Correspondence Between
Staff and Applicant
Approval Letter

CivTech

ACCEPTED
CITY OF SCOTTSDALE
TRANSPORTATION DEPARTMENT
DATE: April 13, 2017
REVIEWER:

Registered Professional Engineer (Civil)
CERTIFICATE NO.
16255
JOSEPH F. SPADAFINO
Date Signed 2-9-17
ARIZONA, U.S.A.
Expires 6/30/2019

February 9, 2017

Ms. Alexandra Schuchter, Development Manager
Diversified Partners Commercial Real Estate
7500 East McDonald Drive, Suite 100A
Scottsdale, Arizona 85250
Phone:(480) 947-8800
Fax: (480) 947-8830
Email: alexandra@dpcre.com

RE: Category 1 Traffic Impact and Mitigation Analysis for the Rezoning of 2 Parcels on McDonald Drive from C-1 to R-5 – Scottsdale, Arizona

Dear Ms. Schuchter:

This Category 1 Traffic Impact and Mitigation Analysis (TIMA) has been prepared to assess the effects of a redevelopment of two small commercial parcels at 8340 and 8350 East McDonald Drive proposed by Diversified Partners Commercial Real Estate (DPCRE). This document represents a re-submittal prepare to address comments by the City of Scottsdale on a version dated December 21, 2016.

DPCRE is seeking rezoning from the existing C-1, Neighborhood Commercial District zoning, to an R-5 (Multiple-Family Residential) zoning. The two parcels currently (or until recently) have been used for a 3,060-square foot (SF) fine-dining restaurant (most recently, the Brooklyn Café, before then, the Voltaire French Restaurant) at 8340 and a 4,744-SF general office building at 8350. CivTech understands that a 22-dwelling unit (DU) residential condominium/townhouse development to be opened in 2017 is planned by Diversified Partners. **Attachment 1** is a preliminary site plan.

EXECUTIVE SUMMARY

DPCRE proposes to open in 2017 a development consisting of a two-story, 22-DU residential condominium/townhouse development with garages on the ground level and residences above the garages. The community will replace two commercial buildings at 8340 and 8350 East McDonald Drive in Scottsdale. This Category 1 TIMA is intended to become one component of a complete application package for the rezoning of the two lots from C-1, Neighborhood Commercial District zoning, to an R-5 (Multiple-Family Residential) zoning to R-5 zoning. The following are the conclusions of the trip generation and comparison statement prepared for this project:

- CivTech estimates that projected 2017 daily traffic volumes could be 22,500 vpd on McDonald Drive between Hayden and Granite Reef Roads, 1,050 vpd on Granite Reef Road north of McDonald Drive, and that approximately 26,100 vpd could be expected to enter the intersection of Granite Reef Road and McDonald Drive on a typical day in 2017.
- Based on a review of crashes recorded from 2013 to 2015, CivTech discerned no pattern of crashes susceptible to any kind of treatment and concludes that no mitigation measures are needed either on McDonald Drive or at the intersection of Granite Reef Road and McDonald Drive.
- DPCRE's development, if developed as proposed under the requested R-5 zoning currently being sought, could generate 172 trips daily, with 15 trips generated during the AM peak hour

10-ZN-2016
02/10/2017

(3 in/12 out) and 17 trips during the PM peak hour (11 in/6 out). These are an estimated 570 fewer trips daily (46 fewer during the AM peak hour and 105 fewer during the PM peak hour) than could be expected for the site if it were to be developed into a bank, a use allowed under the current C-1 zoning without any special permitting. These are also an estimated 234 fewer trips daily (4 net fewer during the AM peak hour and 90 fewer during the PM peak hour) than could have been expected from the previous restaurant and office uses for the site.

- Using a cross-product method, CivTech made a preliminary determination that left-turn phasing is not warranted on the east- and/or westbound approaches to the existing signalized intersection of Granite Reef Road at McDonald Drive. CivTech observed in the field maximum left turn queues of 5 and 6 left-turning vehicles, respectively, east- and westbound with only one vehicle having to wait into a second signal cycle to complete a left turn. CivTech concludes that these observations affirm CivTech's recommendation that left-turn phasing is not warranted.

BACKGROUND

The City's guidelines allow a Category 1 TIMA for developments that are expected to generate fewer than 100 trips per hour. For developments with single land uses, the City allows that a residential development with up to 100 dwelling units (DUs) qualifies for a Category 1 TIMA. DPCRE's proposed 22-dwelling unit residential condominium/townhouse development would, therefore, qualify for a Category 1 TIMA, for which only certain basic information is required. This letter-format report documents the TIMA. A site plan is required, as well as adjacent street volumes, a crash history, and a trip generation comparing the trips expected from the proposed land uses to those generated by existing land uses. Since both establishments are no longer in operation (and traffic counts cannot be recorded at the driveways), CivTech will base its trip generation comparison on a use that is allowed under Scottsdale's regulations governing the existing C-1, Neighborhood Commercial District, zoning without the need for any special use permits or floor area limitations.

EXISTING CONDITIONS

Figure 1 shows the vicinity of the project. To the east of the proposed development site are a gasoline station with repair facilities on the northwest corner of Granite Reef Road and McDonald Drive and a dry cleaners to the north of the gas station on Granite Reef Road. To the west and north are the Viridian Apartments, which are separated from the site by the aforementioned alley. Other surrounding development is generally residential in nature with neighborhood commercial uses on the other three corners of the Granite Reef Road/McDonald Drive intersection.

Figure 1 – Vicinity

McDonald Drive is a minor arterial street that runs east-west from 40th Street, less than five miles west of Miller Road, originating in the City of Phoenix as a residential street, crossing the Town of Paradise Valley (where it is rural in character and has speed limits of 25 MPH and 35 MPH), and terminating at its interchange with the Pima Freeway (State Route Loop 101) on the Salt

River Pima-Maricopa Indian Community, less than one mile east of the study site. In this area McDonald Drive, primarily serves local residents and employers, providing a route to and from the Pima Freeway. The City of Scottsdale operates and maintains McDonald Drive. Adjacent to the redevelopment site, the roadway cross-section for McDonald Drive consists of two 12-foot through lanes in each direction with a continuous two-way left turn lane. The City of Scottsdale publishes traffic volumes biennially. In 2014, McDonald Drive carried 22,000 vehicles per day (vpd) between Hayden and Granite Reef Roads in the year 2014, only slightly higher than the 21,800 vpd reported in 2010. In 2012, volumes were down from 2010, when on 21,200 vpd were reported. CivTech estimated that 2016 volumes may be slightly higher than 2014 volumes at 22,200 vpd and projects 2017 volumes of 22,500 vpd. McDonald Drive has a posted speed limit of 40 mph.

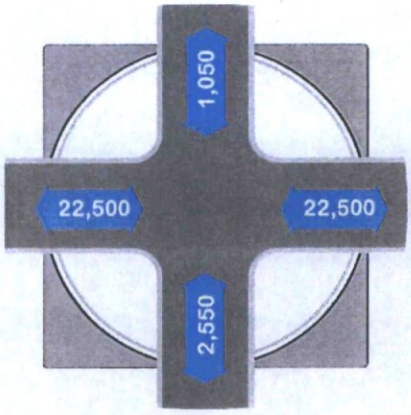
Granite Reef Road is a major collector street that runs north-south along the half-Section line. It begins in a cul-de-sac approximately 1,000 feet south of Roosevelt Street and continues north to Indian Bend Road, interrupted between Osborn Road and Columbus Avenue by Pima Elementary School and north of McDonald Drive by the Arizona Canal and between the Canal and Cactus Wren Road by The Village at Scottsdale Links, a residential, golf-course community. North of McDonald Drive, Granite Reef Road is not a through street, narrowing to a single lane in each direction separated by a continuous two-way left turn lane and serving the residential neighborhoods on either side of it. Regional traffic on Granite Reef Road is unlikely, as it is only via circuitous and inconvenient routes on local streets that a non-local driver can find his/her way back to McDonald Drive or to Hayden Road. The City of Scottsdale does not publish traffic volumes on Granite Reef Road north of McDonald Drive. Based on the intersection volumes reported below and the two-way volumes published for the three other approaches (that is, including daily volumes published for Granite Reef Road south of McDonald Drive), CivTech estimates that in 2014, Granite Reef Road carried fewer than 1,000 vpd north of McDonald Drive, perhaps as few as 650 vpd and estimates that 2016 volumes may be only slightly higher than at 1,000 vpd. Since there is no new development occurring in the areas along either side of Granite Reef Road north of McDonald Drive, CivTech projects a modest increase in traffic for 2017 to 1,050 vpd. Granite Reef Road north of McDonald Drive has a posted speed limit of 30 mph. The developer does not expect to be required to make any improvements to Granite Reef Road, to which the site will not abut.

The intersection of ***Granite Reef Road and McDonald Drive*** is the nearest intersection to the site. It is a four-legged intersection that operates under traffic signal control. All left-turn movements operate with permitted phasing and there are no protected-only phases. All approaches are configured similarly with a single left-turn lane, one through lane, and one shared through/right-turn lane. City-published intersection volumes maps indicate entering volumes of 25,300 vpd in 2010, 25,200 vpd in 2012, and 25,400 vpd in 2014. From these, CivTech estimates current 2016 volumes of approximately 25,500 vpd entering the intersection with 26,000 vpd projected to enter the intersection in 2017.

From the above discussions, it could be concluded that CivTech estimates that projected 2017 daily traffic volumes could be 22,500 vpd on McDonald Drive between Hayden and Granite Reef Roads, 1,050 vpd on Granite Reef Road north of McDonald Drive, and that approximately 26,100 vpd could be expected to enter the intersection of Granite Reef Road and McDonald Drive on a typical day in 2017. **Figure 2** shows the projected 2017 daily traffic volumes on the roadways.

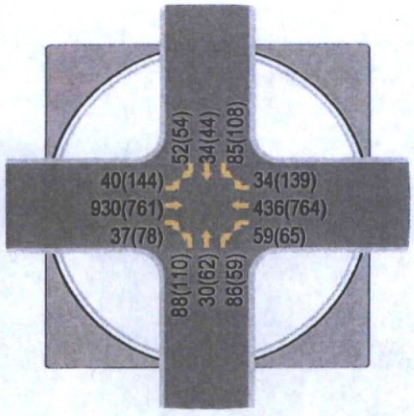
AM and PM Peak Hour Turning Movement Counts. On Tuesday December 20, CivTech recorded AM and PM peak hour turning movements at the intersection of Granite Reef Road and McDonald Drive. The data sheets are provided as **Attachment 2**; the volumes are shown in **Figure 3**. Since a secondary purpose of this statement is to assess the need for an eastbound and/or westbound

left turn phase at the traffic signal, it is noted here that the eastbound left turn movements on McDonald Drive onto Granite Reef Road are 40 and 144 left-turning vehicles during the AM and PM peak hours, respectively, and the corresponding westbound left turning volumes are 59 and 65.



Granite Reef Road at McDonald Drive

Figure 2 – 2017 Projected Daily Traffic Volumes



Granite Reef Road at McDonald Drive

Figure 3 – 2016 AM(PM) Peak Hour Turning Movements

CivTech notes that Saguaro High School closed for its winter break at the end of classes on Friday December 16; however, CivTech recorded AM and PM peak hour turning movements at the intersection anyway and believes the results to be valid for the following reasons:

- PM peak hour counts were recorded from 4 to 6 PM, well after the end of the typical school day; therefore, the east- and westbound counts would contain few school-generated left turns.
- During the AM peak hour, westbound left turns at the intersection would be directed away from the school; therefore, the westbound counts would contain few school-generated left turns.
- Also during the AM peak hour, the eastbound left-turning vehicles would have already crossed through Hayden Road and 82nd Street, both of which are opportunities to approach the school from McDonald Drive. CivTech considers it highly unlikely that school-bound traffic would turn left onto northbound Granite Reef Road: Granite Reef Road does not border on the school and the route would be longer, passing through a residential neighbor with traffic calming.

Transit. The proposed development is conveniently located within walking distance of existing Scottsdale Trolley stops on the southwest and northwest corners of the Granite Reef Road and McDonald Drive intersection. The Miller Road Route runs every 30 minutes on weekdays and every hour on weekends from Scottsdale Community College (Chaparral Road east of Loop 101, west along Chaparral Road to Granite Reef Road, north to McDonald Drive, and west to 78th Street, where it turns south to connect to Miller Road, from where it passes very near downtown Scottsdale on its way to McKellips Road, serving the Arizona State University SkySong Innovation Center, Papago Plaza, and other residential and commercial areas.

Crash History. CivTech excerpted from the Statewide data base it purchases each year from the Arizona Department of Transportation, crashes on McDonald Drive and Granite Reef Road and at their intersection referenced to their intersection and to the next nearest intersection north and west in order to identify segment crashes on both roadways as well as intersection-related crashes. CivTech used the data for the three calendar year period, 2013 to 2015. Two listings of incidents, the first for McDonald Drive and the second for the intersection can be found in **Attachment 3**. (There were no non-intersection-related crashes on Granite Reef Road north of McDonald Drive.)

Briefly, CivTech extracted a total of 29 relevant incidents, 9 on McDonald Drive between 83rd Street and Granite Reef Road, 20 incidents related to the Granite Reef Road/McDonald Drive intersection. None of the 29 resulted in a fatal injury. Some detail is provided below by location.

McDonald Drive, 83rd Street to Granite Reef Road. Granite Reef Road and 83rd Street intersect McDonald Drive approximately 800 feet apart of center. On the north side of McDonald Drive, from Granite Reef Road west, the gas station has two driveways; then there is the existing 8350 driveway, the alley, and another driveway shared by more owned and rented multi-family residences. On the south side of McDonald Drive, from 83rd Street east, there are three driveways, the first two for the mini-storage warehouse (one on either side of the alley on the north side) and the third for the McDonald's fast-food restaurant on the corner that is approximately aligned with the 8350 (and future site) driveway.

Table 1 – Intersection Crashes: Granite Reef Road & McDonald Drive

STATISTIC	2013	2014	2015	TOTAL
Crash Severity				
Injury Crashes (# of Injuries)	3(5)	5(8)	1(1)	9(14)
Non-Injury (Property Damage Only)	1	4	6	11
TOTALS	**4**	**9**		**20**
Crash Type				
Angle				
Northbound/Westbound	1			1
Southbound/Westbound	1	1	3	5
Left Turn				
Northbound Left/Southbound				
Westbound Left/Eastbound	1	1	1	3
Rear End				
Southbound			1	1
Eastbound		4	1	5
Westbound		2		2
Sideswipe (same direction)			1	1
Head-On – Eastbound/Westbound		1		1
Other/Unknown	1			1
TOTALS	**4**	**9**	**7**	**20**
Crashes involving pedestrians	0	0	0	0

CivTech extracted 9 incidents on the segment of McDonald Drive between 83rd Street and Granite Reef Road, 5 in 2015 and 4 in 2015. In one single-vehicle incident in 2014, a utility pole was hit. Of the remaining eight, one is an angle crash that (based on its location) may be driveway-related, two were left turn crashes that may have involved vehicles exiting driveways, and five were rear-end collisions, two westbound and three eastbound. Due to the locations cited (175 to 300 feet west of Granite Reef Road), it is not possible to eliminate the three eastbound crashes from being considered as related to the Granite Reef/McDonald intersection, although they could just as easily be driveway-related, involving a vehicle slowing to enter a driveway. Neither was indicated to be driveway-related or intersection-related.

Granite Reef Road and McDonald Drive. **Table 1** summarizes the 20 collisions recorded at the intersection of Granite Reef Road and McDonald Drive. Of the 20, CivTech had concerns regarding three of them. In 2013, there was an angle crash reported between two northbound vehicles; this is shown as other/unknown in the table. In 2014, there was a head-on crash reported between east- and westbound vehicles, with the westbound vehicle in the process of turning left; this is shown as a left turn crash. In 2015, there was a left crash reported between a westbound vehicles and a southeast-bound vehicle turning left; since a southbound vehicle turning left would be traveling southeast during part of the run, this crash was considered to be an angle crash.

Analysis. Based on the few incidents that occurred on McDonald Drive, CivTech discerned no pattern of crashes susceptible to any kind of treatment. At the intersection of Granite Reef Road and McDonald Drive, the largest number of collisions were the 8 rear-end crashes, or 40% of the total collisions. Rear-end crashes can occur wherever there is a traffic control device that stops traffic and are generally less severe than other types of crashes that are prevented by the traffic control device. Therefore, CivTech concludes that no mitigation measures are needed either on McDonald Drive or at the intersection of Granite Reef Road and McDonald Drive.

PROPOSED DEVELOPMENT

DPCRE is proposing a development consisting of a two-story, 22-DU residential condominium/ townhouse community with garages on the ground level and residences above the garages. The community will replace two commercial buildings at 8340 and 8350 East McDonald Drive in Scottsdale. A conceptual site plan is attached (See **Attachment 1**.) Per the Maricopa County Assessor website, each parcel is 23,625 SF and the two parcels total approximately 1½ acres (net). CivTech understands that this TIMA is intended to become one component of a complete application package for the rezoning of the two lots from C-1 to R-5 zoning, which would allow the proposed residential development. Access to the site will be via an existing City-owned alley that runs from McDonald Drive north along the west sides of the site and then east to Granite Reef Road along the north side of the site and from the existing site driveway to 8350 East McDonald Drive. Each unit will have a tandem garage accessible from the alley.

TRIP GENERATION COMPARISON

As noted, DPCRE's proposed development consists of a two-story, 22-DU residential condominium/townhouse development with garages on the ground level and residences above the garages. The community will replace two commercial buildings at 8340 and 8350 East McDonald Drive in Scottsdale on which there have historically been a 3,060-SF fine-dining restaurant and a 4,744 general office building. One of the requirements of a Category 1 TIMA is to estimate the trips generated by the proposed development and to compare them to the trips that were likely generated by previous users, both of which are vacant; thus, actual traffic volumes to the prior uses cannot be recorded. Therefore, CivTech will provide two trip generation comparisons. The first comparison will be to a bank, a use that is allowed under Scottsdale's regulations governing the existing C-1, Neighborhood Commercial District, zoning without the need for any special use permits or floor area limitations. The size of the parcels would allow a development of 8,500 SF if developed at a Floor Area Ratio (FAR) of 0.18; however, since this this size is somewhat larger than a typical suburban bank with drive-through lanes, the comparison will be made to a bank of 5,000 SF. The second comparison, requested by the City, will be to trips estimated for the prior office and restaurant uses of the site.

The trip generation potential of a development is usually estimated using the most current edition of the Institute of Transportation Engineers' (ITE) *Trip Generation Manual* as a primary reference. The *Trip Generation Manual* contains data for a wide variety of land uses and is currently in its 9th edition, published in 2012. The data are summarized in the document and average rates and equations developed from the data are provided that correlate the relationship between an independent variable that describes the development size and the trips generated for each categorized land use. The manual provides information for daily and peak hour trips and, for certain uses, for other time periods as well.

Table 2 is a detailed trip generation comparison that shows the amount of trips expected to be generated by the bank, a potential use permitted under the existing C-1 zoning, from the prior restaurant and office uses, and for the 22 DUs currently proposed. The lower portions of **Table 2** shows the numeric differences in trips between the scenarios. Please note that the trips for the bank and quality restaurant uses were generated using published averages because regression equations are not available. For the proposed multi-family residences and the prior office use, the averages represent the total trips generated using regression equations divided by the planned number of units. These averages are greater than the published averages for the same land use, yielding a higher, and, thus, more conservative number for use in the subsequent analysis. The results seem reasonable for the residences and for the daily and AM periods of the prior office use. However, for the PM peak hour of the office use, a constant factor of 78.45 in an equation that is linear (that is,

the equation starts with 78.45 trips with *no* floor area and goes up from there) results in approximately two-thirds of the daily trips occurring during the PM peak hour, including a number of exiting/outbound trips (70) that exceeds the expected number of outbound trips for the entire day, that is, 65 trips or half of the 130 trip expected daily (assuming half are inbound and half are outbound).

Table 2 – Trip Generation Comparison

	ITE				AM Distribution		PM Distribution	
Land Use	LUC	ITE Land Use Name	Quantity	Units+	In	Out	In	Out
Uses Permitted Under Existing C-1 Zoning								
Bank	912	Drive-In Bank	5.000	KSF	57%	43%	50%	50%
Prior Uses								
Quality Restaurant	931	Quality Restaurant	3.060	KSF	75%	25%	67%	33%
General Office Building	710	General Office Building	4.744	KSF	88%	12%	17%	83%
Proposed Under R-5 Zoning								
Multiple-Family Residential	230	Residential Condominium/Townhouse	22	DUs	17%	83%	67%	33%

	ADT		AM Peak Hour				PM Peak Hour			
Land Use	Avg. Rate	Total	Avg. Rate	In	Out	Total	Avg. Rate	In	Out	Total
Existing Uses under C-1 Zoning										
Bank	148.15	742	12.08	35	26	61	24.30	61	61	122
Prior Uses										
Quality Restaurant	89.95	276	0.81	2	0	2	7.49	18	8	23
General Office Building	27.29	130	3.52	15	2	17	17.66	14	70	84
Totals		***406***		***17***	***2***	***15***		***32***	***78***	***107***
Proposed Under R-5 Zoning										
Multiple-Family Residential	7.83*	172	0.70*	3	12	15	0.79*	11	6	17
Differences (Proposed - Bank)										
Differences (#)		-570		-32	-14	-46		-50	-55	-105
Differences (%)		-77%		-91%	-54%	-75%		-82%	-90%	-86%
Differences (Proposed - Prior Uses)										
Differences (#)		-234		-14	+10	-4		-18	-72	-90
Differences (%)		-58%		-82%	+500%	-21%		-62%	-92%	-84%

Notes: *Average rate was calculated by dividing total trips generated using regression equation by the number of dwelling units. (See below.)
+ KSF = 1,000 square feet; DUs = Dwelling Units

CALCULATIONS (Equations shown only where applicable)			
Land Use [Units]	***Daily***	***AM Peak Hour***	***PM Peak Hour***
Residential Condominium/Townhouse [Dwelling Units]	$Ln(T_{Day}) = Ln(22) \times 0.87 + 2.46 = 172$	$Ln(T_{AM}) = Ln(22) \times 0.80 + 0.26 = 15$	$Ln(T_{PM}) = Ln(22) \times 0.82 + 0.32 = 17$
General Office Building [KSF]	$Ln(T_{Day}) = Ln(4.744) \times 0.76 + 3.68 = 130$	$Ln(T_{AM}) = Ln(4.744) \times 0.80 + 1.57 = 17$	$T_{PM} = 4.744 \times 1.12 + 78.45 = 84$

A review of the detailed trip generation in **Table 2** reveals that DPCRE's development, if developed as proposed under the requested R-5 zoning currently being sought, could generate 172 trips daily, with 15 trips generated during the AM peak hour (3 in/12 out) and 17 trips during the PM peak hour (11 in/6 out). These are an estimated 570 fewer trips daily (46 fewer during the AM peak hour and 105 fewer during the PM peak hour) than could be expected for the site if it were to be developed into a bank, a use allowed under the current C-1 zoning without any special permitting. These are also an estimated 234 fewer trips daily (4 net trips fewer during the AM peak hour and 90 fewer during the PM peak hour) than could have been expected from the previous restaurant and office uses for the site.

LEFT TURN PHASE WARRANT

In his email of December 15, 2016, Phil Kercher, P.E., a traffic engineer for the City of Scottsdale, noted that local residents have made several requests for an east-west left-turn phase be added to the existing traffic signal at Granite Reef Road and McDonald Drive. Mr. Kercher was unable to provide an outline of the City's methodology, referenced in the City's *Design Standards &*

Policies Manual. CivTech understands that the City's methodology takes several factors into account and that it is not straightforward. So, instead, CivTech used a cross-product method employed by the Arizona Department of Transportation (ADOT) to make a preliminary determination of the potential need for left turn-phasing.

Briefly, the cross-product method multiplies the number of left turns per hour times the number of conflicting approaching vehicles, that is, through and right-turning vehicles, for that same hour. (Except in offset intersections, the paths of opposing left-turning vehicles do not cross, so they do not conflict and are not considered.) If the cross-product meets or exceeds 75,000 for each lane of traffic approaching the subject left turn movement (75,000 for 1 lane, 150,000 for 2 lanes, 225,000 for 3 lanes), the warrant is met.

Table 3 – Left-Turn Cross-Products at Granite Reef Road and McDonald Drive

Left-Turn Approach	Peak Hour	Left Turn Volume	Opposing Volume*	Cross-Product	Opposing Lanes	Threshold Value	Met?
McDonald Drive Eastbound	AM	40	436	17,440	2	150,000	NO
	PM	144	764	110,016			NO
McDonald Drive Westbound	AM	59	930	54,870	2	150,000	NO
	PM	65	761	49,465			NO

* Opposing volume is opposing through volume only because Granite Reef Road has two lanes to receive both left- and right turns simultaneously.

The volumes in **Figure 3** were used to develop **Table 3**, which revealed that, based on the cross-product criteria method used by ADOT, left-turn phasing is not warranted on the east- and/or westbound approaches to the existing signalized intersection of Granite Reef Road at McDonald Drive. While it could be argued that the high school was closed, so the through volumes on McDonald Drive could have been somewhat less than normal on the day traffic data was recorded, the counter to this argument is that the highest cross-product occurred during the PM peak hour, during which school-generated traffic would be very light, if there was any at all. The normal, school-opened, westbound through volume on McDonald Drive would have to be more than 8½ times than that recorded to exceed the threshold of 150,000.

In response to a comment, CivTech made some observations in the field at the intersection on Tuesday and Wednesday February 7 (PM) and 8 (AM). CivTech first determined from the traffic count that the highest numbers of left turns at the intersection occurred eastbound during the PM peak hour after 5:15 PM and westbound during the AM peak hour just after 7:00 AM. CivTech observed no queuing during the AM period observed, with a maximum of two vehicles approaching in either direction during a signal cycle, vehicles that were able to complete the left turn and not having to wait for the next cycle. During the PM period, CivTech did observe one eastbound queue of five vehicles and two westbound queues of six vehicles. On these longer queues, the two lead vehicles in each queue were able to complete the maneuver as "sneakers," that is, as opposing traffic was slowing and the signal was turning from yellow to an all-red condition in their direction. The remaining vehicles in the queue were able to clear during the next signal cycle, with one exception: the sixth westbound vehicle in the earlier of the two westbound queues was required to wait into the next cycle to complete the turn.

CONCLUSIONS AND RECOMMENDATIONS

From the above, the following can be concluded:

- CivTech estimates that projected 2017 daily traffic volumes could be 22,500 vpd on McDonald Drive between Hayden and Granite Reef Roads, 1,050 vpd on Granite Reef Road north of

McDonald Drive, and that approximately 26,100 vpd could be expected to enter the intersection of Granite Reef Road and McDonald Drive on a typical day in 2017.

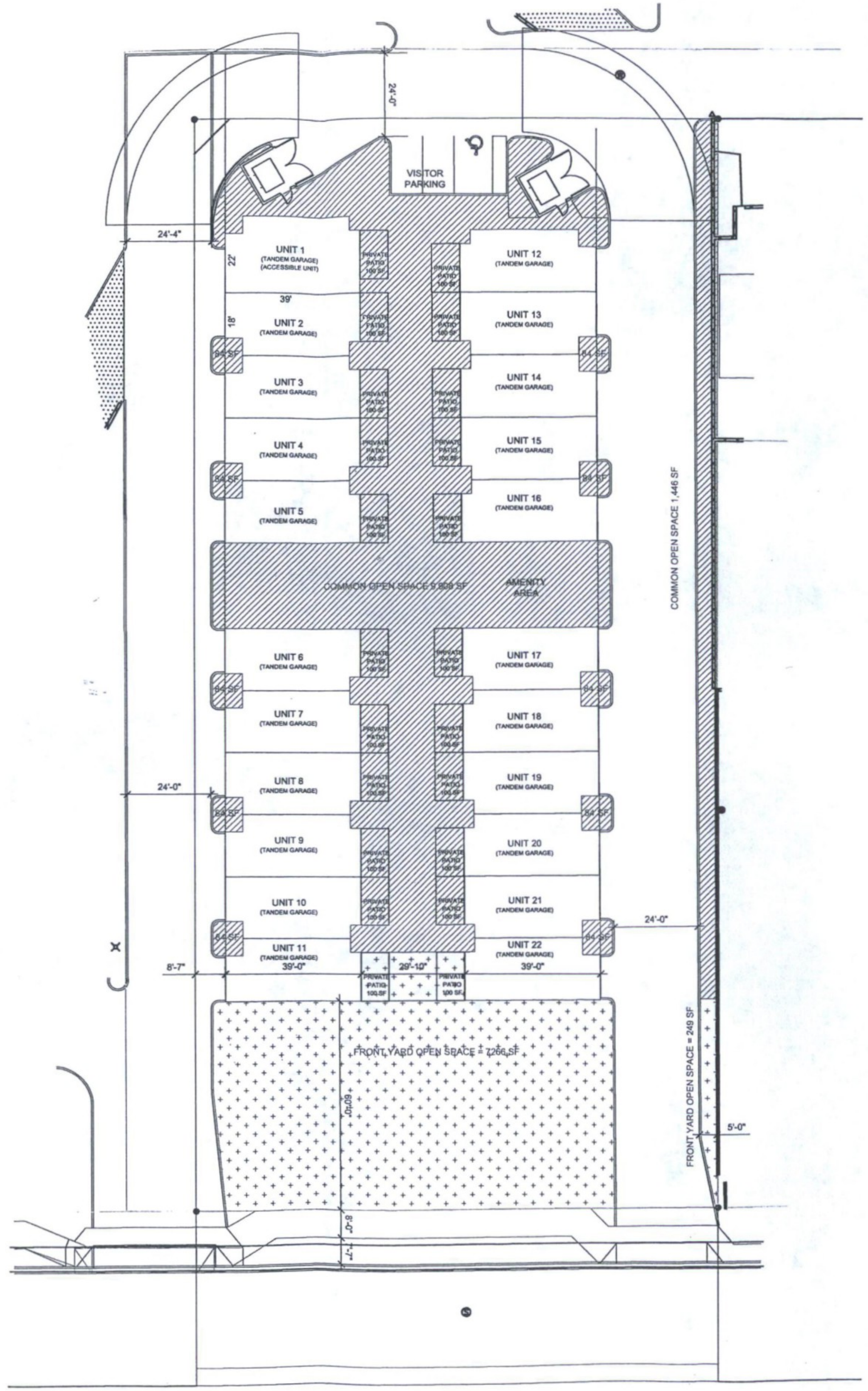
- CivTech discerned no pattern of crashes susceptible to any kind of treatment and concludes that no mitigation measures are needed either on McDonald Drive or at the intersection of Granite Reef Road and McDonald Drive.
- DPCRE's development, if developed as proposed under the requested R-5 zoning currently being sought, could generate 172 trips daily, with 15 trips generated during the AM peak hour (3 in/12 out) and 17 trips during the PM peak hour (11 in/6 out). These are an estimated 570 fewer trips daily (46 fewer during the AM peak hour and 105 fewer during the PM peak hour) than could be expected for the site if it were to be developed into a bank, a use allowed under the current C-1 zoning without any special permitting. These are also an estimated 234 fewer trips daily (4 net fewer during the AM peak hour and 90 fewer during the PM peak hour) than could have been expected from the previous restaurant and office uses for the site.
- Using a cross-product method, CivTech made a preliminary determination that left-turn phasing is not warranted on the east- and/or westbound approaches to the existing signalized intersection of Granite Reef Road at McDonald Drive. CivTech observed in the field maximum left turn queues of 5 and 6 left-turning vehicles, respectively, east- and westbound with only one vehicle having to wait into a second signal cycle to complete a left turn. CivTech concludes that these observations affirm CivTech's recommendation that left-turn phasing is not warranted.

Thank you for your time and prompt attention in reviewing and approving this amendment. Please contact me if you have any questions or comments.

Sincerely,

Joseph F. Spadafino, P.E., PTOE
Project Manager/Senior Traffic Engineer

Attachment 1 – Site Plan
Attachment 2 – Traffic Count
Attachment 3 – Crash Listing



① SITE PLAN

SCALE: 1" = 20'-0"

ARCHICON
Architecture & Interiors, L.C.
5055 E WASHINGTON STREET
SUITE 200
PHOENIX, ARIZONA 85034
(602) 222-4266
FAX (602) 279-4305
www.ARCHICON.COM

THIS SKETCH IS FOR INFORMATION PURPOSES ONLY AND SHALL NOT BE USED FOR CONSTRUCTION

EXISTING ZONING: C-1
PROPOSED ZONING: R-5

APN: 174-12-001S & 174-12-001T

OCCUPANCY: RESIDENTIAL

SITE AREA: 47,250 S.F. (NET) 1.085 AC
54,750 S.F. (GROSS) 1.257 AC

EACH UNIT IS APPROXIMATELY 2,000 GSF WHICH INCLUDES THE GARAGE ON THE LOWEST LEVEL.

PARKING REQUIRED: TWO BEDROOM UNITS 1.7 SPACES PER
THREE BEDROOM UNITS 1.9 SPACES PER

22 UNITS X 1.9 SPACES = 44 SPACES

PARKING PROVIDED: 2 TANDEM PARKING SPACES PER UNIT
22 UNITS X 2 = 44 SPACES + 3 VISITOR
47 TOTAL SPACES PROVIDED

22 UNITS TOTAL OR 20.27 UNITS PER ACRE

UNIT SIZE: 2,000 SF INCLUDING GARAGE
1,300 SF LIVING SPACE ON UPPER 2 LEVELS

OPEN SPACE CALCULATIONS PER DENSITY BASED USES:

a. MINIMUM OPEN SPACE PER SECTION 5.1004.D = 40%, (47250 X0.40 = 18,900 SF) WHICH IS DISTRIBUTED AS FOLLOWS:
1. FRONTAGE OPEN SPACE MINIMUM: 0.50 MULTIPLIED BY 18,900 (40%) = 9,450 SF, EXCEPT AS FOLLOWS:
(1) MINIMUM 20 SF PER 1 LF OF FRONTAGE: 150 X 20 = 3000 SF
(2) NOT REQUIRED TO EXCEED MORE THAN 50 SF PER 1 LF OF FRONTAGE: 150 X 50 = 7500 SF

1.1. THE REMAINDER OF THE DENSITY BASED USES MINIMUM OPEN SPACE IS 18,900 MINUS FRONT YARD OPEN SPACE = WHICH IS COMMON OPEN SPACE REQUIRED

b. PRIVATE OUTDOOR LIVING SPACE
1. (DWELLING ABOVE THE FIRST STORY SINCE FIRST STORY IS GARAGE) MINIMUM 0.05 X GROSS AREA OF EACH DWELLING UNIT = APPROX. 2000 SF X 0.05 = 100 SF

OPEN SPACE REQUIRED: 18,900 SF
OPEN SPACE PROVIDED: 19,709 SF

FRONT YARD OPEN SPACE REQUIRED: 7,500 SF
FRONT YARD OPEN SPACE PROVIDED: 7,515 SF

PRIVATE OPEN SPACE REQUIRED: 100 SF PER UNIT
PRIVATE OPEN SPACE PROVIDED: 100 SF PER UNIT

DIVERSIFIED PARTNERS
MULTI-FAMILY PROJECT
8340 E MCDONALD DRIVE
SCOTTSDALE, ARIZONA

JOB NO:
PROJECT MGR: J. KOSKI
DRAWN BY: ARCHICON
CHECKED BY: J. PLANCK

NO.	REVISION	DATE

SHEET TITLE: DEVELOPMENT PLAN

PRELIMINARY DRAWING

DP-03

ISSUE DATE: 8 DEC 2016

Attachment 1

December 2016

NWC Granite Reef Rd & McDonald Dr TRAFFIC COUNT DATA SHEET

Counts Conducted
December 20, 2016

AM Peak Hour

Time		Northbound				Southbound				Eastbound				Westbound				TOTAL
Start	Finish	left	through	right	peds	left	through	right	peds	left	through	right	peds	left	through	right	peds	
7:00 AM	7:15 AM	31	5	17	-	12	3	5	-	8	117	4	-	27	133	6	-	368
7:15 AM	7:30 AM	15	12	16	-	20	11	19	-	4	197	10	-	18	121	14	-	457
7:30 AM	7:45 AM	21	10	25	-	33	2	12	-	10	163	10	-	24	98	12	-	420
7:45 AM	8:00 AM	20	10	14	-	19	12	14		7	285	5	-	17	124	13	-	540
8:00 AM	8:15 AM	18	6	28	-	20	7	13	-	14	245	8	-	11	105	6	-	481
8:15 AM	8:30 AM	29	4	19	-	13	13	13	-	9	237	14	-	7	109	3	-	470
8:30 AM	8:45 AM	16	2	23	-	28	21	26	-	7	144	5	-	7	85	9	-	373
8:45 AM	9:00 AM	16	8	27	-	22	11	22	-	20	177	5	-	13	122	8	-	451
7:00 AM	**9:00 AM**	**166**	**57**	**169**	**-**	**167**	**80**	**124**	**-**	**79**	**1,565**	**61**	**-**	**124**	**897**	**71**	**-**	**3,560**
7:30 AM	**8:30 AM**	**88**	**30**	**86**	**-**	**85**	**34**	**52**	**-**	**40**	**930**	**37**	**-**	**59**	**436**	**34**	**-**	**1,911**

Peak Hour Factor (PHF) **0.8847**

PM Peak Hour

Time		Northbound				Southbound				Eastbound				Westbound				TOTAL
Start	Finish	left	through	right	peds	left	through	right	peds	left	through	right	peds	left	through	right	peds	
4:00 PM	4:15 PM	28	13	14	-	41	11	6	-	26	157	18	-	7	198	26	-	545
4:15 PM	4:30 PM	38	4	11	-	18	12	9	-	22	167	15	-	14	188	37	-	535
4:30 PM	4:45 PM	19	12	14	-	17	17	7	-	34	160	22	-	17	161	28	-	508
4:45 PM	5:00 PM	23	6	9	-	13	16	4	-	25	155	17	-	11	154	37	-	470
5:00 PM	5:15 PM	29	8	14	-	16	9	10	-	34	189	27	-	10	219	29	-	594
5:15 PM	5:30 PM	19	17	9	-	21	12	12	-	40	199	28	-	16	215	41	-	629
5:30 PM	5:45 PM	37	16	15	-	31	7	12	-	40	168	21	-	22	176	41	-	586
5:45 PM	6:00 PM	25	21	21	-	40	16	20	-	30	205	2	-	17	154	28	-	579
4:00 PM	**6:00 PM**	**218**	**97**	**107**	**-**	**197**	**100**	**80**	**-**	**251**	**1,400**	**150**	**-**	**114**	**1,465**	**267**	**-**	**4,446**
5:00 PM	**6:00 PM**	**110**	**62**	**59**	**-**	**108**	**44**	**54**	**-**	**144**	**761**	**78**	**-**	**65**	**764**	**139**	**-**	**2,388**

Peak Hour Factor (PHF) **0.9491**

CivTech

Attachment 2

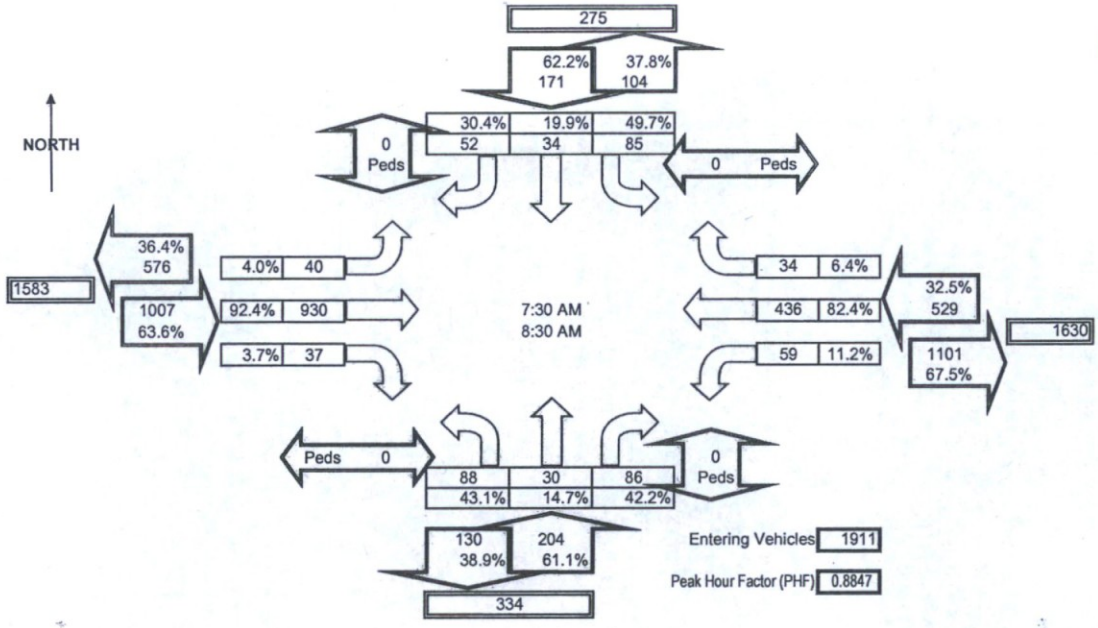
Granite Reef Road and McDonald Drive

AM PEAK HOUR DIAGRAM

NWC Granite Reef Rd & McDonald Dr

Counts Conducted
December 20, 2016

CivTech Attachment 2



Page 2

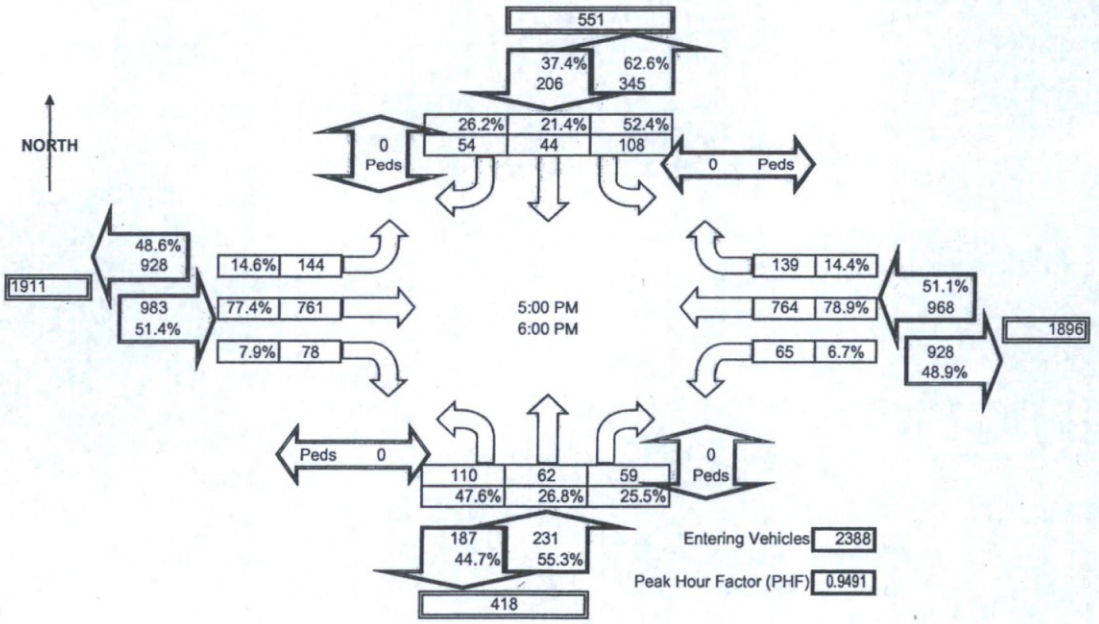
Granite Reef Road and McDonald Drive

AM PEAK HOUR DIAGRAM

NWC Granite Reef Rd & McDonald Dr

Counts Conducted
December 20, 2016

CivTech Attachment 2



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Granite Reef Road and McDonald Drive

CRASH STATISTICS

2014-2015

McDonald Dr, 83rd St-Granite Reef Rd

Involvement

	# Incidents	Totals	# Motorists	# Non-Motorists
Incidents	9	19 Veh	25	0
2014				
Severity				
Fatal	0	0 Ppl	0	0
Injury	3	4 Ppl	4	0
PDO	6	12 Veh		
Total	9			

	PDO	INJ	FAT	TOTAL
Units	12	7	0	19

LightCondition	Code	No.
DAYLIGHT	1	9
DAWN	2	0
DUSK	3	0
DARK_LIGHTED	4	0
DARK_NOT_LIGHTED	5	0
DARK_UNKNOWN_LIGHTING	6	0
UNKNOWN	99	0
Check Total		9

Weather		
CLEAR	1	9
CLOUDY	2	0
SLEET_HAIL_FREEZING_RAIN_OR_DRIZZLE	3	0
RAIN	4	0
SNOW	5	0
SEVERE_CROSSWINDS	6	0
BLOWING_SAND_SOIL_DIRT	7	0
FOG_SMOG_SMOKE	8	0
BLOWING_SNOW	9	0
OTHER	97	0
UNKNOWN	99	0
Check Total		9

TrafficWayType		
ONE_WAY_TRAFFICWAY	1	0
TWO_WAY_NOT_DIVIDED	2	1
TWO_WAY_NOT_DIVIDED_WITH_CONTINUOUS_LEFT_TURN_LANE	3	2
TWO_WAY_DIVIDED_UNPROTECTED_PAINTED_4_FEET_MEDIAN	4	5
TWO_WAY_DIVIDED_POSITIVE_MEDIAN_BARRIER	5	1
UNKNOWN	99	0
Check Total		9

Weekday		
Sunday	1	1
Monday	2	2
Tuesday	3	0
Wednesday	4	1
Thursday	5	3
Friday	6	0
Saturday	7	2
Check Total		9

Circumstances

Intersection Related?	1
Hit & Run?	0
# Peds Involved?	0
# Bikes Involved?	0

JunctionRelation	Code	No.
NOT_JUNCTION_RELATED	0	7
INTERSECTION_NON_INTERCHANGE	1	0
INTERSECTION_RELATED_NON_INTERCHANGE	2	1
ENTRANCE_EXIT_RAMP_NON_INTERCHANGE	3	0
RAILWAY_GRADE_CROSSING	4	0
CROSSOVER_RELATED	5	0
FRONTAGE_ROAD_NON_INTERCHANGE	6	0
DRIVEWAY	7	1
ALLEY_ACCESS_RELATED	8	0
UNKNOWN_NON_INTERCHANGE	9	0
THRU_ROADWAY	10	0
INTERSECTION_INTERCHANGE	11	0
INTERSECTION_RELATED_INTERCHANGE	12	0
ENTRANCE_EXIT_RAMP_INTERCHANGE	13	0
FRONTAGE_ROAD_INTERCHANGE	14	0
OTHER_PART_OF_INTERCHANGE	15	0
UNKNOWN_INTERCHANGE	17	0
UNKNOWN_JUNCTION	18	0
UNKNOWN	99	0
OTHER_NON_INTERCHANGE	109	0
Check Total		9

CollisionManner		
SINGLE_VEHICLE	1	1
ANGLE (front to side)(other than left turn)	2	1
LEFT_TURN	3	2
REAR_END	4	5
HEAD_ON	5	0
SIDESWIPE_SAME_DIRECTION	6	0
SIDESWIPE_OPPOSITE_DIRECTION	7	0
REAR_TO_SIDE	8	0
REAR_TO_REAR	9	0
OTHER	97	0
UNKNOWN	99	0
Check Total		9

TravelDirection		
1 NORTH	N	
2 SOUTH	S	
3 EAST	E	
4 WEST	W	
5 NORTHWEST	NW	
6 NORTHEAST	NE	
7 SOUTHWEST	SW	
8 SOUTHEAST	SE	
99 UNKNOWN	99	

First Harmful Event	Code	No.
OVERTURN_ROLLOVER	1	0
FIRE_EXPLOSION	2	0
IMMERSION	3	0
JACKKNIFE	4	0
CARGO_EQUIPMENT_LOSS_SHIFT	5	0
FELL_JUMPED_FROM_VEHICLE	6	0
THROWN_OR_FALLING_OBJECT	7	0
OTHER_NON_COLLISION	8	0
EQUIPMENT_FAILURE ~~TIRES_BRAKES~~	9	0
SEPARATION_OF_UNITS	10	0
RAN_OFF_ROAD_RIGHT	11	0
RAN_OFF_ROAD_LEFT	12	0
CROSS_MEDIAN	13	0
CROSS_CENTERLINE	14	0
DOWNHILL_RUNAWAY	15	0
MOTOR_VEHICLE_IN_TRANSPORT	16	8
PEDESTRIAN	17	0
PEDALCYCLE	18	0
RAILWAY_VEHICLE_TRAIN_ENGINE	19	0
LIGHT_RAILWAY_RAILCAR_VEHICLE	20	0
ANIMAL_WILD_NON_GAME	21	0
ANIMAL_WILD_GAME	22	0
ANIMAL_PET	23	0
ANIMAL_LIVESTOCK	24	0
PARKED_MOTOR_VEHICLE	25	0
WORK_ZONE_MAINTENANCE_EQUIPMENT	26	0
STRUCK_BY_FALLING_SHIFTING_CARGO_OR_OBJECT	27	0
OTHER_NON_FIXED_OBJECT	28	0
IMPACT_ATTENUATOR_CRASH_CUSHION	29	0
BRIDGE_OVERHEAD_STRUCTURE	30	0
BRIDGE_RAIL	31	0
CULVERT	32	0
CURB	33	0
DITCH	34	0
EMBANKMENT	35	0
GUARDRAIL_FACE	36	0
GUARDRAIL_END	37	0
CONCRETE_TRAFFIC_BARRIER	38	0
CABLE_TRAFFIC_BARRIER	39	0
OTHER_TRAFFIC_BARRIER	40	0
TREE_BUSH_STUMP_STANDING	41	0
TRAFFIC_SIGN_SUPPORT	42	0
TRAFFIC_SIGNAL_SUPPORT	43	0
UTILITY_POLE_LIGHT_SUPPORT	44	1
OTHER_POST_POLE_OR_SUPPORT	45	0
FENCE	46	0
MAILBOX	47	0
BUILDING	48	0
OTHER_FIXED_OBJECT	49	0
UNKNOWN	99	0
Not Reported	255	0
Check Total		9

Month	Code	No.
January	1	0
February	2	2
March	3	0
April	4	2
May	5	1
June	6	0
July	7	0
August	8	1
September	9	0
October	10	0
November	11	1
December	12	2
Total		9

(Unit) SurfaceCondition		
DRY	1	19
WET	2	0
SNOW	3	0
SLUSH	4	0
ICE_FROST	5	0
WATER_STANDING_MOVING	6	0
SAND	7	0
MUD_DIRT_GRAVEL	8	0
OIL	9	0
OTHER	97	0
UNKNOWN	99	0
Total		19

Additional Useful Information

Vehicle Action Codes

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_Vehicle_Object_Pedestrian
12 ENTERING_PARKING_POSITION
13 LEAVING_PARKING_POSITION
14 PROPERLY_PARKED
15 IMPROPERLY_PARKED
16 DRIVERLESS_MOVING_VEHICLE
17 CROSSING_ROAD
18 WALKING_WITH_TRAFFIC
19 WALKING_AGAINST_TRAFFIC
20 STANDING
21 LYING
22 GETTING_ON_OR_OFF_VEHICLE
23 WORKING_ON_OR_PUSHING_VEHICLE
24 WORKING_ON_ROAD
97 OTHER
99 UNKNOWN

Body Styles

-1 NOT_REPORTED
1 \Passenger Vehicles, including RVs
53 /
54 \TRUCKS
88 /
89 \MOBILEHOME (NOT RVS)
92 /
93 \TRAILERS
120 /
121 \MOTORCYCLES
128 /
254 UNKNOWN
255 NOT REPORTED

LOCATION								<-DATE & TIME->			UNITS																PERSON										SEVERITY						GENERAL					
INCIDNT	ON STREET	MP	OFF-SET	D R	DIS-TANCE	INTERSECT STREET		NCIC	OFCR NCIC	YYMMDD	HH:MM	D W	TO-TAL	SRFC U1	SRFC U2	CND U1	CND U2	ALGMT 1	ALGMT 2	GRADE 1	GRADE 2	DFCTS U1	DFCTS U2	BSTYLE U1	BSTYLE U2	TRDR 1	TRDR 2	UACT U1	UACT U2	TTL MOT	TTL NON	TYP 1	TYP 2	INJR 1	INJR 2	VLT D1	VLT D2	PHSCND D1	PHSCND D2	NON LOC	INCIDENTS PDO	INJ	FAT	TTL MOT	NON	FATALITIES TTL	MOT	NON	H R	LT CN	WE CN	JCT REL	TRF CWY	HE CD	M C
2825903	Mcdonald Dr			M	240	Granite Reef Rd		725	725	140201	09:36	7	3	1	1	1	1	1	1	1	1	0	0	44	31	E	E	3	1	5	0	1	4	1	1	16	-1	0	0	255	1		0		0			N	1	1	0	5	16	4
														1		1		1		1		0		44		E		3				1	4	1	1	1	-1	0	0	255															
																																1		1		1		0																	
2854152	Mcdonald Dr			M	150	Granite Reef Rd		725	725	140512	12:41	2	2	1	1	1	1	1	1	1	1	0	0	50	50	NW	SW	4	4	3	0	4	1	1	1	-1	1	0	0	255	1		0		0			N	1	1	0	2	16	3
																																1		1		16		0																	
2856015	Mcdonald Dr			M	250	Granite Reef Rd		725	725	140428	07:27	2	2	1	1	1	1	1	1	1	1	-1	-1	44	47	E	E	1	3	2	0	1	1	1	1	1	2	0	0	255	1		0		0			N	1	1	0	4	16	4
2877968	Mcdonald Dr			M	90	Granite Reef Rd		725	725	140821	07:27	5	2	1	1	1	1	1	1	1	1	0	0	50	44	N	E	4	1	3	0	4	1	1	1	-1	1	0	0	255	1		0		0			N	1	1	2	4	16	2
																																1		1		97		0																	
2917490	Mcdonald Dr			M	200	Granite Reef Rd		725	725	141127	15:21	5	1	1		1		1		1		0		10		W		97		2	0	4	1	1	1	-1	4	0	0	255	1		0		0			N	1	1	0	4	44	1
2944279	Mcdonald Dr			M	300	Granite Reef Rd		725	725	150221	13:48	7	3	1	1	1	1	1	1	1	1	0	0	44	42	W	W	3	3	3	0	1	1	1	2	2	1	0	0	255		1	1	1	0	0		N	1	1	0	3	16	4
														1		1		1		1		0		44		W		1				1		1		1		0																	
2948741	Mcdonald Dr			M	175	Granite Reef Rd		725	725	150408	15:44	4	2	1	1	1	1	1	1	1	1	0	0	50	44	E	E	3	1	2	0	1	1	2	1	1	2	0	0	255		1	1	1	0	0		N	1	1	0	4	16	4
3033186	Mcdonald Dr			M	75	Granite Reef Rd		725	725	151217	08:21	5	2	1	1	1	1	1	1	1	1	0	0	31	44	W	N	4	4	3	0	1	4	1	1	20	-1	0	0	255	1		0		0			N	1	1	7	4	16	3
																																1		1		1		0																	
3036447	Mcdonald Dr			M	176	Granite Reef Rd		725	725	151213	10:36	1	2	1	1	1	1	1	1	1	1	0	0	44	44	W	W	3	1	2	0	1	1	2	2	2	1	0	0	255		1	2	2	0	0		N	1	1	0	3	16	4

LOCATION								<-DATE & TIME->			UNITS												PERSON										SEVERITY						GENERAL							
INCIDNT	ON STREET	MP	OFF-SET	D R	DIS-TANCE	INTERSECT STREET	NCIC	OFCR NCIC	YYMMDD	HH:MM	D W	TO-TAL	SRFC U1	SRFC U2	ALGMT 1	ALGMT 2	GRADE 1	GRADE 2	DFCTS U1	DFCTS U2	BSTYLE U1	BSTYLE U2	TRDR 1	TRDR 2	UACT U1	UACT U2	TTL MOT	TTL NON	TYP 1	TYP 2	INJR 1	INJR 2	VLT D1	VLT D2	PHS D1	CND D2	NON LOC	INCIDENTS PDO	INCIDENTS INJ	FAT	INJURIES TTL	INJURIES MOT	INJURIES NON	FATALITIES TTL	FATALITIES MOT	FATALITIES NON	H R	LT CN	WE CN	JCT REL	TRF CWY	HE CD	M C
2718450	Granite Reef Rd			P	0	Mcdonald Dr	725	725	130308	17:29	6	2	2	2	1	1	1	1	0	0	44	44	E	SW	1	4	2	0	1	1	2	3	7	1	0	0	255		1		2	2	0	0			N	1	4	1	4	16	3
2723325	Granite Reef Rd			P	0	Mcdonald Dr	725	725	130410	14:31	4	2	1	1	1	1	1	1	0	0	12	52	N	N	1	3	3	0	1	4	1	1	1	-1	0	0	255	1			0			0			N	1	1	11	2	16	2
																												1		1		97		0																	
2724506	Mcdonald Dr			P	0	Granite Reef Rd	725	725	130331	17:48	1	2	1	1	1	1	1	1	0	0	44	50	W	S	1	1	2	0	1	1	3	4	6	1	0	0	255		1		2	2	0	0			N	1	2	1	4	16	2
2748448	Mcdonald Dr			P	0	Granite Reef Rd	725	725	130521	18:03	3	2	1	1	1	1	1	1	0	0	50	44	W	N	1	1	2	0	1	1	1	2	6	1	0	0	255		1		1	1	0	0			N	1	1	1	2	16	2
2819927	Mcdonald Dr			M	30	Granite Reef Rd	725	725	140125	11:23	7	2	1	1	1	1	1	1	0	0	42	42	E	E	3	1	2	0	1	1	1	1	16	1	0	0	255	1			0			0			N	1	1	2	4	16	4
2831374	Mcdonald Dr			M	30	Granite Reef Rd	725	725	140219	12:14	4	2	1	1	1	1	1	1	0	0	50	30	E	E	1	3	2	0	1	1	2	1	2	1	0	0	255		1		1	1	0	0			N	1	1	2	4	16	4
2831384	Mcdonald Dr			M	30	Granite Reef Rd	725	725	140220	11:52	5	2	1	1	1	1	1	1	0	0	51	52	SE	E	5	1	3	0	1	4	1	1	2	-1	0	0	255	1			0			0			N	1	1	2	4	16	4
																												1		1		1		0																	
2834367	Mcdonald Dr			P	0	Granite Reef Rd	725	725	140224	18:39	2	2	1	1	1	1	1	1	0	0	44	44	E	W	1	4	2	0	1	1	2	1	97	1	0	0	255		1		1	1	0	0			N	4	1	1	5	16	5
2834368	Granite Reef Rd			P	0	Mcdonald Dr	725	725	140223	12:03	1	2	1	1	1	1	1	1	0	0	50	31	S	W	1	1	4	0	1	4	2	1	6	-1	0	0	255		1		2	2	0	0			N	1	1	1	4	16	2
																												1	4	3	1	1	-1	0	0	255																
2855185	Mcdonald Dr			P	30	Granite Reef Rd	725	725	140515	14:35	5	2	1	1	1	1	1	1	0	0	44	44	W	W	3	1	4	0	1	1	1	1	3	1	0	0	255	1			0			0			N	1	1	2	4	16	4
																												4	4	1	1	-1	-1	0	0	255																
2855250	Mcdonald Dr			P	150	Granite Reef Rd	725	725	140606	21:58	6	2	1	1	1	1	1	1	0	0	30	47	W	W	5	1	4	0	1	1	3	1	2	1	0	0	255		1		2	2	0	0			N	4	1	0	4	16	4
																												4	4	1	3	-1	-1	0	0	255																
2855985	Mcdonald Dr			P	0	Granite Reef Rd	725	725	140428	07:11	2	2	1	1	1	1	1	1	0	0	44	31	E	W	3	1	2	0	1	1	2	4	8	1	0	0	255		1		2	2	0	0			N	1	1	1	4	16	5
2906415	Mcdonald Dr			M	75	Granite Reef Rd	725	725	140918	14:41	5	3	1	1	1	1	1	1	0	0	44	42	E	E	3	1	6	0	1	1	99	1	99	2	0	0	255	1			0			0			Y	1	2	2	4	16	4
													1		1		1		0		50		E		3				4	4	1	1	-1	-1	0	0	255																
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2944234	Granite Reef Rd			P	0	Mcdonald Dr	725	725	150219	15:37	5	2	1	1	1	1	1	1	0	0	44	44	W	S	1	1	2	0	1	1	1	1	6	1	0	0	255	1			0			0			N	1	1	1	4	16	2
2969203	Granite Reef Rd			P	0	Mcdonald Dr	725	725	150613	16:12	7	2	1	1	1	1	1	1	0	0	17	44	E	W	1	4	3	0	1	4	1	1	7	-1	0	0	255	1			0			0			N	1	1	1	4	16	3
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2982145	Granite Reef Rd			P	0	Mcdonald Dr	725	725	150726	00:05	1	2	1	1	1	1	1	1	0	0	31	44	S	S	1	97	3	0	4	1	1	1	-1	99	0	0	255	1			0			0			N	4	1	0	99	16	4
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2990524	Granite Reef Rd			P	0	Mcdonald Dr	725	725	150828	05:33	6	3	1	1	1	1	1	1	0	0	44	31	S	W	4	1	3	0	1	1	1	1	1	6	0	0	255	1			0			0			N	2	1	1	2	16	2
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2994333	Mcdonald Dr			P	30	Granite Reef Rd	725	725	150902	11:23	4	2	1	1	1	1	1	1	0	0	44	47	W	W	1	8	2	0	1	1	1	1	12	1	0	0	255	1			0			0			N	1	2	2	4	16	6
3008636	Mcdonald Dr			P	100	Granite Reef Rd	725	725	151012	16:28	2	3	1	1	1	1	1	1	0	0	2	44	E	E	3	1	5	0	1	4	1	1	2	-1	0	0	255		1		1	1	0	0			N	1	1	0	4	16	4
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3035712	Granite Reef Rd			P	0	Mcdonald Dr	725	725	151217	12:42	5	2	1	1	1	1	1	1	0	0	47	31	W	SE	1	4	2	0	1	1	1	1	1	1	0	0	255	1			0			0			N	1	1	1	3	16	3

CivTech

ACCEPTED
CITY OF SCOTTSDALE
TRANSPORTATION DEPARTMENT

Registered Professional Engineer (Civil) CERTIFICATE NO. 16255 JOSEPH F. SPADAFINO Date Signed 2-9-17 ARIZONA, U.S.A. Expires 6/30/2019

DATE: April 13, 2017

REVIEWER: Dan Ruiz

February 9, 2017

Ms. Alexandra Schuchter, Development Manager
Diversified Partners Commercial Real Estate
7500 East McDonald Drive, Suite 100A
Scottsdale, Arizona 85250
Phone:(480) 947-8800
Fax: (480) 947-8830
Email: alexandra@dpcre.com

RE: Category 1 Traffic Impact and Mitigation Analysis for the Rezoning of 2 Parcels on McDonald Drive from C-1 to R-5 – Scottsdale, Arizona

Dear Ms. Schuchter:

This Category 1 Traffic Impact and Mitigation Analysis (TIMA) has been prepared to assess the effects of a redevelopment of two small commercial parcels at 8340 and 8350 East McDonald Drive proposed by Diversified Partners Commercial Real Estate (DPCRE). This document represents a re-submittal prepare to address comments by the City of Scottsdale on a version dated December 21, 2016.

DPCRE is seeking rezoning from the existing C-1, Neighborhood Commercial District zoning, to an R-5 (Multiple-Family Residential) zoning. The two parcels currently (or until recently) have been used for a 3,060-square foot (SF) fine-dining restaurant (most recently, the Brooklyn Café, before then, the Voltaire French Restaurant) at 8340 and a 4,744-SF general office building at 8350. CivTech understands that a 22-dwelling unit (DU) residential condominium/townhouse development to be opened in 2017 is planned by Diversified Partners. **Attachment 1** is a preliminary site plan.

EXECUTIVE SUMMARY

DPCRE proposes to open in 2017 a development consisting of a two-story, 22-DU residential condominium/townhouse development with garages on the ground level and residences above the garages. The community will replace two commercial buildings at 8340 and 8350 East McDonald Drive in Scottsdale. This Category 1 TIMA is intended to become one component of a complete application package for the rezoning of the two lots from C-1, Neighborhood Commercial District zoning, to an R-5 (Multiple-Family Residential) zoning to R-5 zoning. The following are the conclusions of the trip generation and comparison statement prepared for this project:

- CivTech estimates that projected 2017 daily traffic volumes could be 22,500 vpd on McDonald Drive between Hayden and Granite Reef Roads, 1,050 vpd on Granite Reef Road north of McDonald Drive, and that approximately 26,100 vpd could be expected to enter the intersection of Granite Reef Road and McDonald Drive on a typical day in 2017.
- Based on a review of crashes recorded from 2013 to 2015, CivTech discerned no pattern of crashes susceptible to any kind of treatment and concludes that no mitigation measures are needed either on McDonald Drive or at the intersection of Granite Reef Road and McDonald Drive.
- DPCRE's development, if developed as proposed under the requested R-5 zoning currently being sought, could generate 172 trips daily, with 15 trips generated during the AM peak hour

10-ZN-2016
5/26/17

(3 in/12 out) and 17 trips during the PM peak hour (11 in/6 out). These are an estimated 570 fewer trips daily (46 fewer during the AM peak hour and 105 fewer during the PM peak hour) than could be expected for the site if it were to be developed into a bank, a use allowed under the current C-1 zoning without any special permitting. These are also an estimated 234 fewer trips daily (4 net fewer during the AM peak hour and 90 fewer during the PM peak hour) than could have been expected from the previous restaurant and office uses for the site.

- Using a cross-product method, CivTech made a preliminary determination that left-turn phasing is not warranted on the east- and/or westbound approaches to the existing signalized intersection of Granite Reef Road at McDonald Drive. CivTech observed in the field maximum left turn queues of 5 and 6 left-turning vehicles, respectively, east- and westbound with only one vehicle having to wait into a second signal cycle to complete a left turn. CivTech concludes that these observations affirm CivTech's recommendation that left-turn phasing is not warranted.

BACKGROUND

The City's guidelines allow a Category 1 TIMA for developments that are expected to generate fewer than 100 trips per hour. For developments with single land uses, the City allows that a residential development with up to 100 dwelling units (DUs) qualifies for a Category 1 TIMA. DPCRE's proposed 22-dwelling unit residential condominium/townhouse development would, therefore, qualify for a Category 1 TIMA, for which only certain basic information is required. This letter-format report documents the TIMA. A site plan is required, as well as adjacent street volumes, a crash history, and a trip generation comparing the trips expected from the proposed land uses to those generated by existing land uses. Since both establishments are no longer in operation (and traffic counts cannot be recorded at the driveways), CivTech will base its trip generation comparison on a use that is allowed under Scottsdale's regulations governing the existing C-1, Neighborhood Commercial District, zoning without the need for any special use permits or floor area limitations.

EXISTING CONDITIONS

Figure 1 shows the vicinity of the project. To the east of the proposed development site are a gasoline station with repair facilities on the northwest corner of Granite Reef Road and McDonald Drive and a dry cleaners to the north of the gas station on Granite Reef Road. To the west and north are the Viridian Apartments, which are separated from the site by the aforementioned alley. Other surrounding development is generally residential in nature with neighborhood commercial uses on the other three corners of the Granite Reef Road/McDonald Drive intersection.

Figure 1 – Vicinity

McDonald Drive is a minor arterial street that runs east-west from 40th Street, less than five miles west of Miller Road, originating in the City of Phoenix as a residential street, crossing the Town of Paradise Valley (where it is rural in character and has speed limits of 25 MPH and 35 MPH), and terminating at its interchange with the Pima Freeway (State Route Loop 101) on the Salt

River Pima-Maricopa Indian Community, less than one mile east of the study site. In this area McDonald Drive, primarily serves local residents and employers, providing a route to and from the Pima Freeway. The City of Scottsdale operates and maintains McDonald Drive. Adjacent to the redevelopment site, the roadway cross-section for McDonald Drive consists of two 12-foot through lanes in each direction with a continuous two-way left turn lane. The City of Scottsdale publishes traffic volumes biennially. In 2014, McDonald Drive carried 22,000 vehicles per day (vpd) between Hayden and Granite Reef Roads in the year 2014, only slightly higher than the 21,800 vpd reported in 2010. In 2012, volumes were down from 2010, when on 21,200 vpd were reported. CivTech estimated that 2016 volumes may be slightly higher than 2014 volumes at 22,200 vpd and projects 2017 volumes of 22,500 vpd. McDonald Drive has a posted speed limit of 40 mph.

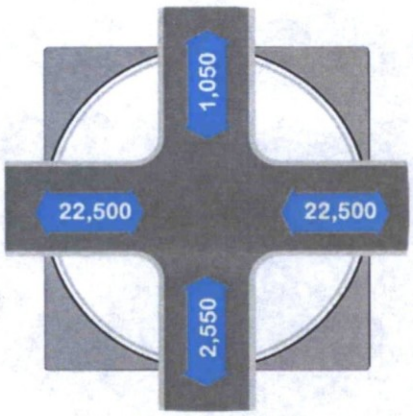
Granite Reef Road is a major collector street that runs north-south along the half-Section line. It begins in a cul-de-sac approximately 1,000 feet south of Roosevelt Street and continues north to Indian Bend Road, interrupted between Osborn Road and Columbus Avenue by Pima Elementary School and north of McDonald Drive by the Arizona Canal and between the Canal and Cactus Wren Road by The Village at Scottsdale Links, a residential, golf-course community. North of McDonald Drive, Granite Reef Road is not a through street, narrowing to a single lane in each direction separated by a continuous two-way left turn lane and serving the residential neighborhoods on either side of it. Regional traffic on Granite Reef Road is unlikely, as it is only via circuitous and inconvenient routes on local streets that a non-local driver can find his/her way back to McDonald Drive or to Hayden Road. The City of Scottsdale does not publish traffic volumes on Granite Reef Road north of McDonald Drive. Based on the intersection volumes reported below and the two-way volumes published for the three other approaches (that is, including daily volumes published for Granite Reef Road south of McDonald Drive), CivTech estimates that in 2014, Granite Reef Road carried fewer than 1,000 vpd north of McDonald Drive, perhaps as few as 650 vpd and estimates that 2016 volumes may be only slightly higher than at 1,000 vpd. Since there is no new development occurring in the areas along either side of Granite Reef Road north of McDonald Drive, CivTech projects a modest increase in traffic for 2017 to 1,050 vpd. Granite Reef Road north of McDonald Drive has a posted speed limit of 30 mph. The developer does not expect to be required to make any improvements to Granite Reef Road, to which the site will not abut.

The intersection of ***Granite Reef Road and McDonald Drive*** is the nearest intersection to the site. It is a four-legged intersection that operates under traffic signal control. All left-turn movements operate with permitted phasing and there are no protected-only phases. All approaches are configured similarly with a single left-turn lane, one through lane, and one shared through/right-turn lane. City-published intersection volumes maps indicate entering volumes of 25,300 vpd in 2010, 25,200 vpd in 2012, and 25,400 vpd in 2014. From these, CivTech estimates current 2016 volumes of approximately 25,500 vpd entering the intersection with 26,000 vpd projected to enter the intersection in 2017.

From the above discussions, it could be concluded that CivTech estimates that projected 2017 daily traffic volumes could be 22,500 vpd on McDonald Drive between Hayden and Granite Reef Roads, 1,050 vpd on Granite Reef Road north of McDonald Drive, and that approximately 26,100 vpd could be expected to enter the intersection of Granite Reef Road and McDonald Drive on a typical day in 2017. **Figure 2** shows the projected 2017 daily traffic volumes on the roadways.

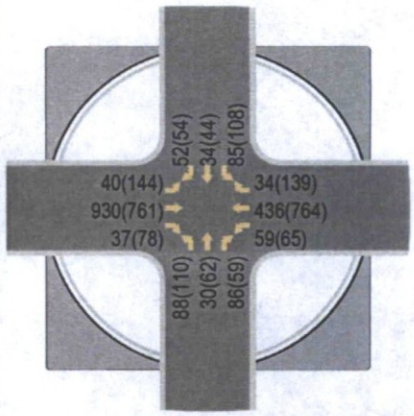
AM and PM Peak Hour Turning Movement Counts. On Tuesday December 20, CivTech recorded AM and PM peak hour turning movements at the intersection of Granite Reef Road and McDonald Drive. The data sheets are provided as **Attachment 2**; the volumes are shown in **Figure 3**. Since a secondary purpose of this statement is to assess the need for an eastbound and/or westbound

left turn phase at the traffic signal, it is noted here that the eastbound left turn movements on McDonald Drive onto Granite Reef Road are 40 and 144 left-turning vehicles during the AM and PM peak hours, respectively, and the corresponding westbound left turning volumes are 59 and 65.



Granite Reef Road at McDonald Drive

Figure 2 – 2017 Projected Daily Traffic Volumes



Granite Reef Road at McDonald Drive

Figure 3 – 2016 AM(PM) Peak Hour Turning Movements

CivTech notes that Saguaro High School closed for its winter break at the end of classes on Friday December 16; however, CivTech recorded AM and PM peak hour turning movements at the intersection anyway and believes the results to be valid for the following reasons:

- PM peak hour counts were recorded from 4 to 6 PM, well after the end of the typical school day; therefore, the east- and westbound counts would contain few school-generated left turns.
- During the AM peak hour, westbound left turns at the intersection would be directed away from the school; therefore, the westbound counts would contain few school-generated left turns.
- Also during the AM peak hour, the eastbound left-turning vehicles would have already crossed through Hayden Road and 82nd Street, both of which are opportunities to approach the school from McDonald Drive. CivTech considers it highly unlikely that school-bound traffic would turn left onto northbound Granite Reef Road: Granite Reef Road does not border on the school and the route would be longer, passing through a residential neighbor with traffic calming.

Transit. The proposed development is conveniently located within walking distance of existing Scottsdale Trolley stops on the southwest and northwest corners of the Granite Reef Road and McDonald Drive intersection. The Miller Road Route runs every 30 minutes on weekdays and every hour on weekends from Scottsdale Community College (Chaparral Road east of Loop 101, west along Chaparral Road to Granite Reef Road, north to McDonald Drive, and west to 78th Street, where it turns south to connect to Miller Road, from where it passes very near downtown Scottsdale on its way to McKellips Road, serving the Arizona State University SkySong Innovation Center, Papago Plaza, and other residential and commercial areas.

Crash History. CivTech excerpted from the Statewide data base it purchases each year from the Arizona Department of Transportation, crashes on McDonald Drive and Granite Reef Road and at their intersection referenced to their intersection and to the next nearest intersection north and west in order to identify segment crashes on both roadways as well as intersection-related crashes. CivTech used the data for the three calendar year period, 2013 to 2015. Two listings of incidents, the first for McDonald Drive and the second for the intersection can be found in **Attachment 3**. (There were no non-intersection-related crashes on Granite Reef Road north of McDonald Drive.)

Briefly, CivTech extracted a total of 29 relevant incidents, 9 on McDonald Drive between 83rd Street and Granite Reef Road, 20 incidents related to the Granite Reef Road/McDonald Drive intersection. None of the 29 resulted in a fatal injury. Some detail is provided below by location.

McDonald Drive, 83rd Street to Granite Reef Road. Granite Reef Road and 83rd Street intersect McDonald Drive approximately 800 feet apart of center. On the north side of McDonald Drive, from Granite Reef Road west, the gas station has two driveways; then there is the existing 8350 driveway, the alley, and another driveway shared by more owned and rented multi-family residences. On the south side of McDonald Drive, from 83rd Street east, there are three driveways, the first two for the mini-storage warehouse (one on either side of the alley on the north side) and the third for the McDonald's fast-food restaurant on the corner that is approximately aligned with the 8350 (and future site) driveway.

Table 1 – Intersection Crashes: Granite Reef Road & McDonald Drive

STATISTIC	2013	2014	2015	TOTAL
Crash Severity				
Injury Crashes (# of Injuries)	3(5)	5(8)	1(1)	9(14)
Non-Injury (Property Damage Only)	1	4	6	11
TOTALS	**4**	**9**		**20**
Crash Type				
Angle				
Northbound/Westbound	1			1
Southbound/Westbound	1	1	3	5
Left Turn				
Northbound Left/Southbound				
Westbound Left/Eastbound	1	1	1	3
Rear End				
Southbound			1	1
Eastbound		4	1	5
Westbound		2		2
Sideswipe (same direction)			1	1
Head-On – Eastbound/Westbound		1		1
Other/Unknown	1			1
TOTALS	**4**	**9**	**7**	**20**
Crashes involving pedestrians	0	0	0	0

CivTech extracted 9 incidents on the segment of McDonald Drive between 83rd Street and Granite Reef Road, 5 in 2015 and 4 in 2015. In one single-vehicle incident in 2014, a utility pole was hit. Of the remaining eight, one is an angle crash that (based on its location) may be driveway-related, two were left turn crashes that may have involved vehicles exiting driveways, and five were rear-end collisions, two westbound and three eastbound. Due to the locations cited (175 to 300 feet west of Granite Reef Road), it is not possible to eliminate the three eastbound crashes from being considered as related to the Granite Reef/McDonald intersection, although they could just as easily be driveway-related, involving a vehicle slowing to enter a driveway. Neither was indicated to be driveway-related or intersection-related.

Granite Reef Road and McDonald Drive. **Table 1** summarizes the 20 collisions recorded at the intersection of Granite Reef Road and McDonald Drive. Of the 20, CivTech had concerns regarding three of them. In 2013, there was an angle crash reported between two northbound vehicles; this is shown as other/unknown in the table. In 2014, there was a head-on crash reported between east- and westbound vehicles, with the westbound vehicle in the process of turning left; this is shown as a left turn crash. In 2015, there was a left crash reported between a westbound vehicles and a southeast-bound vehicle turning left; since a southbound vehicle turning left would be traveling southeast during part of the run, this crash was considered to be an angle crash.

Analysis. Based on the few incidents that occurred on McDonald Drive, CivTech discerned no pattern of crashes susceptible to any kind of treatment. At the intersection of Granite Reef Road and McDonald Drive, the largest number of collisions were the 8 rear-end crashes, or 40% of the total collisions. Rear-end crashes can occur wherever there is a traffic control device that stops traffic and are generally less severe than other types of crashes that are prevented by the traffic control device. Therefore, CivTech concludes that no mitigation measures are needed either on McDonald Drive or at the intersection of Granite Reef Road and McDonald Drive.

PROPOSED DEVELOPMENT

DPCRE is proposing a development consisting of a two-story, 22-DU residential condominium/ townhouse community with garages on the ground level and residences above the garages. The community will replace two commercial buildings at 8340 and 8350 East McDonald Drive in Scottsdale. A conceptual site plan is attached (See **Attachment 1**.) Per the Maricopa County Assessor website, each parcel is 23,625 SF and the two parcels total approximately 1½ acres (net). CivTech understands that this TIMA is intended to become one component of a complete application package for the rezoning of the two lots from C-1 to R-5 zoning, which would allow the proposed residential development. Access to the site will be via an existing City-owned alley that runs from McDonald Drive north along the west sides of the site and then east to Granite Reef Road along the north side of the site and from the existing site driveway to 8350 East McDonald Drive. Each unit will have a tandem garage accessible from the alley.

TRIP GENERATION COMPARISON

As noted, DPCRE's proposed development consists of a two-story, 22-DU residential condominium/townhouse development with garages on the ground level and residences above the garages. The community will replace two commercial buildings at 8340 and 8350 East McDonald Drive in Scottsdale on which there have historically been a 3,060-SF fine-dining restaurant and a 4,744 general office building. One of the requirements of a Category 1 TIMA is to estimate the trips generated by the proposed development and to compare them to the trips that were likely generated by previous users, both of which are vacant; thus, actual traffic volumes to the prior uses cannot be recorded. Therefore, CivTech will provide two trip generation comparisons. The first comparison will be to a bank, a use that is allowed under Scottsdale's regulations governing the existing C-1, Neighborhood Commercial District, zoning without the need for any special use permits or floor area limitations. The size of the parcels would allow a development of 8,500 SF if developed at a Floor Area Ratio (FAR) of 0.18; however, since this this size is somewhat larger than a typical suburban bank with drive-through lanes, the comparison will be made to a bank of 5,000 SF. The second comparison, requested by the City, will be to trips estimated for the prior office and restaurant uses of the site.

The trip generation potential of a development is usually estimated using the most current edition of the Institute of Transportation Engineers' (ITE) *Trip Generation Manual* as a primary reference. The *Trip Generation Manual* contains data for a wide variety of land uses and is currently in its 9th edition, published in 2012. The data are summarized in the document and average rates and equations developed from the data are provided that correlate the relationship between an independent variable that describes the development size and the trips generated for each categorized land use. The manual provides information for daily and peak hour trips and, for certain uses, for other time periods as well.

Table 2 is a detailed trip generation comparison that shows the amount of trips expected to be generated by the bank, a potential use permitted under the existing C-1 zoning, from the prior restaurant and office uses, and for the 22 DUs currently proposed. The lower portions of **Table 2** shows the numeric differences in trips between the scenarios. Please note that the trips for the bank and quality restaurant uses were generated using published averages because regression equations are not available. For the proposed multi-family residences and the prior office use, the averages represent the total trips generated using regression equations divided by the planned number of units. These averages are greater than the published averages for the same land use, yielding a higher, and, thus, more conservative number for use in the subsequent analysis. The results seem reasonable for the residences and for the daily and AM periods of the prior office use. However, for the PM peak hour of the office use, a constant factor of 78.45 in an equation that is linear (that is,

the equation starts with 78.45 trips with *no* floor area and goes up from there) results in approximately two-thirds of the daily trips occurring during the PM peak hour, including a number of exiting/outbound trips (70) that exceeds the expected number of outbound trips for the entire day, that is, 65 trips or half of the 130 trip expected daily (assuming half are inbound and half are outbound).

Table 2 – Trip Generation Comparison

	ITE				AM Distribution		PM Distribution	
Land Use	LUC	ITE Land Use Name	Quantity	Units*	In	Out	In	Out
Uses Permitted Under Existing C-1 Zoning								
Bank	912	Drive-In Bank	5.000	KSF	57%	43%	50%	50%
Prior Uses								
Quality Restaurant	931	Quality Restaurant	3.060	KSF	75%	25%	67%	33%
General Office Building	710	General Office Building	4.744	KSF	88%	12%	17%	83%
Proposed Under R-5 Zoning								
Multiple-Family Residential	230	Residential Condominium/Townhouse	22	DUs	17%	83%	67%	33%

	ADT		AM Peak Hour				PM Peak Hour			
Land Use	Avg. Rate	Total	Avg. Rate	In	Out	Total	Avg. Rate	In	Out	Total
Existing Uses under C-1 Zoning										
Bank	148.15	742	12.08	35	26	61	24.30	61	61	122
Prior Uses										
Quality Restaurant	89.95	276	0.81	2	0	2	7.49	18	8	23
General Office Building	27.29	130	3.52	15	2	17	17.66	14	70	84
Totals		***406***		***17***	***2***	***15***		***32***	***78***	***107***
Proposed Under R-5 Zoning										
Multiple-Family Residential	7.83*	172	0.70*	3	12	15	0.79*	11	6	17
Differences (Proposed - Bank)										
Differences (#)		-570		-32	-14	-46		-50	-55	-105
Differences (%)		-77%		-91%	-54%	-75%		-82%	-90%	-86%
Differences (Proposed - Prior Uses)										
Differences (#)		-234		-14	+10	-4		-18	-72	-90
Differences (%)		-58%		-82%	+500%	-21%		-62%	-92%	-84%

Notes: *Average rate was calculated by dividing total trips generated using regression equation by the number of dwelling units. (See below.)
+ KSF = 1,000 square feet; DUs = Dwelling Units

CALCULATIONS (Equations shown only where applicable)			
Land Use [Units]	***Daily***	***AM Peak Hour***	***PM Peak Hour***
Residential Condominium/Townhouse [Dwelling Units]	$Ln(T_{Day}) = Ln(22) \times 0.87 + 2.46 = 172$	$Ln(T_{AM}) = Ln(22) \times 0.80 + 0.26 = 15$	$Ln(T_{PM}) = Ln(22) \times 0.82 + 0.32 = 17$
General Office Building [KSF]	$Ln(T_{Day}) = Ln(4.744) \times 0.76 + 3.68 = 130$	$Ln(T_{AM}) = Ln(4.744) \times 0.80 + 1.57 = 17$	$T_{PM} = 4.744 \times 1.12 + 78.45 = 84$

A review of the detailed trip generation in **Table 2** reveals that DPCRE's development, if developed as proposed under the requested R-5 zoning currently being sought, could generate 172 trips daily, with 15 trips generated during the AM peak hour (3 in/12 out) and 17 trips during the PM peak hour (11 in/6 out). These are an estimated 570 fewer trips daily (46 fewer during the AM peak hour and 105 fewer during the PM peak hour) than could be expected for the site if it were to be developed into a bank, a use allowed under the current C-1 zoning without any special permitting. These are also an estimated 234 fewer trips daily (4 net trips fewer during the AM peak hour and 90 fewer during the PM peak hour) than could have been expected from the previous restaurant and office uses for the site.

LEFT TURN PHASE WARRANT

In his email of December 15, 2016, Phil Kercher, P.E., a traffic engineer for the City of Scottsdale, noted that local residents have made several requests for an east-west left-turn phase be added to the existing traffic signal at Granite Reef Road and McDonald Drive. Mr. Kercher was unable to provide an outline of the City's methodology, referenced in the City's *Design Standards &*

Policies Manual. CivTech understands that the City's methodology takes several factors into account and that it is not straightforward. So, instead, CivTech used a cross-product method employed by the Arizona Department of Transportation (ADOT) to make a preliminary determination of the potential need for left turn-phasing.

Briefly, the cross-product method multiplies the number of left turns per hour times the number of conflicting approaching vehicles, that is, through and right-turning vehicles, for that same hour. (Except in offset intersections, the paths of opposing left-turning vehicles do not cross, so they do not conflict and are not considered.) If the cross-product meets or exceeds 75,000 for each lane of traffic approaching the subject left turn movement (75,000 for 1 lane, 150,000 for 2 lanes, 225,000 for 3 lanes), the warrant is met.

Table 3 – Left-Turn Cross-Products at Granite Reef Road and McDonald Drive

Left-Turn Approach	Peak Hour	Left Turn Volume	Opposing Volume*	Cross-Product	Opposing Lanes	Threshold Value	Met?
McDonald Drive Eastbound	AM	40	436	17,440	2	150,000	NO
	PM	144	764	110,016			NO
McDonald Drive Westbound	AM	59	930	54,870	2	150,000	NO
	PM	65	761	49,465			NO

* Opposing volume is opposing through volume only because Granite Reef Road has two lanes to receive both left- and right turns simultaneously.

The volumes in **Figure 3** were used to develop **Table 3**, which revealed that, based on the cross-product criteria method used by ADOT, left-turn phasing is not warranted on the east- and/or westbound approaches to the existing signalized intersection of Granite Reef Road at McDonald Drive. While it could be argued that the high school was closed, so the through volumes on McDonald Drive could have been somewhat less than normal on the day traffic data was recorded, the counter to this argument is that the highest cross-product occurred during the PM peak hour, during which school-generated traffic would be very light, if there was any at all. The normal, school-opened, westbound through volume on McDonald Drive would have to be more than 8½ times than that recorded to exceed the threshold of 150,000.

In response to a comment, CivTech made some observations in the field at the intersection on Tuesday and Wednesday February 7 (PM) and 8 (AM). CivTech first determined from the traffic count that the highest numbers of left turns at the intersection occurred eastbound during the PM peak hour after 5:15 PM and westbound during the AM peak hour just after 7:00 AM. CivTech observed no queuing during the AM period observed, with a maximum of two vehicles approaching in either direction during a signal cycle, vehicles that were able to complete the left turn and not having to wait for the next cycle. During the PM period, CivTech did observe one eastbound queue of five vehicles and two westbound queues of six vehicles. On these longer queues, the two lead vehicles in each queue were able to complete the maneuver as "sneakers," that is, as opposing traffic was slowing and the signal was turning from yellow to an all-red condition in their direction. The remaining vehicles in the queue were able to clear during the next signal cycle, with one exception: the sixth westbound vehicle in the earlier of the two westbound queues was required to wait into the next cycle to complete the turn.

CONCLUSIONS AND RECOMMENDATIONS

From the above, the following can be concluded:

- CivTech estimates that projected 2017 daily traffic volumes could be 22,500 vpd on McDonald Drive between Hayden and Granite Reef Roads, 1,050 vpd on Granite Reef Road north of

McDonald Drive, and that approximately 26,100 vpd could be expected to enter the intersection of Granite Reef Road and McDonald Drive on a typical day in 2017.

- CivTech discerned no pattern of crashes susceptible to any kind of treatment and concludes that no mitigation measures are needed either on McDonald Drive or at the intersection of Granite Reef Road and McDonald Drive.
- DPCRE's development, if developed as proposed under the requested R-5 zoning currently being sought, could generate 172 trips daily, with 15 trips generated during the AM peak hour (3 in/12 out) and 17 trips during the PM peak hour (11 in/6 out). These are an estimated 570 fewer trips daily (46 fewer during the AM peak hour and 105 fewer during the PM peak hour) than could be expected for the site if it were to be developed into a bank, a use allowed under the current C-1 zoning without any special permitting. These are also an estimated 234 fewer trips daily (4 net fewer during the AM peak hour and 90 fewer during the PM peak hour) than could have been expected from the previous restaurant and office uses for the site.
- Using a cross-product method, CivTech made a preliminary determination that left-turn phasing is not warranted on the east- and/or westbound approaches to the existing signalized intersection of Granite Reef Road at McDonald Drive. CivTech observed in the field maximum left turn queues of 5 and 6 left-turning vehicles, respectively, east- and westbound with only one vehicle having to wait into a second signal cycle to complete a left turn. CivTech concludes that these observations affirm CivTech's recommendation that left-turn phasing is not warranted.

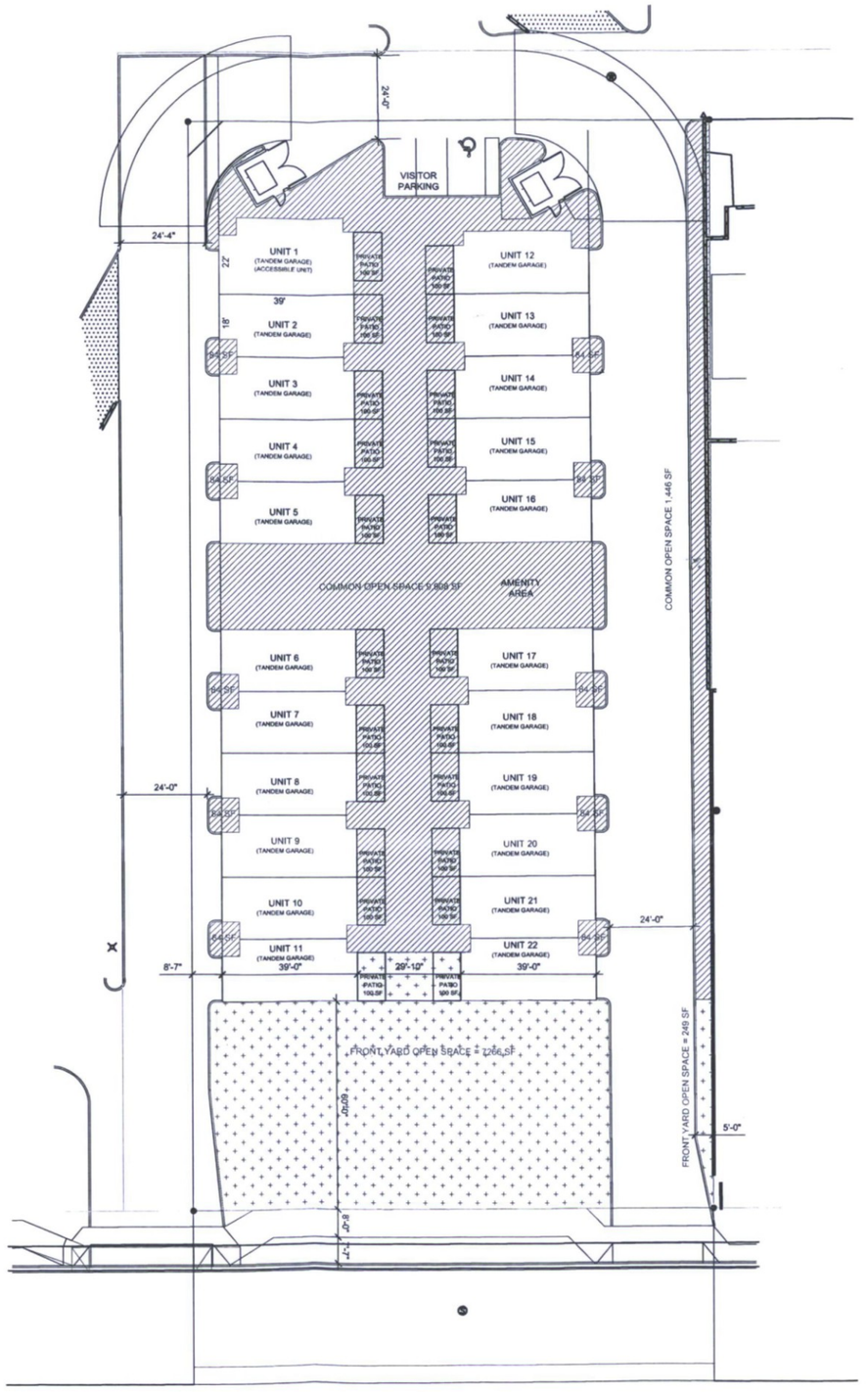
Thank you for your time and prompt attention in reviewing and approving this amendment. Please contact me if you have any questions or comments.

Sincerely,

Joseph F. Spadafino

Joseph F. Spadafino, P.E., PTOE
Project Manager/Senior Traffic Engineer

Attachment 1 – Site Plan
Attachment 2 – Traffic Count
Attachment 3 – Crash Listing



1 SITE PLAN SCALE: 1" = 20'-0"

ARCHICON
Architecture & Interiors, L.C.
5055 E WASHINGTON STREET
SUITE 200
PHOENIX, ARIZONA 85034
(602) 222-4266
FAX (602) 279-4305
www.ARCHICON.COM

THIS SKETCH IS FOR INFORMATION PURPOSES ONLY AND SHALL NOT BE USED FOR CONSTRUCTION

EXISTING ZONING: C-1
PROPOSED ZONING: R-5

APN: 174-12-001S & 174-12-001T

OCCUPANCY: RESIDENTIAL

SITE AREA: 47,250 S.F. (NET) 1.085 AC
54,750 S.F. (GROSS) 1.257 AC

EACH UNIT IS APPROXIMATELY 2,000 GSF WHICH INCLUDES THE GARAGE ON THE LOWEST LEVEL.

PARKING REQUIRED: TWO BEDROOM UNITS 1.7 SPACES PER
THREE BEDROOM UNITS 1.9 SPACES PER

22 UNITS X 1.9 SPACES = 44 SPACES

PARKING PROVIDED: 2 TANDEM PARKING SPACES PER UNIT
22 UNITS X 2 = 44 SPACES + 3 VISITOR
47 TOTAL SPACES PROVIDED

22 UNITS TOTAL OR 20.27 UNITS PER ACRE

UNIT SIZE: 2,000 SF INCLUDING GARAGE
1,300 SF LIVING SPACE ON UPPER 2 LEVELS

OPEN SPACE CALCULATIONS PER DENSITY BASED USES:

a. MINIMUM OPEN SPACE PER SECTION 5.1004.D = 40%, (47250 X0.40 = 18,900 SF) WHICH IS DISTRIBUTED AS FOLLOWS:
1. FRONTAGE OPEN SPACE MINIMUM: 0.50 MULTIPLIED BY 18,900 (40%) = 9,450 SF, EXCEPT AS FOLLOWS:
(1) MINIMUM 20 SF PER 1 LF OF FRONTAGE: 150 X 20 = 3000 SF
(2) NOT REQUIRED TO EXCEED MORE THAN 50 SF PER 1 LF OF FRONTAGE: 150 X 50 = 7500 SF

1.1. THE REMAINDER OF THE DENSITY BASED USES MINIMUM OPEN SPACE IS 18,900 MINUS FRONT YARD OPEN SPACE = WHICH IS COMMON OPEN SPACE REQUIRED

b. PRIVATE OUTDOOR LIVING SPACE
1. (DWELLING ABOVE THE FIRST STORY SINCE FIRST STORY IS GARAGE) MINIMUM 0.05 X GROSS AREA OF EACH DWELLING UNIT = APPROX. 2000 SF X 0.05 = 100 SF

OPEN SPACE REQUIRED: 18,900 SF
OPEN SPACE PROVIDED: 19,709 SF

FRONT YARD OPEN SPACE REQUIRED: 7,500 SF
FRONT YARD OPEN SPACE PROVIDED: 7,515 SF

PRIVATE OPEN SPACE REQUIRED: 100 SF PER UNIT
PRIVATE OPEN SPACE PROVIDED: 100 SF PER UNIT

NORTH

ARCHICON
Architecture & Interiors, L.C.
5055 E WASHINGTON STREET
SUITE 200
PHOENIX, ARIZONA 85034
(602) 222-4266
FAX (602) 279-4305
www.ARCHICON.COM

DIVERSIFIED PARTNERS
MULTI-FAMILY PROJECT
8340 E MCDONALD DRIVE
SCOTTSDALE, ARIZONA

JOB NO:
PROJECT MGR: J. KOSKI
DRAWN BY: ARCHICON
CHECKED BY: J. PLANCK

NO.	REVISION	DATE

SHEET TITLE: DEVELOPMENT PLAN

PRELIMINARY DRAWING

DP-03

ISSUE DATE: 8 DEC 2016

Attachment 1

NWC Granite Reef Rd & McDonald Dr TRAFFIC COUNT DATA SHEET

Counts Conducted
December 20, 2016

AM Peak Hour

Time		Northbound				Southbound				Eastbound				Westbound				TOTAL
Start	Finish	left	through	right	peds	left	through	right	peds	left	through	right	peds	left	through	right	peds	
7:00 AM	7:15 AM	31	5	17	-	12	3	5	-	8	117	4	-	27	133	6	-	368
7:15 AM	7:30 AM	15	12	16	-	20	11	19	-	4	197	10	-	18	121	14	-	457
7:30 AM	7:45 AM	21	10	25	-	33	2	12	-	10	163	10	-	24	98	12	-	420
7:45 AM	8:00 AM	20	10	14	-	19	12	14		7	285	5	-	17	124	13	-	540
8:00 AM	8:15 AM	18	6	28	-	20	7	13	-	14	245	8	-	11	105	6	-	481
8:15 AM	8:30 AM	29	4	19	-	13	13	13	-	9	237	14	-	7	109	3	-	470
8:30 AM	8:45 AM	16	2	23	-	28	21	26	-	7	144	5	-	7	85	9	-	373
8:45 AM	9:00 AM	16	8	27	-	22	11	22	-	20	177	5	-	13	122	8	-	451
7:00 AM	**9:00 AM**	**166**	**57**	**169**	**-**	**167**	**80**	**124**	**-**	**79**	**1,565**	**61**	**-**	**124**	**897**	**71**	**-**	**3,560**
7:30 AM	**8:30 AM**	**88**	**30**	**86**	**-**	**85**	**34**	**52**	**-**	**40**	**930**	**37**	**-**	**59**	**436**	**34**	**-**	**1,911**

Peak Hour Factor (PHF) **0.8847**

PM Peak Hour

Time		Northbound				Southbound				Eastbound				Westbound				TOTAL
Start	Finish	left	through	right	peds	left	through	right	peds	left	through	right	peds	left	through	right	peds	
4:00 PM	4:15 PM	28	13	14	-	41	11	6	-	26	157	18	-	7	198	26	-	545
4:15 PM	4:30 PM	38	4	11	-	18	12	9	-	22	167	15	-	14	188	37	-	535
4:30 PM	4:45 PM	19	12	14	-	17	17	7	-	34	160	22	-	17	161	28	-	508
4:45 PM	5:00 PM	23	6	9	-	13	16	4	-	25	155	17	-	11	154	37	-	470
5:00 PM	5:15 PM	29	8	14	-	16	9	10	-	34	189	27	-	10	219	29	-	594
5:15 PM	5:30 PM	19	17	9	-	21	12	12	-	40	199	28	-	16	215	41	-	629
5:30 PM	5:45 PM	37	16	15	-	31	7	12	-	40	168	21	-	22	176	41	-	586
5:45 PM	6:00 PM	25	21	21	-	40	16	20	-	30	205	2	-	17	154	28	-	579
4:00 PM	**6:00 PM**	**218**	**97**	**107**	**-**	**197**	**100**	**80**	**-**	**251**	**1,400**	**150**	**-**	**114**	**1,465**	**267**	**-**	**4,446**
5:00 PM	**6:00 PM**	**110**	**62**	**59**	**-**	**108**	**44**	**54**	**-**	**144**	**761**	**78**	**-**	**65**	**764**	**139**	**-**	**2,388**

Peak Hour Factor (PHF) **0.9491**

CivTech

Granite Reef Road and McDonald Drive

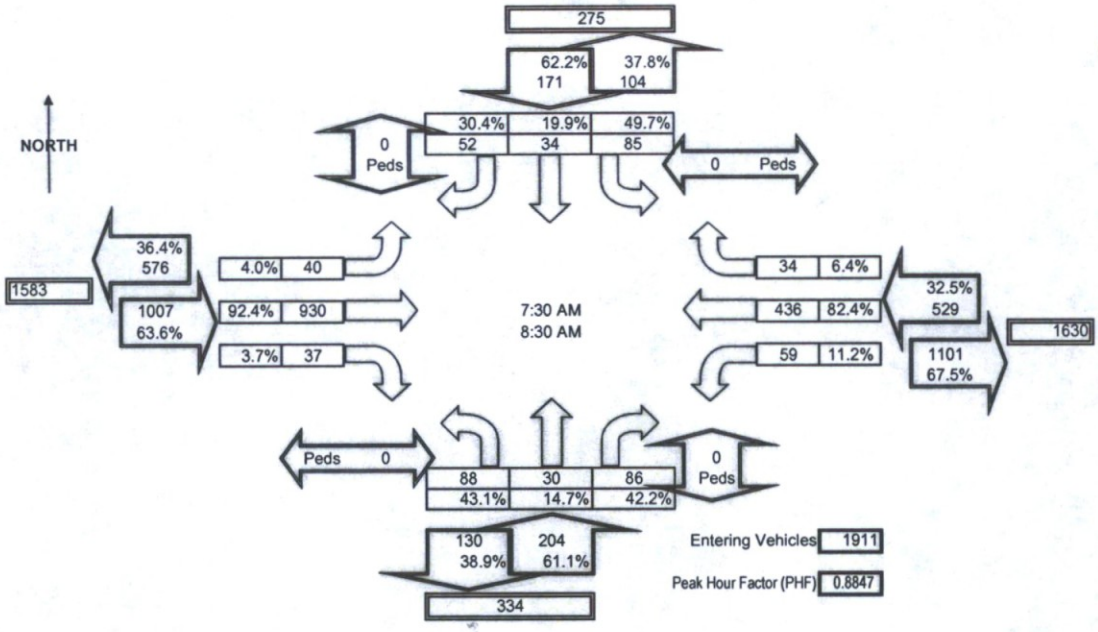
AM PEAK HOUR DIAGRAM

NWC Granite Reef Rd & McDonald Dr

Counts Conducted
December 20, 2016

CivTech

Attachment 2



Granite Reef Road and McDonald Drive

Page 2

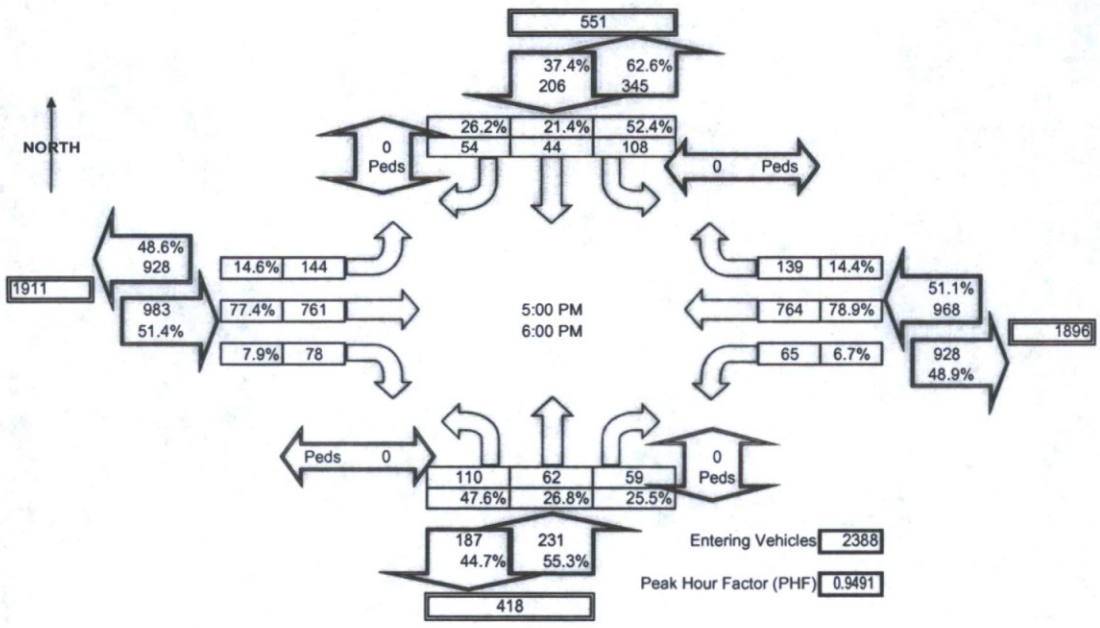
AM PEAK HOUR DIAGRAM

NWC Granite Reef Rd & McDonald Dr

Counts Conducted
December 20, 2016

CivTech

Attachment 2



Granite Reef Road and McDonald Drive

Page 3

CRASH STATISTICS

2014-2015

Involvement

	# Incidents	Totals	# Motorists	# Non-Motorists
Incidents	9	19 Veh	25	0
2014				
Severity				
Fatal	0	0 Ppl	0	0
Injury	3	4 Ppl	4	0
PDO	6	12 Veh		
Total	9			

	PDO	INJ	FAT	TOTAL
Units	12	7	0	19

LightCondition	Code	No.
DAYLIGHT	1	9
DAWN	2	0
DUSK	3	0
DARK_LIGHTED	4	0
DARK_NOT_LIGHTED	5	0
DARK_UNKNOWN_LIGHTING	6	0
UNKNOWN	99	0
Check Total		9

Weather		
CLEAR	1	9
CLOUDY	2	0
SLEET_HAIL_FREEZING_RAIN_OR_DRIZZLE	3	0
RAIN	4	0
SNOW	5	0
SEVERE_CROSSWINDS	6	0
BLOWING_SAND_SOIL_DIRT	7	0
FOG_SMOG_SMOKE	8	0
BLOWING_SNOW	9	0
OTHER	97	0
UNKNOWN	99	0
Check Total		9

TrafficWayType		
ONE_WAY_TRAFFICWAY	1	0
TWO_WAY_NOT_DIVIDED	2	1
TWO_WAY_NOT_DIVIDED_WITH_CONTINUOUS_LEFT_TURN_LANE	3	2
TWO_WAY_DIVIDED_UNPROTECTED_PAINTED_4_FEET_MEDIAN	4	5
TWO_WAY_DIVIDED_POSITIVE_MEDIAN_BARRIER	5	1
UNKNOWN	99	0
Check Total		9

Weekday		
Sunday	1	1
Monday	2	2
Tuesday	3	0
Wednesday	4	1
Thursday	5	3
Friday	6	0
Saturday	7	2
Check Total		9

Circumstances

Intersection Related?	1
Hit & Run?	0
# Peds Involved?	0
# Bikes Involved?	0

JunctionRelation	Code	No.
NOT_JUNCTION_RELATED	0	7
INTERSECTION_NON_INTERCHANGE	1	0
INTERSECTION_RELATED_NON_INTERCHANGE	2	1
ENTRANCE_EXIT_RAMP_NON_INTERCHANGE	3	0
RAILWAY_GRADE_CROSSING	4	0
CROSSOVER_RELATED	5	0
FRONTAGE_ROAD_NON_INTERCHANGE	6	0
DRIVEWAY	7	1
ALLEY_ACCESS_RELATED	8	0
UNKNOWN_NON_INTERCHANGE	9	0
THRU_ROADWAY	10	0
INTERSECTION_INTERCHANGE	11	0
INTERSECTION_RELATED_INTERCHANGE	12	0
ENTRANCE_EXIT_RAMP_INTERCHANGE	13	0
FRONTAGE_ROAD_INTERCHANGE	14	0
OTHER_PART_OF_INTERCHANGE	15	0
UNKNOWN_INTERCHANGE	17	0
UNKNOWN_JUNCTION	18	0
UNKNOWN	99	0
OTHER_NON_INTERCHANGE	109	0
Check Total		9

CollisionManner		
SINGLE_VEHICLE	1	1
ANGLE (front to side)(other than left turn)	2	1
LEFT_TURN	3	2
REAR_END	4	5
HEAD_ON	5	0
SIDESWIPE_SAME_DIRECTION	6	0
SIDESWIPE_OPPOSITE_DIRECTION	7	0
REAR_TO_SIDE	8	0
REAR_TO_REAR	9	0
OTHER	97	0
UNKNOWN	99	0
Check Total		9

TravelDirection		
1 NORTH	N	
2 SOUTH	S	
3 EAST	E	
4 WEST	W	
5 NORTHWEST	NW	
6 NORTHEAST	NE	
7 SOUTHWEST	SW	
8 SOUTHEAST	SE	
99 UNKNOWN	99	

First Harmful Event	Code	No.
OVERTURN_ROLLOVER	1	0
FIRE_EXPLOSION	2	0
IMMERSION	3	0
JACKKNIFE	4	0
CARGO_EQUIPMENT_LOSS_SHIFT	5	0
FELL_JUMPED_FROM_VEHICLE	6	0
THROWN_OR_FALLING_OBJECT	7	0
OTHER_NON_COLLISION	8	0
EQUIPMENT_FAILURE~~_TIRES_BRAKES~~	9	0
SEPARATION_OF_UNITS	10	0
RAN_OFF_ROAD_RIGHT	11	0
RAN_OFF_ROAD_LEFT	12	0
CROSS_MEDIAN	13	0
CROSS_CENTERLINE	14	0
DOWNHILL_RUNAWAY	15	0
MOTOR_VEHICLE_IN_TRANSPORT	16	8
PEDESTRIAN	17	0
PEDALCYCLE	18	0
RAILWAY_VEHICLE_TRAIN_ENGINE	19	0
LIGHT_RAILWAY_RAILCAR_VEHICLE	20	0
ANIMAL_WILD_NON_GAME	21	0
ANIMAL_WILD_GAME	22	0
ANIMAL_PET	23	0
ANIMAL_LIVESTOCK	24	0
PARKED_MOTOR_VEHICLE	25	0
WORK_ZONE_MAINTENANCE_EQUIPMENT	26	0
STRUCK_BY_FALLING_SHIFTING_CARGO_OR_OBJECT	27	0
OTHER_NON_FIXED_OBJECT	28	0
IMPACT_ATTENUATOR_CRASH_CUSHION	29	0
BRIDGE_OVERHEAD_STRUCTURE	30	0
BRIDGE_RAIL	31	0
CULVERT	32	0
CURB	33	0
DITCH	34	0
EMBANKMENT	35	0
GUARDRAIL_FACE	36	0
GUARDRAIL_END	37	0
CONCRETE_TRAFFIC_BARRIER	38	0
CABLE_TRAFFIC_BARRIER	39	0
OTHER_TRAFFIC_BARRIER	40	0
TREE_BUSH_STUMP_STANDING	41	0
TRAFFIC_SIGN_SUPPORT	42	0
TRAFFIC_SIGNAL_SUPPORT	43	0
UTILITY_POLE_LIGHT_SUPPORT	44	1
OTHER_POST_POLE_OR_SUPPORT	45	0
FENCE	46	0
MAILBOX	47	0
BUILDING	48	0
OTHER_FIXED_OBJECT	49	0
UNKNOWN	99	0
Not Reported	255	0
Check Total		9

Month	Code	No.
January	1	0
February	2	2
March	3	0
April	4	2
May	5	1
June	6	0
July	7	0
August	8	1
September	9	0
October	10	0
November	11	1
December	12	2
Total		9

(Unit) SurfaceCondition		
DRY	1	19
WET	2	0
SNOW	3	0
SLUSH	4	0
ICE_FROST	5	0
WATER_STANDING_MOVING	6	0
SAND	7	0
MUD_DIRT_GRAVEL	8	0
OIL	9	0
OTHER	97	0
UNKNOWN	99	0
Total		19

Additional Useful Information

Vehicle Action Codes

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_Vehicle_Object_Pedestrian
12 ENTERING_PARKING_POSITION
13 LEAVING_PARKING_POSITION
14 PROPERLY_PARKED
15 IMPROPERLY_PARKED
16 DRIVERLESS_MOVING_VEHICLE
17 CROSSING_ROAD
18 WALKING_WITH_TRAFFIC
19 WALKING_AGAINST_TRAFFIC
20 STANDING
21 LYING
22 GETTING_ON_OR_OFF_VEHICLE
23 WORKING_ON_OR_PUSHING_VEHICLE
24 WORKING_ON_ROAD
97 OTHER
99 UNKNOWN

Body Styles

-1 NOT_REPORTED
1 \Passenger Vehicles, including RVs
53 /
54 \TRUCKS
88 /
89 \MOBILEHOME (NOT RVS)
92 /
93 \TRAILERS
120 /
121 \MOTORCYCLES
128 /
254 UNKNOWN
255 NOT REPORTED

LOCATION								DATE & TIME		UNITS																		PERSON												SEVERITY				GENERAL					
INCIDNT	ON STREET	MP	OFF-SET	D R	DIS-TANCE	INTERSECT STREET	NCIC	OFCR NCIC	YYMMDD	HH:MM	D W	TO-TAL	SRFCND U1	SRFCND U2	ALGMT 1	ALGMT 2	GRADE 1	GRADE 2	DFCTS U1	DFCTS U2	BSTYLE U1	BSTYLE U2	TRDR 1	TRDR 2	UACT U1	UACT U2	TTL MOT	TTL NON	TYP 1	TYP 2	INJR 1	INJR 2	VLTN D1	VLTN D2	PHSCND D1	PHSCND D2	NON LOC	INCIDENTS PDO	INJFAT	INJ TTL MOT	INJ NON TTL	FATALITIES MOT	FATALITIES NON	H R	LT CN	WE CN	JCT REL	TRF CWY	HE CD	M C
2825903	Mcdonald Dr			M	240	Granite Reef Rd	725	725	140201	09:36	7	3	1	1	1	1	1	1	0	0	44	31	E	E	3	1	5	0	1	4	1	1	16	-1	0	0	255	1		0		0		N	1	1	0	5	16	4
													1		1		1		0		44		E		3				1	4	1	1	1	-1	0	0	255												
																													1		1		1		0													
2854152	Mcdonald Dr			M	150	Granite Reef Rd	725	725	140512	12:41	2	2	1	1	1	1	1	1	0	0	50	50	NW	SW	4	4	3	0	4	1	1	1	-1	1	0	0	255	1		0		0		N	1	1	0	2	16	3
																													1		1		16		0													
2856015	Mcdonald Dr			M	250	Granite Reef Rd	725	725	140428	07:27	2	2	1	1	1	1	1	1	-1	-1	44	47	E	E	1	3	2	0	1	1	1	1	1	2	0	0	255	1		0		0		N	1	1	0	4	16	4
2877968	Mcdonald Dr			M	90	Granite Reef Rd	725	725	140821	07:27	5	2	1	1	1	1	1	1	0	0	50	44	N	E	4	1	3	0	4	1	1	1	-1	1	0	0	255	1		0		0		N	1	1	2	4	16	2
																													1		1		97		0													
2917490	Mcdonald Dr			M	200	Granite Reef Rd	725	725	141127	15:21	5	1	1		1		1		0		10		W		97		2	0	4	1	1	1	-1	4	0	0	255	1		0		0		N	1	1	0	4	44	1
2944279	Mcdonald Dr			M	300	Granite Reef Rd	725	725	150221	13:48	7	3	1	1	1	1	1	1	0	0	44	42	W	W	3	3	3	0	1	1	1	2	2	1	0	0	255		1	1	1	0	0	N	1	1	0	3	16	4
													1		1		1		0		44		W		1				1		1		1		0													
2948741	Mcdonald Dr			M	175	Granite Reef Rd	725	725	150408	15:44	4	2	1	1	1	1	1	1	0	0	50	44	E	E	3	1	2	0	1	1	2	1	1	2	0	0	255		1	1	1	0	0	N	1	1	0	4	16	4
3033186	Mcdonald Dr			M	75	Granite Reef Rd	725	725	151217	08:21	5	2	1	1	1	1	1	1	0	0	31	44	W	N	4	4	3	0	1	4	1	1	20	-1	0	0	255	1		0		0		N	1	1	7	4	16	3
																													1		1		1		0													
3036447	Mcdonald Dr			M	176	Granite Reef Rd	725	725	151213	10:36	1	2	1	1	1	1	1	1	0	0	44	44	W	W	3	1	2	0	1	1	2	2	2	1	0	0	255		1	2	2	0	0	N	1	1	0	3	16	4

CRASH STATISTICS

2013-2015

McDonald Drive at Granite Reef Road

	# Incidents	Involvement Totals	# Motorists	# Non-Motorists
Incidents	20	43 Veh	58	0
2013				
Severity				
Fatal	0	0 Ppl	0	0
Injury	9	14 Ppl	14	0
PDO	11	24 Veh		
Total	20			

	PDO	INJ	FAT	TOTAL
Units	24	19	0	43

LightCondition	Code	No.
DAYLIGHT	1	16
DAWN	2	1
DUSK	3	0
DARK_LIGHTED	4	3
DARK_NOT_LIGHTED	5	0
DARK_UNKNOWN_LIGHTING	6	0
UNKNOWN	99	0
Check Total		20

Weather		
CLEAR	1	16
CLOUDY	2	3
SLEET_HAIL_FREEZING_RAIN_OR_DRIZZLE	3	0
RAIN	4	1
SNOW	5	0
SEVERE_CROSSWINDS	6	0
BLOWING_SAND_SOIL_DIRT	7	0
FOG_SMOG_SMOKE	8	0
BLOWING_SNOW	9	0
OTHER	97	0
UNKNOWN	99	0
Check Total		20

TrafficWayType		
ONE_WAY_TRAFFICWAY	1	0
TWO_WAY_NOT_DIVIDED	2	3
TWO_WAY_NOT_DIVIDED_WITH_CONTINUOUS_LEFT_TURN_LANE	3	1
TWO_WAY_DIVIDED_UNPROTECTED_PAINTED_4_FEET_MEDIAN	4	14
TWO_WAY_DIVIDED_POSITIVE_MEDIAN_BARRIER	5	1
UNKNOWN	99	1
Check Total		20

Weekday		
Sunday	1	3
Monday	2	3
Tuesday	3	1
Wednesday	4	3
Thursday	5	5
Friday	6	3
Saturday	7	2
Check Total		20

Circumstances	
Intersection Related?	17
Hit & Run?	1
# Peds Involved?	0
# Bikes Involved?	0

JunctionRelation	Code	No.
NOT_JUNCTION_RELATED	0	3
INTERSECTION_NON_INTERCHANGE	1	10
INTERSECTION_RELATED_NON_INTERCHANGE	2	6
ENTRANCE_EXIT_RAMP_NON_INTERCHANGE	3	0
RAILWAY_GRADE_CROSSING	4	0
CROSSOVER_RELATED	5	0
FRONTAGE_ROAD_NON_INTERCHANGE	6	0
DRIVEWAY	7	0
ALLEY_ACCESS_RELATED	8	0
UNKNOWN_NON_INTERCHANGE	9	0
THRU_ROADWAY	10	0
INTERSECTION_INTERCHANGE	11	1
INTERSECTION_RELATED_INTERCHANGE	12	0
ENTRANCE_EXIT_RAMP_INTERCHANGE	13	0
FRONTAGE_ROAD_INTERCHANGE	14	0
OTHER_PART_OF_INTERCHANGE	15	0
UNKNOWN_INTERCHANGE	17	0
UNKNOWN_JUNCTION	18	0
UNKNOWN	99	0
OTHER_NON_INTERCHANGE	109	0
Check Total		20

CollisionManner		
SINGLE_VEHICLE	1	0
ANGLE (front to side)(other than left turn)	2	6
LEFT_TURN	3	3
REAR_END	4	8
HEAD_ON	5	2
SIDESWIPE_SAME_DIRECTION	6	1
SIDESWIPE_OPPOSITE_DIRECTION	7	0
REAR_TO_SIDE	8	0
REAR_TO_REAR	9	0
OTHER	97	0
UNKNOWN	99	0
Check Total		20

TravelDirection		
1 NORTH	N	
2 SOUTH	S	
3 EAST	E	
4 WEST	W	
5 NORTHWEST	NW	
6 NORTHEAST	NE	
7 SOUTHWEST	SW	
8 SOUTHEAST	SE	
99 UNKNOWN	99	

First Harmful Event	Code	No.
OVERTURN_ROLLOVER	1	0
FIRE_EXPLOSION	2	0
IMMERSION	3	0
JACKKNIFE	4	0
CARGO_EQUIPMENT_LOSS_SHIFT	5	0
FELL_JUMPED_FROM_VEHICLE	6	0
THROWN_OR_FALLING_OBJECT	7	0
OTHER_NON_COLLISION	8	0
EQUIPMENT_FAILURE_~~TIRES_BRAKES~~	9	0
SEPARATION_OF_UNITS	10	0
RAN_OFF_ROAD_RIGHT	11	0
RAN_OFF_ROAD_LEFT	12	0
CROSS_MEDIAN	13	0
CROSS_CENTERLINE	14	0
DOWNHILL_RUNAWAY	15	0
MOTOR_VEHICLE_IN_TRANSPORT	16	20
PEDESTRIAN	17	0
PEDALCYCLE	18	0
RAILWAY_VEHICLE_TRAIN_ENGINE	19	0
LIGHT_RAILWAY_RAILCAR_VEHICLE	20	0
ANIMAL_WILD_NON_GAME	21	0
ANIMAL_WILD_GAME	22	0
ANIMAL_PET	23	0
ANIMAL_LIVESTOCK	24	0
PARKED_MOTOR_VEHICLE	25	0
WORK_ZONE_MAINTENANCE_EQUIPMENT	26	0
STRUCK_BY_FALLING_SHIFTING_CARGO_OR_OBJECT	27	0
OTHER_NON_FIXED_OBJECT	28	0
IMPACT_ATTENUATOR_CRASH_CUSHION	29	0
BRIDGE_OVERHEAD_STRUCTURE	30	0
BRIDGE_RAIL	31	0
CULVERT	32	0
CURB	33	0
DITCH	34	0
EMBANKMENT	35	0
GUARDRAIL_FACE	36	0
GUARDRAIL_END	37	0
CONCRETE_TRAFFIC_BARRIER	38	0
CABLE_TRAFFIC_BARRIER	39	0
OTHER_TRAFFIC_BARRIER	40	0
TREE_BUSH_STUMP_STANDING	41	0
TRAFFIC_SIGN_SUPPORT	42	0
TRAFFIC_SIGNAL_SUPPORT	43	0
UTILITY_POLE_LIGHT_SUPPORT	44	0
OTHER_POST_POLE_OR_SUPPORT	45	0
FENCE	46	0
MAILBOX	47	0
BUILDING	48	0
OTHER_FIXED_OBJECT	49	0
UNKNOWN	99	0
Not Reported	255	0
Check Total		20

Month	Code	No.
January	1	1
February	2	5
March	3	2
April	4	2
May	5	2
June	6	2
July	7	1
August	8	1
September	9	2
October	10	1
November	11	0
December	12	1
Total		20

(Unit) SurfaceCondition		
DRY	1	41
WET	2	2
SNOW	3	0
SLUSH	4	0
ICE_FROST	5	0
WATER_STANDING_MOVING	6	0
SAND	7	0
MUD_DIRT_GRAVEL	8	0
OIL	9	0
OTHER	97	0
UNKNOWN	99	0
Total		43

Additional Useful Information

Vehicle Action Codes

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_Vehicle_Object_Pedestrian
12 ENTERING_PARKING_POSITION
13 LEAVING_PARKING_POSITION
14 PROPERLY_PARKED
15 IMPROPERLY_PARKED
16 DRIVERLESS_MOVING_VEHICLE
17 CROSSING_ROAD
18 WALKING_WITH_TRAFFIC
19 WALKING_AGAINST_TRAFFIC
20 STANDING
21 LYING
22 GETTING_ON_OR_OFF_VEHICLE
23 WORKING_ON_OR_PUSHING_VEHICLE
24 WORKING_ON_ROAD
97 OTHER
99 UNKNOWN

Body Styles

-1 NOT_REPORTED
1 \Passenger Vehicles, including RVs
53 /
54 \TRUCKS
88 /
89 \MOBILEHOME (NOT RVS)
92 /
93 \TRAILERS
120 /
121 \MOTORCYCLES
128 /
254 UNKNOWN
255 NOT REPORTED

<-------- LOCATION -------->						<-DATE & TIME->		<-------- UNITS -------->														<-------- PERSON -------->										<-------- SEVERITY -------->				<------ GENERAL ---->					
INCIDNT	ON STREET	MP	OFF-SET	D R	DIS-TANCE	INTERSECT STREET	NCIC	OFCR NCIC	YYMMDD	HH:MM	D W	TO-TAL	SRFC U1	SRFC U2	ALGMT 1	ALGMT 2	GRADE 1	GRADE 2	DFCTS U1	DFCTS U2	BSTYLE U1	BSTYLE U2	TRDR 1	TRDR 2	UACT U1	UACT U2	TTL MOT	TTL NON	TYP 1	TYP 2	INJR 1	INJR 2	VLTN D1	VLTN D2	PHSCND D1	PHSCND D2	NON LOC	INCIDENTS PDO	INJ	FAT	INJURIES TTL	FATALITIES MOT	NON	TTL	H R	LT CN	WE CN	JCT REL	TRF CWY	HE CD	M C
2718450	Granite Reef Rd			P	0	Mcdonald Dr	725	725	130308	17:29	6	2	2	2	1	1	1	1	0	0	44	44	E	SW	1	4	2	0	1	1	2	3	7	1	0	0	255		1		2	2	0	0		N	1	4	1	4	16	3
2723325	Granite Reef Rd			P	0	Mcdonald Dr	725	725	130410	14:31	4	2	1	1	1	1	1	1	0	0	12	52	N	N	1	3	3	0	1	4	1	1	1	-1	0	0	255	1			0		0		N	1	1	11	2	16	2
													1		1														1		1		97		0															
2724506	Mcdonald Dr			P	0	Granite Reef Rd	725	725	130331	17:48	1	2	1	1	1	1	1	1	0	0	44	50	W	S	1	1	2	0	1	1	3	4	6	1	0	0	255		1		2	2	0	0		N	1	2	1	4	16	2
2748448	Mcdonald Dr			P	0	Granite Reef Rd	725	725	130521	18:03	3	2	1	1	1	1	1	1	0	0	50	44	W	N	1	1	2	0	1	1	1	2	6	1	0	0	255		1		1	1	0	0		N	1	1	1	2	16	2
2819927	Mcdonald Dr			M	30	Granite Reef Rd	725	725	140125	11:23	7	2	1	1	1	1	1	1	0	0	42	42	E	E	3	1	2	0	1	1	1	1	16	1	0	0	255	1			0		0		N	1	1	2	4	16	4
2831374	Mcdonald Dr			M	30	Granite Reef Rd	725	725	140219	12:14	4	2	1	1	1	1	1	1	0	0	50	30	E	E	1	3	2	0	1	1	2	1	2	1	0	0	255		1		1	1	0	0		N	1	1	2	4	16	4
2831384	Mcdonald Dr			M	30	Granite Reef Rd	725	725	140220	11:52	5	2	1	1	1	1	1	1	0	0	51	52	SE	E	5	1	3	0	1	4	1	1	2	-1	0	0	255	1			0		0		N	1	1	2	4	16	4
																													1		1		1		0															
2834367	Mcdonald Dr			P	0	Granite Reef Rd	725	725	140224	18:39	2	2	1	1	1	1	1	1	0	0	44	44	E	W	1	4	2	0	1	1	2	1	97	1	0	0	255		1		1	1	0	0		N	4	1	1	5	16	5
2834368	Granite Reef Rd			P	0	Mcdonald Dr	725	725	140223	12:03	1	2	1	1	1	1	1	1	0	0	50	31	S	W	1	1	4	0	1	4	2	1	6	-1	0	0	255		1		2	2	0	0		N	1	1	1	4	16	2
																													1	4	3	1	1	-1	0	0	255													
2855185	Mcdonald Dr			P	30	Granite Reef Rd	725	725	140515	14:35	5	2	1	1	1	1	1	1	0	0	44	44	W	W	3	1	4	0	1	1	1	1	3	1	0	0	255	1			0		0		N	1	1	2	4	16	4
																													4	4	1	1	-1	-1	0	0	255													
2855250	Mcdonald Dr			P	150	Granite Reef Rd	725	725	140606	21:58	6	2	1	1	1	1	1	1	0	0	30	47	W	W	5	1	4	0	1	1	3	1	2	1	0	0	255		1		2	2	0	0		N	4	1	0	4	16	4
																													4	4	1	3	-1	-1	0	0	255													
2855985	Mcdonald Dr			P	0	Granite Reef Rd	725	725	140428	07:11	2	2	1	1	1	1	1	1	0	0	44	31	E	W	3	1	2	0	1	1	2	4	8	1	0	0	255		1		2	2	0	0		N	1	1	1	4	16	5
2906415	Mcdonald Dr			M	75	Granite Reef Rd	725	725	140918	14:41	5	3	1	1	1	1	1	1	0	0	44	42	E	E	3	1	6	0	1	1	99	1	99	2	0	0	255	1			0		0		Y	1	2	2	4	16	4
													1		1		1		0		50		E		3				4	4	1	1	-1	-1	0	0	255													
																													1	4	1	1	1	-1	0	0	255													
2944234	Granite Reef Rd			P	0	Mcdonald Dr	725	725	150219	15:37	5	2	1	1	1	1	1	1	0	0	44	44	W	S	1	1	2	0	1	1	1	1	6	1	0	0	255	1			0		0		N	1	1	1	4	16	2
2969203	Granite Reef Rd			P	0	Mcdonald Dr	725	725	150613	16:12	7	2	1	1	1	1	1	1	0	0	17	44	E	W	1	4	3	0	1	4	1	1	7	-1	0	0	255	1			0		0		N	1	1	1	4	16	3
																													1		1		1		0															
2982145	Granite Reef Rd			P	0	Mcdonald Dr	725	725	150726	00:05	1	2	1	1	1	1	1	1	0	0	31	44	S	S	1	97	3	0	4	1	1	1	-1	99	0	0	255	1			0		0		N	4	1	0	99	16	4
																													1		1		1		0															
2990524	Granite Reef Rd			P	0	Mcdonald Dr	725	725	150828	05:33	6	3	1	1	1	1	1	1	0	0	44	31	S	W	4	1	3	0	1	1	1	1	1	6	0	0	255	1			0		0		N	2	1	1	2	16	2
													1		1		1		0		50		N		1				1		1		1		0															
2994333	Mcdonald Dr			P	30	Granite Reef Rd	725	725	150902	11:23	4	2	1	1	1	1	1	1	0	0	44	47	W	W	1	8	2	0	1	1	1	1	12	1	0	0	255	1			0		0		N	1	2	2	4	16	6
3008636	Mcdonald Dr			P	100	Granite Reef Rd	725	725	151012	16:28	2	3	1	1	1	1	1	1	0	0	2	44	E	E	3	1	5	0	1	4	1	1	2	-1	0	0	255		1		1	1	0	0		N	1	1	0	4	16	4
													1		1		1		0		44		E		3				4	1	2	1	-1	1	0	0	255													
																													1		1		1		0															
3035712	Granite Reef Rd			P	0	Mcdonald Dr	725	725	151217	12:42	5	2	1	1	1	1	1	1	0	0	47	31	W	SE	1	4	2	0	1	1	1	1	1	1	0	0	255	1			0		0		N	1	1	1	3	16	3

Planning and Development Services Division

7447 East Indian School Road
Scottsdale, Arizona 85251

March 2, 2017

Alexandra Schuchter
Diversified Partners
7500 E Mcdonald Dr Ste 100A
Scottsdale, Az

RE: Determination of a Planning Commission hearing

Dear Ms. Alexandra Schuchter:

Your Development Application 10-ZN-2016 and 8-GP-2016, Hudson East, is scheduled on the April 12, 2017 Planning Commission hearing agenda.

You may be required to make a presentation to the Planning Commission. If you choose to present your application to the Planning Commission utilizing a Power Point presentation, please submit the electronic file to your project coordinator by 1:00 p.m. on Monday April 10, 2017. Please limit your presentation to a maximum of 10 minutes.

A subsequent letter with your site post requirements will be sent shortly after the required text has been verified. Typically, this is approximately twenty-one (21) days before a hearing date.

The Planning and Development Services Division has had this application in review for seventy (76) Staff Review Days.

Thank you,

Dan Symer, AICP
Senior Planner

C: Case File

Planning and Development Services Division

7447 East Indian School Road
Scottsdale, Arizona 85251

June 15, 2017

Alexandra Schuchter
Diversified Partners
7500 E Mcdonald Dr Ste 100A
Scottsdale, Az

RE: Determination of a Planning Commission hearing

Dear Ms. Alexandra Schuchter:

Your Development Application 10-ZN-2016 and 8-GP-2016, Granite Reef Townhomes (aka Hudson East), is scheduled on the July 26, 2017 Planning Commission hearing agenda.

You may be required to make a presentation to the Planning Commission. If you choose to present your application to the Planning Commission utilizing a Power Point presentation, please submit the electronic file to your project coordinator by 1:00 p.m. on Monday April 10, 2017. Please limit your presentation to a maximum of 10 minutes.

A subsequent letter with your site post requirements will be sent shortly after the required text has been verified. Typically, this is approximately twenty-one (21) days before a hearing date.

Thank you,

Dan Symer, AICP
Senior Planner

C: Case File