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**KILEY RANCH NORTH VILLAGE 36 TENTATIVE MAP**

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**KILEY RANCH NORTH  
VILLAGE 36  
TENTATIVE MAP**

**Prepared for:**

Christy Corporation  
1000 Kiley Parkway  
Sparks, NV 89436  
775-502-8552

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(775) 425-4800

**AUGUST 22, 2018**

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# KILEY RANCH NORTH VILLAGE 36 TENTATIVE MAP

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Development Application Form  
Residential Project Data Sheet  
Reduced Tentative Subdivision Map  
Vicinity Map  
Approved Street Names  
Preliminary Title Report  
Preliminary Hydrology/Drainage Report  
Preliminary Sewer Report  
Proof of Property Tax Payment  
Owner/Applicant Affidavit (Original Packet Only)  
Full-Size Tentative Subdivision Map Set

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# KILEY RANCH NORTH VILLAGE 36 TENTATIVE MAP

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## Introduction

This application includes the following requests:

- A **Tentative Subdivision Map** to allow for the creation of 169 single family lots, 10 common area parcels, and 2 remainder lot within Kiley Ranch North Phase 6 (Village 36).

## Project Location

Village 36 is located within Kiley Ranch North Phase 6. Specifically, the tentative map area occupies 21.75 acres of a larger 37.41-acre parcel known as APN 510-072-01 located at the northeast corner of Kiley Parkway and Henry Orr Parkway. The property is currently vacant. Figure 1 (below) depicts the project location while Figure 2 (following page) depicts the tentative map area in context with the overall Kiley Ranch North Master Plan.

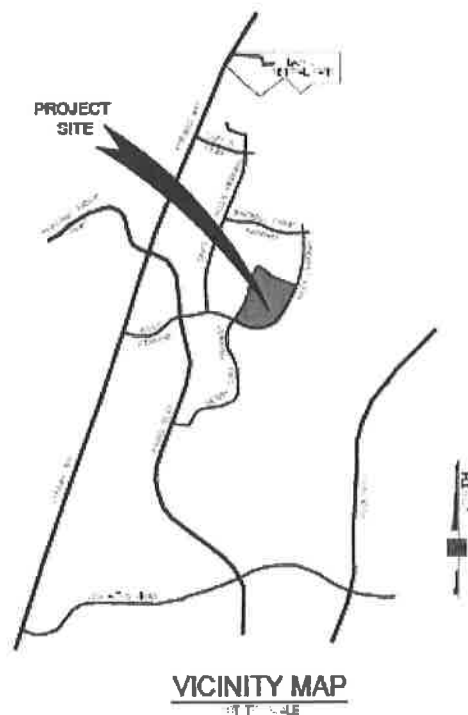


Figure 1 – Vicinity Map

# KILEY RANCH NORTH VILLAGE 36 TENTATIVE MAP

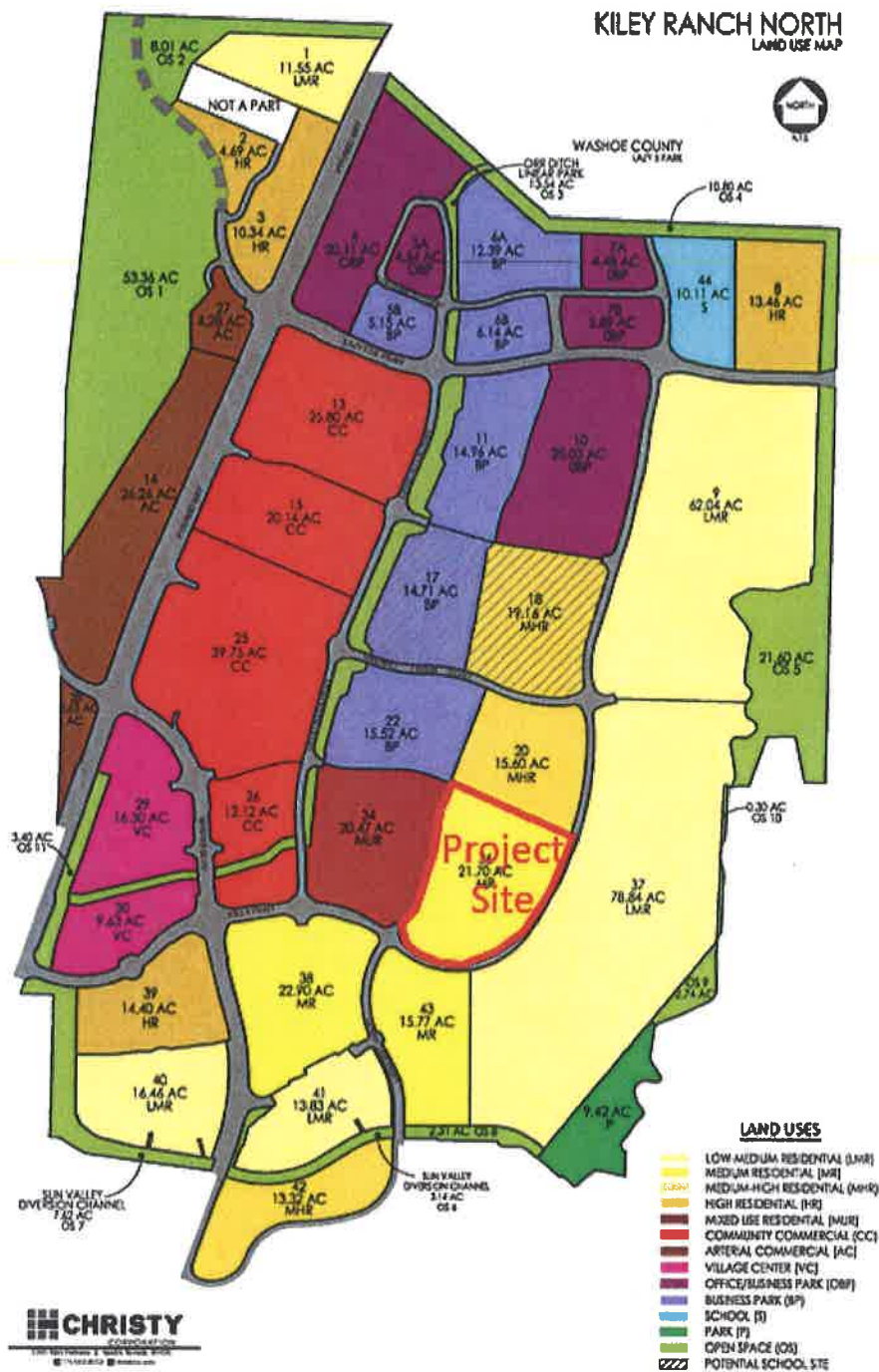


Figure 2 – Kiley Ranch North Master Plan

## **KILEY RANCH NORTH VILLAGE 36 TENTATIVE MAP**

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### **Existing Conditions**

The site is currently vacant. Surrounding land use includes vacant land to the north, south, and west, with single-family residential construction to the east.

Figures 3 (below) and 4 (following page) depict the existing onsite conditions.



**Looking north from Kiley Ranch Parkway**



**Looking west from Kiley Ranch Parkway**

**Figure 3 – Existing Conditions**



## KILEY RANCH NORTH VILLAGE 36 TENTATIVE MAP

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Looking south from Sabata Way

**Figure 4 – Existing Conditions (Continued)**

### **Request Summary**

This application includes a tentative subdivision map request to allow for the creation of 169 single family lots within Village 36 of the Kiley Ranch North Phase 6. Additionally, 10 common area parcels and 2 remainder parcels will be created as part of the tentative map request.

Village 36 is located within a Medium Residential (MR) zone as identified in the Kiley Ranch North Phase 6 Final Planned Development Handbook. The MR designation allows for single family detached homes with a minimum lot size of 2,000 square feet. The maximum allowed density within the MR zone is 11.9 dwelling units per acre. Table 1 (following page) summarizes the development standards for the MR zone, as defined in the Final Kiley Ranch North Phase 6 Planned Development Handbook.

## KILEY RANCH NORTH VILLAGE 36 TENTATIVE MAP

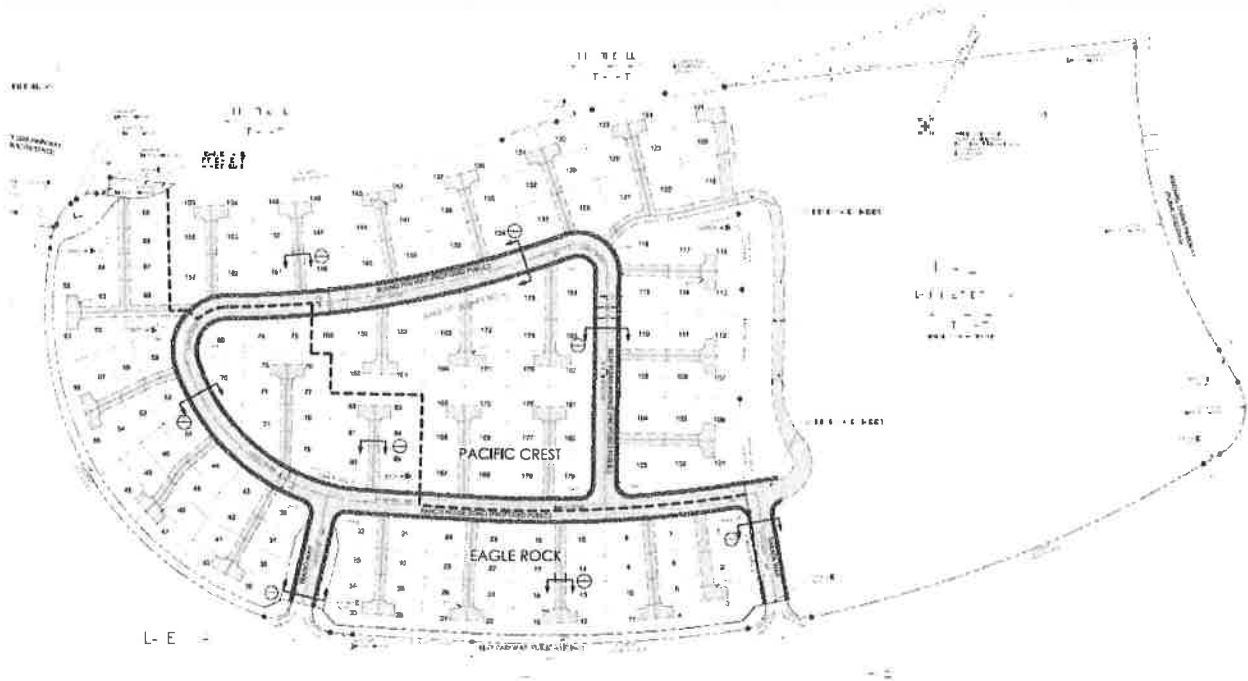
**Table 1 – MR Development Standards**

| TYPE/DESCRIPTION                         | MEDIUM RESIDENTIAL (MR) – 6.0 – 11.9 du/net acre   |                  |                                |   |
|--|--|------------------|--------------------------------|---|
|  | This designation is intended to provide single family detached and attached homes in a highly segmented range of product types. Typical housing types include small lot single family detached, zero lot line, alley-loaded design, townhomes, cluster detached and attached housing, and condominiums. This category may include for-rent multi-family units. |                  |                                |   |
|  | SF DETACHED  | SF ATTACHED      | MULTI-FAMILY                   | NOTES   |
| BUILDING INTENSITY                       |  |                  |                                |   |
| Maximum Net Density (du/ac)              | 11.9   | 11.9             | 11.9                           | Multi-family use shall not exceed 70% building coverage. Building separation for multi-family shall be a min. of 20’. |
| Lot Size                                 | 2,000 sq.ft. min.  | N/A              | 6,000 sq.ft. min. <sup>2</sup> |   |
| Minimum Lot Width                        | 30 ft.   | N/A              | N/A                            |   |
| Building Height                          | 35 ft. max.  | 35 ft. max.      | 35 ft. max.                    |   |
| LANDSCAPING                              |  |                  |                                |   |
| Landscape Requirement                    |  | See footnote 1   | 20% of site area               |   |
| BUILDING SETBACKS FROM PROPERTY LINES    |  |                  |                                |   |
| FRONT YARD SETBACKS                      |  |                  |                                |   |
| To Main Structure w/ Front Entry Garage  | 10 ft. min.  | 10 ft. min.      | 10 ft. min.                    |   |
| To Porch                                 | 10 ft. min.  | 10 ft. min.      | 10 ft. min.                    |   |
| To Front Entry Garage (from public ROW)  | 20 ft. min.  | 20 ft. min.      | 20 ft. min.                    |   |
| To Side Entry Garage                     | 10 ft. min.  | 10 ft. min.      | 10 ft. min.                    |   |
| To Main Structure w/ Alley Loaded Garage | 10 ft. min.  | 10 ft. min.      | 10 ft. min.                    |   |
| SIDE YARD SETBACKS                       |  |                  |                                | * 10ft. min. bldg. separation (SF)<br>* 20 ft. min. bldg. separation (MF)   |
| Interior Side Yard                       | 0 or 5 ft. min.  | 0 or 5 ft. min.* | 20 ft. min.                    |   |
| Side yard to Adjacent Street             | 10 ft. min.  | 10 ft. min.      | 10 ft. min.                    |   |
| REAR YARD SETBACKS                       |  |                  |                                | * 10 ft. min for cluster SFD  |
| To Main Structure                        | 15 ft. min. *  | 10 ft. min.      | 10 ft. min.                    |   |
| To Alley Loaded Garage                   | 5 ft. min.   | 5 ft. min.       | 5 ft. min.                     |   |

## KILEY RANCH NORTH VILLAGE 36 TENTATIVE MAP

### Project Layout

The total project consists of approximately 21.75 acres and includes 169 single family lots ranging in size from 3,423 square feet to 8,147 square feet. Additionally, there are 10 common area parcels included consisting of approximately 1.37 acres. The subdivision will be built in two phases and contain two different, yet compatible, housing products. Phase 1 will consist of 85 lots and Phase 2 will consist of the remaining 84 lots. Figure 5 (below) provides a site plan for the project.



**Figure 5 – Preliminary Site/Lot and Block Plan**

### Road Network

Access to the project area is achieved via several roadways intersecting Kiley Parkway. A temporary emergency access loop road will be included along the northern boundary to provide the required secondary access to that portion of the neighborhood until the remainder parcel to the north (Village 20) is developed. The proposed road network for this project conforms to the approved Kiley Ranch North Phase 6 Final Design Handbook.

### Traffic

All proposed development within Kiley Ranch North Phase 6 was reviewed and approved in a prior traffic impact analysis. This project is within the boundaries outlined in that analysis. Therefore, traffic impacts have already been accounted for and infrastructure such as roadway sizing/standards have been



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## **KILEY RANCH NORTH VILLAGE 36 TENTATIVE MAP**

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established to accommodate traffic from this project per the Kiley Ranch North Tentative Handbook and Kiley Ranch North Phase 6 Final Handbook. The 169 units are anticipated to generate approximately 1,609 average daily trips (ADT) with 127 AM peak hour and 169 PM peak hour trips.

### **Architecture**

The project will include detached single-family homes clustered around shared driveways. Although final floor plans and elevations are still being refined, it is anticipated that homes will range in size from approximately 1,676 square feet to 2,731 square feet. The architectural style of the homes must comply with the Kiley Ranch North Phase 6 Final Planned Development Handbook. New homes must comply with the standards, styles, and materials included in the adopted handbook. The builder must receive approval of the final elevations from the Kiley Ranch North Design Review Committee and the City of Sparks prior to construction.

### **Landscape and Outdoor Design**

As noted previously, the adopted Kiley Ranch North Phase 6 Planned Development Handbook will guide the overall development and style of this tentative map. As such fencing provided will match that specified in the design standards, as will lighting, signage, landscaping, etc. The common area parcels included within the tentative map provide the required pedestrian and maintenance access specified in the handbook. The project entries will also conform to the adopted handbook including attractive landscape improvements, additional setbacks, etc. The preliminary landscape plan (included with this application) provides further details related to landscaping of common areas as well as the project entry areas. Common areas will be maintained by the LMA. Maintenance and access easements and facilities dedicated to the City of Sparks will be maintained by the City.

### **Topography and Grading**

The site is essentially flat and highly suitable for the intensity and density proposed with the tentative map. No physical barriers exist to development of the site, including an efficient design and installation of utility infrastructure. Detailed engineering plans and reports are included with this application.

### **Project Summary**

Overall, the proposed tentative map is in full compliance with the Kiley Ranch North Phase 6 Final Handbook and its associated standards and requirements. New homes will be consistent with the architectural stylings and details included within the handbook and will be in full compliance with the MR standards in terms of setbacks, building heights, etc.

Table 2 (following page) provides an overall summary of the project.

## KILEY RANCH NORTH VILLAGE 36 TENTATIVE MAP

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Table 2 – Development Summary

| Development Standard | Village 36          |
|----------------------|---------------------|
| Total Project Area   | 21.75 Acres         |
| Total Lot Area       | 17.60 Acres         |
| Right-of-Way Area    | 2.78 Acres          |
| Common Area          | 1.37 Acres          |
| Project Density      | 7.77 Units Per Acre |
| Minimum Lot Size     | 3,423 Square Feet   |
| Maximum Lot Size     | 8,147 Square Feet   |
| Average Lot Size     | 4,538 Square Feet   |

### Tentative Map Findings

The City of Sparks Municipal Code includes findings that the Planning Commission and City Council must make in order to approve a tentative subdivision map. These findings are listed below and addressed in **bold face type**.

FINDING TM1: The request conforms to the Master Plan and zoning ordinances.

**The Village 36 tentative map is in direct conformance with the Kiley Ranch North Phase 6 Final Planned Development Handbook including landscaping, street standards, project entries, architecture, etc. Additionally, the proposed tentative map conforms to all of the MR standards included in the handbook in terms of density, lot sizes, setbacks, etc.**

FINDING TM2: General conformity with the City's master plan of streets and highways has been considered.

**The tentative map incorporates all of the standards and requirements as outlined in the Kiley Ranch North Phase 6 Final Planned Development Handbook, insuring consistency with this finding.**

FINDING TM3: Environmental and health laws and regulations concerning water and air pollution, the disposal of solid waste, facilities to supply water, community or public sewage disposal, and, where applicable, individual systems for sewage disposal were considered.

**The tentative map, as proposed, complies with all regulations and standards specified in the handbook and Sparks Municipal Code, as well as applicable State and County regulations/requirements.**

FINDING TM4: The availability of water which meets applicable health standards and is sufficient in quantity for the reasonably foreseeable needs of the subdivision have been considered.

**Water will be provided through the Truckee Meadows Water Authority. All necessary water rights needed to serve the project are in place or will be dedicated with final map.**

## **KILEY RANCH NORTH VILLAGE 36 TENTATIVE MAP**

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FINDING TM5: The availability and accessibility of utilities has been considered.

**All necessary utilities needed to serve the project are in place and will be extended to serve the proposed units.**

FINDING TM6: The availability and accessibility of public services such as schools, police protection, transportation, recreation and parks has been considered.

**As part of the master planned Kiley Ranch North, all public service considerations have been accounted for. The tentative map includes provisions for pedestrian access to common areas, open space, and trails, as well as for access to municipal facilities.**

FINDING TM7: The effect of the proposed subdivision on existing public streets and the need for new streets or highways to serve the subdivision has been considered.

**The project will comply with the roadway standards included in the adopted handbook. The Kiley Ranch North Tentative Handbook included a comprehensive traffic impact analysis that included Village 36. As such, necessary mitigation and sizing of facilities has occurred and traffic impacts from the project have been previously accounted for.**

FINDING TM8: The physical characteristics of the land such as flood plain, slope, and soil has been considered.

**The project site is well suited to the type and intensity of development proposed. The site contains slopes less than 5% and is located entirely outside of the 100-year flood zone.**

FINDING TM9: The recommendations and comments of those entities reviewing the tentative map pursuant to NRS 278.330 to 278.348, inclusive, have been considered.

**Comments and conditions from reviewing agencies can be added as final conditions to this tentative map and incorporated into final design of the project.**

FINDING TM10: The availability and accessibility of fire protection, including, but not limited to, the availability and accessibility of water serves for the prevention and containment of fires, including fires in wild lands has been considered.

**The proposed map includes fire hydrants per City of Sparks standards and is within the acceptable fire response time of existing City of Sparks facilities.**

FINDING TM11: The application, as submitted and conditioned, will address identified impacts.

## **KILEY RANCH NORTH VILLAGE 36 TENTATIVE MAP**

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**The project meets or exceeds all standards and requirements of the Kiley Ranch North Phase 6 Final Planned Development Handbook. The handbook includes standards to address specific impacts and has previously been found consistent with City goals and policies.**

FINDING TM12: Public notice was given and a public hearing held per the requirements of the Sparks Municipal Code and Nevada Revised Statutes.

**The tentative map will be reviewed at a public hearing(s), insuring compliance with this finding.**

# TENTATIVE MAP FOR KILEY RANCH NORTH PHASE 6 ~ VILLAGE 36

LEWIS INVESTMENT COMPANY OF NEVADA, LLC.

OWNER  
LEWIS INVESTMENT COMPANY OF  
NEVADA, LLC  
1380 GREG STREET, STE 213  
SPARKS, NEVADA 89431

(P) (775) 546-5016  
(F) (775) 331-7633

CIVIL ENGINEER  
DOUGLAS BUCK, P.E.  
CHRISTY CORPORATION  
1000 KILEY PARKWAY  
SPARKS, NV 89436  
(775) 502-8552

DEVELOPER  
LEWIS INVESTMENT COMPANY OF  
NEVADA, LLC  
1380 GREG STREET, STE 213  
SPARKS, NEVADA 89431

(P) (775) 546-5016  
(F) (775) 331-7633

APPLICANT  
CHRISTY CORPORATION  
1000 KILEY PARKWAY  
SPARKS, NV 89436  
(775) 502-8552

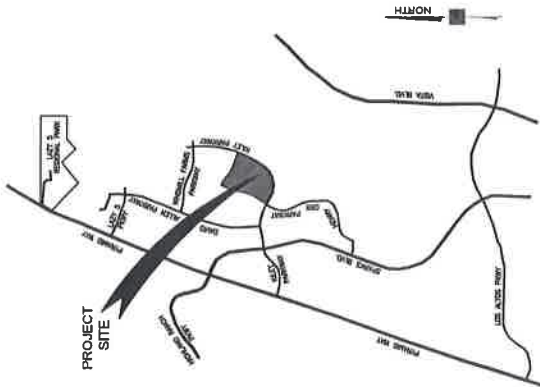
## SITE INFORMATION

SEE PARCEL MAP, PARCEL 1-4 FOR THE 1/4 SECTION 20, T. 15N, R. 10E, S. 1/4, AS (LAW 414 97)

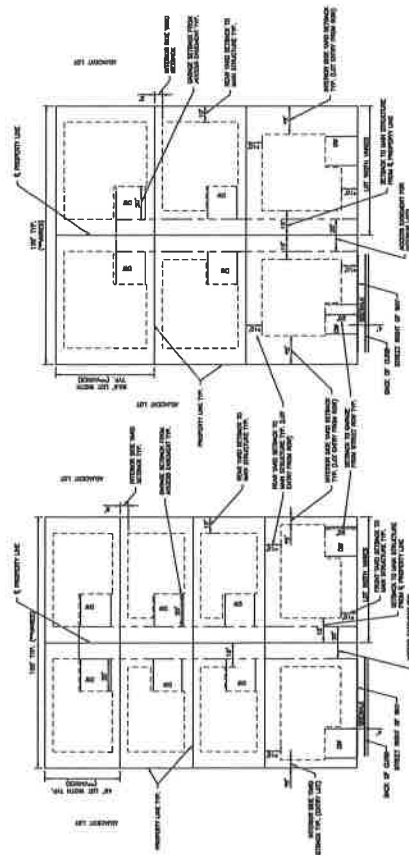
VALUATION OF LOT 1  
TOTAL LOT 1 = 180  
MINIMUM LOT SIZE = 1,432 SF  
MAXIMUM LOT SIZE = 1,432 SF  
APPROXIMATE LOT SIZE = 1,432 SF  
MINIMUM ALLOWABLE LOT SIZE = 1,432 SF

LOT AREA = 172.4 AC (746,608 SF)  
TOTAL SPACED AREA = 172.4 AC (746,608 SF)  
TOTAL LOT 1 = 180  
MINIMUM LOT SIZE = 1,432 SF  
MAXIMUM LOT SIZE = 1,432 SF  
APPROXIMATE LOT SIZE = 1,432 SF  
MINIMUM ALLOWABLE LOT SIZE = 1,432 SF

DENSITY  
GROSS DENSITY = 7.6 DU/AC  
NET DENSITY = 0.3 DU/AC



VICINITY MAP  
NOT TO SCALE



REMARKS: IN REMARKS FOR PRELIMINARY PROJECT PHASE 6B, THE TOTAL LOT 1 AREA IS 180 AC. THE TOTAL LOT 1 AREA IS 180 AC. THE TOTAL LOT 1 AREA IS 180 AC. THE TOTAL LOT 1 AREA IS 180 AC.

EAGLE ROCK CLUSTER

PACIFIC CREST CLUSTER

TITLE SHEET

SHEET 1 OF 10

## SHEET INDEX

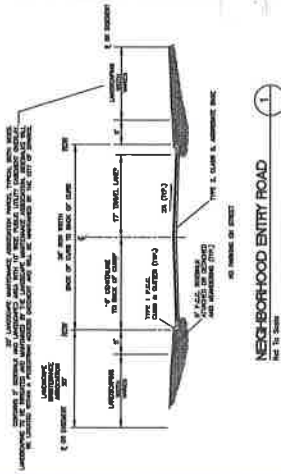
1. SHEET INDEX
2. BASIS OF ELEVATIONS
3. BASIS OF BEARINGS
4. ACCESS EASEMENT
5. NEIGHBORHOOD ENTRY ROAD
6. LOCAL STREET

## BASIS OF ELEVATIONS

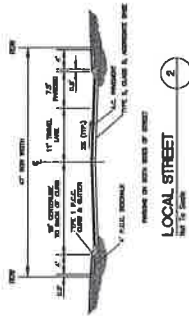
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## BASIS OF BEARINGS

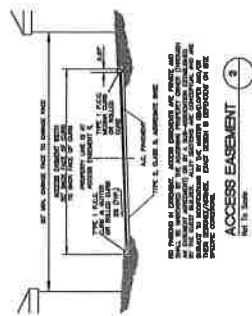
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NEIGHBORHOOD ENTRY ROAD  
NOT TO SCALE



LOCAL STREET  
NOT TO SCALE



ACCESS EASEMENT  
NOT TO SCALE




CHRISTY  
CORPORATION  
10000  
10000  
10000


LEWIS INVESTMENT COMPANY OF NEVADA, LLC.

**LEGEND**

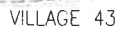
 FUTURE CREDIT COUNCIL  
CONSTRUCT, MARK & SURVEY

 AIRWAY PROBE

 PRODUCT PLANT LINC. DISSEMINATION

 WAVE LENGTH 100 YD

 100 YD CIRCLE MARK



SHEET 2 OF 10





# TENTATIVE MAP FOR KILEY RANCH NORTH PHASE 6 ~ VILLAGE 36

LEWIS INVESTMENT COMPANY OF NEVADA, LLC.

NOTES:  
1. ALL DIMENSIONS ARE IN FEET AND INCHES.  
2. ALL DIMENSIONS ARE TO THE CENTERLINE OF THE ROAD.  
3. TYPICAL LOT DIMENSIONS, AND STREET DIMENSIONS.

LEGEND  
--- PROPOSED PHASE LINE, CONTINUATION PHASE LINE WILL MAP  
--- PUBLIC UTILITY EASEMENT

APN: 083-830-76  
RISING TIDES LLC  
(NOT A PART)



LOT & BLOCK PLAN

SHEET 3 OF 10



# TENTATIVE MAP FOR KILEY RANCH NORTH PHASE 6 ~ VILLAGE 36 LEWIS INVESTMENT COMPANY OF NEVADA, LLC.

NOTES:  
1. ALL LOTS ARE TO BE DEVELOPED AS RESIDENTIAL LOTS.  
2. ALL LOTS ARE TO BE DEVELOPED AS RESIDENTIAL LOTS.  
3. ALL LOTS ARE TO BE DEVELOPED AS RESIDENTIAL LOTS.

LEWIS INVESTMENT CO OF  
NV LLC  
APN: 510-072-01  
(NOT A PART)

LEGEND  
1. PROPOSED PAVEMENT LANE, CORRELATION PAVEMENT LANE WITH  
2. PROPOSED PAVEMENT LANE, CORRELATION PAVEMENT LANE WITH



APN: 083-830-78  
RISING TIDES LLC  
(NOT A PART)

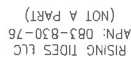
LOT & BLOCK PLAN  
SHEET 4 OF 10



LEWIS INVESTMENT COMPANY OF NEVADA, LLC.

**LEGEND (continued)**

|   |         |
|---|---------|
|  | Other   |
|  | Water   |
|  | City    |
|  | County  |
|  | State   |
|  | Country |
|  | Region  |
|  | World   |
|  | Other   |
|  | Other   |
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|  | Other   |
|  | Other   |



**SHEET 5 OF 10**

LEWIS INVESTMENT COMPANY OF NEVADA, LLC.

NOTES:

1. ALL STREETS ARE PROPOSED PUBLIC
2. REFERENCE TITLE SHEET FOR SITE STATISTICS, TYPICAL LOT STRIPES, AND STREET SCHEDULE.

LEWIS INVESTMENT CO OF NV LLC  
APN: 510-072-01  
(NOT A PART)

APN: 083-830-78  
(NOT A PART)



**CHRISTY**  
CORPORATION




PRELIMINARY GRADING PLAN

SHEET 6 OF 10


LEWIS INVESTMENT COMPANY OF NEVADA, LLC.

**LEGEND UTILITIES**


 **Document**  **Find**  **Delete**  **Create**  **Remove**  **Move**  **Copy**  **Paste**


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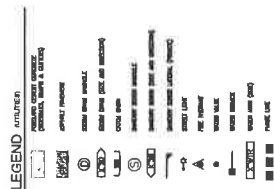
PRELIMINARY UTILITY PLAN  
SHEET 7 OF 10

**CHRISTY CORPORATION**  
5500 May Parkway | Dallas, Texas 75234  
800.773.5052 817.276.9700



LEWIS INVESTMENT COMPANY OF NEVADA, LLC.

LEWIS INVESTMENT CO OF NV LLC  
APN: 510-072-01  
(NOT A PART)



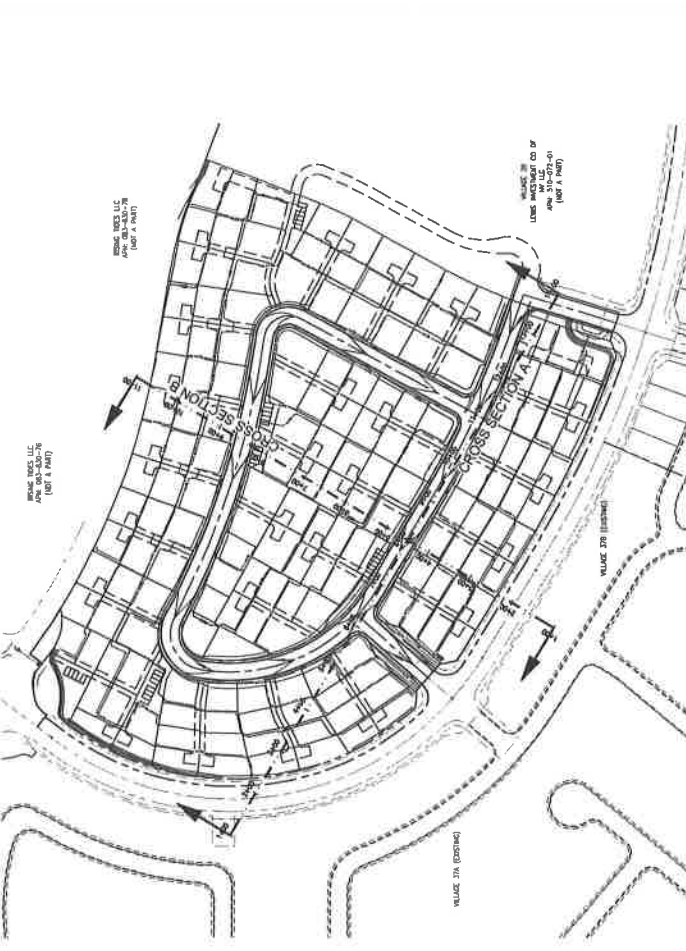
**CHRISTY CORPORATION**  
10000 Lily Avenue | Dallas, Texas 75243

# PRELIMINARY UTILITY PLAN

**SHEET 8 OF 10**



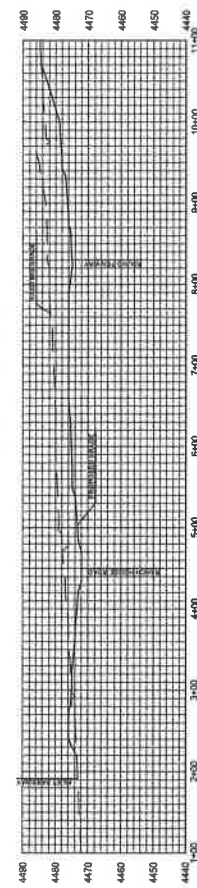
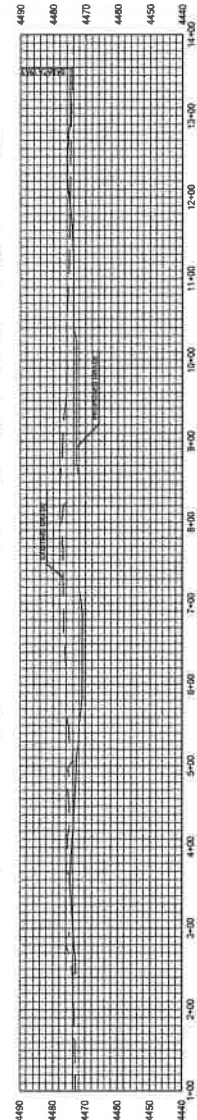
# TENTATIVE MAP FOR KILEY RANCH NORTH PHASE 6 ~ VILLAGE 36 LEWIS INVESTMENT COMPANY OF NEVADA, LLC.



**NOTES:**  
1. ALL STREETS ARE IMPROVED PUBLIC  
STREETS.  
2. TYPICAL LOT DIMENSIONS ARE SHOWN.  
3. TYPICAL LOT DIMENSIONS ARE SHOWN.

**LEGEND**  
IMPROVED PUBLIC STREET  
IMPROVED LOT  
IMPROVED LOT

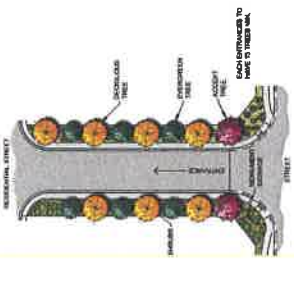
NOT TO SCALE



| Item                     | Quantity | Unit    | Notes                       |
|--------------------------|----------|---------|-----------------------------|
| 1. Common Area Plantings | 100      | Sq. Ft. | See Typical Front Yard Plan |
| 2. Residential Plantings | 200      | Sq. Ft. | See Typical Front Yard Plan |
| 3. Street Plantings      | 50       | Sq. Ft. | See Typical Front Yard Plan |
| 4. Total Plantings       | 350      | Sq. Ft. |                             |



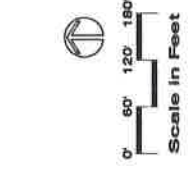
- PLANT LEGEND**
- COMMON AREA TREES (DECIDUOUS TREES)
  - COMMON AREA TREES (EVERGREEN TREES)
  - RESIDENTIAL FRONT YARD TREES (SEE TYPICAL FRONT YARD PLAN)
  - COMMON LANDSCAPE OPEN AREA
  - STREETSCAPE (WIDE PARKWAY/ COLLECTOR) (NOT A PART)



TYPICAL NEIGHBORHOOD ENTRANCE LANDSCAPE PLAN



TYPICAL FRONT YARD LANDSCAPE PLAN



**LANDSCAPE DATA**

LANDSCAPE REQUIREMENTS FOR KILBEY RANCH VILLAGE 36 AND 37 SHALL BE BASED ON THE FOLLOWING:

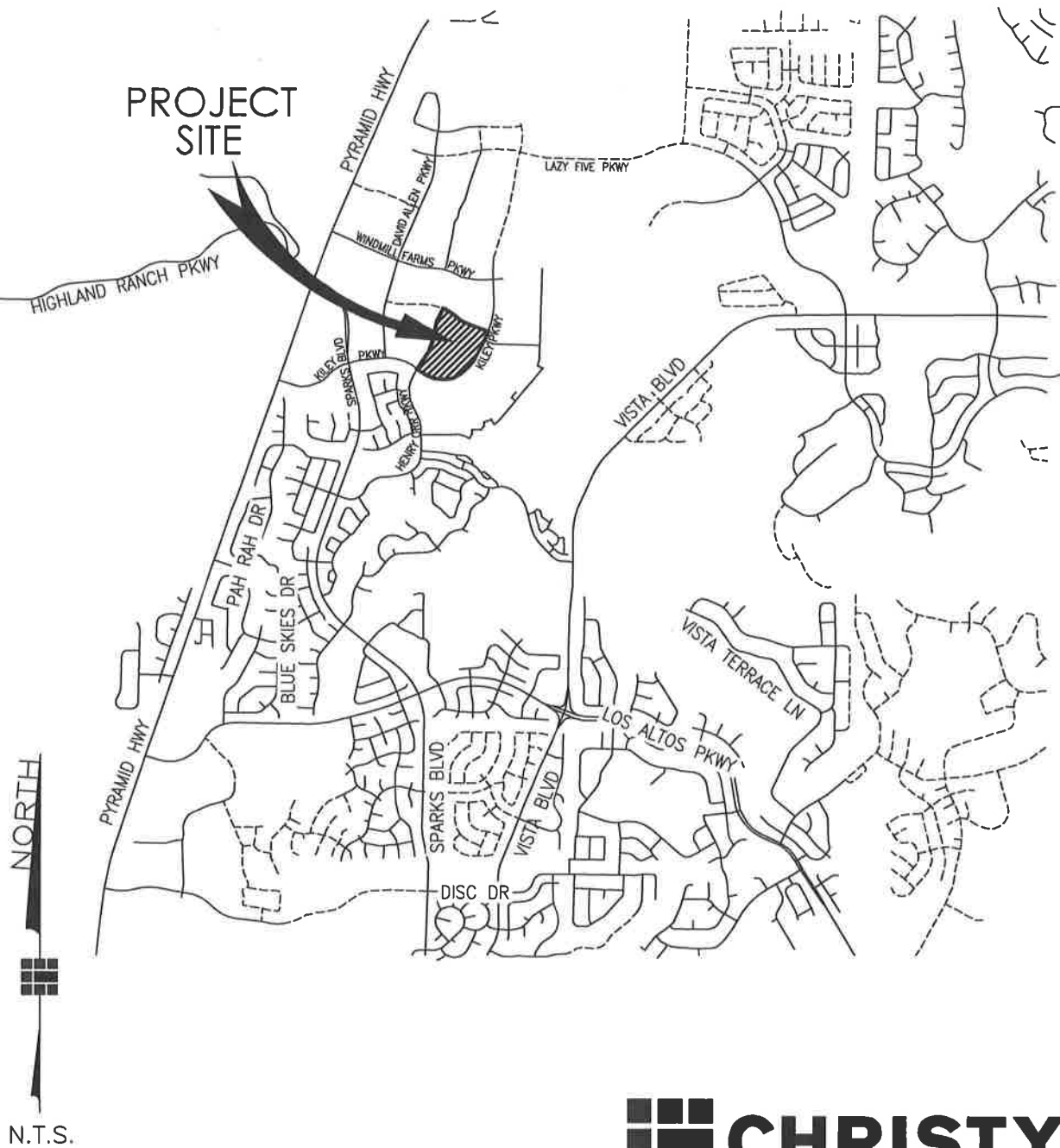
- 1. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:
- 2. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:
- 3. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:
- 4. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:
- 5. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:
- 6. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:
- 7. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:
- 8. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:
- 9. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:
- 10. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:

**GENERAL NOTES**

1. ALL PLANTING AND IRRIGATION SHALL BE INSTALLED PER LOCAL GOVERNING CODES.
2. FIRM, PLANT, SELECTOR, AND LAYOUT SHALL BE BASED ON BUREAU OF AGRICULTURAL PRACTICES RELATED TO IRRIGATION, SOIL, AND WATER. PLANTING SHALL BE PER CURRENT CODES OF THE AGRICULTURAL PRACTICES RELATED TO IRRIGATION, SOIL, AND WATER.
3. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:
4. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:
5. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:
6. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:
7. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:
8. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:
9. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:
10. ALL PLANTINGS SHALL BE BASED ON THE FOLLOWING:

# VICINITY MAP

KILEY RANCH NORTH PHASE 6 - VILLAGE 36  
AUGUST 2018



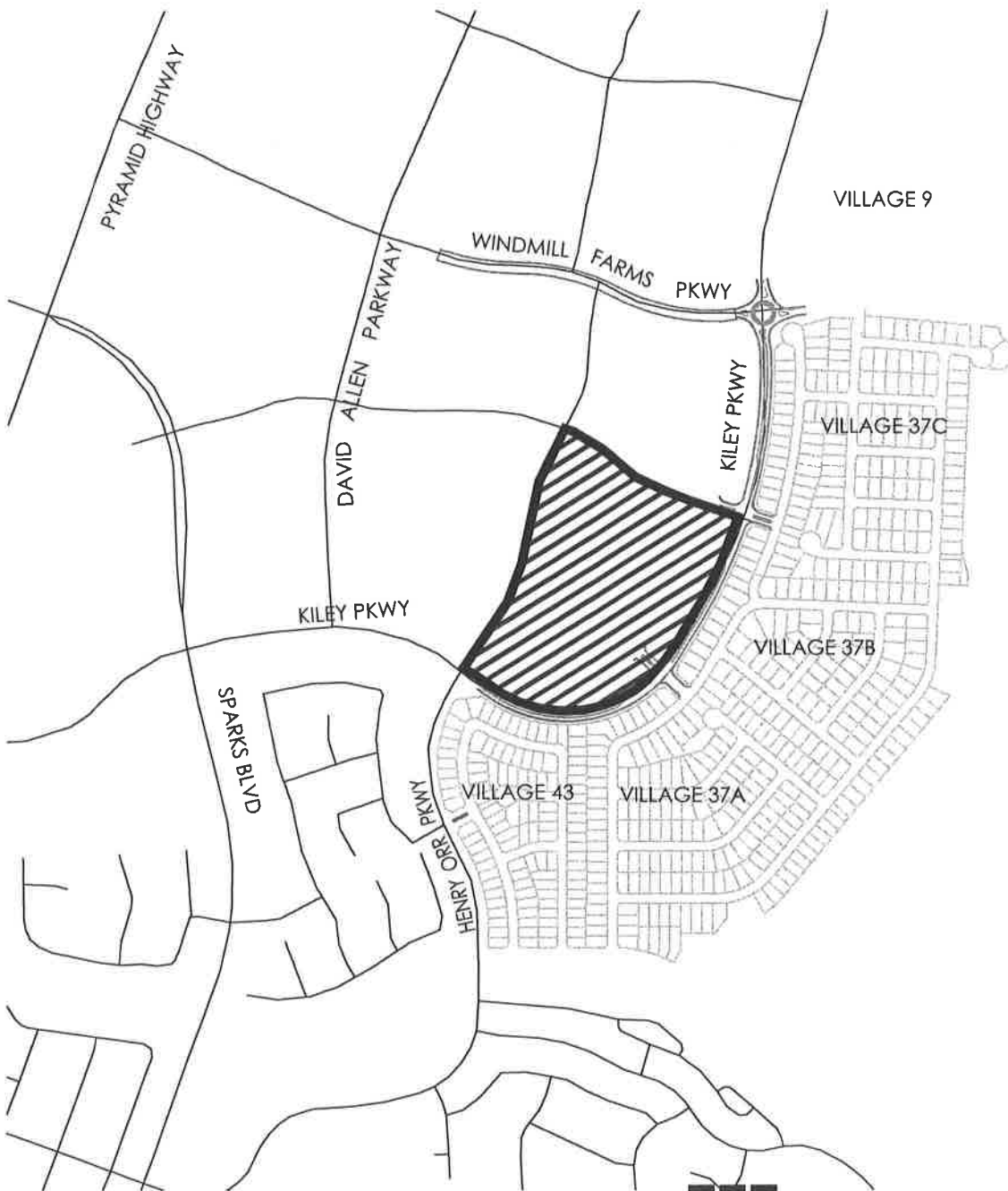
**CHRISTY**  
CORPORATION

1000 Kiley Pkwy | Sparks Nevada 89436

775.502.8552

# SITE PLAN

KILEY RANCH NORTH PHASE 6 - VILLAGE 36  
AUGUST 2018



**CHRISTY**  
CORPORATION

1000 Kiley Parkway | Sparks Nevada 89436

775.502.8552 christynv.com



**DEVELOPMENT APPLICATION****ACTION REQUESTED:**

- ☐ Administrative Review  
☐ Administrative Review MME  
☐ Annexation  
☐ Conditional Use Permit  
☐ Comprehensive Plan Amendment  
☐ Major Deviation  
☐ Minor Deviation  
☐ Planned Development  
☐ Rezoning



- ☐ Tentative Subdivision Map  
☐ Variance

|                                    |                         |
|------------------------------------|-------------------------|
| <b>CASE NUMBER:</b><br>PCN18-0049  | <b>FEE:</b><br>\$ _____ |
| Noticing Fee                       | \$ _____                |
| District Health Fee                | \$ _____                |
| <b>TOTAL FEES</b>                  | \$ _____                |
| Rec'd by: _____                    | Date: _____             |
| (For Planning Department Use Only) |                         |

DATE: 8/22/18

STM18-0016

PROJECT NAME: Kiley Ranch North Village 36

PROJECT DESCRIPTION: Subdivision of 37.41 acres into 169 single family lots, 10 common area lots, and 2 remaining lots

(Mark one box to indicate responsible party and mailing address)

☐ **PROPERTY OWNER\***

Name: Lewis Investment Company of Nevada, LLC

Address: 1380 Greg St., Suite 213

City Sparks State NV ZipCode 89431

Phone: 775-546-5016 Fax: N/A

Contact Person: Ted Erkan

E-mail Address: Ted.Erkan@lewismc.com

☒ **APPLICANT\***

Name: Christy Corporation

Address: 1000 Kiley Parkway

City Sparks State NV ZipCode 89436

Phone: 775-502-8552 Fax: N/A

Contact Person: Douglas Buck, P.E.

E-mail Address: Doug@christynv.com

☒ **PERSON / FIRM PREPARING PLANS**

Name: Christy Corporation

Address: 1000 Kiley Parkway

City Sparks State NV ZipCode 89436

Phone: 775-502-8552 Fax: N/A

Contact Person: Douglas Buck, P.E.

E-mail Address: Doug@christynv.com

**PROJECT ADDRESS:**

NE corner of Kiley Pkwy and Henry Orr Pkwy

PARCEL NO. (APN): 510-072-01

PROPERTY SIZE: 21.75 acres of 37.41 parcel

EXISTING ZONING: PUD

PROPOSED ZONING: Same

MASTER PLANNED LAND USE: MF14

EXISTING USE: Vacant

**SURROUNDING USES:**

North Vacant

East Single-Family

South Vacant

West Vacant

*\* If a corporation please attach a list of corporate officers.**\* If a partnership please list all general partners.***NOTE:** Affidavits must be signed by both the property owner and the developer/lessee and notarized before the application is submitted.

RECEIVED-CITY OF SPARKS  
AUG 22 2018  
COMMUNITY SERVICES  
ADMINISTRATION

**TENTATIVE MAP  
INITIAL PROJECT DATA SHEET  
City of Sparks, Nevada**

### 1. Number of Dwelling Units

|                        |     |
|------------------------|-----|
| Single Family Detached | 169 |
| Duplexes               | 0   |
| Multi-Family Attached  | 0   |

## 2. Site Area Breakdown

|                     |              |            |            |          |
|---------------------|--------------|------------|------------|----------|
| Lots or Buildings   | 17.60        | Ac.        | 81         | %        |
| Public Right-of-Way | 2.78         | Ac.        | 13         | %        |
| Common Area         | 1.37         | Ac.        | 6          | %        |
| <b>TOTAL</b>        | <b>21.75</b> | <b>Ac.</b> | <b>100</b> | <b>%</b> |

### 3. Gross Density

$$\frac{169}{\text{Total \# of Dwellings}} \div \frac{21.75}{\text{Total Area}} = \frac{7.77}{\text{Gross Density in Acres (DU/AC)}}$$

#### 4. Schools Serving Project

Elementary School \_\_\_\_\_  
Middle School \_\_\_\_\_  
High School \_\_\_\_\_

## 5. Estimated Sewage to be Generated

164,775 GPD  
(Attach Calculations)

## 6. Traffic

Average Daily Trips \_\_\_\_\_ Trips  
Peak Hour Trips \_\_\_\_\_ Trips  
(Attach Calculations)

## 7. Flood Hazard

Portion of site subject to inundation  
By 100 year flood:

Ac. \_\_\_\_\_ %

### 8. Estimated Water Demand (Attach Calculations)

|                               |       |     |
|-------------------------------|-------|-----|
| Domestic                      | _____ | AFY |
| Irrigation                    | _____ | AFY |
| TOTAL                         | _____ | AFY |
| Source of water supply: _____ |       |     |

## 9. Lot Sizes

|              |                            |
|--------------|----------------------------|
| <u>3,423</u> | Sq. Ft. minimum (corner)   |
| <u>3,423</u> | Sq. Ft. minimum (interior) |
| <u>8,147</u> | Sq. Ft. maximum            |
| 4,538        | Sq. Ft. average            |

## 10. Minimum Building Setbacks

10 Feet (Front Property Line to Dwelling)  
20 Feet (Front Property Line to Garage)  
10 Feet (Exterior Side Property Line to Dwelling)  
5 Feet (Interior Side Property Line to Dwelling)  
10 Feet (Rear Property Line to Dwelling)

### 11. Portion of Site within the Following

**Slope Categories:**

|          |       |     |     |   |
|----------|-------|-----|-----|---|
| 0% - 10% | 21.75 | Ac. | 100 | % |
| 10% +    | Ac.   |     | %   |   |

## 12. Unit Sizes

\_\_\_\_\_ Sq. Ft. \_\_\_\_\_ Bedrooms  
\_\_\_\_\_ Sq. Ft. \_\_\_\_\_ Bedrooms

### 13. Maximum Building Height

| Feet | Stories |
|------|---------|
| 100  | 10      |
| 200  | 20      |
| 300  | 30      |
| 400  | 40      |
| 500  | 50      |
| 600  | 60      |
| 700  | 70      |
| 800  | 80      |
| 900  | 90      |
| 1000 | 100     |

#### 14. Coverage of Lot by Structure

| Maximum | % |
|---------|---|
|---------|---|

## 15. Single Family & Two-Family Parking

SF detached \_\_\_\_\_ x 1 per bedrm = \_\_\_\_\_  
2 dwelling (duplex) \_\_\_\_\_ x 1 per bedrm = \_\_\_\_\_

## 16. Multi-Family Parking

Multi-Family \_\_\_\_ x 1 per dwelling unit = \_\_\_\_  
 Live/work \_\_\_\_ x 1 per dwelling unit = \_\_\_\_  
 Boarding/rooming house \_\_\_\_ x 0.5 per bdrm = \_\_\_\_  
 Group home \_\_\_\_ square footage / 400 sf = \_\_\_\_

## 17. Life Care Housing

square footage / 400 sf = \_\_\_\_\_



DEAR APPLICANT:

THE CITY OF SPARKS APPLICATION PROCESS REQUIRES THAT THE PROPERTY OWNER AUTHORIZE THE APPLICANT TO REQUEST DEVELOPMENT RELATED APPLICATIONS. DEVELOPMENT APPROVALS REMAIN WITH THE LAND; THEREFORE, THE PROPERTY OWNER IS ALWAYS RESPONSIBLE FOR ANY ACTIVITY ON THE PROPERTY.

OWNER AFFIDAVIT

STATE OF NEVADA )  
COUNTY OF WASHOE ) SS.

I, TED ERKAN being duly sworn, depose and say that I am an owner of property/authorized agent involved in this petition and that I authorize Douglas Buck, P.E., Christy Corporation to request development related applications on my property. I also give permission for site visitation by the Planning Commission, City Council and City Staff.

Name: TED ERKAN  
Title: AUTH. AGENT  
Signed: [Signature]

Subscribed and sworn to before me this 2 Day of August, 20 18.

[Signature]  
Notary Public in and for said County and State

My commission expires: 4-27-2022



APPLICANT AFFIDAVIT

STATE OF NEVADA )  
COUNTY OF WASHOE ) SS.

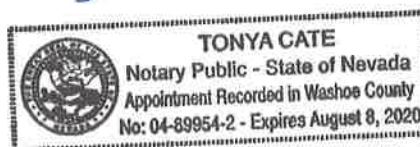
I, Douglas Buck being duly sworn, depose and say that I am the applicant involved in this petition and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true and correct to the best of my knowledge and belief. I also give permission for site visitation by the Planning Commission, City Council and City Staff.

Name: Douglas Buck, P.E.  
Title: Engineering Manager, Christy Corporation  
Signed: [Signature]

Subscribed and sworn to before me this 14 Day of August, 20 18.

[Signature]  
Notary Public in and for said County and State

My commission expires: Aug 8, 2020





## PRELIMINARY REPORT

Assessor's Parcel No.: 510-072-01

Order No.: 099033-PAH

Property Address: APN 510-072-01  
SPARKS NV, 89436

Escrow Officer: Patti Hanson  
Office Location: Western Title Company, LLC  
Kietzke Office  
5390 Kietzke Ln Suite 101  
Reno NV

Buyers/Borrowers:

Reference No.:

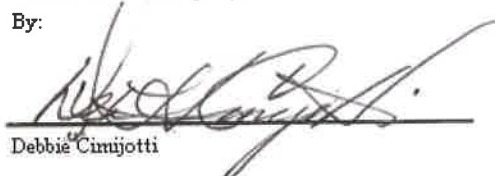
In response to the above referenced application for a Policy of Title Insurance, **First American Title Insurance Company** hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Policy or Policies of Title Insurance describing the land and the estate or interest therein, hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an Exception below or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations of said Policy forms. The printed Exceptions and Exclusions from the coverage of said Policy or Policies are set forth on the attached cover. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth on the attached cover. Copies of the Policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

**Dated as of 07/26/2018 at 07:30 am**

Western Title Company, an authorized agent

By:

  
Debbie Cimujotti

The form of Policy of Title Insurance contemplated by this report is:

### Report Only

The estate or interest in the land hereinafter described or referred to covered by this Report is:

### Fee Simple

Title to said estate or interest at the date hereof is vested in: **Lewis Investment Company of Nevada, LLC, a Delaware limited liability company**

Please read the exceptions shown or referred to below and the Exceptions and Exclusions set forth on the attached cover of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered. It is important to note that this Preliminary Report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

Order No. 099033-PAH

### EXCEPTIONS

At the date hereof exceptions to coverage in addition to the printed Exceptions and Exclusions in said policy form would be as follows:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records. Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.
7. State and County Taxes for the fiscal year **July 1, 2018 to June 30, 2019**, together with any other taxes or assessments collected therewith, a lien, now due and payable:  
ASSESSORS PARCEL NUMBER: **510-072-01**  
QUARTERLY INSTALLMENTS  
1st        \$1,486.52  
Status    **OPEN** (Due 08/20/2018)  
2nd        \$1,486.36  
Status    **OPEN** (Due 10/01/2018)  
3rd        \$1,486.36  
Status    **OPEN** (Due 01/07/2019)  
4th        \$1,486.36  
Status    **OPEN** (Due 03/04/2019)  
**Total     \$5,945.60**
8. The lien, if any, of supplemental taxes, assessed pursuant to the provision of the Nevada Revised Statutes.
9. The right of the County of Washoe to collect all deferred taxes, deferred interest, and penalties, if any, upon conversion from agricultural or open space use.

10. Any liens that may be created for Delinquent Sewer Charges by reason of said premises lying within the **City of Reno/Sparks**. Contact the following for Sewer and/or Tax Assessment information: **City of Sparks Sewer at (775) 353-2360; Washoe County Treasurer at (775) 328-2510**. Delinquent amounts may be added to and collected through the secured real property tax roll of the **Washoe County Assessor's Office** and included in the tax installments referenced above.

11. Any liens that may be created for delinquent waste management charges pursuant to NRS 444.520.

12. Water rights, claims or title to water, whether or not recorded.

13. Easements, dedications, reservations, provisions, recitals, building set back lines, and any other matters as provided for or delineated on **Division of Land Map No. 38**, filed in the office of the County Recorder of Washoe County, State of Nevada, on **February 6, 1979**, as Document No. **586926**. Reference is hereby made to said map for particulars. A copy will be furnished upon request.

An Order Vacating Easement by the City of Sparks, as to a portion of said easements, recorded on **April 10, 2001**, as Document No. **2541826**, Official Records of Washoe County, Nevada.

Reference is made to Boundary Line Adjustment recorded **March 2, 2001**, as Document No. **2529719**, and corrected by Document recorded **March 16, 2001**, as Document No. **2533348**, which provides for relinquishment of Utility Companies interest in and to a portion of the easements

An instrument entitled "Termination of Easement" recorded on **June 15, 2016**, as Document No. **4599806**, Official Records of Washoe County, Nevada.

14. A Grant of Right to Impound Water, recorded on **January 16, 1991**, in **Book 3200, Page 919** as Document No. **1454163**, Official Records of Washoe County, Nevada. **(The exact location of the boundary line of the impoundment area cannot be determined without an accurate depiction of the elevations creating the boundary, relative to the boundary of the herein described land)**

15. An Ordinance No. 2157 establishing the **City of Sparks, Nevada, Impact Fee Service Area No. 1**, approving the capital improvements plan for sanitary sewer, flood control and drainage, parks and recreation, and fire station projects in that service area and assessing impact fees to be paid at the time building permits are issued on properties within that service area to finance those projects; transferring funds and credits and providing for a transition from a previous financing plan for the area; and providing other matters properly relating thereto, recorded on **February 6, 2003**, as Document No. **2802190**, and re-recorded **April 15, 2003**, as Document No. **2837544**, and as amended by on **March 3, 2008**, as Document No. **3626570**, Official Records of Washoe County, Nevada.

16. Easement for access as set forth in Boundary Line Adjustment Deed, recorded on **June 30, 2003**, as Document No. **2881166**, Official Records of Washoe County, Nevada. **(Depicted on Survey Map No. 5583)**

An instrument entitled "Relinquishment of Easements" recorded on **July 22, 2016**, as Document No. **4613283**, Official Records of Washoe County, Nevada.

17. An Impact Fee Agreement No. 1, dated **June 9, 2003**, by and between **Kiley Ranch LLC, dba Nevada Hereford Ranch, L.D. Kiley, D. A. Kiley, Lazy Five Company; and City of Sparks**, recorded on **August 15, 2003**, as Document No. **2905823**, Official Records of Washoe County, Nevada. **(EXHIBIT "A" MISSING FROM RECORDED DOCUMENT)**

18. A Water Service Annexation Agreement executed by and between the parties named herein, subject to the terms, covenants and conditions therein provided, dated **December 15, 2003**, by and between **Truckee Meadows Water Authority, a Joint Powers Authority; Kiley Ranch, LLC, a Nevada limited liability company; and Lazy Five Company, a Nevada corporation**, recorded on **December 16, 2003**, as Document No. **2968680**, Official Records of Washoe County, Nevada.

19. Easement for effluent and booster facilities and temporary construction, and incidental purposes, granted to **City of Sparks, a municipal corporation by Grant of Easement (Effluent Facilities) (Booster Facilities) and (Temporary Construction)**, recorded on **December 30, 2003**, as Document No. **2975281**, Official Records of Washoe County, Nevada.
20. Easement to construct, maintain, inspect, repair, reconstruct and operate an unimproved, all weather roadway, 15 feet in width, together appropriate drainage facilities, fences, gates, and incidental purposes, granted to **City of Sparks, a municipal corporation by Grant of Easement for Access Roadway Purposes**, recorded on **November 19, 2004**, as Document No. **3130723**, Official Records of Washoe County, Nevada.
21. Easement to construct, operate and maintain electric facilities, and incidental purposes, granted to **Sierra Pacific Power Company**, by **Grant of Easement for Underground Gas, Electric Distribution and Communication**, recorded on **November 28, 2006**, as Document No. **3467359**, Official Records of Washoe County, Nevada. **(Within Parcel 6 of Parcel Map 4462)**
22. City of Sparks, Nevada Impact Fee Agreement No. 14, subject to the terms, covenants and conditions therein provided, dated **December 17, 2007**, recorded on **March 3, 2008**, as Document No. **3626570**, Official Records of Washoe County, Nevada.
23. Bill No. 2561, Ordinance 2389 Creating the Kiley Ranch Tax Increment Area pursuant to Nevada Revised Statutes Chapter 278C; Ordering an undertaking relating to the tax increment area; creating the tax increment account for the undertaking; ratifying action taken by City Officers toward the undertaking and the tax increment area; and providing other matters related thereto executed by and between the parties named therein, subject to the terms, covenants and conditions therein provided, recorded on **June 4, 2008**, as Document No. **3656679**, Official Records of Washoe County, Nevada, and as set forth in Resolution No. 3083 provisionally ordering an undertaking for a tax increment area formed pursuant to Nevada Revised Statutes Chapter 278C; setting a time and place for a hearing of a formation agreement related to the tax increment area; and providing other matters related thereto, subject to the terms, covenants and conditions therein provided, dated **October 15, 2007**, recorded on **June 4, 2008**, as Document No. **3656680**, Official Records of Washoe County, Nevada.
24. Easement for temporary access, and incidental purposes, granted to **Kiley Ranch Preservancy Foundation, a Nevada nonprofit corporation by Temporary Access Easement**, recorded on **June 24, 2009**, as Document No. **3774609**, Official Records of Washoe County, Nevada. **(Location not definite)**
25. Limitations, covenants, conditions, restrictions, reservations, easements, exceptions, terms, assessments, liens and charges as set forth in "**RESTRICTIVE COVENANT**", executed by, **KM2 DEVELOPMENT INC. and RISING TIDES, LLC**, for the benefit of **RENOWN HEALTH, a Nevada corporation**, recorded on **March 7, 2013**, as Document No. **4212490**, Official Records of Washoe County, Nevada; but omitting any covenants or restrictions, if any, including, but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, or source of income as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law.
26. **DEVELOPMENT AGREEMENT (A Portion of the Kiley Ranch North Project)** executed by and between the parties named therein, subject to the terms, covenants and conditions therein provided, by and between **The City of Sparks, Nevada, a municipal corporation, KM2 Development, Inc., a Nevada corporation, and Rising Tides LLC, a Nevada limited liability company**, recorded on **April 2, 2013**, as Document No. **4221705**, Official Records of Washoe County, Nevada.
27. **BOUNDARY LINE ADJUSTMENT QUITCLAIM DEED** executed by and between the parties named therein, subject to the terms, covenants and conditions therein provided, dated **June 23, 2014**, by and between **RISING TIDES, LLC, a Nevada limited liability company, Sierra Pacific Power Company, dba NV Energy, Nevada Bell Telephone Company, dba AT&T Nevada, Truckee Meadows Water Authority, and Charter Communications**, recorded on **June 30, 2014**, as Document No. **4367784**, Official Records of Washoe County, Nevada.

28. Matters as disclosed on Record of Survey filed in the office of the County Recorder of Washoe County, State of Nevada on **June 30, 2014**, as Document No. **4367785**. Survey Map No. **5583**.
29. An instrument entitled "**Notice of Adoption of Development Plan, Kiley Ranch North, Phase 6**," recorded **July 15, 2014**, as Document No. **4373406**, Official Records, subject to the terms, provisions and conditions therein.
30. The terms, covenants, conditions, and provisions set forth therein, by **Rising Tides LLC, a Nevada limited liability company**, and **KM2 Development Inc., a Nevada corporation**, disclosed by **NOTICE OF DELETION OF REMAINING ANNEXABLE TERRITORY...**, recorded on **July 30, 2014**, as Document No. **4378192**, Official Records of Washoe County, Nevada.
31. Limitations, covenants, conditions, restrictions, reservations, easements, exceptions, terms, assessments, liens and charges as set forth in an instrument, recorded on **July 30, 2014**, as Document No. **4378194**, Official Records of Washoe County, Nevada; but omitting any covenants or restrictions, if any, including, but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, or source of income as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law.
- Said covenants, conditions and restrictions were amended in an instrument, recorded on **September 9, 2015**, as Document No. **4511233**, Official Records of Washoe County, Nevada.
- Said document was re-recorded on **January 20, 2016**, as Document No. **4552058**, Official Records of Washoe County, Nevada.
- Said document was re-recorded on **January 28, 2016**, as Document No. **4554916**, Official Records of Washoe County, Nevada.
- Said covenants, conditions and restrictions were amended in an instrument, recorded on **January 26, 2016**, as Document No. **4553817**, Official Records of Washoe County, Nevada.
32. Matters as disclosed on Record of Survey filed in the office of the County Recorder of Washoe County, State of Nevada on **June 25, 2008**, as Document No. **3663345**. Survey Map No. **4923**.
33. **IMPACT FEE AGREEMENT NO. 25, by and between KM2 Development, Inc., as owner and the City of Sparks**, as more fully set forth in that certain document, recorded on **June 9, 2015**, as Document No. **4477252**, Official Records of Washoe County, Nevada.
34. Matters as disclosed on Record of Survey filed in the office of the County Recorder of Washoe County, State of Nevada on **July 22, 2016**, as Document No. **4613286**. Survey Map No. **5761**.
35. Memorandum of Master Improvement Agreement executed by and between the parties named therein, subject to the terms, covenants and conditions therein provided, dated **August 2, 2016**, by and between **LEWIS INVESTMENT COMPANY OF NEVADA, LLC, RISING TIDES LLC, and KM2 DEVELOPMENT INC.**, recorded on **August 2, 2016**, as Document No. **4617251**, Official Records of Washoe County, Nevada.
36. Temporary Easement executed by and between the parties named therein, subject to the terms, covenants and conditions therein provided, dated **August 2, 2016**, by and between **LEWIS INVESTMENT COMPANY OF NEVADA, LLC, a Delaware limited liability company, RISING TIDES LLC, a Nevada limited liability company, and KM2 DEVELOPMENT INC., a Nevada corporation**, recorded on **August 2, 2016**, as Document No. **4617255**, Official Records of Washoe County, Nevada.
37. An instrument entitled "**Notice of Adoption of Development Plan (NRS Chapter 278A)**" recorded on **November 2, 2016**, as Document No. **4649221**, Official Records of Washoe County, Nevada.



38. Easement for water facilities,, and incidental purposes, granted to **TRUCKEE MEADOWS WATER AUTHORITY, a Joint Powers authority by Grant of Temporary Easement, for Water Facilities**, recorded on **January 12, 2017**, as Document No. **4670233**, Official Records of Washoe County, Nevada.
39. Easements, notes, recitals, dedications and other matters, as set forth on Dedication Tract Map No. 5197, according to the map thereof, filed in the office of the County Recorder of Washoe County, State of Nevada, on **April 11, 2017**, as Document No. **4694677**, and amendment thereto recorded **May 17, 2017**, as Document No. **4705045**, Official Records.
40. Supplemental Declaration of Annexation and of Covenants, Conditions and Restrictions and Reservation of Easements executed by and between the parties named therein, subject to the terms, covenants and conditions therein provided, dated **August 2, 2017**, by and between **KM2 DEVELOPMENT INC., a Nevada corporation, RISING TIDES LLC, a Nevada limited liability company, and LEWIS INVESTMENT COMPANY OF NEVADA, LLC, a Nevada limited liability company**, recorded on **August 2, 2017**, as Document No. **4730956**, Official Records of Washoe County, Nevada.
41. Partial Assignment of Declarant rights (Phase 6 of Kiley Ranch North Villages 20, 36 and Remainder of Village 37) executed by and between the parties named therein, subject to the terms, covenants and conditions therein provided, dated **August 2, 2017**, by and between **KM2 Development Inc., a Nevada corporation, Lewis Investment Company of Nevada, LLC, and Rising Tides LLC, a Nevada limited liability company**, recorded on **August 2, 2017**, as Document No. **4730957**, Official Records of Washoe County, Nevada.
42. Flood Credit and Regional Road Impact Fee Credit Agreement executed by and between the parties named therein, subject to the terms, covenants and conditions therein provided, dated **August 2, 2017**, by and between **LEWIS INVESTMENT COMPANY OF NEVADA, LLC, a Delaware limited liability company and KM2 DEVELOPMENT INC., a Nevada corporation**, recorded on **August 2, 2017**, as Document No. **4730958**, Official Records of Washoe County, Nevada.
43. **TEMPORARY LANDSCAPE EASEMENT** Kiley Ranch North Phase 6, Villages 20, 36, and Remainder of 37 executed by and between the parties named therein, subject to the terms, covenants and conditions therein provided, dated **August 2, 2017**, by and between **LEWIS INVESTMENT COMPANY OF NEVADA, LLC, a Delaware limited liability company, RISING TIDES LLC, a Nevada limited liability company, and KM2 DEVELOPMENT INC., a Nevada corporation**, recorded on **August 2, 2017**, as Document No. **4730959**, Official Records of Washoe County, Nevada.
44. Construction, Access and Utility Easement executed by and between the parties named therein, subject to the terms, covenants and conditions therein provided, dated **August 2, 2017**, by and between **LEWIS INVESTMENT COMPANY OF NEVADA, LLC, a Delaware limited liability company, RISING TIDES LLC, a Nevada limited liability company, and KM2 DEVELOPMENT INC., a Nevada corporation**, recorded on **August 2, 2017**, as Document No. **4730960**, Official Records of Washoe County, Nevada.
45. Prior to the issuance of any policy of title insurance, the following must be furnished to the Company with respect to **Lewis Investment Company of Nevada, LLC, a Delaware limited liability company**:

This Company will require a copy of the articles of organization for **Lewis Investment Company of Nevada, LLC, a Delaware limited liability company**, and any certificates of amendments filed with the Secretary of State, together with copies of any management agreements or operating agreements, together with a current list of all members of said limited liability company.

THE FOLLOWING NOTES ARE FOR INFORMATION PURPOSES ONLY:

**WESTERN TITLE COMPANY RESERVES THE RIGHT TO AMEND THIS PRELIMINARY TITLE REPORT AT ANY TIME.**

\*\*\*\*\*ATTENTION LENDERS\*\*\*\*\*

*THE 100 ENDORSEMENT IS NO LONGER BEING OFFERED. THE REPLACEMENT ALTERNATIVE IS THE ALTA 9.10-06 AND IS NOW REFLECTED IN THE ALTA SUPPLEMENT IN THE PRELIMINARY TITLE REPORT.*

NOTE: A search of the Official Records for the county referenced in the above order number, for the **24** months immediately preceding the date above discloses the following instruments purporting to convey the title to said land: **Grant, Bargain and Sale Deed, recorded August 2, 2017, as Document No. 4730955, Official Records of Washoe County, Nevada.**

NOTE:

If any current work of improvements have been made on the herein described real property (within the last 90 days) and this Report is issued in contemplation of a Policy of Title Insurance which affords mechanic lien priority coverage (i.e. ALTA POLICY); the following information must be supplied for review and approval prior to the closing and issuance of said Policy: (a) Copy of Indemnity Agreement; (b) Financial Statements; (c) Construction Loan Agreement; (d) If any current work of improvements have been made on the herein described real property Building Construction Contract between borrower and contractor; (e) Cost breakdown of construction; (f) Appraisal; (g) Copy of Voucher or Disbursement Control Statement (if project is complete).

NOTE: This report makes no representations as to water, water rights, minerals or mineral rights and no reliance can be made upon this report or a resulting title policy for such rights or ownership.

NOTE: Notwithstanding anything to the contrary in this Report, if the policy to be issued is other than an ALTA Owner's Policy (6/17/06) or ALTA Loan Policy (6/17/06), the policy may not contain an arbitration clause, or the terms of the arbitration clause may be different from those set forth in this Report. If the policy does contain an arbitration clause, and the Amount of Insurance is less than the amount, if any, set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties.

NOTE: The map, if any, attached hereto is subject to the following disclaimer:

WESTERN TITLE COMPANY does not represent this plat as a survey of the land indicated hereon, although believed to be correct, no liability is assumed as to the accuracy thereof.

NOTE: Short Term Rate Applicable

**Legal Description**

All that certain real property situate in the County of Washoe, State of Nevada, described as follows:

All that certain real property situate within a portion of Section Ten (10) and a portion of the North One-Half (N 1/2) of Section Fifteen (15), Township Twenty (20) North, Range Twenty (20) East, Mount Diablo Meridian, City of Sparks, County of Washoe, State of Nevada, further described as follows:

**REMAINDER PARCEL 3B - DEDICATION TRACT MAP NO. 5197**

BEGINNING at a point lying on the westerly right of way line of Kiley Parkway from which the southwest corner of said Section 10 bears North 62°29'24" West, a distance of 2771.94 feet; thence North 37°54'06" East, a distance of 5.00 feet; thence North 52°05'54" West, a distance of 7.37 feet to the beginning of a curve tangent to said line; thence a distance of 44.95 feet along the arc of a curve to the right, having a radius of 53.00 feet and a central angle of 48°35'31" to a point of reverse curvature; thence a distance of 12.63 feet along the arc of a curve to the left having a radius of 74.00 feet and a central angle of 9°46'36" to a point of reverse curvature; thence a distance of 37.17 feet along the arc of a curve to the right, having a radius of 43.00 feet and a central angle of 49°31'18" to a point of reverse curvature; thence a distance of 19.65 feet along the arc of a curve to the left, having a radius of 1531.00 feet and a central angle of 0°44'08"; thence North 54°29'49" West radial to said curve, a distance of 31.00 feet to the beginning of a curve radial to said line; thence from a tangent bearing of North 35°30'11" East, a distance of 693.39 feet along the arc of a curve to the left, having a radius of 1500.00 feet and a central angle of 26°29'08"; thence North 09°01'03" East tangent to said curve, a distance of 163.18 feet to the beginning of a curve tangent to said line; thence a distance of 127.65 feet along the arc of a curve to the right, having a radius of 600.00 feet and a central angle of 12°11'24"; thence North 21°12'27" East tangent to said curve, a distance of 827.11 feet to a point of cusp on the southerly right of way line of Windmill Farms Parkway; thence continuing along said southerly right of way line of Windmill Farms Parkway and from a tangent bearing of South 63°16'31" East, a distance of 15.09 feet along the arc of a curve to the right, having a radius of 974.00 feet and a central angle of 0°53'15" and being subtended by a chord which bears South 62°49'54" East 15.09 feet to a point of reverse curvature; thence a distance of 551.97 feet along the arc of a curve to the left, having a radius of 1026.00 feet and a central angle of 30°49'27"; thence North 86°47'17" East tangent to said curve, a distance of 64.49 feet to the beginning of a curve tangent to said line; thence a distance of 145.30 feet along the arc of a curve to the right, having a radius of 92.50 feet and a central angle of 90°00'00" to a point on the westerly right of way line of Kiley Parkway; thence South 03°12'43" East tangent to said curve, a distance of 31.21 feet to the beginning of a curve tangent to said line; thence a distance of 739.69 feet along the arc of a curve to the right, having a radius of 2214.00 feet and a central angle of 19°08'33" to a point of compound curvature; thence a distance of 59.07 feet along the arc of a curve to the right, having a radius of 37.00 feet and a central angle of 91°28'26"; thence South 17°24'16" West radial to said curve, a distance of 38.00 feet to the beginning of a curve radial to said line; thence from a tangent bearing of South 72°35'44" East, a distance of 59.07 feet along the arc of a curve to the right, having a radius of 37.00 feet and a central angle of 91°28'26" to a point of compound curvature; thence a distance of 474.36 feet along the arc of a curve to the right, having a radius of 2214.00 feet and a central angle of 12°16'33"; thence South 31°09'16" West tangent to said curve, a distance of 210.29 feet to the beginning of a curve tangent to said line; thence a distance of 39.68 feet along the arc of a curve to the right, having a radius of 574.00 feet and a central angle of 3°57'38" to a point of compound curvature; thence a distance of 61.98 feet along the arc of a curve to the right, having a radius of 37.00 feet and a central angle of 95°59'09"; thence South 41°06'03" West radial to said curve, a distance of 38.00 feet to the beginning of a curve radial to said line; thence from a tangent bearing of South 48°53'57" East, a

distance of 61.98 feet along the arc of a curve to the right, having a radius of 37.00 feet and a central angle of  $95^{\circ}59'09''$  to a point of compound curvature; thence a distance of 809.62 feet along the arc of a curve to the right, having a radius of 574.00 feet and a central angle of  $80^{\circ}48'54''$ ; thence North  $52^{\circ}05'54''$  West tangent to said curve, a distance of 36.13 feet to the POINT OF BEGINNING.

NOTE: The above metes and bounds description appeared previously in that certain document recorded in the office of the County Recorder of Washoe County, Nevada on August 2, 2017, as Document No. 4730955 of Official Records.

Assessor's Parcel Number(s):  
510-072-01

**Exhibit A (Revised 02-07-14)**

**CALIFORNIA LAND TITLE ASSOCIATION  
STANDARD COVERAGE POLICY – 1990**

**EXCLUSIONS FROM COVERAGE**

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
- (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
  - (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
  - (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
  - (c) resulting in no loss or damage to the insured claimant;
  - (d) attaching or created subsequent to Date of Policy; or
  - (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

## EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.  
  
Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

## CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13) ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

### EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
  - a. building;
  - b. zoning;
  - c. land use;
  - d. improvements on the Land;
  - e. land division; and
  - f. environmental protection.

This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.

2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
  - a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
  - b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
  - c. that result in no loss to You; or
  - d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.
5. Failure to pay value for Your Title.
6. Lack of a right:



- a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
- b. in streets, alleys, or waterways that touch the Land.

This Exclusion does not limit the coverage described in Covered Risk 11 or 21.

7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

### ***LIMITATIONS ON COVERED RISKS***

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

|                  | <u>Your Deductible Amount</u>  | <u>Our Maximum Dollar Limit of Liability</u> |
|------------------|--|--|
| Covered Risk 16: | 1.00% of Policy Amount Shown in Schedule A or<br>\$2,500.00 _____<br>(whichever is less) | \$ 10,000.00 _____                           |
| Covered Risk 18: | 1.00% of Policy Amount Shown in Schedule A or<br>\$5,000.00 _____<br>(whichever is less) | \$25,000.00 _____                            |
| Covered Risk 19: | 1.00% of Policy Amount Shown in Schedule A or<br>\$5,000.00 _____<br>(whichever is less) | \$25,000.00 _____                            |
| Covered Risk 21: | 1.00% of Policy Amount Shown in Schedule A or<br>\$2,500.00 _____<br>(whichever is less) | \$ 5,000.00 _____                            |

### **2006 ALTA LOAN POLICY (06-17-06)**

#### **EXCLUSIONS FROM COVERAGE**

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
  - (i) the occupancy, use, or enjoyment of the Land;
  - (ii) the character, dimensions, or location of any improvement erected on the Land;
  - (iii) the subdivision of land; or
  - (iv) environmental protection;

or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.

- (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
  3. Defects, liens, encumbrances, adverse claims, or other matters
    - (a) created, suffered, assumed, or agreed to by the Insured Claimant;
    - (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
    - (c) resulting in no loss or damage to the Insured Claimant;
    - (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13 or 14); or
    - (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
  4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
  5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
  6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
    - (a) a fraudulent conveyance or fraudulent transfer, or
    - (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
  7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

#### **EXCEPTIONS FROM COVERAGE**

Except as provided in Schedule B - Part II, This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

#### **PART I**

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.

## PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:

### 2006 ALTA OWNER'S POLICY (06-17-06)

#### EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
  - (i) the occupancy, use, or enjoyment of the Land;
  - (ii) the character, dimensions, or location of any improvement erected on the Land;
  - (iii) the subdivision of land; or
  - (iv) environmental protection;or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
- (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
  - (a) created, suffered, assumed, or agreed to by the Insured Claimant;
  - (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
  - (c) resulting in no loss or damage to the Insured Claimant;
  - (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
  - (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
  - (a) a fraudulent conveyance or fraudulent transfer; or
  - (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

#### EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.
7. Variable exceptions such as taxes, easements, CC&R's, etc. shown here.

#### **ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY (12-02-13)**

##### **EXCLUSIONS FROM COVERAGE**

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
  - (i) the occupancy, use, or enjoyment of the Land;
  - (ii) the character, dimensions, or location of any improvement erected on the Land;
  - (iii) the subdivision of land; or
  - (iv) environmental protection;or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
- (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
  - (a) created, suffered, assumed, or agreed to by the Insured Claimant;
  - (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
  - (c) resulting in no loss or damage to the Insured Claimant;
  - (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or

- (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
  5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
  6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
  7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
  8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
  9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
    - (a) a fraudulent conveyance or fraudulent transfer, or
    - (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
  10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
  11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

## **PRIVACY POLICY**

The Financial Services Modernization Act recently enacted by Congress has brought many changes to the financial services industry, which includes insurance companies and their agents. One of the changes requires Western Title Company, LLC, a Nevada limited liability company, to explain to you how we collect and use customer information.

Western Title Company has always and will continue to adhere to strict standards of confidentiality when it comes to protecting the privacy, accuracy and security of customer information provided to us.

### **PERSONAL INFORMATION WE MAY COLLECT:**

Western Title collects information about you (for instance, your name, address and telephone number), and information about your transaction, including the identity of the real property you are buying or refinancing. We obtain copies of deeds, notes or mortgages that may be involved in the transaction. We may obtain this information directly from you or from the lender, attorney, or real estate broker or agent that you have chosen. When we provide escrow, or settlement services, or mortgage loan servicing, we may obtain your social security number, along with other information from third parties including appraisals, credit reports, land surveys, loan account balances, and sometimes your bank account information in order to facilitate your transaction.

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Western Title Company, LLC, a Nevada limited liability company  
Attention: Operations Manager  
P.O. Box 3059  
Reno, NV 89505

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### Legal Description

#### A portion of REMAINDER PARCEL 3B, Tract Map 5197

A parcel of land located within portions of the north ½ of Section 15, Township 20 North, Range 20 East, M.D.M, Washoe County, Nevada, being more particularly described as follows:

BEGINNING at a point lying on the westerly right of way line of Kiley Parkway from which the southwest corner of said Section 10 bears North 62°29'24" West, a distance of 2771.94 feet; thence North 37°54'06" East, a distance of 5.00 feet; thence North 52°05'54" West, a distance of 7.37 feet to the beginning of a curve tangent to said line; thence a distance of 44.95 feet along the arc of a curve to the right, having a radius of 53.00 feet and a central angle of 48°35'31" to a point of reverse curvature; thence a distance of 12.63 feet along the arc of a curve to the left having a radius of 74.00 feet and a central angle of 9°46'36" to a point of reverse curvature; thence a distance of 37.17 feet along the arc of a curve to the right, having a radius of 43.00 feet and a central angle of 49°31'18" to a point of reverse curvature; thence a distance of 19.65 feet along the arc of a curve to the left, having a radius of 1531.00 feet and a central angle of 0°44'08"; thence North 54°29'49" West radial to said curve, a distance of 31.00 feet to the beginning of a curve radial to said line; thence from a tangent bearing of North 35°30'11" East, a distance of 693.39 feet along the arc of a curve to the left, having a radius of 1500.00 feet and a central angle of 26°29'08"; thence North 09°01'03" East tangent to said curve, a distance of 163.18 feet to the beginning of a curve tangent to said line; thence a distance of 127.65 feet along the arc of a curve to the right, having a radius of 600.00 feet and a central angle of 12°11'24"; thence North 21°12'27" East tangent to said curve, a distance of 102.47 feet; thence South 68°47'35" East a distance of 222.52 feet to the beginning of a curve tangent to said line; thence a distance of 131.99 feet along the arc of a curve to the right, having a radius of 1000.00 feet and a central angle of 7°33'46"; thence along a line tangent to said curve South 61°13'49" a distance of 190.64 feet to the beginning of a curve tangent to said line; thence a distance of 198.36' along the arc of a curve to the left having a radius of 1000.00 feet and a central angle of 11°21'55"; thence along a line tangent to said curve South 72°35'44" a distance of 195.00 feet to a point on the westerly right of way line of Kiley Parkway; thence a distance of 59.07 feet along the arc of a curve to the right tangent to said line, having a radius of 37.00 feet and a central angle of 91°28'26" to a point of compound curvature; thence a distance of 474.36 feet along the arc of a curve to the right, having a radius of 2214.00 feet and a central angle of 12°16'33"; thence South 31°09'16" West tangent to said curve, a distance of 210.29 feet to the beginning of a curve tangent to said line; thence a distance of 39.68 feet along the arc of a curve to the right, having a radius of 574.00 feet and a central angle of 3°57'38" to a point of compound curvature; thence a distance of 61.98 feet along the arc of a curve to the right, having a radius of 37.00 feet and a central angle of 95°59'09"; thence South 41°06'03" West radial to said curve, a distance of 38.00 feet to the

beginning of a curve radial to said line; thence from a tangent bearing of South 48°53'57" East, a distance of 61.98 feet along the arc of a curve to the right, having a radius of 37.00 feet and a central angle of 95°59'09" to a point of compound curvature; thence a distance of 809.62 feet along the arc of a curve to the right, having a radius of 574.00 feet and a central angle of 80°48'54"; thence North 52°05'54" West tangent to said curve, a distance of 36.13 feet to the POINT OF BEGINNING

Prepared By:

Harlan King, P.L.S. 5665

7490 Longley Ln., #B

Reno, Nevada 89511



EXP. 06/30/19

# Reservations December 2016

|                 |            |  |
|-----------------|------------|--|
| ACORN           | 8/13/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)                       |
| AGUA CALIENTE   | 8/13/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)                       |
| ALCHEMY         | 2/9/2016   | Palisades (Wood Rodgers - Ashlev Verling for Lennar Reno)  |
| ALDERBROOK      | 8/13/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)                       |
| ALFALFA         | 1/20/2016  | Kilev Ranch North Phase 6 (KM2 Development - Lois Brown)   |
| ALLERTON        | 7/12/2016  | Eagle Canyon IV Unit 4 and 5 (Wood Rodgers - Ashlev Verling)   |
| ALTA SONOMA     | 8/13/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)                       |
| AMERICAN PILLAR | 12/19/2016 | Colina Rosa (Summit Engineering for Towne Development of Sacramento - Marty Shanks)                                |
| AMETHYST HILLS  | 10/31/2016 | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| ANIMAS          | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| ARAWHATA        | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| ARC DOME        | 9/23/2016  | Eagle Canyon Ranch (C and M Engineering - Lisa Menante for Spanish Springs Associates)                             |
| ARTERRA         | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| ASTAYA          | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| AUTUMN SAGE     | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| AZIMUTH         | 8/11/2016  | Meridian 120 North (Wood Rodgers - Ashlev Verling for Reno Land Development)                                       |
| BABBLING BROOK  | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| BALCORTA        | 12/28/2016 | West Meadows Estates (Manhard Consulting for Barbara Bross/D. R. Horton - Spencer Fellows)                         |
| BALLPARK LN     | 12/30/2015 | Basin Street Properties (Amv Preston - Request to rename JONES VARGAS CT)  |
| BANNOCK         | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| BAR S           | 6/13/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)                       |
| BARN OWL        | 1/20/2016  | Kilev Ranch North Phase 6 (KM2 Development - Lois Brown)   |
| BEARCAT         | 1/20/2016  | Kilev Ranch North Phase 6 (KM2 Development - Lois Brown)   |
| BEAUCLERK       | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| BEDELL FLAT     | 6/30/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)                       |
| BEECHER PARK    | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| BELMULLET       | 11/9/2016  | West Meadows Estates (D.R. Horton, Inc - Barbara Bross)  |
| BELTED          | 7/5/2016   | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)                       |
| BENNETT VALLEY  | 8/14/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)                       |
| BESSBOROUGH     | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| BIG BIRD        | 5/26/2016  | Silent Sparrow Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates Limited Partnership) |
| BIRCH TREE      | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| BLACKTAIL       | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| BLESSINGTON     | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| BLUE BASIN      | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| BLUE EARTH      | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| BLUE STREAM     | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| BLUEBELL        | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| BLUSHING CLIFF  | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| BOLD WINE       | 8/13/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)                       |
| BONDE FARMS     | 12/9/2016  | Bonde Farms (Axion Engineering for Five Star - Garv Guzelis)   |
| BOULDER FALLS   | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| BOULDER POND    | 9/10/2015  | Pebble Creek Unit 7 (Wood Rodgers - Ashlev Verling)  |
| BOXWOOD         | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| BRAIDED ROPE    | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |

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| BRIDLEMOOR      | 5/19/2016  | Rancharrah (Wood Rodgers - Ashlev Verling for Reno Land Development)                                   |
| BRISTOL BRIDGE  | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| BRISTOL GARDENS | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| BRISTOL WELLS   | 7/21/2016  | Eagle Canyon Ranch (Wood Rodgers)  |
| BROOKLAND       | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| BRUMMELL        | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| BRUNTON         | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| BUCKING HORSE   | 1/20/2016  | Kilev Ranch North Phase 6 (KM2 Development - Lois Brown)   |
| BULL FROG       | 7/6/2016   | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)           |
| BULL RUN        | 7/6/2016   | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)           |
| BUNKHOUSE       | 11/18/2016 | Pleasant Valley Estates (Grav and Associates - Allen Grav)   |
| BUTEO PASS      | 7/12/2016  | Eagle Canyon IV Unit 4 and 5 (Wood Rodgers - Ashlev Verling)   |
| BUTTE CREEK     | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| CALAMUS         | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| CALICO TERRACE  | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| CALLIOPE        | 4/27/2016  | Parcel Map for Trust Agreement of Norine M. Gallagher (Wood Rodgers - Dan Biarigz for Gallagher Trust) |
| CANTER          | 5/19/2016  | Rancharrah (Wood Rodgers - Ashlev Verling for Reno Land Development)                                   |
| CANVAS EDGE     | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| CARDIFF         | 9/1/2016   | Pyramid Ranch Annex (C and M Engineering - Lisa Menante for Spanish Springs Associates)                |
| CAREGGI         | 1/27/2016  | Bolzano, Cortina, and Merano @ D'Andrea (Manhard Consulting - Scott W. Jividen)                        |
| CAST IRON       | 10/31/2016 | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| CASTLE TROY     | 11/9/2016  | West Meadows Estates (D.R. Horton, Inc - Barbara Bross)  |
| CATTLE GUARD    | 10/31/2016 | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| CERBERUS        | 3/23/2016  | Mountaingate 78 (Odyssey Engineering - Kenneth Anderson)   |
| CHATEAU ACRES   | 10/10/2016 | Private Citizen - Michael Gross (APN 12627205)   |
| CHELMSFORD      | 11/9/2016  | West Meadows Estates (D.R. Horton, Inc - Barbara Bross)  |
| CHESTNUT HILL   | 11/7/2016  | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| CHIMNEY SPRINGS | 9/23/2016  | Eagle Canyon Ranch (C and M Engineering - Lisa Menante for Spanish Springs Associates)                 |
| CHUKAR HUNT     | 9/16/2016  | Donovan Ranch (TEC Engineering and Consultants - J.R. Hildebrand, PE)                                  |
| CLAIM JUMPER    | 2/9/2016   | Palisades (Wood Rodgers - Ashlev Verling for Lennar Reno)  |
| CLIFF BLOSSOM   | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| CLIMBING PEACE  | 12/19/2016 | Colina Rosa (Summit Engineering for Towne Development of Sacramento - Marty Shanks)                    |
| CLOUD BREAK     | 3/8/2016   | Wild Stallion Estates Phase 7 (Manhard Consulting - Sam Wise ATN: Andrew Motter)                       |
| CLOVIS POINT    | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| COAST FORK      | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| COINAGE         | 2/9/2016   | Palisades (Wood Rodgers - Ashlev Verling for Lennar Reno)  |
| COLD CREEK      | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| COMMODORE       | 8/11/2016  | Meridian 120 North (Wood Rodgers - Ashlev Verling for Reno Land Development)                           |
| CONTINUUM       | 3/8/2016   | Wild Stallion Estates Phase 7 (Manhard Consulting - Sam Wise ATN: Andrew Motter)                       |
| COPPER BRAND    | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| COPPER HILL     | 9/16/2016  | Pioneer Meadows Village 10 (Odyssey Engineering - Kenneth Anderson)                                    |
| COPPER SUNRISE  | 10/31/2016 | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| CORKILL         | 5/19/2016  | Rancharrah (Wood Rodgers - Ashlev Verling for Reno Land Development)                                   |
| CORRAL CREEK    | 6/13/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)           |
| COTTON ROSSER   | 1/20/2016  | Kilev Ranch North (KM2 Development Inc - Lois Brown)   |
| COUNTRY WIND    | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| COWHAND         | 1/20/2016  | Kilev Ranch North (KM2 Development Inc - Lois Brown)   |
| COYOTE CROSSING | 9/16/2016  | Donovan Ranch (TEC Engineering and Consultants - J.R. Hildebrand, PE)                                  |

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| CRESTED MOSS    | 12/19/2016 | Colina Rosa (Summit Engineering for Towne Development of Sacramento - Martv Shanks)                  |
| CRIOLLO         | 5/19/2016  | Rancharrah (Wood Rodgers - Ashlev Verling for Reno Land Development)                                 |
| CRISP WINE      | 8/13/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)         |
| CROSBY RANCH    | 6/13/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)         |
| CROSSBRIDGE     | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| CRUDEN BAY      | 11/9/2016  | West Meadows Estates (D.R. Horton, Inc - Barbara Bross)  |
| CRYSTAL PEAK    | 6/28/2016  | Woodland Village Phase 20 (Summit Engineering - Martv Shanks)  |
| DANCING FLAME   | 12/19/2016 | Colina Rosa (Summit Engineering for Towne Development of Sacramento - Martv Shanks)                  |
| DAWN DANCE      | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| DE VICO         | 2/4/2016   | Bolzano, Cortina, and Merano @ D'Andrea (Manhard Consulting - Scott W. Jividen)                      |
| DELOREAN        | 5/19/2016  | Rancharrah (Wood Rodgers - Ashlev Verling for Reno Land Development)                                 |
| DESCHUTES       | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| DESERT CHUKAR   | 9/16/2016  | Donovan Ranch (TEC Engineering and Consultants - J.R. Hildebrand, PE)                                |
| DESERT LOOK     | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| DITCH RIDER     | 1/20/2016  | Kiley Ranch North Phase 6 (KM2 Development - Lois Brown)   |
| DOLLY VARDEN    | 7/5/2016   | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)         |
| DONCASTER       | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| DONNER VIEW     | 9/16/2016  | Donovan Ranch (TEC Engineering and Consultants - J.R. Hildebrand, PE)                                |
| DORNOCH         | 11/9/2016  | West Meadows Estates (D.R. Horton, Inc - Barbara Bross)  |
| DRAFT HORSE     | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| DRUIDS GLEN     | 11/9/2016  | West Meadows Estates (D.R. Horton, Inc - Barbara Bross)  |
| DRY WINE        | 8/13/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)         |
| DURAND PARK     | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| DUSTY RIDGE     | 9/10/2015  | Pebble Creek Unit 7 (Wood Rodgers - Ashlev Verling)  |
| EARHART         | 6/8/2016   | Meridian 120 North (Wood Rodgers - Corev Tague for Reno Land Development)                            |
| EAST SUSSEX     | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| EDGE LANDS      | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| EDGEPOST        | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| EDINBURGH       | 11/9/2016  | West Meadows Estates (D.R. Horton, Inc - Barbara Bross)  |
| ELIZABETH FARMS | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| ELK RAVINE      | 1/1/2015   | Stonefield Phase 4 - Village 1B (Wood Rodgers - Ashlev Verling for Lennar Reno)                      |
| ELWHA           | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| EMERALD ROCK    | 9/23/2015  | Wingfield Springs Village 30 (Shaw Engineering - Erick Miller for Red Hawk Land Company - Doug Chen) |
| EMERALD SUNSET  | 10/31/2016 | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| ENDEAVOR        | 8/11/2016  | Meridian 120 North (Wood Rodgers - Ashlev Verling for Reno Land Development)                         |
| ENDSLEY         | 12/28/2016 | West Meadows Estates (Manhard Consulting for Barbara Bross/D. R. Horton - Spencer Fellows)           |
| ERICKSON        | 6/8/2016   | Meridian 120 North (Wood Rodgers - Corev Tague for Reno Land Development)                            |
| FAIR BIANCA     | 12/19/2016 | Colina Rosa (Summit Engineering for Towne Development of Sacramento - Martv Shanks)                  |
| FALABELLA       | 5/19/2016  | Rancharrah (Wood Rodgers - Ashlev Verling for Reno Land Development)                                 |
| FARM HOUSE      | 1/20/2016  | Kiley Ranch North Phase 6 (KM2 Development - Lois Brown)   |
| FENHOLLOW       | 12/28/2016 | West Meadows Estates (Manhard Consulting for Barbara Bross/D. R. Horton - Spencer Fellows)           |
| FERNBUSH        | 6/7/2016   | Damonte Ranch (Odyssev Engineering - Gabe Wittler)   |
| FIDALGO         | 6/10/2016  | Meridian 120 North (Wood Rodgers - Corev Tague for Reno Land Development)                            |
| FINESTERRA      | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| FISHKILL        | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| FLAT ROCK       | 9/14/2016  | Pioneer Meadows Village 10 (Odyssev Engineering - Kenneth Anderson)                                  |
| FORT ROSS       | 8/14/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)         |
| FORTIFICATION   | 7/6/2016   | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)         |



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| FOX BRANCH      | 7/12/2016  | Eagle Canyon IV Unit 4 and 5 (Wood Rodgers - Ashlev Verling)   |
| FURNACE CREEK   | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| GADSDEN         | 12/28/2016 | West Meadows Estates (Manhard Consulting for Barbara Bross/D. R. Horton - Spencer Fellows)                         |
| GALERO          | 1/25/2016  | Damonte Ranch Phase 5 (Manhard Consulting - Sam Wise)  |
| GALLIUM MINE    | 2/9/2016   | Palisades (Wood Rodgers - Ashlev Verling for Lennar Reno)  |
| GASPARILLA      | 6/8/2016   | Meridian 120 North (Wood Rodgers - Corey Tague for Reno Land Development)  |
| GEORGE SULLIVAN | 5/9/2016   | COTTAGES AT COMSTOCK - PROSPECTOR'S PEAK (MVE - Amber Breazeale for Northern Nevada Homes)                         |
| GILDED FLICKER  | 5/26/2016  | Silent Sparrow Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates Limited Partnership) |
| GIOVANNI        | 2/4/2016   | Bolzano, Cortina, and Merano @ D'Andrea (Manhard Consulting - Scott W. Jividen)                                    |
| GIUSEPPE        | 8/11/2016  | Meridian 120 North (Wood Rodgers - Ashlev Verling for Reno Land Development)                                       |
| GLAMORGAN       | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| GLEN ELLEN      | 8/14/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)                       |
| GLOUCESTER      | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| GLOWING AMBER   | 12/19/2016 | Colina Rosa (Summit Engineering for Towne Development of Sacramento - Marty Shanks)                                |
| GRANARY PARK    | 1/20/2016  | Kiley Ranch North Phase 6 (KM2 Development - Lois Brown)   |
| GRANITE BLUFF   | 9/10/2015  | Pebble Creek Unit 7 (Wood Rodgers - Ashlev Verling)  |
| GRANITE PEAK    | 6/28/2016  | Woodland Village Phase 20 (Summit Engineering - Marty Shanks)  |
| GRAYCLIFF       | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| GREY OWL        | 1/20/2016  | Kiley Ranch North (KM2 Development Inc - Lois Brown)   |
| GRIFFITH CANYON | 6/13/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)                       |
| GYPSUM TERRACE  | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| HALFPINT        | 7/5/2016   | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)                       |
| HAMMETT PARK    | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| HARNESS         | 1/20/2016  | Kiley Ranch North Phase 6 (KM2 Development - Lois Brown)   |
| HARVEST VIEW    | 9/10/2015  | Pebble Creek Unit 7 (Wood Rodgers - Ashlev Verling)  |
| HASKELL PEAK    | 6/28/2016  | Woodland Village Phase 20 (Summit Engineering - Marty Shanks)  |
| HAT CREEK       | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| HAWKS TREE      | 7/12/2016  | Eagle Canyon IV Unit 4 and 5 (Wood Rodgers - Ashlev Verling)   |
| HAY WAGON       | 1/20/2016  | Kiley Ranch North Phase 6 (KM2 Development - Lois Brown)   |
| HAZLITT         | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| HOBACK          | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| HOLDEN PARK     | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| HOLLAND HOUSE   | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| HUDSON          | 6/8/2016   | Meridian 120 North (Wood Rodgers - Corey Tague for Reno Land Development)  |
| HUNGRY RIDGE    | 6/13/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)                       |
| HUNTOON         | 7/5/2016   | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)                       |
| INDIAN SAGE     | 9/16/2016  | Donovan Ranch (TEC Engineering and Consultants - J.R. Hildebrand, PE)  |
| IONE VALLEY CT  | 9/23/2016  | Eagle Canyon Ranch (C and M Engineering - Lisa Menante for Spanish Springs Associates)                             |
| IRON KING       | 9/23/2016  | Eagle Canyon Ranch (C and M Engineering - Lisa Menante for Spanish Springs Associates)                             |
| IRON SQUARE     | 10/31/2016 | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| IVORY SAGE      | 10/31/2016 | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| JORDAN MEADOW   | 7/21/2016  | Eagle Canyon Ranch (Wood Rodgers)  |
| JOSHUA TREE     | 6/22/2016  | Blackstone Estates (Rubicon Design Group - Mike Railey for Jacie, c/o Douglas Properties)                          |
| JUNCTION HOUSE  | 7/6/2016   | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)                       |
| JUNE BUG        | 1/20/2016  | Kiley Ranch North Phase 6 (KM2 Development - Lois Brown)   |
| KALIDOSCOPE     | 11/29/2016 | Sierra Shadows (MTA Investments - Cameron Andelin)   |
| KARAMEA         | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| KATES BRIDGE    | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |



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| KEMP TOWN                | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| KINGS RIVER              | 7/6/2016   | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates) |
| KINGSTON CANYON          | 9/23/2016  | Eagle Canyon Ranch (C and M Engineering - Lisa Menante for Spanish Springs Associates)       |
| KINSLEY or KINSLEY RANCH | 1/25/2016  | Damonte Ranch Phase 5 (Manhard Consulting - Sam Wise)  |
| KIRKWOOD                 | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| KNIGHTS VALLEY           | 8/14/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter) |
| KOALA FOREST             | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| KUMIVA PEAK              | 6/30/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates) |
| KUMIVA VALLEY CT         | 9/23/2016  | Eagle Canyon Ranch (C and M Engineering - Lisa Menante for Spanish Springs Associates)       |
| LAMPASAS                 | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| LAUREATE                 | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| LEATHERMANS              | 10/31/2016 | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| LEICESTERSHIRE           | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| LEVIATHAN                | 3/8/2016   | Wild Stallion Estates Phase 7 (Manhard Consulting - Sam Wise ATN: Andrew Motter)             |
| LEXINGTON ARCH           | 9/23/2016  | Eagle Canyon Ranch (C and M Engineering - Lisa Menante for Spanish Springs Associates)       |
| LINTON                   | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| LITTLE STAR              | 3/21/2016  | Mountaingate 78 (Odyssey Engineering - Kenneth Anderson)                                     |
| LITTONDALE               | 7/12/2016  | Eagle Canyon IV Unit 4 and 5 (Wood Rodgers - Ashlev Verling)                                 |
| LLANTRASANT              | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| LOCH LOMOND              | 11/9/2016  | West Meadows Estates (D.R. Horton, Inc - Barbara Bross)                                      |
| LONDON DOCKS             | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| LONEDALE                 | 1/20/2016  | Kiley Ranch North (KM2 Development Inc - Lois Brown)   |
| MACADAMS                 | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| MAJUBA                   | 7/5/2016   | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates) |
| MALABAR                  | 2/22/2016  | Sugarloaf Ranch Estates (Axion engineering - Gary Guzels for Sugarloaf Peak, LLC)            |
| MARADONA                 | 9/28/2016  | Pioneer Meadows Village 10 (Odyssey Engineering - Kenneth Anderson)                          |
| MAREWOOD                 | 5/19/2016  | Rancharrah (Wood Rodgers - Ashlev Verling for Reno Land Development)                         |
| MAYFAIR                  | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| MEADOW DUSK              | 9/10/2015  | Pebble Creek Unit 7 (Wood Rodgers - Ashlev Verling)  |
| MELLOW WINE              | 8/13/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter) |
| MERCATOR                 | 8/11/2016  | Meridian 120 North (Wood Rodgers - Ashlev Verling for Reno Land Development)                 |
| MERCURY MINE             | 2/9/2016   | Palisades (Wood Rodgers - Ashlev Verling for Lennar Reno)                                    |
| MESCALITO                | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| METOLIUS                 | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| MILLOSEVICH              | 2/4/2016   | Bolzano, Cortina, and Merano @ D'Andrea (Manhard Consulting - Scott W. Jividen)              |
| MIMOSA                   | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| MINE SHAFT               | 2/9/2016   | Palisades (Wood Rodgers - Ashlev Verling for Lennar Reno)                                    |
| MOJAVE DESERT            | 9/23/2016  | Eagle Canyon Ranch (C and M Engineering - Lisa Menante for Spanish Springs Associates)       |
| MONTE                    | 1/20/2016  | Kiley Ranch North (KM2 Development Inc - Lois Brown)   |
| MOON FLOWER              | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| MOTHER LODGE             | 2/9/2016   | Palisades (Wood Rodgers - Ashlev Verling for Lennar Reno)                                    |
| MOUNTAIN MAPLE           | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| MUDPIPE                  | 4/23/2015  | Autumn Trails (PHD Construction - David Palladino per Monte Vista Consulting - Mike Vicks)   |
| MUSSELSHELL              | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| MYSTIC SANDS             | 3/26/2015  | Pebble Creek Unit 6A & 6B (Wood Rodgers - Kevin Almeter)                                     |
| NAO VICTORIA             | 8/11/2016  | Meridian 120 North (Wood Rodgers - Ashlev Verling for Reno Land Development)                 |
| NAVASOTA                 | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| NEFF RANCH               | 6/13/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates) |

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| NEHALEM        | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| NEST FALLS     | 9/23/2015  | Wingfield Springs Village 30 (Shaw Engineering - Erick Miller for Red Hawk Land Company - Doug Chen) |
| NEUER          | 10/17/2016 | Pioneer Meadows Village 10 (Odyssey Engineering - Kenneth Anderson)                                  |
| NEWMAR         | 9/28/2016  | Pioneer Meadows Village 10 (Odyssey Engineering - Kenneth Anderson)                                  |
| NOBLE NEST     | 9/10/2015  | Pebble Creek Unit 7 (Wood Rodgers - Ashlev Verling)  |
| NUGENT HOLE    | 6/30/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)         |
| OLD GRAVEL     | 9/16/2016  | Donovan Ranch (TEC Engineering and Consultants - J.R. Hildebrand, PE)                                |
| OLD WORLD      | 8/11/2016  | Meridian 120 North (Wood Rodgers - Ashlev Verling for Reno Land Development)                         |
| OPEN SKY       | 9/14/2016  | Pioneer Meadows Village 10 (Odyssey Engineering - Kenneth Anderson)                                  |
| OPERA HOUSE    | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| ORANGE DALE    | 9/23/2015  | Wingfield Springs Village 30 (Shaw Engineering - Erick Miller for Red Hawk Land Company - Doug Chen) |
| ORCHARD MIST   | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| OSLER          | 5/19/2016  | Ranchharrah (Wood Rodgers - Ashlev Verling for Reno Land Development)                                |
| OSMIUM MINE    | 2/9/2016   | Palisades (Wood Rodgers - Ashlev Verling for Lennar Reno)  |
| PAH RAH RIDGE  | 6/13/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)         |
| PAINT HORSE    | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| PATAYAN        | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| PEMICAN        | 4/23/2015  | Autumn Trails (PHD Construction - David Palladino per Monte Vista Consulting - Mike Vicks)           |
| PENASQUITOS    | 9/1/2016   | Pyramid Ranch Annex (C and M Engineering - Lisa Menante for Spanish Springs Associates)              |
| PERCEVAL       | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| PETROGLYPH     | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| PETUNIA        | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| PINE FOREST    | 9/23/2016  | Eagle Canyon Ranch (C and M Engineering - Lisa Menante for Spanish Springs Associates)               |
| PINE MOUNTAIN  | 8/14/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)         |
| PINEHILLS      | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| PINOT GRIGIO   | 8/3/2016   | Ridge Hollow (Wood Rodgers - Todd Gammill)   |
| PINOT NOIR     | 8/4/2016   | Ridge Hollow (Wood Rodgers - Todd Gammill)   |
| PIOVANA        | 9/2/2016   | Pyramid Ranch Annex (C and M Engineering - Lisa Menante for Spanish Springs Associates)              |
| PLANTER BOX    | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| PLEASANT OAK   | 5/19/2016  | Ranchharrah (Wood Rodgers - Ashlev Verling for Reno Land Development)                                |
| PORTNEUF       | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| PRARIE LAND    | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| PRECIOUS METAL | 2/9/2016   | Palisades (Wood Rodgers - Ashlev Verling for Lennar Reno)  |
| PROVIDENCE     | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| OUAIL RANCH    | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| OUNCE TERRACE  | 9/23/2015  | Wingfield Springs Village 30 (Shaw Engineering - Erick Miller for Red Hawk Land Company - Doug Chen) |
| OUINN RIVER    | 7/6/2016   | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)         |
| RAINFALL       | 1/20/2016  | Kiley Ranch North Phase 6 (KM2 Development - Lois Brown)   |
| RAMBLING VIEW  | 11/18/2016 | Pleasant Valley Estates (Grav and Associates - Allen Grav)   |
| RAMSEY CT      | 10/10/2016 | Parcel Map for 285 Ramsey Way (Axion Engineering - Gary Guzelis)                                     |
| RANCH HAND     | 6/13/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)         |
| RANCH HOUSE    | 1/20/2016  | Kiley Ranch North Phase 6 (KM2 Development - Lois Brown)   |
| RAVENS FLIGHT  | 12/28/2016 | West Meadows Estates (Manhard Consulting for Barbara Bross/D. R. Horton - Spencer Fellows)           |
| READINGTON     | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| RED ALDER      | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| RED HORSE      | 7/6/2016   | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)         |
| RED LODGE      | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| RED SPRING     | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |

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| RED STABLE        | 1/20/2016  | Kilev Ranch North Phase 6 (KM2 Development - Lois Brown)                                     |
| RED SUN           | 1/20/2016  | Kilev Ranch North (KM2 Development Inc - Lois Brown)   |
| REGENCY RIDGE     | 10/31/2016 | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| REGENCY VILLAS    | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| RIDERS            | 1/20/2016  | Kilev Ranch North (KM2 Development Inc - Lois Brown)   |
| RIDGESTER         | 3/21/2016  | Mountaingate 78 (Odyssey Engineering - Kenneth Anderson)                                     |
| RIISING TIDES     | 1/20/2016  | Kilev Ranch North Phase 6 (KM2 Development - Lois Brown)                                     |
| RIVALDO           | 10/17/2016 | Pioneer Meadows Village 10 (Odyssey Engineering - Kenneth Anderson)                          |
| RIVER THAMES      | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| ROADSTER          | 5/19/2016  | Rancharrah (Wood Rodgers - Ashley Verling for Reno Land Development)                         |
| ROARING FORK      | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| ROCKFLOWER        | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| ROCKPILE          | 8/14/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter) |
| ROLLS ROYCE       | 5/19/2016  | Rancharrah (Wood Rodgers - Ashley Verling for Reno Land Development)                         |
| RONALDINHO        | 9/28/2016  | Pioneer Meadows Village 10 (Odyssey Engineering - Kenneth Anderson)                          |
| ROSWELL           | 1/20/2016  | Kilev Ranch North (KM2 Development Inc - Lois Brown)   |
| ROYAL MINT        | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| ROYAL REGENCY     | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| RUBY VALLEY       | 10/31/2016 | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| RUSSIAN RIVER     | 8/14/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter) |
| RUSTIC PEAK       | 6/6/2016   | Donovan Ranch Subdivision (TEC Civil Engineering for Ryder Homes - JR Hildebrand)            |
| SABATA            | 1/20/2016  | Kilev Ranch North (KM2 Development Inc - Lois Brown)   |
| SADDLE PEAK       | 10/31/2016 | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| SAGE WIND         | 9/16/2016  | Donovan Ranch (TEC Engineering and Consultants - J.R. Hildebrand, PE)                        |
| SAGUARO CACTUS    | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| SALAMANCA         | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| SALT FORK         | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| SALVIA            | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| SAND SPRINGS      | 9/23/2016  | Eagle Canyon Ranch (C and M Engineering - Lisa Menante for Spanish Springs Associates)       |
| SANDY OCEAN       | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| SANDY RIDGE COURT | 9/19/2016  | Northridge (Axion Engineering - Garv Guzulis)  |
| SAPPHIRE CREEK    | 9/10/2015  | Pebble Creek Unit 7 (Wood Rodgers - Ashley Verling)  |
| SAVAL RANCH       | 6/13/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates) |
| SCENIC RIDGE      | 9/19/2016  | Northridge (Axion Engineering - Garv Guzulis)  |
| SCOTT             | 6/8/2016   | Meridian 120 North (Wood Rodgers - Core Tague for Reno Land Development)                     |
| SEABERRY          | 2/22/2016  | Sugarloaf Ranch Estates (Axion engineering - Garv Guzulis for Sugarloaf Peak, LLC)           |
| SELWAY            | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| SHACKLETON        | 6/8/2016   | Meridian 120 North (Wood Rodgers - Core Tague for Reno Land Development)                     |
| SHADY GATE        | 10/20/2015 | Foothills Village 11 (Wood Rodgers - Todd Gammill)   |
| SHANGO            | 1/20/2016  | Kilev Ranch North (KM2 Development Inc - Lois Brown)   |
| SHEEP PASS        | 6/30/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates) |
| SHEEP RIDGE       | 8/14/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter) |
| SHINING SUNSET    | 1/20/2016  | Kilev Ranch North (KM2 Development Inc - Lois Brown)   |
| SIDDONS           | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)                                   |
| SIDE SADDLE       | 11/7/2016  | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| SIERRA BIRCH      | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| SILENT GARDEN     | 10/20/2015 | Foothills Village 11 (Wood Rodgers - Todd Gammill)   |
| SILVER CHARM      | 5/19/2016  | Rancharrah (Wood Rodgers - Ashley Verling for Reno Land Development)                         |

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| SILVERBERRY     | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| SIMSBURY        | 11/9/2016  | West Meadows Estates (D.R. Horton, Inc - Barbara Bross)  |
| SIR BARTON      | 5/19/2016  | Rancharrah (Wood Rodgers - Ashlev Verling for Reno Land Development)                                 |
| SIR REGENCY     | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| SKY DUNE        | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| SKYBREAK        | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| SKYDWELL        | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| SKYGATE         | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| SKYPOEM         | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| SKYRACER        | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| SKYSONG         | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| SMOOTH WINE     | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| SNOOUALMIE      | 8/13/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)         |
| SNOW WILLOW     | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| SOLARIUM        | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| SONGBIRD        | 3/23/2016  | Mountaingate 78 (Odyssey Engineering - Kenneth Anderson)   |
| SONGPOST        | 9/10/2015  | Pebble Creek Unit 7 (Wood Rodgers - Ashlev Verling)  |
| SONOMA MOUNTAIN | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| SOUTHEY         | 8/14/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)         |
| SPANISH RANCH   | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| SPARROW NEST    | 6/13/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)         |
| SPEARHEAD COURT | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| SPINNING SPUR   | 9/19/2016  | Northridge (Axion Engineering - Gary Guzelis)  |
| SPRAGUE         | 10/31/2016 | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| STAR JUNIPER    | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| STARBOARD       | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| STEAD FAMILY    | 6/8/2016   | Meridian 120 North (Wood Rodgers - Corey Tague for Reno Land Development)                            |
| STEAD RANCH     | 1/20/2016  | Kilev Ranch North (KM2 Development Inc - Lois Brown)   |
| STELLA MESA     | 1/20/2016  | Kilev Ranch North (KM2 Development Inc - Lois Brown)   |
| STELLUNA        | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| STERLING SILVER | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| STRONGBOX       | 2/9/2016   | Palisades (Wood Rodgers - Ashlev Verling for Lennar Reno)  |
| SUGARLOAF PEAK  | 1/20/2016  | Kilev Ranch North (KM2 Development Inc - Lois Brown)   |
| SUNCREEK        | 6/13/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)         |
| SUNNY TRACE     | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| SWALLOW POINTE  | 9/23/2015  | Winefield Springs Village 30 (Shaw Engineering - Erick Miller for Red Hawk Land Company - Doug Chen) |
| SWEET GROVE     | 7/12/2016  | Eagle Canyon IV Unit 4 and 5 (Wood Rodgers - Ashlev Verling)   |
| SWEET WINE      | 9/23/2015  | Winefield Springs Village 30 (Shaw Engineering - Erick Miller for Red Hawk Land Company - Doug Chen) |
| SWEETSHRUB      | 8/13/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)         |
| SWIFT FOX       | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| SWITCHGRASS     | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| TARKIO          | 11/7/2016  | Caramella Ranch (Toll Brothers - Rick Parkin)  |
| TATTERSALLS     | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| TECUMSEH        | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| TELLURIUM MINE  | 8/19/2015  | Sierra View Townhomes (KKrater Consulting - Kenneth Krater, P.E.)                                    |
| TENCENDUR       | 2/9/2016   | Palisades (Wood Rodgers - Ashlev Verling for Lennar Reno)  |
| THUNDERSKY      | 8/20/2015  | Damonte Ranch Villages 4, 5, & 6 (Odyssey Engineering - Gabe Wittler)                                |
| TOUCH OF CLASS  | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
|                 | 5/19/2016  | Rancharrah (Wood Rodgers - Ashlev Verling for Reno Land Development)                                 |



**TRAGO**

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| TRIPLE CROWN    | 1/20/2016  | Kiley Ranch North (KM2 Development Inc - Lois Brown)   |
| TRUCKEE VALLEY  | 5/19/2016  | Rancharrah (Wood Rodgers - Ashlev Verling for Reno Land Development)                                   |
| TUNBRIDGE WELLS | 3/21/2016  | Mountaingate 78 (Odyssey Engineering - Kenneth Anderson)   |
| TUNDRA SWAN     | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| TUSCAN SUN      | 4/27/2016  | Parcel Map for Trust Agreement of Norine M. Gallagher (Wood Rodgers - Dan Bigrigg for Gallagher Trust) |
| UMPOUA          | 12/19/2016 | Colina Rosa (Summit Engineering for Towne Development of Sacramento - Marty Shanks)                    |
| VESPUCCI        | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| VINEGAR PEAK    | 6/8/2016   | Meridian 120 North (Wood Rodgers - Corey Tague for Reno Land Development)                              |
| VISTA FLATS     | 6/30/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)           |
| WAGON TRAIN     | 9/9/2015   | Pebble Creek Unit 7 (Wood Rodgers - Ashlev Verling)  |
| WAPPINGER       | 9/16/2016  | Pioneer Meadows Village 10 (Odyssey Engineering - Kenneth Anderson)                                    |
| WATER BIRCH     | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| WATERVILLE      | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| WAVING WHEAT    | 11/9/2016  | West Meadows Estates (D.R. Horton, Inc - Barbara Bross)  |
| WESTERN PEONY   | 11/7/2016  | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| WESTERN RIDER   | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| WHITE CLAY      | 10/31/2016 | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| WHITE CLOVER    | 11/7/2016  | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| WHITE PELICAN   | 6/7/2016   | Damonte Ranch (Odyssey Engineering - Gabe Wittler)   |
| WHITNEY POCKETS | 4/27/2016  | Parcel Map for Trust Agreement of Norine M. Gallagher (Wood Rodgers - Dan Bigrigg for Gallagher Trust) |
| WHITWICK        | 9/23/2016  | Eagle Canyon Ranch (C and M Engineering - Lisa Menante for Spanish Springs Associates)                 |
| WILD SKIES      | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| WILDCAT PEAK    | 11/7/2016  | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| WILLOW CLIFF    | 6/30/2016  | Harris Ranch Subdivision (C and M Engineering - Lisa Menante for Spanish Springs Associates)           |
| WILLOW RIDGE    | 11/7/2016  | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| WILLOWROCK      | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| WILLOWS QUEST   | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| WIND TREE       | 12/28/2016 | West Meadows Estates (Manhard Consulting for Barbara Bross/D. R. Horton - Spencer Fellows)             |
| WINDMILL FARMS  | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| WINE AROMA      | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| WINE TASTE      | 1/20/2016  | Kiley Ranch North Phase 6 (KM2 Development - Lois Brown)   |
| WINE WALK       | 8/13/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)           |
| WINGSPREAD      | 8/13/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)           |
| WINNER          | 8/13/2015  | Sonoma Highlands (PLACES Consulting Services Inc. for Lansing Companies Inc. - Randy Walter)           |
| WINTER HAWK     | 11/7/2016  | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| WOODHOUSE       | 10/31/2016 | Carmella Ranch (Toll Brothers - Rick Parkin)   |
| WYACONDA        | 1/20/2016  | Kiley Ranch North (KM2 Development Inc - Lois Brown)   |
| XANTHOS         | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| YARDLEY         | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
| YEGUA           | 8/20/2015  | Damonte Ranch Villages 4, 5, & 6 (Odyssey Engineering - Gabe Wittler)                                  |
| ZEPHYR CANYON   | 2/12/2016  | Multiple future subdivisions (Toll Brothers - Rick Parkin)   |
| ZIDANE          | 11/10/2016 | Stonebrook (Wood Rodgers - Judy Crawford)  |
|                 | 9/23/2015  | Wingfield Springs Village 30 (Shaw Engineering - Erick Miller for Red Hawk Land Company - Doug Chen)   |
|                 | 9/28/2016  | Pioneer Meadows Village 10 (Odyssey Engineering - Kenneth Anderson)                                    |



## PRELIMINARY SANITARY SEWER STUDY

### KILEY RANCH NORTH

PHASE 6 – VILLAGE 36

Prepared for:  
Lewis Management Corporation  
1380 Greg Street, Ste 213  
Sparks, NV 89431



Prepared by:  
Christy Corporation, Ltd.  
1000 Kiley Parkway  
Sparks, Nevada 89436

August 2018



## Introduction

This report summarizes the sewer system for the development of the proposed Kiley Ranch North Phase 6, Village 36 project. The purpose of this report is to determine the proposed wastewater generation for the project, availability of downstream capacity for estimated wastewater flows to the Spanish Springs Interceptor, and ensure compliance with Kiley Ranch North Phase 6 Sanitary Sewer Report and City of Sparks standards.

The project is located in the Spanish Springs Valley, Sections 10 & 15, Township 20 north, Range 20 East, within the Northern Sparks Sphere of influence (NSSOI), Sparks, Nevada. It is east of Pyramid Highway, South of the Lazy 5 Park, and West of the Spanish Springs Reservoir. Please reference the attached vicinity map and site plan in the appendix.

The site encompasses a total of approximately 21.0 ± AC and will consist of approximately 146 single family residential lots. The land use is MR, Medium Density Residential.

## Previous Studies

*Master Sanitary Sewer Study for Kiley Ranch North by Wood Rodgers, Original Report August 2005, Revised December 2006, 2<sup>nd</sup> Revision June 2007*

*Master Sanitary Sewer Report for Kiley Ranch North Phase 6, by Christy Corporation, July 2016. "Master Report"*  
*Final Sanitary Sewer Report for Kiley Ranch North Phase 6 Villages 37A, 37B & 43, by Christy Corporation, May 2017*

## Methodology

The City of Sparks does not have an official design criteria requirement for sanitary sewer design flow determination. The method proposed is to use the City of Reno's values for peak flows, occupancy rates, and flow depths. The following design criteria were used for the preparation of this report:

|   |                    |
|---|--------------------|
| Manning's Roughness Coefficient (n value) | 0.014              |
| Depth of flow pipe (d/D)                  | 0.50               |
| Main sewer lines                          | 325 gal/day/capita |
| Residential occupancy rate                | 3.0 capita/du      |
| Office/Business Park flow rate            | 3,500 gal/ac/day   |
| Low-Medium Residential (LMR)              | 7.9 du/ac          |
| Medium Residential (MR)                   | 11.9 du/ac         |
| Medium-High Residential (MHR)             | 17.9 du/ac         |
| Mixed Use Residential (MUR)               | 24 du/ac           |

The sewage contributions residential areas were calculated by using the above data with the Kiley Ranch North land use designations and were converted into a capita flow. All the capita flows for a given shed were then converted into a flow [MGD]. Refer to tabular calculation in the appendix.

The total sewer contribution in (gal/day) was converted to (mgd). Using this quantity sewer lines were sized based on the following criteria when pipe slope was at a minimum slope:

|     |                           |
|-----|---------------------------|
| 8"  | Pipe Discharge – 0.23 mgd |
| 10" | Pipe Discharge – 0.42 mgd |

Pipe discharge was calculated using Haestad Flow Master with a circular channel at minimum slope ( $s=0.40\%$ ) with a Manning's coefficient of 0.014. (See Appendix A).

## Existing Sanitary Sewer System

The proposed site is located north and west of the existing 36" Spanish Springs Sewer Interceptor (Reference titled Kiley Ranch North Master Sanitary Sewer Study located in the Appendix). The existing interceptor traverses the

eastern boundary of the Kiley Ranch North Phase 6 development and will serve as the sewage disposal system for the entire development.

Basin C sewer (reference the Preliminary Sanitary Sewer Exhibit in the Appendix) consists of Village 36 and the southern portion of Village 37A. All flows in Basin C outfall to this existing interceptor line. The existing sewer in Kiley Parkway and Village 37A will convey flows from Village 36 to the sewer interceptor (note C3). A portion of the existing sewer in Village 37A has been upsized to 10" (beginning at node C2 to accommodate offsite flows from Village 36 (node C1).

### Proposed Development Contributions

The sanitary sewer contribution from Village 36 has been calculated in accordance with the Kiley Ranch North Master Sanitary Sewer Report and standard practices. Peak flow and dwelling unit calculations for each land use are shown in Table 3, in the appendix of this report. Village 36 will generate a peak flow of 0.142 MGD based on 146 residential units at 3 capita per dwelling unit and 325 gallons per capita per day. Reference Table 1 below. This is slightly less than flows projected in the Master Report.

| Table 1. Village 36 Wastewater Generation |                 |                          |           |                 |                 |
|---|-----------------|--------------------------|-----------|-----------------|-----------------|
| Land Use                                  | Number of Units | Unit Flow (gal/unit/day) | Occupancy | Peak Flow (MGD) | Peak Flow (gpd) |
| Residential                               | 146             | 325                      | 3         | 0.142           | 142,350         |

### Proposed Sanitary Sewer System

It is proposed that a public sanitary sewer system will be constructed within the project. This system will consist of 8" and 10" PVC mains with minimum velocities of 2 fps and maximum velocities of less than 14 fps. Reference the Preliminary Sanitary Sewer Exhibit located in the Appendix.

As stated above, the system will convey flows from Village 36 to Village 37A in accordance with the Master Report. No offsite flows will be conveyed through Village 36. Reference Table 2 in the Appendix for offsite flows.

### Conclusion

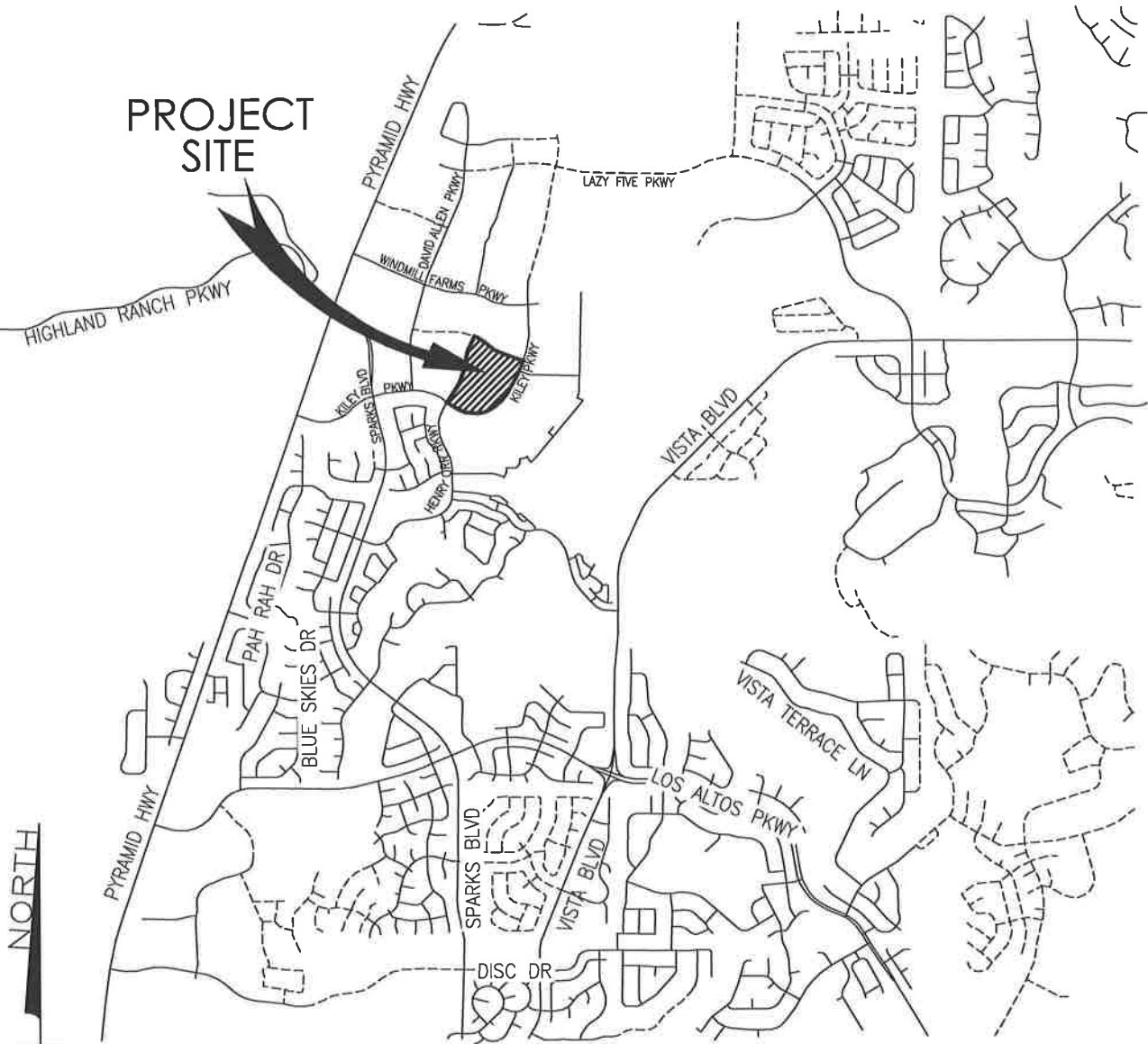
The proposed development is a part of the previously approved master plan development of Kiley Ranch North and is in compliance with the approved Master Report for the project and the previous report for Village 37A. Village 36 wastewater will discharge to the Spanish Springs Sewer Interceptor. This report shows the analysis of sewer contributions for the project site to the sewer interceptor. The existing Spanish Springs Sewer Interceptor has capacity for the proposed peak flow contribution of 0.142 million gallons per day and the proposed sanitary sewer system is deemed compliant with the approved reports and standard engineering practices.

## APPENDICIES

# VICINITY MAP

KILEY RANCH NORTH PHASE 6 - VILLAGE 36  
AUGUST 2018

PROJECT  
SITE



**CHRISTY**  
CORPORATION

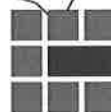
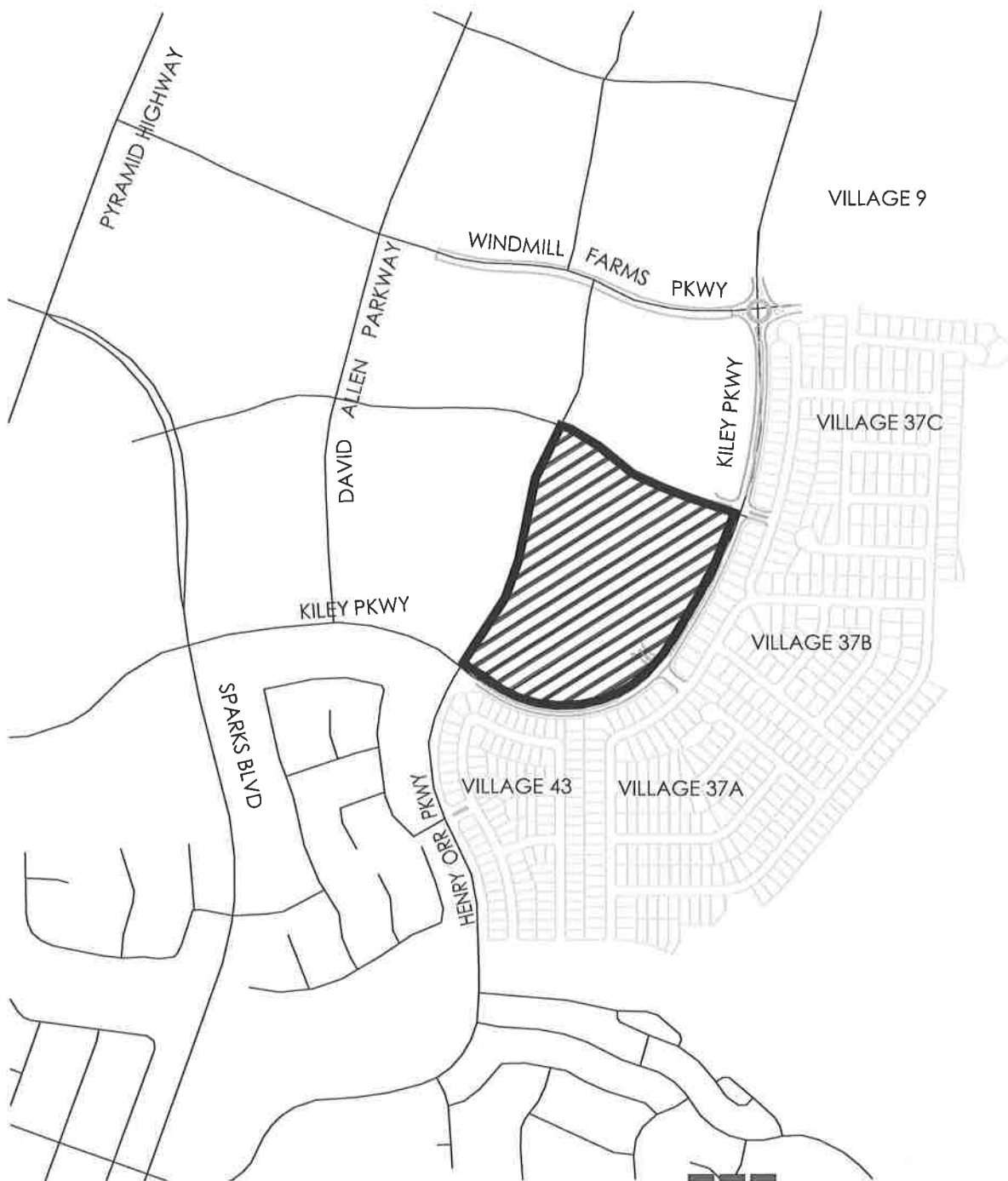
1000 Kiley Pkwy | Sparks Nevada 89436

775.502.8552

# SITE PLAN

KILEY RANCH NORTH PHASE 6 - VILLAGE 36

AUGUST 2018



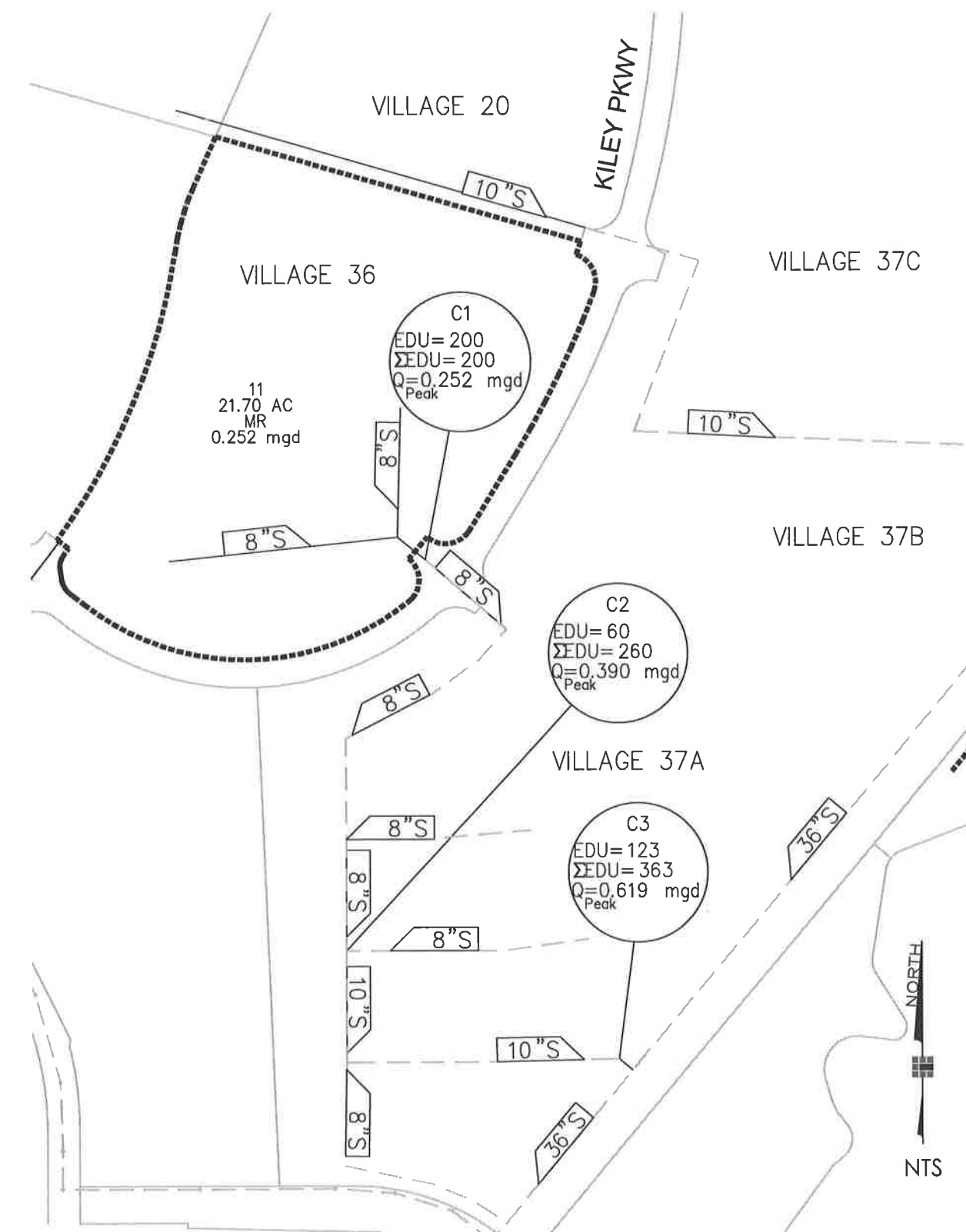
**CHRISTY**  
CORPORATION

1000 Kiley Parkway | Sparks Nevada 89436

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# PRELIMINARY SANITARY SEWER EXHIBIT

KILEY RANCH NORTH- PHASE 6 - VILLAGE 36 TENTATIVE MAP  
AUGUST 2018



## LEGEND

- SEWER PIPE DIAMETER (INCHES)  
& FLOW DIRECTION
- PROPOSED SEWER
- EXISTING SEWER
- BASIN BOUNDARY

- 1 BASIN & NODE NUMBER
- EDU=0 POINT EDU
- ΣEDU=108 CUMULATIVE EDU
- Q=0.09 mgd PEAK FLOW (MGD)



## PRELIMINARY DRAINAGE REPORT

### KILEY RANCH NORTH PHASE 6

VILLAGE 36



Prepared for:  
Lewis Management Corporation  
1380 Greg Street, Ste 213  
Sparks, NV 89431

Prepared by:  
Christy Corporation, Ltd.  
1000 Kiley Parkway  
Sparks, Nevada 89436

August 2018



## Introduction

This report presents the results of a preliminary hydrology analysis for Kiley Ranch North Phase 6 Village 36. The project is located in the Spanish Springs Valley, Sections 10 & 15, Township 20 north, Range 20 East, within the Northern Sparks Sphere of influence (NSSOI), Sparks, Nevada. It is east of Pyramid Highway South of the Lazy 5 Park, and West of the Spanish Springs Reservoir. The site encompasses a total of approximately 22.3± AC and is composed of single family residential units. Please reference the attached vicinity map and site plan in the Appendix.

## Design Standards

*Truckee Meadows Regional Drainage Manual* - April 2009 (TMRDM)  
NOAA Atlas 14 Point Precipitation Estimates (2013)

## Previous Studies

*Storm Drainage Master Plan for Kiley Ranch North Phase II* by Wood Rodgers, June 2007  
*Master Hydrology Report for Kiley Ranch Phase II* by Wood Rodgers, February 2007  
*Master Hydrology Report for Kiley Ranch – David Allen Parkway & Pyramid Highway / Granary Parkway* by Wood Rodgers, December 2007  
*Kiley Ranch North Phase 6 Mass Grading, Kiley Parkway, and Windmill Farms Parkway Final Drainage Report* by Christy Corporation, July 2016 and First Addendum, December 2016.  
***Final Drainage Report, Kiley Ranch North, Phase 6, Villages 37A & 37B, Revised December 2017.***

## Existing Conditions

The site has recently been mass graded. Soils are primarily loams and gravelly loams of alluvial origin. Gradient of the site is approximately 1%, with an east aspect. The project area has historically been irrigated for agriculture. The Spanish Springs Reservoir is located to the east of the site.

All runoff leaving the site is to the open space designated as flood storage area for the Spanish Springs Reservoir, east of Village 37A. The Spanish Springs Reservoir will not be modified with this project. Storm drain for Village 37A was designed and constructed to convey 14.51 cfs from the site during the 5-year storm event and 47.34 cfs from the site during the 100-year storm event. Reference the report titled *Final Drainage Report, Kiley Ranch North, Phase 6, Villages 37A & 37B* for existing facilities.

The site has been delineated by the Federal Emergency Management Agency (FEMA) as being in Flood Hazard Zone X. Zone X has been determined to be outside the 0.2% annual chance flood plain. Please reference the Firmette, which was taken from FEMA panel 3051, located in the Appendix.

## Methodology

### Rational Method

Onsite runoff was determined using the Rational Method ( $Q=CiA$ ). As noted above, the site is mass graded and was previously used for agriculture. Rational C coefficients for the proposed condition were chosen from the TMRDM Table 701.

Times of concentration were determined using Standard Form 2 from the Truckee Meadows Regional Drainage Manual (Section 1500). Corresponding rainfall intensities were then determined using NOAA Atlas 14 (at [www.nws.noaa.gov/ohd/hdsc/](http://www.nws.noaa.gov/ohd/hdsc/)).

## Existing Hydrology

The site consists of 22.3± AC acres of mass graded land and generally drains to the existing storm drain in Kiley Parkway which is then routed through Village 37A to the outfall at the Kiley Wetland Preserve. Reference the report titled *Final Drainage Report, Kiley Ranch North, Phase 6, Villages 37A & 37B* for existing flow conditions.

### Proposed Conditions

The majority of flows within the site will maintain their historical drainage patterns. On-Site Storm runoff from Kiley Ranch North Phase 6 Village 36 will be conveyed through storm drains to the open area designated as flood storage area for the Spanish Springs Reservoir

The storm drain system within Kiley Ranch North Phase 6 Village 36 will tie into the existing storm drain network within Kiley parkway discussed above. The storm drain system was previously sized to collect flows from the full buildout of Kiley Ranch North. The developed flow (Area 18) will be captured by new storm drain facilities and routed to the existing storm drain at Kiley Parkway then routed through existing storm drain in Village 37A until it is discharged into the Kiley Wetland Preservancy.

The storm drain system will also capture all onsite flows from a 5-year storm event and a portion of flows from a 100-year storm event within the site. 100-year flows not captured by the storm drain system will be attenuated through the roadway system.

Approximately 14.52 CFS and 47.39 CFS of peak runoff are estimated for the proposed condition 5 and 100-year storm events, respectively. Reference Table 1. No onsite detention is proposed due to the proximity to the Spanish Springs Reservoir.

**TABLE 1 – PROPOSED RATIONAL METHOD HYDROLOGY**

| BASIN<br>(#) | C                             | C                               | T <sub>c</sub>                    | I   |   | A                         | Q=CIA                     |                             |
|--------------|-------------------------------|---------------------------------|-----------------------------------|---|---|---------------------------|---------------------------|-----------------------------|
|              | RUNOFF<br>COEFFICIENT<br>(C5) | RUNOFF<br>COEFFICIENT<br>(C100) | TIME OF<br>CONCENTRATION<br>(MIN) | RAINFALL<br>INTENSITY<br>5-YEAR<br>(INCHES) | RAINFALL<br>INTENSITY<br>100-YEAR<br>(INCHES) | RUNOFF<br>AREA<br>(ACRES) | RUNOFF<br>5-YEAR<br>(CFS) | RUNOFF<br>100-YEAR<br>(CFS) |
|              |                               |                                 |                                   |   |   |                           |                           |                             |
| 18           | 0.60                          | 0.78                            | 13.0                              | 1.20  | 3.00  | 20.23                     | 14.52                     | 47.39                       |
| TOTAL        |                               |                                 |                                   |   |   |                           | 14.52                     | 47.39                       |

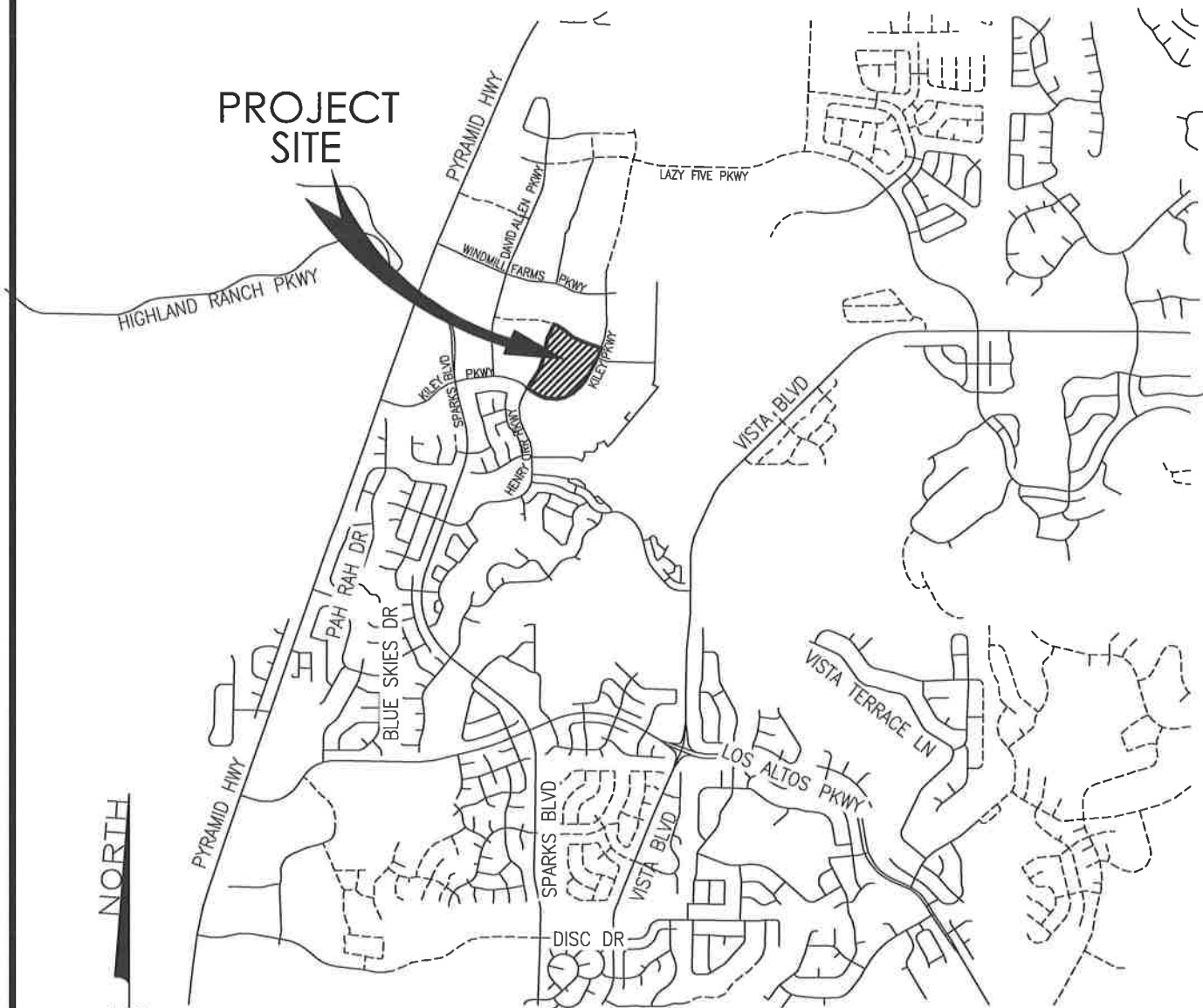
### Conclusion

This report presents the findings of a preliminary drainage analysis of Kiley Ranch North Phase 6 Village 36 in Sparks, Nevada. The proposed development of the project is in conformance with the *Final Drainage Report, Kiley Ranch North, Phase 6, Villages 37A & 37B*. Existing constructed infrastructure has reserved capacity for the project. The project can be developed without disturbing the integrity of the requirements outlined in the *Truckee Meadows Regional Drainage Manual*. The onsite storm drainage system is designed to convey storm flows per the TMRDM. Final hydrology reports will be prepared with each phase of development. The final hydrology report submitted with final improvement plans will analyze catch basin, pipe and channel hydraulics and street capacities.

# VICINITY MAP

## KILEY RANCH NORTH PHASE 6 - VILLAGE 36

AUGUST 2018



N.T.S.



# CHRISTY

CORPORATION

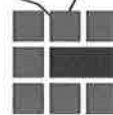
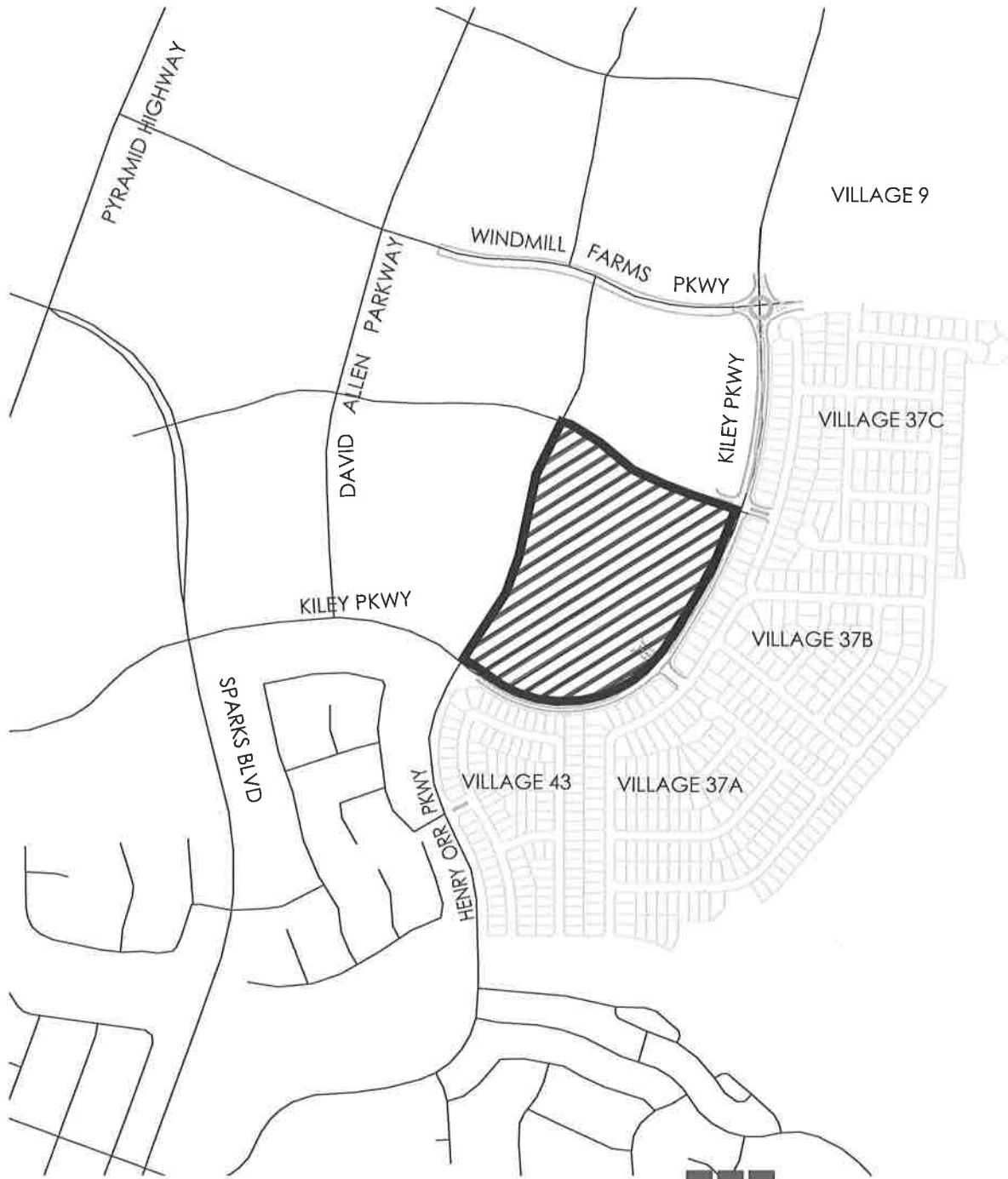
1000 Kiley Pkwy | Sparks Nevada 89436

775.502.8552

# SITE PLAN

KILEY RANCH NORTH PHASE 6 - VILLAGE 36

AUGUST 2018



**CHRISTY**  
CORPORATION

1000 Kiley Parkway | Sparks Nevada 89436

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NORTH



N.T.S.



# National Flood Hazard Layer FIRMette



39°36'32.27"N



USGS The National Map: Orthoimagery. Data refreshed October 2017.



39°36'4.55"N

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

### SPECIAL FLOOD HAZARD AREAS



Without Base Flood Elevation (BFE)  
Zone A, V, A99  
With BFE or Depth Zone AE, AO, AH, VE, AF  
Regulatory Floodway

### OTHER AREAS OF FLOOD HAZARD



0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile (Zone 1)  
Future Conditions 1% Annual Chance Flood Hazard (Zone X)  
Area with Reduced Flood Risk due to Levee, See Notes, Zone X  
Area with Flood Risk due to Levee (Zone D)

### OTHER AREAS



Area of Minimal Flood Hazard (Effective LOMRs)  
Area of Undetermined Flood Hazard (Zone 1)

### GENERAL STRUCTURES



Channel, Culvert, or Storm Sewer  
Levee, Dike, or Floodwall

### CROSS SECTIONS



Cross Sections with 1% Annual Chance Water Surface Elevation  
Coastal Transect  
Base Flood Elevation Line (BFE)  
Limit of Study  
Jurisdiction Boundary  
Coastal Transect Baseline  
Profile Baseline  
Hydrographic Feature

### OTHER FEATURES



Digital Data Available  
No Digital Data Available  
Unmapped

### MAP PANELS



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

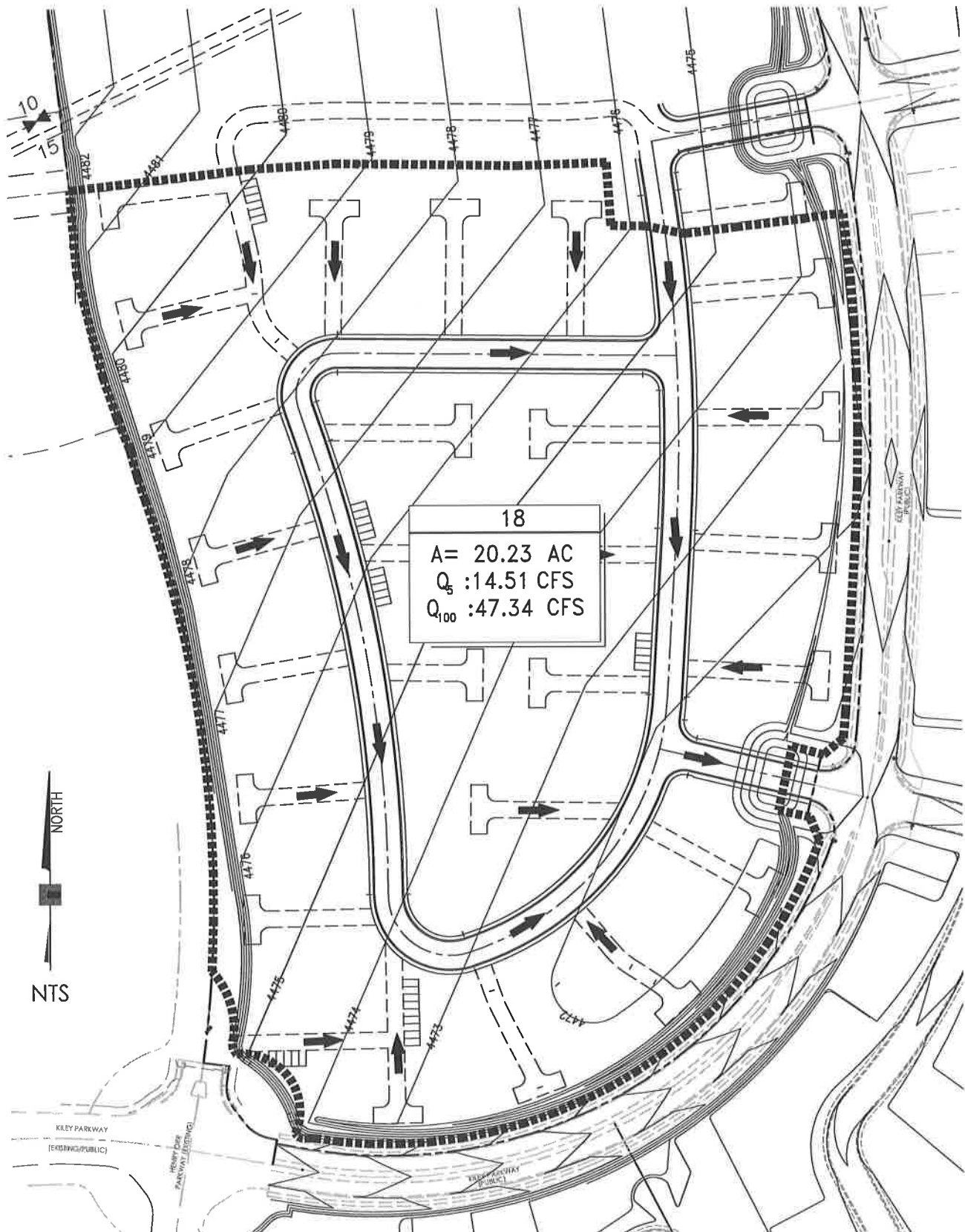
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/20/2018 at 4:03:34 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# PRELIMINARY HYDROLOGY EXHIBIT

KILEY RANCH NORTH- PHASE 6 - VILLAGE 36 TENTATIVE MAP  
AUGUST 2018



**CHRISTY**  
CORPORATION

1000 Kiley Parkway | Sparks, Nevada 89434

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Kiley Ranch Phase 6, Village 36 Tentative Map Potable Water Demand Calculations

| LOT NAME                   | LOT NO. | LOT AREA<br>(SF) | WATER DEMAND<br>(AF/YEAR) | Demand per Sq. Ft. of Lot<br>(AF/YR) per SF |
|----------------------------|---------|------------------|---------------------------|---|
| <b>PHASE 1: EAGLE ROCK</b> |         |                  |                           | 5.67E-05                                    |
| Single-Family : 1          | 1       | 5473.2           | 0.31                      |   |
| Single-Family : 2          | 2       | 5100.7           | 0.29                      |   |
| Single-Family : 3          | 3       | 5802.7           | 0.33                      |   |
| Single-Family : 4          | 4       | 3820.8           | 0.22                      |   |
| Single-Family : 5          | 5       | 3636.9           | 0.21                      |   |
| Single-Family : 6          | 6       | 3521.9           | 0.20                      |   |
| Single-Family : 7          | 7       | 4352.1           | 0.25                      |   |
| Single-Family : 8          | 8       | 4358.6           | 0.25                      |   |
| Single-Family : 9          | 9       | 3547.3           | 0.20                      |   |
| Single-Family : 10         | 10      | 3608.5           | 0.20                      |   |
| Single-Family : 11         | 11      | 3814.2           | 0.22                      |   |
| Single-Family : 12         | 12      | 3870.4           | 0.22                      |   |
| Single-Family : 13         | 13      | 3615.4           | 0.20                      |   |
| Single-Family : 14         | 14      | 3537.3           | 0.20                      |   |
| Single-Family : 15         | 15      | 4343.6           | 0.25                      |   |
| Single-Family : 16         | 16      | 4362.3           | 0.25                      |   |
| Single-Family : 17         | 17      | 3539.9           | 0.20                      |   |
| Single-Family : 18         | 18      | 3606.0           | 0.20                      |   |
| Single-Family : 19         | 19      | 3817.5           | 0.22                      |   |
| Single-Family : 20         | 20      | 3674.0           | 0.21                      |   |
| Single-Family : 21         | 21      | 3574.8           | 0.20                      |   |
| Single-Family : 22         | 22      | 3559.3           | 0.20                      |   |
| Single-Family : 23         | 23      | 4388.1           | 0.25                      |   |
| Single-Family : 24         | 24      | 4458.6           | 0.25                      |   |
| Single-Family : 25         | 25      | 3522.5           | 0.20                      |   |
| Single-Family : 26         | 26      | 3549.5           | 0.20                      |   |
| Single-Family : 27         | 27      | 3614.8           | 0.20                      |   |
| Single-Family : 28         | 28      | 3687.3           | 0.21                      |   |
| Single-Family : 29         | 29      | 3487.9           | 0.20                      |   |
| Single-Family : 30         | 30      | 3487.9           | 0.20                      |   |
| Single-Family : 31         | 31      | 4412.4           | 0.25                      |   |
| Single-Family : 32         | 32      | 4620.4           | 0.26                      |   |
| Single-Family : 33         | 33      | 3598.2           | 0.20                      |   |
| Single-Family : 34         | 34      | 3953.3           | 0.22                      |   |
| Single-Family : 35         | 35      | 4243.7           | 0.24                      |   |
| Single-Family : 36         | 36      | 4621.4           | 0.26                      |   |
| Single-Family : 37         | 37      | 3741.4           | 0.21                      |   |
| Single-Family : 38         | 38      | 4312.9           | 0.24                      |   |
| Single-Family : 39         | 39      | 4728.2           | 0.27                      |   |
| Single-Family : 40         | 40      | 3718.4           | 0.21                      |   |
| Single-Family : 41         | 41      | 3488.1           | 0.20                      |   |
| Single-Family : 42         | 42      | 3475.7           | 0.20                      |   |
| Single-Family : 43         | 43      | 4259.2           | 0.24                      |   |



|                               |           |                 |              |
|-------------------------------|-----------|-----------------|--------------|
| Single-Family : 44            | 44        | 4241.4          | 0.24         |
| Single-Family : 45            | 45        | 3725.8          | 0.21         |
| Single-Family : 46            | 46        | 3948.6          | 0.22         |
| Single-Family : 47            | 47        | 4691.4          | 0.27         |
| Single-Family : 48            | 48        | 4716.5          | 0.27         |
| Single-Family : 49            | 49        | 4159.0          | 0.24         |
| Single-Family : 50            | 50        | 3609.3          | 0.20         |
| Single-Family : 51            | 51        | 4318.7          | 0.24         |
| Single-Family : 52            | 52        | 4196.7          | 0.24         |
| Single-Family : 53            | 53        | 3706.1          | 0.21         |
| Single-Family : 54            | 54        | 4228.5          | 0.24         |
| Single-Family : 55            | 55        | 4924.5          | 0.28         |
| Single-Family : 56            | 56        | 4451.1          | 0.25         |
| Single-Family : 57            | 57        | 3916.4          | 0.22         |
| Single-Family : 58            | 58        | 3625.7          | 0.21         |
| Single-Family : 59            | 59        | 4597.4          | 0.26         |
| Single-Family : 60            | 60        | 4281.9          | 0.24         |
| Single-Family : 61            | 61        | 4088.0          | 0.23         |
| Single-Family : 62            | 62        | 4609.1          | 0.26         |
| Single-Family : 63            | 63        | 4258.7          | 0.24         |
| Single-Family : 64            | 64        | 3487.7          | 0.20         |
| Single-Family : 65            | 65        | 4279.5          | 0.24         |
| Single-Family : 66            | 66        | 3488.2          | 0.20         |
| Single-Family : 67            | 67        | 3487.7          | 0.20         |
| Single-Family : 68            | 68        | 4262.0          | 0.24         |
| Single-Family : 69            | 69        | 4626.4          | 0.26         |
| Single-Family : 70            | 70        | 5450.8          | 0.31         |
| Single-Family : 71            | 71        | 6037.4          | 0.34         |
| Single-Family : 72            | 72        | 3487.5          | 0.20         |
| Single-Family : 73            | 73        | 3487.2          | 0.20         |
| Single-Family : 74            | 74        | 3422.6          | 0.19         |
| Single-Family : 75            | 75        | 3674.5          | 0.21         |
| Single-Family : 76            | 76        | 3487.6          | 0.20         |
| Single-Family : 77            | 77        | 3487.8          | 0.20         |
| Single-Family : 78            | 78        | 3488.1          | 0.20         |
| Single-Family : 79            | 79        | 5142.9          | 0.29         |
| Single-Family : 80            | 80        | 4430.1          | 0.25         |
| Single-Family : 81            | 81        | 3487.5          | 0.20         |
| Single-Family : 82            | 82        | 3487.2          | 0.20         |
| Single-Family : 83            | 83        | 3791.5          | 0.21         |
| Single-Family : 84            | 84        | 3791.8          | 0.21         |
| Single-Family : 85            | 85        | 3791.8          | 0.21         |
| <b>PHASE 1: EAGLE ROCK</b>    | <b>85</b> | <b>343779.3</b> | <b>19.48</b> |
| <b>PHASE 2: PACIFIC CREST</b> |           |                 |              |
| Single-Family : 101           | 101       | 5974.0          | 0.34         |
| Single-Family : 102           | 102       | 4973.5          | 0.28         |
| Single-Family : 103           | 103       | 7250.1          | 0.41         |

|                     |     |        |      |
|---------------------|-----|--------|------|
| Single-Family : 104 | 104 | 5734.6 | 0.32 |
| Single-Family : 105 | 105 | 4191.0 | 0.24 |
| Single-Family : 106 | 106 | 5311.9 | 0.30 |
| Single-Family : 107 | 107 | 5249.7 | 0.30 |
| Single-Family : 108 | 108 | 4193.9 | 0.24 |
| Single-Family : 109 | 109 | 5774.3 | 0.33 |
| Single-Family : 110 | 110 | 5810.4 | 0.33 |
| Single-Family : 111 | 111 | 4194.1 | 0.24 |
| Single-Family : 112 | 112 | 5250.0 | 0.30 |
| Single-Family : 113 | 113 | 5241.8 | 0.30 |
| Single-Family : 114 | 114 | 4191.3 | 0.24 |
| Single-Family : 115 | 115 | 5842.6 | 0.33 |
| Single-Family : 116 | 116 | 8146.8 | 0.46 |
| Single-Family : 117 | 117 | 4191.8 | 0.24 |
| Single-Family : 118 | 118 | 5058.1 | 0.29 |
| Single-Family : 119 | 119 | 6804.1 | 0.39 |
| Single-Family : 120 | 120 | 5310.6 | 0.30 |
| Single-Family : 121 | 121 | 5996.8 | 0.34 |
| Single-Family : 122 | 122 | 6456.2 | 0.37 |
| Single-Family : 123 | 123 | 4195.1 | 0.24 |
| Single-Family : 124 | 124 | 4694.4 | 0.27 |
| Single-Family : 125 | 125 | 5228.3 | 0.30 |
| Single-Family : 126 | 126 | 4348.6 | 0.25 |
| Single-Family : 127 | 127 | 5857.9 | 0.33 |
| Single-Family : 128 | 128 | 6512.1 | 0.37 |
| Single-Family : 129 | 129 | 4225.5 | 0.24 |
| Single-Family : 130 | 130 | 4472.3 | 0.25 |
| Single-Family : 131 | 131 | 4519.6 | 0.26 |
| Single-Family : 132 | 132 | 4250.3 | 0.24 |
| Single-Family : 133 | 133 | 5231.9 | 0.30 |
| Single-Family : 134 | 134 | 5476.0 | 0.31 |
| Single-Family : 135 | 135 | 4358.3 | 0.25 |
| Single-Family : 136 | 136 | 4540.9 | 0.26 |
| Single-Family : 137 | 137 | 4527.3 | 0.26 |
| Single-Family : 138 | 138 | 4347.5 | 0.25 |
| Single-Family : 139 | 139 | 5459.8 | 0.31 |
| Single-Family : 140 | 140 | 5463.0 | 0.31 |
| Single-Family : 141 | 141 | 4352.9 | 0.25 |
| Single-Family : 142 | 142 | 4540.4 | 0.26 |
| Single-Family : 143 | 143 | 4534.9 | 0.26 |
| Single-Family : 144 | 144 | 4346.9 | 0.25 |
| Single-Family : 145 | 145 | 5460.1 | 0.31 |
| Single-Family : 146 | 146 | 5594.8 | 0.32 |
| Single-Family : 147 | 147 | 4384.2 | 0.25 |
| Single-Family : 148 | 148 | 4525.2 | 0.26 |
| Single-Family : 149 | 149 | 4477.6 | 0.25 |
| Single-Family : 150 | 150 | 4355.0 | 0.25 |

|                               |            |                   |              |
|-------------------------------|------------|-------------------|--------------|
| Single-Family : 151           | 151        | 5576.0            | 0.32         |
| Single-Family : 152           | 152        | 5160.3            | 0.29         |
| Single-Family : 153           | 153        | 4189.8            | 0.24         |
| Single-Family : 154           | 154        | 4508.1            | 0.26         |
| Single-Family : 155           | 155        | 4662.9            | 0.26         |
| Single-Family : 156           | 156        | 4188.2            | 0.24         |
| Single-Family : 157           | 157        | 6544.5            | 0.37         |
| Single-Family : 158           | 158        | 3844.7            | 0.22         |
| Single-Family : 159           | 159        | 5026.3            | 0.28         |
| Single-Family : 160           | 160        | 6053.5            | 0.34         |
| Single-Family : 161           | 161        | 5041.9            | 0.29         |
| Single-Family : 162           | 162        | 6505.5            | 0.37         |
| Single-Family : 163           | 163        | 4790.7            | 0.27         |
| Single-Family : 164           | 164        | 4415.9            | 0.25         |
| Single-Family : 165           | 165        | 4428.2            | 0.25         |
| Single-Family : 166           | 166        | 4194.2            | 0.24         |
| Single-Family : 167           | 167        | 5142.8            | 0.29         |
| Single-Family : 168           | 168        | 5364.4            | 0.30         |
| Single-Family : 169           | 169        | 4189.6            | 0.24         |
| Single-Family : 170           | 170        | 4446.8            | 0.25         |
| Single-Family : 171           | 171        | 4423.3            | 0.25         |
| Single-Family : 172           | 172        | 6233.0            | 0.35         |
| Single-Family : 173           | 173        | 5869.1            | 0.33         |
| Single-Family : 174           | 174        | 4173.0            | 0.24         |
| Single-Family : 175           | 175        | 4469.1            | 0.25         |
| Single-Family : 176           | 176        | 4416.1            | 0.25         |
| Single-Family : 177           | 177        | 4160.6            | 0.24         |
| Single-Family : 178           | 178        | 5471.1            | 0.31         |
| Single-Family : 179           | 179        | 5377.1            | 0.30         |
| Single-Family : 180           | 180        | 4189.6            | 0.24         |
| Single-Family : 181           | 181        | 4446.8            | 0.25         |
| Single-Family : 182           | 182        | 4464.6            | 0.25         |
| Single-Family : 183           | 183        | 4237.6            | 0.24         |
| Single-Family : 184           | 184        | 7452.4            | 0.42         |
| <b>PHASE 1: PACIFIC CREST</b> | <b>84</b>  | <b>423,085.70</b> | <b>23.98</b> |
| <b>TOTALS:</b>                | <b>169</b> | <b>766,865.01</b> | <b>43.46</b> |



## Legal Description

### A portion of REMAINDER PARCEL 3B, Tract Map 5197

A parcel of land located within portions of the north  $\frac{1}{2}$  of Section 15, Township 20 North, Range 20 East, M.D.M, Washoe County, Nevada, being more particularly described as follows:

BEGINNING at a point lying on the westerly right of way line of Kiley Parkway from which the southwest corner of said Section 10 bears North  $62^{\circ}29'24''$  West, a distance of 2771.94 feet; thence North  $37^{\circ}54'06''$  East, a distance of 5.00 feet; thence North  $52^{\circ}05'54''$  West, a distance of 7.37 feet to the beginning of a curve tangent to said line; thence a distance of 44.95 feet along the arc of a curve to the right, having a radius of 53.00 feet and a central angle of  $48^{\circ}35'31''$  to a point of reverse curvature; thence a distance of 12.63 feet along the arc of a curve to the left having a radius of 74.00 feet and a central angle of  $9^{\circ}46'36''$  to a point of reverse curvature; thence a distance of 37.17 feet along the arc of a curve to the right, having a radius of 43.00 feet and a central angle of  $49^{\circ}31'18''$  to a point of reverse curvature; thence a distance of 19.65 feet along the arc of a curve to the left, having a radius of 1531.00 feet and a central angle of  $0^{\circ}44'08''$ ; thence North  $54^{\circ}29'49''$  West radial to said curve, a distance of 31.00 feet to the beginning of a curve radial to said line; thence from a tangent bearing of North  $35^{\circ}30'11''$  East, a distance of 693.39 feet along the arc of a curve to the left, having a radius of 1500.00 feet and a central angle of  $26^{\circ}29'08''$ ; thence North  $09^{\circ}01'03''$  East tangent to said curve, a distance of 163.18 feet to the beginning of a curve tangent to said line; thence a distance of 127.65 feet along the arc of a curve to the right, having a radius of 600.00 feet and a central angle of  $12^{\circ}11'24''$ ; thence North  $21^{\circ}12'27''$  East tangent to said curve, a distance of 102.47 feet; thence South  $68^{\circ}47'35''$  East a distance of 222.52 feet to the beginning of a curve tangent to said line; thence a distance of 131.99 feet along the arc of a curve to the right, having a radius of 1000.00 feet and a central angle of  $7^{\circ}33'46''$ ; thence along a line tangent to said curve South  $61^{\circ}13'49''$  a distance of 190.64 feet to the beginning of a curve tangent to said line; thence a distance of 198.36' along the arc of a curve to the left having a radius of 1000.00 feet and a central angle of  $11^{\circ}21'55''$ ; thence along a line tangent to said curve South  $72^{\circ}35'44''$  a distance of 195.00 feet to a point on the westerly right of way line of Kiley Parkway; thence a distance of 59.07 feet along the arc of a curve to the right tangent to said line, having a radius of 37.00 feet and a central angle of  $91^{\circ}28'26''$  to a point of compound curvature; thence a distance of 474.36 feet along the arc of a curve to the right, having a radius of 2214.00 feet and a central angle of  $12^{\circ}16'33''$ ; thence South  $31^{\circ}09'16''$  West tangent to said curve, a distance of 210.29 feet to the beginning of a curve tangent to said line; thence a distance of 39.68 feet along the arc of a curve to the right, having a radius of 574.00 feet and a central angle of  $3^{\circ}57'38''$  to a point of compound curvature; thence a distance of 61.98 feet along the arc of a curve to the right, having a radius of 37.00 feet and a central angle of  $95^{\circ}59'09''$ ; thence South  $41^{\circ}06'03''$  West radial to said curve, a distance of 38.00 feet to the

beginning of a curve radial to said line; thence from a tangent bearing of South  $48^{\circ}53'57''$  East, a distance of 61.98 feet along the arc of a curve to the right, having a radius of 37.00 feet and a central angle of  $95^{\circ}59'09''$  to a point of compound curvature; thence a distance of 809.62 feet along the arc of a curve to the right, having a radius of 574.00 feet and a central angle of  $80^{\circ}48'54''$ ; thence North  $52^{\circ}05'54''$  West tangent to said curve, a distance of 36.13 feet to the POINT OF BEGINNING

Prepared By:

Harlan King, P.L.S. 5665

7490 Longley Ln., #B

Reno, Nevada 89511



EXP. 06/30/19

**KILEY RANCH NORTH  
CCFEA TRAFFIC STUDY**

**JANUARY, 2007**

**Prepared by:  
Solaegui Engineers, Ltd.  
715 H Street  
Sparks, Nevada 89431  
(775) 358-1004**



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Appendix A – RTC Model Traffic Volume Data

Appendix B – Intersection Level of Service Worksheets

## **INTRODUCTION**

Kiley Ranch North is located in the City of Sparks, Nevada. The project site is located east and west of Pyramid Highway in the vicinity of Sparks Boulevard and Lazy 5 Parkway. The purpose of this study is to identify needed roadway and intersection capacity improvements for the 2012 and 2030 planning scenarios. Level of service standards outlined in the Regional Transportation Commission's (RTC) 2030 Regional Transportation Plan (RTP) indicate that the study area roadways and intersections must operate at level of service C or better. Pyramid Highway must operate at level of service D or better as a freeway.

Pyramid Highway, Lazy 5 Parkway, Sparks Boulevard, Highland Ranch Parkway, Kiley Ranch Parkway, David Allan Parkway, Henry Orr Parkway and Roads A, B C, and D have been identified for roadway capacity analysis. The Pyramid Highway intersections with Sparks Boulevard, Lazy 5 Parkway, Road B, Road C, and a north access; the Lazy 5 Parkway intersections with Kiley Ranch Parkway, David Allan Parkway, and the commercial access; the Sparks Boulevard intersections with Kiley Ranch Parkway and Road D; the Kiley Ranch Parkway intersections with David Allan Parkway, Henry Orr Parkway and Roads A, B, and C; and the David Allan Parkway intersections with Roads A and B have been identified for intersection capacity analysis.

## **EXISTING AND PROPOSED ROADWAYS AND INTERSECTIONS**

Pyramid Highway is a four-lane roadway with two lanes in each direction in the vicinity of the site. The speed limit is posted for 55 miles per hour in the vicinity of the site. Roadway improvements include paved travel lanes with graded shoulders and bicycle lanes. The RTC's 2030 Regional Transportation Plan classifies Pyramid Highway as a high access control arterial from Queen Way to Calle De La Plata Drive. Pyramid Highway is ultimately planned to be upgraded to a freeway.

Sparks Boulevard is a two-lane roadway with one lane in each direction east of Pyramid Highway. The speed limit is posted for 40 miles per hour. Roadway improvements include paved travel lanes with curb and gutter on the west side of the street and graded shoulders on the east side of the street. The widening of Sparks Boulevard to four lanes is currently under way. The RTC's 2030 Regional Transportation Plan classifies Sparks Boulevard as a moderate access control arterial from Greg Street to Pyramid Highway.

Lazy 5 Parkway does not currently exist but will ultimately be constructed from the Wingfield Hills Drive/Kiley Ranch Parkway intersection within the Pioneer Meadows development to west of Pyramid Highway. The RTC's 2030 Regional Transportation Plan classifies Lazy 5 Parkway as a moderate access control arterial from Pyramid Highway to Wingfield Hills Drive.

Kiley Ranch Parkway does not currently exist but will ultimately be constructed from Pyramid Highway to north of Lazy 5 Parkway. The 2030 Regional Transportation Plan classifies Kiley Ranch Parkway as a moderate access control arterial from Pyramid Highway to Lazy 5 Parkway.

Highland Ranch Parkway is a two lane roadway with one lane in each direction west of Pyramid Highway. Highland Ranch Parkway aligns with Sparks Boulevard at the Pyramid Highway intersection. The speed limit is posted for 45 miles per hour. Roadway improvements include paved travel lanes with graded shoulders. The RTC's 2030 Regional Transportation Plan classifies Highland Ranch Parkway as a moderate access control arterial from Pyramid Highway to Sun Valley Boulevard.

David Allan Parkway does not currently exist but will ultimately be constructed from Kiley Ranch Parkway to north of Lazy 5 Parkway. David Allan Parkway is not classified as a regional roadway in the 2030 Regional Transportation Plan.

Henry Orr Parkway does not currently exist but will ultimately be constructed from Sparks Boulevard to Road C. Henry Orr Parkway is not classified as a regional roadway in the 2030 Regional Transportation Plan.

Roads A and B do not currently exist. Roads A and B will each be constructed from west of Pyramid Highway to east of Kiley Ranch Parkway. Roads A and B are not classified as a regional roadway in the 2030 Regional Transportation Plan.

Road C does not currently exist but will ultimately be constructed from David Allan Parkway to east of Kiley Ranch Parkway. Road A is not classified as a regional roadway in the 2030 Regional Transportation Plan.

Road D does not currently exist but will ultimately be constructed from Sparks Boulevard to Road B. Road D is not classified as a regional roadway in the 2030 Regional Transportation Plan.

The Pyramid Highway/Sparks Boulevard/Highland Ranch Parkway intersection is a signalized four-leg intersection with protected phasing for all left turn movements. The north approach contains dual left turn lanes, two through lanes, and one right turn lane. The south approach contains one left turn lane, two through lanes, and one right turn lane. The east approach contains one left turn lane, one through lane, and one free right turn lane with acceleration lane. The west approach contains one left turn lane and one shared through-right turn lane with acceleration lane.

The Pyramid Highway/Lazy 5 Parkway intersection does not currently exist. It is anticipated that the intersection will ultimately be constructed as a signalized four-leg intersection.

The Pyramid Highway intersections with Roads A and Road B do not currently exist. It is anticipated that both intersections will be constructed as unsignalized intersections with right-in/right-out movements only.

The Pyramid Highway/north access intersection does not currently exist. It is anticipated that the intersection will be constructed as unsignalized "T" intersection with right-in/right-out movements only.

The Sparks Boulevard/Kiley Ranch Parkway intersection does not currently exist. Improvement plans indicate that the intersection will be constructed as a signalized four-leg intersection.

The Sparks Boulevard/Road D intersection does not currently exist. It is anticipated that the intersection will ultimately be constructed as a two-lane roundabout.

The Lazy 5 Parkway/Kiley Ranch Parkway intersection does not currently exist. It is anticipated that the intersection will ultimately be constructed as a two-lane roundabout.

The Lazy 5 Parkway/David Allan Parkway intersection does not currently exist. It is anticipated that the intersection will ultimately be constructed as a signalized four-leg intersection.

The Lazy 5 Parkway/Commercial Access Road intersection does not currently exist. It is anticipated that the intersection will ultimately be constructed as an unsignalized "T" intersection with right-in/right-out movements only.

The Kiley Ranch Parkway/David Allan Parkway intersection does not currently exist. Improvement plans indicate that the intersection will ultimately be constructed as a two-lane roundabout.

The Kiley Ranch Parkway/Henry Orr Parkway intersection does not currently exist. Improvement plans indicate that the intersection will ultimately be constructed as a one-lane roundabout.

The Kiley Ranch Parkway intersections with Roads A, B, and C do not currently exist. It is anticipated that the Kiley Ranch Parkway intersections with Roads A and C will ultimately be constructed as unsignalized four-leg intersections. It is anticipated that the Kiley Ranch Parkway/Road B intersection will ultimately be constructed as a one-lane roundabout.

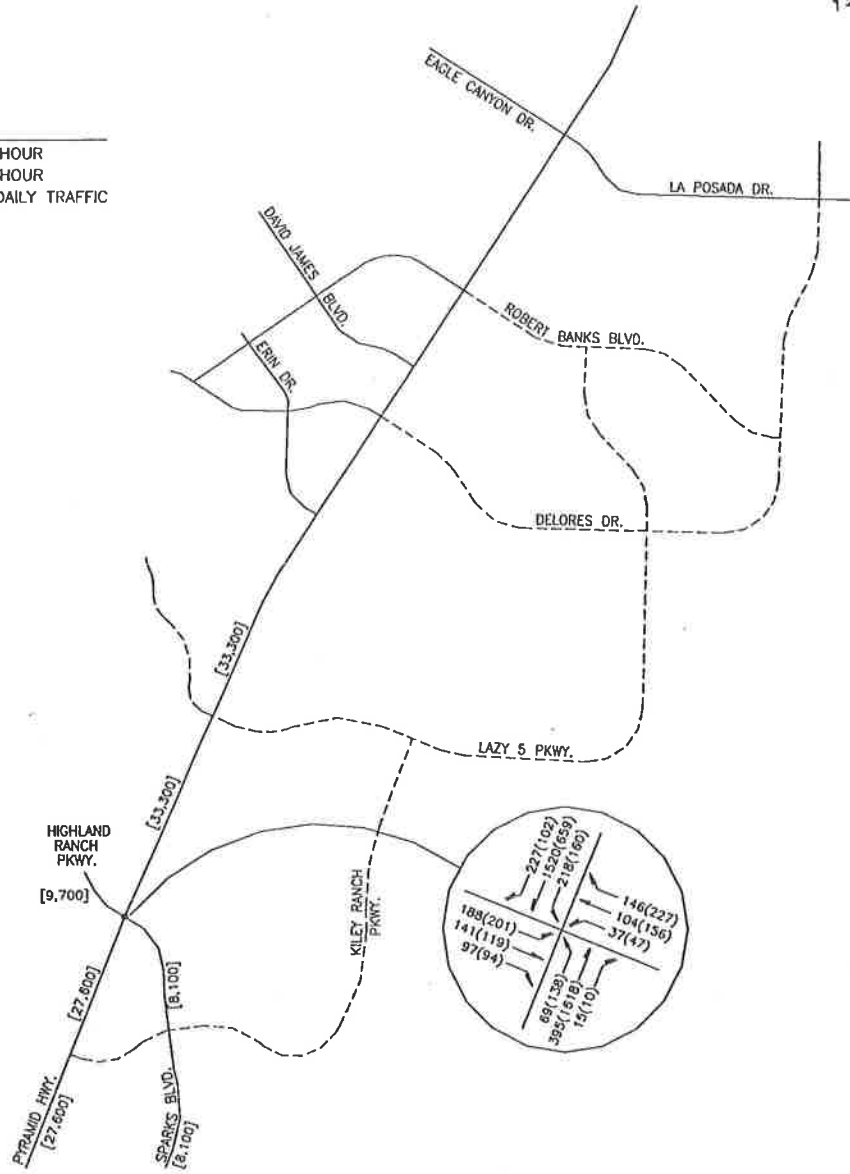
The David Allan Parkway intersections with Roads A and B do not currently exist. It is anticipated that both intersections will ultimately be constructed as one-lane roundabouts.

## **EXISTING AND PROJECTED TRAFFIC VOLUMES**

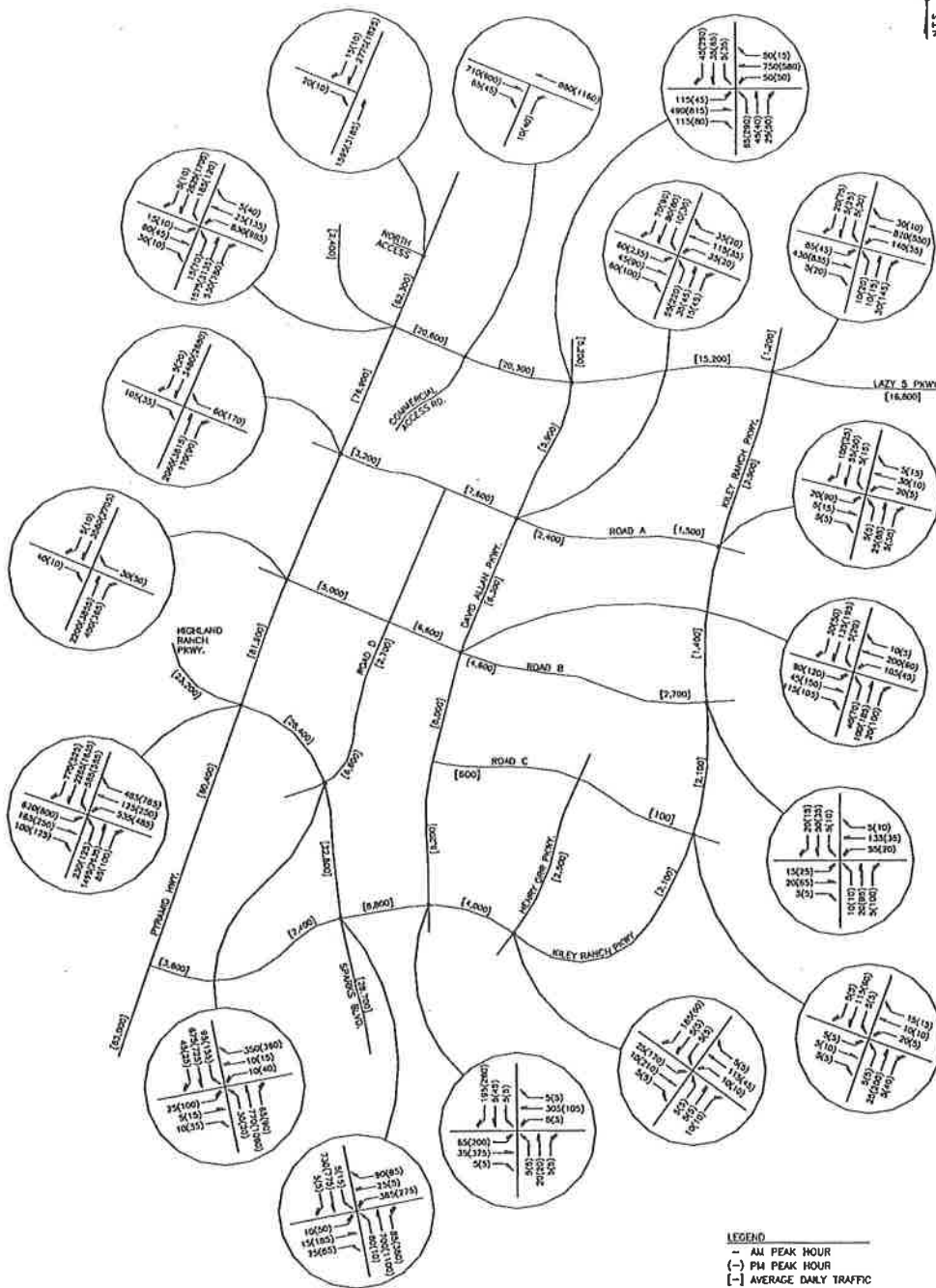
Existing AM and PM peak hour traffic volumes at the Pyramid Highway/Sparks Boulevard intersection were obtained from traffic counts conducted during August, 2006. Existing average daily traffic volumes on Pyramid Highway, Sparks Boulevard and Highland Ranch Parkway were estimated based on the existing peak hour link volumes. Figure 1 shows the existing AM and PM peak hour traffic volumes at the Pyramid Highway/Sparks Boulevard intersection and the estimated average daily traffic volumes on the key roadways. Figures 2 and 3 show the traffic volume projections for the 2012 and 2030 planning scenarios, respectively. The traffic volume projections were determined based on 2012 and 2030 AM peak hour, PM peak hour, and average daily traffic volumes obtained from the Regional Transportation Commission's traffic forecasting model. The traffic volume projections are outputs from the regional travel demand model with Kiley Ranch North included in the land use projections.



LEGEND  
 - AM PEAK HOUR  
 (-) PM PEAK HOUR  
 [-] AVERAGE DAILY TRAFFIC

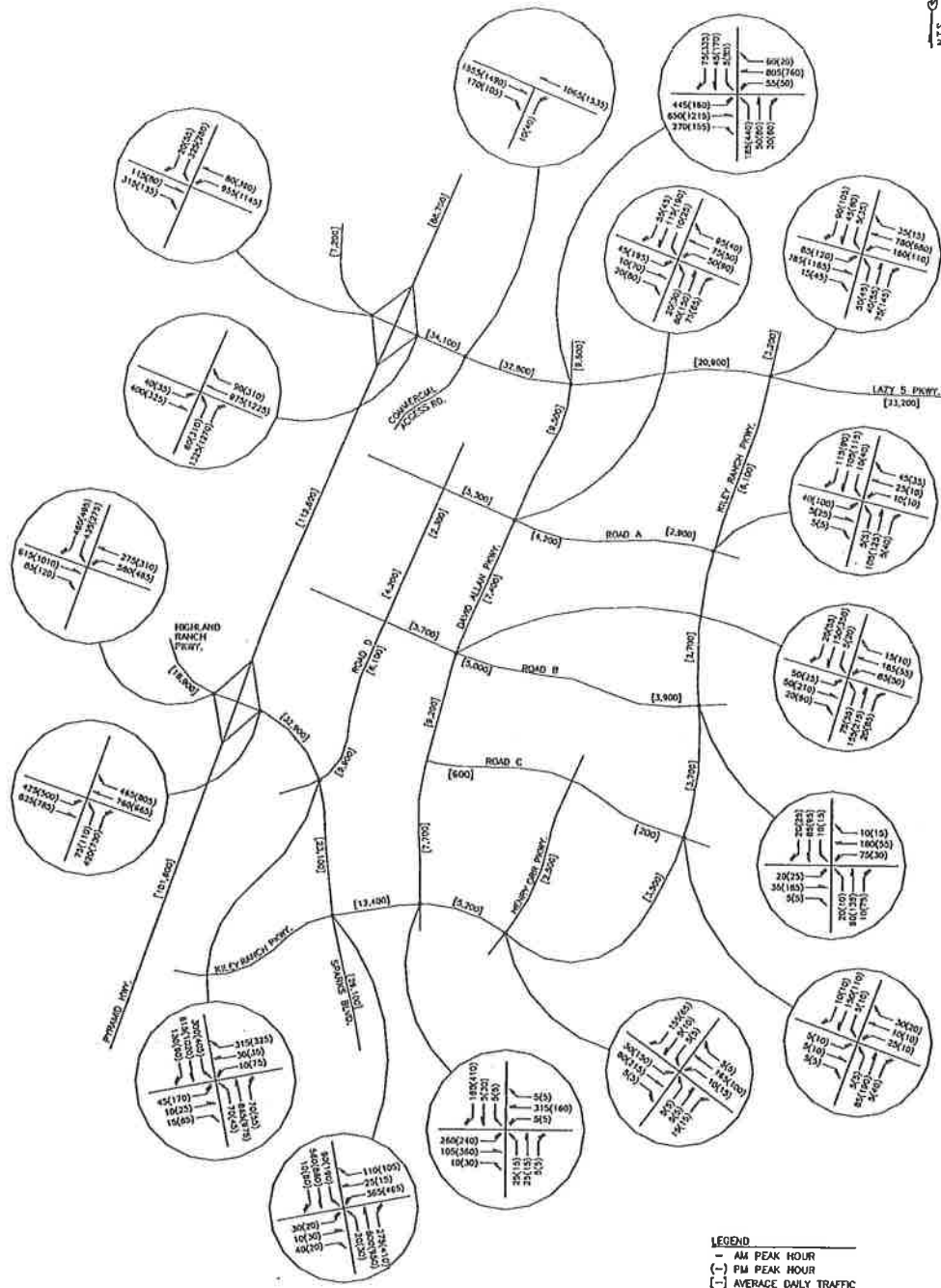


KILEY RANCH NORTH  
 EXISTING TRAFFIC VOLUMES  
 FIGURE 1



KILEY RANCH NORTH  
2012 TRAFFIC VOLUME PROJECTIONS  
FIGURE 2





KILEY RANCH NORTH  
2030 TRAFFIC VOLUME PROJECTIONS  
FIGURE 3

The 2012 and 2030 projected traffic volumes on Pyramid Highway were established based on a model validation review which included a comparison of RTC base model volumes with existing ground counts. Adjustments were also made to the RTC data to account for restricted turning movements. Copies of the RTC model data are included as **Appendix A**.

## ROADWAY CAPACITY ANALYSIS

The key roadways were reviewed for capacity for the existing, 2012 and 2030 traffic volumes based on the average daily level of service thresholds obtained from the Regional Transportation Commission's (RTC) 2030 Regional Transportation Plan. The 2030 Regional Transportation Plan classifies Pyramid Highway as a high access control arterial and Sparks Boulevard, Highland Ranch Parkway, Lazy 5 Parkway and Kiley Ranch Parkway as moderate access control arterials. The remaining on-site roadways are not classified as regional roadways but were reviewed as arterials or collectors. Table 1 shows the daily level of service thresholds for the various roadway classifications.

TABLE 1  
LEVEL OF SERVICE CRITERIA FOR ROADWAY SEGMENTS

| FACILITY/LANES                   | LOS A-C  | AVERAGE DAILY TRAFFIC VOLUME |                 |  | LOS F    |
|----------------------------------|----------|------------------------------|-----------------|--|----------|
|                                  |          | LOS D                        | LOS E           |  |          |
| Freeway                          |          |                              |                 |  |          |
| 4 Lanes                          | ≤63,500  | 63,501-80,000                | 80,001-90,200   |  | >90,200  |
| 6 Lanes                          | ≤91,100  | 91,101-114,000               | 114,001-135,300 |  | >135,300 |
| 8 Lanes                          | ≤121,400 | 121,401-153,200              | 153,201-180,400 |  | >180,400 |
| High Access Control Arterial     |          |                              |                 |  |          |
| 4 Lanes                          | ≤36,100  | 36,101-38,400                | 38,401-40,600   |  | >40,600  |
| 6 Lanes                          | ≤54,700  | 54,701-57,600                | 57,601-60,900   |  | >60,900  |
| 8 Lanes                          | ≤73,200  | 73,201-76,800                | 76,801-81,300   |  | >81,300  |
| Moderate Access Control Arterial |          |                              |                 |  |          |
| 2 Lanes                          | ≤14,800  | 14,801-17,500                | 17,501-18,600   |  | >18,600  |
| 4 Lanes                          | ≤32,200  | 32,201-35,200                | 35,201-36,900   |  | >36,900  |
| 6 Lanes                          | ≤49,600  | 49,601-52,900                | 52,901-55,400   |  | >55,400  |
| Low Access Control Arterial      |          |                              |                 |  |          |
| 2 Lanes                          | ≤6,900   | 6,901-13,400                 | 13,401-15,100   |  | >15,100  |
| Collector                        |          |                              |                 |  |          |
| 2 Lanes                          | ≤7,300   | 7,301-8,500                  | 8,501-9,100     |  | >9,100   |

A summary of the "Level of Service" (LOS) operation for the key roadway segments in this analysis is shown in Table 2.

TABLE 2  
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS

| <u>ROADWAY</u>               | <u>EXISTING</u> | <u>YEAR 2012</u> | <u>YEAR 2030</u> |
|------------------------------|-----------------|------------------|------------------|
| <b>PYRAMID HIGHWAY</b>       |                 |                  |                  |
| South of Kiley Ranch Parkway | 27,600          | 63,000           | 101,600          |
| 4 Lane HAC Arterial          | C               | F                | F                |
| 6 Lane HAC Arterial          | C               | F                | F                |
| 8 Lane HAC Arterial          | C               | C                | F                |
| 6 Lane Freeway               | C               | C                | D                |
| South of Sparks Boulevard    | 27,600          | 60,400           | 101,600          |
| 4 Lane HAC Arterial          | C               | F                | F                |
| 6 Lane HAC Arterial          | C               | E                | F                |
| 8 Lane HAC Arterial          | C               | C                | F                |
| 6 Lane Freeway               | C               | C                | D                |
| North of Sparks Boulevard    | 33,300          | 81,900           | 112,800          |
| 4 Lane HAC Arterial          | C               | F                | F                |
| 6 Lane HAC Arterial          | C               | F                | F                |
| 8 Lane HAC Arterial          | C               | F                | F                |
| 10 Lane HAC Arterial         | C               | C                | F                |
| 6 Lane Freeway               | C               | C                | D                |
| South of Lazy 5 Parkway      | 33,300          | 76,900           | 112,800          |
| 4 Lane HAC Arterial          | C               | F                | F                |
| 6 Lane HAC Arterial          | C               | F                | F                |
| 8 Lane HAC Arterial          | C               | E                | F                |
| 10 Lane HAC Arterial         | C               | C                | F                |
| 6 Lane Freeway               | C               | C                | D                |
| North of Lazy 5 Parkway      | 33,300          | 62,300           | 88,700           |
| 4 Lane HAC Arterial          | C               | F                | F                |
| 6 Lane HAC Arterial          | C               | F                | F                |
| 8 Lane HAC Arterial          | C               | C                | F                |
| 4 Lane Freeway               | C               | C                | E                |
| 6 Lane Freeway               | C               | C                | C                |
| <b>SPARKS BOULEVARD</b>      |                 |                  |                  |
| East of Pyramid Highway      | 8,100           | 28,400           | 32,900           |
| 2 Lane MAC Arterial          | C               | F                | F                |
| 4 Lane MAC Arterial          | C               | C                | D                |
| 6 Lane MAC Arterial          | C               | C                | C                |
| North of Kiley Ranch Parkway | 8,100           | 22,800           | 23,100           |
| 2 Lane MAC Arterial          | C               | F                | F                |
| 4 Lane MAC Arterial          | C               | C                | C                |
| South of Kiley Ranch Parkway | 8,100           | 28,700           | 29,100           |
| 2 Lane MAC Arterial          | C               | F                | F                |
| 4 Lane MAC Arterial          | C               | C                | C                |

TABLE 2 (CONTINUED)  
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS

| <u>ROADWAY</u>                | <u>EXISTING</u> | <u>YEAR 2012</u> | <u>YEAR 2030</u> |
|-------------------------------|-----------------|------------------|------------------|
| <b>HIGHLAND RANCH PARKWAY</b> |                 |                  |                  |
| West of Pyramid Highway       | 9,700           | 23,200           | 18,900           |
| 2 Lane MAC Arterial           | C               | F                | F                |
| 4 Lane MAC Arterial           | C               | C                | C                |
| <b>LAZY 5 PARKWAY</b>         |                 |                  |                  |
| West of Pyramid Highway       | N/A             | 2,400            | 7,200            |
| 2 Lane MAC Arterial           |                 | C                | C                |
| East of Pyramid Highway       | N/A             | 20,600           | 34,100           |
| 2 Lane MAC Arterial           |                 | F                | F                |
| 4 Lane MAC Arterial           |                 | C                | D                |
| 6 Lane MAC Arterial           |                 | C                | C                |
| West of David Allan Parkway   | N/A             | 20,300           | 32,800           |
| 2 Lane MAC Arterial           |                 | F                | F                |
| 4 Lane MAC Arterial           |                 | C                | D                |
| 6 Lane MAC Arterial           |                 | C                | C                |
| West of Kiley Ranch Parkway   | N/A             | 15,200           | 20,900           |
| 2 Lane MAC Arterial           |                 | D                | F                |
| 4 Lane MAC Arterial           |                 | C                | C                |
| East of Kiley Ranch Parkway   | N/A             | 16,800           | 23,200           |
| 2 Lane MAC Arterial           |                 | D                | F                |
| 4 Lane MAC Arterial           |                 | C                | C                |
| <b>KILEY RANCH PARKWAY</b>    |                 |                  |                  |
| East of Pyramid Highway       | N/A             | 3,600            | N/A              |
| 2 Lane MAC Arterial           |                 | C                |                  |
| West of Sparks Boulevard      | N/A             | 2,400            | N/A              |
| 2 Lane MAC Arterial           |                 | C                |                  |
| East of Sparks Boulevard      | N/A             | 8,800            | 12,400           |
| 2 Lane MAC Arterial           |                 | C                | C                |
| East of David Allan Parkway   | N/A             | 4,000            | 5,200            |
| 2 Lane MAC Arterial           |                 | C                | C                |
| South of Road C               | N/A             | 2,100            | 3,500            |
| 2 Lane MAC Arterial           |                 | C                | C                |
| South of Road B               | N/A             | 2,100            | 3,700            |
| 2 Lane MAC Arterial           |                 | C                | C                |
| South of Road A               | N/A             | 1,400            | 2,700            |
| 2 Lane MAC Arterial           |                 | C                | C                |

TABLE 2 (CONTINUED)  
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS

| <u>ROADWAY</u>  | <u>EXISTING</u> | <u>YEAR 2012</u> | <u>YEAR 2030</u> |
|---|-----------------|------------------|------------------|
| <b>KILEY RANCH PARKWAY</b>  |                 |                  |                  |
| South of Lazy 5 Parkway<br>2 Lane MAC Arterial                          | N/A             | 2,900<br>C       | 6,100<br>C       |
| North of Lazy 5 Parkway<br>2 Lane MAC Arterial                          | N/A             | 1,200<br>C       | 3,200<br>C       |
| <b>DAVID ALLAN PARKWAY</b>  |                 |                  |                  |
| North of Kiley Ranch<br>2 Lane MAC Arterial                             | N/A             | 6,200<br>C       | 7,700<br>C       |
| South of Road B<br>2 Lane MAC Arterial                                  | N/A             | 8,000<br>C       | 9,200<br>C       |
| South of Road A<br>2 Lane MAC Arterial                                  | N/A             | 6,300<br>C       | 7,400<br>C       |
| South of Lazy 5 Parkway<br>2 Lane MAC Arterial                          | N/A             | 5,900<br>C       | 9,500<br>C       |
| North of Lazy 5 Parkway<br>2 Lane MAC Arterial                          | N/A             | 5,200<br>C       | 9,600<br>C       |
| <b>HENRY ORR PARKWAY</b>  |                 |                  |                  |
| North of Kiley Ranch Parkway<br>2 Lane LAC Arterial<br>2 Lane Collector | N/A             | 2,500<br>C<br>C  | 2,500<br>C<br>C  |
| <b>ROAD A</b>   |                 |                  |                  |
| East of Pyramid Highway<br>2 Lane MAC Arterial                          | N/A             | 3,200<br>C       | N/A              |
| West of David Allan Parkway<br>2 Lane MAC Arterial                      | N/A             | 7,600<br>C       | 5,300<br>C       |
| East of David Allan Parkway<br>2 Lane LAC Arterial<br>2 Lane Collector  | N/A             | 2,400<br>C<br>C  | 4,200<br>C<br>C  |
| West of Kiley Ranch Parkway<br>2 Lane LAC Arterial<br>2 Lane Collector  | N/A             | 1,500<br>C<br>C  | 2,900<br>C<br>C  |
| <b>ROAD B</b>   |                 |                  |                  |
| East of Pyramid Highway<br>2 Lane LAC Arterial<br>2 Lane Collector      | N/A             | 5,000<br>C<br>C  | N/A              |

TABLE 2 (CONTINUED)  
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS

| <u>ROADWAY</u>              | <u>EXISTING</u> | <u>YEAR 2012</u> | <u>YEAR 2030</u> |
|-----------------------------|-----------------|------------------|------------------|
| <b>ROAD B</b>               |                 |                  |                  |
| West of David Allan Parkway | N/A             | 6,600            | 5,700            |
| 2 Lane LAC Arterial         |                 | C                | C                |
| 2 Lane Collector            |                 | C                | C                |
| East of David Allan Parkway | N/A             | 4,600            | 5,000            |
| 2 Lane LAC Arterial         |                 | C                | C                |
| 2 Lane Collector            |                 | C                | C                |
| West of Kiley Ranch Parkway | N/A             | 2,700            | 3,900            |
| 2 Lane LAC Arterial         |                 | C                | C                |
| 2 Lane Collector            |                 | C                | C                |
| <b>ROAD C</b>               |                 |                  |                  |
| East of David Allan Parkway | N/A             | 600              | 600              |
| 2 Lane LAC Arterial         |                 | C                | C                |
| 2 Lane Collector            |                 | C                | C                |
| West of Kiley Ranch Parkway | N/A             | 100              | 200              |
| 2 Lane LAC Arterial         |                 | C                | C                |
| 2 Lane Collector            |                 | C                | C                |
| <b>ROAD D</b>               |                 |                  |                  |
| North of Sparks Boulevard   | N/A             | 6,600            | 9,900            |
| 2 Lane MAC Arterial         |                 | C                | C                |
| South of Road B             | N/A             | 2,700            | 6,100            |
| 2 Lane MAC Arterial         |                 | C                | C                |

#### Pyramid Highway

The existing four-lane section of Pyramid Highway from south of Kiley Ranch Parkway to north of Lazy 5 Parkway currently operates at level of service C. This same four-lane section of roadway will operate at level of service F for the 2012 and 2030 traffic volumes. Widening Pyramid Highway to eight lanes by 2012 will result in level of service C operation south of Sparks Boulevard and north of Lazy 5 Parkway and level of service E/F operation between Sparks Boulevard and Lazy 5 Parkway. The section between Sparks Boulevard and Lazy 5 Parkway will need to be improved to ten lanes in order to meet policy level of service C standards for the 2012 scenario. For the 2030 traffic volumes, Pyramid Highway will need to be converted to a six-lane freeway in order to maintain policy level of service D or better operation for freeways.



### Sparks Boulevard

The existing two-lane section of Sparks Boulevard from Pyramid Highway to south of Kiley Ranch Parkway currently operates at level of service C. Sparks Boulevard is currently being widened to four lanes from Pyramid Highway to south of Kiley Ranch Parkway. This four-lane section of Sparks Boulevard will operate at level of service C for the 2012 traffic volumes. For the 2030 traffic volumes, the four-lane section from Road D to south of Kiley Ranch Parkway will continue to operate at level of service C and the four-lane section between Pyramid Highway and Road D will operate at level of service D. It should be noted that the four-lane section of Sparks Boulevard between Pyramid Highway and Road D will exceed the level of service C capacity by only  $\pm 2\%$  in 2030.

### Highland Ranch Parkway

The existing two-lane section of Highland Ranch Parkway west of Pyramid Highway currently operates at level of service C but will operate at level of service F for the 2012 and 2030 traffic volumes. Highland Ranch Parkway will need to be widened to four lanes in order to provide level of service C operation for the 2012 and 2030 traffic volumes.

### Lazy 5 Parkway

The section of Lazy 5 Parkway west of Pyramid Highway will operate at level of service C for the 2012 and 2030 traffic volumes as a two-lane moderate access control arterial. The section of Lazy 5 Parkway from Pyramid Highway to east of Kiley Ranch Parkway will operate at level of service C as a four-lane moderate access control arterial for the 2012 traffic volumes. For the 2030 traffic volumes, the section of Lazy 5 Parkway from David Allan Parkway to east of Kiley Ranch Parkway will continue to operate at level of service C and the section from Pyramid Highway to David Allan Parkway will operate at level of service D as a four-lane moderate access control arterial. A six-lane section will be needed from Pyramid Highway to David Allan Parkway by 2030 in order to maintain policy level of service C operation. It should be noted that the four-lane section of Lazy 5 Parkway between Pyramid Highway and David Allan Parkway will exceed the level of service C capacity by only  $\pm 5\%$  in 2030.

### Kiley Ranch Parkway

The section of Kiley Ranch Parkway from Pyramid Highway to north of Lazy 5 Parkway will operate at level of service C for the 2012 and 2030 traffic volumes as two-lane moderate access control arterial. The sections of Kiley Ranch Parkway from Sparks Boulevard to Henry Orr Parkway and from Lazy 5 Parkway to Road A are anticipated to exceed 5,000 ADT and therefore classify as regional roadways and qualify for RTC credits.

#### David Allan Parkway

The section of David Allan Parkway from Kiley Ranch Parkway to north of Lazy 5 Parkway will operate at level of service C for the 2012 and 2030 traffic volumes as a two-lane moderate access control arterial. This section of David Allan Parkway is anticipated to exceed 5,000 ADT and therefore classify as a regional roadway and qualify for RTC credits.

#### Henry Orr Parkway

The section of Henry Orr Parkway from Kiley Ranch Parkway to Road C will operate at level of service C for the 2012 and 2030 traffic volumes as a two-lane low access control arterial or a two-lane collector. This section of Henry Orr Parkway will not exceed the 5,000 ADT threshold.

#### Road A

The section of Road A from Pyramid Highway to David Allan Parkway will operate at level of service C for the 2012 and 2030 traffic volumes as a two-lane moderate access control arterial. The section of Road A from David Allan Parkway to Kiley Ranch Parkway will operate at level of service C for the 2012 and 2030 traffic volumes as a two-lane low access control arterial or two-lane collector. This section of Road A just west of David Allen Parkway is anticipated to exceed 5,000 ADT and therefore classify as a regional roadway and qualify for RTC credits.

#### Road B

The section of Road B from Pyramid Highway to Kiley Ranch Parkway will operate at level of service C for the 2012 and 2030 traffic volumes as a two-lane low access control arterial or a two-lane collector. The section of Road B from Pyramid Highway to David Allen Parkway is anticipated to exceed 5,000 ADT and therefore classify as a regional roadway and qualify for RTC credits.

#### Road C

The section of Road C from David Allan Parkway to Kiley Ranch Parkway will operate at level of service C for the 2012 and 2030 traffic volumes as a two-lane low access control arterial or a two-lane collector. Road C will not exceed the 5,000 ADT threshold.

## Road D

The section of Road D from Sparks Boulevard to Road B will operate at level of service C for the 2012 and 2030 traffic volumes as a two-lane moderate access control arterial. This section of Road D is anticipated to exceed 5,000 ADT and therefore classify as a regional roadway and qualify for RTC credits.

## **INTERSECTION CAPACITY ANALYSIS**

The key intersections were analyzed for capacity based on procedures presented in the *Highway Capacity Manual* (2000 HCM), prepared by the Transportation Research Board, for signalized and unsignalized intersections using the Synchro computer software. The SIDRA software was used to analyze roundabouts.

The result of capacity analysis is a "level of service" rating for each signalized intersection and unsignalized intersection minor movement. Level of service is a qualitative measure of traffic operating conditions where a letter grade "A" through "F", corresponding to progressively worsening traffic operation, is assigned to the signalized intersection and unsignalized intersection minor movement.

Level of service for stop controlled intersections is stated in terms of computed or measured control delay for each minor movement. Level of service is not defined for the intersection as a whole. The unsignalized intersection level of service criteria are shown in Table 3.

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TABLE 3  
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

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| <u>LEVEL OF SERVICE</u> | <u>DELAY RANGE (SEC/VEH)</u> |
|-------------------------|------------------------------|
| A                       | ≤10                          |
| B                       | >10 and ≤15                  |
| C                       | >15 and ≤25                  |
| D                       | >25 and ≤35                  |
| E                       | >35 and ≤50                  |
| F                       | >50                          |

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Level of service for signalized intersections is stated in terms of average control delay per vehicle for a peak 15 minute analysis period. The signalized intersection level of service criteria are shown in Table 4.

TABLE 4  
LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

| <u>LEVEL OF SERVICE</u> | <u>CONTROL DELAY PER VEHICLE (SEC)</u> |
|-------------------------|--|
| A                       | ≤10                                    |
| B                       | >10 and ≤20                            |
| C                       | >20 and ≤35                            |
| D                       | >35 and ≤55                            |
| E                       | >55 and ≤80                            |
| F                       | >80                                    |

A summary of the level of service (LOS) operation for the key intersections in this analysis is shown in Table 5. Copies of the Synchro and SIDRA level of service worksheets are included as **Appendix B**.

TABLE 5  
INTERSECTION LEVEL OF SERVICE AND DELAY RESULTS

| <u>INTERSECTION</u>         | <u>EXISTING</u> |           | <u>YEAR 2012</u> |           | <u>YEAR 2030</u> |           |
|-----------------------------|-----------------|-----------|------------------|-----------|------------------|-----------|
|                             | <u>AM</u>       | <u>PM</u> | <u>AM</u>        | <u>PM</u> | <u>AM</u>        | <u>PM</u> |
| <b>PYRAMID/SPARKS</b>       |                 |           |                  |           |                  |           |
| Signalized Four-Leg         | D41.7           | E66.7     | C30.8            | D49.3     | N/A              | N/A       |
| Signalized SPUI             | N/A             | N/A       | N/A              | N/A       | C34.6            | C32.3     |
| <b>PYRAMID/LAZY 5</b>       |                 |           |                  |           |                  |           |
| Signalized Four-Leg         | N/A             | N/A       | B19.8            | C24.2     | N/A              | N/A       |
| Signalized SPUI             | N/A             | N/A       | N/A              | N/A       | B18.9            | C24.4     |
| <b>PYRAMID/ROAD A</b>       |                 |           |                  |           |                  |           |
| Unsignalized "T"            |                 |           |                  |           |                  |           |
| EB Right                    | N/A             | N/A       | B12.5            | B12.0     | N/A              | N/A       |
| WB Right                    | N/A             | N/A       | B12.3            | D31.7     | N/A              | N/A       |
| <b>PYRAMID/ROAD B</b>       |                 |           |                  |           |                  |           |
| Unsignalized "T"            |                 |           |                  |           |                  |           |
| EB Right                    | N/A             | N/A       | C17.2            | B13.2     | N/A              | N/A       |
| WB Right                    | N/A             | N/A       | B10.8            | B13.0     | N/A              | N/A       |
| <b>PYRAMID/NORTH ACCESS</b> |                 |           |                  |           |                  |           |
| Unsignalized "T"            |                 |           |                  |           |                  |           |
| WB Right                    | N/A             | N/A       | C16.0            | B12.1     | N/A              | N/A       |
| <b>SPARKS/KILEY RANCH</b>   |                 |           |                  |           |                  |           |
| Signalized Four-Leg         | N/A             | N/A       | C24.4            | C23.1     | C24.6            | C26.7     |

TABLE 5 (CONTINUED)  
INTERSECTION LEVEL OF SERVICE AND DELAY RESULTS

| <u>INTERSECTION</u>             | <u>EXISTING</u> |           | <u>YEAR 2012</u> |           | <u>YEAR 2030</u> |           |
|---------------------------------|-----------------|-----------|------------------|-----------|------------------|-----------|
|                                 | <u>AM</u>       | <u>PM</u> | <u>AM</u>        | <u>PM</u> | <u>AM</u>        | <u>PM</u> |
| <b>SPARKS/ROAD D</b>            |                 |           |                  |           |                  |           |
| Two-Lane Roundabout             |                 |           |                  |           |                  |           |
| EB Left-Thru-Right              | N/A             | N/A       | A8.6             | B10.1     | A9.7             | C29.7     |
| WB Left-Thru-Right              | N/A             | N/A       | A5.3             | A9.1      | A6.3             | B10.3     |
| NB Left-Thru-Right              | N/A             | N/A       | A2.1             | A3.1      | A4.1             | B10.1     |
| SB Left-Thru-Right              | N/A             | N/A       | A2.3             | A2.7      | A3.6             | A3.9      |
| <b>LAZY 5/COMMERCIAL ACCESS</b> |                 |           |                  |           |                  |           |
| Unsignalized "T"                |                 |           |                  |           |                  |           |
| NB Right                        | N/A             | N/A       | B11.1            | B12.6     | C16.5            | C17.3     |
| <b>LAZY 5/DAVID ALLAN</b>       |                 |           |                  |           |                  |           |
| Signalized Four-Leg             | N/A             | N/A       | B18.9            | C27.8     | C23.8            | C30.2     |
| <b>LAZY 5/KILEY RANCH</b>       |                 |           |                  |           |                  |           |
| Two-Lane Roundabout             |                 |           |                  |           |                  |           |
| EB Left-Thru-Right              | N/A             | N/A       | A3.8             | A3.0      | A3.8             | A4.0      |
| WB Left-Thru-Right              | N/A             | N/A       | A3.9             | A3.3      | A4.5             | A4.5      |
| NB Left-Thru-Right              | N/A             | N/A       | A6.6             | A8.2      | A9.1             | B15.2     |
| SB Left-Thru-Right              | N/A             | N/A       | A6.0             | A5.3      | A5.7             | A6.1      |
| <b>KILEY RANCH/ROAD A</b>       |                 |           |                  |           |                  |           |
| Unsignalized Four-Leg           |                 |           |                  |           |                  |           |
| EB Left                         | N/A             | N/A       | B12.0            | B13.6     | B14.5            | C16.8     |
| EB Left-Thru                    | N/A             | N/A       | B10.6            | B11.8     | B11.3            | B13.7     |
| WB Left                         | N/A             | N/A       | B11.3            | B11.9     | B12.3            | B13.8     |
| WB Left-Thru                    | N/A             | N/A       | B12.4            | B10.5     | B11.3            | B10.7     |
| NB Left                         | N/A             | N/A       | A8.5             | A8.4      | A8.6             | A8.6      |
| SB Left                         | N/A             | N/A       | A8.3             | A8.5      | A8.5             | A8.7      |
| <b>KILEY RANCH/ROAD B</b>       |                 |           |                  |           |                  |           |
| One-Lane Roundabout             |                 |           |                  |           |                  |           |
| EB Left-Thru-Right              | N/A             | N/A       | A5.1             | A3.9      | A5.1             | A3.3      |
| WB Left-Thru-Right              | N/A             | N/A       | A4.5             | A5.5      | A5.0             | A5.6      |
| NB Left-Thru-Right              | N/A             | N/A       | A5.3             | A4.1      | A4.2             | A4.5      |
| SB Left-Thru-Right              | N/A             | N/A       | A2.5             | A2.5      | A3.1             | A2.1      |
| <b>KILEY RANCH/ROAD C</b>       |                 |           |                  |           |                  |           |
| Unsignalized Four-Leg           |                 |           |                  |           |                  |           |
| EB Left                         | N/A             | N/A       | B11.8            | B13.0     | B12.7            | B13.5     |
| EB Left-Thru                    | N/A             | N/A       | B10.7            | B12.0     | B11.1            | B12.3     |
| WB Left                         | N/A             | N/A       | B11.9            | B12.8     | B12.7            | B13.3     |
| WB Left-Thru                    | N/A             | N/A       | B10.2            | B11.3     | B10.1            | B11.2     |
| NB Left                         | N/A             | N/A       | A8.5             | A8.4      | A8.5             | A8.5      |
| SB Left                         | N/A             | N/A       | A8.3             | A8.7      | A8.4             | A8.7      |

TABLE 5 (CONTINUED)  
INTERSECTION LEVEL OF SERVICE AND DELAY RESULTS

| INTERSECTION                   | EXISTING |     | YEAR 2012 |       | YEAR 2030 |      |
|--------------------------------|----------|-----|-----------|-------|-----------|------|
|                                | AM       | PM  | AM        | PM    | AM        | PM   |
| <b>KILEY RANCH/HENRY ORR</b>   |          |     |           |       |           |      |
| One-Lane Roundabout            |          |     |           |       |           |      |
| EB Left-Thru-Right             | N/A      | N/A | A6.3      | A4.7  | A3.6      | A4.5 |
| WB Left-Thru-Right             | N/A      | N/A | A2.5      | A4.3  | A2.3      | A3.8 |
| NB Left-Thru-Right             | N/A      | N/A | A5.7      | A7.7  | A5.8      | A7.4 |
| SB Left-Thru-Right             | N/A      | N/A | A2.6      | A2.5  | A3.0      | A2.7 |
| <b>KILEY RANCH/DAVID ALLAN</b> |          |     |           |       |           |      |
| Two-Lane Roundabout            |          |     |           |       |           |      |
| EB Left-Thru-Right             | N/A      | N/A | A5.6      | A4.3  | A5.9      | A4.5 |
| WB Left-Thru-Right             | N/A      | N/A | A2.8      | A3.7  | A3.9      | A3.8 |
| NB Left-Thru-Right             | N/A      | N/A | A4.2      | A6.1  | A7.7      | A8.4 |
| SB Left-Thru-Right             | N/A      | N/A | A2.7      | A1.4  | A2.8      | A7.1 |
| <b>DAVID ALLAN/ROAD A</b>      |          |     |           |       |           |      |
| One-Lane Roundabout            |          |     |           |       |           |      |
| EB Left-Thru-Right             | N/A      | N/A | A5.7      | A6.6  | A7.4      | A8.2 |
| WB Left-Thru-Right             | N/A      | N/A | A4.5      | A7.9  | A4.9      | A9.2 |
| NB Left-Thru-Right             | N/A      | N/A | A7.8      | B11.4 | A4.6      | A5.7 |
| SB Left-Thru-Right             | N/A      | N/A | A2.8      | A4.1  | A2.1      | A2.4 |
| <b>DAVID ALLAN/ROAD B</b>      |          |     |           |       |           |      |
| One-Lane Roundabout            |          |     |           |       |           |      |
| EB Left-Thru-Right             | N/A      | N/A | A6.8      | A6.3  | A6.3      | A6.2 |
| WB Left-Thru-Right             | N/A      | N/A | A6.3      | A8.0  | A6.4      | A7.7 |
| NB Left-Thru-Right             | N/A      | N/A | A5.4      | A6.6  | A5.5      | A5.8 |
| SB Left-Thru-Right             | N/A      | N/A | A3.2      | A2.3  | A3.1      | A1.8 |

#### Pyramid Highway/Sparks Boulevard

The Pyramid Highway/Sparks Boulevard intersection was analyzed as a signalized four-leg intersection for the existing and 2012 traffic volumes and as a single point urban interchange (SPUI) for the 2030 traffic volumes. The intersection currently operates at the level of service D with a delay of 41.7 seconds per vehicle during the AM peak hour and level of service E with a delay of 66.7 seconds per vehicle during the PM peak hour. For the 2012 traffic volumes, the Pyramid Highway/Sparks Boulevard intersection operates at the level of service C with a delay of 30.8 seconds per vehicle during the AM peak hour and level of service D with a delay of 49.3 seconds per vehicle during the PM peak hour.

For the 2012 traffic volumes, the intersection was analyzed with dual left turn lanes, four through lanes and one right turn lane at the north approach; dual left turn lanes, five through lanes and one right turn lane at the south approach; dual left turn lanes, one through lane, and dual right turn lanes at the east approach; and triple left turn lanes, one through lane and one shared through-right turn lane at the west approach.

For the 2030 traffic volumes, the SPUI will operate at level of service C with a delay of 34.6 seconds per vehicle during the AM peak hour and 32.3 seconds per vehicle during the PM peak hour. The SPUI was analyzed with dual left turn lanes, two through lanes and one free right turn lane at the east approach; dual left turn lanes, one through lane and one shared through-right turn lane at the west approach; dual left turn lanes and dual right turn lanes on the southbound off-ramp; and one left turn lane and dual right turn lanes on the northbound off-ramp.

#### Pyramid Highway/Lazy 5 Parkway

The Pyramid Highway/Lazy 5 Parkway intersection was analyzed as a signalized four-leg intersection for the 2012 traffic volumes and as a single point urban interchange (SPUI) for the 2030 traffic volumes. For the 2012 traffic volumes, the intersection operates at the level of service B with a delay of 19.8 seconds per vehicle during the AM peak hour and level of service C with a delay of 24.2 seconds per vehicle during the PM peak hour. The intersection was analyzed with dual left turn lanes, four through lanes and one right turn lane at the north and south approaches; triple left turn lanes, one through lane, one right turn lane at the east approach; and one left turn lane, one through lane and one right turn lane at the west approach. For the 2030 traffic volumes, the SPUI will operate at level of service B with a delay of 18.9 seconds per vehicle during the AM peak hour and level of service C with a delay of 24.4 seconds per vehicle during the PM peak hour. The SPUI was analyzed with dual left turn lanes, one through lane and one right turn lane at the east approach; one left turn lane, one through lane and one right turn lane at the west approach; dual left turn lanes and one right turn lane on the southbound off-ramp; and dual left turn lanes and dual right turn lanes on the northbound off-ramp. It is anticipated that peak hour signal warrants will be met at the Pyramid Highway/Lazy 5 Parkway intersection with the initial construction of the commercial development scheduled by 2008.

#### Pyramid Highway/Road A

The Pyramid Highway/Road A intersection was analyzed as an unsignalized intersection with right-in/right-out movements at the east and west approaches for the 2012 traffic volumes. The eastbound and westbound right turn movement will operate at level of service D or better during the AM and PM peak hours. The intersection was analyzed with a right turn deceleration lane at the north and south approaches and one right turn lane at the east and west approaches.



#### Pyramid Highway/Road B

The Pyramid Highway/Road B intersection was analyzed as an unsignalized intersection with right-in/right-out movements at the east and west approaches for the 2012 traffic volumes. The eastbound and westbound right turn movement will operate at level of service C or better during the AM and PM peak hours. The intersection was analyzed with a right turn deceleration lane at the north and south approaches and one right turn lane at the east and west approaches.

#### Pyramid Highway/North Access

The Pyramid Highway/North Access intersection was analyzed as an unsignalized "T" intersection with limited right-in/right-out movements only for the 2012 traffic volumes. The eastbound right turn movement will operate at level of service C or better during the AM and PM peak hours. The intersection was analyzed with a right turn deceleration lane at the north approach and one right turn lane at the west approach.

#### Sparks Boulevard/Kiley Ranch Parkway

The Sparks Boulevard/Kiley Ranch Parkway intersection was analyzed as a signalized four-leg intersection for the 2012 and 2030 traffic volumes. For the 2012 traffic volumes, the intersection operates at the level of service C with a delay of 24.4 seconds per vehicle during the AM peak hour and 23.1 seconds per vehicle during the PM peak hour. For the 2030 traffic volumes, the intersection operates at the level of service C with a delay of 24.6 seconds per vehicle during the AM peak hour and 26.7 seconds per vehicle during the PM peak hour. The intersection was analyzed with dual left turn lanes, one through lane and one shared through-right turn lane at the north approach; one left turn lane, two through lanes, and one right turn lane at the south approach; dual left turn lanes, one through lane and one right turn lane at the east approach; and one left turn lane, one through lane and one right turn lane at the west approach for the 2012 and 2030 traffic volumes.

#### Sparks Boulevard/Road D

The Sparks Boulevard/Road D intersection was analyzed as a two-lane roundabout for the 2012 and 2030 traffic volumes. All approaches will operate at level of service C or better during the AM and PM peak hours for both the 2012 and 2030 scenarios. The roundabout was analyzed with one shared left turn-through lane and one shared through-right turn lane at the north and south approaches; one shared left turn-through lane and one right turn lane at the east approach; and one shared left turn-through-right turn lane at the west approach for the 2012 and 2030 traffic volumes.

#### Lazy 5 Parkway/Commercial Access Road

The Lazy 5 Parkway/Commercial Access Road intersection was analyzed as an unsignalized "T" intersection with right-in/right-out movements only for the 2012 and 2030 traffic volumes. For the 2012 traffic volumes, the northbound right turn movement operates at level of service B during the AM and PM peak hours. For the 2030 traffic volumes, the northbound right turn movement operates at level of service C during the AM and PM peak hours. The intersection was analyzed with one right turn lane at the south approach; two through lanes at the east approach; and two through lanes and one right turn lane at the west approach.

#### Lazy 5 Parkway/David Allan Parkway

The Lazy 5 Parkway/David Allan Parkway intersection was analyzed as a signalized four-leg intersection for the 2012 and 2030 traffic volumes. For the 2012 traffic volumes, the intersection operates at the level of service B with a delay of 18.9 seconds per vehicle during the AM peak hour and level of service C with a delay of 27.8 seconds per vehicle during the PM peak hour. The intersection was analyzed with one left turn lane, one through lane and one right turn lane at the north approach; dual left turn lanes, one through lane, and one right turn lane at the south approach; one left turn lane, one through lane, and one shared through-right turn lane at the east approach; and one left turn lane, two through lanes and one right turn lane at the west approach for the 2012 traffic volumes.

For the 2030 traffic volumes, the intersection operates at the level of service C with a delay of 23.8 seconds per vehicle during the AM peak hour and 30.2 seconds per vehicle during the PM peak hour. The intersection was analyzed with one left turn lane, one through lane and one right turn lane at the north approach; dual left turn lanes, one through lane, and one right turn lane at the south approach; one left turn lane, two through lanes, and one right turn lane at the east approach; and dual left turn lanes, two through lanes and one right turn lane at the west approach for the 2030 traffic volumes.

#### Lazy 5 Parkway/Kiley Ranch Parkway

The Lazy 5 Parkway/Kiley Ranch Parkway intersection was analyzed as a two-lane roundabout for the 2012 and 2030 traffic volumes. All approaches will operate at level of service B or better during the AM and PM peak hours for both the 2012 and 2030 scenarios. The roundabout was analyzed with one shared left turn-through lane and one shared through-right turn lane at the east and west approaches and one shared left turn-through-right turn lane at the north and south approaches for the 2012 and 2030 traffic volumes.

#### Kiley Ranch Parkway/Road A

The Kiley Ranch Parkway/Road A intersection was analyzed as an unsignalized four-leg intersection with stop control at the east and west approaches for the 2012 and 2030 traffic volumes. The intersection critical movements will operate at level of service C or better during the AM and PM peak hours for both the 2012 and 2030 scenarios. The intersection was analyzed with one left turn lane and one shared through-right turn lane at the east, west and south approaches and one left turn lane, one through lane and one right turn lane at the north approach for the 2012 and 2030 volumes.

#### Kiley Ranch Parkway/Road B

The Kiley Ranch Parkway/Road B intersection was analyzed as a one-lane roundabout for the 2012 and 2030 traffic volumes. All approaches will operate at level of service A during the AM and PM peak hours for both the 2012 and 2030 scenarios. The roundabout was analyzed with one shared left turn-through-right turn lane at all approaches for the 2012 and 2030 traffic volumes.

#### Kiley Ranch Parkway/Road C

The Kiley Ranch Parkway/Road C intersection was analyzed as an unsignalized four-leg intersection with stop control at the east and west approaches for the 2012 and 2030 volumes. The intersection critical movements will operate at level of service B or better during the AM and PM peak hours for both the 2012 and 2030 scenarios. The intersection was analyzed with one left turn lane and one shared through-right turn lane at all approaches for the 2012 and 2030 volumes.

#### Kiley Ranch Parkway/Henry Orr Parkway

The Kiley Ranch Parkway/Henry Orr Parkway intersection was analyzed as a one-lane roundabout for the 2012 and 2030 volumes. All approaches operate at level of service A during the AM and PM peak hours for both the 2012 and 2030 scenarios. The roundabout was analyzed with one shared left turn-through-right turn lane at all approaches for the 2012 and 2030 traffic volumes.

#### Kiley Ranch Parkway/David Allan Parkway

The Kiley Ranch Parkway/David Allan Parkway intersection was analyzed as a two-lane roundabout for the 2012 and 2030 traffic volumes. All approaches will operate at level of service A during the AM and PM peak hours for both the 2012 and 2030 scenarios. The roundabout was analyzed with one shared left turn-through lane and one shared through-right turn lane at the east and west approaches and one shared left turn-through-right turn lane at the north and south approaches for the 2012 and 2030 traffic volumes.

#### David Allan Parkway/Road A

The David Allan Parkway/Road A intersection was analyzed as a one-lane roundabout for the 2012 and 2030 traffic volumes. All approaches will operate at level of service B or better during the AM and PM peak hours for both the 2012 and 2030 scenarios. The roundabout was analyzed with one shared left turn-through-right turn lane at all approaches for the 2012 and 2030 traffic volumes.

#### David Allan Parkway/Road B

The David Allan Parkway/Road B intersection was analyzed as a one-lane roundabout for the 2012 and 2030 traffic volumes. All approaches will operate at level of service A during the AM and PM peak hours for both the 2012 and 2030 scenarios. The roundabout was analyzed with one shared left turn-through-right turn lane at all approaches for the 2012 and 2030 traffic volumes.

### **PYRAMID HIGHWAY DESIGN REVIEW**

The roadway capacity results indicate that Pyramid Highway will operate at level of service C for the 2012 traffic volumes with eight lanes north of Lazy 5 Parkway and south of Sparks Boulevard and with ten lanes between Sparks Boulevard and Lazy 5 Parkway. The intersection capacity results indicate that a traffic signal at the Pyramid Highway/Sparks Boulevard intersection will operate at level of service D and a traffic signal at the Pyramid Highway/Lazy 5 Parkway intersection will operate at level of service C for the 2012 traffic volumes. For the 2030 traffic volumes, Pyramid Highway will operate at policy level of service D or better as a six-lane freeway and single point urban interchanges at the Pyramid Highway intersections with Sparks Boulevard and Lazy 5 Parkway will provide level of service C operation.

The need for exclusive right turn lanes on Pyramid Highway at the key intersections was reviewed based on NDOT's access management standards. The standards indicate that right turn deceleration lanes are required at access intersections on roadways with speeds in excess of 35 miles per hour speed. Exclusive right turn lanes are required on Pyramid Highway at Lazy 5 Parkway, Sparks Boulevard, Road A, Road B and the north access intersections based on the 55 mile per hour speed limit on Pyramid Highway.

Storage and deceleration requirements were subsequently reviewed for the right turn lanes as well as the exclusive left turn lanes on Pyramid Highway at the key intersections based on NDOT access management standards. The length of the right turn pockets was determined based on a deceleration length of 365 feet for the 55 mile per hour speed on Pyramid Highway and a minimum of 100 feet of storage length for non-free right turn movements. The length of the left turn pockets was determined based on a deceleration length of 365 feet for the 55 mile per hour speed on Pyramid Highway and desirable storage length calculated using the Poisson method for signalized intersections.

The left and right lanes on Pyramid Highway at the signalized Lazy 5 Parkway and Sparks Boulevard intersections will be required to serve 2012 traffic volumes. The Nevada Department of Transportation has indicated that a raised center median will be required on Pyramid Highway from Sparks Boulevard to Delores Drive when the Lazy 5 Parkway intersection is signalized.

Intersection spacing requirements established by the Nevada Department of Transportation were reviewed for the unsignalized right-in/right-out accesses on Pyramid Highway. NDOT's access management standards indicate that corner clearance for unsignalized intersections shall be a minimum of 600 feet based on the 55 mile per hour speed limit on Pyramid Highway. Road A will be located  $\pm 1,000$  feet north of Road B and  $\pm 1,000$  feet south of Lazy 5 Parkway. Road B will be located  $\pm 1,000$  feet north of Sparks Boulevard and  $\pm 1,000$  feet south of Road A. The Pyramid Highway intersections with Roads A and B will therefore meet the unsignalized intersection spacing requirements with sufficient spacing available to accommodate the required right turn deceleration lanes. It is recommended that the north access road on the west side of Pyramid Highway be relocated further north in order to meet the spacing requirements and to accommodate the required southbound right turn deceleration lane at Lazy 5 Parkway.

## **LAZY 5 PARKWAY DESIGN REVIEW**

The roadway capacity results indicate that Lazy 5 Parkway will operate at level of service C for the 2012 traffic volumes with two lanes west of Pyramid Highway and four lanes east of Pyramid Highway. The intersection capacity results indicate that traffic signals at the Lazy 5 Parkway intersections with Pyramid Highway and David Allan Parkway, a roundabout at the Lazy 5 Parkway/Kiley Ranch Parkway intersection, and the unsignalized right-in/right-out Lazy 5 Parkway/commercial access intersection will provide level of service C or better operation.

For the 2030 traffic volumes, the roadway capacity results indicate that Lazy 5 Parkway between Pyramid Highway and David Allan Parkway will need to be improved to six lanes in order to maintain level of service C operation. However, a four-lane section between Pyramid Highway and David Allan Parkway will exceed the level of service C capacity by only  $\pm 5\%$  in 2030. A single point urban interchange at the Pyramid Highway/Lazy 5 Parkway intersection and the signalized Lazy 5 Parkway/David Allan Parkway intersection will provide level of service C operation with sufficient length for queuing on the four-lane roadway section between the intersections. It is our opinion that a four-lane section for Lazy 5 Parkway between Pyramid Highway and David Allan Parkway will serve 2030 traffic volumes.

Intersection spacing requirements established by the Regional Transportation Commission were subsequently reviewed for Lazy 5 Parkway. RTC's access management standards indicate that a maximum of three signalized intersections per mile are permitted on moderate access control arterials. Traffic signals are required at the Lazy 5 Parkway/Pyramid Highway and Lazy 5 Parkway/David Allan Parkway intersections and a third traffic signal is anticipated at the Lazy 5 Parkway/Wingfield Hills Drive intersection within the Pioneer Meadows development. The distance along Lazy 5 Parkway from Pyramid Highway to David Allan Parkway is  $\pm 1,475$  feet.

The distance along Lazy 5 Parkway from David Allan Parkway to Wingfield Hills Drive is  $\pm 4,475$  feet. Future traffic signals on Lazy 5 Parkway at the Pyramid Highway, David Allan Parkway, and Wingfield Hills Drive intersections will meet RTC's signal spacing requirements. RTC's access management standards also indicate that unsignalized intersections on moderate access control arterials need to be spaced a minimum of 200 feet from signalized intersections. The right-in/right-out commercial access on Lazy 5 Parkway will meet the spacing requirements.

The need for exclusive right turn lanes on Lazy 5 Parkway at the key intersections was reviewed based on RTC's access management standards. The standards indicate that right turn lanes are required at intersections on moderate access control arterials if the right turn movement serves more than 60 vehicles per hour during the peak hours. Right turn lanes are required at the west approaches of the Lazy 5 Parkway/commercial access and Lazy 5 Parkway/David Allan Parkway intersections based on the 2012 traffic volumes. A right turn lanes is required at the east approach of the Lazy 5 Parkway/David Allan Parkway intersection based on the 2030 traffic volumes.

Storage and deceleration requirements were subsequently reviewed for the right turn lanes as well as the exclusive left turn lanes on Lazy 5 Parkway at the key intersections. The length of the right turn pockets was determined based on a deceleration length of 125 feet for a 35 mile per hour speed on Lazy 5 Parkway, a minimum of 100 feet of storage length for non-free right turn movements, and capacity analysis queue lengths. The length of the left turn pockets was determined based on a deceleration length of 125 feet for a 35 mile per hour speed on Lazy 5 Parkway, a desirable storage length calculated using the Poisson method for signalized intersections, and capacity analysis queue lengths. Synchro runs indicate that the 95<sup>th</sup> percentile queue lengths on Lazy 5 Parkway are acceptable between the Pyramid Highway and David Allan Parkway intersections in both the eastbound and westbound directions.

## **SPARKS BOULEVARD DESIGN REVIEW**

The roadway capacity results indicate that Sparks Boulevard will operate at level of service C as a four-lane roadway for the 2012 traffic volumes. The intersection capacity results indicate that a traffic signal at the Pyramid Highway/Sparks Boulevard intersection will operate at level of service D and a traffic signal at the Sparks Boulevard/Kiley Ranch Parkway intersection and a roundabout at the Sparks Boulevard/Road D intersection will operate at level of service C or better.

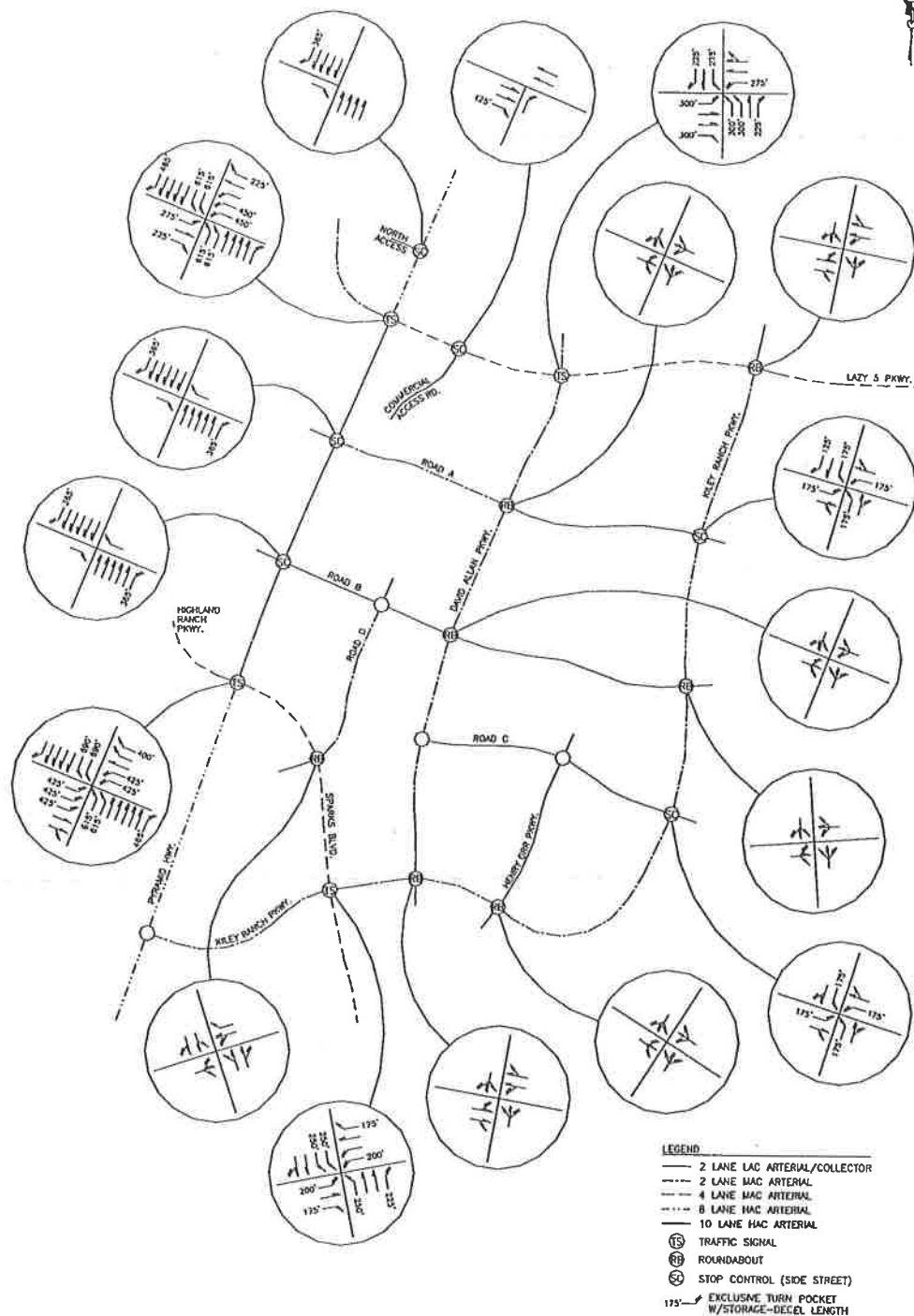
For the 2030 traffic volumes, the roadway capacity results indicate that Sparks Boulevard between Pyramid Highway and Road D will need to be improved to six lanes in order to maintain level of service C operation. However, a four-lane section between Pyramid Highway and Road D will exceed the level of service C capacity by only  $\pm 2\%$  in 2030. A single point urban interchange at the Pyramid Highway/Sparks Boulevard intersection and the roundabout at the Sparks Boulevard/Road D intersection will provide level of service C operation. It is our opinion that a four-lane section for Sparks Boulevard between Pyramid Highway and Road D will serve 2030 traffic volumes.

Storage and deceleration requirements were subsequently reviewed for left and right turn lanes on Sparks Boulevard and Highland Ranch Parkway at the key intersections. The length of the right turn pockets was determined based on a deceleration length of 160 feet for a 40 mile per hour speed on Lazy 5 Parkway, a minimum of 100 feet of storage length for non-free right turn movements, and capacity analysis queue lengths. The length of the left turn pockets was determined based on a desirable storage length calculated using the Poisson method for signalized intersections and capacity analysis queue lengths. Synchro runs indicate that the 95<sup>th</sup> percentile queue lengths on Sparks Boulevard are acceptable between the Pyramid Highway and Road D intersections in both the northbound and southbound directions. With construction of the roundabout at the Sparks Boulevard/Road D intersection, it is recommended that the proposed right-in only driveway on Sparks Boulevard between Pyramid Highway and Road D be eliminated.

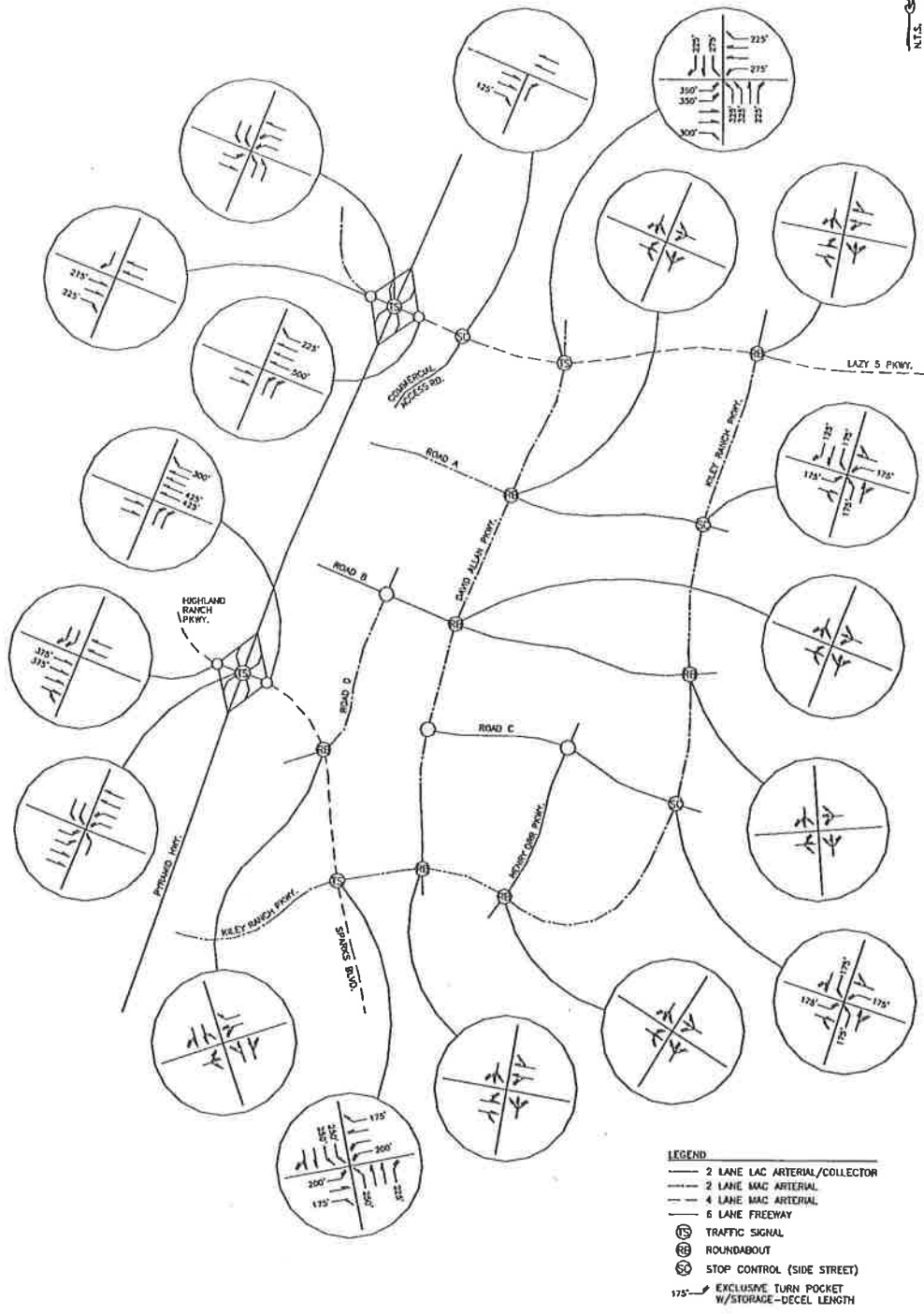
The expansion of Sparks Boulevard is currently under construction. This work includes the construction of the Sparks Boulevard/Kiley Ranch Parkway intersection. Spacing and turn pocket length were previously established at this intersections prior to acceptance of the Sparks Boulevard improvement plans. Detailed analysis was reviewed and approved at that time.

Figures 4 and 5 show the improvements required on the key roadways and at the key intersections for the 2012 and 2030 planning scenarios, respectively.





KILEY RANCH NORTH  
2012 INTERSECTION AND ROADWAY REQUIREMENTS  
FIGURE 4



KILEY RANCH NORTH  
2030 INTERSECTION AND ROADWAY REQUIREMENTS  
FIGURE 5

