Falcon Ridge

Application to Washoe County for a:

Tentative Subdivision Map

Prepared by:



Jason Gilles, P.E. TEC Civil Engineering Consultants 9480 Double Diamond Parkway Reno, Nevada 89521



John F. Krmpotic, AICP KLS Planning & Design Group

Prepared for:

Townsend Enterprises, LLC Attn: Bohm Townsend 7260 Cheltenham Way Reno, NV 89502

December 15, 2014

Staff Assigned Case No.:

Washoe County Development Application

Project Information Project Name (commercial/industrial projects only): Falcon Ridge Project Description: a 142 lot attached single family project Project Address: 900 feet southeast of the intersection of Clearacre and El Rancho Drive Project Area (acres or square feet): 25.92 acres **Location Information** Project Location (with point of reference to major cross streets AND area locator): 900 feet southeast of the intersection of Clearacre and El Rancho Drive. This is located in the Sun Valley Area Plan. Assessor's Parcel No(s): Parcel Acreage: Assessor's Parcel No(s): Parcel Acreage: 035-660-02 25.92 acres Section(s)/Township/Range: S30 T20 R20 Indicate any previous Washoe County approvals associated with this application: Case Nos. **Applicant Information Property Owner: Professional Consultant:** Name: Townsend Enterprises, LLC Name: TEC Engneering Address: 7260 Cheltenham Way Address: 9480 Double Diamond Parkway Reno, NV Reno, NV Zip: 89502 Zip: 89521 Phone: 775-741-4539 Fax: 853-8459 Phone: 352-7600 Fax: 352-7929 Email: bohntownsend@aol.com Email: jasong@tecreno.com 775-741-4539 Other: N/A Cell: Cell: 846-0164 Other: N/A Contact Person: Jason Gilles Contact Person: Bohn Townsend Applicant/Developer: Other Persons to be Contacted: Name: Townsend Enterprises, LLC Name: KLS Planning & Design Address:: 7260 Cheltenham Way Address: 9480 Double Diamond Parkway Zip: 89502 Reno, NV Reno, NV Zip: 89521 Phone: 775-741-4539 Fax: 853-8459 Phone: 775-852-7606 Fax: 852-7609 Email: bohntownsend@aol.com Email: johnk@klsdesigngroup.com 775-741-4539 Cell: Other: N/A Cell: 775-857-7710 Other: Contact Person: Bohn Townsend Contact Person: John Krmpotic, AICP For Office Use Only Initial: Date Received: Planning Area: County Commission District:

Land Use Designation(s):

CAB(s):

Tentative Subdivision Map Application Supplemental Information

(All required information may be separately attached)

Chapter 110 of the Washoe County Code is commonly known as the Development Code. Specific references to tentative subdivision maps may be found in Article 608, Tentative Subdivision Maps.

What is the location (address or distance and direction from nearest intersection)?
900 feet southeast of the intersection of Clearacre Lane and El Rancho Drive

2. What is the subdivision name (proposed name must not duplicate the name of any existing subdivision)?

Falcon Ridge (It is intentionally the same name as the prior project that was approved at this location)

3. Density and lot design:

a. Acreage of project site	25.92
b. Total number of lots	142
c. Dwelling units per acre	5.48
d. Minimum and maximum area of proposed lots	Min is 1,600 sf, max is 2,526 sf
e. Minimum width of proposed lots	30 feet
f. Average lot size	1,906 sf

4. Utilities:

a. Sewer Service	Washoe County/Sun Valley GID
b. Electrical Service	NV Energy
c. Telephone Service	ATT
d. LPG or Natural Gas Service	NV Energy
e. Solid Waste Disposal Service	Waste Management
f. Cable Television Service	Charter Communications
g. Water Service	TMWA

a.	Acreage of common open space:
	19.7 acres (75% of the site)
b.	Development constraints within common open space (slope, wetlands, faults, springs, ridgeling
	There is a natural drianageway that runs west to east through the project that is being avoided. Also, there are two rock outcroppings that exist in the southwest portion of the site that are also being avoided.
C.	Range of lot sizes (include minimum and maximum lot size):
	Lots sizes range from 1,600 sf to 2,526 sf
d.	Average lot size:
	The average is 1,906 sf
e.	Proposed yard setbacks if different from standard:
	Front = 10' Side = 0'' Rear = 10'
f.	Justification for setback reduction or increase, if requested:
	The code requires 10' for the front yard, 0' or 5' for the side yard, and 10' for the rear yard setbacks respectively. Given the product type being townhomes (SF attached), 0' setback is appropriate.
g.	Identify all proposed non-residential uses:

h.	Improvements proposed for the common open space:
	There is a walking trail that will be designed at minimum grades to accommodate all types of trail users.
i.	Describe or show on the tentative map any public or private trail systems within common ope space of the development:
	Please see the attached trail on the tentative map.
j.	Describe the connectivity of the proposed trail system with existing trails or open space adjacer to or near the property:
	The trail will connect to a city of Sparks park adjacent to the project per the prior approved Specific Plan ,
k.	If there are ridgelines on the property, how are they protected from development?
	There are not any ridgelines on the site and thus do not need to be protected by the project.
l.	Will fencing be allowed on lot lines or restricted? If so, how?
	Solid perimeter fences will be restricted per the approved Specific Plan

	m. Identify the party responsible for maintenance of the common open space:
	There will be a Landscape Maintenance Association formed that will be responsible for maintenance of the common area.
6.	Is the project adjacent to public lands or impacted by "Presumed Public Roads" as shown on the adopted April 27, 1999 Presumed Public Roads (see Washoe County Public Works website a http://www.washoecounty.us/pubworks/engineering.htm). If so, how is access to those features provided?
	This is not applicable as the site is NOT located adjacent to public lands or impacted by "presumed public roads"
7.	Is the parcel within the Truckee Meadows Service Area?
	¥ Yes □ No
8.	Is the parcel within the Cooperative Planning Area as defined by the Regional Plan?
	☐ Yes ☑ No If yes, within what city?
9.	Will a special use permit be required for utility improvement? If so, what special use permits are required and are they submitted with the application package?
	There are no SUP's required for the project.
10.	Has an archeological survey been reviewed and approved by NV State Historic Preservation Office (SHPO) on the property? If yes, what were the findings?
	There was no requirement for an archeological survey. Thus, no such survey has been prepared.

11. Indicate the type and quantity of water rights the application has or proposes to have available:

a. Permit #	N/A	acre-feet per year
b. Certificate #	N/A	acre-feet per year
c. Surface Claim #	N/A	acre-feet per year
d. Other#	N/A	acre-feet per year

e. Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources):

Water rights will be purchased from TMWA as the site is located in their service territory.	

12. Describe the aspects of the tentative subdivision that contribute to energy conservation:

Best practices by using building materials for energy efficient design and construction. Building orientation for good solar exposure is proposed where site constraints allow such flexibility.

13. Is the subject property in an area identified by the Department of Planning & Development as potentially containing rare or endangered plants and/or animals, critical breeding habitat, migration routes or winter range? If so, please list the species and describe what mitigation measures will be taken to prevent adverse impacts to the species:

The site is not in an area containing rare or endangered plants or animals, critical breeding habitat, migration routes or winter range. Therefore, there are no mitigation measures required.

14.	If private roads are proposed, will the community be gated? If so, is a public trail system easement provided through the subdivision?
	The project will contain private roads, however, it will not be gated.
15.	Is the subject property located adjacent to an existing residential subdivision? If so, describe how the tentative map complies with each additional adopted policy and code requirement of Article 434, Regional Development Standards within Cooperative Planning Areas and all of Washoe County, in particular, grading within 50 and 200 feet of the adjacent developed properties under 5 acres and parcel matching criteria:
	The project is not located adjacent to an existing residential subdivision.
16.	Are there any applicable policies of the adopted area plan in which the project is located that require compliance? If so, which policies and how does the project comply?
	We are not aware of any policies in the Sun Valley Area Plan that require compliance.
	Are there any applicable area plan modifiers in the Development Code in which the project is located that require compliance? If so, which modifiers and how does the project comply?
	There are no applicable Sun valley Area Plan modifiers that require compliance.

18.	Will the project be completed in one phase or is phasing planned? If so, please provide that phasing plan:
	This project will be completed in one phase consisting of 142 units.
19.	Is the project subject to Article 424, Hillside Development? If yes, please address all requirements of the Hillside Ordinance in a separate set of attachments and maps.
	☐ Yes ☐ No If yes, include a separate set of attachments and maps.
20.	Is the project subject to Article 418, Significant Hydrologic Resources? If yes, please address Specia Review Considerations within Section 110.418.30 in a separate attachment.
	☐ Yes ☐ No If yes, include separate attachments.
	Grading
bui imp cuk yar	Disturbed area exceeding twenty-five thousand (25,000) square feet not covered by streets ildings and landscaping; (2) More than one thousand (1,000) cubic yards of earth to be ported and placed as fill in a special flood hazard area; (3) More than five thousand (5,000) bic yards of earth to be imported and placed as fill; (4) More than one thousand (1,000) cubic rds to be excavated, whether or not the earth will be exported from the property; or (5) If a rmanent earthen structure will be established over four and one-half (4.5) feet high:
21.	How many cubic yards of material are you proposing to excavate on site?
	There will be minimal grading needed for this project. It it not known precisely how much excavation will occur. See below.
22.	How many cubic yards of material are you exporting or importing? If exporting of material is anticipated, where will the material be sent? If the disposal site is within unincorporated Washoe County, what measures will be taken for erosion control and revegetation at the site? If none, how are you balancing the work on-site?
	The site was previously graded when approved in 2006 which included grading to final grades with some site improvements. We believe the site will balance with the minimal grading needed for this project.

23.	Can the disturbed area be seen from off-site? If yes, from which directions, and which properties or roadways? What measures will be taken to mitigate their impacts?		
	This is not applicable as the disturbance has already occurred.		
24.	What is the slope (Horizontal:Vertical) of the cut and fill areas proposed to be? What methods will be used to prevent erosion until the revegetation is established?		
	There existing cut/fill area is already established by the improvements created with the prior project approval.		
25.	Are you planning any berms and, if so, how tall is the berm at its highest? How will it be stabilized and/or revegetated?		
	The site is already stabilized with rockery walls that were constructed with the prior project. There are no berms being proposed with this project.		
26.	Are retaining walls going to be required? If so, how high will the walls be, will there be multiple walls with intervening terracing, and what is the wall construction (i.e. rockery, concrete, timber, manufactured block)? How will the visual impacts be mitigated?		
	Yes the existing rockery walls will remain on site. These are multiple walls with terracing that are a maximum of 6' high per wall.		

Will the grading proposed require removal of any trees? If so, what species, how many, and of what size?
There are no trees being removed with the proposed project.
What type of revegetation seed mix are you planning to use and how many pounds per acre do you intend to broadcast? Will you use mulch and, if so, what type?
Re-vegetation is being proposed that will include a seed mix of: 32 lbs per acre of WY big SB, Spiny Hop sage, Blue Flax, White yarrow, Cereal Barley, Sheep Cover Fescue. Hydromulch will be applied as well.
nydromulch will be applied as well.
How are you providing temporary irrigation to the disturbed area?
Temporary irrigation will be spray irrigation
Have you reviewed the revegetation plan with the Washoe Storey Conservation District? If yes, have you incorporated their suggestions?
The approved Specific Plan for the site was reviewed by WSCD along with their suggestions being included.

Request to Reserve New Street Name(s) The Applicant is responsible for all sign costs.						
Applicant Information						
Name: FALCON RIDGE FOR TOWNSEND ENTERPRISES LLC						
Address: 7260 CHELTENHAM WAY						
RENO NV 89502						
Phone: 741-4539 Fax: 853-8459						
Private Citizen Agency/Organization BOHM TOWNSEND						
Street Name Requests						
(No more than 14 letters or 15 if there is an "i" in the name. Attach extra sheet if necessary.)						
If final recordation has not occurred within one (1) year, it is necessary to submit a written request for extension to the coordinator prior to the expiration date of the original						
Location						
Project Name: FALCON RIDGE TENTATIVE MAP						
Reno Sparks Washoe County						
Parcel Numbers: 035 - 660 - 02						
Subdivision Parcelization Private Street						
Please attach maps, petitions and supplementary information.						
Approved: Date:						
Regional Street Naming Coordinator						
Except where noted						
Denied: Date: Pate: Date:						
Washoe County Geographic Information Services Post Office Box 11130 - 1001 E. Ninth Street Reno, NV 89520-0027 Phone: (775) 328-2325 - Fax: (775) 328-6133						



December 11, 2014

Ms. Clara Lawson, P.E. Washoe County Public Works Engineering P.O. 11130 Reno, Nevada 89520

Re: Falcon Ridge

Dear Clara:

This letter contains traffic engineering information regarding the Falcon Ridge Project. We completed a traffic study for the project in 2007. A Specific Plan was approved for the project at that time and it remains in effect today. The Specific Plan was approved for 269 dwelling units. Since that time mapping was approved for an initial phase of the project with 142 dwelling units. Some of the site improvements for those 142 units were constructed. The current tentative map submittal is for the identical 142 units. The access points remain as previously approved.

The Specific Plan called for a traffic signal at the 143rd dwelling unit. Both the previously approved, partially constructed lots and this new tentative map are for fewer than 143 dwelling units. The project developers seek to build out the initial 142 lots with the previously approved accesses. It is anticipated that the traffic signal will be provided in a future phase when the 143rd lot threshold is exceeded.

We trust that this information will be adequate for your initial review. Please contact us if you have any questions or comments.

Very truly your

Letters/Falcon Ridge Project



Geotechnical & Environmental Engineers & Geologists

520 EDISON WAY • RENO, NEVADA 89502 •

(775) 856-5566

FAX • (775) 856-6042 www.pezonella.com

December 15, 2014

Mr. Jason Gilles **TEC Engineering Consultants** 9480 Double Diamond Parkway, Suite 200 Reno. Nevada 89521

SUBJECT:

APPLICABILITY OF PREVIOUS GEOTECHNICAL INVESTIATION

Previous Falcon Ridge Townhouses - El Rancho Boulevard

Washoe County, Nevada

References: "Geotechnical Engineering Services, Proposed Falcon Ridge Townhouses, El Rancho Boulevard, Washoe County, Nevada", Job No.

5334.01-N, by Pezonella Associates, Inc., dated December 27, 2005.

"Geotechnical Engineering Services, Rockery Wall Inspection-

Certification...", Job No. 5624.01-B, by Pezonella Associates, Inc., dated

December 8, 2006.

"Daily Reports During Compaction and Washoe County Weekly Reports". by Pezonella and Associates, Inc., Project Number 5624.01-B, various

dates.

Dear Mr. Gilles.

Presented herein is the results of our review and evaluation on the applicability of the referenced geotechnical report and other correspondence with regards to development of the site. It is our understanding that development of the site has been changed from townhomes to single family residential homes. Our scope of work included the review of the referenced reports and a site reconnaissance on December 11, 2014.

The property is currently rough graded with some underground utility infrastructure and rockery walls in-place. Based on our review, Pezonella and Associates, Inc. provided observations and testing of mass fills, compaction tests of utility trench and other backfills, and construction of rockery walls. Remedial grading for expansive soils has not been performed. At the time of our cursory site visit, no issues with the site were observed contrary to the referenced reports.

Accordingly, it is our opinion that the referenced reports are applicable and valid for the proposed new development.

It is important that final grading and development plans are reviewed by this office. After our review, an updated report will be issued. This report will also update the referenced geotechnical report with regards to providing current seismic code recommendations. Additional field work may be required based on our review. Of specific importance will be the requirement for the placement of relatively non-expansive properly compacted fill beneath structural improvements. Because of the relative length of time the property has been sitting undeveloped, additional remedial grading may also be required

The opportunity to be of service to you during this project is appreciated. If you have any questions, please contact us.

Respectfully submitted.

PEZONELLA AND ASSOCIATES, INC.

Vice President

exp 6/30/16

PRELIMINARY HYDROLOGY LETTER

FOR

FALCON RIDGE TOWNHOMES

PREPARED FOR:

TDC/PACIFIC PROPERTIES
4223 GLENCORE AVE.
MARINA DEL REY, CA 90292

PREPARED BY:





TABLE OF CONTENTS

1.	Introduction	1
2.	Background	1
3.	Discussion	1
4.	Conclusions	1
5.	References	1

1. Introduction

This Preliminary Hydrology Letter is for the Falcon Ridge Townhomes Tentative Map. The proposed Falcon Ridge Townhomes is a 142-lot Subdivision is located to the north of the existing intersection of El Rancho Drive and Maynard Way. The 25.59-acre property is located in the NW ¼ of the SE ¼ of Section 30, Township 20 North, Range 20 East M.D.M. in Washoe County Assessor's Parcel Number 035-660-02.

2. Background

The proposed project was previously designed, approved and partially constructed as a 142-unit townhome subdivision. Final Civil improvement plans were approved by Washoe County Engineering in November, 2006. Partial construction of the subdivision was completed (mass grading, retaining walls, sanitary sewer and storm drain systems) prior to construction activities ceasing. The owner of the property recorded a reversion of acreage in June, 2013. New ownership of the property is currently proposing to construct the originally approved design of the 142-unit townhome development. This tentative map submittal matches the previously approved number of lots, layout and grading of the 2006 Civil Improvement Plans Falcon Ridge Subdivision as to utilize the previously constructed improvements.

3. Discussion

The Falcon Ridge Townhome proposed tentative map lot density, layout and grading is designed to match the previously final civil improvement design by Jeff Codega Planning/Design Inc. in 2006. By matching this design, the existing storm drain system and detention can be utilized throughout the project. Runoff basin runoff coefficients, areas and drainage patterns will match those previously approved by Washoe County in the Falcon Ridge Townhomes Hydrology Report wet-stamp date June 30, 3006 written by Jeff Codega Planning/Design Inc.

4. Conclusions

The preliminary grading matches the previously approved final design for the project. Runoff patterns will be consistent with the runoff patterns that the existing storm drain system was constructed for. Runoff values have been previously reviewed and approved by Washoe County.

5. References

Falcon Ridge Townhomes Hydrology Report dated December 2005 (wet-stamped June 30, 2006), prepared by Jeff Codega Planning/ Design, Inc.

TEC Engineering December 15, 2014

PRELIMINARY SANITARY SEWER REPORT

FOR

FALCON RIDGE TOWNHOMES

PREPARED FOR:

TDC/PACIFIC PROPERTIES
4223 GLENCORE AVE.
MARINA DEL REY, CA 90292

PREPARED BY:





TABLE OF CONTENTS

1.	Introd	duction	. 1
		ground	
		odology	
		ng Sanitary Sewer System	
4	1. [Description	. 1
4	1. (Calculations	. 2
	4.1.1.	Existing Sewer System	. 2
	4.1.1.	Future Demands	. 2
5.	Discu	ssion/ Conclusions	. 2

1. Introduction

This Preliminary Sanitary Sewer Report is for the Falcon Ridge Townhomes. The proposed Falcon Ridge Townhomes is a 142-lot Subdivision is located to the north of the existing intersection of El Rancho Drive and Maynard Way. The 25.59-acre property is located in the NW ¼ of the SE ¼ of Section 30, Township 20 North, Range 20 East M.D.M. in Washoe County Assessor's Parcel Number 035-660-02. The approximate location of the site is indicated in the attached Vicinity Map (Figure 1).

2. Background

The proposed project was previously designed, approved and partially constructed as a 142-unit townhome subdivision. Final Civil improvement plans were approved by Washoe County Engineering in November, 2006. Partial construction of the subdivision was completed (mass grading, retaining walls, sanitary sewer and storm drain systems) prior to construction activities ceasing. The owner of the property recorded a reversion of acreage in June, 2013. New ownership of the property is currently proposing to construct the originally approved design of the 142-unit townhome development. This tentative map submittal matches the previously approved number of lots, layout and grading of the 2006 Civil Improvement Plans Falcon Ridge Subdivision as to utilize the previously constructed improvements.

3. Methodology

Sanitary sewerage flows were estimated utilizing the design criteria in Chapter 2 (Gravity Sewer Collection Design Standards) of the Washoe County Department of Water Resources, Engineering Design Standards. Peak flows for the mains were estimated at 270-gallons per day per capita with 3-capita per dwelling unit (±810-gallons/day/dwelling unit). The Manning's equation was utilized with a roughness coefficient (n) of 0.012 for the PVC pipes to determine the capacities of the sanitary sewer mains.

4. Existing Sanitary Sewer System

4.1. Description

The existing sanitary sewer system has been previously constructed as part of the final civil improvement plans for the Falcon Ridge Townhomes. The existing sanitary sewer system connects to an existing 18-inch diameter sanitary sewer trunk main owned and operated by Sun Valley GID. The approximate location of this point of connection is indicated in the Site Map (Figure 2).

TEC ENGINEERING December 15, 2014

4.1. Calculations

4.1.1. Existing Sewer System

The existing sanitary sewer mains located within the proposed private streets are all existing 8-inch diameter PVC and have slopes ranging from 0.005-feet/feet (ft/ft) to 0.064-ft/ft.

An 8-inch diameter PVC sanitary sewer main constructed at 0.005-ft/ft utilizing a Mannning's Roughness Coefficient (n) Value of 0.012 will have an approximate ½ full capacity of 0.2991 million gallons per day (MGD) and a ½ full velocity of 2.65-feet per second (fps).

4.1.1. Future Demands

The proposed subdivision will consist of 142-units. Utilizing the Washoe County Design Criteria of 810-gallons/day/dwelling unit, previously discussed, a peak flow of 0.115-MGD is estimated to be generated from the subdivision. The flattest existing 8-inch diameter sanitary sewer main (0.005-ft/ft) has adequate capacity (.2991-MGD) to convey the peak estimated demand (0.115-MGD) to the existing 18-inch diameter trunk main point of connection (Figure-2).

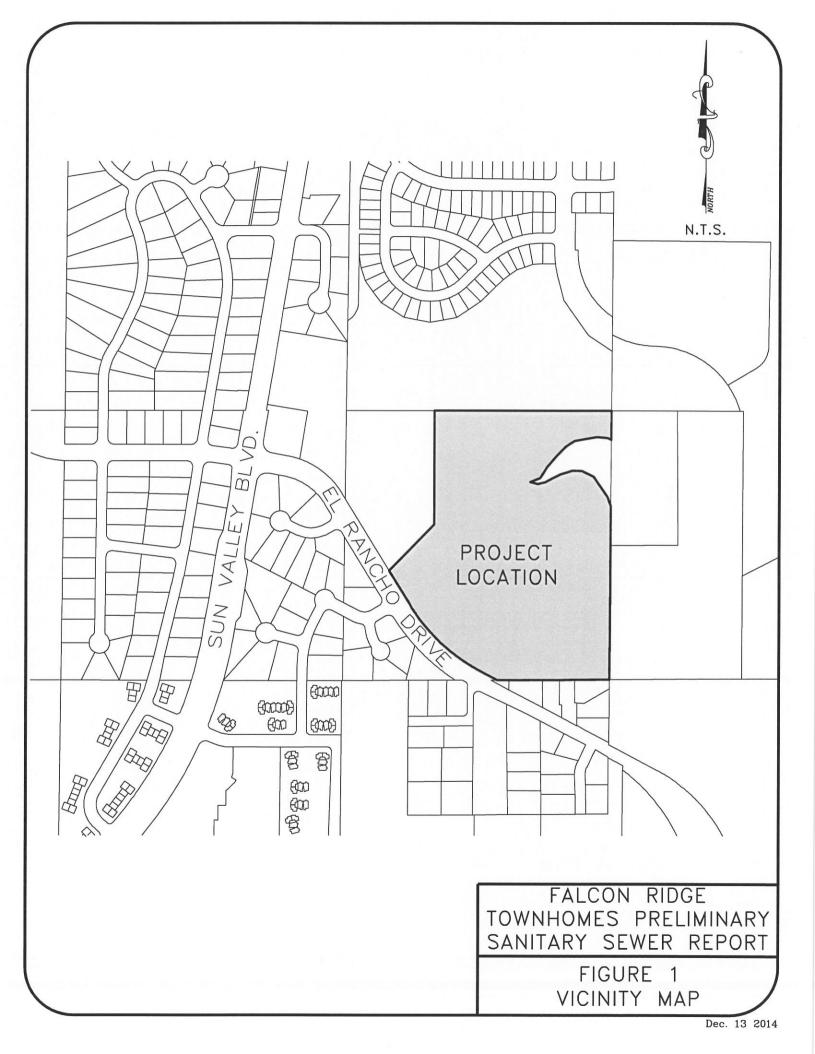
5. Discussion/Conclusions

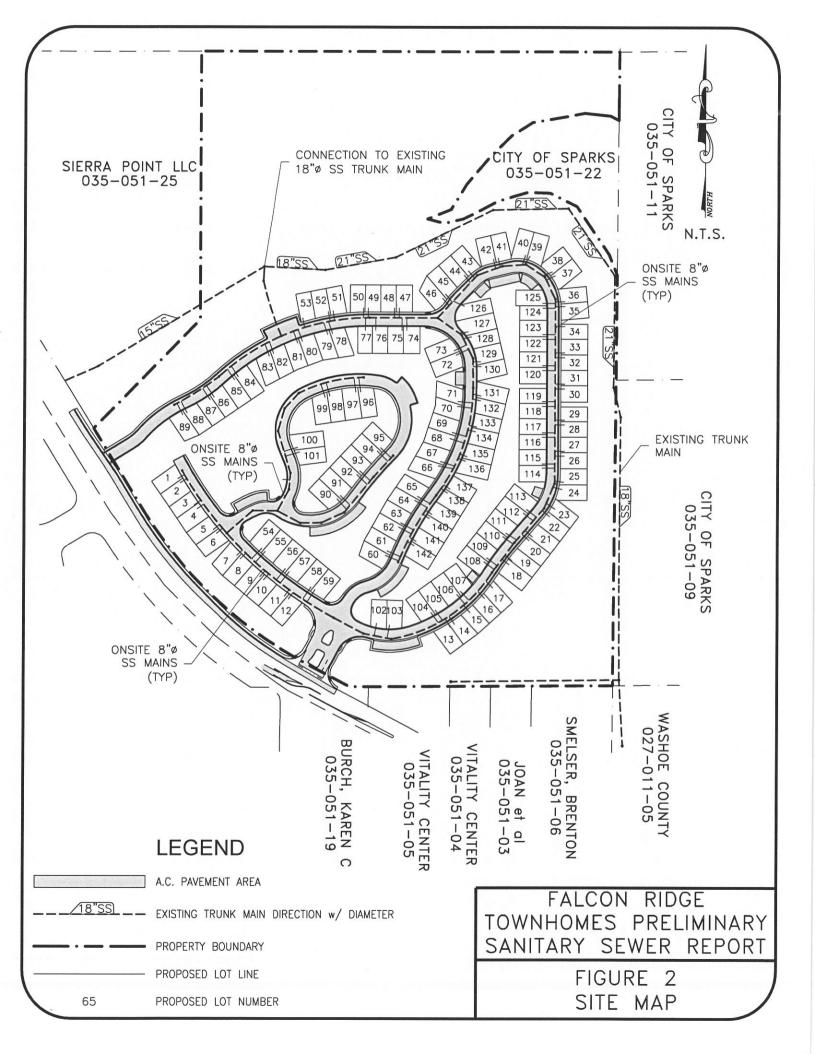
The existing sanitary sewer system was designed, reviewed, approved and constructed to service the original Falcon Ridge Townhome Subdivision. The proposed design of the subdivision will match the previous design grading and layout to utilize the existing improvements previously constructed.

The flattest existing 8-inch diameter sanitary sewer main has adequate capacity to convey the estimated peak sewage from the entire project while remaining less than half full and flowing over 2.5-fps with excess capacity. The existing sanitary sewer system connects to the existing trunk main on site and additional future offsite demands are not anticipated. Therefore, no adverse effects are anticipated to the existing or downstream sanitary sewer systems.

TEC ENGINEERING December 15, 2014

	REFERENCES					
>	 Washoe County Department of Water Resources, Engineering Design Standards, Sect 2 (Gravity Sewer Collection Design Standards) dated May, 2010 					





SOLAEGUI ENGINEERS, LTD

FALCON RIDGE TRAFFIC ANALYSIS

JANUARY, 2007

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

TABLE OF CONTENTS

	PAGE NO.
EXECUTIVE SUMMARY	3
	4
INTRODUCTIONSTUDY AREA	4
EXISTING AND PROPOSED LAND USES	4
EXISTING AND PROPOSED ROADWAYS AND INTERSECTIONS	4
TRIP GENERATION	6
TRIP DISTRIBUTION AND ASSIGNMENT	7
EXISTING AND PROJECTED TRAFFIC VOLUMES	7
INTERSECTION CAPACITY ANALYSIS	7
TRAFFIC ACCIDENT REVIEW	14
SITE PLAN REVIEW:	14
RECOMMENDATIONS	15
ADDENIDIN	16

FALCON RIDGE TRAFFIC ANALYSIS

EXECUTIVE SUMMARY

The Falcon Ridge development is located in Washoe County, Nevada. Falcon Ridge development is located on the north side of El Rancho Drive between Sun Valley Drive and Sullivan Lane. The project site is currently undeveloped land. The purpose of this study is to address the project's impact upon the adjacent street network. The El Rancho Drive intersections with Sun Valley Drive, Maynard Way and Moorpark Court have been identified for intersection capacity analysis.

Falcon Ridge development will include the construction of a total of 269 condominium dwelling units. The project is expected to generate 1,576 average daily trips with 119 trips occurring during the AM peak hour and 140 trips occurring during the PM peak hour.

Traffic generated by the proposed Falcon Ridge project will impact the area roadways and intersections. The following recommendations are made to mitigate project traffic impacts.

It is recommended that any required signing, striping, or traffic control improvements comply with Washoe County requirements.

It is recommended that the El Rancho Drive/Moorpark Court/Project Access intersection be continued to operate with right-in, right-out and left-in movements only.

It is recommended that the El Rancho Drive/Moorpark Court/Project Access intersection be improved to contain one left turn lane at the El Rancho west approach; and one ingress lane and one right turn egress lane at the project access north approach.

It is recommended that the project access, interior streets and parking be constructed per Washoe County standards.

INTRODUCTION

STUDY AREA

The Falcon Ridge development is located in Washoe County, Nevada. Falcon Ridge development is located on the north side of El Rancho Drive between Sun Valley Drive and Sullivan Lane. The location of the project site is shown in Figure 1. The purpose of this study is to address the project's impact upon the adjacent street network. The El Rancho Drive intersections with Sun Valley Drive, Maynard Way and Moorpark Court have been identified for intersection capacity analysis.

EXISTING AND PROPOSED LAND USES

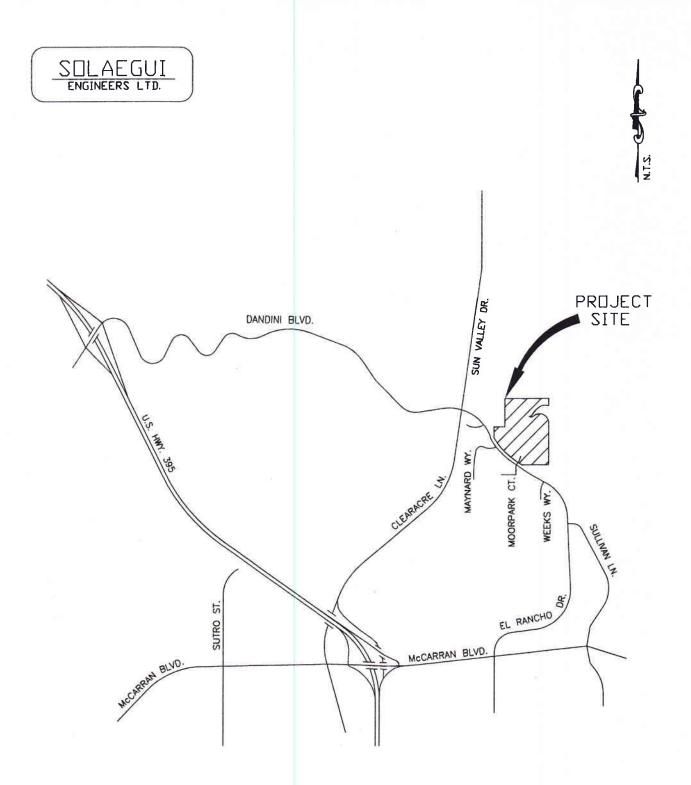
The project site is currently undeveloped land. Adjacent development includes apartments to the west, undeveloped land to the north and east, and apartments and single family homes to the south. The Falcon Ridge project will include the construction of 269 condominium dwelling units.

EXISTING AND PROPOSED ROADWAYS AND INTERSECTIONS

El Rancho Drive is currently a four lane roadway with two lanes in each direction east of Sun Valley Boulevard-Clear Acre Lane. The speed limit is posted for 35 miles per hour north of McCarran Boulevard and 30 miles per hour south of McCarran Boulevard. Roadway improvements include curb, gutter, and sidewalks with a raised center median and left turn pockets south of Wedekind Road. North of Wedekind Road, roadway improvements include left turn pockets between Wedekind Road and McCarran Boulevard, a double yellow centerline between McCarran Boulevard and Sullivan Lane, a mix of double yellow centerline and left turn pockets between Sullivan Lane and Sun Valley Boulevard, a raised center median at the intersection with Moorpart Court, and generally graded shoulders with some curb and gutter, and curb, gutter and sidewalk along developed frontages. West of Sun Valley Boulevard, El Rancho Drive becomes Dandini Boulevard.

Dandini Boulevard is a wide two lane roadway with one lane in each direction between U.S. Highway 395 and Sun Valley Boulevard. The speed limit is posted for 35 miles per hour. Roadway improvements include a mix of graded shoulders and curb and gutter with sidewalks in some areas.

Clear Acre Lane (SR-443) is a four-lane roadway with two lanes in each direction south of El Rancho Drive. North of El Rancho Drive, Clear Acre Lane becomes Sun Valley Boulevard. The speed limit is posted for 45 miles per hour. Roadway improvements include a concrete barrier along the east side of Clear Acre Lane between El Rancho Drive and Crystal Lane, bike lanes on both sides of Clear Acre Lane, a center two-way left turn lane between Scottsdale Road and Epley Road, and a mix of graded shoulders and curb, gutter and sidewalk.



FALCON RIDGE

VICINITY MAP FIGURE 1 Sun Valley Drive (SR-443) is a four-lane roadway with two lanes in each direction north of Clear Acre Lane. The speed limit is posted for 35 miles per hour. Roadway improvements generally include graded shoulders, a mix of left turn lanes and raised medians with left turn pockets at intersections, and curb, gutter and sidewalk in some locations.

Maynard Way is a two-lane roadway with one lane in each direction south of El Rancho Drive. The speed limit is posted for 25 miles per hour. Roadway improvements include graded shoulders.

Moorpark Court is a two-lane roadway with one lane in each direction south of El Rancho Drive. The speed limit is 25 miles per hour. Roadway improvements include curb and gutter.

The El Rancho Drive-Dandini Boulevard/Sun Valley Boulevard-Clear Acre Lane intersection is a signalized four-leg intersection. The east approach contains one shared left turn-through lane and one right turn lane separated by a raised corner island. The west approach contains one left turn lane, one through lane and one right turn lane separated by a raised corner island. The north approach contains dual left turn lanes, one through lane and one shared through-right turn lane. The south approach contains one left turn lane, one through lane and one shared through-right turn lane. The north and south approaches contain raised center medians.

The El Rancho Drive/Maynard Way intersection is an unsignalized "T" intersection with stop sign control on the Maynard Way south approach. The west approach contains one through lane and one shared through-right turn lane. The east approach contains one shared left turn-through lane and one through lane. The south approach contains one shared left turn-right turn lane.

The El Rancho Drive/Moorpark Court intersection is an unsignalized "T" intersection with a center "worm" median and stop sign control on the Maynard Way south approach. The west approach contains one through lane and one shared through-right turn lane. The east approach contains one left turn and two through lanes. The south approach contains one right turn lane separated from the ingress lane by a striped island. With the development of the El Rancho Estates project, the fourth leg at the north approach of the intersection will be constructed in order to provide access to the proposed project.

Project access will be provided by the added north approach of the El Rancho Drive intersection with Moorpark Court. Project driveway is anticipated to operate with right-in, right-out and left-in movements only. An emergency secondary access is provided just west of Maynard Way.

TRIP GENERATION

In order to assess the magnitude of traffic impacts of the proposed developments on the key roadways and intersections, trip generation rates and peak hours had to be determined. Trip generation rates were obtained from the Seventh Edition of *ITE Trip Generation* (2003) for Land Use 230: Residential Condominium/Townhouse. The trip generation worksheet is included in the appendix.

Trips generated by the project were calculated for the peak hours between 7:00 and 9:00 AM and 4:00 and 6:00 PM which correspond to the peak hours of adjacent street traffic. Table 1 shows a summary of the total average daily traffic volumes and peak hour volumes generated by the Falcon Ridge project.

TABL	E 1
TRIP GENE	RATION

LAND USE	<u>ADT</u>	Al <u>IN</u>	M PEAK	HOUR TOTAL	PM <u>IN</u>	PEAK F	HOUR TOTAL
Residential Condominium/Tov 269 Dwelling Units	vnhouse 1,576	19	100	119	94	46	140

TRIP DISTRIBUTION AND ASSIGNMENT

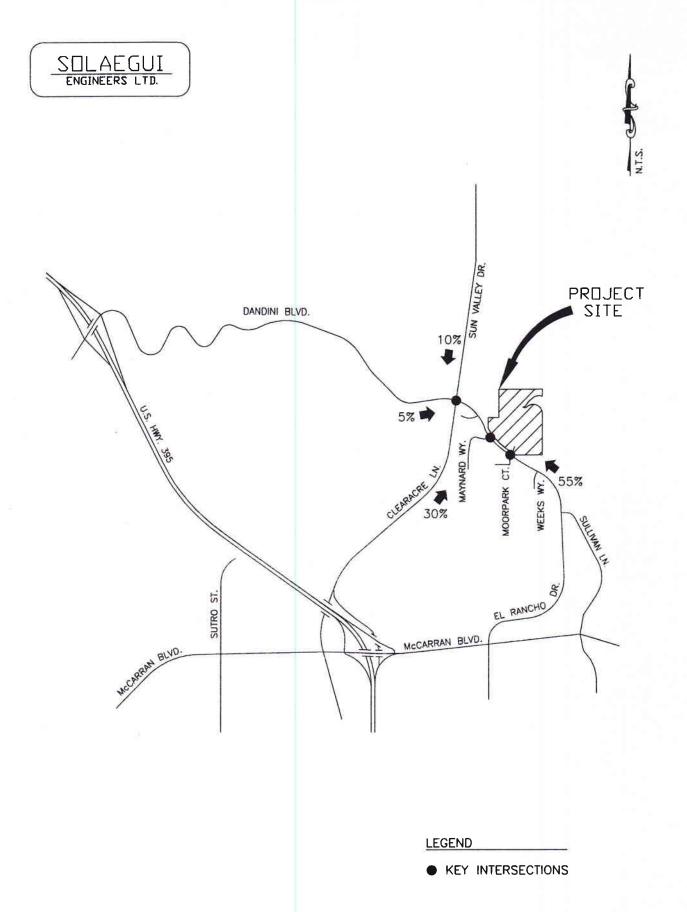
The distribution of the project traffic to the key intersection and roadways was based on existing peak hour traffic patterns and the locations of attractions and productions in the area. The directions of approach are shown in Figure 2. The project trips were subsequently assigned to the key intersections based on these directions of approach. Figure 3 shows the AM and PM peak hour project trip assignment at the key intersections.

EXISTING AND PROJECTED TRAFFIC VOLUMES

The existing AM and PM peak hour traffic volumes at the Sun Valley Boulevard/El Rancho Drive intersection were obtained from traffic counts taken during August, 2006. Existing AM and PM peak hour traffic volumes at the remaining key intersections were obtained from traffic counts taken during April, 2004 with updated traffic counts performed during January, 2007. The existing AM and PM peak hour traffic volumes at the key intersections are shown in Figure 4. Figure 5 shows the existing plus project traffic volumes at the key intersections for the AM and PM peak hours. The existing plus project traffic volumes were obtained by adding traffic generated by the project to existing traffic volumes.

INTERSECTION CAPACITY ANALYSIS

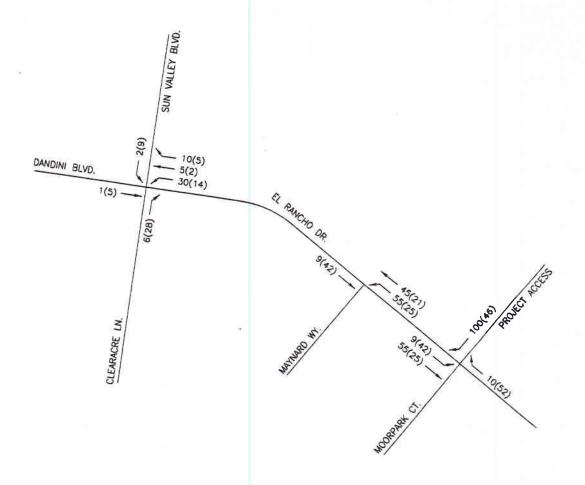
The key intersections were analyzed for capacity based on procedures presented in the *Highway Capacity Manual* (2000), prepared by the Transportation Research Board, for unsignalized and signalized intersections. The result of capacity analysis is a "level of service" rating for each



FALCON RIDGE

DIRECTIONS OF APPROACH FIGURE 2 SOLAEGUI ENGINEERS LTD.

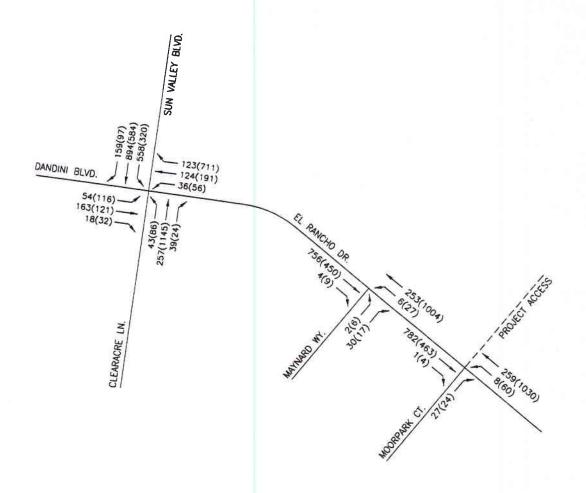




LEGEND

- AM PEAK HOUR (-) PM PEAK HOUR SOLAEGUI ENGINEERS LTD.



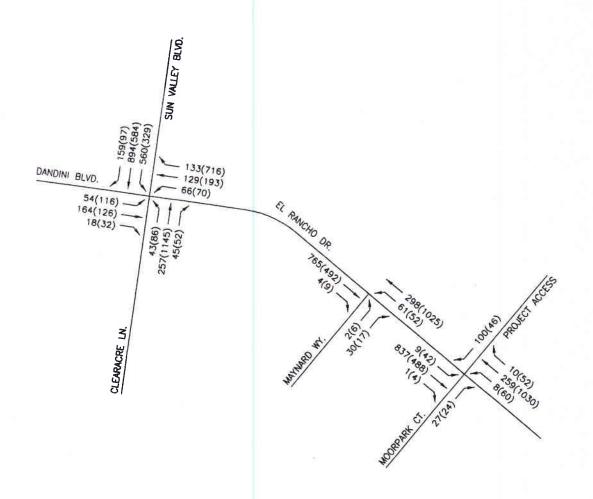


LEGEND

- AM PEAK HOUR (-) PM PEAK HOUR

SOLAEGUI ENGINEERS LTD.





LEGEND

- AM PEAK HOUR (-) PM PEAK HOUR

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.

The *Highway Capacity Manual* defines "level of service" for stop controlled intersections 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" (LOS) criteria are shown in Table 2.

	TABLE 2
LOS CRITERIA FOR	UNSIGNALIZED INTERSECTIONS

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

The "level of service" for signalized intersections is stated in terms of the average control delay per vehicle for a peak 15 minute analysis period. The signalized intersection "level of service" criteria are shown in Table 3.

TABLE 3
LOS CRITERIA FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (SEC)	
A	≤10	
В	>10 and ≤20	
С	>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 4.

TABLE 4
INTERSECTION LEVEL OF SERVICE AND DELAY RESULTS

INTERSECTION	EXISTING <u>AM</u> <u>PM</u>	EXISTING + PROJECT <u>AM</u> <u>PM</u>
El Rancho/Sun Valley Signalized	B17.8 C30.2	B18.1 C32.3
El Rancho/Maynard Unsignalized WB Left/Thru NB Left/Right	A9.4 A8.4 B11.9 B13.3	A9.8 A8.7 B12.3 B14.5
El Rancho/Moorpark/Project Access Unsignalized EB Left WB Left NB Right SB Right	A9.5 A8.6 B11.4 A9.9	A7.8 B11.4 A9.8 A8.7 B11.7 B10.0 A9.6 B13.6

El Rancho Drive-Dandini Boulevard/Sun Valley Boulevard-Clear Acre Lane

The El Rancho Drive-Dandini Boulevard/Sun Valley Boulevard-Clear Acre Lane intersection was analyzed as a five-phased signalized intersection for the existing and existing plus project traffic volumes. The intersection currently operates at level of service B with a delay of 17.8 seconds per vehicle during the AM peak hour and level of service C with a delay of 30.2 seconds per vehicle during the PM peak hour. With the addition of project traffic, the intersection will continue to operate at level of service B with delays slightly increasing to 18.1 seconds per vehicle during the AM peak hour and level of service C with a delay of 32.3 seconds per vehicle during the PM peak hour. The intersection was analyzed with the existing approach lanes for all scenarios.

El Rancho Drive/Maynard Way

The El Rancho Drive/Maynard Way intersection was analyzed as an unsignalized "T" intersection with stop sign control at the south approach for the existing and existing plus project traffic volumes. The intersection critical movements currently operate at level of service B or better during the AM and PM peak hours. With the addition of project traffic, the intersection critical movements are anticipated to continue to operate at level of service B or better during the AM and PM peak hours. The intersection was analyzed with the existing approach lanes for all scenarios.

El Rancho Drive/Moorpark Court- Project Access

The El Rancho Drive/Moorpark Court-project access intersection was analyzed as an unsignalized "T" intersection with stop sign control at the south approach for the existing traffic volumes and an unsignalized four-leg intersection with stop sign control at the north and south approaches for the existing plus project traffic volumes. The intersection critical movements currently operate at level of service B or better during the AM and PM peak hours. With the addition of project traffic, the intersection critical movements are anticipated to continue to operate at level of service B or better during the AM and PM peak hours. The intersection was analyzed with the existing approach lanes for the existing traffic volumes. For the existing plus project traffic volumes, the intersection was analyzed with one left turn lane, one through lane and one shared through-right turn lane at the east and west approaches and one right turn lane at the north and south approaches.

Left turn storage requirement was reviewed at the west leg of the El Rancho Drive/Moorpark Court-project access intersection based on the unsignalized criteria of storing 3 minutes of waiting vehicles for the existing plus project traffic volumes. The west leg left turn volume of 42 vehicles during the PM peak hour will require approximately 50 feet of storage. According to the site plan, the west leg of the El Rancho Drive/Moorpark Court-project access intersection will contain a two way left turn lane with approximately 100 feet of left turn pocket which will serve existing plus project traffic volumes.

TRAFFIC ACCIDENT REVIEW

Traffic accident summaries for the key intersections have been requested from the Nevada Department of Transportation. The information is not yet available. The Traffic Accident Review section of this report will be provided in a letter addendum when the information is available.

SITE PLAN REVIEW

A copy of the site plan for the proposed Falcon Ridge development is included with this submittal. The site plan shows that project access will be provided by constructing the north leg of the El Rancho Drive/Moorpark Court intersection. The site plan also shows an emergency secondary access approximately 50 feet west of the El Rancho Drive/Maynard Way intersection. The project access and interior streets appear to provide adequate site circulation. It is recommended that the project access, interior streets and parking be constructed per Washoe County standards.

The proposed project access on El Rancho Drive was reviewed for spacing based on RTC's access management standards. The access management standards indicate that driveways on moderate access control arterials shall be spaced a minimum of 200 feet from signalized intersections and 300 feet from other driveways. The proposed project access is anticipated to be located approximately 1,550 feet east of the signalized El Rancho Drive/Sun Valley Boulevard

intersection and aligned with Moorpark Court. Streets and driveways adjacent to the proposed project access will include Maynard Way on the south side of El Rancho Drive located approximately 490 feet west of project access and Anthony Place on the south side of the El Rancho Drive located approximately 330 feet east of project access. The proposed location of the project access intersection will meet RTC's spacing requirements.

The El Rancho Drive/Moorpark Court intersection currently operates with right-in, right-out and left-in movements only. It is recommended that the El Rancho Drive/Moorpark Court/Project Access intersection be continued to operate with right-in, right-out and left-in movements only and contain single ingress and egress lanes on the north approach.

Pedestrian access to Clear Acre Lane and Sun Valley Boulevard and access to nearby bike lanes on Clear Acre Lane and Sun Valley Boulevard were reviewed. Curb, gutter and sidewalk exist along the frontage of the convenience store on the north side of El Rancho Drive east of Clear Acre Lane-Sun Valley Boulevard and along the south side of El Rancho Drive from Clear Acre Lane-Sun Valley Boulevard to Maynard Drive. Currently, pedestrians and bicycles use the graded shoulder areas on the north side of El Rancho Drive east of the convenience store and on the south side of El Rancho Drive east of Maynard Drive. Paved and marked bicycle lanes are not currently provided on El Rancho Drive in the vicinity of the project site. Potential route for pedestrians and bicycles from the project site to Clear Acre Lane and Sun Valley Boulevard would be to cross El Rancho Drive and proceed west to the paved sidewalk. Currently, bus transit stops are located on both sides of El Rancho Drive near Moorpark Court.

RECOMMENDATIONS

Traffic generated by the proposed Falcon Ridge project will impact the area roadways and intersections. The following recommendations are made to mitigate project traffic impacts.

It is recommended that any required signing, striping, or traffic control improvements comply with Washoe County requirements.

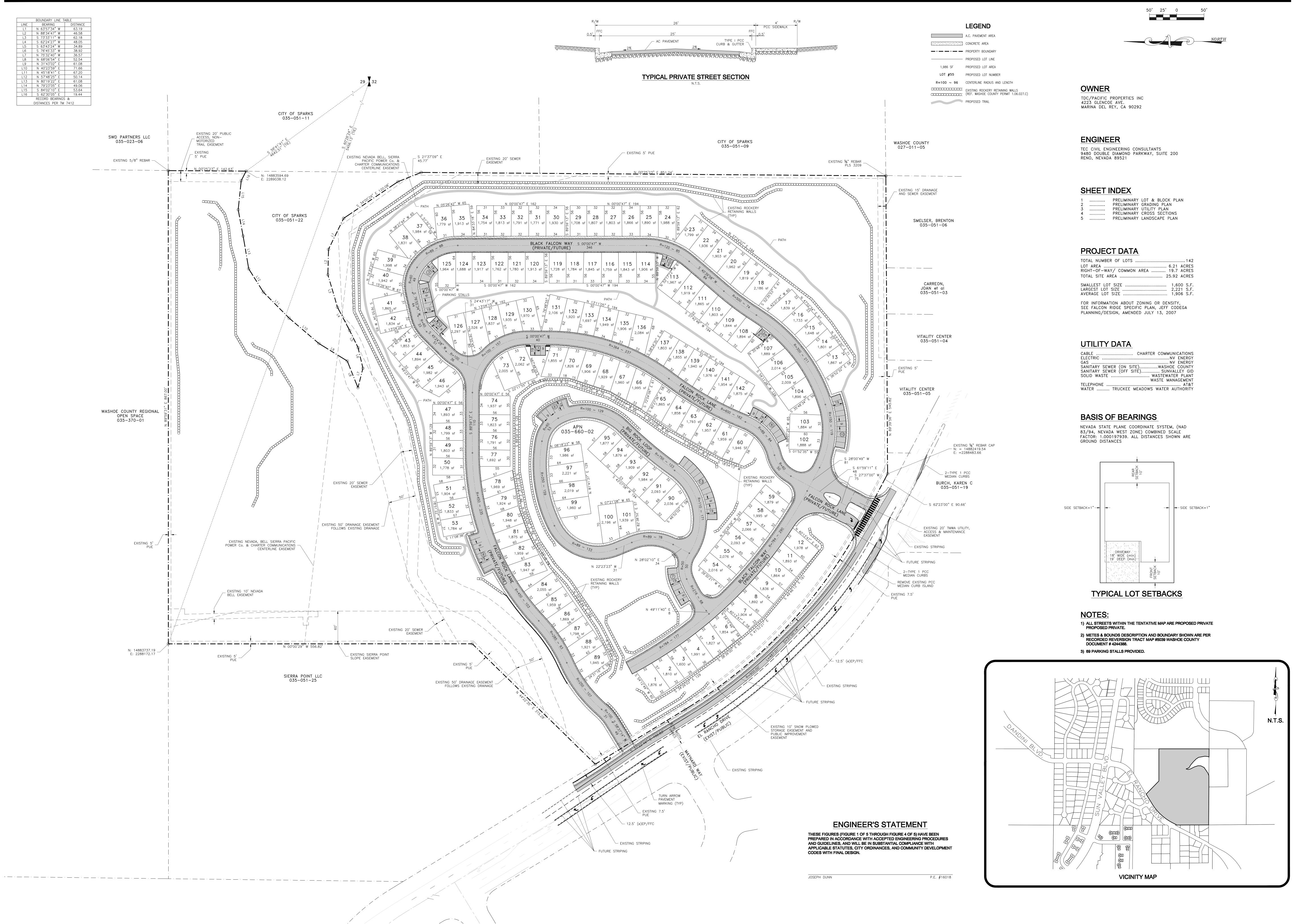
It is recommended that the El Rancho Drive/Moorpark Court/Project Access intersection be continued to operate with right-in, right-out and left-in movements only.

It is recommended that the El Rancho Drive/Moorpark Court/Project Access intersection be improved to contain one left turn lane at the El Rancho west approach; and one ingress lane and one right turn egress lane at the project access north approach.

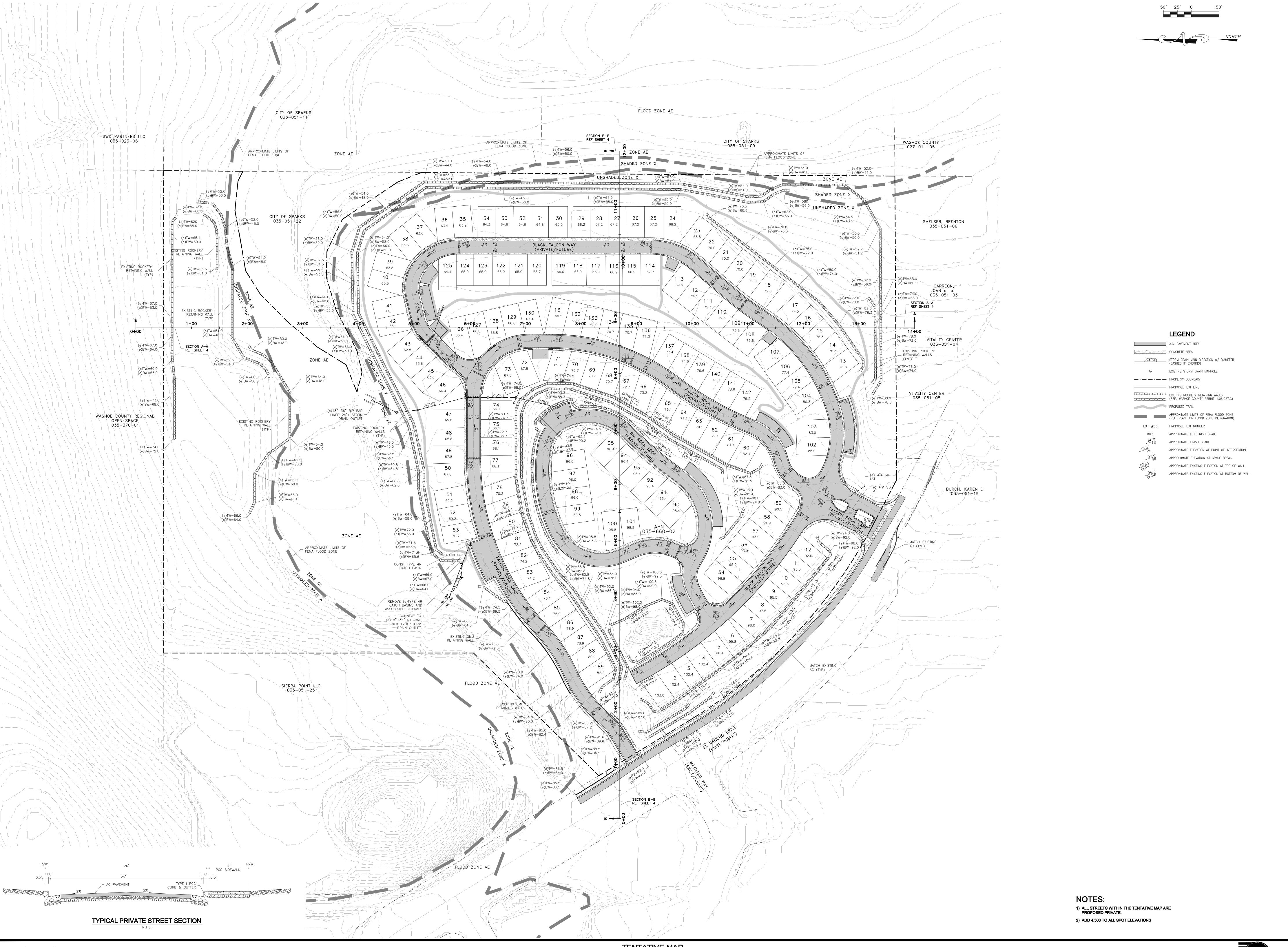
It is recommended that the project access, interior streets and parking be constructed per Washoe County standards.

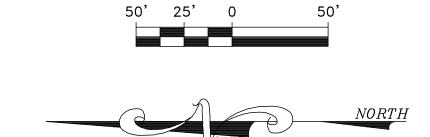
APPENDIX

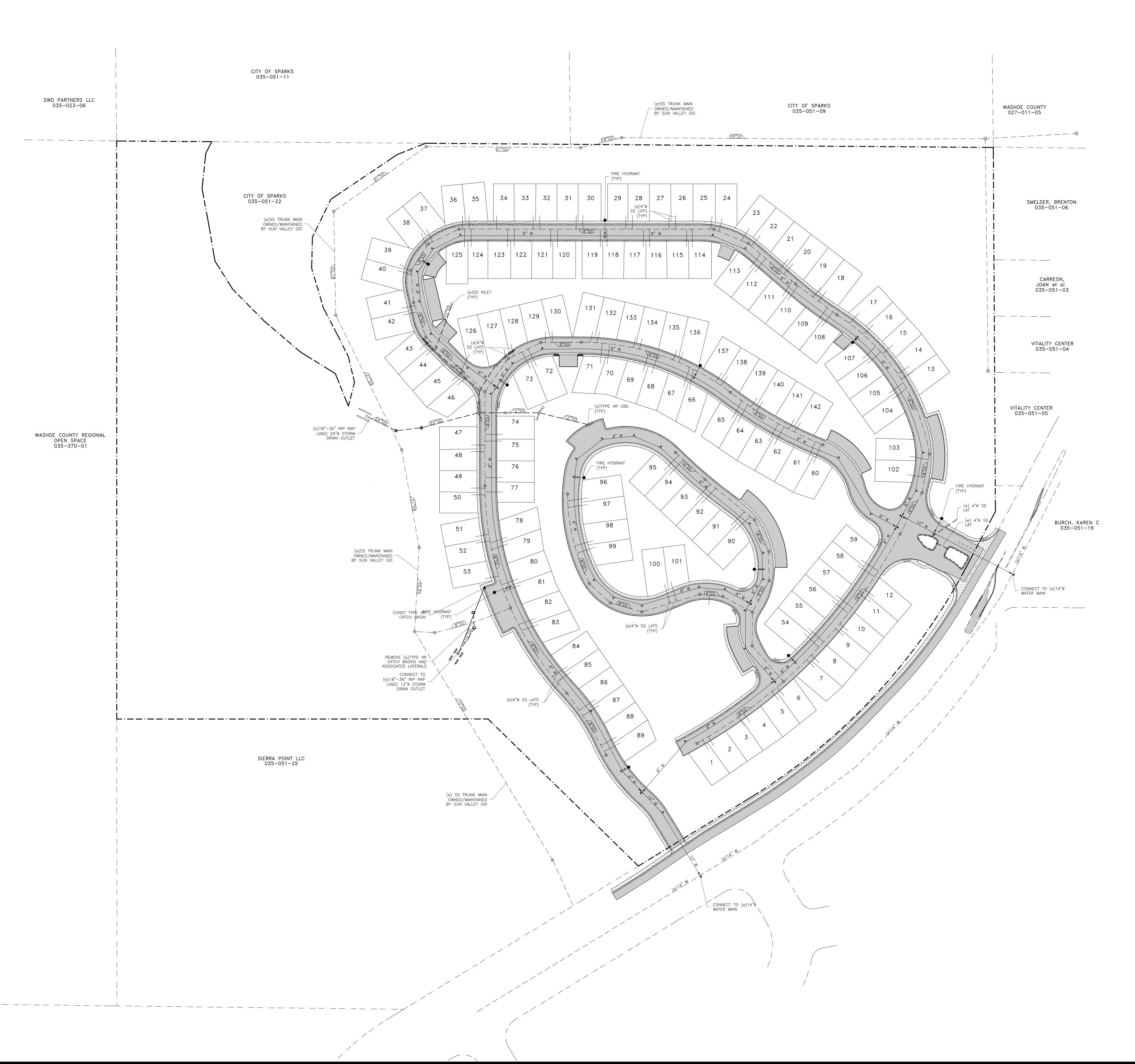
FALCON RIDGE TOWNHOMES



FALCON RIDGE TOWNHOMES







LEGEND

A.C. PAVEMENT AREA

CONCRETE AREA

STORM DRAIN MAIN DIRECTION w/ DIAMETER
(DASHED IF EXISTING)

EXISTING SANITARY SEWER MAIN DIRECTION w/ DIAMETER

EXISTING 4"ø SANITARY SEWER LATERAL

EXISTING STORM DRAIN MANHOLEPROPERTY BOUNDARY

PROPOSED LOT LINE

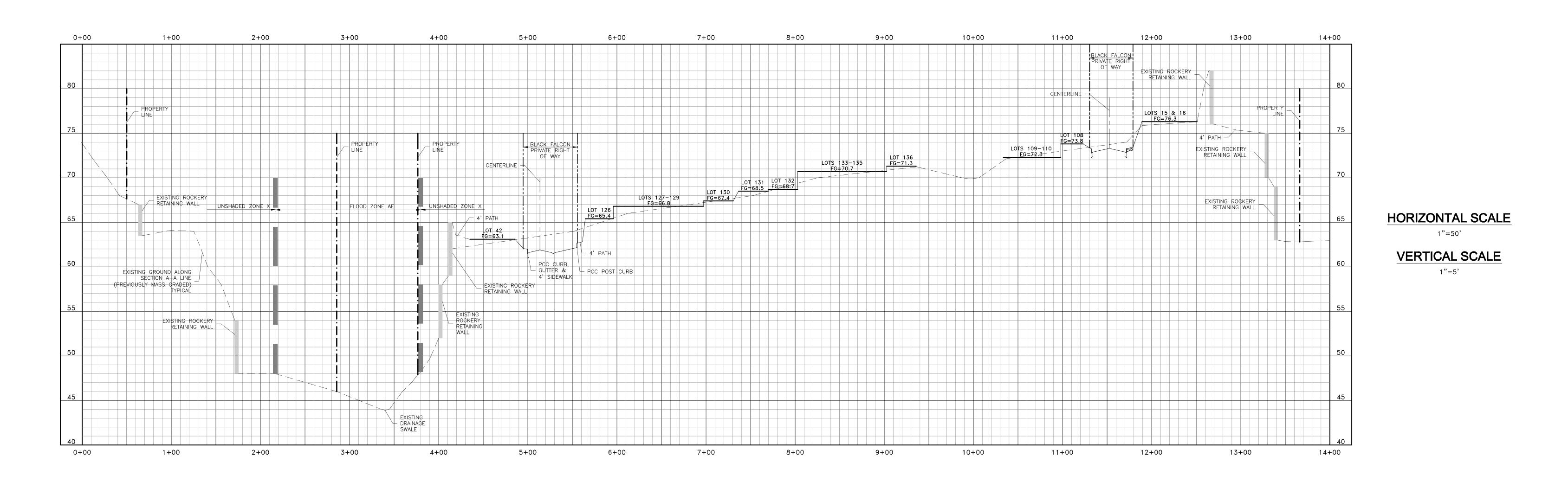
LOT #55 PROPOSED LOT NUMBER

NOTES:

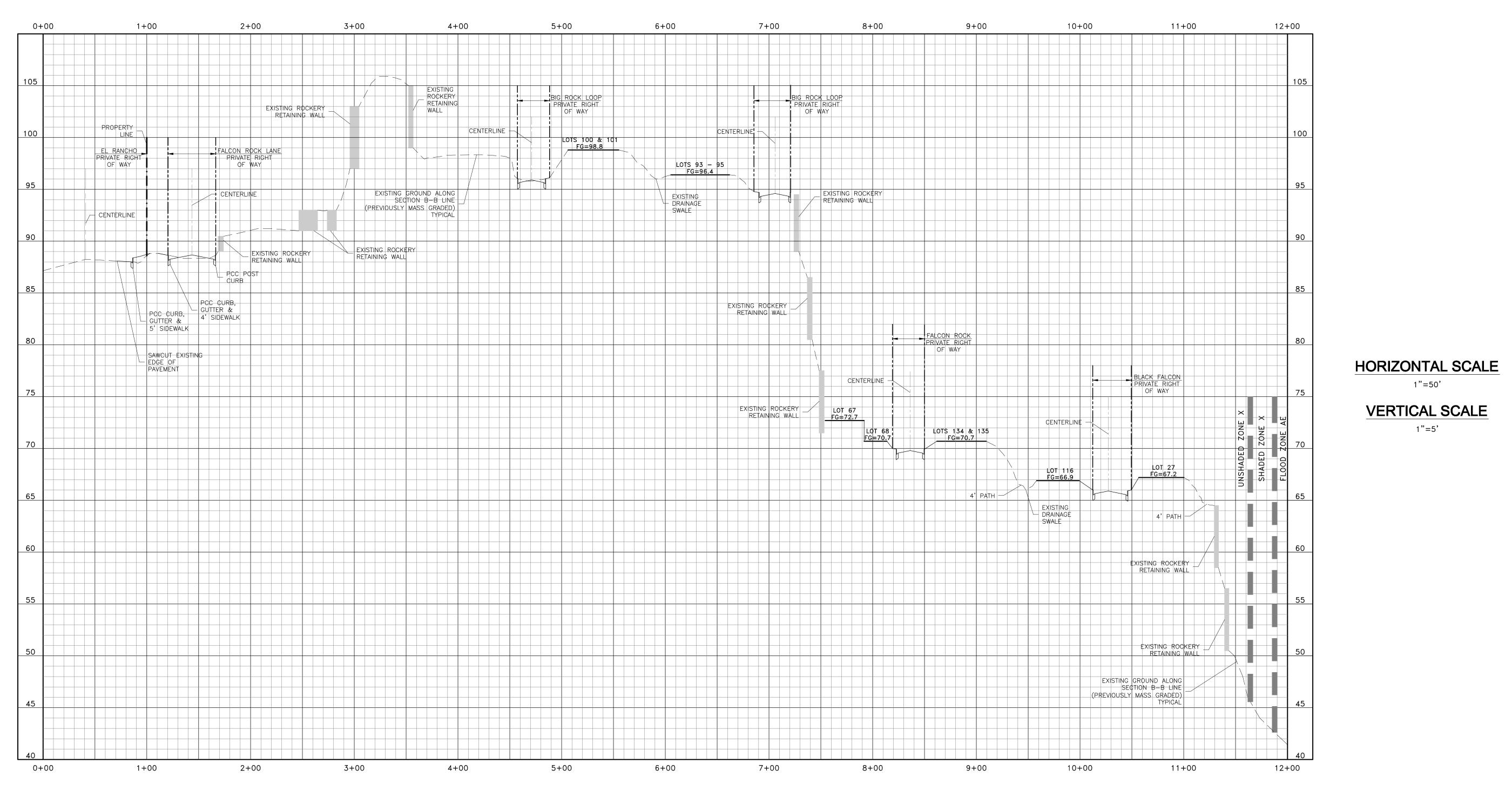
1) (e) 15"Ø, 18"Ø & 21"Ø SS MAINS OWNED AND MAINTAINED BY THE SUNVALLEY GID.

2) EXISTING AND PROPOSED WATER FACILITIES TO BE OWNED AND MAINTAINED BY TMWA.

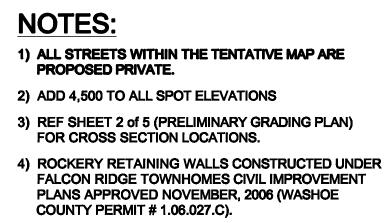
2) EXISTING AND PROPOSED STORM DRAIN MAINS TO BE PRIVATELY OWNED AND MAINTAINED.



CROSS SECTION A-A



CROSS SECTION B-B



FALCON RIDGE TOWNHOMES

