Hancock Hunt Highway South

Traffic Impact Analysis – Category I

APPROVED BY:

PINAL COUNTY ENGINEER
PINAL COUNTY, PUBLIC WORKS DEPARTMENT

DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
51806
SHELLY A.
SORENSEN
Date Signed: 01/20/22
ARIZONA, U.S.A.

Prepared for:

HANCOCK COMMUNITIES

Hancock Communities
4040 E. Camelback Road, Suite 215
Phoenix, AZ 85008

Prepared by:

Lokahi

Lōkahi, LLC
10555 N. 114th Street, Suite 105
Scottsdale, AZ 85259

Project Number: 21.5187
January 20, 2022

TABLE OF CONTENTS:

FIGURES:

TABLES:

APPENDICES:

1. INTRODUCTION AND EXECUTIVE SUMMARY

1.1. PURPOSE OF REPORT AND STUDY OBJECTIVES

Lōkahi, LLC (Lōkahi) was retained by Hancock Communities to complete a Traffic Impact Analysis – Category I for the proposed Hancock Hunt Highway South. The development is located on the south side of Hunt Highway approximately 1/3 mile southeast of Gary Road in Pinal County, Arizona. The objective of this Traffic Impact Analysis is to analyze the traffic related impacts of the proposed development to the adjacent roadway network. See **Figure 1** for the vicinity map.

The proposed Hancock Hunt Highway South development will be comprised of 228 build-for-rent residential units, which will consist of a mix between single-family detached homes and condominiums.

1.2. EXECUTIVE SUMMARY

This report presents the analyses and the results of a Traffic Impact Analysis – Category I prepared for the proposed Hancock Hunt Highway South residential development. The proposed development is located on the south side of Hunt Highway approximately 1/3 mile southeast of Gary Road in Pinal County, Arizona. The proposed development will be comprised of 228 build-for-rent residential units, which will consist of a mix between single-family detached homes and condominiums. For the purposes of this report, it was assumed that the proposed residential development will be completed in a single phase during the year 2024, the anticipated opening year.

This Traffic Impact Analysis – Category I includes:

- Collision History
- Level of service analysis for the existing conditions weekday AM and PM peak hours
- Trip generation for the proposed development
- Level of service analysis for the opening year (2024) weekday AM and PM peak hours
- Turn Lane Analysis
- Queue Analysis

The following are the six (6) intersections are included in this study:

- Hunt Highway and Gary Road (1)
- Hunt Highway and Walmart Driveway, located 1/10-mile northwest of Stone Creek Drive (2)
- Hunt Highway and Stone Creek Drive (3)
- Hunt Highway and Tumbleweed Lane (4)
- Hunt Highway and Main Driveway (5)
- Hunt Highway and Secondary Driveway (6)

Existing Capacity Analysis

The AM and PM peak hour existing conditions capacity analysis were completed for the four (4) existing study intersections. The results of the capacity analyses reveal that all four (4) existing intersections operate with an existing level of service (LOS) D or better with the exception of the following:

Hunt Highway and Gary Road (1)

- Eastbound dual left AM and PM peak hours operate at LOS E
- Eastbound through PM peak hour operates at LOS E
- Eastbound shared through-right AM and PM peak hours operate at LOS E
- Westbound dual left AM and PM peak hours operate at LOS E

Hunt Highway and Walmart Driveway (2)

- Eastbound right PM peak hour operates at LOS F

Hunt Highway and Stone Creek Drive (3)

- Westbound left AM and PM peak hours operate at LOS F and LOS E, respectively

Hunt Highway and Tumbleweed Lane (4)

- Eastbound left AM and PM peak hours operate at LOS E and LOS F, respectively

Trip Generation

The proposed Hancock Hunt Highway South residential development is anticipated to generate 1,951 trips during the weekday, 136 trips during the AM peak hour, and 174 trips during the PM peak hour.

Trip Generation – Proposed Development

Land Use	ITE Code	Qty	Unit	Weekday	AM Peak Hour			PM Peak Hour		
				Total	Total	In	Out	Total	In	Out
Multifamily Housing (Low-Rise)	220	228	Dwelling Units	1,683	104	24	80	123	77	46
Single-Family Detached Housing	210	228	Dwelling Units	2,219	167	42	125	224	141	83
			Average Total	1,951	136	33	103	174	109	65

Future Conditions

Year 2024 (build out) analyses were completed with the build out of the proposed Hancock Hunt Highway South residential development. Utilizing United States Census Bureau Data, existing traffic volumes were grown by an annual growth rate of 3.0% to determine the year 2024 volumes.

Year 2024

A capacity analysis was completed for both the AM and PM peak hours for the year 2024, with the build out of the proposed Hancock Hunt Highway South development. The year 2024 build capacity analysis resulted in all movements operating at a LOS D or better or at the same level of service as the existing conditions with the exception of the following:

Hunt Highway and Walmart Driveway (2)

- Westbound left PM peak hour operates at LOS F
- Northbound left PM peak hour operates at LOS F

Future Access

The site accesses analyzed throughout this report are those which are anticipated to be constructed and operational during the opening year of the Hancock Hunt Highway South development. The proposed site plan indicates a future access on the southwest corner of the site, which will facilitate a future connection to Gary Road. This future connection to Gary Road will be provided via the parcel to the west, which abuts the west border of Hancock Hunt Highway South. At the time the parcel to the west is developed, providing the necessary cross access to Gary Road, the future connection located in the southwest corner of the Hancock Hunt Highway South development may become operational.

Recommendations

The following are the recommendations with the build out of the proposed Hancock Hunt Highway South residential development:

Year 2024 Improvements

Half Street Improvements Adjacent to Project

- Construction of half street improvements to widen for a two-way center left-turn lane, along the frontage of the proposed development

Hunt Highway and Main Driveway (4)

- Buildout of a full access driveway to include one (1) dedicated eastbound left turn lane and one (1) dedicated eastbound right turn lane
- Installation of a traffic signal
- Intersection geometrics modification along Hunt Highway to provide a 100-foot dedicated northbound left turn lane and a 150-foot dedicated southbound right turn lane

Hunt Highway and Secondary Driveway (5)

- Buildout of a full access driveway to include one (1) eastbound shared left-right turn lane

- Half street improvements to include a two-way left turn lane along Hunt Highway which provides a 100-foot northbound left turn lane at the Secondary Driveway entrance
- Buildout of a 100-foot southbound right turn lane

Signal

Traffic signal location at the Main Driveway intersection with Hunt Highway (5) has been coordinated and approved by Pinal County. The proposed signal location along Hunt Highway is approximately 0.3 miles south of the nearest signalized intersection with Walmart Driveway (2) and approximately 1.3 mile north of the nearest signalized intersection with Bella Vista Road.

Signal Timing

As with any new development and potential change in traffic patterns, the following is recommended:

- **Monitor and Adjust Signal Timing**

  Monitor traffic patterns in the area and if necessary, adjust nearby signal timing

2. PROPOSED DEVELOPMENT

The proposed development is located on the south side of Hunt Highway approximately 1/3 mile southeast of Gary Road in Pinal County, Arizona. See **Figure 1** for a vicinity map.

The proposed Hancock Hunt Highway South development will be comprised of 228 build-for-rent residential units, which will consist of a mix between single-family detached homes and condominiums. For the purposes of this report, it was assumed that the proposed residential development will be completed as a single phase during the year 2024, the anticipated opening year.

The proposed site plan indicates a future access on the southwest corner of the site, which will facilitate a future connection to Gary Road. This future connection to Gary Road will be provided via the parcel to the west, which abuts the west border of Hancock Hunt Highway South. At the time the parcel to the west is developed, providing the necessary cross access to Gary Road, the future connection located in the southwest corner of the Hancock Hunt Highway South development may become operational.

The site accesses analyzed throughout the remainder of this report are those which are anticipated to be constructed and operational during the opening year of the Hancock Hunt Highway South development.

There are two (2) proposed access points to the Hancock Hunt Highway South development evaluated in this study, both located along Hunt Highway and anticipated to be constructed during the opening year. The main access point (4) and the secondary access point (5) are located approximately 1/5-mile and 1/3-mile southeast of Stone Creek Drive, respectively.

Hunt Highway and Main Driveway (4) is located along Hunt Highway approximately 1/5 mile southeast of Stone Creek Drive. This will serve as the main entrance to the proposed Hancock Highway South development and will be a full access driveway, allowing all movements into and out of the site.

Hunt Highway and Secondary Driveway (5) is located along Hunt Highway approximately 1/3-mile southeast of Stone Creek Drive. This will serve as a gated secondary access for residents only, through key fob activation. The gated entry will be a full access driveway, allowing all movements into and out of the site.

See **Figure 2** and **Appendix A** for the proposed site plan.

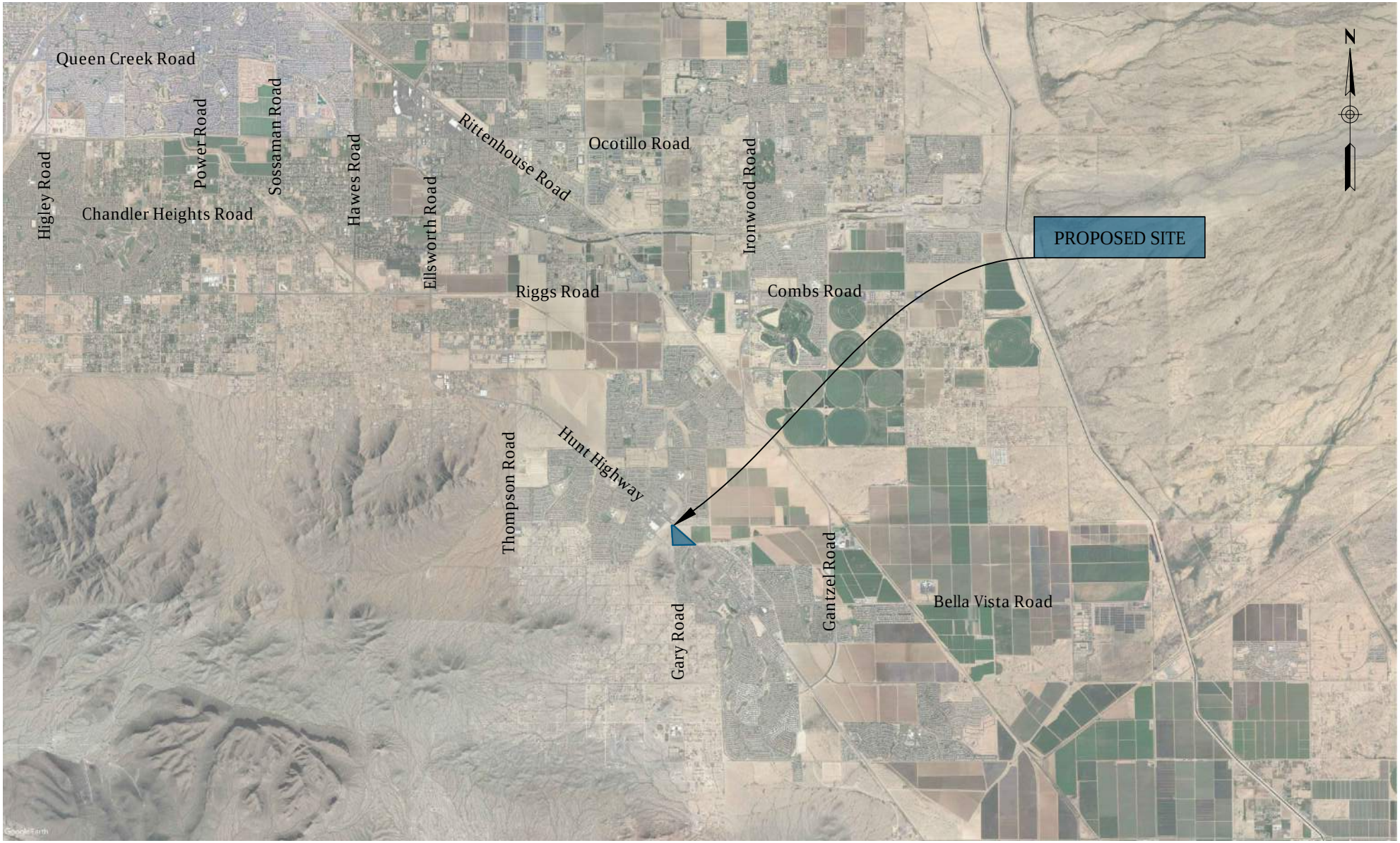
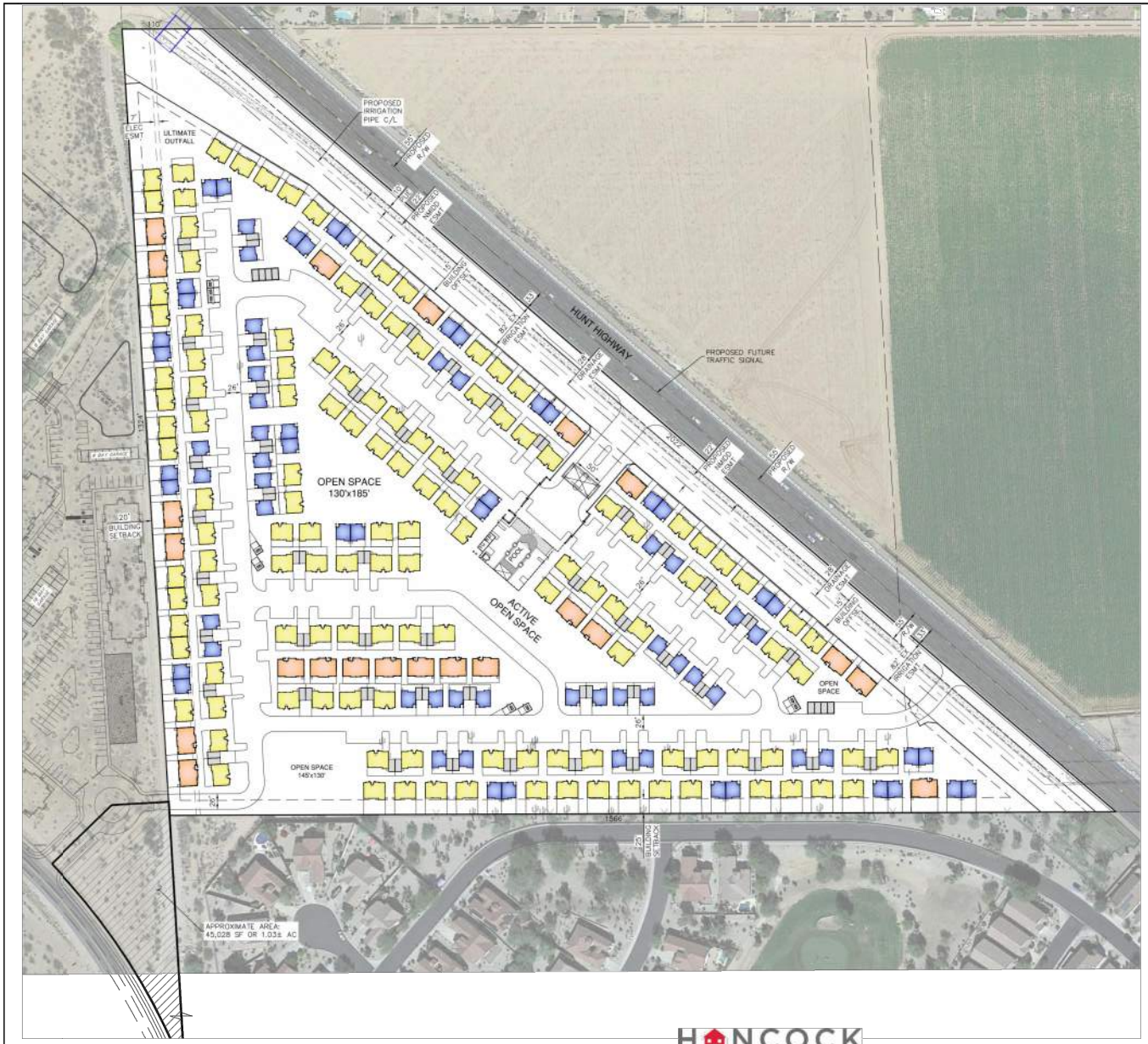
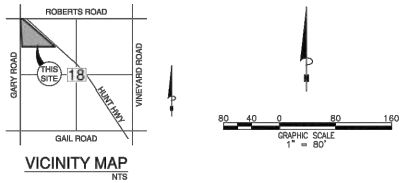


FIGURE 1 | VICINITY MAP





VICINITY MAP
NTS

LEGEND

- HANDICAP PARKING
- ONE BEDROOM
- TWO BEDROOM
- THREE BEDROOM
- GARAGES
- PROPOSED NEW MAGMA IRRIGATION AND DRAINAGE DISTRICT EASEMENT

LEGAL DESCRIPTION

THAT PORTION OF LOT 1 AND THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 18, TOWNSHIP 3 SOUTH, RANGE 8 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA, LYING WESTERLY OF THE WEST RIGHT OF WAY LINE OF HUNT HIGHWAY.

OWNER
VAN TUYL COMPANIES
14747 N. NORTHSIDE BLVD,
SUITE 111–431
SCOTTSDALE, AZ 85260
CONTACT: CHRIS HAINES

DEVELOPER
HANCOCK COMMUNITIES, LLC
4040 E. CAMELBACK RD, SUITE 215
PHOENIX, AZ 85018
CONTACT: GREG HANCOCK

CIVIL
BOWMAN CONSULTING GROUP
1295 W. WASHINGTON ST.
SUITE 108
TEMPE, AZ 85281
CONTACT: BRUCE LARSON, PE
EMAIL: BLARSON@BOWMANCONSULTING.COM

UNITS AND PARKING

	NUMBER OF UNITS	MIX %	PARKING REQUIRED PER UNIT	TOTAL PARKING REQUIRED
1 BEDROOM	38	33%	1.5	57
1 BEDROOM W/GARAGE	38		1.5	57
2 BEDROOM	66	57%	2.0	132
2 BEDROOM W/GARAGE	64		2.0	128
3 BEDROOM	22	10%	2.0	44
TOTALS	228	100%		418
			VISITOR PARKING (1/10)	23
			TOTAL PARKING REQUIRED	441
			TOTAL PARKING PROVIDED	545
			ATTACHED GARAGES	102
			DRIVEWAY	102
			RESERVED UNCOVERED PARKING	82
			DETACHED GARAGES	8

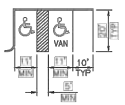
PARKING REQUIRED FOR NON-GARAGE UNITS	257
PARKING PROVIDED FOR NON-GARAGE UNITS	285

NOTE: TOTAL PARKING PROVIDED INCLUDES GARAGES
BUILDING HEIGHT: 15'6"
C/L LENGTH: 5,202 LF

SITE DATA

GROSS ACRES*	28.78
NET ACRES*	26.23
USABLE NET	22.12
GROSS DU/AC	7.92
NET DU/AC	8.69
USABLE DU/AC	10.31
* GROSS AND NET AREA INCLUDES GARY ROAD ACCESS ACQUISITION	

TYPICAL BUILDING SPACING
NTS



TYPICAL PARKING DETAIL
NTS

HANCOCK COMMUNITIES

Bowman CONSULTING

Bowman Consulting Group, Ltd.
1295 West Washington Ste 108
Tempe, Arizona 85281
Phone: (480) 629-8830
www.bowmanconsulting.com

CONCEPTUAL LAYOUT
HANCOCK - HUNT HIGHWAY SOUTH
PINAL COUNTY
SAN TAN VALLEY, AZ

PROJECT NUMBER

PLAN STATUS

DATE	DESCRIPTION

DAB DESIGN	DAB DRAWN	BPL CHKD

SCALE H: V:
JOB No. 050949-01-001
DATE : 11/10/2021
SHEET 1 OF 1

CAD FILE NAME: Y:\050949 – Hancock – Hunt Hwy West\050949-01-001 (ENG)\Engineering\Exhibits\Conceptual\050949-Hunt Hwy South-LL14.EXH.dwg 11/10/2021

FIGURE 2 | SITE PLAN

3. AREA CONDITIONS

The study area is located in Pinal County, Arizona, approximately 13 miles southeast of State Route Loop 202 (L 202). **Sections 3.1** and **3.2** provide detailed descriptions of the study roadway segments and intersections. See **Figure 3** for the study area.

3.1. STUDY ROADWAY SEGMENTS

Hunt Highway, within the vicinity of the study area, runs northwest-southeast (or north-south, for the purposes of this report) and generally provides two (2) lanes in each direction of travel. A raised landscaped center median is provided northwest of Stone Creek Road, and two-way center left turn lane (TWLTL) is provided southeast of Stone Creek Road. In addition, one (1) bicycle lane is generally provided in each direction of travel. According to *Pinal Region Regionally Significant Routes for Safety & Mobility, 2017 Update*, Hunt Highway is classified as a parkway. According to the *ADOT Transportation Data Management System Map*, the Annual Average Daily Traffic (AADT) reported along Hunt Highway in 2020, northwest of Stone Creek Drive, was 20,267 vehicles-per-day (vpd) and 19,140 vpd in the north-westbound and the south-eastbound direction, respectively. There is a posted speed limit of 45 mph.

Gary Road, within the vicinity of the study area, runs east-north to west-south (or east to west, for the purposes of this report) and provides two (2) through lanes and one (1) bicycle lane in each direction of travel, with a raised landscaped center median. According to *Pinal Region Regionally Significant Routes for Safety & Mobility, 2017 Update*, classified as an arterial. According to the *ADOT Transportation Data Management System Map*, the AADT reported along Gary Road, north of Hunt Highway, was of 12,106 vpd and 12,025 vpd in the northbound and southbound directions, respectively. There is a posted speed limit of 35 mph.

Stone Creek Drive, within the vicinity of the study area, runs east-north to west-south (or east to west, for the purposes of this report). It is an approximately ½ mile long east-west roadway segment that provides access to Skyline Ranch residential development. Stone Creek Drive provides two (2) lanes in each direction of travel. There is a posted speed limit of 35 mph.

Tumbleweed Lane, within the vicinity of the study area, is an approximately 150 feet long roadway segment that generally runs east-west and provides access to Solera residential development. It provides one (1) through lane in each direction of travel. There is an unposted speed limit of 25 mph.

3.2. STUDY INTERSECTIONS

Hunt Highway and Gary Road (1) currently operates as a signalized intersection. The northbound approach provides one (1) dedicated left turn lane, two (2) through lanes, and one (1) right turn deceleration lane. The southbound approach provides one (1) dedicated left turn lane, two (2) through lanes, and one (1) dedicated right turn lane. The eastbound approach provides two (2)

dedicated left turn lanes, one (1) through lane, and one (1) shared through-right turn lane. The westbound approach provides two (2) dedicated left turn lanes, two (2) through lanes, and one (1) dedicated right turn lane.

Hunt Highway and Walmart Driveway (2) currently operates as a signalized intersection. The northbound and southbound approaches each provide one (1) dedicated left turn lane, two (2) through lanes, and one (1) dedicated-right turn lane. The eastbound approach provides one (1) dedicated left turn lane and one (1) shared through-right turn lane. The westbound approach provides one (1) dedicated left turn lane, one (1) through lane, and one (1) dedicated right turn lane.

Hunt Highway and Stone Creek Drive (3) is a stop-controlled T-intersection, with stop control on the westbound approach. The northbound approach provides one (1) through lane and one (1) shared through-right turn lane. The southbound approach provides one (1) dedicated left turn lane and two (2) through lanes. The westbound approach provides one (1) dedicated left turn deceleration lane and one dedicated (1) right-turn deceleration lane.

Hunt Highway and Tumbleweed Lane (4) is a stop-controlled T-intersection, with a stop control on the eastbound approach. The northbound approach provides one (1) dedicated left turn lane and two (2) through lanes. The southbound approach provides two (2) through lanes and one (1) dedicated right turn lane. The eastbound approach provides one (1) left turn lane and one (1) right-turn lane.

3.3. STUDY AREA LAND USE

The approximate 27.71-acre site is located on the south side of Hunt Highway approximately 1/3 mile southeast of Gary Road in Pinal County, Arizona. The site is generally bordered by commercial development and Walmart Center to the north, Solera at Johnson Ranch residential development from the south, and vacant agricultural land from the west and east. Additionally, a church of Jesus Christ of Latter-day Saints is located to the west of proposed site. According to the San Tan Valley Special Area Plan, dated October 31, 2018, the existing study area consists of the agriculture, suburban (developed), commercial (developing), and golf course land uses.

3.4. SITE ACCESSIBILITY

Roadway System

The study area is located in Pinal County, Arizona. Hunt Highway is the major thoroughfare within the vicinity of the proposed site which provides access to the Phoenix Metropolitan area, located to the northwest, as well as access to the Town of Florence and State Route 79, located to the southeast.

Pedestrian Facilities

Sidewalks are generally provided along all study roadway segments adjacent to developed parcels, with the exception of the sidewalks provided along the east side of Hunt Highway.

Marked crosswalks are provided on each approach of Hunt Highway and Gary Road (1) and Hunt Highway and Walmart Driveway (2). Additionally, a marked crosswalk is provided on the westbound approach of Hunt Highway and Stone Creek Drive (3).

Bicycle Facilities

Bicycle facilities are currently provided along Hunt Highway in each direction of travel within the vicinity of the site. Marked bicycle lanes are not provided along any other study roadway segments, within the study area.

Transit Facilities

Currently no transit facilities are provided within the proposed study area.

3.5. CRASH DATA

The most recent 3-year collision history, 2018 through 2020, was obtained from the Pinal County Sheriff's Office. See **Appendix B** for collision data. The data included the following intersections and segments:

Hunt Highway and Gary Road (1)

During the three-year period, there was a total of ninety-five (95) crashes. The manner of collision for each crash were reported as follows: forty (40) rear end, twenty-three (23) left turn, thirteen (13) angle collisions, eleven (11) sideswipe (same direction), six (6) single vehicle, and two (2) sideswipes (opposite direction).

The severity of collision for each crash were reported as follows: six (6) incapacitating injury, nine (9) non-incapacitating injury, thirteen (13) possible injury, sixty-four (64) no injury, and the severity of the remaining three (3) collisions was unknown.

Hunt Highway and Stone Creek Drive (3)

During the three-year period, there was a total of thirty-four (34) crashes. The manner of collision for each crash were reported as follows: eleven (11) rear end, nine (9) left turn, eight (8) angle, two (2) sideswipe (same direction), two (2) single vehicle, one (1) sideswipe (opposite direction), and one (1) head-on collision.

The severity of collision for each crash were reported as follows: one (1) incapacitating injury, six (6) non-incapacitating injury, two (2) possible injury, twenty-two (22) no injury, and the severity of the remaining three (3) collisions was unknown.

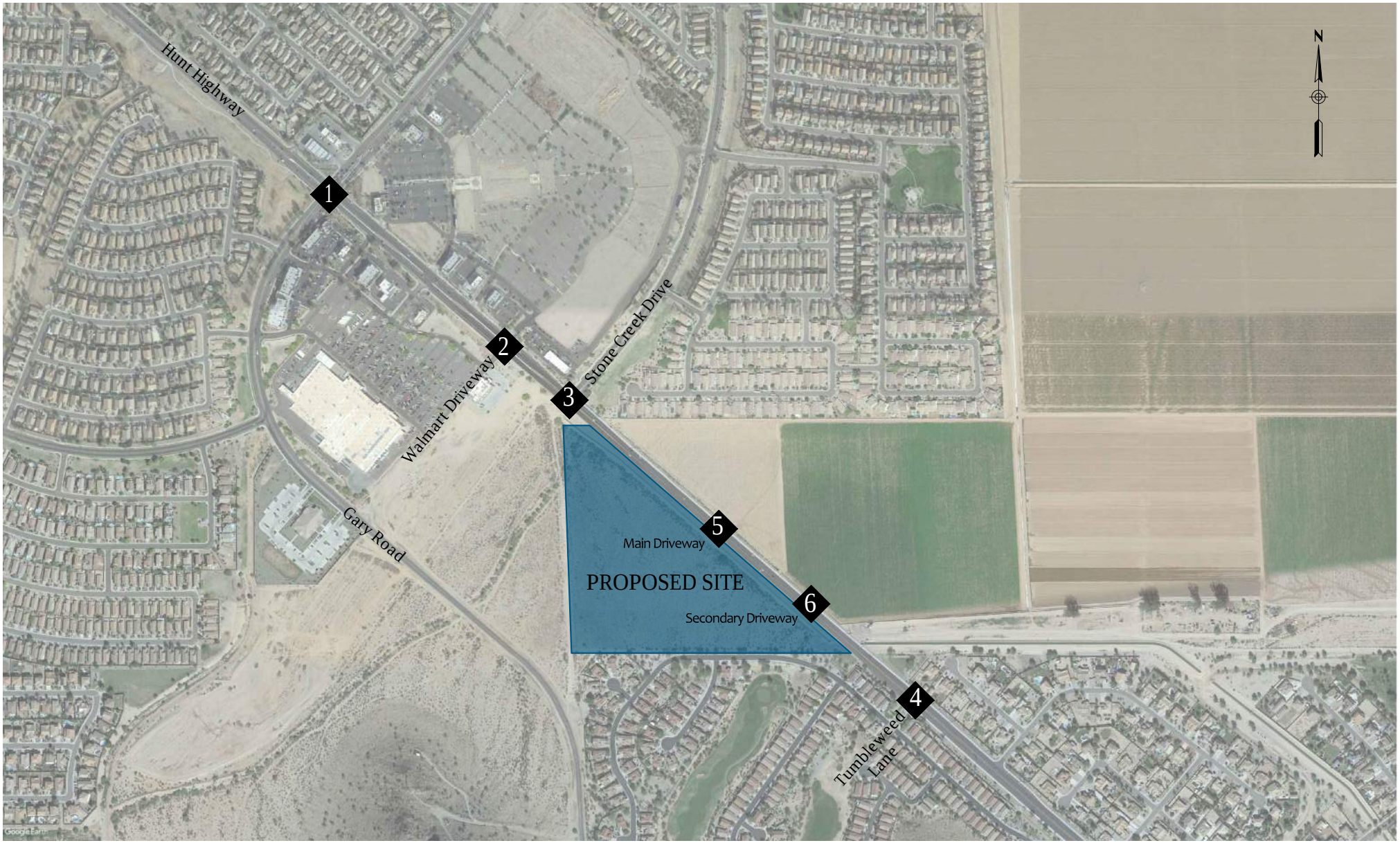
Hunt Highway, between Gary Road and Tumbleweed Lane (4)

During the three-year period, there was a total of twenty-one (21) crashes. The manner of collision for each crash were reported as follows: six (6) rear end, three (3) left turn, one (1) sideswipe (same

direction), one (1) sideswipe (opposite direction), one (1) single vehicle, three (3) angle, three (3) reported as "other" and the manner of collision of the remaining three (3) collisions was unknown.

The severity of collision for each crash were reported as follows: two (2) incapacitating injury, one (1) possible injury, sixteen (16) no injury, and the severity of the remaining two (2) collisions are unknown.

No unusual patterns were identified. The proposed Hancock Hunt Highway South development is not anticipated to have any major effects on the safety of the surrounding intersections or roadways.



Legend

X Intersection

FIGURE 3 | STUDY AREA

4. EXISTING CONDITIONS

4.1. EXISTING LAND USE

According to Pinal County Assessor Parcel Viewer, the proposed site will occupy a portion of Parcel 210-18-8220, approximately 25.43-acres. The existing parcel is currently undeveloped land zoned as General Rural (GR), per to the Pinal County Community Development Zoning Viewer. As stated in the San Tan Valley Special Area Plan, dated October 31, 2018, the existing land use of the site is agriculture.

4.2. EXISTING TRAFFIC COUNTS

A local data collection firm, Field Data Services of Arizona, Inc., was utilized to collect traffic counts. On Tuesday, March 23, 2021, turning movement counts were obtained from 7:00 to 9:00 am and from 4:00 to 6:00 pm at the following locations:

- Hunt Highway and Gary Road (1)
- Hunt Highway and Walmart Driveway, located 1/10-mile northwest of Stone Creek Drive (2)
- Hunt Highway and Stone Creek Drive (3)
- Hunt Highway and Tumbleweed Lane (4)

Additionally, on Tuesday, March 23, 2021, bi-directional tube counts for 24-hours in 15-minute intervals were collected along the following roadway segment:

- Hunt Highway, southeast of Stone Creek Drive

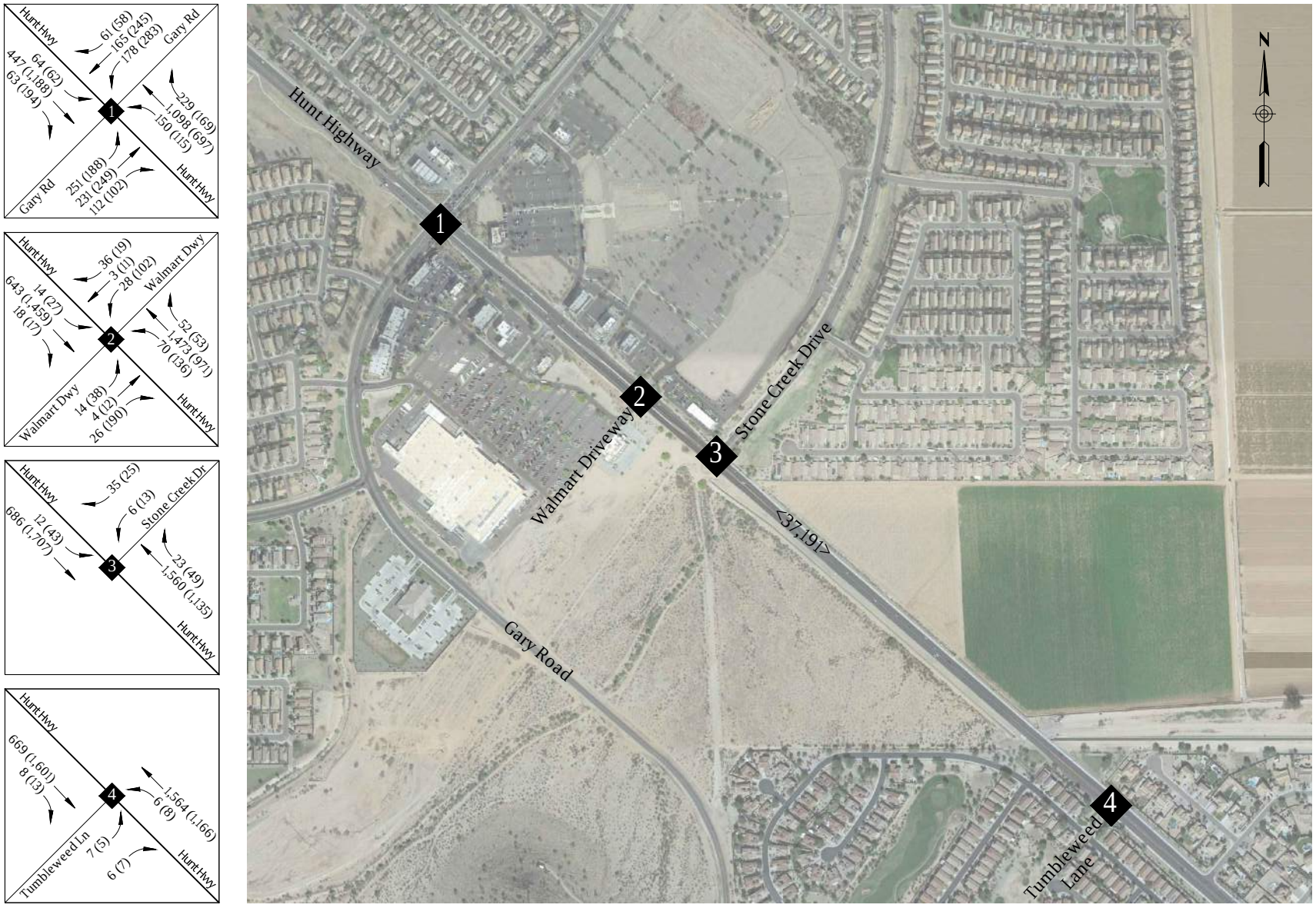
The turning movement counts were then analyzed for the highest 1-hour within each time period. The following peak hours were analyzed throughout this study.

AM Peak Hour	7:00 am – 8:00 am
PM Peak Hour	4:15 pm – 5:15 pm

The Arizona Department of Transportation (ADOT) seasonal adjustment factors, provided by Pinal County, were used to adjust the traffic counts. The traffic volumes were adjusted based on the month and day the counts were collected. A factor of 0.922 was applied to the existing traffic volumes for the AM and PM peak hour.

Traffic patterns are assumed to have returned to pre-Covid-19 typical traffic conditions. Therefore, an adjustment to the existing traffic volumes collected on March 23, 2021 was not considered to reflect a potential decrease in typical traffic conditions, due to the Covid-19 pandemic. This determination was based on current generally observed trends in traffic volumes within the study area and was decided in coordination with Pinal County.

See **Figure 4** for the existing AM and PM peak hour traffic volumes, adjusted for COVID-19 conditions. See **Appendix C** for collected traffic count data.



Legend

AM (PM) Peak Hour Traffic Volumes

X Intersection

<ADT> Average Daily Traffic

FIGURE 4 | EXISTING TRAFFIC VOLUMES

4.3. EXISTING CAPACITY ANALYSIS

The existing conditions capacity analysis was completed for the four (4) existing study intersections. The capacity and level of service for the study area intersections were evaluated using the methodology presented in the 6th *Edition of the Highway Capacity Manual*. Traffic analysis software, Synchro Version 10.3, was used to perform the analyses using the existing Peak Hour Factor (PHF) obtained from the traffic counts and the existing signal timing provided by Pinal County. See **Appendix D** for the existing signal timing.

Table 1 is from the 6th *Edition of the Highway Capacity Manual* Exhibit 19-8 and 20-2, which lists the Level of Service (LOS) thresholds for signalized and two-way stop-controlled intersections.

Table 1 – Level of Service Criteria

Level of Service	Control Delay per Vehicle (s/veh)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10	0 - 10
B	> 10-20	> 10–15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

The results of the capacity analyses reveal that all four (4) existing intersections operate with an existing level of service (LOS) D or better with the exception of the following:

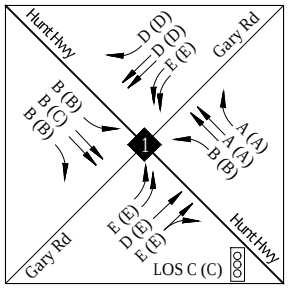
Hunt Highway and Gary Road (1)
- Eastbound dual left AM and PM peak hours operate at LOS E
- Eastbound through PM peak hour operates at LOS E
- Eastbound shared through-right AM and PM peak hours operate at LOS E
- Westbound dual left AM and PM peak hours operate at LOS E

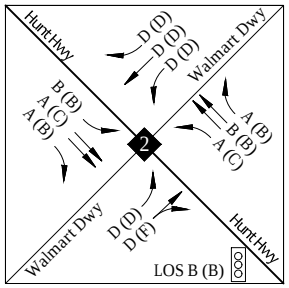
Hunt Highway and Walmart Driveway (2)
- Eastbound right PM peak hour operates at LOS F

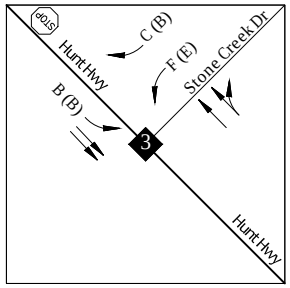
Hunt Highway and Stone Creek Drive (3)
- Westbound left AM and PM peak hours operate at LOS F and LOS E, respectively

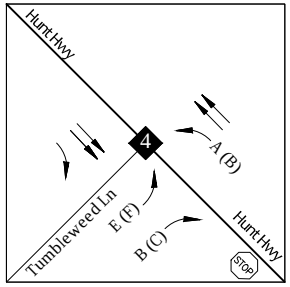
Hunt Highway and Tumbleweed Lane (4)
- Eastbound left AM and PM peak hours operate at LOS E and LOS F, respectively

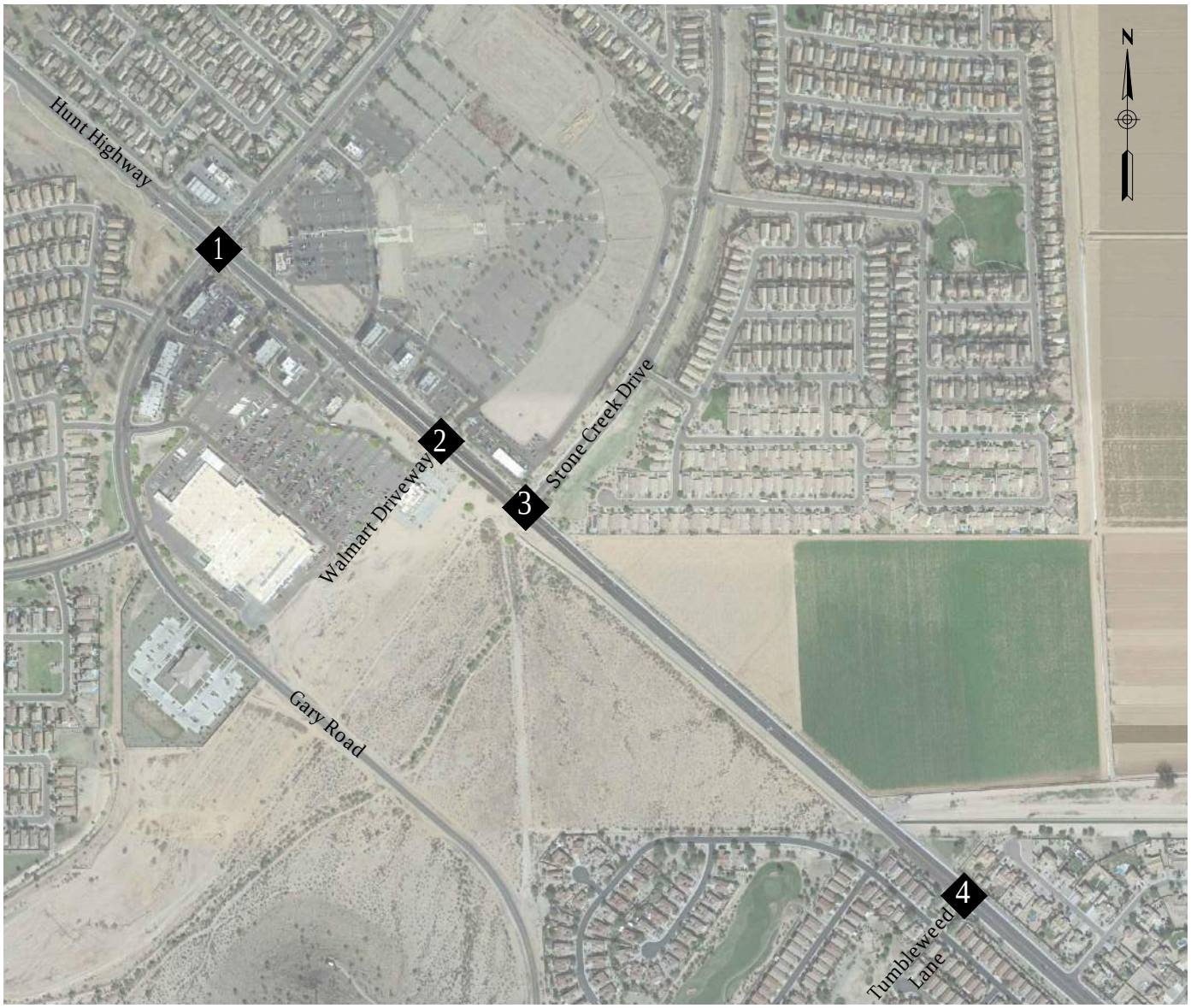
See **Figure 5** for the existing AM and PM peak hour capacity analysis. The detailed capacity analysis sheets can be found in **Appendix E.**











Legend

AM(PM)	Peak Hour Capacity Analysis
X	Intersection
	Lane Configuration

FIGURE 5 | EXISTING CAPACITY ANALYSIS

5. PROJECTED TRAFFIC

5.1. TRIP GENERATION

The trip generation for the proposed development was calculated utilizing the Institute of Transportation Engineers (ITE) publication entitled *Trip Generation, 10th Edition.* The ITE rates are based on studies that measure the trip generation characteristics for various types of land uses. The rates are expressed in terms of trips per unit land use type. This publication is considered to be the standard for the transportation engineering profession.

The build-for-rent land use type that is proposed for the Hancock Hunt Highway South residential development is a mix between single-family detached homes and condominiums. The trips generated by the proposed development were calculated as an average of ITE Land Use Code 210 – Single-Family Detached Housing and Land Use Code 220 – Multifamily Housing (Low-Rise). This method is assumed to better characterize the trip generation of the proposed land use type which includes both single-family and multi-family units.

The total trip generation for the proposed Hancock Hunt Highway South residential development is show in **Table 2** below. See **Appendix F** for detailed trip generation calculations.

Table 2 – Trip Generation – Proposed Development

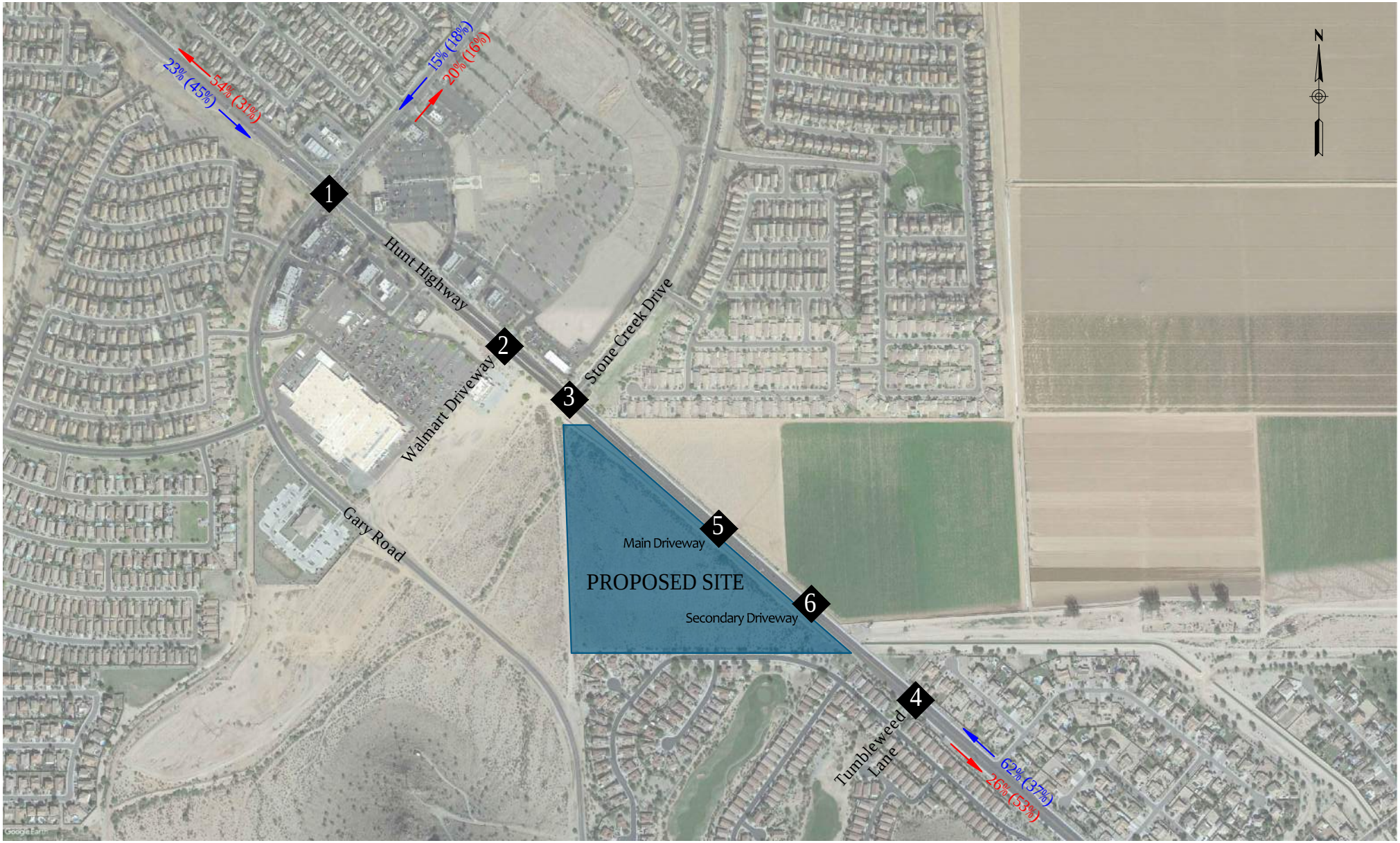
Land Use	ITE Code	Qty	Unit	Weekday	AM Peak Hour			PM Peak Hour		
				Total	Total	In	Out	Total	In	Out
Multifamily Housing (Low-Rise)	220	228	Dwelling Units	1,683	104	24	80	123	77	46
Single-Family Detached Housing	210	228	Dwelling Units	2,219	167	42	125	224	141	83
Average Total				1,951	136	33	103	174	109	65

The proposed development is anticipated to generate 1,951 weekday trips, with 136 trips occurring during the AM peak hour and 174 trips occurring during the PM peak hour.

5.2. TRIP DISTRIBUTION AND ASSIGNMENT

The trip distribution procedure determines the general pattern of travel for vehicles entering and exiting the proposed development. The trip distribution for the proposed Hancock Hunt Highway South residential development is based on the distribution of the existing traffic along the surrounding roadway network, permitted movements at the proposed site driveways, and probable routes. The trip distribution is shown in **Figure 6.**

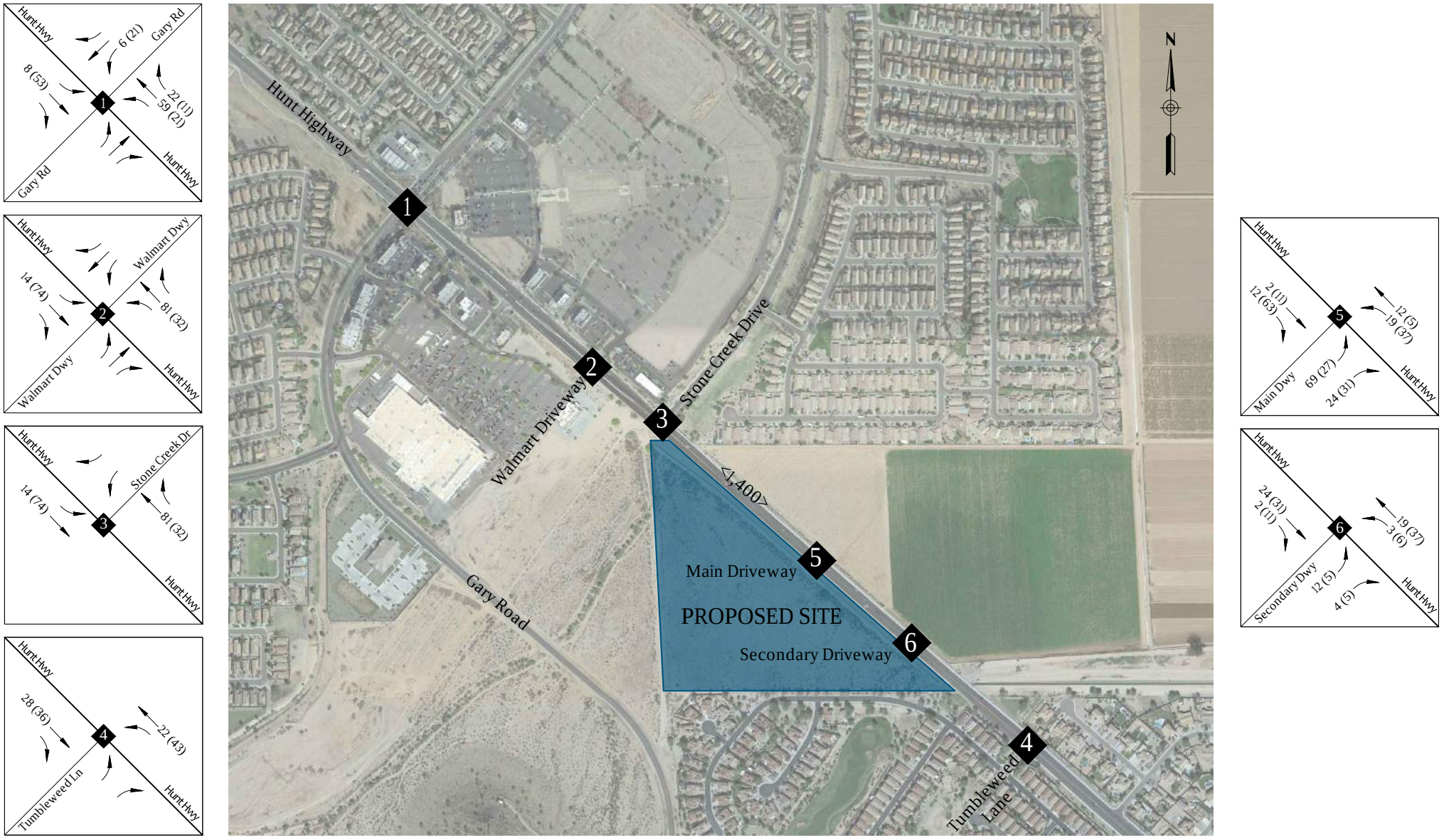
The trip assignment was based on the site layout, relative proximity to access driveways onto the surround roadways, and allowed turn movements. The site generated traffic volumes are shown in **Figure 7**.



Legend

Ingress (Egress)	Inbound Trip Distribution Percentages
Ingress (Egress)	Outbound Trip Distribution Percentages
X	Intersection

FIGURE 6 | TRIP DISTRIBUTION



Legend

AM (PM) Peak Hour Traffic Volumes

X Intersection

<ADT> Average Daily Traffic

FIGURE 7 | SITE TRAFFIC VOLUMES

6. FUTURE CONDITIONS (YEAR 2024 – OPENING YEAR)

The Hancock Hunt Highway South development is anticipated to be opened and completed in a single phase during the year 2024. This section analyzes the effects the proposed development will have on the surrounding roadway network during the year of 2024.

6.1. YEAR 2024 BACKGROUND TRAFFIC VOLUMES

According to the United States Census Bureau population estimations for Pinal County, it is estimated that in 2010 the population was approximately 375,764. Additionally, it is estimated that the 2019 population was approximately 462,789. This results in an approximate annual growth rate of 2.34%.

As a conservative approach, a 3.0% annual growth rate was utilized. This annual growth rate was applied to the existing traffic volumes (**Figure 4**) to estimate the traffic growth in the surrounding area. See **Appendix G** for the United States Census Bureau data.

The year 2024 background traffic volumes are shown in **Figure 8**, which includes the 3.0% annual growth rate.

6.2. YEAR 2024 BUILD TRAFFIC VOLUMES

To determine 2024 build traffic volumes, site traffic volumes (**Figure 7**) were added to 2024 background traffic volumes (**Figure 8**). This represents year 2024 traffic volumes with the build out of the proposed Hancock Hunt Highway development. The year 2024 build traffic volumes are shown in **Figure 9**.

6.3. YEAR 2024 BUILD CAPACITY ANALYSIS

The year 2024 build capacity analysis was completed for the six (6) study intersections. The capacity and level of service for the study area intersections were evaluated for the year 2024 build traffic volumes (**Figure 9**) using the methodology presented in the 6th *Edition of the Highway Capacity Manual*. The existing signal timing splits were adjusted for the future traffic volumes. Peak hour factors (PHFs) used for future conditions were assumed as follows, according to the *Pinal County Traffic Impact Assessment Guidelines & Procedures, Section 5.9 Capacity Analysis*:

PHF = 0.80 for < 75 vph per lane
PHF = 0.85 for 75-300 vph per lane
PHF = 0.90 for > 300 vph per lane

The following improvements were included in the year 2024 capacity analysis:

Half Street Improvements Adjacent to Project

- Construction of half street improvements to widen for a two-way center left-turn lane, along the frontage of the proposed development

Hunt Highway and Main Driveway (4)

- Buildout of a full access driveway to include one (1) dedicated left turn lane and one (1) dedicated right turn lane
- Installation of a traffic signal
- Intersection geometrics modification along Hunt Highway to provide one (1) dedicated northbound left turn lane and one (1) dedicated southbound right turn lane

Hunt Highway and Secondary Driveway (5)

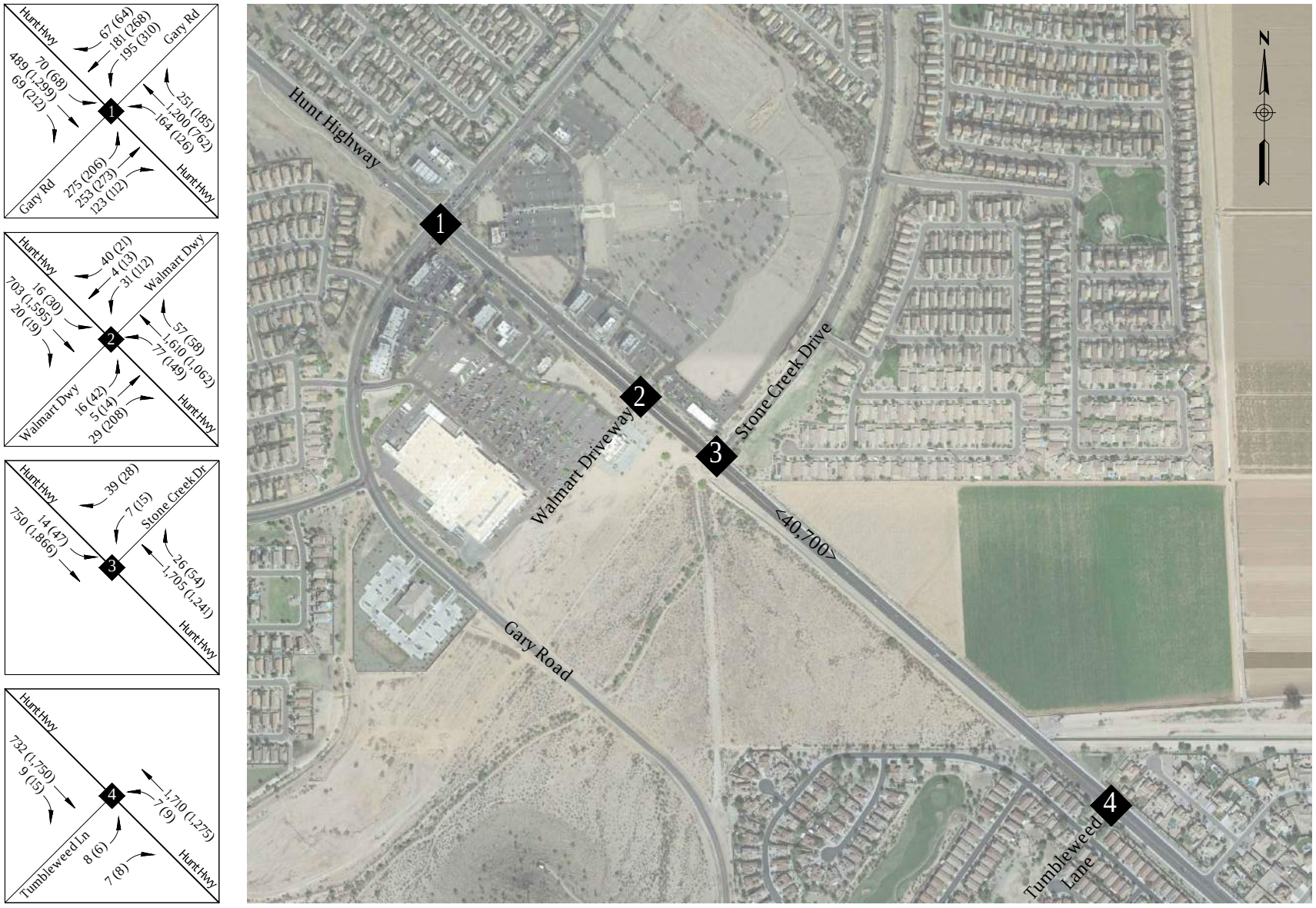
- Buildout of a full access driveway to include one (1) shared left-right turn lane
- Half street improvements to include a two-way left turn lane along Hunt Highway and one (1) dedicated northbound left turn lane and one (1) dedicated southbound right turn lane

The year 2024 build capacity analysis resulted in all movements operating at a LOS D or better or at the same level of service as the existing conditions with the exception of the following:

Hunt Highway and Walmart Driveway (2)

- Westbound left PM peak hour operates at LOS F
- Northbound left PM peak hour operates at LOS F

See **Figure 10** for the AM and PM peak hour year 2024 build capacity analysis. The detailed capacity analysis sheets can be found in **Appendix H**.



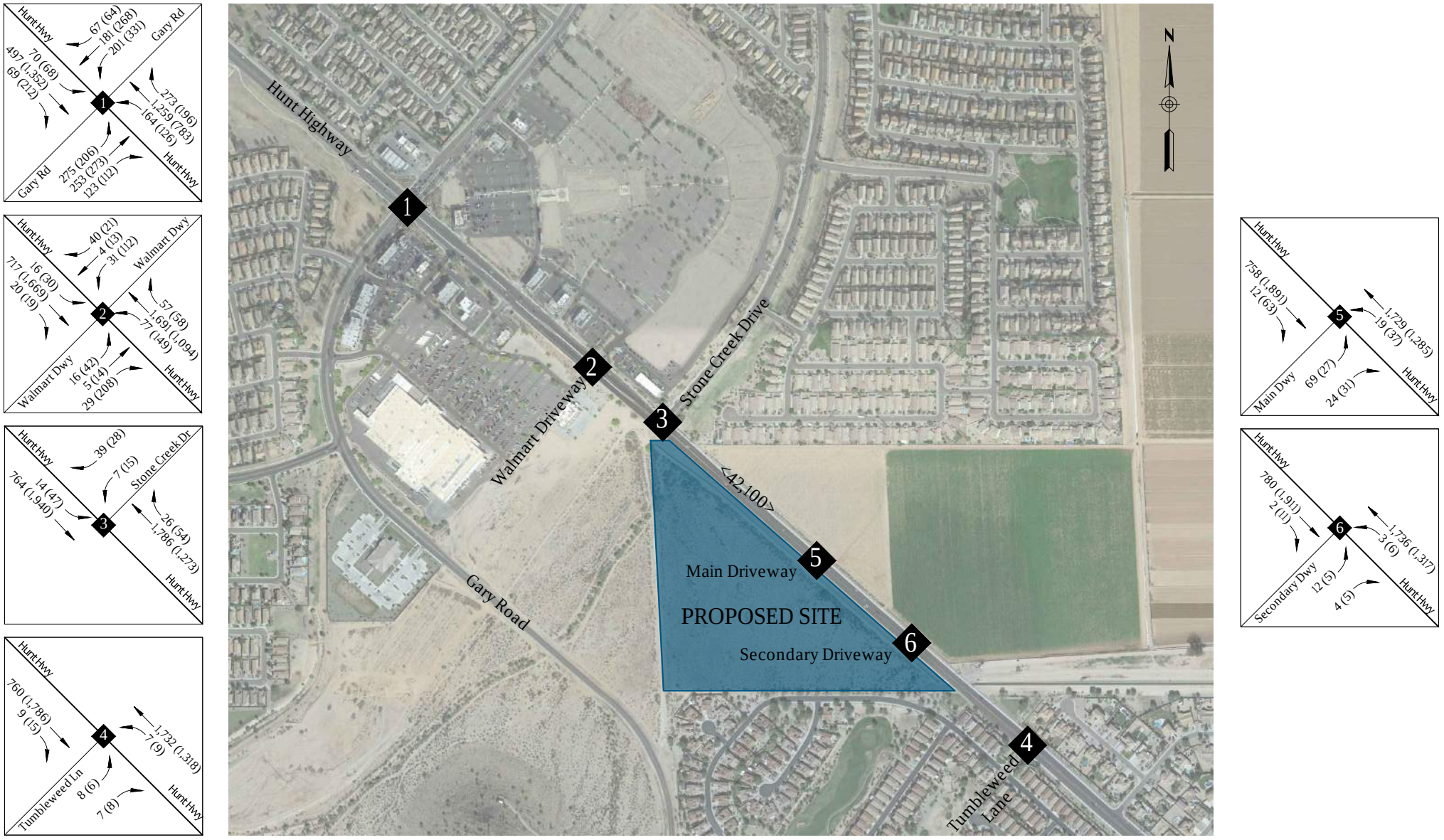
Legend

AM (PM) Peak Hour Traffic Volumes

X Intersection

<ADT> Average Daily Traffic

FIGURE 8 | YEAR 2024 BACKGROUND TRAFFIC VOLUMES



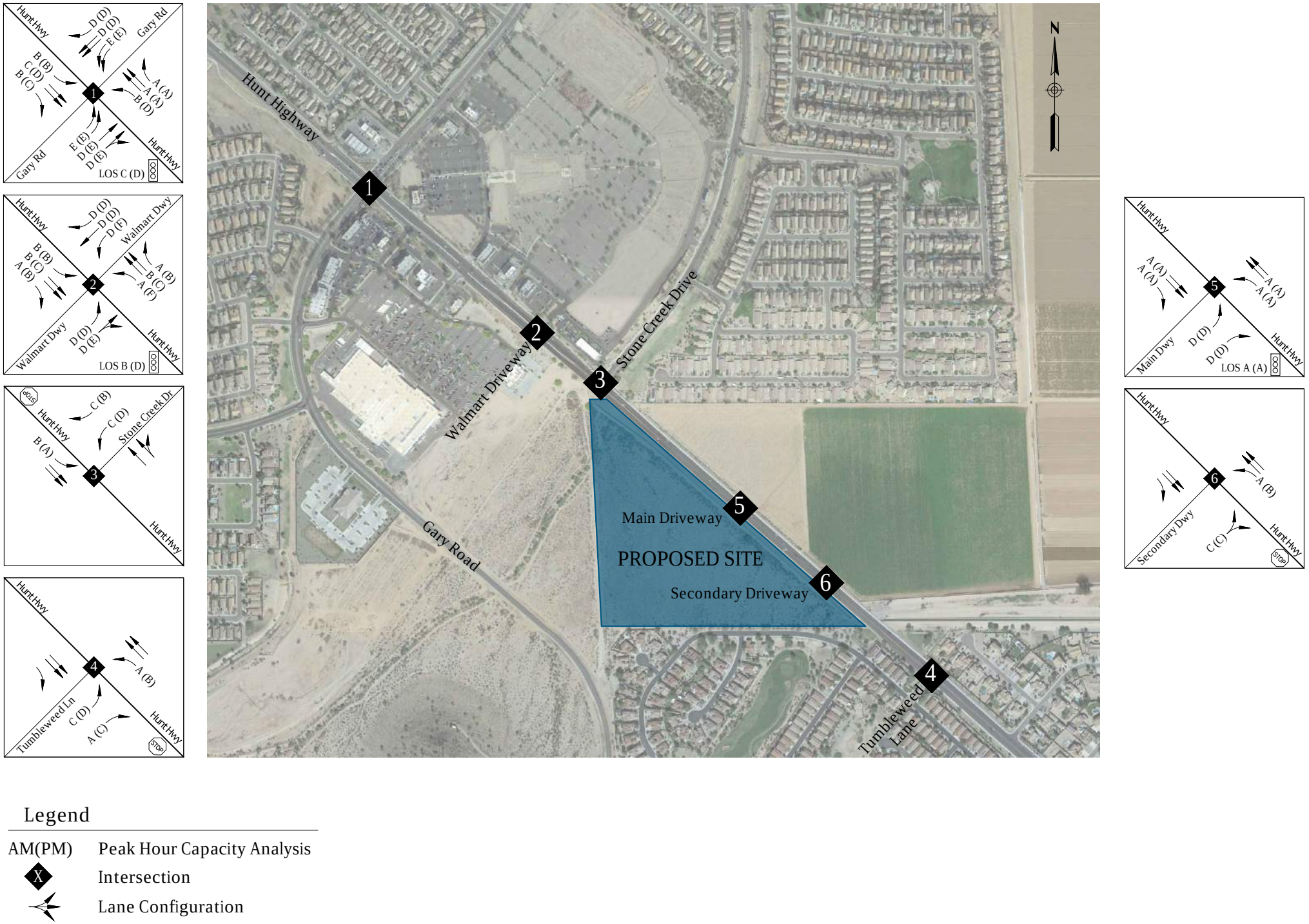
Legend

AM (PM) Peak Hour Traffic Volumes

X Intersection

<ADT> Average Daily Traffic

FIGURE 9 | YEAR 2024 BUILD TRAFFIC VOLUMES



Legend

AM(PM)	Peak Hour Capacity Analysis
X	Intersection
	Lane Configuration

FIGURE 10 | YEAR 2024 BUILD CAPACITY ANALYSIS

7. TURN LANE ANALYSIS

Turn lanes or auxiliary lanes, allow vehicles existing a roadway to slow to a reduced speed to execute a turn without impeding the main flow of traffic Based on future growth projections and trip generation calculations of the proposed development, the following sections applies the Arizona Department of Transportation (ADOT) *Traffic Guidelines and Processes* (TGP) Section 245 – Turn Lane Warrants to the proposed entrances to the development.

7.1. RIGHT TURN LANE WARRANT

According to the ADOT TGP Section 245 the following table is used to warrant a right-turn lane.

Right-Turn Lane Warrants

Peak Hour Traffic Volume on the Highway in Advancing Direction	Minimum Peak Hour Right-turn Traffic Volume				
	# of thru lanes per direction				
	1		2		3
	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed	All Speeds
≤ 200					
201 – 300	-	30	-	-	-
301 – 400	-	19	-	55	-
401 – 500	85	14	-	30	-
501 – 600	58	12	140	25	-
601 – 700	27	9	80	18	-
701 – 800	20	8	53	15	-
801 – 900	12	7	40	12	-
901 – 1000	9	6	30	11	-
1001 – 1100	8	5	23	9	18
1101 – 1200	7	5	18	8	16
1201 – 1300	6	4	14	8	15
1301 – 1400	6	4	11	6	12
1400+	5	3	8	6	10

The ADOT criteria was utilized to determine the need for a right turn lane at the proposed entrances along Hunt Highway. Southbound right turn lanes along Hunt Highway at the Main Driveway and Secondary Driveway are warranted. See Table 3

Table 3 for the right turn lane analysis.

Table 3 – Year 2024 Right Turn Lane Analysis

Year	Location		No. of Thru	Speed Limit	Peak Hour	Direction	Right Turn	Through	Warranted?
	On	At							
2024	Hunt Highway	Main Driveway	2	45	AM	SB	12	758	YES
					PM		63	1,891	
2024	Hunt Highway	Secondary Driveway	2	45	AM	SB	2	780	YES
					PM		11	1,911	

8. QUEUE ANALYSIS

All turn lanes under stop and signalized control within the study area were included as part of the queue analysis. The *Pinal County Traffic Impact Assessment Guidelines & Procedures*, dated January 2007, was used to calculate the required queue lengths. The guidelines below were used for stop controlled and signalized intersections.

For stop-controlled intersections:

Vehicles/2 min period = (vehicles/hour) / (30 periods/hour)
Storage Length = (vehicles/hour) / (30 periods/hour) x 25 feet

For signalized intersections:

Storage Length = 2 x (vehicles/hour) / (cycles/hour) x 25 feet

All results should be rounded up to the nearest 25-foot interval. The minimum turn lane queue length shall be 100 feet. The results of the analysis are shown in **Table 4** below.

Table 4 – Queue Analysis

Intersection	Movement	Existing Storage	Existing Storage Length	2024 Traffic Volume		Max Peak Hour	Non Signalized	Signalized		Required Storage Length	Storage
				AM Peak Hour	PM Peak Hour		Calculated	Cycle Length	Calculated		
Hunt Highway and Gary Road (1)	EB Dual Left	Turn Lane	320'	275	206	275		150	573	575'	Sufficient**
	WB Dual Left	Turn Lane	320'	201	331	331		150	690	700'	Sufficient**
	WB Right	Turn Lane	150'	67	64	67		150	140	150'	Sufficient
	NB Left	Turn Lane	260'	164	126	164		150	342	350'	Sufficient**
	NB Right	Turn Lane	250'	273	196	273		150	569	575'	Sufficient***
	SB Left	Turn Lane	200'	70	68	70		150	146	150'	Sufficient
	SB Right	Turn Lane	270'	69	212	212		150	442	450'	Sufficient**
Hunt Highway and Walmart Driveway (2)	EB Left	Turn Lane	100'	16	42	42		150	88	100'	Sufficient
	WB Left	Turn Lane	110'	31	112	112		150	233	250'	Sufficient***
	WB Right	Turn Lane	110'	40	21	40		150	83	100'	Sufficient
	NB Left	Turn Lane	140'	77	149	149		150	310	325'	Sufficient**
	NB Right	Turn Lane	230'	57	58	58		150	121	125'	Sufficient
	SB Left	Turn Lane	180'	16	30	30		150	63	100'	Sufficient
	SB Right	Turn Lane	500'	20	19	20		150	42	100'	Sufficient
Hunt Highway and Stone Creek Drive (3)	WB Left	Travel Lane	110'	7	15	15	13			100'	Sufficient
	WB Right	Travel Lane	110'	39	28	39	33			100'	Sufficient
Hunt Highway and Tumbleweed Lane (4)	EB Left	Travel Lane	140'	8	6	8	7			100'	Sufficient
	EB Right	Travel Lane	140'	7	8	8	7			100'	Sufficient
Hunt Highway and Main Driveway (5)	NB Left	Turn Lane	-	19	37	37		150	77	100'	Sufficient
	SB Right	Turn Lane	-	12	63	63		150	131	150'	Sufficient
Hunt Highway and Secondary Driveway (6)	SB Right	Turn Lane	-	2	11	11	9			100'	Sufficient

*Sufficient with Existing Two-Way Left Turn Lane
**Sufficient per Capacity Analysis
***Sufficient with Existing Travel Lane that Leads into Turn Lane

9. RECOMMENDATIONS & CONCLUSIONS

The proposed development is located on the south side of Hunt Highway approximately 1/3 mile southeast of Gary Road in Pinal County, Arizona.

The proposed Hancock Hunt Highway South development will be comprised of 228 build-for-rent residential units, which will consist of a mix between single-family detached homes and condominiums. For the purposes of this report, it was assumed that the proposed residential development will be completed in a single phase during the year 2024, the anticipated opening year.

Traffic signal location at the Main Driveway intersection with Hunt Highway (5) has been coordinated and approved by Pinal County. The proposed signal location along Hunt Highway is approximately 0.3 miles south of the nearest signalized intersection with Walmart Driveway (2) and approximately 1.3 mile north of the nearest signalized intersection with Bella Vista Road.

The site accesses analyzed throughout this report are those which are anticipated to be constructed and operational during the opening year of the Hancock Hunt Highway South development. The proposed site plan indicates a future access on the southwest corner of the site, which will facilitate a future connection to Gary Road. This future connection to Gary Road will be provided via the parcel to the west, which abuts the west border of Hancock Hunt Highway South. At the time the parcel to the west is developed, providing the necessary cross access to Gary Road, the future connection located in the southwest corner of the Hancock Hunt Highway South development may become operational.

In summary and as included in the discussion and analyses throughout this report, the following are the recommended improvements:

Year 2024 Improvements

Half Street Improvements Adjacent to Project

- Construction of half street improvements to widen Hunt Highway to include a two-way center left-turn lane along the frontage of the proposed development

Hunt Highway and Main Driveway (4)

- Buildout of a full access driveway to include one (1) dedicated eastbound left turn lane and one (1) dedicated eastbound right turn lane
- Installation of a traffic signal
- Intersection geometrics modifications along Hunt Highway to provide a 100-foot dedicated northbound left turn lane and a 150-foot dedicated southbound right turn lane

Hunt Highway and Secondary Driveway (5)

- Buildout of a full access driveway to include one (1) eastbound shared left-right turn lane
- Half street improvements to include a two-way left turn lane along Hunt Highway, which provides a 100-foot northbound left turn lane at the secondary driveway entrance
- Buildout of a 100-foot southbound right turn lane

Signal Timing

As with any new development and potential change in traffic patterns, the following is recommended:

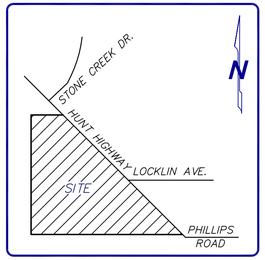
- **Monitor and Adjust Signal Timing**

Monitor traffic patterns in the area and if necessary, adjust nearby signal timing

Appendix – See File

A.L.T.A. / N.S.P.S. LAND TITLE SURVEY

A PORTION OF THE NORTHWEST QUARTER OF SECTION 18, TOWNSHIP 3 SOUTH, RANGE 8 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA.



VICINITY MAP

NOT TO SCALE

SURVEY NOTES

1. This survey and the description used are based on a Commitment for Title Insurance issued by Landmark Title Assurance Agency of Arizona LLC, issuing agent for First American Title Insurance Company, Order Number 06180973–128–CM, dated August 27, 2018.

2. BASIS OF BEARING: The South Line of the North half of the North half of Section 18, using a bearing of North 89 degrees 46 minutes 57 seconds East, per the RESULT OF SURVEY, recorded in Fee No. 2001–033920, P.C.R..

3. The bearings and distances depicted indicate actual field or computed measurements performed during the course of this survey. This information may vary from documents of record used for this survey.

4. This Survey has been prepared exclusively for the parties stated in the certification for use in conjunction with the escrow referenced in Survey Note No. 1. Reproduction or use of this survey by any other party for any other transaction or purpose is unauthorized without written authorization from Alliance Land Surveying, LLC. The use of the word "certify" or "certification" by a person or firm that is registered or certified by the board is an expression of professional opinion regarding facts or findings that are the subject of the certification and does not constitute an express or implied warranty or guarantee (A.R.S. 32–151).

5. The utility information shown is limited to visible above ground evidence base on a field survey of the subject property. This survey makes no attempt to depict any underground utilities and there is no guarantee or warranty to the exact location or presence of any underground utilities that may actually exist adjacent to or within the boundaries of the subject property. Prior to any excavation please call an underground utility locator or "BLUE STAKE" at (602)659–7500 for the precise location and extent of all utilities in the area

6. The contours shown on this survey are based on aerial topography provided by Cooper Aerial Surveys Co. and this data has been produced according to procedures that comply with National standard for Spatial Data Accuracy (NSSDA) for a contour interval of 1–foot and a map scale of 1"= 40'. The contours inside vegetated areas may not meet mapping standards. Photogrammetric mapping was the basis for the depiction and the location of certain features (excluding boundaries). The data was generated by photogrammetric methods compiled on digital stereo workstations using aerial photography taken on October 15, 2019.

7. The Benchmark used for this survey is the Maricopa County aluminum cap stamped "2E02 1999" having an elevation of 1463.4, NAVD88 datum per the NGS Data Sheet available online.

SITE INFORMATION

ADDRESS: UNAVAILABLE
No buildings were observed on the surveyed property.

A.P.N.: 210–18–8220

LAND AREA: 26.216 ACRES – 1,141,952 SQ. FT.

STRIPED PARKING SPACE TABULATION:
There are no striped parking spaces on the subject property.

SCHEDULE "B" ITEMS

3. AGREEMENT according to the terms and conditions contained therein:
Purpose Agricultural water service
Recorded July 20, 1984
Docket 1236
Page 248
(AFFECTS SUBJECT PROPERTY – NOT PLOTTABLE)

4. NOTICE OF EXERCISE of Reserved Right of Way, according to the terms and conditions contained therein:
Recorded January 02, 1986
Docket 1331
Page 366
(PLOTTABLE MATTERS SHOWN HEREON)

5. AGREEMENT according to the terms and conditions contained therein:
Purpose Establishment of County Highway
Dated July 09, 1997
Recorded July 10, 1997
Document No. 1997–023719
(AFFECTS SUBJECT PROPERTY – NOT PLOTTABLE)

6. TERMS AND CONDITIONS contained in instrument:
Entitled Ordinance
Recorded January 08, 2008
Document No. 2008–001862
(AFFECTS SUBJECT PROPERTY – NOT PLOTTABLE)

7. ANY ACTION that may be taken by the Pinal County Board of Supervisors to acquire right of way for State Highway as disclosed by Resolution:
Recorded in Document No. 2014–025906
(AFFECTS SUBJECT PROPERTY – NO DEFINED LOCATION)

8. RIGHT OF WAY and rights incident thereto, as set forth in instrument:
Filed November 19, 1967
File No. 16–4329
Purpose line of poles or steel towers and appurtenant facilities
(AFFECTS SUBJECT PROPERTY – UNSPECIFIED LOCATION)

9. RIGHT OF WAY and rights incident thereto, as set forth in instrument:
Filed February 13, 1968
File No. 16–4340
Purpose line of poles or steel towers and appurtenant facilities
(AFFECTS SUBJECT PROPERTY – UNDEFINED LOCATION)

10. RIGHT OF WAY and rights incident thereto, as set forth in instrument:
Filed January 27, 1972
File No. 16–5107
Purpose line of poles or steel towers and appurtenant facilities
(PLOTTABLE MATTERS SHOWN HEREON)

11. RIGHT OF WAY and rights incident thereto, as set forth in instrument:
Filed October 13, 1987
File No. 14–94035
Purpose overhead electric transmission line and appurtenant facilities
(DOES NOT AFFECT SUBJECT PROPERTY – AFFECTS E. 1/2, NW. 1/4, NE. 1/4)

12. RIGHT OF WAY and rights incident thereto, as set forth in instrument:
Filed February 01, 1989
File No. 14–97345
Purpose underground communication line and appurtenant facilities
(AFFECTS SUBJECT PROPERTY – UNDEFINED LOCATION)

13. RIGHT OF WAY and rights incident thereto, as set forth in instrument:
Filed August 13, 2003
File No. 70–97796
Purpose Public roadway
(A COPY OF THIS DOCUMENT WAS NOT AVAILABLE DURING COMPLETION OF THIS SURVEY)

14. RIGHT OF WAY and rights incident thereto, as set forth in instrument:
Filed January 03, 2015
File No. 63–94888
Purpose not available
(A COPY OF THIS DOCUMENT WAS NOT AVAILABLE DURING COMPLETION OF THIS SURVEY)

15. RIGHT OF WAY and rights incident thereto, as set forth in instrument:
Filed May 04, 2017
File No. 18–119179
Purpose underground communication facilities
(AFFECTS SUBJECT PROPERTY – UNSPECIFIED LOCATION)

PARCEL DESCRIPTION

That portion of Lot 1 and the Northeast quarter of the Northwest quarter of Section 18, Township 3 South, Range 8 East of the Gila and Salt River Base and Meridian, Pinal County, Arizona, lying Westerly of the West right of way line of Hunt Highway.

CERTIFICATION

TO:
Van Tuyl Companies; The State of Arizona; Landmark Title Assurance Agency of Arizona LLC; and First American Title Insurance Company.

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 2, 4, 5, 8, 9, 13, 14, and 15 of Table A thereof. The fieldwork was completed on October 14, 2019.

November 13, 2019
G. Bryan Goetzenberger
R.L.S. 31020

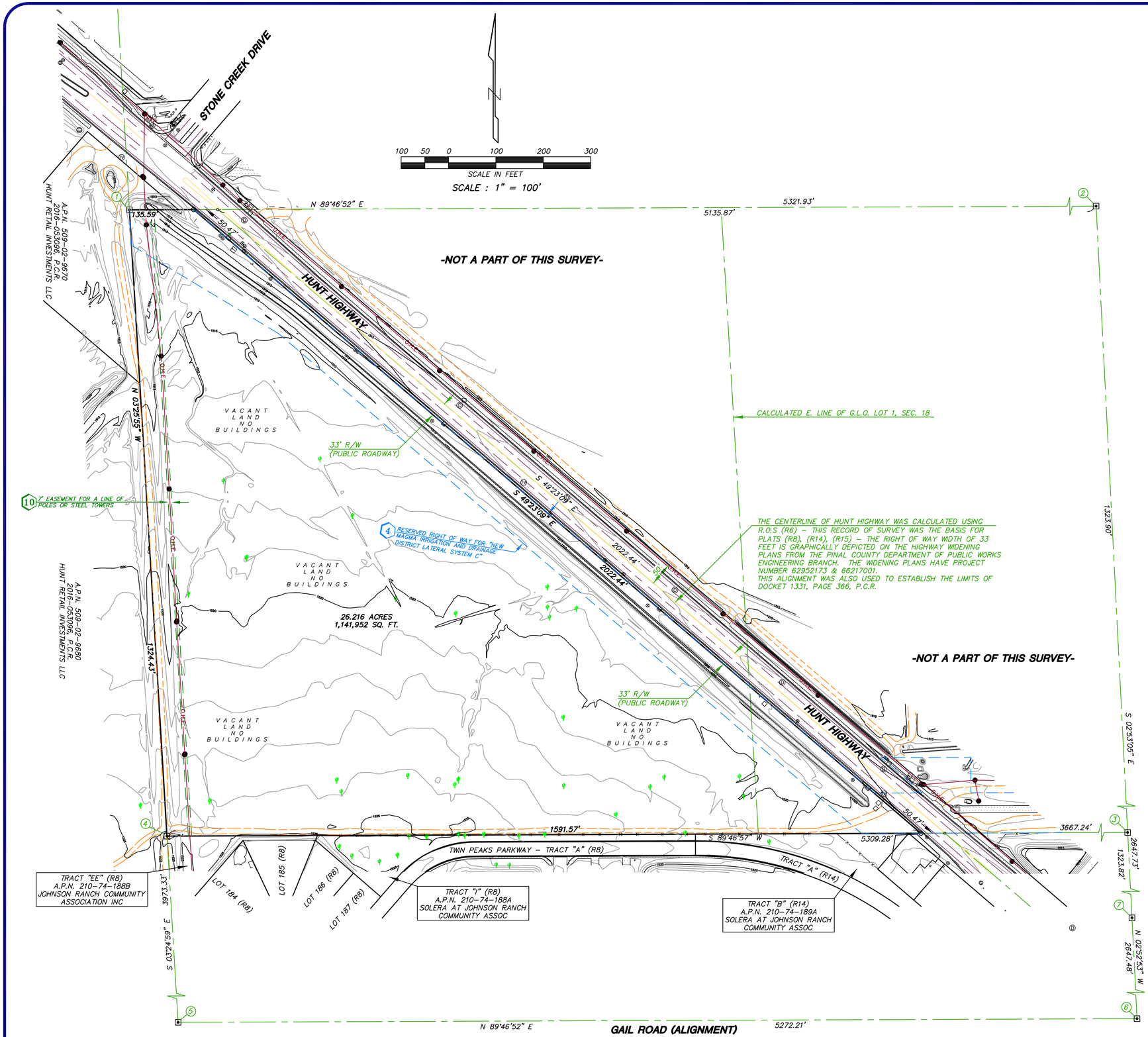
REGISTERED LAND SURVEYOR
CERTIFICATE NO.
31020
G. BRYAN
GOETZENBERGER
11/13/19
ARIZONA, U.S.A.

ALT.A. / N.S.P.S. LAND TITLE SURVEY
HUNT HIGHWAY SOUTH OF STONE CREEK DRIVE

ALLIANCE LAND SURVEYING LLC
7900 N. 70th AVENUE, SUITE 104
GLENDALE, AZ 85303
Phone: (623) 972-2200
contactus@azals.com
www.alliancelandsurveying.com

REV.		
REV.		
REV.		

SHEET: 1 OF 2 | DATE: 11-13-19 | JOB NO.: 181109



LEGEND

- Property Corner (To Be Set After Land Purchase)
- Property Line
- Fnd Survey Monument (See Monument Table)
- (See Monument Table)
- Schedule "B" Item
- 24 inch Vertical Curb & Gutter
- 6 inch Concrete Curb
- Indicates Driveway (means of access)
- Concrete Surface
- Dirt Road
- Fence
- Wall
- O.H.E. — Overhead Electric Line
- Drywell Or Catch Basin
- Electric Box
- Fiber Optic Marker
- Blow-off Valve
- Fire Hydrant
- Gas Valve
- Light Pole
- Storm Drain Manhole
- Telephone Riser
- Telephone Junction Box
- TV Junction Box
- TV Junction Box
- Water Valve
- (R) See Reference Documents
- (M) Measured
- Traffic Stripes
- Traffic Stripes
- Saguaro

REFERENCE DOCUMENTS

(R) DOCKET 1331, PAGE 366, P.C.R.
(R1) PLAT PER FEE NO. 1998-053590, P.C.R.
(R2) R.O.S. PER FEE NO. 2000-029586, P.C.R.
(R3) R.O.S. PER FEE NO. 2001-009233, P.C.R.
(R4) R.O.S. PER FEE NO. 2001-017911, P.C.R.
(R5) R.O.S. PER FEE NO. 2001-017912, P.C.R.
(R6) R.O.S. PER FEE NO. 2001-033920, P.C.R.
(R7) R.O.S. PER FEE NO. 2002-056340, P.C.R.
(R8) PLAT PER FEE NO. 2004-021222, P.C.R.
(R9) PLAT PER FEE NO. 2004-066159, P.C.R.
(R10) R.O.S. PER FEE NO. 2002-056340, P.C.R.
(R11) R.O.S. PER FEE NO. 2009-009866, P.C.R.
(R12) R.O.S. PER FEE NO. 2016-067283, P.C.R.
(R13) PLAT PER FEE NO. 2004-015862, P.C.R.
(R14) PLAT PER FEE NO. 2004-021221, P.C.R.
(R15) PLAT PER FEE NO. 2005-125340, P.C.R.
(R16) PINAL COUNTY HIGHWAY WIDENING PLANS FOR PROJECT NO. 62952173 & 66217001

MONUMENT TABLE	
1	NW. COR. SEC. 18 – FND BRASS CAP FLUSH L.S. 32226
2	NE. COR. SEC. 18 – FND PIMA COUNTY HIGHWAY 3" BRASS CAP
3	FND BRASS CAP L.S. 32226 – THE MONUMENT IS 2.5' BELOW THE SURFACE – ACCEPTED AS THE SE. COR. N. 1/2, N. 1/2, SEC. 18 AS SHOWN ON (R6)
4	SW. COR., G.L.O. LOT 1, SEC. 18 & NE. COR. OF PLAT (R8) – FND 1/2" REBAR WITH NO I.D. AS SHOWN ON (R6)
5	SW. COR. SEC. 18 – FND PIMA COUNTY BRASS CAP L.S. 35832
6	SE. COR. SEC. 18 – FND PIMA COUNTY HIGHWAY DEPARTMENT BRASS CAP IN HEADWALL
7	E. 1/4 COR. SEC. 18 – FND PIMA COUNTY HIGHWAY DEPARTMENT BRASS CAP STAMPED L.S. 31034 – THE MONUMENT IS 1.0' BELOW THE SURFACE

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
31020
G. BRYAN GOETZENBERGER
11/13/19
ARIZONA, U.S.A.

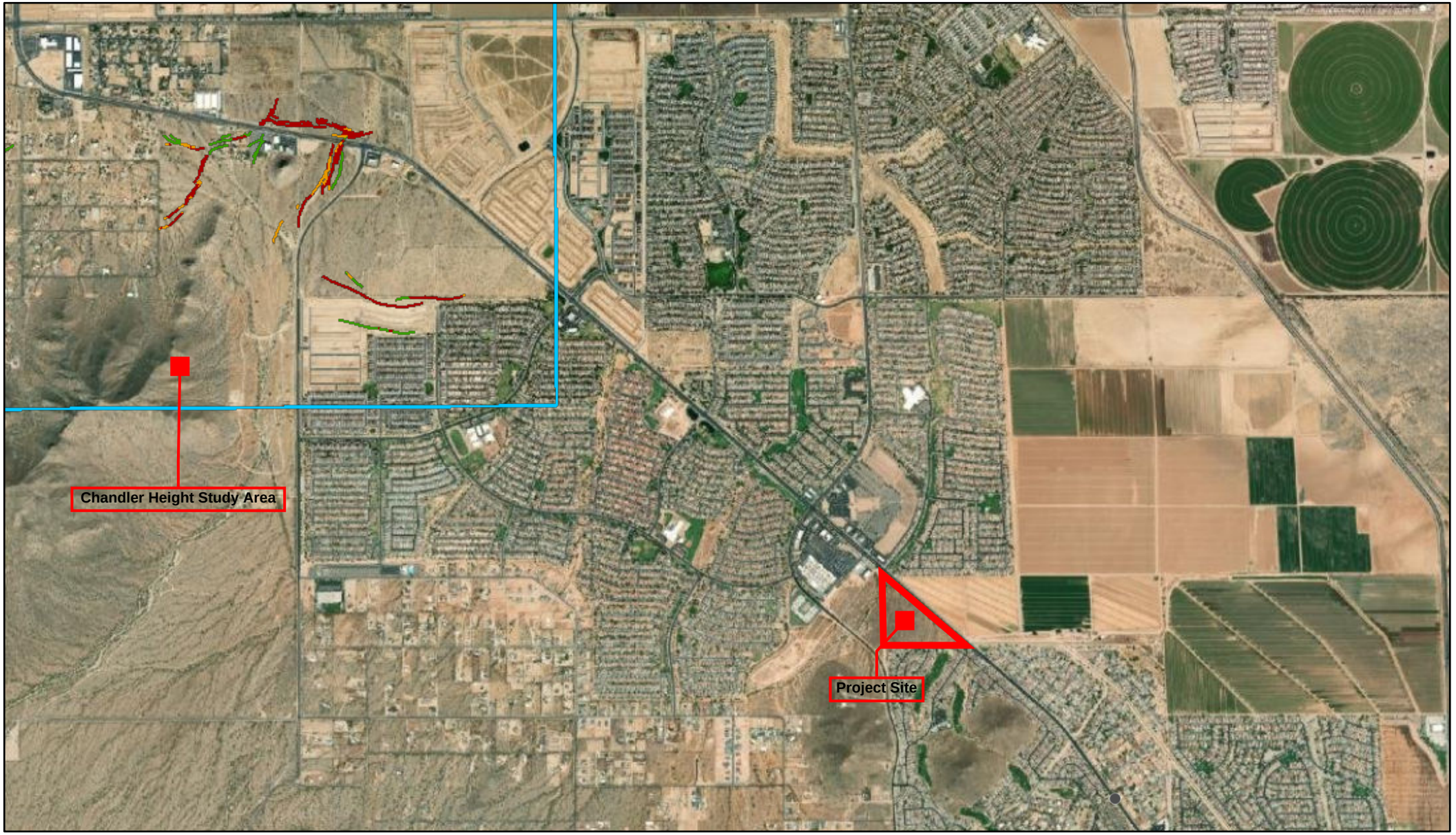
A.L.T.A. / N.S.P.S. LAND TITLE SURVEY
HUNT HIGHWAY SOUTH OF STONE CREEK DRIVE

ALLIANCE LAND SURVEYING LLC
7900 N. 70th AVENUE, SUITE 104
GLENDALE, AZ 85303
Phone: (623) 972-2200
contactus@azala.com
www.alliancelandsurveying.com

REV.	
REV.	
REV.	

SHEET: 2 OF 2 | DATE: 11-13-19 | JOB NO.: 181109

AZ Geological Survey's Map of Earth Fissure



Earth Fissures Legend

Earthfissures

Earth_Fissures
- Continuous
- Discontinuous
- Unconfirmed
- Unsurveyed

Study_Areas

1:36,112

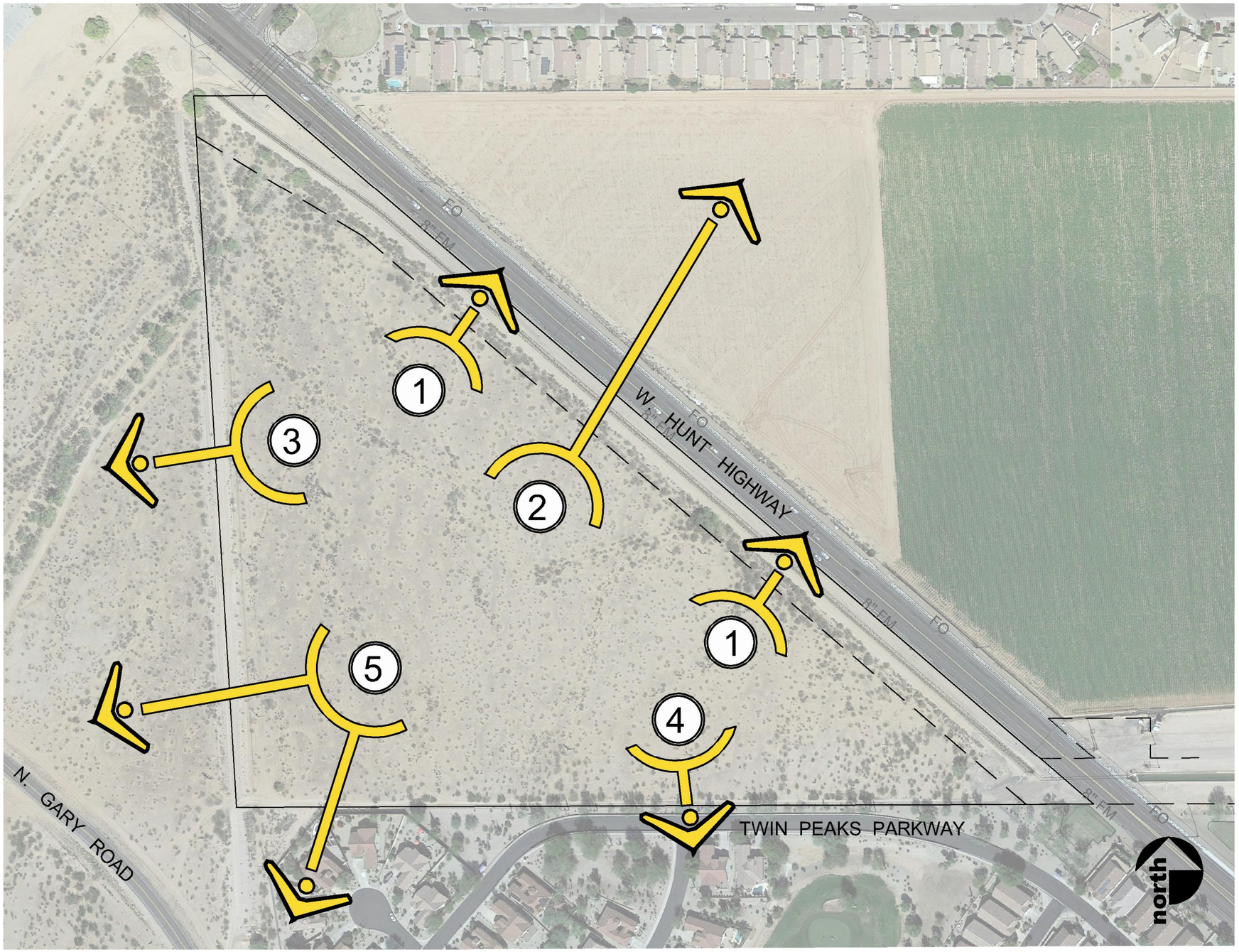
0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

Maxar

Web AppBuilder for ArcGIS

Arizona Department of Emergency Management and Military Affairs:May, 2010 | Arizona Geological Survey: Fall, 2012 | AZGS | Maxar |



VIEWS

1 FOREGROUND VIEWS OF HUNT HIGHWAY


2 LONG DISTANCE VIEWS TO TONTO FOREST MOUNTAINS

3 FOREGROUND AND MIDGROUND VIEWS TO WALMART AND OTHER COMMERCIAL

4 FOREGROUND VIEWS TO ADJACENT SOLERA DEVELOPMENT


5 FOREGROUND AND MIDGROUND VIEWS TO SANTAN FOOTHILLS SMALL PEAKS AND WATER RESERVOIR


HUNT HIGHWAY-SOUTH

VISUAL ANALYSIS

WestLand Resources, Inc.
Engineering and Environmental Consultants

MAY 25, 2021