truncated aspects of a surface structure such as postholes and hearth or other intramural features, extramural pits, and hearths. Human remains, cremations or inhumations, are not anticipated. The goal of Phase II data recovery at AZ U:1:433(ASM) is to determine the extent and nature of buried archaeological features and recover artifacts and soil samples to adequately address the research themes described above.

Phase II will begin with the location and marking of underground utilities (Bluestake) before ground disturbance begins. All excavations will conform to OSHA standards.

The leaf litter beneath trees and overhanging branches will be removed before hand and mechanical excavation begins. Surface artifacts that are exposed when removing the leaf litter will be mapped, and collected. Artifact clusters and any rock features or soil stains exposed at the surface will be mapped using a total station and excavated by hand.

Mechanical excavations will begin by re-excavation of the Phase I testing trenches that encountered the midden (Feature 1). The limits of the feature will be identified and the extent of Feature 1 will be circumscribed on the ground based on raised ground level, trench profile exposure, and extent of surface artifacts and soil discoloration. Three (3) 1 m by 2 m test units will be hand excavated within the midden feature to sample the feature; soil will be screened through ¼-inch hardware mesh and excavations will proceed using 10 cm thick levels. The three test units will be spatially separate to investigate various locations within the midden and search for rock clusters, thermal pits, or other types of features. Careful attention to soil color, inclusions, artifact density, compaction and texture will be used to assess whether other features are present in the midden.

Concomitant with the hand excavation of Feature 1, mechanical removal of the berm north of the wash and the former building pad east of the midden will be completed to search for features that may have been buried when these disturbances were created. Because these disturbances are raised above the modern ground level it is possible they have capped and preserved the original ground surface. Mechanical stripping of the added fill will be conducted to expose the original surface, and to search for features below the capping disturbance. Mechanical stripping will also be conducted where "trails" can be backtracked from dozer push piles that have large rocks that may have been elements of a surface structure.

Following completion of hand excavations in Feature 1, mechanical stripping of the midden and surrounding area (northeast and west of the midden) will be accomplished. The branches of trees overhang areas near the midden and give the impression of having preserved the original ground surface around the trees. Surface features (rock and/or artifact clusters) exposed during removal of the branches and leaf litter will be thoroughly documented before mechanical excavation is started. Beneath the tree branches careful mechanical stripping will be conducted in thin levels to search for possible buried features.

Hand excavation will be completed in all prehistoric features exposed during mechanical stripping. Sampling of newly discovered features may be necessary, depending of their size. Large features may be trenched with the backhoe to assess depth, stratigraphy, and possible feature function. Trench bisecting will stop if it becomes evident that hand excavation would be more appropriate to recover artifacts and soil samples. Artifacts will be collected during mechanical trench excavations if they can be related to a prehistoric feature.

If present, human remains will be completely excavated once the ASM, Tribes, and DM19, LLC have been notified and Logan Simpson is authorized to conduct the recovery. Human remains and associated funerary objects are not anticipated, but if encountered the remains and associated objects will be treated with respect and protected from viewing and unnecessary moving. No photographs will be taken of the remains.

Surface Structures and Pit Houses

Before excavation of a surface structure or pit house begins, all architectural elements will be exposed in plan view using hand and mechanical excavation in order to ascertain its orientation, shape, and size. This will be achieved by mechanical stripping of the overburden by backhoe, and subsequent shovel-scraping and removing loose dust using a gas-powered blower. Depending on its size, the structure may then be quartered or halved along its axes. Because of possible disturbances to a surface structure, it is possible that only the bottom of intramural features will be preserved. If only the base of spatially separate postholes, pits, and hearth are found, they will be mapped and completely excavated. Pollen, phytolith, flotation, and radiocarbon samples will be collected from these truncated contexts. Pit houses may be preserved below modern ground disturbances and will be excavated in the same manner as surface structures.

If structure fill is present, it will be hand excavated using shovels and trowels. Minimally, the feature will be excavated using two arbitrary levels, unless the stratigraphy is found to warrant excavation in cultural strata. The upper fill, from the modern surface to within 10 cm of the floor will be treated as feature fill; this is conceptually the cultural debris and natural deposits that accumulated in time following the collapse of the structure. The final 10 cm above the floor will be treated as floor fill, which is expected to contain items that are more likely to have been in direct association with the structure's use (such as items stashed in the roof or sitting atop interior benches when the roof collapsed). Items situated directly on the floor will be recorded, plotted, and collected individually as floor contact materials and are assumed to have been left behind when the occupants abandoned the structure.

After the structure outline has been identified a sample of the feature fill of the structure will be excavated using a 1 m by 2 m test unit; all fill in the unit will be screened through ¼-inch wire mesh. Half of the house will be selected for excavation; a profile drawing will be made of the unexcavated half, if more than one cultural stratum is present. Subsequently, all remaining floor fill will be hand excavated and screened through ¼-inch wire mesh. Pollen, phytolith, flotation, and radiocarbon samples will be collected from

suitable locations on the structure floor, and archaeomagnetic dating samples will be collected, as appropriate. After the entire structure is exposed, it will be photographed, mapped, and recorded on standardized forms.

Excavation of structures may answer research questions pertaining to chronology; site structure; subsistence, diet, and resource exploitation. Specifically, diagnostic artifacts and chronometric dates from radiocarbon and archaeomagnetic samples may determine what periods of occupation are represented by the structures. Architectural characteristics may also provide information concerning chronology, as well as providing indicators of feature function (i.e., habitation structure or field house). The spatial location of structures relative to each other and extramural features contributes to understanding of site function and organization.

Structures may include pollen, phytoliths, carbonized macrobotanical, and faunal remains that are indicators of the environmental setting and subsistence practices. Excavations within a structure will emphasize recovery of such materials. Procurement and processing techniques of non-food resources also might be evidenced by intramural features, stone artifacts or shell or stone jewelry. The presence of non-local artifacts and exotic goods in structures may indicate extended trade networks, as well as being an indicator of a higher-status house or perhaps a specialized storage structure. Careful excavation of a structure floor, if present, and intramural features will be completed.

Extramural Features

Extramural features, such as storage pits and roasting pits may be identified as a result of backhoe stripping. All extramural pits may be bisected or fully excavated at the discretion of the field director. The pit features will be excavated in halves, so as to expose a profile depicting internal strata, if present. The first half will be excavated as one unit. If internal stratigraphy is present the second half will be excavated using cultural levels. The feature fill will be removed in cultural or arbitrary 10-cm levels, screened through ¼-inch hardware mesh, and a profile will be drawn. Subsistence and chronometric samples will be collected as appropriate. Each feature will be individually mapped and photographed, and the morphology, fill characteristics, and other observations and interpretations will be recorded on individual standardized feature forms.

Excavation of extramural pit features may answer research questions pertaining to chronology; site setting/environment; site function/activities; and subsistence. Specifically, diagnostic artifacts and chronometric dates (radiocarbon and archaeomagnetic samples) may determine what temporal periods of occupation are represented by pit features. The pit function (thermal, storage, etc.) can be used to help determine site function and activities within the site. Data pertinent to site setting and environment may be recognized from analyses of floral and faunal remains from the features. Carbonized macrobotanical and faunal remains from pits also may be used as indicators of subsistence practices of the site's occupants.

Artifacts from extramural features may inform about procurement and processing techniques of non-food resources as evidenced by stone artifacts or shell or stone jewelry. The presence of non-local artifacts and exotic goods may be an indicator of extended trade networks and could indicate site functions/activities.

Treatment of Human Burials

Any discoveries of human remains, funerary objects and certain animals that may have been deliberately interred will be dealt with according to the guidelines and stipulations of the Salt River Pima-Maricopa Indian Community (SRPMIC). Human remains and associated funerary objects will be treated with dignity and respect. Human bones and associated funerary objects will be kept together at all times. Bones will be wrapped in muslin to protect against damage during collection and transport. Temporary housing of human remains will be in Logan Simpson's secured laboratory facility during analysis.

There will be no photography, no non-essential viewing or handling of human burials, isolated/scattered human remains, or associated funerary objects. Human remains and funerary objects will not be subject to viewing by non-project personnel unless otherwise specified by SRPMIC. Laboratory analysis of human remains and associated funerary objects will be limited to nondestructive investigations.

Although faunal remains in archaeological sites are typically associated with the processing and consumption of animals for food, certain animals may have been deliberately interred as part of Hohokam rituals or belief systems. These animals may include (but are not limited to) eagles, other raptors, macaws, and dogs. Logan Simpson will notify ASM and SRPMIC if a burial of any whole or partial non-food animals, with or without associated artifacts, is found within the project area. Whole or partial animal burials of any type in association with human remains, or in unusual contexts such as beneath house floors or public plazas, will be reported to ASM and SRPMIC and afforded the same treatment as human burials, unless otherwise directed by ASM and SRPMIC. The remains and associated objects will be repatriated to SRPMIC depending on the NAGPRA coordinator's schedule.

Processing of Artifacts and Samples

As fieldwork progresses, project artifacts and samples will be transported to Logan Simpson's laboratory for processing. Artifact processing will adhere to ASM standards for cleaning, cataloguing, labeling, and storing materials of various artifact classes. All field specimen records will be entered into a computerized database, and project records will be scanned.

Soil samples will be transported to Logan Simpson's laboratory for temporary storage. Flotation samples may be processed to assess the quantity of charred macrobotanical remains as a prelude to submission of the sample for analysis. Selected pollen, flotation, phytolith and other samples will be submitted to the appropriate in-house or subcontracted analyst(s).

Chronometric Analysis

Chronometric analyses may include the use of several techniques, as samples are available: stratigraphic association, ceramic cross-dating, AMS radiocarbon analysis, archaeomagnetic analysis, and possibly TL dating. Samples selected for analysis will be submitted to the appropriate subcontracted analysts.

Stratigraphic analysis will rely upon detailed records of elevation, superposition, and feature location. The relative age of features and diagnostic artifacts will be identified, and if possible cross dated with absolute chronometric samples. Ceramic cross dating will be conducted during the laboratory analysis and will rely upon excavation records collected during fieldwork. Careful attention will be given to the contexts where ceramics were collected.

All charcoal samples for AMS dating will be collected and placed in aluminum foil to prevent contamination. Suitable charcoal samples will be selectively submitted for AMS radiocarbon dating. If suitable undisturbed baked-clay surfaces are encountered (e.g., hearths, burned floors, pit walls), samples for archaeomagnetic dating may be collected and selectively submitted for analysis. Detrital remnant magnetism dating may be attempted if appropriate (clay) sediments are present. Ceramics with the potential for TL dating may be used when other forms of dating archaeological contexts are unavailable. Soil samples are needed for TL dating of ceramics and will be collected from features where datable ceramics may be recovered.

Ceramic Analysis

All ceramic vessels and sherds recovered from the project sites will be subjected to a detailed analysis that will include the recording of such attributes as ware, temper type, vessel form and part, and lot size. The ceramic database will also include a field for the analyst to record general comments about each item. A sample of unique decorated ceramics and all whole vessels may be illustrated for the report.

Lithic Analysis

The lithic analysis will include coding of all flaked stone debris and tools. The debitage analysis will involve the recording of eight variables, in addition to provenience information: size grade, raw material type, presence/absence of platform, platform type, flake type, break type, portion, and cortex percent. Analysis of these attributes will assist in evaluating activity areas, manufacturing technologies, and raw-material procurement strategies.

Lithic tools will be examined according to a set of functional, morphological, and technological variables using traditional typologies appropriate for the region. In addition to the provenience information, 16 variables will be recorded: completeness, technological class, morphological class, functional class, weight, length, width, thickness, raw material type, retouch, possible reason for rejection, reworking, cortex, patination, break type, and edge grinding. Representative and outstanding examples of flaked stone tools will be illustrated in the report.

Ground Stone Analysis

Eight variables will be recorded for ground stone tools: weight, length, width, thickness, raw material, condition, surface use-wear, and grinding. The analysis will focus on determining tool function as it relates to site activities.

Botanical Analysis

The analysis and interpretation of botanical remains (pollen, phytolith, and macrobotanical samples) can provide information on the exploitation of wild and domesticated plants. Contextual information will be used to help in defining specific feature function, as appropriate. Special attention will be paid to collecting samples from high-integrity contexts, such as beneath floor contact artifacts in structures, from the interior of vessels, and from features that appear to exhibit rapid fill sequences. Botanical analyses can determine if a specialized or diverse plant-use strategy was followed at the site, seasonality of occupation, if domesticates were in cultivation nearby, and if plant material was transported to the site over long distances.

Faunal Analysis

Analysis of faunal remains will involve sorting the items by taxa and performing a detailed species and element analysis. Contextual information and evidence of burning, breakage, animal gnawing, cut marks, and working will be used to address questions of taphonomy, feature function, and subsistence strategies.

Faunal remains from eagles, other raptors, macaws, and dogs that were recovered as whole or partial burials, with or without artifacts, will be treated in accordance with the SRPMIC's wishes, including limited handling, no viewing by non-project personnel, and no photography.

Shell Analysis

Analysis of shell artifacts will include identifying each specimen according to genus and species wherever possible, in addition to recording degree of fragmentation, artifact type and manufacturing evidence. Identification of marine species may indicate whether the artifacts originated in the Pacific Ocean or Gulf of California (Sea of Cortez) settings, which has a bearing on prehistoric trade and exchange of artifacts.

SECTION VII. REPORTS

A brief end-of-fieldwork report will be prepared upon completion of Phase II data recovery fieldwork. If any aspects of the fieldwork deviated from the methods described in this data recovery plan, then these deviations will be described and justified in the report.

Work will also begin on a draft final report. At a minimum, the draft final report will include the following sections:

- An introduction that will include a description of the location of the project area, the environmental and cultural setting, and a history of the project.
- A description of the project's research design, field methods and any deviations from the planned methods.
- Results of the investigations beginning with feature descriptions and supporting maps, figures, and photographs.
- Sections detailing the results of artifact (ceramic, lithic, shell) analyses.
- Sections detailing the results of chronometric and soil sample analyses (faunal bone, pollen, phytolith, and macrobotanical) analyses

- An assessment of the analytical results as they pertain to the research questions and broader issues of local and regional Hohokam prehistory.
- References cited in the text.
- Appendices containing data tables and supplementary information.

The draft report will be submitted to DM19, LLC and the COS for review. Upon receipt of comments, Logan Simpson will make appropriate revisions to the report and produce and submit a final version of the report to DM19, LLC. The final report will be made available to the public on tDAR, the digital archaeological repository.

CURATION

All paperwork will be checked for accuracy, completeness, and proper coding before being scanned. All documentation and processing will be accomplished according to the *Arizona State Museum Collections Repository Manual for Archaeologists* if any artifact collections are made. At the close of the project, all artifacts, documents, and other project materials will be curated at the Center for Archaeology & Society Repository on the campus of Arizona State University located at 734 W. Alameda, Suite 120, Tempe, Arizona.

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Native Plant Inventory

Desert Mountain - Parcel 19
37080 N. Cave Creek Road
Scottsdale, AZ

8/26/2016

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1	Foothills Palo Verde	15	S	
2	Blue Palo Verde	7	S	
3	Ocotillo	9	S	
4	Blue Palo Verde	4	NS	Branch Dieback / Cambium Damage
5	Barrel	4	NS	Declining
6	Mesquite	5	S	
7	Blue Palo Verde	4	NS	Branch Dieback / Cambium Damage
8	Blue Palo Verde	6	S	
9	Blue Palo Verde	6	S	
10	Saguaro	14	NS	Declining
11	Foothills Palo Verde	26	NS	Branch Dieback / Cambium Damage
12	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
13	Blue Palo Verde	4	NS	Branch Dieback / Cambium Damage
14	Ocotillo	10	S	
15	Saguaro	19	S	2 arms
16	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
17	Foothills Palo Verde	8	NS	In Wash / Cambium Damage
18	Saguaro	3	S	
19	Blue Palo Verde	5	NS	Declining / Cambium Damage
20	Blue Palo Verde	6	NS	Declining / Cambium Damage
21	Ocotillo	9	S	
22	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
23	Foothills Palo Verde	6	S	
24	Blue Palo Verde	6	S	
25	Blue Palo Verde	5	NS	Branch Dieback / Cambium Damage
26	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
27	Foothills Palo Verde	4	NS	Branch Dieback / Cambium Damage
28	Foothills Palo Verde	7	NS	In Wash / Cambium Damage
29	Foothills Palo Verde	12	NS	In Wash / Cambium Damage
30	Foothills Palo Verde	8	NS	In Wash / Cambium Damage
31	Saguaro	12	S	
32	Ocotillo	13	S	
33	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
34	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
35	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
36	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
37	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
38	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
39	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
40	Blue Palo Verde	4	NS	Branch Dieback / Cambium Damage
41	Foothills Palo Verde	6	NS	Trunk Form / Cluster
42	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
43	Foothills Palo Verde	5	NS	Mistletoe / Cambium Damage
44	Foothills Palo Verde	4	NS	Exposed Roots / Cambium Damage
45	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
46	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
47	Foothills Palo Verde	14	NS	Exposed Roots / Cambium Damage
48	Saguaro	10	S	
49	Ocotillo	14	S	
50	Foothills Palo Verde	6	NS	Mistletoe / Cambium Damage
51	Barrel	7	S	1 arm
52	Saguaro	9	S	
53	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
54	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
55	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
56	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
57	Foothills Palo Verde	10	NS	Mistletoe / Cambium Damage
58	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
59	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
60	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
61	Ocotillo	18	S	
62	Saguaro	4	S	
63	Foothills Palo Verde	14	NS	Mistletoe / Cambium Damage
64	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
65	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
66	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
67	Foothills Palo Verde	6	NS	In Wash / Cambium Damage
68	Foothills Palo Verde	11	NS	Branch Dieback / Cambium Damage
69	Barrel	5	S	
70	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
71	Saguaro	20	S	
72	Saguaro	33	S	3 arms
73	Barrel	4	NS	Damaged
74	Ocotillo	17	S	
75	Saguaro	9	S	
76	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
77	Foothills Palo Verde	7	NS	Cluster / Root Growth
78	Foothills Palo Verde	9	NS	Trunk Form / Root Growth
79	Ocotillo	16	S	
80	Saguaro	5	S	
81	Foothills Palo Verde	8	NS	Exposed Roots
82	Ocotillo	13	S	
83	Saguaro	37	NS	3 arms / Damaged
84	Saguaro	9	S	
85	Foothills Palo Verde	5	NS	Exposed Roots
86	Saguaro	8	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
87	Foothills Palo Verde	6	NS	In Wash / Shallow Roots
88	Foothills Palo Verde	7	NS	In Wash / Shallow Roots
89	Foothills Palo Verde	5	NS	Trunk Form / Shallow Roots
90	Foothills Palo Verde	4	NS	Trunk Form / Shallow Roots
91	Foothills Palo Verde	6	NS	Trunk Form / Cambium Damage
92	Foothills Palo Verde	5	NS	Trunk Form / Cambium Damage
93	Barrel	3	S	
94	Saguaro	13	S	
95	Foothills Palo Verde	4	NS	Wash
96	Foothills Palo Verde	5	S	
97	Foothills Palo Verde	5	S	
98	Foothills Palo Verde	5	NS	Mistletoe
99	Foothills Palo Verde	5	NS	Wash
100	Foothills Palo Verde	5	NS	Wash
101	Foothills Palo Verde	7	NS	Exposed Roots
102	Foothills Palo Verde	12	NS	Branch Dieback
103	Foothills Palo Verde	4	NS	Branch Dieback
104	Foothills Palo Verde	12	NS	Mistletoe
105	Foothills Palo Verde	8	NS	Exposed Roots
106	Foothills Palo Verde	10	NS	Exposed Roots
107	Saguaro	5	S	
108	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
109	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
110	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
111	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
112	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
113	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
114	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
115	Saguaro	11	S	
116	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
117	Foothills Palo Verde	5	S	
118	Foothills Palo Verde	8	NS	Branch Dieback
119	Foothills Palo Verde	5	NS	Branch Dieback
120	Foothills Palo Verde	7	NS	Exposed Roots
121	Foothills Palo Verde	5	NS	Branch Dieback
122	Foothills Palo Verde	10	NS	Branch Dieback
123	Foothills Palo Verde	10	NS	Exposed Roots
124	Foothills Palo Verde	7	NS	Exposed Roots
125	Foothills Palo Verde	8	NS	Wash
126	Foothills Palo Verde	10	NS	Wash
127	Ocotillo	5	S	
128	Ocotillo	6	S	
129	Foothills Palo Verde	7	S	
130	Foothills Palo Verde	12	NS	Branch Dieback
131	Foothills Palo Verde	10	NS	Branch Dieback
132	Foothills Palo Verde	10	NS	Trunk Form / Leaning
133	Foothills Palo Verde	7	NS	Trunk Form / Leaning
134	Foothills Palo Verde	7	NS	Trunk Form / Leaning
135	Foothills Palo Verde	5	NS	Branch Dieback

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
136	Foothills Palo Verde	10	NS	Exposed Roots
137	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
138	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
139	Saguaro	9	S	
140	Saguaro	10	S	
141	Saguaro	14	S	
142	Foothills Palo Verde	5	NS	Trunk Form / Leaning
143	Foothills Palo Verde	10	NS	Branch Dieback
144	Foothills Palo Verde	7	NS	Branch Dieback / In Wash
145	Foothills Palo Verde	8	NS	Exposed Roots / In Wash
146	Foothills Palo Verde	10	NS	Exposed Roots / In Wash
147	Foothills Palo Verde	12	NS	Exposed Roots / In Wash
148	Foothills Palo Verde	6	NS	Exposed Roots
149	Foothills Palo Verde	8	NS	Trunk Form / Leaning
150	Foothills Palo Verde	12	NS	Trunk Form / Leaning
151	Foothills Palo Verde	7	NS	Trunk Form / Leaning
152	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
153	Ocotillo	13	S	
154	Foothills Palo Verde	12	NS	Mistletoe / Cambium Damage
155	Foothills Palo Verde	8	NS	Exposed Roots
156	Foothills Palo Verde	8	NS	Exposed Roots
157	Foothills Palo Verde	8	NS	Exposed Roots
158	Foothills Palo Verde	7	NS	Exposed Roots
159	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
160	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
161	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
162	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
163	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
164	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
165	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
166	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
167	Ocotillo	11	S	
168	Foothills Palo Verde	5	S	
169	Foothills Palo Verde	7	S	
170	Foothills Palo Verde	14	NS	Mistletoe
171	Foothills Palo Verde	6	NS	Exposed Roots
172	Foothills Palo Verde	24	NS	Cluster / Exposed Roots
173	Foothills Palo Verde	16	NS	Branch Dieback
174	Saguaro	5	S	
175	Saguaro	30	S	3 arms
176	Foothills Palo Verde	9	NS	Branch Dieback / Cambium Damage
177	Saguaro	66	S	6 arms
178	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
179	Foothills Palo Verde	6	S	
180	Foothills Palo Verde	6	S	
181	Barrel	3	S	
182	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
183	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
184	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
185	Ocotillo	14	S	
186	Ocotillo	14	S	
187	Crucifixion Thorn	12	NS	Branch Dieback / Cambium Damage
188	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
189	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
190	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
191	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
192	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
193	Ocotillo	14	S	
194	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
195	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
196	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
197	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
198	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
199	Ocotillo	14	S	
200	Ocotillo	14	S	
201	Foothills Palo Verde	9	S	
202	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
203	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
204	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
205	Ocotillo	14	S	
206	Foothills Palo Verde	8	S	
207	Foothills Palo Verde	5	NS	Wash
208	Foothills Palo Verde	8	NS	Branch Dieback
209	Foothills Palo Verde	8	NS	Branch Dieback
210	Foothills Palo Verde	14	NS	Branch Dieback
211	Barrel	4	S	
212	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
213	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
214	Foothills Palo Verde	4	NS	Exposed Roots / Cambium Damage
215	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
216	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
217	Ocotillo	13	S	
218	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
219	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
220	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
221	Ocotillo	13	S	
222	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
223	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
224	Ocotillo	9	S	
225	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
226	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
227	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
228	Ocotillo	6	S	
229	Blue Palo Verde	7	S	
230	Saguaro	34	S	6 arms
231	Ocotillo	14	S	
232	Foothills Palo Verde	5	NS	Branch Dieback
233	Mesquite	6	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
234	Foothills Palo Verde	4	S	
235	Foothills Palo Verde	9	NS	Branch Dieback / Cambium Damage
236	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
237	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
238	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
239	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
240	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
241	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
242	Barrel	5	NS	Damaged
243	Ocotillo	14	S	
244	Ocotillo	13	S	
245	Mesquite	4	NS	Insect Damage / Cambium Damage
246	Saguaro	4	S	
247	Blue Palo Verde	5	NS	Branch Dieback / Cambium Damage
248	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
248	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
249	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
250	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
251	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
252	Saguaro	22	S	5 arms
253	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
254	Ocotillo	20	S	
255	Ocotillo	12	S	
256	Mesquite	4	NS	Branch Dieback / Cambium Damage
257	Barrel	4	S	
258	Blue Palo Verde	6	S	
259	Crucifixion Thorn	6	NS	Branch Dieback
260	Foothills Palo Verde	10	NS	Trunk Form / Cambium Damage
261	Blue Palo Verde	6	S	
262	Foothills Palo Verde	10	NS	Exposed Roots
263	Barrel	4	S	
264	Saguaro	94	S	6 arms
265	Ocotillo	13	S	
266	Barrel	4	S	
267	Ocotillo	8	S	
268	Ocotillo	7	S	
269	Crucifixion Thorn	10	NS	Branch Dieback
270	Barrel	3	S	
271	Barrel	4	S	
272	Ocotillo	20	S	
273	Ocotillo	20	S	
274	Crucifixion Thorn	8	NS	Branch Dieback
275	Crucifixion Thorn	6	NS	Branch Dieback
276	Barrel	3	S	
277	Foothills Palo Verde	6	NS	Trunk Form / Leaning
278	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
279	Saguaro	6	S	
280	Crucifixion Thorn	5	NS	Branch Dieback / Cambium Damage
281	Crucifixion Thorn	5	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
282	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
283	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
284	Hackberry	8	NS	Branch Dieback / Cambium Damage
285	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
286	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
287	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
288	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
289	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
290	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
291	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
292	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
293	Foothills Palo Verde	15	S	
294	Ocotillo	20	S	
295	Foothills Palo Verde	5	NS	Exposed Roots
296	Foothills Palo Verde	5	NS	Exposed Roots
297	Foothills Palo Verde	8	S	
298	Ocotillo	14	S	
299	Foothills Palo Verde	12	NS	Trunk Form / Cambium Damage
300	Foothills Palo Verde	10	NS	Mistletoe / Cambium Damage
301	Ocotillo	14	S	
302	Ocotillo	16	S	
303	Barrel	9	S	
304	Ocotillo	9	S	
305	Foothills Palo Verde	10	NS	Mistletoe / Cambium Damage
306	Ocotillo	16	S	
307	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
308	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
309	Foothills Palo Verde	8	NS	Trunk Form / Branch Dieback
310	Foothills Palo Verde	7	NS	In Wash / Branch Dieback
311	Foothills Palo Verde	8	NS	In Wash / Branch Dieback
312	Foothills Palo Verde	12	NS	Exposed Roots / Branch Dieback
313	Foothills Palo Verde	7	NS	Branch Dieback
314	Foothills Palo Verde	5	NS	Trunk Form / Cambium Damage
315	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
316	Foothills Palo Verde	7	NS	Trunk Form / Leaning
317	Foothills Palo Verde	10	NS	In Wash / Leaning
318	Ocotillo	7	S	
319	Foothills Palo Verde	7	NS	Exposed Roots / Leaning
320	Foothills Palo Verde	5	NS	Exposed Roots / Leaning
320	Foothills Palo Verde	8	NS	Exposed Roots / Leaning
321	Foothills Palo Verde	5	NS	Exposed Roots / Leaning
322	Foothills Palo Verde	10	NS	Exposed Roots / Leaning
324	Saguaro	70	NS	3 arms / Damaged
325	Crucifixion Thorn	7	S	
326	Ocotillo	7	S	
327	Foothills Palo Verde	18	NS	Exposed Roots / Cambium Damage
328	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
329	Foothills Palo Verde	16	NS	Branch Dieback / In Wash
330	Foothills Palo Verde	7	NS	Exposed Roots / In Wash

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
331	Foothills Palo Verde	7	NS	Exposed Roots / Dieback
332	Saguaro	80	S	9 arms
333	Foothills Palo Verde	12	NS	Mistletoe / Dieback
334	Foothills Palo Verde	7	NS	Mistletoe / Dieback
335	Ocotillo	14	S	
336	Ocotillo	8	S	
337	Ocotillo	12	S	
338	Saguaro	44	S	6 arms
339	Ocotillo	8	S	
340	Barrel	5	S	
341	Ocotillo	13	S	
342	Foothills Palo Verde	7	NS	Branch Dieback
343	Foothills Palo Verde	6	NS	Branch Dieback
344	Ocotillo	20	S	
345	Barrel	6	S	
346	Ocotillo	20	S	
347	Foothills Palo Verde	6	NS	Branch Dieback
348	Foothills Palo Verde	20	NS	Branch Dieback
349	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
350	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
351	Foothills Palo Verde	17	NS	Exposed Roots / Cambium Damage
352	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
353	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
354	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
355	Foothills Palo Verde	25	NS	Branch Dieback / Cluster
356	Foothills Palo Verde	15	NS	Branch Dieback / Cambium Damage
357	Foothills Palo Verde	8	NS	Trunk Form / Leaning
358	Barrel	9	S	
359	Blue Palo Verde	7	S	
360	Blue Palo Verde	7	S	
361	Blue Palo Verde	6	S	
362	Blue Palo Verde	7	S	
363	Saguaro	43	S	3 arms
364	Crucifixion Thorn	7	NS	Branch Dieback
365	Foothills Palo Verde	7	NS	Mistletoe
366	Foothills Palo Verde	12	NS	Branch Dieback
367	Blue Palo Verde	6	S	
368	Foothills Palo Verde	8	NS	Exposed Roots
369	Mesquite	4	S	
370	Mesquite	5	NS	Trunk Form / Leaning
371	Foothills Palo Verde	8	NS	Branch Dieback
372	Blue Palo Verde	6	S	
373	Mesquite	4	NS	Trunk Form / Leaning
374	Blue Palo Verde	6	S	
375	Crucifixion Thorn	12	NS	Branch Dieback
376	Foothills Palo Verde	12	NS	Mistletoe
377	Foothills Palo Verde	8	NS	Trunk Form / Leaning
378	Crucifixion Thorn	5	NS	Branch Dieback / Leaning
379	Crucifixion Thorn	9	NS	Branch Dieback / Leaning

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
380	Foothills Palo Verde	9	NS	Branch Dieback
381	Foothills Palo Verde	9	NS	Exposed Roots
382	Foothills Palo Verde	12	NS	In Wash / Leaning
383	Foothills Palo Verde	10	NS	Branch Dieback / Mistletoe
384	Foothills Palo Verde	6	S	
385	Foothills Palo Verde	6	NS	Exposed Roots
386	Ocotillo	43	S	
387	Foothills Palo Verde	6	NS	Branch Dieback
388	Foothills Palo Verde	6	S	
389	Foothills Palo Verde	10	NS	Mistletoe
390	Foothills Palo Verde	8	NS	Branch Dieback
391	Crucifixion Thorn	6	NS	Branch Dieback
392	Crucifixion Thorn	8	NS	Branch Dieback
393	Crucifixion Thorn	6	NS	Branch Dieback
394	Saguaro	35	NS	5 arms / Damaged
395	Foothills Palo Verde	24	NS	Mistletoe
396	Crucifixion Thorn	7	NS	Branch Dieback
397	Ocotillo	20	S	
398	Ocotillo	18	S	
399	Barrel	4	S	
400	Foothills Palo Verde	5	S	
401	Foothills Palo Verde	8	NS	Exposed Roots
402	Foothills Palo Verde	12	NS	Branch Dieback
403	Ocotillo	14	S	
404	Crucifixion Thorn	14	NS	Branch Dieback
405	Foothills Palo Verde	8	NS	Branch Dieback
406	Foothills Palo Verde	5	S	
407	Ocotillo	14	S	
408	Barrel	3	S	
409	Ocotillo	12	S	
410	Foothills Palo Verde	6	NS	Branch Dieback
411	Ocotillo	12	S	
412	Ocotillo	9	S	
413	Barrel	5	S	2 heades
414	Ocotillo	17	S	
415	Barrel	4	S	
416	Foothills Palo Verde	6	NS	Wash
417	Foothills Palo Verde	7	NS	Exposed Roots
418	Foothills Palo Verde	5	NS	Exposed Roots
419	Foothills Palo Verde	8	NS	Exposed Roots
420	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
421	Foothills Palo Verde	7	S	
422	Foothills Palo Verde	5	S	
423	Foothills Palo Verde	5	NS	Trunk Form / Leaning
424	Foothills Palo Verde	8	NS	Branch Dieback
425	Foothills Palo Verde	4	NS	Mistletoe
426	Foothills Palo Verde	7	NS	Wash
427	Foothills Palo Verde	8	NS	Branch Dieback
428	Foothills Palo Verde	5	NS	Trunk Form / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
429	Foothills Palo Verde	12	NS	Mistletoe / Cambium Damage
430	Saguaro	75	S	5 arms
431	Foothills Palo Verde	6	NS	Mistletoe / Cambium Damage
432	Foothills Palo Verde	5	NS	Trunk Form / Leaning
433	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
434	Foothills Palo Verde	5	S	
435	Foothills Palo Verde	8	S	
436	Foothills Palo Verde	6	NS	Exposed Roots
437	Foothills Palo Verde	8	NS	Exposed Roots
438	Foothills Palo Verde	6	NS	Exposed Roots
439	Foothills Palo Verde	6	NS	Exposed Roots
440	Saguaro	10	S	
441	Foothills Palo Verde	6	NS	Exposed Roots
442	Foothills Palo Verde	6	NS	Exposed Roots
443	Ocotillo	9	S	
444	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
445	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
446	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
447	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
448	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
449	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
450	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
451	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
452	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
453	Saguaro	38	S	4 arms
454	Saguaro	11	S	
455	Ocotillo	13	S	
456	Ocotillo	15	S	
457	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
458	Ocotillo	17	S	
459	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
460	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
461	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
462	Ocotillo	13	S	
463	Foothills Palo Verde	7	NS	Trunk Form / Cambium Damage
464	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
465	Saguaro	81	S	7 arms
466	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
467	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
468	Ocotillo	16	S	
469	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
470	Foothills Palo Verde	12	NS	Exposed Roots / Cambium Damage
471	Ocotillo	14	S	
472	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
473	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
474	Saguaro	3	S	
475	Ocotillo	16	S	
476	Saguaro	3	S	
477	Foothills Palo Verde	10	NS	In Wash / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
478	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
479	Ocotillo	13	S	
480	Foothills Palo Verde	5	NS	In Wash / Cambium Damage
481	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
482	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
483	Foothills Palo Verde	4	NS	Branch Dieback / Cambium Damage
484	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
485	Foothills Palo Verde	20	NS	In Wash / Cluster
486	Foothills Palo Verde	5	NS	Wash
487	Foothills Palo Verde	4	NS	In Wash / Cambium Damage
488	Saguaro	6	S	
489	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
490	Foothills Palo Verde	20	NS	Cluster / Cambium Damage
491	Foothills Palo Verde	24	NS	Cluster / Cambium Damage
492	Foothills Palo Verde	8	NS	Trunk Form / Mistletoe
493	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
494	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
495	Foothills Palo Verde	4	NS	In Wash / Cambium Damage
496	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
497	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
498	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
499	Ocotillo	16	S	
500	Foothills Palo Verde	8	NS	In Wash / Cambium Damage
501	Foothills Palo Verde	8	NS	In Wash / Cambium Damage
502	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
503	Foothills Palo Verde	10	NS	Mistletoe / Cambium Damage
504	Ocotillo	13	S	
505	Ocotillo	13	S	
506	Foothills Palo Verde	8	S	
507	Foothills Palo Verde	8	NS	Exposed Roots / In Wash
508	Foothills Palo Verde	8	NS	Exposed Roots / In Wash
509	Foothills Palo Verde	10	NS	Exposed Roots / In Wash
510	Foothills Palo Verde	6	NS	Trunk Form / Leaning
511	Foothills Palo Verde	8	NS	Exposed Roots / Leaning
512	Ocotillo	12	S	
513	Barrel	3	S	
514	Foothills Palo Verde	10	NS	Branch Dieback
515	Foothills Palo Verde	5	NS	Exposed Roots
516	Foothills Palo Verde	9	S	
517	Foothills Palo Verde	4	S	
518	Foothills Palo Verde	5	NS	Exposed Roots
519	Foothills Palo Verde	5	NS	Exposed Roots / Cluster
520	Foothills Palo Verde	9	NS	Exposed Roots
521	Foothills Palo Verde	4	NS	Exposed Roots
522	Foothills Palo Verde	8	S	
523	Foothills Palo Verde	4	NS	Branch Dieback
524	Saguaro	19	S	
525	Foothills Palo Verde	4	NS	Exposed Roots
526	Foothills Palo Verde	12	NS	Exposed Roots / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
527	Saguaro	54	S	4 arms
528	Barrel	4	NS	Poor Form
529	Foothills Palo Verde	8	NS	Mistletoe / Cambium Damage
530	Ocotillo	12	S	
531	Ocotillo	11	S	
532	Foothills Palo Verde	10	NS	Mistletoe / Cambium Damage
533	Saguaro	49	S	6 arms
534	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
535	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
536	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
537	Ocotillo	16	S	
538	Ocotillo	14	S	
539	Ocotillo	14	S	
540	Ocotillo	16	S	
541	Ocotillo	13	S	
542	Saguaro	42	S	4 arms
543	Saguaro	18	S	
544	Foothills Palo Verde	6	S	
545	Foothills Palo Verde	20	NS	Branch Dieback
546	Foothills Palo Verde	12	NS	Branch Dieback / In Wash
547	Mesquite	5	S	
548	Barrel	3	S	
549	Foothills Palo Verde	16	NS	Exposed Roots / Wide Base
550	Foothills Palo Verde	16	NS	Mistletoe
551	Blue Palo Verde	7	NS	Diseased / Witches Broom
552	Mesquite	6	S	
553	Blue Palo Verde	7	S	
554	Mesquite	5	NS	Insect Damage / Cambium Damage
555	Ocotillo	16	S	
556	Ocotillo	11	S	
557	Ocotillo	15	S	
558	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
559	Ocotillo	15	S	
560	Foothills Palo Verde	7	NS	Mistletoe / Cambium Damage
561	Ocotillo	15	S	
562	Ocotillo	15	S	
563	Barrel	5	S	
564	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
565	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
566	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
567	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
568	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
569	Foothills Palo Verde	8	NS	Mistletoe / Cambium Damage
570	Crucifixion Thorn	6	NS	Branch Dieback / Cambium Damage
571	Barrel	13	S	3 heads
572	Saguaro	58	S	8 arms
573	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
574	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
575	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
576	Ocotillo	10	S	
577	Saguaro	44	NS	7 arms / Damaged
578	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
579	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
580	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
581	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
582	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
583	Ocotillo	8	S	
584	Crucifixion Thorn	10	NS	Exposed Roots / Cambium Damage
585	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
586	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
587	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
588	Ocotillo	14	NS	Poor Form / Leaning
589	Ocotillo	9	S	
590	Saguaro	57	S	7 arms
591	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
592	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
592	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
593	Ocotillo	14	S	
594	Ocotillo	15	S	
596	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
597	Foothills Palo Verde	6	NS	Trunk Form / Leaning
598	Saguaro	4	S	
599	Ocotillo	15	S	
600	Foothills Palo Verde	12	NS	Mistletoe
601	Foothills Palo Verde	10	NS	Branch Dieback
602	Ocotillo	15	S	
603	Foothills Palo Verde	5	NS	Trunk Form
604	Ocotillo	15	S	
605	Crucifixion Thorn	6	NS	Branch Dieback / Cambium Damage
606	Crucifixion Thorn	4	NS	Branch Dieback / Cambium Damage
607	Crucifixion Thorn	6	NS	Branch Dieback / Cambium Damage
608	Crucifixion Thorn	6	NS	Branch Dieback / Cambium Damage
609	Ocotillo	13	S	
610	Ocotillo	9	S	
611	Ocotillo	16	S	
612	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
613	Ocotillo	18	S	
614	Ocotillo	20	S	
615	Foothills Palo Verde	4	NS	Exposed Roots / Cambium Damage
616	Saguaro	33	S	4 arms
617	Ocotillo	13	S	
618	Barrel	4	S	
619	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
620	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
621	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
622	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
623	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
624	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
625	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
626	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
627	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
628	Foothills Palo Verde	4	NS	Branch Dieback / Cambium Damage
629	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
630	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
631	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
632	Foothills Palo Verde	14	NS	Exposed Roots / In Wash
633	Foothills Palo Verde	7	S	
634	Foothills Palo Verde	4	NS	Trunk Form / Cambium Damage
635	Foothills Palo Verde	14	NS	Exposed Roots / In Wash
636	Foothills Palo Verde	10	NS	Exposed Roots / In Wash
637	Foothills Palo Verde	8	NS	Exposed Roots / In Wash
638	Foothills Palo Verde	6	NS	Exposed Roots / In Wash
639	Foothills Palo Verde	6	NS	Branch Dieback / In Wash
640	Foothills Palo Verde	7	S	
641	Foothills Palo Verde	6	NS	Exposed Roots
642	Foothills Palo Verde	8	NS	Exposed Roots
643	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
644	Saguaro	4	S	
645	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
646	Saguaro	7	S	3 heads
647	Ocotillo	17	S	
649	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
650	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
651	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
652	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
653	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
654	Foothills Palo Verde	6	NS	Cluster / Cambium Damage
655	Foothills Palo Verde	6	NS	In Wash / Cambium Damage
656	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
657	Ocotillo	15	S	
658	Ocotillo	15	S	
659	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
660	Ocotillo	16	S	
661	Foothills Palo Verde	16	NS	Exposed Roots / Cambium Damage
662	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
663	Ocotillo	12	S	
664	Ocotillo	15	S	
665	Ocotillo	8	S	
666	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
667	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
668	Ocotillo	10	S	
669	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
670	Foothills Palo Verde	7	NS	Trunk Form / Leaning
671	Saguaro	30	S	4 arms
672	Foothills Palo Verde	12	NS	Branch Dieback
673	Foothills Palo Verde	12	NS	Branch Dieback
674	Foothills Palo Verde	12	NS	Branch Dieback

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
675	Foothills Palo Verde	7	NS	Branch Dieback
676	Ocotillo	16	S	
677	Ocotillo	15	S	
678	Ocotillo	14	S	
679	Ocotillo	13	S	
680	Ocotillo	12	S	
681	Ocotillo	14	S	
682	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
683	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
684	Saguaro	82	S	7 arms
685	Saguaro	38	S	2 arms
686	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
687	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
688	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
689	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
690	Saguaro	78	S	6 arms
691	Barrel	5	S	
692	Foothills Palo Verde	7	S	
693	Foothills Palo Verde	7	NS	Exposed Roots
694	Foothills Palo Verde	5	NS	Exposed Roots
695	Foothills Palo Verde	24	NS	Branch Dieback / Cambium Damage
696	Foothills Palo Verde	8	NS	In Wash / Cambium Damage
697	Foothills Palo Verde	8	NS	In Wash / Cambium Damage
698	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
699	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
700	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
701	Saguaro	4	S	
702	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
703	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
704	Ocotillo	17	S	
705	Foothills Palo Verde	7	S	
706	Ocotillo	13	S	
707	Foothills Palo Verde	7	NS	Exposed Roots
708	Foothills Palo Verde	10	NS	Branch Dieback
709	Foothills Palo Verde	5	S	
710	Ocotillo	12	S	
711	Blue Palo Verde	4	NS	Trunk Form / Leaning
712	Ocotillo	18	S	
713	Mesquite	7	S	
714	Barrel	4	S	
715	Foothills Palo Verde	14	NS	Exposed Roots
716	Foothills Palo Verde	14	NS	Branch Dieback
717	Foothills Palo Verde	10	NS	Exposed Roots
718	Foothills Palo Verde	20	NS	Exposed Roots
719	Foothills Palo Verde	14	NS	Mistletoe
720	Foothills Palo Verde	7	NS	Branch Dieback
721	Foothills Palo Verde	7	NS	Branch Dieback
722	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
723	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
724	Saguaro	22	S	3 arms
725	Ocotillo	11	S	
726	Foothills Palo Verde	8	NS	Mistletoe / Cambium Damage
727	Saguaro	13	S	
728	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
729	Ocotillo	14	S	
730	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
731	Ocotillo	14	S	
732	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
733	Crucifixion Thorn	10	S	
734	Ocotillo	16	S	
735	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
736	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
737	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
738	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
739	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
740	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
741	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
742	Foothills Palo Verde	10	NS	Exposed Roots / In Wash
743	Foothills Palo Verde	10	NS	Exposed Roots / In Wash
744	Foothills Palo Verde	30	NS	Branch Dieback
745	Foothills Palo Verde	7	NS	Exposed Roots
746	Foothills Palo Verde	7	NS	Exposed Roots
747	Foothills Palo Verde	10	NS	Branch Dieback
748	Barrel	3	S	
749	Ocotillo	15	NS	Poor Form
750	Foothills Palo Verde	7	NS	Exposed Roots
751	Foothills Palo Verde	8	NS	Branch Dieback
752	Foothills Palo Verde	8	NS	Branch Dieback
753	Foothills Palo Verde	9	NS	Exposed Roots
754	Foothills Palo Verde	20	NS	Exposed Roots
755	Ocotillo	9	NS	Poor Form
756	Ocotillo	12	NS	Poor Form
757	Ocotillo	15	S	
758	Ocotillo	13	NS	Damaged
759	Saguaro	18	NS	Damaged
760	Ocotillo	9	S	
761	Saguaro	10	S	
762	Foothills Palo Verde	8	NS	Wide Base
763	Foothills Palo Verde	12	NS	Exposed Roots / Cambium Damage
764	Ocotillo	13	S	
765	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
766	Foothills Palo Verde	8	NS	Trunk Form / In Wash
767	Ocotillo	14	NS	Damaged
768	Ocotillo	13	NS	Damaged
769	Ocotillo	14	S	
770	Foothills Palo Verde	8	NS	Branch Dieback / In Wash
771	Foothills Palo Verde	10	NS	Exposed Roots / In Wash
772	Ocotillo	12	NS	Poor Form / Leaning

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
773	Foothills Palo Verde	8	NS	Mistletoe / Cambium Damage
774	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
775	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
776	Foothills Palo Verde	5	S	
777	Foothills Palo Verde	5	NS	Exposed Roots
778	Foothills Palo Verde	6	S	
779	Foothills Palo Verde	10	NS	Branch Dieback
780	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
781	Foothills Palo Verde	4	NS	Exposed Roots / Cambium Damage
782	Foothills Palo Verde	8	S	
783	Foothills Palo Verde	7	NS	Trunk Form / Leaning
784	Foothills Palo Verde	14	NS	Exposed Roots
785	Foothills Palo Verde	10	NS	Wide Base
786	Foothills Palo Verde	7	NS	Exposed Roots / Leaning
787	Saguaro	4	S	
788	Foothills Palo Verde	16	NS	Branch Dieback
789	Ocotillo	14	S	
790	Crucifixion Thorn	6	NS	Branch Dieback
791	Ocotillo	10	S	
792	Ocotillo	15	S	
793	Ocotillo	13	S	
794	Ocotillo	11	S	
795	Ocotillo	11	S	
796	Ocotillo	13	S	
797	Ocotillo	10	S	
798	Ocotillo	16	S	
799	Crucifixion Thorn	8	NS	Branch Dieback
800	Crucifixion Thorn	8	NS	Branch Dieback
801	Crucifixion Thorn	8	NS	Branch Dieback
802	Saguaro	23	S	2 arms
803	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
804	Saguaro	25	S	
805	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
806	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
807	Ocotillo	6	S	
808	Ocotillo	13	S	
809	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
810	Ocotillo	15	S	
811	Ocotillo	17	S	
812	Foothills Palo Verde	6	NS	In Wash / Cambium Damage
813	Foothills Palo Verde	10	NS	In Wash / Cambium Damage
814	Foothills Palo Verde	6	NS	In Wash / Leaning
815	Foothills Palo Verde	8	NS	Exposed Roots
816	Foothills Palo Verde	6	NS	Branch Dieback
817	Foothills Palo Verde	5	NS	Branch Dieback
818	Foothills Palo Verde	7	NS	Exposed Roots
819	Ocotillo	17	S	
820	Foothills Palo Verde	14	NS	Branch Dieback
821	Foothills Palo Verde	14	NS	Mistletoe

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
822	Saguaro	47	S	2 arms
823	Foothills Palo Verde	5	NS	Branch Dieback
824	Foothills Palo Verde	6	NS	In Wash / Cambium Damage
825	Foothills Palo Verde	7	NS	In Wash / Cambium Damage
826	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
827	Foothills Palo Verde	10	NS	Exposed Roots / In Wash
828	Foothills Palo Verde	8	NS	Branch Dieback / In Wash
829	Foothills Palo Verde	8	NS	Branch Dieback / In Wash
830	Foothills Palo Verde	6	NS	Branch Dieback / In Wash
831	Foothills Palo Verde	8	NS	Branch Dieback / In Wash
832	Foothills Palo Verde	8	NS	Branch Dieback / Leaning
833	Saguaro	4	S	
834	Foothills Palo Verde	8	NS	Exposed Roots
835	Foothills Palo Verde	10	NS	Branch Dieback
836	Saguaro	32	S	4 arms
837	Foothills Palo Verde	7	S	
838	Foothills Palo Verde	5	NS	Exposed Roots
839	Foothills Palo Verde	6	NS	Exposed Roots
840	Foothills Palo Verde	8	NS	Branch Dieback / Leaning
841	Foothills Palo Verde	6	NS	Exposed Roots / Leaning
842	Foothills Palo Verde	5	NS	Exposed Roots / Leaning
843	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
844	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
845	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
846	Foothills Palo Verde	8	NS	In Wash / Root Growth
847	Foothills Palo Verde	8	S	
848	Foothills Palo Verde	8	NS	Branch Dieback / Trunk Damage
849	Foothills Palo Verde	7	NS	Exposed Roots / Trunk Damage
850	Crucifixion Thorn	12	NS	Branch Dieback / Trunk Damage
851	Ocotillo	17	S	
852	Foothills Palo Verde	5	NS	Branch Dieback / Trunk Damage
852	Foothills Palo Verde	7	S	
853	Foothills Palo Verde	5	NS	In Wash / Leaning
854	Foothills Palo Verde	9	NS	Branch Dieback / Cambium Damage
856	Foothills Palo Verde	5	NS	Exposed Roots
857	Foothills Palo Verde	10	NS	Exposed Roots
858	Foothills Palo Verde	8	NS	Branch Dieback
859	Foothills Palo Verde	6	NS	Branch Dieback
860	Foothills Palo Verde	12	NS	Branch Dieback / Trunk Damage
861	Crucifixion Thorn	18	NS	Branch Dieback / Cambium Damage
862	Foothills Palo Verde	8	S	
863	Foothills Palo Verde	10	NS	Exposed Roots
864	Foothills Palo Verde	5	NS	Branch Dieback
865	Crucifixion Thorn	6	NS	Branch Dieback
866	Crucifixion Thorn	6	NS	Branch Dieback
867	Crucifixion Thorn	6	NS	Branch Dieback
868	Foothills Palo Verde	8	NS	Branch Dieback
869	Foothills Palo Verde	8	NS	Branch Dieback
870	Foothills Palo Verde	4	NS	Exposed Roots

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
871	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
872	Crucifixion Thorn	5	NS	Branch Dieback / Cambium Damage
873	Crucifixion Thorn	4	NS	Branch Dieback / Cambium Damage
874	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
875	Crucifixion Thorn	8	NS	Exposed Roots / Cambium Damage
876	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
877	Foothills Palo Verde	8	S	
878	Crucifixion Thorn	6	NS	Branch Dieback / Cambium Damage
879	Crucifixion Thorn	6	NS	Branch Dieback / Cambium Damage
880	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
881	Foothills Palo Verde	4	NS	Exposed Roots / Cambium Damage
882	Foothills Palo Verde	4	NS	Exposed Roots / Cambium Damage
883	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
884	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
885	Foothills Palo Verde	5	NS	In Wash / Leaning
886	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
887	Foothills Palo Verde	7	NS	Exposed Roots / Leaning
888	Barrel	3	S	
889	Ocotillo	9	S	
890	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
891	Foothills Palo Verde	12	S	
892	Foothills Palo Verde	4	NS	Trunk Form / Leaning
893	Foothills Palo Verde	5	NS	Mistletoe / Dieback
894	Foothills Palo Verde	8	NS	Exposed Roots
895	Foothills Palo Verde	10	NS	Branch Dieback / Trunk Damage
896	Foothills Palo Verde	10	NS	Branch Dieback / Trunk Damage
897	Foothills Palo Verde	7	NS	Mistletoe / In Wash
898	Foothills Palo Verde	8	NS	Exposed Roots / In Wash
899	Foothills Palo Verde	7	NS	Trunk Form / In Wash
900	Ocotillo	14	S	
901	Ocotillo	8	S	
902	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
903	Crucifixion Thorn	14	NS	Branch Dieback / Cambium Damage
904	Foothills Palo Verde	12	S	
905	Ocotillo	14	S	
906	Foothills Palo Verde	11	NS	Exposed Roots
907	Ocotillo	13	S	
908	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
909	Crucifixion Thorn	16	NS	Branch Dieback / Cambium Damage
910	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
911	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
912	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
913	Crucifixion Thorn	20	NS	Branch Dieback / Cambium Damage
914	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
915	Crucifixion Thorn	30	NS	Branch Dieback / Cambium Damage
916	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
917	Ocotillo	13	S	
918	Ocotillo	18	S	
919	Ocotillo	18	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
920	Ocotillo	16	S	
921	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
922	Ocotillo	16	S	
923	Crucifixion Thorn	6	NS	Branch Dieback / Cambium Damage
924	Ocotillo	13	S	
925	Ocotillo	13	S	
926	Ocotillo	12	S	
927	Ocotillo	14	S	
928	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
929	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
930	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
931	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
932	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
933	Crucifixion Thorn	14	NS	Branch Dieback / Cambium Damage
934	Foothills Palo Verde	5	NS	Trunk Form / Cambium Damage
935	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
936	Foothills Palo Verde	12	NS	In Wash / Cambium Damage
937	Foothills Palo Verde	6	NS	In Wash / Cambium Damage
938	Saguaro	33	NS	10 arms / Damaged
939	Saguaro	23	S	4 arms
940	Ocotillo	15	S	
941	Ocotillo	13	S	
942	Saguaro	34	S	1 arm
943	Ocotillo	14	S	
944	Ocotillo	10	S	
945	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
946	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
947	Ocotillo	15	S	
948	Foothills Palo Verde	8	S	
949	Ocotillo	16	S	
950	Foothills Palo Verde	7	NS	Branch Dieback
951	Crucifixion Thorn	7	NS	Branch Dieback
952	Crucifixion Thorn	14	NS	Branch Dieback
953	Foothills Palo Verde	4	NS	Branch Dieback
954	Foothills Palo Verde	4	NS	Branch Dieback
955	Foothills Palo Verde	6	NS	Exposed Roots
956	Ocotillo	16	S	
957	Foothills Palo Verde	16	NS	Branch Dieback
958	Ocotillo	14	S	
959	Foothills Palo Verde	8	NS	Branch Dieback
960	Crucifixion Thorn	8	NS	Branch Dieback
961	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
962	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
963	Foothills Palo Verde	9	NS	Branch Dieback / Cambium Damage
964	Foothills Palo Verde	9	NS	Exposed Roots / Cambium Damage
965	Foothills Palo Verde	5	NS	Trunk Form / Leaning
966	Foothills Palo Verde	8	NS	Branch Dieback / Leaning
967	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
968	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
969	Ocotillo	9	S	
970	Saguaro	14	S	
971	Ocotillo	6	S	
972	Foothills Palo Verde	16	NS	Wide Base / Poor Structure
973	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
974	Saguaro	11	S	
975	Ocotillo	14	S	
976	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
977	Crucifixion Thorn	16	NS	Branch Dieback / Cambium Damage
978	Foothills Palo Verde	6	S	
979	Crucifixion Thorn	4	NS	Branch Dieback
980	Ocotillo	13	S	
981	Crucifixion Thorn	7	NS	Branch Dieback
982	Foothills Palo Verde	8	NS	Exposed Roots
983	Foothills Palo Verde	10	NS	Exposed Roots
984	Ocotillo	18	NS	Poor Form / Leaning
985	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
986	Crucifixion Thorn	4	NS	Branch Dieback / Cambium Damage
987	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
988	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
989	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
990	Foothills Palo Verde	4	NS	Exposed Roots / Cambium Damage
991	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
992	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
993	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
994	Ocotillo	12	S	
995	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
996	Ocotillo	14	S	
997	Ocotillo	14	S	
998	Crucifixion Thorn	16	NS	Branch Dieback / Cambium Damage
999	Ocotillo	12	S	
1000	Foothills Palo Verde	8	S	
1001	Foothills Palo Verde	8	NS	Branch Dieback
1002	Foothills Palo Verde	6	NS	Trunk Form / Leaning
1003	Foothills Palo Verde	6	NS	Trunk Form / Leaning
1004	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1005	Ocotillo	17	S	
1006	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1007	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1008	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1009	Foothills Palo Verde	7	S	
1010	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
1011	Ocotillo	12	S	
1012	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
1013	Foothills Palo Verde	7	NS	Trunk Form / Leaning
1014	Foothills Palo Verde	7	NS	Trunk Form / Leaning
1015	Foothills Palo Verde	7	NS	Trunk Form / Leaning
1016	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1017	Foothills Palo Verde	10	NS	Trunk Form / Leaning

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1018	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
1019	Foothills Palo Verde	12	NS	Exposed Roots / Cambium Damage
1020	Foothills Palo Verde	4	NS	In Wash / Cambium Damage
1021	Foothills Palo Verde	18	NS	Branch Dieback / Cambium Damage
1022	Ocotillo	15	S	
1023	Foothills Palo Verde	12	NS	Exposed Roots / Cambium Damage
1024	Foothills Palo Verde	14	NS	Exposed Roots / Cambium Damage
1025	Foothills Palo Verde	5	NS	Exposed Roots / In Wash
1026	Foothills Palo Verde	5	NS	Trunk Form / Leaning
1027	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1027	Saguaro	5	S	
1028	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
1029	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
1030	Ocotillo	13	S	
1031	Ocotillo	13	S	
1032	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1033	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
1034	Crucifixion Thorn	6	S	
1035	Foothills Palo Verde	14	NS	Exposed Roots
1036	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
1037	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
1038	Foothills Palo Verde	12	NS	Exposed Roots / Cambium Damage
1039	Foothills Palo Verde	12	NS	Exposed Roots / Cambium Damage
1040	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1041	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1042	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1043	Ocotillo	15	S	
1044	Ocotillo	14	S	
1045	Blue Palo Verde	7	S	
1046	Foothills Palo Verde	7	NS	Exposed Roots
1047	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
1048	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1049	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1050	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1051	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
1052	Ocotillo	14	S	
1053	Crucifixion Thorn	16	NS	Branch Dieback / Cambium Damage
1054	Foothills Palo Verde	7	S	
1055	Foothills Palo Verde	7	S	
1056	Foothills Palo Verde	8	NS	Branch Dieback
1057	Ocotillo	14	S	
1058	Ocotillo	12	S	
1059	Mesquite	5	NS	Insect Damage / Cambium Damage
1060	Mesquite	6	S	
1061	Ocotillo	6	S	
1062	Blue Palo Verde	4	S	
1063	Blue Palo Verde	10	NS	Branch Dieback / Cambium Damage
1064	Blue Palo Verde	10	NS	Branch Dieback / Cambium Damage
1065	Blue Palo Verde	8	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1066	Blue Palo Verde	12	NS	Exposed Roots / Cambium Damage
1067	Blue Palo Verde	14	NS	Exposed Roots / Cambium Damage
1068	Blue Palo Verde	10	NS	Exposed Roots / Cambium Damage
1069	Blue Palo Verde	10	NS	Trunk Form / Leaning
1070	Crucifixion Thorn	6	NS	Branch Dieback
1071	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1072	Saguaro	15	S	
1073	Saguaro	38	S	5 arms
1074	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1075	Ocotillo	13	S	
1076	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1077	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1078	Saguaro	20	S	
1079	Ocotillo	15	S	
1080	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1081	Ocotillo	15	S	
1082	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
1083	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
1084	Saguaro	34	S	5 arms
1085	Saguaro	5	S	
1086	Crucifixion Thorn	14	NS	Branch Dieback / Cambium Damage
1087	Saguaro	6	NS	6 arms / Damaged
1088	Ocotillo	15	S	
1089	Saguaro	60	NS	2 arms / Damaged
1090	Ocotillo	13	S	
1091	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1092	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1093	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1094	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1095	Ocotillo	15	S	
1096	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
1097	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1098	Ocotillo	14	S	
1099	Foothills Palo Verde	40	NS	Branch Dieback / Cambium Damage
1100	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1101	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1102	Foothills Palo Verde	10	S	
1103	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
1104	Ocotillo	14	S	
1105	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
1106	Mesquite	6	S	
1107	Blue Palo Verde	8	S	
1108	Mesquite	4	NS	Trunk Form / Leaning
1109	Blue Palo Verde	5	NS	Trunk Form / Leaning
1110	Saguaro	57	S	5 arms
1111	Crucifixion Thorn	16	NS	Branch Dieback / Cambium Damage
1112	Saguaro	10	S	
1113	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1114	Mesquite	5	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1115	Barrel	4	S	
1116	Ocotillo	16	S	
1117	Ocotillo	16	S	
1118	Saguaro	5	S	
1119	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
1120	Crucifixion Thorn	14	NS	Branch Dieback / Cambium Damage
1121	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
1122	Saguaro	65	NS	4 arms / Damaged
1123	Ocotillo	18	S	
1124	Ocotillo	15	S	
1125	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1126	Foothills Palo Verde	4	S	
1127	Ocotillo	11	S	
1128	Ocotillo	11	S	
1129	Barrel	4	S	
1130	Ocotillo	20	S	
1131	Crucifixion Thorn	8	S	
1132	Crucifixion Thorn	10	NS	Branch Dieback
1133	Foothills Palo Verde	14	S	
1134	Ocotillo	15	S	
1135	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
1136	Ocotillo	16	S	
1137	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1138	Saguaro	47	S	5 arms
1139	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
1140	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
1141	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
1142	Ocotillo	15	S	
1143	Ocotillo	11	S	
1144	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1145	Ocotillo	14	S	
1146	Barrel	3	S	
1147	Ocotillo	10	S	
1148	Ocotillo	11	S	
1149	Saguaro	4	S	
1150	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
1151	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1152	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1153	Ocotillo	13	S	
1154	Ocotillo	15	S	
1155	Ocotillo	14	S	
1156	Saguaro	57	NS	5 arms / Damaged
1157	Ocotillo	13	S	
1158	Ocotillo	13	S	
1159	Ocotillo	11	S	
1160	Ocotillo	13	S	
1161	Ocotillo	15	S	
1162	Crucifixion Thorn	12	NS	Branch Dieback
1163	Crucifixion Thorn	8	NS	Branch Dieback

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1164	Foothills Palo Verde	10	NS	Branch Dieback
1165	Ocotillo	15	S	
1166	Ocotillo	13	S	
1167	Ocotillo	13	S	
1168	Ocotillo	13	S	
1169	Ocotillo	12	S	
1170	Foothills Palo Verde	10	NS	Mistletoe
1171	Ocotillo	15	S	
1172	Ocotillo	12	S	
1173	Crucifixion Thorn	8	NS	Branch Dieback
1174	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1175	Barrel	3	S	
1176	Ocotillo	13	S	
1177	Crucifixion Thorn	14	NS	Branch Dieback / Cambium Damage
1178	Saguaro	6	S	
1179	Ocotillo	14	S	
1180	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1181	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
1182	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
1183	Ocotillo	14	S	
1184	Barrel	4	S	
1185	Foothills Palo Verde	8	S	
1186	Foothills Palo Verde	8	S	
1187	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
1188	Crucifixion Thorn	14	NS	Branch Dieback / Cambium Damage
1189	Ocotillo	17	S	
1190	Ocotillo	13	S	
1191	Ocotillo	14	S	
1192	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
1193	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
1194	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1195	Saguaro	45	S	5 arms
1196	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
1197	Foothills Palo Verde	4	NS	Branch Dieback / Cambium Damage
1198	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
1199	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
1200	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
1201	Saguaro	90	S	9 arms
1202	Ocotillo	15	S	
1203	Ocotillo	15	S	
1204	Ocotillo	6	S	
1205	Ocotillo	10	S	
1206	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1207	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
1208	Foothills Palo Verde	6	NS	Mistletoe / Cambium Damage
1209	Ocotillo	14	S	
1210	Ocotillo	14	S	
1211	Ocotillo	16	S	
1212	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1213	Foothills Palo Verde	8	NS	Trunk Form / Cambium Damage
1214	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
1215	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
1216	Barrel	3	S	
1217	Ocotillo	16	S	
1218	Saguaro	4	S	
1219	Ocotillo	4	S	
1220	Crucifixion Thorn	5	NS	Branch Dieback / Cambium Damage
1221	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
1222	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
1223	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
1224	Foothills Palo Verde	4	NS	Trunk Form / Cambium Damage
1225	Foothills Palo Verde	8	S	
1226	Foothills Palo Verde	8	NS	Branch Dieback
1227	Foothills Palo Verde	8	S	
1228	Foothills Palo Verde	16	NS	Branch Dieback
1229	Foothills Palo Verde	7	S	
1230	Ocotillo	9	S	
1231	Ocotillo	20	S	
1232	Foothills Palo Verde	4	NS	Exposed Roots
1233	Saguaro	5	S	
1234	Foothills Palo Verde	14	NS	Mistletoe
1235	Foothills Palo Verde	10	NS	Exposed Roots
1236	Foothills Palo Verde	12	NS	Trunk Form / Leaning
1237	Foothills Palo Verde	12	NS	Trunk Form / Leaning
1238	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1239	Ocotillo	17	S	
1240	Ocotillo	8	S	
1241	Ocotillo	10	S	
1242	Ocotillo	12	S	
1243	Crucifixion Thorn	5	NS	Branch Dieback
1244	Ocotillo	15	S	
1245	Crucifixion Thorn	15	NS	Branch Dieback
1246	Crucifixion Thorn	8	NS	Branch Dieback
1247	Crucifixion Thorn	6	NS	Branch Dieback
1249	Ocotillo	18	S	
1250	Ocotillo	10	S	
1251	Foothills Palo Verde	6	NS	Exposed Roots
1252	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1253	Foothills Palo Verde	16	NS	Mistletoe
1254	Crucifixion Thorn	6	NS	Branch Dieback
1255	Ocotillo	20	S	
1256	Foothills Palo Verde	6	NS	Trunk Form / Leaning
1257	Ocotillo	9	S	
1258	Ocotillo	11	S	
1259	Ocotillo	13	S	
1260	Saguaro	31	S	4 arms
1261	Foothills Palo Verde	6	NS	Trunk Form / Exposed Roots
1262	Ocotillo	17	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1263	Ocotillo	17	S	
1264	Foothills Palo Verde	14	S	
1265	Barrel	6	S	
1266	Foothills Palo Verde	12	NS	Branch Dieback
1267	Crucifixion Thorn	8	NS	Branch Dieback
1268	Crucifixion Thorn	8	NS	Branch Dieback
1269	Ocotillo	17	S	
1270	Saguaro	74	NS	4 arms / Damaged
1271	Crucifixion Thorn	10	NS	Branch Dieback
1272	Foothills Palo Verde	7	NS	Exposed Roots
1273	Barrel	4	S	
1274	Ocotillo	8	S	
1275	Ocotillo	7	S	
1276	Foothills Palo Verde	7	NS	Exposed Roots
1277	Ocotillo	16	S	
1278	Ocotillo	14	S	
1279	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
1280	Ocotillo	7	S	
1281	Ocotillo	14	S	
1282	Crucifixion Thorn	14	NS	Branch Dieback / Cambium Damage
1283	Crucifixion Thorn	5	NS	Exposed Roots / Cambium Damage
1284	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1285	Barrel	4	S	
1286	Ocotillo	12	S	
1287	Saguaro	5	S	
1288	Barrel	4	S	
1289	Crucifixion Thorn	6	S	
1290	Saguaro	19	S	1 arm
1291	Ocotillo	14	S	
1292	Ocotillo	16	S	
1293	Ocotillo	17	S	
1294	Saguaro	4	S	
1295	Ocotillo	13	S	
1296	Ocotillo	10	S	
1297	Ocotillo	17	S	
1298	Barrel	6	S	
1299	Saguaro	11	S	
1300	Ocotillo	17	S	
1301	Foothills Palo Verde	10	NS	Exposed Roots
1302	Foothills Palo Verde	10	NS	Exposed Roots
1303	Foothills Palo Verde	7	NS	Exposed Roots
1304	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1305	Ocotillo	9	S	
1306	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1307	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
1308	Saguaro	4	S	
1309	Saguaro	5	S	
1310	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1311	Crucifixion Thorn	6	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1312	Foothills Palo Verde	6	S	
1313	Barrel	4	S	
1314	Barrel	3	S	
1315	Foothills Palo Verde	5	NS	Exposed Roots
1316	Foothills Palo Verde	16	NS	Exposed Roots / Cambium Damage
1317	Ocotillo	14	S	
1318	Crucifixion Thorn	5	NS	Branch Dieback / Cambium Damage
1319	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
1320	Foothills Palo Verde	20	NS	Exposed Roots / Cambium Damage
1321	Foothills Palo Verde	22	NS	Exposed Roots / Cambium Damage
1322	Foothills Palo Verde	24	NS	Exposed Roots / Cambium Damage
1323	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
1324	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
1325	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
1326	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
1328	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1329	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
1330	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
1331	Ocotillo	15	NS	Dead
1332	Ocotillo	9	S	
1333	Ocotillo	6	S	
1334	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
1335	Foothills Palo Verde	16	NS	Mistletoe / Cambium Damage
1336	Foothills Palo Verde	24	NS	Wide Base / Cambium Damage
1337	Saguaro	8	S	
1338	Foothills Palo Verde	10	S	
1339	Saguaro	39	S	3 arms
1340	Ocotillo	15	S	
1341	Ocotillo	19	S	
1342	Foothills Palo Verde	7	NS	Trunk Form / Leaning
1343	Foothills Palo Verde	20	NS	Mistletoe / Cambium Damage
1344	Foothills Palo Verde	10	NS	Mistletoe / Cambium Damage
1345	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1346	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
1347	Crucifixion Thorn	6	NS	Branch Dieback / Cambium Damage
1348	Foothills Palo Verde	7	S	
1349	Ocotillo	13	S	
1350	Crucifixion Thorn	8	NS	Branch Dieback
1351	Crucifixion Thorn	10	NS	Branch Dieback
1352	Foothills Palo Verde	24	NS	Branch Dieback / Cambium Damage
1353	Foothills Palo Verde	24	NS	Branch Dieback / Cambium Damage
1354	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1355	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
1356	Foothills Palo Verde	16	NS	Mistletoe / Cambium Damage
1357	Foothills Palo Verde	6	NS	Wide Base / Root Growth
1358	Saguaro	9	S	
1359	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1360	Foothills Palo Verde	12	NS	Exposed Roots / Cambium Damage
1361	Ocotillo	14	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1362	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1363	Foothills Palo Verde	14	NS	Exposed Roots / Cambium Damage
1364	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
1365	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
1366	Foothills Palo Verde	8	NS	Mistletoe / Cambium Damage
1367	Ocotillo	13	S	
1368	Ocotillo	20	S	
1369	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1370	Saguaro	8	S	
1371	Foothills Palo Verde	10	S	
1372	Ocotillo	5	S	
1373	Saguaro	4	S	
1374	Foothills Palo Verde	4	S	
1375	Ocotillo	12	S	
1376	Foothills Palo Verde	12	S	
1377	Foothills Palo Verde	4	NS	Trunk Form / Leaning
1378	Hackberry	8	NS	Branch Dieback / Cambium Damage
1379	Foothills Palo Verde	4	S	
1380	Foothills Palo Verde	18	S	Prune Mistletoe
1381	Foothills Palo Verde	5	S	
1382	Foothills Palo Verde	10	S	
1383	Ocotillo	15	S	
1384	Foothills Palo Verde	5	S	
1385	Ocotillo	13	S	
1386	Foothills Palo Verde	14	NS	Mistletoe
1387	Foothills Palo Verde	7	S	
1388	Ocotillo	14	S	
1389	Foothills Palo Verde	7	S	
1390	Foothills Palo Verde	5	NS	Exposed Roots
1391	Ocotillo	17	S	
1392	Ocotillo	16	S	
1393	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1394	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
1395	Saguaro	3	S	
1396	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
1397	Ocotillo	19	S	
1398	Ocotillo	16	S	
1399	Foothills Palo Verde	8	S	
1400	Foothills Palo Verde	24	NS	Exposed Roots
1401	Foothills Palo Verde	18	NS	Exposed Roots
1402	Hackberry	24	NS	Wide Base
1403	Ocotillo	14	S	
1404	Ocotillo	17	S	
1405	Foothills Palo Verde	5	NS	Trunk Form / Leaning
1406	Foothills Palo Verde	16	NS	Exposed Roots / Cambium Damage
1407	Mesquite	16	NS	Cambium Damage
1408	Mesquite	20	NS	Cambium Damage
1409	Foothills Palo Verde	4	S	
1410	Foothills Palo Verde	5	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1411	Foothills Palo Verde	8	S	
1412	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1413	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1414	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
1415	Foothills Palo Verde	4	NS	Trunk Form / Leaning
1416	Ocotillo	14	S	
1417	Foothills Palo Verde	6	NS	Trunk Form / In Wash
1418	Foothills Palo Verde	10	NS	Trunk Form / Leaning
1419	Foothills Palo Verde	16	NS	Mistletoe
1420	Saguaro	3	S	
1421	Ocotillo	13	S	
1422	Crucifixion Thorn	6	NS	Branch Dieback / Cambium Damage
1423	Crucifixion Thorn	6	NS	Branch Dieback / Cambium Damage
1424	Crucifixion Thorn	5	NS	Branch Dieback / Cambium Damage
1425	Crucifixion Thorn	6	S	
1426	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
1427	Crucifixion Thorn	5	NS	Branch Dieback / Cambium Damage
1428	Ocotillo	14	S	
1429	Foothills Palo Verde	4	S	
1430	Crucifixion Thorn	20	NS	Branch Dieback
1431	Foothills Palo Verde	4	S	
1432	Foothills Palo Verde	6	S	
1433	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1434	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1435	Foothills Palo Verde	6	S	
1436	Foothills Palo Verde	4	S	
1437	Foothills Palo Verde	8	NS	Trunk Form / Proximity to Fence
1438	Foothills Palo Verde	6	S	
1439	Ocotillo	17	S	
1440	Ocotillo	22	S	
1441	Foothills Palo Verde	4	S	
1442	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1443	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
1444	Hackberry	10	NS	Wide Base / Cambium Damage
1445	Ocotillo	11	S	
1446	Ocotillo	11	S	
1447	Ocotillo	11	S	
1448	Foothills Palo Verde	12	NS	Mistletoe / Cambium Damage
1449	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1450	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
1451	Foothills Palo Verde	9	NS	Branch Dieback / Cambium Damage
1452	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
1453	Ocotillo	14	S	
1454	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1455	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1456	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1457	Hackberry	18	NS	Wide Base / Cambium Damage
1458	Foothills Palo Verde	16	S	
1459	Ocotillo	16	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1460	Ocotillo	20	S	
1461	Ocotillo	11	S	
1462	Foothills Palo Verde	5	S	
1463	Foothills Palo Verde	12	S	
1464	Foothills Palo Verde	10	NS	Mistletoe
1465	Foothills Palo Verde	6	NS	Branch Dieback
1466	Foothills Palo Verde	5	NS	Exposed Roots
1467	Barrel	8	NS	Declining
1468	Ocotillo	14	S	
1469	Ocotillo	18	S	
1470	Foothills Palo Verde	5	S	
1471	Foothills Palo Verde	28	NS	Branch Dieback / Cambium Damage
1472	Ocotillo	11	S	
1473	Ocotillo	21	S	
1474	Foothills Palo Verde	8	S	
1475	Foothills Palo Verde	28	NS	Branch Dieback / Mistletoe
1476	Foothills Palo Verde	12	NS	Trunk Form / Leaning
1477	Foothills Palo Verde	12	NS	Trunk Form / Leaning
1478	Foothills Palo Verde	4	NS	Trunk Form / Leaning
1479	Foothills Palo Verde	7	NS	Trunk Form / Leaning
1480	Ocotillo	18	S	
1481	Hackberry	18	NS	Branch Dieback / Cambium Damage
1482	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1483	Foothills Palo Verde	36	NS	Branch Dieback / Cambium Damage
1484	Hackberry	16	NS	Branch Dieback / Cambium Damage
1485	Foothills Palo Verde	15	NS	Branch Dieback / Cambium Damage
1486	Hackberry	99	NS	Wide Base / Cambium Damage
1487	Ocotillo	10	S	
1488	Blue Palo Verde	20	NS	Branch Dieback / Cambium Damage
1489	Hackberry	90	NS	Wide Base / Cambium Damage
1490	Ocotillo	6	S	
1491	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
1492	Foothills Palo Verde	12	NS	Exposed Roots / Cambium Damage
1493	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
1494	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
1495	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
1496	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1497	Mesquite	20	NS	Wide Base / Cambium Damage
1498	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
1499	Hackberry	20	NS	Branch Dieback / Cambium Damage
1500	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
1501	Saguaro	25	S	
1502	Ocotillo	9	S	
1503	Foothills Palo Verde	5	S	
1504	Saguaro	94	NS	11 arms / Damaged
1505	Foothills Palo Verde	18	NS	Mistletoe / Cambium Damage
1506	Foothills Palo Verde	4	S	
1507	Foothills Palo Verde	7	S	
1508	Saguaro	4	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1509	Foothills Palo Verde	5	S	
1510	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1511	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1512	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
1513	Foothills Palo Verde	9	S	
1514	Foothills Palo Verde	5	S	
1515	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
1516	Hackberry	99	NS	Wide Base / Cambium Damage
1517	Foothills Palo Verde	11	NS	Branch Dieback / Cambium Damage
1518	Ocotillo	15	S	
1519	Foothills Palo Verde	8	S	
1520	Foothills Palo Verde	12	NS	Branch Dieback
1521	Ocotillo	22	S	
1522	Foothills Palo Verde	22	NS	Exposed Roots / Cambium Damage
1523	Foothills Palo Verde	4	NS	Exposed Roots / Cambium Damage
1524	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
1525	Foothills Palo Verde	12	NS	Exposed Roots / Cambium Damage
1526	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
1527	Foothills Palo Verde	7	S	
1528	Foothills Palo Verde	8	S	
1529	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1530	Foothills Palo Verde	8	S	
1531	Foothills Palo Verde	7	S	
1532	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1533	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
1534	Ocotillo	16	S	
1535	Ocotillo	16	S	
1536	Ocotillo	15	S	
1537	Ocotillo	16	S	
1538	Foothills Palo Verde	5	NS	Mistletoe / Cambium Damage
1539	Ocotillo	16	S	
1540	Foothills Palo Verde	5	S	
1541	Ocotillo	4	S	
1542	Foothills Palo Verde	14	NS	Mistletoe
1543	Foothills Palo Verde	5	S	
1544	Foothills Palo Verde	10	S	
1545	Ocotillo	20	S	
1546	Crucifixion Thorn	20	NS	Exposed Roots / Cambium Damage
1547	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
1548	Ocotillo	11	S	
1549	Ocotillo	8	S	
1550	Saguaro	67	NS	6 arms / Damaged
1551	Ocotillo	13	S	
1552	Ocotillo	15	S	
1553	Ocotillo	20	S	
1554	Foothills Palo Verde	7	NS	Mistletoe
1555	Saguaro	5	S	
1556	Saguaro	3	S	
1557	Foothills Palo Verde	12	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1558	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1559	Saguaro	7	S	
1560	Ocotillo	16	S	
1561	Foothills Palo Verde	11	NS	Branch Dieback / Cambium Damage
1562	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1563	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1564	Ocotillo	11	S	
1565	Foothills Palo Verde	7	S	
1566	Foothills Palo Verde	6	NS	Trunk Form / Leaning
1567	Ocotillo	19	S	
1568	Foothills Palo Verde	10	NS	Branch Dieback
1569	Foothills Palo Verde	14	NS	Branch Dieback
1570	Ocotillo	14	S	
1571	Foothills Palo Verde	5	NS	Wide Base
1572	Foothills Palo Verde	7	NS	Exposed Roots
1573	Foothills Palo Verde	7	NS	Branch Dieback
1574	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1575	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1576	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1577	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1578	Hackberry	10	NS	Branch Dieback / Cambium Damage
1579	Foothills Palo Verde	8	S	
1580	Foothills Palo Verde	7	S	
1581	Foothills Palo Verde	16	S	
1582	Hackberry	50	NS	Wide Base
1583	Foothills Palo Verde	10	NS	Branch Dieback
1584	Foothills Palo Verde	10	NS	Branch Dieback
1585	Foothills Palo Verde	20	NS	Branch Dieback
1586	Barrel	3	S	
1587	Foothills Palo Verde	7	NS	Trunk Form / Leaning
1588	Foothills Palo Verde	24	NS	Branch Dieback / Cambium Damage
1589	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1590	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1591	Foothills Palo Verde	12	S	
1592	Hackberry	20	NS	Cluster
1593	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
1594	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1595	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1596	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1597	Foothills Palo Verde	8	S	
1598	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1599	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1600	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1601	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1602	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
1603	Foothills Palo Verde	14	NS	Trunk Form / Leaning
1604	Foothills Palo Verde	12	NS	Trunk Form / Leaning
1605	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1606	Foothills Palo Verde	15	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1607	Foothills Palo Verde	24	NS	Mistletoe / Cambium Damage
1608	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1609	Hackberry	14	NS	Wide Base / Cambium Damage
1610	Saguaro	91	S	5 arms
1611	Foothills Palo Verde	5	S	
1612	Barrel	4	S	
1613	Hackberry	60	NS	Wide Base
1614	Foothills Palo Verde	10	S	
1615	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1616	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1617	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1618	Foothills Palo Verde	14	S	
1619	Foothills Palo Verde	10	NS	Branch Dieback
1620	Foothills Palo Verde	14	NS	Branch Dieback
1621	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1622	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
1623	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1624	Foothills Palo Verde	24	NS	Branch Dieback / Cambium Damage
1625	Foothills Palo Verde	17	NS	Branch Dieback / Cambium Damage
1626	Hackberry	24	NS	Wide Base / Cambium Damage
1627	Mesquite	24	NS	Trunk Form / Poor Structure
1628	Hackberry	99	NS	Wide Base
1629	Foothills Palo Verde	12	NS	Branch Dieback
1630	Foothills Palo Verde	14	NS	Branch Dieback
1631	Foothills Palo Verde	8	NS	Branch Dieback
1632	Foothills Palo Verde	14	NS	Branch Dieback
1633	Foothills Palo Verde	5	S	
1634	Foothills Palo Verde	7	S	
1635	Foothills Palo Verde	12	NS	Branch Dieback / Leaning
1636	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1637	Hackberry	99	NS	Wide Base / Cambium Damage
1638	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1639	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1640	Foothills Palo Verde	8	S	
1641	Foothills Palo Verde	6	NS	Exposed Roots
1642	Foothills Palo Verde	7	S	
1643	Foothills Palo Verde	8	NS	Branch Dieback
1644	Foothills Palo Verde	5	S	
1645	Foothills Palo Verde	40	NS	Cluster / Cambium Damage
1646	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
1647	Foothills Palo Verde	9	NS	Exposed Roots / Cambium Damage
1648	Foothills Palo Verde	18	NS	Branch Dieback / Cambium Damage
1649	Foothills Palo Verde	22	NS	Branch Dieback / Cambium Damage
1650	Barrel	3	S	
1651	Saguaro	5	S	
1652	Foothills Palo Verde	8	NS	Trunk Form / Cambium Damage
1653	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1654	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1655	Foothills Palo Verde	10	NS	Trunk Form / Leaning

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1656	Foothills Palo Verde	24	NS	Wide Base
1657	Foothills Palo Verde	6	NS	Trunk Form / Leaning
1658	Foothills Palo Verde	6	NS	Exposed Roots
1659	Foothills Palo Verde	20	NS	Exposed Roots / Cambium Damage
1660	Foothills Palo Verde	10	S	
1661	Ocotillo	15	S	
1662	Foothills Palo Verde	8	NS	Branch Dieback
1663	Foothills Palo Verde	15	S	
1664	Foothills Palo Verde	12	NS	Branch Dieback
1665	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1666	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1667	Saguaro	12	S	
1668	Saguaro	11	S	
1669	Saguaro	71	S	10 arms
1670	Saguaro	44	S	6 arms
1671	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1672	Foothills Palo Verde	17	S	
1673	Foothills Palo Verde	6	S	
1674	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
1675	Foothills Palo Verde	9	S	
1676	Foothills Palo Verde	8	NS	Branch Dieback
1677	Foothills Palo Verde	18	NS	Branch Dieback
1678	Foothills Palo Verde	8	NS	Branch Dieback
1679	Foothills Palo Verde	12	NS	Branch Dieback
1680	Foothills Palo Verde	9	S	
1681	Foothills Palo Verde	14	NS	Trunk Form / In Wash
1682	Foothills Palo Verde	24	NS	Branch Dieback / Cambium Damage
1683	Foothills Palo Verde	5	NS	Trunk Form / Cambium Damage
1684	Foothills Palo Verde	5	NS	Trunk Form / Cambium Damage
1685	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1686	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1687	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1688	Foothills Palo Verde	10	S	
1689	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1690	Foothills Palo Verde	4	NS	Exposed Roots / Cambium Damage
1691	Foothills Palo Verde	12	S	
1692	Foothills Palo Verde	10	NS	Branch Dieback
1693	Foothills Palo Verde	14	NS	Branch Dieback
1694	Foothills Palo Verde	14	NS	Branch Dieback
1695	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1696	Saguaro	45	S	2 arms
1697	Barrel	7	S	
1698	Barrel	4	S	
1699	Saguaro	11	S	
1700	Foothills Palo Verde	14	S	
1701	Foothills Palo Verde	8	S	
1702	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1703	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1704	Foothills Palo Verde	16	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1705	Foothills Palo Verde	8	NS	Trunk Form
1706	Foothills Palo Verde	8	NS	Branch Dieback / Leaning
1707	Foothills Palo Verde	8	NS	Branch Dieback / Leaning
1708	Foothills Palo Verde	8	NS	Trunk Form / Cambium Damage
1709	Foothills Palo Verde	8	NS	Trunk Form / Cambium Damage
1710	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1711	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1712	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1713	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1714	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1715	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1716	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1717	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1718	Saguaro	16	S	
1719	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1720	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
1721	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1722	Ocotillo	17	S	
1723	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1724	Foothills Palo Verde	10	S	
1725	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
1726	Foothills Palo Verde	14	NS	Exposed Roots / Cambium Damage
1727	Hackberry	5	NS	Branch Dieback / Cambium Damage
1728	Foothills Palo Verde	18	NS	Trunk Form / Leaning
1729	Blue Palo Verde	6	S	
1730	Foothills Palo Verde	8	NS	Branch Dieback
1731	Foothills Palo Verde	8	NS	Branch Dieback
1732	Foothills Palo Verde	8	NS	Branch Dieback
1733	Foothills Palo Verde	8	NS	Branch Dieback
1734	Foothills Palo Verde	26	NS	Exposed Roots / Cambium Damage
1735	Foothills Palo Verde	26	NS	Exposed Roots / Cambium Damage
1736	Foothills Palo Verde	4	NS	Exposed Roots / Cambium Damage
1737	Foothills Palo Verde	4	NS	Exposed Roots / Cambium Damage
1738	Foothills Palo Verde	6	NS	Exposed Roots / Leaning
1739	Crucifixion Thorn	7	S	
1740	Foothills Palo Verde	20	NS	Exposed Roots / Cambium Damage
1741	Ocotillo	13	S	
1742	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1743	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
1744	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
1745	Foothills Palo Verde	12	NS	Mistletoe / Cambium Damage
1746	Saguaro	4	S	
1747	Saguaro	101	NS	12 arms / Declining
1748	Foothills Palo Verde	5	S	
1749	Ocotillo	14	S	
1750	Foothills Palo Verde	8	NS	Branch Dieback
1751	Crucifixion Thorn	12	NS	Branch Dieback / Poor Structure
1752	Foothills Palo Verde	7	NS	Branch Dieback / Poor Structure
1753	Ocotillo	14	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1754	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1755	Saguaro	5	S	
1756	Ocotillo	20	S	
1757	Ocotillo	20	S	
1758	Ocotillo	20	S	
1759	Ocotillo	13	S	
1760	Foothills Palo Verde	7	NS	Exposed Roots
1761	Foothills Palo Verde	7	NS	Exposed Roots
1762	Foothills Palo Verde	9	NS	Exposed Roots
1763	Foothills Palo Verde	9	NS	Exposed Roots
1764	Foothills Palo Verde	12	NS	Exposed Roots
1765	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1766	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1767	Ocotillo	14	S	
1768	Ocotillo	9	S	
1769	Foothills Palo Verde	7	S	
1770	Foothills Palo Verde	7	S	
1771	Saguaro	8	S	
1772	Foothills Palo Verde	6	NS	Branch Dieback
1773	Foothills Palo Verde	6	NS	Branch Dieback
1774	Foothills Palo Verde	8	NS	Branch Dieback
1775	Foothills Palo Verde	8	NS	Branch Dieback
1776	Foothills Palo Verde	12	NS	Branch Dieback
1777	Foothills Palo Verde	7	NS	Branch Dieback
1778	Foothills Palo Verde	10	NS	Branch Dieback
1779	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
1780	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1781	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
1782	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1783	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1784	Saguaro	5	S	
1785	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
1786	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
1787	Saguaro	4	S	
1788	Saguaro	6	S	
1789	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1790	Saguaro	5	S	
1791	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1792	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1793	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1794	Foothills Palo Verde	8	S	
1795	Foothills Palo Verde	5	NS	Exposed Roots
1796	Saguaro	22	NS	1 arm / Damaged
1797	Foothills Palo Verde	10	NS	Branch Dieback
1798	Foothills Palo Verde	12	NS	Branch Dieback
1799	Ocotillo	15	S	
1800	Foothills Palo Verde	7	NS	Branch Dieback
1801	Foothills Palo Verde	20	NS	Branch Dieback
1802	Foothills Palo Verde	14	NS	Exposed Roots

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1803	Foothills Palo Verde	5	NS	Trunk Form / Cambium Damage
1804	Foothills Palo Verde	20	NS	Exposed Roots / Cambium Damage
1805	Saguaro	57	S	5 arms
1806	Saguaro	10	S	
1807	Ocotillo	17	S	
1808	Foothills Palo Verde	7	NS	Wash
1809	Foothills Palo Verde	7	NS	Exposed Roots
1810	Foothills Palo Verde	7	NS	Exposed Roots
1811	Foothills Palo Verde	7	NS	Exposed Roots
1812	Foothills Palo Verde	14	NS	Branch Dieback
1813	Foothills Palo Verde	17	NS	Branch Dieback
1814	Foothills Palo Verde	8	NS	Branch Dieback
1815	Foothills Palo Verde	6	NS	Branch Dieback
1816	Foothills Palo Verde	6	NS	Branch Dieback
1817	Saguaro	5	S	
1818	Foothills Palo Verde	6	NS	Branch Dieback
1819	Foothills Palo Verde	7	NS	Wash
1820	Barrel	4	S	
1821	Crucifixion Thorn	10	NS	Branch Dieback
1822	Barrel	5	S	
1823	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
1824	Foothills Palo Verde	12	NS	Exposed Roots / Cambium Damage
1825	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1826	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1827	Saguaro	5	S	
1828	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
1829	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
1830	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
1831	Foothills Palo Verde	12	NS	Exposed Roots / Cambium Damage
1832	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
1833	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
1834	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
1835	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
1836	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1837	Foothills Palo Verde	7	NS	Trunk Form / Leaning
1838	Foothills Palo Verde	6	NS	Exposed Roots
1839	Foothills Palo Verde	18	NS	Cluster / In Wash
1840	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
1841	Saguaro	6	S	
1842	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
1843	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1844	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
1845	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
1846	Foothills Palo Verde	5	NS	Form / In Wash
1847	Foothills Palo Verde	6	NS	Form / In Wash
1848	Foothills Palo Verde	7	NS	Form / In Wash
1849	Foothills Palo Verde	12	S	
1850	Foothills Palo Verde	7	S	
1851	Foothills Palo Verde	4	NS	Trunk Form / Leaning

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1852	Foothills Palo Verde	12	NS	Exposed Roots
1853	Ocotillo	10	S	
1854	Ocotillo	16	NS	Damaged
1855	Saguaro	47	S	5 arms
1856	Foothills Palo Verde	14	NS	Exposed Roots
1857	Foothills Palo Verde	14	NS	Exposed Roots
1858	Foothills Palo Verde	14	NS	Branch Dieback
1859	Foothills Palo Verde	5	NS	Exposed Roots
1860	Foothills Palo Verde	12	NS	Branch Dieback
1861	Saguaro	18	S	3 arms
1862	Saguaro	17	S	
1863	Saguaro	14	S	
1864	Saguaro	20	S	
1865	Saguaro	15	S	
1866	Ocotillo	12	S	
1867	Foothills Palo Verde	5	NS	Exposed Roots
1868	Saguaro	14	S	
1869	Saguaro	3	S	
1870	Foothills Palo Verde	6	S	
1871	Foothills Palo Verde	4	S	
1872	Foothills Palo Verde	12	NS	Branch Dieback
1873	Saguaro	13	S	
1874	Foothills Palo Verde	6	NS	Exposed Roots
1875	Barrel	5	S	
1876	Saguaro	3	S	
1877	Barrel	5	S	
1878	Hackberry	40	NS	Wide Base
1879	Foothills Palo Verde	14	NS	Branch Dieback
1880	Foothills Palo Verde	12	NS	Mistletoe
1881	Foothills Palo Verde	7	NS	Mistletoe
1882	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
1883	Saguaro	3	S	
1884	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
1885	Ocotillo	15	S	
1886	Saguaro	6	S	
1887	Hackberry	24	NS	Branch Dieback / Cambium Damage
1888	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1889	Foothills Palo Verde	7	NS	Mistletoe / Cambium Damage
1890	Hackberry	20	NS	Branch Dieback / Cambium Damage
1891	Barrel	3	S	
1892	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1893	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
1894	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
1895	Saguaro	8	S	
1896	Ocotillo	21	S	
1897	Ocotillo	15	S	
1898	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
1899	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
1900	Foothills Palo Verde	7	NS	Mistletoe / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1901	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
1902	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1903	Ocotillo	10	S	
1904	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
1905	Foothills Palo Verde	5	NS	Trunk Form / Leaning
1906	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
1907	Saguaro	6	S	
1908	Saguaro	8	S	
1909	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
1910	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
1911	Foothills Palo Verde	8	S	
1912	Foothills Palo Verde	7	NS	Exposed Roots
1913	Foothills Palo Verde	12	NS	Exposed Roots
1914	Foothills Palo Verde	8	NS	Exposed Roots
1915	Foothills Palo Verde	6	NS	Exposed Roots
1916	Foothills Palo Verde	5	NS	Exposed Roots
1917	Foothills Palo Verde	8	NS	Exposed Roots / In Wash
1918	Ocotillo	13	S	
1919	Foothills Palo Verde	12	NS	Branch Dieback
1920	Foothills Palo Verde	10	NS	Exposed Roots / In Wash
1921	Foothills Palo Verde	14	NS	Exposed Roots / In Wash
1922	Foothills Palo Verde	8	NS	Exposed Roots / In Wash
1923	Foothills Palo Verde	8	NS	Exposed Roots / In Wash
1924	Foothills Palo Verde	8	NS	Exposed Roots / In Wash
1925	Foothills Palo Verde	8	NS	Exposed Roots / In Wash
1926	Foothills Palo Verde	8	NS	Exposed Roots / In Wash
1927	Foothills Palo Verde	14	NS	Exposed Roots / In Wash
1928	Foothills Palo Verde	8	NS	Exposed Roots / In Wash
1929	Foothills Palo Verde	12	NS	Exposed Roots / In Wash
1930	Foothills Palo Verde	8	NS	Exposed Roots / In Wash
1931	Foothills Palo Verde	7	NS	Exposed Roots / In Wash
1932	Foothills Palo Verde	7	NS	Exposed Roots / In Wash
1933	Foothills Palo Verde	8	NS	Exposed Roots / In Wash
1934	Saguaro	58	S	6 arms
1935	Foothills Palo Verde	6	NS	Exposed Roots / In Wash
1936	Foothills Palo Verde	30	NS	Exposed Roots / Cluster
1937	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
1938	Foothills Palo Verde	10	NS	Mistletoe / Leaning
1939	Foothills Palo Verde	7	S	
1940	Foothills Palo Verde	12	S	
1941	Foothills Palo Verde	12	NS	Mistletoe
1942	Crucifixion Thorn	8	NS	Branch Dieback
1943	Crucifixion Thorn	7	NS	Branch Dieback
1944	Foothills Palo Verde	4	NS	Exposed Roots
1945	Foothills Palo Verde	8	NS	Exposed Roots
1946	Foothills Palo Verde	10	NS	Exposed Roots
1947	Foothills Palo Verde	5	NS	Exposed Roots
1948	Crucifixion Thorn	5	NS	Exposed Roots
1949	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1950	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
1951	Ocotillo	13	S	
1952	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
1953	Foothills Palo Verde	9	NS	Exposed Roots / Cambium Damage
1954	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1955	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
1956	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
1957	Crucifixion Thorn	5	NS	Exposed Roots / Cambium Damage
1958	Foothills Palo Verde	7	NS	Exposed Roots / In Wash
1959	Hackberry	40	NS	Branch Dieback / In Wash
1960	Hackberry	14	NS	Wide Base
1961	Hackberry	99	NS	Wide Base
1962	Barrel	10	NS	Poor Form
1963	Foothills Palo Verde	14	NS	Mistletoe
1964	Foothills Palo Verde	8	NS	Trunk Form / Cluster
1965	Mesquite	36	NS	Branch Dieback / Cambium Damage
1966	Foothills Palo Verde	24	NS	Exposed Roots / Cambium Damage
1967	Foothills Palo Verde	18	NS	Branch Dieback / Cambium Damage
1968	Blue Palo Verde	18	NS	Multiple Trunk / Leaning
1969	Foothills Palo Verde	24	NS	Branch Dieback / Cambium Damage
1970	Foothills Palo Verde	24	NS	Mistletoe
1971	Foothills Palo Verde	18	NS	Branch Dieback
1972	Foothills Palo Verde	16	NS	Branch Dieback
1973	Foothills Palo Verde	12	NS	Mistletoe
1974	Foothills Palo Verde	8	NS	Trunk Form / Leaning
1975	Blue Palo Verde	16	S	
1976	Mesquite	8	NS	Trunk Form / Leaning
1977	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
1978	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
1979	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
1980	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
1981	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
1982	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1983	Foothills Palo Verde	4	NS	Branch Dieback / Cambium Damage
1984	Foothills Palo Verde	9	S	
1985	Foothills Palo Verde	7	NS	Exposed Roots
1986	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
1987	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
1988	Blue Palo Verde	6	S	
1989	Blue Palo Verde	16	NS	Exposed Roots
1990	Blue Palo Verde	12	NS	Branch Dieback / Cambium Damage
1991	Foothills Palo Verde	30	NS	Trunk Form / Wide Base
1992	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
1993	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
1994	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
1995	Foothills Palo Verde	10	S	
1996	Saguaro	37	S	5 arms
1997	Mesquite	20	S	
1998	Foothills Palo Verde	36	NS	Wide Base

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
1999	Foothills Palo Verde	24	NS	Branch Dieback
2000	Blue Palo Verde	20	NS	Branch Dieback
2001	Blue Palo Verde	4	NS	Mistletoe
2002	Foothills Palo Verde	12	S	
2003	Blue Palo Verde	8	NS	Exposed Roots
2004	Hackberry	60	NS	Wide Base
2005	Hackberry	99	NS	Wide Base
2006	Foothills Palo Verde	6	NS	Trunk Form / Leaning
2007	Yucca elata	10	NS	Declining
2008	Blue Palo Verde	8	NS	Branch Dieback / Cambium Damage
2009	Foothills Palo Verde	8	S	
2010	Foothills Palo Verde	6	S	
2011	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
2012	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
2013	Blue Palo Verde	5	S	
2014	Hackberry	30	NS	Branch Dieback
2015	Foothills Palo Verde	16	NS	Branch Dieback
2016	Foothills Palo Verde	8	S	
2017	Hackberry	20	NS	Branch Dieback
2018	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2019	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2020	Foothills Palo Verde	22	S	
2021	Saguaro	61	NS	7 arms / Declining
2022	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2023	Foothills Palo Verde	22	NS	Branch Dieback / Cambium Damage
2024	Foothills Palo Verde	5	S	
2025	Foothills Palo Verde	6	S	
2026	Foothills Palo Verde	4	S	
2027	Hackberry	20	NS	Branch Dieback
2028	Foothills Palo Verde	18	NS	Mistletoe
2029	Foothills Palo Verde	8	NS	Trunk Form / Leaning
2030	Foothills Palo Verde	22	NS	Branch Dieback / Cambium Damage
2031	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
2032	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
2033	Foothills Palo Verde	6	S	
2034	Foothills Palo Verde	15	NS	Branch Dieback
2035	Foothills Palo Verde	20	NS	Branch Dieback
2036	Hackberry	99	NS	Wide Base
2037	Foothills Palo Verde	10	S	
2038	Foothills Palo Verde	8	NS	Branch Dieback
2039	Foothills Palo Verde	20	NS	Branch Dieback
2040	Foothills Palo Verde	12	NS	Branch Dieback
2041	Crucifixion Thorn	20	NS	Branch Dieback
2042	Saguaro	28	NS	3 arms / Damaged
2043	Foothills Palo Verde	24	NS	Branch Dieback
2044	Foothills Palo Verde	5	NS	Trunk Form / Leaning
2045	Crucifixion Thorn	4	S	
2046	Foothills Palo Verde	4	NS	Trunk Form / Leaning
2047	Foothills Palo Verde	14	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2048	Foothills Palo Verde	10	NS	Branch Dieback
2049	Foothills Palo Verde	8	NS	Branch Dieback
2050	Crucifixion Thorn	8	NS	Branch Dieback
2051	Crucifixion Thorn	8	NS	Branch Dieback
2052	Crucifixion Thorn	14	NS	Branch Dieback
2053	Crucifixion Thorn	15	NS	Branch Dieback
2054	Crucifixion Thorn	10	NS	Branch Dieback
2055	Crucifixion Thorn	6	NS	Branch Dieback
2056	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2057	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
2058	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2059	Foothills Palo Verde	10	S	
2060	Saguaro	74	NS	6 arms / Declining
2061	Hackberry	24	NS	Branch Dieback
2062	Foothills Palo Verde	20	NS	Branch Dieback
2063	Crucifixion Thorn	8	NS	Branch Dieback
2064	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
2065	Hackberry	99	NS	Wide Base / Cambium Damage
2066	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2067	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2068	Blue Palo Verde	8	NS	Branch Dieback / Cambium Damage
2069	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2070	Foothills Palo Verde	17	NS	Branch Dieback / Cambium Damage
2071	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
2072	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2073	Foothills Palo Verde	40	NS	Branch Dieback / Cambium Damage
2074	Mesquite	14	S	
2075	Mesquite	14	NS	Branch Dieback / Cambium Damage
2076	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2077	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2078	Foothills Palo Verde	5	S	
2079	Barrel	4	S	
2080	Barrel	4	S	
2081	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2082	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
2083	Foothills Palo Verde	18	NS	Branch Dieback / Cambium Damage
2084	Foothills Palo Verde	6	S	
2085	Foothills Palo Verde	14	NS	Branch Dieback
2086	Foothills Palo Verde	12	S	
2087	Foothills Palo Verde	8	NS	Branch Dieback
2088	Crucifixion Thorn	8	NS	Branch Dieback
2089	Saguaro	6	S	
2090	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
2091	Ocotillo	14	S	
2092	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2093	Ocotillo	10	S	
2094	Barrel	4	S	
2095	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2096	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2097	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
2098	Saguaro	13	S	
2099	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2100	Foothills Palo Verde	4	NS	Wash
2101	Foothills Palo Verde	4	NS	Wash
2102	Ocotillo	16	S	
2103	Ocotillo	14	S	
2104	Ocotillo	9	S	
2105	Barrel	9	S	Multiple Heads
2106	Foothills Palo Verde	18	NS	Branch Dieback / Cambium Damage
2107	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
2108	Hackberry	30	NS	Branch Dieback / Cambium Damage
2109	Saguaro	58	NS	6 arms / Damaged
2110	Foothills Palo Verde	20	NS	Exposed Roots / Cambium Damage
2111	Ocotillo	16	S	
2112	Barrel	6	S	
2113	Barrel	6	S	
2114	Ocotillo	14	S	
2115	Foothills Palo Verde	30	NS	Branch Dieback / Cambium Damage
2116	Foothills Palo Verde	12	S	
2117	Foothills Palo Verde	12	NS	Branch Dieback
2118	Foothills Palo Verde	12	NS	Branch Dieback
2119	Foothills Palo Verde	6	NS	Branch Dieback
2120	Foothills Palo Verde	7	NS	Mistletoe
2121	Foothills Palo Verde	14	NS	Mistletoe
2122	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2123	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2124	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
2125	Foothills Palo Verde	7	NS	In Rocks / Cambium Damage
2126	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2127	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2128	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2129	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2130	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
2131	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2132	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2133	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
2134	Hackberry	40	NS	Wide Base / Cambium Damage
2135	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
2136	Foothills Palo Verde	12	S	
2137	Foothills Palo Verde	6	NS	Exposed Roots
2138	Foothills Palo Verde	10	S	
2139	Hackberry	40	NS	Wide Base
2140	Foothills Palo Verde	28	NS	Branch Dieback
2141	Foothills Palo Verde	14	NS	Branch Dieback
2142	Foothills Palo Verde	18	NS	Branch Dieback / Mistletoe
2143	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2144	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2145	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2146	Foothills Palo Verde	18	NS	Branch Dieback / Cambium Damage
2147	Foothills Palo Verde	14	S	
2148	Foothills Palo Verde	14	NS	Branch Dieback
2149	Foothills Palo Verde	10	NS	Trunk Form / Leaning
2150	Mesquite	19	S	
2151	Barrel	5	S	
2152	Foothills Palo Verde	8	S	
2153	Foothills Palo Verde	8	S	
2154	Foothills Palo Verde	8	NS	Trunk Form / Leaning
2155	Foothills Palo Verde	14	NS	Trunk Form / Leaning
2156	Foothills Palo Verde	18	NS	Branch Dieback / Cambium Damage
2157	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
2158	Barrel	5	S	
2159	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2160	Saguaro	64	S	5 arms
2161	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2162	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
2163	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
2164	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
2165	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
2166	Crucifixion Thorn	10	NS	Exposed Roots / Cambium Damage
2167	Saguaro	11	S	
2168	Barrel	4	NS	Poor Form / Leaning
2169	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
2170	Barrel	4	S	
2171	Hackberry	99	NS	Cluster
2172	Mesquite	8	NS	Branch Dieback
2173	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2174	Foothills Palo Verde	8	S	
2175	Foothills Palo Verde	8	NS	Branch Dieback / Mistletoe
2176	Foothills Palo Verde	12	NS	Branch Dieback / Mistletoe
2177	Foothills Palo Verde	14	NS	Mistletoe
2178	Foothills Palo Verde	12	S	
2179	Crucifixion Thorn	14	NS	Branch Dieback / Cambium Damage
2180	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2181	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
2182	Foothills Palo Verde	8	S	
2183	Foothills Palo Verde	8	NS	Exposed Roots
2184	Foothills Palo Verde	30	NS	Exposed Roots / Cluster
2185	Foothills Palo Verde	30	NS	Exposed Roots / Cluster
2186	Foothills Palo Verde	12	NS	Wash
2187	Foothills Palo Verde	40	NS	Exposed Roots / Cluster
2188	Foothills Palo Verde	30	NS	Exposed Roots / Cluster
2189	Foothills Palo Verde	6	NS	Trunk Form / Leaning
2190	Foothills Palo Verde	10	NS	Exposed Roots
2191	Foothills Palo Verde	5	NS	Branch Dieback
2192	Foothills Palo Verde	6	NS	Branch Dieback
2193	Foothills Palo Verde	12	NS	Branch Dieback
2194	Foothills Palo Verde	12	NS	Trunk Form / Leaning

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2195	Foothills Palo Verde	7	NS	Trunk Form / Leaning
2196	Foothills Palo Verde	5	NS	Exposed Roots
2197	Foothills Palo Verde	5	S	
2198	Ocotillo	14	S	
2199	Foothills Palo Verde	20	NS	Branch Dieback
2200	Foothills Palo Verde	12	NS	Branch Dieback
2201	Foothills Palo Verde	8	NS	Exposed Roots
2202	Foothills Palo Verde	8	NS	Trunk Form / Root Growth
2203	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2204	Foothills Palo Verde	14	S	
2205	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2206	Foothills Palo Verde	15	NS	Trunk Form
2207	Foothills Palo Verde	8	S	
2208	Hackberry	40	NS	Wide Base
2209	Foothills Palo Verde	6	S	
2210	Foothills Palo Verde	8	S	
2211	Foothills Palo Verde	16	NS	Branch Dieback
2212	Hackberry	40	NS	Cluster
2213	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2214	Foothills Palo Verde	12	NS	Exposed Roots / Mistletoe
2215	Barrel	5	NS	Damaged
2216	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2217	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
2218	Crucifixion Thorn	16	NS	Branch Dieback / Cambium Damage
2219	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2220	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2221	Foothills Palo Verde	18	NS	Branch Dieback / Cambium Damage
2222	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
2223	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2224	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2225	Foothills Palo Verde	8	S	
2226	Foothills Palo Verde	10	S	
2227	Hackberry	30	NS	Cluster
2228	Ocotillo	11	NS	Damaged
2229	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
2230	Foothills Palo Verde	6	NS	In Wash / Root Growth
2231	Foothills Palo Verde	8	NS	In Wash / Root Growth
2232	Foothills Palo Verde	15	NS	Trunk Form / Leaning
2233	Foothills Palo Verde	15	NS	Trunk Form / Leaning
2233	Saguaro	4	S	
2235	Foothills Palo Verde	15	NS	Branch Dieback / Cambium Damage
2236	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2237	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2238	Foothills Palo Verde	20	NS	Wide Base / Cambium Damage
2239	Blue Palo Verde	10	S	
2240	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2241	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2242	Blue Palo Verde	8	NS	Branch Dieback / Cambium Damage
2243	Blue Palo Verde	8	NS	Mistletoe / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2244	Blue Palo Verde	8	S	
2245	Foothills Palo Verde	20	NS	Wide Base
2246	Blue Palo Verde	8	NS	Branch Dieback / Cambium Damage
2247	Foothills Palo Verde	14	NS	Mistletoe
2248	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
2249	Foothills Palo Verde	8	S	
2250	Foothills Palo Verde	5	NS	Exposed Roots
2251	Foothills Palo Verde	12	NS	Branch Dieback
2252	Foothills Palo Verde	14	NS	Branch Dieback
2253	Foothills Palo Verde	20	NS	Wide Base
2254	Foothills Palo Verde	8	NS	Exposed Roots
2255	Blue Palo Verde	7	NS	Branch Dieback / Cambium Damage
2256	Blue Palo Verde	10	NS	Branch Dieback / Cambium Damage
2257	Foothills Palo Verde	20	NS	Wide Base / Cambium Damage
2258	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
2259	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
2260	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
2261	Foothills Palo Verde	20	NS	Mistletoe / Cambium Damage
2262	Foothills Palo Verde	8	NS	Trunk Form / Leaning
2263	Foothills Palo Verde	10	NS	Trunk Form / Leaning
2264	Foothills Palo Verde	6	NS	Trunk Form / Leaning
2265	Foothills Palo Verde	6	NS	Trunk Form / Leaning
2266	Foothills Palo Verde	5	NS	Exposed Roots / Root Growth
2267	Foothills Palo Verde	10	NS	Branch Dieback
2268	Foothills Palo Verde	10	NS	Exposed Roots
2269	Foothills Palo Verde	7	NS	Exposed Roots
2270	Foothills Palo Verde	6	NS	Exposed Roots
2271	Ocotillo	15	S	
2272	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2273	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2274	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
2275	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2276	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2277	Saguaro	56	S	5 arms
2278	Saguaro	30	S	3 arms
2279	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
2280	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
2281	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
2282	Foothills Palo Verde	10	S	
2283	Foothills Palo Verde	14	NS	Branch Dieback
2284	Foothills Palo Verde	18	NS	Mistletoe
2285	Foothills Palo Verde	12	NS	Mistletoe
2286	Crucifixion Thorn	8	NS	Branch Dieback
2287	Barrel	5	S	
2288	Saguaro	70	NS	5 arms / Declining
2289	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
2290	Ocotillo	13	S	
2291	Ocotillo	12	S	
2292	Ocotillo	13	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2293	Barrel	5	S	
2294	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2295	Saguaro	55	S	4 arms
2296	Ocotillo	15	S	
2297	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2298	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2299	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
2300	Foothills Palo Verde	7	NS	Trunk Form / Leaning
2301	Foothills Palo Verde	7	NS	Trunk Form / Leaning
2302	Foothills Palo Verde	5	NS	Trunk Form / Leaning
2303	Foothills Palo Verde	5	NS	Branch Dieback / Leaning
2304	Foothills Palo Verde	5	NS	Branch Dieback / Leaning
2305	Ocotillo	16	S	
2306	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
2307	Foothills Palo Verde	10	NS	Trunk Form / Leaning
2308	Foothills Palo Verde	12	NS	Trunk Form / Leaning
2309	Foothills Palo Verde	5	NS	Trunk Form / Leaning
2310	Foothills Palo Verde	7	NS	Trunk Form / Leaning
2311	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
2312	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
2313	Ocotillo	8	S	
2314	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
2315	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
2316	Ocotillo	6	S	
2317	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
2318	Foothills Palo Verde	18	NS	Exposed Roots / Cambium Damage
2319	Foothills Palo Verde	8	NS	Trunk Form / Leaning
2320	Foothills Palo Verde	8	NS	Trunk Form / Leaning
2321	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
2322	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
2323	Ocotillo	10	S	
2324	Ocotillo	9	S	
2325	Ocotillo	16	S	
2326	Ocotillo	14	S	
2327	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
2328	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2329	Ocotillo	14	S	
2330	Ocotillo	13	S	
2331	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2332	Ocotillo	13	S	
2333	Crucifixion Thorn	14	NS	Branch Dieback / Cambium Damage
2334	Ocotillo	14	S	
2335	Crucifixion Thorn	14	NS	Branch Dieback / Cambium Damage
2336	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
2337	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2338	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2339	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
2340	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
2341	Foothills Palo Verde	14	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2342	Blue Palo Verde	8	NS	Branch Dieback
2343	Crucifixion Thorn	8	NS	Branch Dieback
2344	Foothills Palo Verde	10	S	
2345	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
2346	Foothills Palo Verde	10	S	
2347	Saguaro	47	S	5 arms
2348	Saguaro	44	S	
2349	Foothills Palo Verde	8	NS	Exposed Roots / In Wash
2350	Foothills Palo Verde	5	NS	Exposed Roots / In Wash
2351	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
2352	Foothills Palo Verde	9	NS	Branch Dieback / Cambium Damage
2353	Ocotillo	16	S	
2354	Foothills Palo Verde	7	NS	Exposed Roots
2355	Foothills Palo Verde	14	S	
2356	Foothills Palo Verde	10	NS	Exposed Roots
2357	Foothills Palo Verde	14	NS	Exposed Roots
2358	Foothills Palo Verde	12	S	
2359	Foothills Palo Verde	20	NS	Branch Dieback
2360	Foothills Palo Verde	4	S	
2361	Foothills Palo Verde	6	NS	Branch Dieback
2362	Foothills Palo Verde	9	NS	Mistletoe
2363	Foothills Palo Verde	9	NS	Branch Dieback
2364	Blue Palo Verde	30	NS	Wide Base
2365	Blue Palo Verde	8	NS	Branch Dieback / Cambium Damage
2366	Blue Palo Verde	8	NS	Branch Dieback / Cambium Damage
2367	Ocotillo	15	S	
2368	Ocotillo	8	S	
2369	Crucifixion Thorn	12	NS	Branch Dieback / Cambium Damage
2370	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2371	Crucifixion Thorn	8	S	
2372	Foothills Palo Verde	20	NS	Mistletoe / Cambium Damage
2373	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2374	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2375	Ocotillo	12	S	
2376	Ocotillo	15	S	
2377	Crucifixion Thorn	14	NS	Branch Dieback / Cambium Damage
2378	Ocotillo	8	S	
2379	Foothills Palo Verde	7	S	
2380	Crucifixion Thorn	9	S	
2381	Barrel	4	S	
2382	Ocotillo	14	S	
2383	Barrel	3	S	
2384	Crucifixion Thorn	16	NS	Branch Dieback
2385	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2386	Crucifixion Thorn	16	NS	Branch Dieback / Cambium Damage
2387	Barrel	5	S	
2388	Ocotillo	10	S	
2389	Ocotillo	12	S	
2390	Ocotillo	12	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2391	Barrel	4	NS	Poor Form
2392	Saguaro	3	S	
2393	Ocotillo	8	S	
2394	Saguaro	6	S	
2395	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2396	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
2397	Ocotillo	16	S	
2398	Foothills Palo Verde	10	S	
2399	Ocotillo	10	S	
2400	Ocotillo	13	S	
2401	Crucifixion Thorn	12	NS	Branch Dieback / Cambium Damage
2402	Crucifixion Thorn	12	NS	Branch Dieback / Cambium Damage
2403	Barrel	6	S	
2404	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2405	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
2406	Barrel	6	S	
2407	Ocotillo	14	S	
2408	Ocotillo	14	S	
2409	Foothills Palo Verde	20	NS	Mistletoe / Cambium Damage
2410	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
2411	Saguaro	3	S	
2412	Foothills Palo Verde	18	NS	Branch Dieback / Cambium Damage
2413	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2414	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2415	Ocotillo	15	S	
2416	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
2417	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2418	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
2419	Saguaro	26	S	4 arms
2420	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2421	Ocotillo	16	S	
2422	Crucifixion Thorn	12	NS	Branch Dieback / Cambium Damage
2423	Ocotillo	16	S	
2424	Ocotillo	16	S	
2425	Foothills Palo Verde	18	NS	Mistletoe / Cambium Damage
2426	Foothills Palo Verde	18	NS	Mistletoe / Cambium Damage
2427	Foothills Palo Verde	12	NS	Mistletoe / Cambium Damage
2428	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
2429	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
2430	Ocotillo	16	S	
2431	Foothills Palo Verde	14	S	
2432	Foothills Palo Verde	12	NS	Exposed Roots
2433	Foothills Palo Verde	18	NS	Trunk Form / Poor Structure
2434	Foothills Palo Verde	14	NS	Trunk Form / Poor Structure
2435	Crucifixion Thorn	10	NS	Branch Dieback
2436	Ocotillo	14	S	
2437	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
2438	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
2439	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2440	Ocotillo	14	S	
2441	Ocotillo	14	S	
2442	Saguaro	4	S	
2443	Crucifixion Thorn	14	NS	Branch Dieback / Cambium Damage
2444	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2445	Ocotillo	17	S	
2446	Ocotillo	12	S	
2447	Foothills Palo Verde	16	NS	Mistletoe / Cambium Damage
2448	Foothills Palo Verde	5	NS	Trunk Form / Leaning
2449	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2450	Ocotillo	9	S	
2451	Barrel	4	NS	Declining
2452	Ocotillo	15	S	
2453	Ocotillo	13	S	
2454	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
2455	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
2456	Foothills Palo Verde	10	NS	Mistletoe / Cambium Damage
2457	Crucifixion Thorn	8	NS	Mistletoe / Cambium Damage
2458	Foothills Palo Verde	8	NS	Mistletoe / Cambium Damage
2459	Ocotillo	11	S	
2460	Ocotillo	13	S	
2461	Ocotillo	11	S	
2462	Ocotillo	10	S	
2463	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2464	Ocotillo	10	S	
2465	Saguaro	10	S	
2466	Crucifixion Thorn	6	NS	Branch Dieback / Cambium Damage
2467	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
2468	Ocotillo	8	S	
2469	Ocotillo	7	S	
2470	Ocotillo	13	S	
2471	Ocotillo	8	S	
2472	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
2473	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
2474	Barrel	4	S	
2475	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
2476	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
2477	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
2478	Barrel	4	S	
2479	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2480	Barrel	4	S	
2481	Ocotillo	12	S	
2482	Crucifixion Thorn	8	S	
2483	Foothills Palo Verde	5	NS	Exposed Roots
2484	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
2485	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2486	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2487	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2488	Barrel	4	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2489	Foothills Palo Verde	10	S	
2490	Foothills Palo Verde	12	NS	Mistletoe / Cambium Damage
2491	Crucifixion Thorn	12	NS	Branch Dieback / Cambium Damage
2492	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
2493	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
2494	Ocotillo	14	S	
2495	Ocotillo	13	S	
2496	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
2497	Foothills Palo Verde	12	NS	Branch Dieback / Leaning
2498	Foothills Palo Verde	8	NS	Branch Dieback / Leaning
2499	Foothills Palo Verde	4	NS	Branch Dieback / Leaning
2500	Foothills Palo Verde	4	NS	Branch Dieback / Leaning
2501	Ocotillo	12	S	
2502	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
2503	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2504	Saguaro	15	S	2 heads
2505	Foothills Palo Verde	4	NS	Exposed Roots / Cambium Damage
2506	Barrel	5	S	
2507	Barrel	5	S	2 heads
2508	Barrel	5	NS	Declining
2509	Barrel	3	S	
2510	Barrel	5	S	
2511	Barrel	4	S	
2512	Foothills Palo Verde	4	NS	Branch Dieback / Cambium Damage
2513	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2514	Ocotillo	18	S	
2515	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2516	Barrel	5	S	
2517	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2518	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2519	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2520	Barrel	3	S	
2521	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2522	Barrel	8	S	2 heads
2523	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2524	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
2525	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2526	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2527	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2528	Foothills Palo Verde	10	S	
2529	Foothills Palo Verde	10	NS	Exposed Roots
2530	Foothills Palo Verde	14	NS	Branch Dieback
2531	Foothills Palo Verde	14	NS	Exposed Roots
2532	Foothills Palo Verde	6	NS	Exposed Roots
2533	Foothills Palo Verde	8	NS	Exposed Roots
2534	Foothills Palo Verde	18	NS	Exposed Roots / Cluster
2535	Foothills Palo Verde	10	NS	Exposed Roots
2536	Foothills Palo Verde	7	NS	Exposed Roots
2537	Foothills Palo Verde	7	NS	Exposed Roots

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2538	Foothills Palo Verde	10	NS	Exposed Roots
2539	Mesquite	30	NS	Branch Dieback / Cambium Damage
2540	Blue Palo Verde	14	NS	Branch Dieback / Cambium Damage
2541	Hackberry	30	NS	Branch Dieback / Cambium Damage
2542	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2543	Mesquite	8	S	
2544	Foothills Palo Verde	20	NS	Mistletoe
2545	Foothills Palo Verde	6	S	
2546	Foothills Palo Verde	8	NS	Branch Dieback
2547	Foothills Palo Verde	8	NS	Exposed Roots
2548	Foothills Palo Verde	8	NS	Branch Dieback
2549	Foothills Palo Verde	5	NS	Branch Dieback
2550	Crucifixion Thorn	5	NS	Branch Dieback
2551	Foothills Palo Verde	5	NS	Branch Dieback
2552	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
2553	Ocotillo	5	S	
2554	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2555	Foothills Palo Verde	4	NS	Exposed Roots / Cambium Damage
2556	Foothills Palo Verde	6	NS	Exposed Roots / Cambium Damage
2557	Foothills Palo Verde	6	NS	Wide Base / Cambium Damage
2558	Crucifixion Thorn	11	NS	Branch Dieback / Cambium Damage
2559	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2560	Foothills Palo Verde	1	NS	Branch Dieback / Cambium Damage
2561	Foothills Palo Verde	11	NS	Branch Dieback / Cambium Damage
2562	Foothills Palo Verde	7	NS	Trunk Form / Leaning
2563	Foothills Palo Verde	7	NS	Trunk Form / Leaning
2564	Crucifixion Thorn	10	NS	Branch Dieback
2565	Foothills Palo Verde	5	NS	Exposed Roots
2566	Foothills Palo Verde	8	NS	Branch Dieback
2567	Barrel	4	S	
2568	Foothills Palo Verde	8	NS	Branch Dieback
2569	Crucifixion Thorn	8	NS	Branch Dieback
2570	Crucifixion Thorn	8	NS	Trunk Form / Leaning
2571	Foothills Palo Verde	13	NS	Branch Dieback / Cambium Damage
2572	Saguaro	28	S	3 arms
2573	Foothills Palo Verde	15	NS	Branch Dieback / Cambium Damage
2574	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2575	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2576	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
2577	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2578	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
2579	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2580	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
2581	Saguaro	43	S	5 arms
2582	Ocotillo	15	S	
2583	Crucifixion Thorn	14	NS	Branch Dieback / Cambium Damage
2584	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2585	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
2586	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2587	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2588	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
2589	Saguaro	32	S	3 arms
2590	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
2591	Barrel	4	S	
2592	Ocotillo	12	S	
2593	Ocotillo	12	S	
2594	Ocotillo	16	S	
2595	Ocotillo	16	S	
2596	Ocotillo	13	S	
2597	Saguaro	67	S	3 heads
2598	Saguaro	30	S	3 arms
2599	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2600	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2601	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
2602	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2603	Saguaro	51	S	5 arms
2604	Ocotillo	13	S	
2605	Ocotillo	16	S	
2606	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2607	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2608	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2609	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2610	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2611	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
2612	Foothills Palo Verde	8	NS	Mistletoe / Cambium Damage
2613	Foothills Palo Verde	8	NS	Trunk Form / Leaning
2614	Foothills Palo Verde	10	NS	Branch Dieback
2615	Foothills Palo Verde	5	S	
2616	Ocotillo	6	S	
2617	Ocotillo	8	S	
2618	Ocotillo	13	S	
2619	Ocotillo	12	S	
2620	Barrel	4	S	
2621	Ocotillo	10	S	
2622	Ocotillo	13	S	
2623	Ocotillo	9	S	
2624	Ocotillo	12	S	
2625	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
2626	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2627	Ocotillo	15	S	
2628	Ocotillo	13	S	
2629	Crucifixion Thorn	14	NS	Branch Dieback / Cambium Damage
2630	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
2631	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2632	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2633	Crucifixion Thorn	12	NS	Branch Dieback / Cambium Damage
2634	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
2635	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2636	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2637	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2638	Foothills Palo Verde	7	S	
2639	Foothills Palo Verde	14	S	
2640	Foothills Palo Verde	15	S	
2641	Foothills Palo Verde	5	NS	Trunk Form / Root Growth
2642	Foothills Palo Verde	10	NS	Branch Dieback
2643	Foothills Palo Verde	6	NS	Trunk Form / Leaning
2644	Foothills Palo Verde	8	NS	Branch Dieback
2645	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2646	Saguaro	4	S	
2647	Ocotillo	15	S	
2648	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
2649	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2650	Ocotillo	13	S	
2651	Saguaro	29	S	6 arms
2652	Foothills Palo Verde	14	S	
2653	Foothills Palo Verde	10	NS	Branch Dieback
2654	Saguaro	4	S	
2655	Saguaro	37	NS	Damaged
2656	Hackberry	40	NS	Wide Base
2657	Foothills Palo Verde	24	NS	Branch Dieback
2658	Blue Palo Verde	12	NS	Branch Dieback
2659	Hackberry	99	NS	Wide Base
2660	Mesquite	10	NS	Branch Dieback / Cambium Damage
2661	Blue Palo Verde	10	NS	Branch Dieback / Cambium Damage
2662	Foothills Palo Verde	20	NS	Branch Dieback / Cambium Damage
2663	Foothills Palo Verde	24	NS	Branch Dieback / Cambium Damage
2664	Foothills Palo Verde	18	NS	Branch Dieback / Cambium Damage
2665	Hackberry	40	NS	Wide Base / Cambium Damage
2666	Foothills Palo Verde	30	NS	Branch Dieback / Cambium Damage
2667	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
2668	Hackberry	30	NS	Wide Base / Cambium Damage
2669	Saguaro	29	S	2 heads
2670	Barrel	5	S	
2671	Barrel	4	S	
2672	Barrel	4	S	
2673	Ocotillo	16	S	
2674	Foothills Palo Verde	4	S	
2675	Foothills Palo Verde	8	S	
2676	Crucifixion Thorn	14	NS	Branch Dieback
2677	Crucifixion Thorn	20	NS	Branch Dieback
2678	Crucifixion Thorn	14	NS	Branch Dieback
2679	Ocotillo	8	S	
2680	Crucifixion Thorn	14	NS	Branch Dieback
2681	Barrel	4	NS	Declining
2682	Foothills Palo Verde	8	S	
2683	Foothills Palo Verde	8	NS	Trunk Form / Leaning
2684	Foothills Palo Verde	12	NS	Branch Dieback

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2685	Foothills Palo Verde	10	NS	Branch Dieback
2686	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2687	Foothills Palo Verde	5	S	
2688	Mesquite	8	NS	Branch Dieback
2689	Foothills Palo Verde	8	NS	Exposed Roots
2690	Foothills Palo Verde	10	NS	Exposed Roots
2691	Mesquite	10	NS	Exposed Roots
2692	Foothills Palo Verde	7	NS	Exposed Roots
2693	Foothills Palo Verde	14	NS	Branch Dieback / Exposed Roots
2694	Foothills Palo Verde	8	NS	Trunk Form / Leaning
2695	Foothills Palo Verde	12	NS	Trunk Form / Leaning
2696	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
2697	Barrel	4	NS	Declining
2698	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
2699	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
2700	Ocotillo	13	S	
2701	Barrel	4	S	
2702	Ocotillo	12	S	
2703	Saguaro	8	S	
2704	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2705	Crucifixion Thorn	12	NS	Branch Dieback / Cambium Damage
2706	Foothills Palo Verde	5	NS	Exposed Roots / Cambium Damage
2707	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
2708	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
2709	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
2710	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
2711	Ocotillo	12	S	
2712	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2713	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2714	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2715	Barrel	4	S	
2716	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2717	Barrel	4	NS	Declining
2718	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
2719	Barrel	6	S	
2720	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2721	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2722	Ocotillo	13	NS	Damaged
2723	Barrel	4	S	
2724	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
2725	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2726	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2727	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
2728	Foothills Palo Verde	6	NS	In Wash / Root Growth
2729	Foothills Palo Verde	6	NS	In Wash / Root Growth
2730	Foothills Palo Verde	7	NS	In Wash / Root Growth
2731	Foothills Palo Verde	5	NS	In Wash / Root Growth
2732	Barrel	3	S	
2733	Saguaro	69	S	4 arms

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2734	Foothills Palo Verde	5	NS	Exposed Roots
2735	Foothills Palo Verde	8	NS	Exposed Roots
2736	Foothills Palo Verde	20	NS	Exposed Roots
2737	Foothills Palo Verde	6	NS	Exposed Roots / Root Growth
2738	Foothills Palo Verde	20	NS	Exposed Roots / Cambium Damage
2739	Saguaro	27	NS	4 arms / Damaged
2740	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
2741	Barrel	4	NS	Poor Form / Leaning
2742	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2743	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2744	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2745	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2746	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2747	Ocotillo	12	S	
2748	Ocotillo	17	S	
2749	Barrel	4	S	
2750	Ocotillo	17	S	
2751	Barrel	3	NS	Declining
2752	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2753	Foothills Palo Verde	10	S	
2754	Crucifixion Thorn	10	S	
2755	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
2756	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2757	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
2758	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2759	Ocotillo	14	S	
2760	Ocotillo	17	S	
2761	Crucifixion Thorn	12	NS	Branch Dieback / Cambium Damage
2762	Barrel	4	S	
2763	Barrel	4	S	
2764	Barrel	4	S	
2765	Barrel	7	S	
2766	Foothills Palo Verde	12	NS	Mistletoe / Cambium Damage
2767	Crucifixion Thorn	10	NS	Mistletoe / Cambium Damage
2768	Crucifixion Thorn	12	NS	Mistletoe / Cambium Damage
2769	Crucifixion Thorn	8	NS	Mistletoe / Cambium Damage
2770	Crucifixion Thorn	8	NS	Mistletoe / Cambium Damage
2771	Foothills Palo Verde	5	NS	Trunk Form / Root Growth
2772	Foothills Palo Verde	16	NS	Mistletoe
2773	Foothills Palo Verde	16	NS	Mistletoe
2774	Ocotillo	14	S	
2775	Foothills Palo Verde	5	NS	Branch Dieback / Cambium Damage
2776	Foothills Palo Verde	7	NS	Exposed Roots / Cambium Damage
2777	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
2778	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
2779	Ocotillo	12	S	
2780	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2781	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2782	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2783	Ocotillo	19	S	
2784	Foothills Palo Verde	16	S	
2785	Barrel	3	S	
2786	Foothills Palo Verde	14	NS	Branch Dieback
2787	Foothills Palo Verde	8	NS	Branch Dieback
2788	Foothills Palo Verde	10	NS	Branch Dieback
2789	Foothills Palo Verde	10	NS	Trunk Form / Leaning
2790	Ocotillo	18	S	
2791	Barrel	6	S	2 heads
2792	Barrel	4	S	
2793	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2794	Foothills Palo Verde	8	NS	Trunk Form / Leaning
2795	Ocotillo	16	S	
2796	Barrel	4	S	
2797	Foothills Palo Verde	6	NS	Branch Dieback
2798	Foothills Palo Verde	6	NS	Branch Dieback
2799	Foothills Palo Verde	18	NS	Exposed Roots
2800	Crucifixion Thorn	11	NS	Branch Dieback / Cambium Damage
2801	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
2802	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
2803	Crucifixion Thorn	7	NS	Branch Dieback / Cambium Damage
2804	Foothills Palo Verde	10	NS	Mistletoe / Cambium Damage
2805	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
2806	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
2807	Foothills Palo Verde	8	NS	Exposed Roots / Cambium Damage
2808	Foothills Palo Verde	24	NS	Branch Dieback / Cambium Damage
2809	Saguaro	23	S	3 arms
2810	Saguaro	23	S	2 arms
2811	Foothills Palo Verde	10	NS	Exposed Roots / Cambium Damage
2812	Barrel	3	S	
2813	Barrel	3	S	
2814	Barrel	3	NS	Declining
2815	Barrel	3	S	
2816	Barrel	3	S	
2817	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2818	Saguaro	29	S	3 arms
2819	Foothills Palo Verde	8	NS	Trunk Form / Leaning
2820	Foothills Palo Verde	22	NS	Mistletoe
2821	Foothills Palo Verde	12	NS	Trunk Form / Leaning
2822	Foothills Palo Verde	6	NS	Trunk Form / Leaning
2823	Foothills Palo Verde	8	S	
2824	Barrel	4	S	
2825	Saguaro	25	S	5 arms
2826	Foothills Palo Verde	14	NS	Exposed Roots / Cambium Damage
2827	Barrel	3	S	
2828	Barrel	4	S	
2829	Foothills Palo Verde	18	NS	Mistletoe / Cambium Damage
2830	Foothills Palo Verde	5	NS	Exposed Roots
2831	Foothills Palo Verde	7	NS	Exposed Roots

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2832	Foothills Palo Verde	10	S	
2833	Barrel	4	S	
2834	Saguaro	23	S	
2835	Saguaro	6	S	
2836	Barrel	4	S	
2837	Saguaro	20	S	
2838	Foothills Palo Verde	8	NS	Mistletoe / Cambium Damage
2839	Foothills Palo Verde	12	NS	Mistletoe / Cambium Damage
2840	Foothills Palo Verde	8	S	
2841	Foothills Palo Verde	12	NS	Exposed Roots
2842	Foothills Palo Verde	5	NS	Exposed Roots
2843	Foothills Palo Verde	8	NS	Exposed Roots
2844	Foothills Palo Verde	8	NS	Exposed Roots
2845	Foothills Palo Verde	12	NS	Branch Dieback
2846	Foothills Palo Verde	8	NS	Exposed Roots
2847	Foothills Palo Verde	8	NS	Branch Dieback
2848	Hackberry	20	NS	Wide Base
2849	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2850	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
2851	Mesquite	14	S	
2852	Barrel	3	S	
2853	Barrel	4	NS	Damaged
2854	Barrel	4	S	
2855	Foothills Palo Verde	12	S	
2856	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2857	Ocotillo	10	S	
2858	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2859	Ocotillo	12	S	
2860	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2861	Barrel	5	S	
2862	Barrel	4	NS	Declining
2863	Saguaro	5	S	
2864	Saguaro	13	S	
2865	Ocotillo	14	S	
2866	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2867	Barrel	4	S	
2868	Saguaro	70	S	8 arms
2869	Barrel	4	S	
2870	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2871	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
2872	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2873	Crucifixion Thorn	8	NS	Branch Dieback / Cambium Damage
2874	Foothills Palo Verde	14	S	
2875	Foothills Palo Verde	14	NS	Branch Dieback
2876	Foothills Palo Verde	8	S	
2877	Foothills Palo Verde	10	S	
2878	Ocotillo	18	S	
2879	Ocotillo	16	S	
2880	Saguaro	9	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2881	Ocotillo	15	S	
2882	Ocotillo	17	S	
2883	Ocotillo	14	S	
2884	Ocotillo	15	S	
2885	Crucifixion Thorn	14	NS	Branch Dieback
2886	Foothills Palo Verde	16	NS	Branch Dieback / Cambium Damage
2887	Ocotillo	16	S	
2888	Ocotillo	17	S	
2889	Ocotillo	18	S	
2890	Ocotillo	13	S	
2891	Ocotillo	13	S	
2892	Ocotillo	13	S	
2893	Ocotillo	17	S	
2894	Foothills Palo Verde	12	S	
2895	Foothills Palo Verde	14	NS	Mistletoe
2896	Foothills Palo Verde	12	NS	Mistletoe
2897	Foothills Palo Verde	12	NS	Mistletoe
2899	Ocotillo	12	S	
2900	Foothills Palo Verde	10	S	
2901	Barrel	3	NS	Declining
2902	Ocotillo	7	S	
2903	Ocotillo	11	S	
2904	Ocotillo	14	S	
2905	Ocotillo	11	S	
2906	Ocotillo	11	S	
2907	Ocotillo	14	S	
2908	Ocotillo	9	S	
2909	Ocotillo	11	S	
2910	Barrel	4	NS	Declining
2911	Ocotillo	14	S	
2912	Barrel	5	S	
2913	Ocotillo	14	S	
2914	Crucifixion Thorn	10	NS	Branch Dieback
2915	Crucifixion Thorn	10	NS	Branch Dieback
2916	Ocotillo	14	S	
2917	Saguaro	37	S	5 arms
2918	Crucifixion Thorn	18	NS	Branch Dieback
2919	Crucifixion Thorn	10	NS	Branch Dieback
2920	Foothills Palo Verde	26	NS	Branch Dieback
2921	Ocotillo	14	S	
2922	Barrel	4	S	
2923	Foothills Palo Verde	14	S	
2924	Foothills Palo Verde	9	S	
2925	Foothills Palo Verde	20	NS	Mistletoe
2926	Foothills Palo Verde	8	NS	Mistletoe
2927	Saguaro	34	S	1 arm
2928	Ocotillo	18	S	
2929	Foothills Palo Verde	14	NS	Branch Dieback / Cambium Damage
2930	Ocotillo	18	S	

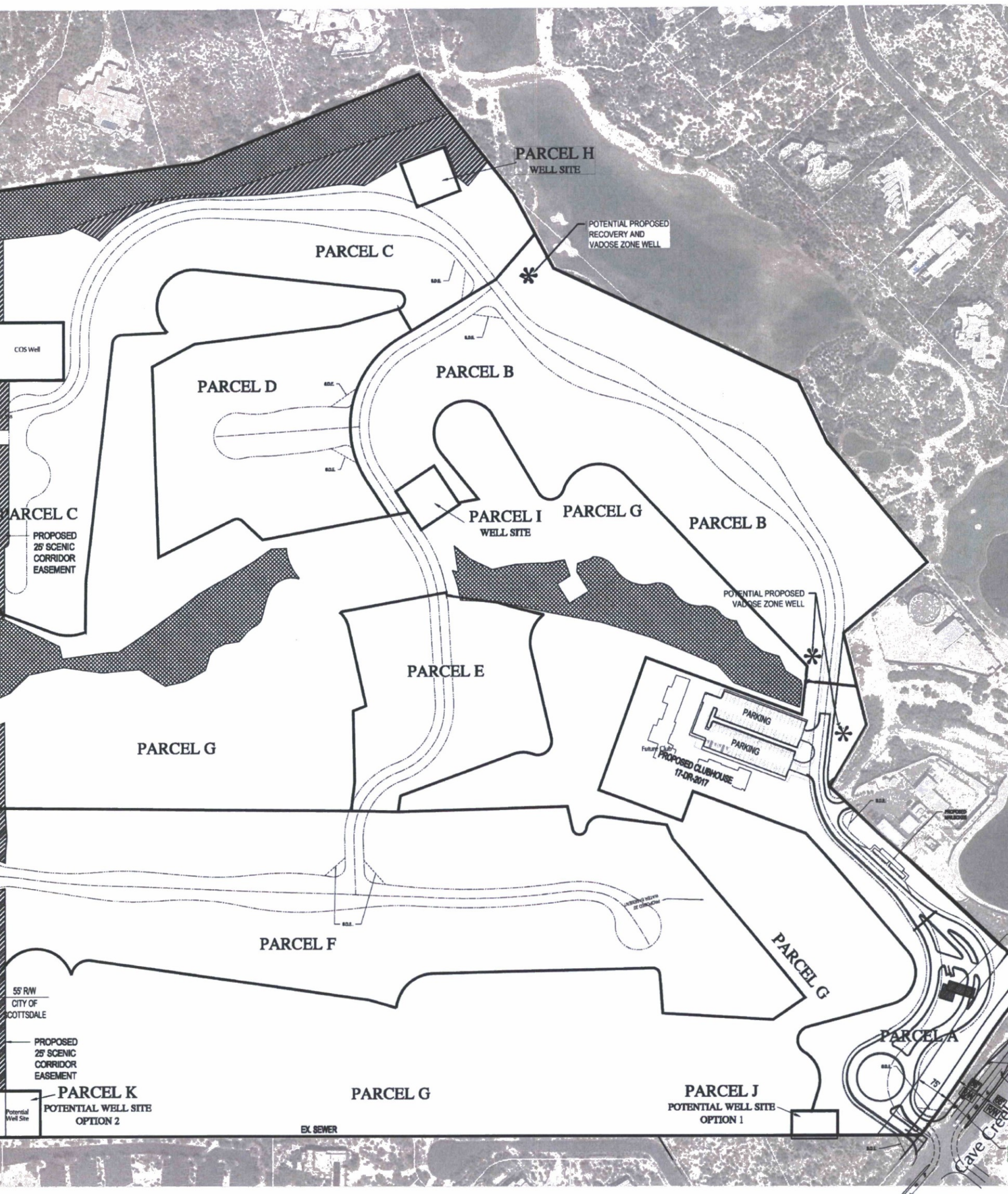
Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2931	Ocotillo	16	S	
2932	Ocotillo	9	S	
2933	Barrel	4	S	
2934	Barrel	4	S	
2935	Saguaro	20	S	
2936	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
2937	Barrel	6	S	
2938	Ocotillo	15	S	
2939	Crucifixion Thorn	14	NS	Branch Dieback / Cambium Damage
2940	Ocotillo	15	NS	Damaged
2941	Ocotillo	17	S	
2942	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2943	Foothills Palo Verde	16	NS	Mistletoe / Cambium Damage
2944	Foothills Palo Verde	5	NS	Trunk Form / Leaning
2945	Foothills Palo Verde	16	S	
2946	Foothills Palo Verde	8	NS	Exposed Roots
2947	Foothills Palo Verde	4	NS	Exposed Roots
2948	Foothills Palo Verde	8	NS	Exposed Roots
2949	Foothills Palo Verde	8	NS	Branch Dieback
2950	Ocotillo	10	S	
2951	Saguaro	79	S	2 heads / 6 arms
2952	Ocotillo	12	S	
2953	Barrel	5	S	
2954	Barrel	4	S	
2955	Foothills Palo Verde	8	NS	Mistletoe
2956	Ocotillo	16	S	
2957	Ocotillo	12	S	
2958	Saguaro	20	S	
2959	Foothills Palo Verde	12	S	
2960	Foothills Palo Verde	10	NS	Exposed Roots
2961	Foothills Palo Verde	7	NS	Trunk Form / Leaning
2962	Foothills Palo Verde	8	S	
2963	Ocotillo	15	S	
2964	Saguaro	3	S	
2965	Saguaro	87	S	6 arms
2966	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
2967	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2968	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2969	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
2970	Mesquite	5	NS	Trunk Form / Leaning
2971	Foothills Palo Verde	9	S	
2972	Ocotillo	18	S	
2973	Crucifixion Thorn	20	NS	Branch Dieback
2974	Ocotillo	22	S	
2975	Ocotillo	20	S	
2976	Crucifixion Thorn	8	NS	Branch Dieback
2977	Foothills Palo Verde	8	S	
2978	Ocotillo	15	S	
2979	Crucifixion Thorn	14	NS	Branch Dieback

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
2980	Barrel	3	S	
2981	Ocotillo	22	S	
2982	Crucifixion Thorn	10	NS	Branch Dieback
2983	Ocotillo	17	S	
2984	Ocotillo	17	S	
2985	Barrel	5	S	
2986	Crucifixion Thorn	10	NS	Branch Dieback / Cambium Damage
2987	Blue Palo Verde	7	NS	Declining / Cambium Damage
2988	Mesquite	4	NS	Rocks
2989	Foothills Palo Verde	8	S	
2990	Ocotillo	11	S	
2991	Foothills Palo Verde	11	NS	Mistletoe / Leaning
2992	Ocotillo	13	S	
2993	Ocotillo	16	S	
2994	Saguaro	67	NS	10 arms / Damaged
2995	Foothills Palo Verde	7	NS	Exposed Roots
2996	Foothills Palo Verde	12	NS	Branch Dieback / Cambium Damage
2997	Foothills Palo Verde	6	NS	Branch Dieback / Cambium Damage
2998	Ocotillo	13	S	
2999	Ocotillo	12	NS	Damaged
3000	Foothills Palo Verde	7	S	
3001	Ocotillo	14	S	
3002	Foothills Palo Verde	10	NS	Branch Dieback
3003	Saguaro	47	S	4 arms
3004	Saguaro	75	NS	6 arms / Declining / Pitted
3005	Saguaro	16	S	
3006	Ocotillo	14	S	
3007	Foothills Palo Verde	7	NS	Mistletoe
3008	Foothills Palo Verde	10	NS	Exposed Roots
3009	Ocotillo	16	S	
3010	Foothills Palo Verde	12	NS	Mistletoe / Leaning
3011	Barrel	4	S	
3012	Foothills Palo Verde	14	NS	Mistletoe
3013	Ocotillo	16	S	
3014	Crucifixion Thorn	12	NS	Branch Dieback / Cambium Damage
3015	Foothills Palo Verde	9	NS	Branch Dieback / Cambium Damage
3016	Foothills Palo Verde	9	NS	Trunk Form / Leaning
3017	Foothills Palo Verde	8	NS	Trunk Form / Leaning
3018	Crucifixion Thorn	6	NS	Branch Dieback / Cambium Damage
3019	Ocotillo	11	S	
3020	Crucifixion Thorn	16	NS	Branch Dieback / Cambium Damage
3021	Foothills Palo Verde	9	S	
3022	Saguaro	13	S	
3023	Foothills Palo Verde	8	S	
3024	Foothills Palo Verde	8	NS	Trunk Form / Leaning
3025	Foothills Palo Verde	14	NS	Exposed Roots
3026	Foothills Palo Verde	10	NS	Exposed Roots
3027	Foothills Palo Verde	8	NS	Exposed Roots
3028	Saguaro	12	S	

Plant #	Common Name	Caliper (in)/ Height (ft)	Status	Comments
3029	Foothills Palo Verde	8	NS	Branch Dieback
3030	Barrel	4	S	
3031	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
3032	Foothills Palo Verde	8	NS	Branch Dieback / Cambium Damage
3033	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
3034	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage
3035	Foothills Palo Verde	9	NS	Branch Dieback / Cambium Damage
3036	Crucifixion Thorn	9	NS	Branch Dieback / Cambium Damage
3037	Crucifixion Thorn	9	NS	Branch Dieback / Cambium Damage
3038	Foothills Palo Verde	10	NS	Branch Dieback / Cambium Damage
3039	Foothills Palo Verde	7	NS	Branch Dieback / Cambium Damage

Summary	Trees	Cacti
Salvageable	267	814
Non-Salvageable	1894	62
Remain-In-Place	0	0
Total	**2161**	**876**

Legend
S = Salvageable
NS = Non-Salvageable
RIP = Remain-In-Place



NAOS ZONES

Undisturbed NAOS - 5.29 Acres

Revegatated NAOS - 1.81 Acres

Desert Mountain NAOS Pool - 27.1 Acres
(Unsdisturbed NAOS)

NAOS Provided - 34.2 Acres = 37.3% of Property

Required NAOS per
Slope Analysis - 34.2 Acres = 37.3% of Property

Gross Property Acreage - 91.7 Acres

Desert Mountain Parcel 19 - NAOS Calculation

Land Slope	Upper Desert	Area (Acres)	Percent Area	NAOS Req (Acres
0-2%	25%	10.46	11.76%	2.62
2-5%	25%	10.13	11.38%	2.53
5-10%	35%	17.57	19.75%	6.15
10-15%	45%	20.78	23.35%	9.35
15-25%	45%	24.55	27.59%	11.05
Over 25%	45%	5.49	6.17%	2.47
		88.98	100.00%	34.17

TOTAL SLOPE AREA: 88.98 AC
TOTAL NAOS REQUIRED: 34.17 AC
UNDISTURBED REQUIRED: 23.92 AC
REVEGETATED ALLOWED (30% OF REQ'D): 10.25 AC

DESERT MOUNTAIN

Parcel 19

NAOS Plan

7-PP-2017
07/31/17

July 19, 2017

0 100 200

SCALE : 1" = 100'

m3companie

GREEY|PICKET