

Application for Master Plan and Regulatory Zoning Map Amendments
La Posada

Submitted to Washoe County

May 10, 2021

ORIGINAL

Prepared for

Toll South Reno LLC
9433 Double Diamond Parkway
Reno, Nevada 89521

Prepared by



WOOD RODGERS

BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

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Section 1

Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information		Staff Assigned Case No.: _____	
Project Name: La Posada			
Project Description: A request to 1)change the existing land use from Rural to Suburban Residential; and 2) change the existing zoning from General Rural to Low Density Suburban on properties located in the Spanish Springs Area Plan			
Project Address: 0 La Posada; 0 Yucca Ct, 2205 Yucca Ct			
Project Area (acres or square feet): 73.1			
Project Location (with point of reference to major cross streets AND area locator): La Posada Drive between Cielo Vista Drive and Piedras Drive			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
076-391-36 thru 39	36.52		
076-391-40	36.58		
Indicate any previous Washoe County approvals associated with this application: Case No.(s).			
Applicant Information (attach additional sheets if necessary)			
Property Owner:		Professional Consultant:	
Name: SEE ATTACHED FOR OWNERS		Name: Wood Rodgers, Inc	
Address:		Address: 1361 Corporate Blvd	
Zip:		Reno, Nevada	Zip: 89502
Phone:	Fax:	Phone: 775-823-4068	Fax:
Email:		Email: adurling@woodrodgers.com	
Cell:	Other:	Cell: 775-745-0913	Other:
Contact Person:		Contact Person: Andrew Durling	
Applicant/Developer:		Other Persons to be Contacted:	
Name: Toll Brothers		Name:	
Address: 9433 Double Diamond Parkway		Address:	
Reno, Nevada	Zip: 89521		Zip:
Phone: 775-850-2427	Fax:	Phone:	Fax:
Email: mmcgrath1@tollbrothers.com		Email:	
Cell:	Other:	Cell:	Other:
Contact Person: Michelle McGrath		Contact Person:	
For Office Use Only			
Date Received:	Initial:	Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

Master Plan Amendment Supplemental Information

(All required information may be separately attached)

The Washoe County Master Plan describes how the physical character of the County exists today and is planned for the future. The plan is adopted by the community and contains information, policies and a series of land use maps. The Master Plan provides the essential framework for creating a healthy community system and helps guide decisions about growth and development in the County. The following are general types of requests the County receives to amend the Master Plan. Please identify which type of amendment you are requesting:

<input checked="" type="checkbox"/> A request to change a master plan designation(s) from the adopted master plan and/or area plan maps
<input type="checkbox"/> A request to add, amend, modify or delete any of the adopted policies found in the elements of the Master Plan
<input type="checkbox"/> A request to add, amend, modify or delete any of the adopted policies in the area plans and/or specific language found in the area plans
<input type="checkbox"/> Other (please identify):

Please complete this questionnaire to ensure consistent review of your request to amend the Washoe County Master Plan. Staff will review the application to determine if the amendment request is in conformance with the policies and language within the elements and area plans of the Master Plan or if the information provided supports a change to the plan. Please provide an explanation to all questions; attach additional sheets if necessary.

1. What is the Master Plan amendment being requested at this time?

To change the existing master plan from Rural to Suburban Residential

2. What conditions have changed and/or new studies have occurred since the adoption of the Washoe County Master Plan that supports the need for the amendment request?

The change to SR is compatible with the properties immediately south of the site and creates a additional opportunity for residential development where infrastructure is available to help address regional housing needs.

3. Please provide the following specific information:

- a. What is the location (address or distance and direction from the nearest intersection of the subject property)? Attach, for map amendments, a legal description. For all other amendments, what is the area subject to the request?

The site is located between Cielo Vista Drive and Piedras Drive along the north side of La Posada, approximately 2 miles east of Pyramid Highway.

b. Please list the following proposed changes (attach additional sheet if necessary):

Assessor's Parcel Number	Master Plan Designation	Existing Acres	Proposed Master Plan Designation	Proposed Acres
076-391-36	Rural	9.4	SR	9.4
076-391-37	Rural	8.2	SR	8.2
076-391-38	Rural	8.8	SR	8.8
076-391-39	Rural	10.0	SR	10.0
076-391-40	Rural	36.5	SR	36.5

c. What are the adopted land use designations of adjacent parcels?

North	R
South	SR/RR/LLR
East	R/RR
West	R/SR

4. Describe the existing conditions and uses located at the site or in the vicinity (i.e. vacant land, roadways, buildings, etc.).

The site is currently undeveloped but surrounded by predominately suburban residential development. Refer to the Project Description in Section 2 of this application for more details.

5. Describe the natural resources associated with the site under consideration. Your description should include resource characteristics such as water bodies, vegetation, topography, minerals, soils and wildlife habitat.

The entire site is free of steep slopes with minimal sloping over 15% and is characterized by native vegetation (primarily native shrubs, sagebrush, and grasses). Refer to Project Description in Section 2 for additional information.

6. Describe whether any of the following natural resources or systems are related to the proposed amendment:

a. Is property located in the 100-year floodplain? (If yes, attach documentation of the extent of the floodplain and any proposed floodplain map revisions in compliance with Washoe County Development Code, Article 416, Flood Hazards, and consultation with the Washoe County Engineering & Capital Projects Division.)

Yes No

Explanation:

b. Does property contain wetlands? (If yes, attach a preliminary delineation map and describe the impact the proposal will have on the wetlands. Impacts to the wetlands may require a permit issued from the U.S. Army Corps of Engineers.)

Yes No

Explanation:

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- c. Does the property contain slopes or hillsides in excess of 15 percent and/or significant ridgelines? (If yes, submit the slope analysis requirements as contained in Article 424, Hillside Development of the Washoe County Development Code.)

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

Explanation:

--

- d. Does the property contain geologic hazards such as active faults, hillside, or mountainous areas? Is it subject to avalanches, landslides, or flash floods? Near a stream or riparian area such as the Truckee River, and/or an area of groundwater recharge? If the answer is yes to any of the above, check yes and provide an explanation.

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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Explanation:

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- e. Does the property contain prime farmland, within a wildfire hazard area, geothermal or mining area, and/or wildlife mitigation route? If the answer is yes to any of the above, check yes and provide an explanation.

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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Explanation:

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7. Are any archaeological, historic, cultural, or scenic resources in the vicinity or associated with the proposed amendment? If the answer is yes to any of the above, check yes and provide an explanation.

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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Explanation:

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8. Do you own sufficient water rights to accommodate the proposed amendment? (Amendment requests in some groundwater hydrographic basins [e.g. Cold Springs, Warm Springs, etc.] require proof of water rights be submitted with applications. Provide copies of all water rights documents, including chain of title to the original water right holder.)

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
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If yes, please identify the following quantities and documentation numbers relative to the water rights. Please attach a copy(s) of the water rights title (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources).

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

- a. If the proposed amendment involves an intensification of land use, please identify how sufficient water rights will be available to serve the additional development.

Water rights will be purchased from TMWA under Rule 7 at the time of development.

9. Please describe the source and timing of the water facilities necessary to serve the amendment.

- a. System Type:

<input type="checkbox"/> Individual wells		
<input type="checkbox"/> Private water	Provider:	
<input checked="" type="checkbox"/> Public water	Provider:	TMWA

- b. Available:

<input checked="" type="checkbox"/> Now	<input type="checkbox"/> 1-3 years	<input type="checkbox"/> 3-5 years	<input type="checkbox"/> 5+ years
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- c. If a public facility is proposed and is currently not available, please describe the funding mechanism for ensuring availability of water service.

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10. What is the nature and timing of sewer services necessary to accommodate the proposed amendment?

- a. System Type:

<input type="checkbox"/> Individual septic		
<input checked="" type="checkbox"/> Public system	Provider:	Washoe County

- b. Available:

<input type="checkbox"/> Now	<input checked="" type="checkbox"/> 1-3 years	<input type="checkbox"/> 3-5 years	<input type="checkbox"/> 5+ years
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- c. If a public facility is proposed and is currently not available, please describe the funding mechanism for ensuring availability of sewer service. If a private system is proposed, please describe the system and the recommended location(s) for the proposed facility.

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11. Please identify the street names and highways near the proposed amendment that will carry traffic to the regional freeway system.

La Posada will provide connection to Pyramid Highway which provides connection to the freeway system via McCarran Blvd.

12. Will the proposed amendment impact existing or planned transportation systems? (If yes, a traffic report will be required.)

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
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13. Community Services (provided and nearest facility):

a. Fire Station	TMFPD Station 17
b. Health Care Facility	Renown Urgent Care Lost Altos
c. Elementary School	Spanish Springs Elementary
d. Middle School	Shaw Middle
e. High School	Spanish Springs High
f. Parks	Tumbleweed Trails Park, Lazy 5 Regional Park
g. Library	Spanish Springs Library
h. Citifare Bus Stop	N/A; RTC Flex Route Service Area

14. Describe how the proposed amendment fosters, promotes, or complies with the policies of the adopted area plans and elements of the Washoe County Master Plan.

a. Population Element:

SSAP has capacity for anticipated additional lots. Refer to Project Description for additional information.

b. Conservation Element:

No wetlands exist and development will not negatively impact area. Refer to Project Description for additional information.

c. Housing Element:

Change provides additional opportunities for housing to meet regional needs. Refer to Project Description for additional information.

d. Land Use and Transportation Element:

Area roadways currently operate within adopted levels of service and will continue with project. Refer to Project Description for additional information.

e. Public Services and Facilities Element:

Public sewer and water are available in the area to serve the site. Refer to Project Description for additional information.
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f. Adopted area plan(s):

The proposed project complies with SSAP policies. Refer to Project Description for additional specific policies.
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15. If the area plan includes a Plan Maintenance component, address all policies and attach all studies and analysis required by the Plan Maintenance criteria.

A response to the required findings related to this amendment is discussed in the Project Description.
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Applicant Comments

This page can be used by the applicant to support the master plan amendment request and should address, at a minimum, how one or more of the findings for an amendment is satisfied. (Please refer to Article 820 of the Washoe County Development Code for the list of Findings.)

Refer to Project Description in Section 2 of this application packet.

Regulatory Zone Amendment Supplemental Information

(All required information may be separately attached)

Please complete the following supplemental information to ensure consistent review of your request to amend the Washoe County Zoning Map. Please provide a brief explanation to all questions answered in the affirmative.

1. List the Following information regarding the property subject to the Regulatory Zone Amendment.
 - a. What is the location (address, distance and direction from nearest intersection)?

The site is located on La Posada between Cielo Vista Dr and Piedras Drive approximately 2 miles east of Pyramid Highway.

- b. Please list the following proposed changes (attach additional sheet if necessary).

APN of Parcel	Master Plan Designation	Current Zoning	Existing Acres	Proposed Zoning	Proposed Acres
076-391-36	R	GR	9.4	LDS	9.4
076-391-37	R	GR	8.2	LDS	8.2
076-391-38	R	GR	8.8	LDS	8.8
076-391-39	R	GR	10.0	LDS	10.0
076-391-40	R	GR	36.5	LDS	36.5

- c. What are the regulatory zone designations of adjacent parcels?

	Zoning	Use (residential, vacant, commercial, etc.)
North	GR	single family/vacant
South	LDS/MDS/HDR/PD	single family/Planned Development
East	GR	single family/vacant
West	GR	single family/vacant

3. Describe the existing conditions and uses located on the site (i.e. vacant land, roadways, easements, buildings, etc.).

The site is currently undeveloped but surrounded by predominately suburban residential development. Refer to the Project Description in Section 2 of this application for more details.

4. Describe the natural resources associated with the site under consideration. Your description should include resource characteristics such as water bodies, vegetation, topography, minerals, soils, and wildlife habitat.

The entire site is free of steep slopes with minimal sloping over 15% and is characterized by native vegetation (primarily native shrubs, sagebrush, and grasses). Refer to Project Description in Section 2 for additional information.

5. Does the property contain development constraints such as floodplain or floodways, wetlands, slopes, or hillsides in excess of 15%, geologic hazards such as active faults, significant hydrologic resources, or major drainages or prime farmland?

<input type="checkbox"/> Yes, provide map identifying locations	<input checked="" type="checkbox"/> No
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6. Is the site located in an area where there is potentially an archeological, historic, or scenic resource?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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Explanation:

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7. Are there sufficient water rights to accommodate the proposed amendment? Please provide copies of all water rights documents, including chain of title to the original water right holder.)

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
---	-----------------------------

If yes, please identify the following quantities and documentation numbers relative to the water rights:

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

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

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- b. If the proposed amendment involves an intensification of land use, please identify how sufficient water rights will be available to serve the additional development.

The applicant will purchase Rule 7 water rights from TMWA.
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8. Please describe the source and timing of the water facilities necessary to serve the amendment.

- a. System Type:

<input type="checkbox"/> Individual wells		
<input type="checkbox"/> Private water	Provider:	
<input checked="" type="checkbox"/> Public water	Provider:	TMWA

- b. Available:

<input checked="" type="checkbox"/> Now	<input type="checkbox"/> 1-3 years	<input type="checkbox"/> 3-5 years	<input type="checkbox"/> 5+ years
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- c. Is this part of a Washoe County Capital Improvements Program project?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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- d. If a public facility is proposed and is currently not listed in the Washoe County Capital Improvements Program or not available, please describe the funding mechanism for ensuring availability of water service.

--

9. What is the nature and timing of sewer services necessary to accommodate the proposed amendment?

- a. System Type:

<input type="checkbox"/> Individual septic		
<input checked="" type="checkbox"/> Public system	Provider:	Washoe County

- b. Available:

<input type="checkbox"/> Now	<input checked="" type="checkbox"/> 1-3 years	<input type="checkbox"/> 3-5 years	<input type="checkbox"/> 5+ years
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- c. Is this part of a Washoe County Capital Improvements Program project?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

- d. If a public facility is proposed and is currently not listed in the Washoe County Capital Improvements Program or not available, please describe the funding mechanism for ensuring availability of sewer service. If a private system is proposed, please describe the system and the recommended location(s) for the proposed facility.

--

10. Please identify the street names and highways near the proposed amendment that will carry traffic to the regional freeway system.

La Posada will provide connection to Pyramid Highway which provides connection to the freeway system via McCarran Blvd.

11. Will the proposed amendment impact existing or planned transportation systems? (If yes, a traffic report is required.)

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
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12. Community Services (provided name, address and distance to nearest facility).

a. Fire Station	TMFPD Station 17
b. Health Care Facility	Renown Urgent Care Los Altos
c. Elementary School	Spanish Springs Elementary
d. Middle School	Shaw Middle
e. High School	Spanish Springs High
f. Parks	Tumbleweed Trails Parks, Lazy 5 Regional Park
g. Library	Spanish Springs Library
h. Citifare Bus Stop	N/A; RTC Flex Route Service Area

Projects of Regional Significance Information For Regulatory Zone Amendments

Nevada Revised Statutes 278.026 defines "Projects of Regional Significance". Regulatory Zone amendment requests for properties within the jurisdiction of the Truckee Meadows Regional Planning Commission (TMRPC) must respond to the following questions. A "Yes" answer to any of the following questions may result in the application being referred first to the Truckee Meadows Regional Planning Agency (TMRPA) for submission as a project of regional significance. Applicants should consult with County or Regional Planning staff if uncertain about the meaning or applicability of these questions.

1. Will the full development potential of the Regulatory Zone amendment increase employment by not less than 938 employees?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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2. Will the full development potential of the Regulatory Zone amendment increase housing by 625 or more units?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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3. Will the full development potential of the Regulatory Zone amendment increase hotel accommodations by 625 or more rooms?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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4. Will the full development potential of the Regulatory Zone amendment increase sewage by 187,500 gallons or more per day?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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5. Will the full development potential of the Regulatory Zone amendment increase water usage by 625 acre-feet or more per year?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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6. Will the full development potential of the Regulatory Zone amendment increase traffic by 6,250 or more average daily trips?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

7. Will the full development potential of the Regulatory Zone amendment increase the student population from kindergarten to 12th grade by 325 students or more?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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Regulatory Zone Amendment Findings

Please attach written statements that addresses how the required findings for a Regulatory Zone Amendment and any goals and policies of the affected Area Plan, are being address by this proposal. Below are the required finds as listed in the Washoe County Development Code, Article 821. The individual Area Plans are available on the Washoe County web page, under Planning.

Findings. To make a recommendation for approval, all of the following findings must be made by the Commission:

- (1) Consistency with Master Plan. The proposed amendment is in substantial compliance with the policies and action programs of the Master Plan.
- (2) Compatible Land Uses. The proposed amendment will provide for land uses compatible with (existing or planned) adjacent land uses, and will not adversely impact the public health, safety or welfare.
- (3) Response to Change Conditions; more desirable use. The proposed amendment responds to changed conditions or further studies that have occurred since the plan was adopted by the Board of County Commissioners, and the requested amendment represents a more desirable utilization of land.
- (4) Availability of Facilities. There are or are planned to be adequate transportation, recreation, utility, and other facilities to accommodate the uses and densities permitted by the proposed amendment.
- (5) No Adverse Effects. The proposed amendment will not adversely affect the implementation of the policies and action programs of the Washoe County Master Plan.
- (6) Desired Pattern of Growth. The proposed amendment will promote the desired pattern for the orderly physical growth of the County and guides development of the County based on the projected population growth with the least amount of natural resource impairment and the efficient expenditure of funds for public services.
- (7) Effect on a Military Installation When a Military Installation is Required to be Noticed. The proposed amendment will not affect the location, purpose and mission of a military installation.

APN 076-391-36 - 39
University of Nevada Reno Foundation
Mail Stop 162
Reno NV 89557

APN 076-391-40
Frank & Georgina Scibilia
1795 Granite Drive
Reno, NV 89509

Property Owner Affidavit

Applicant Name: Toll Brothers

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA)
)
COUNTY OF WASHOE)

I, FRANK Scibilia
(please print name)

being duly sworn, depose and say that I am the owner* of the property or properties involved in this application as listed below 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 understand that no assurance or guarantee can be given by members of Planning and Building.

(A separate Affidavit must be provided by each property owner named in the title report.)

Assessor Parcel Number(s): 076-391-40

Printed Name FRANK Scibilia

Signed [Signature]

Address 1795 GRANITE DR.

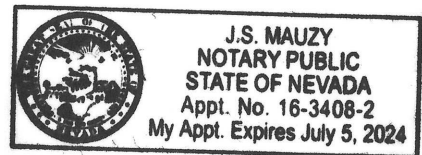
RENO NV 89509

Subscribed and sworn to before me this
5th day of May, 2021.

(Notary Stamp)

[Signature]
Notary Public in and for said county and state

My commission expires: 07/05/2021



*Owner refers to the following: (Please mark appropriate box.)

- Owner
- Corporate Officer/Partner (Provide copy of record document indicating authority to sign.)
- Power of Attorney (Provide copy of Power of Attorney.)
- Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
- Property Agent (Provide copy of record document indicating authority to sign.)
- Letter from Government Agency with Stewardship

Property Owner Affidavit

Applicant Name: Toll Brothers

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA)
)
COUNTY OF WASHOE)

I, LYUDA L. BUKLIG
(please print name)

being duly sworn, depose and say that I am the owner* of the property or properties involved in this application as listed below 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 understand that no assurance or guarantee can be given by members of Planning and Building.

(A separate Affidavit must be provided by each property owner named in the title report.)

Assessor Parcel Number(s): 076-391-36, 37, 38 & 39

Printed Name LYUDA L. BUKLIG

Signed *Lyuda L. Buklig*

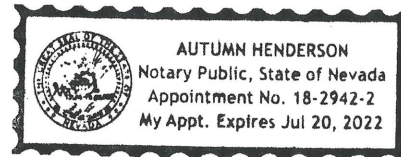
Address Mail Stop 0162
Reno, NV 89557

Subscribed and sworn to before me this
4 day of May, 2021.

(Notary Stamp)

Washoe County State of Nevada
Notary Public in and for said county and state

My commission expires: July 20, 2022



Autumn Henderson

*Owner refers to the following: (Please mark appropriate box.)

- Owner
- Corporate Officer/Partner (Provide copy of record document indicating authority to sign.)
- Power of Attorney (Provide copy of Power of Attorney.)
- Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
- Property Agent (Provide copy of record document indicating authority to sign.)
- Letter from Government Agency with Stewardship

Account Detail

[Back to Account Detail](#)

[Change of Address](#)

[Print this Page](#)

CollectionCart

Collection Cart	Items	Total	Checkout	View
	0	\$0.00		

Pay Online

Washoe County Parcel Information

Parcel ID	Status	Last Update
07639137	Active	5/5/2021 1:40:30 AM

Current Owner:
 UNIVERSITY NEVADA RENO FOUNDATION

MAIL STOP 162
 RENO, NV 89557

Taxing District
 4000

SITUS:
 0 YUCCA CT
 WCTY NV

Geo CD:

Tax Bill (Click on desired tax year for due dates and further details)

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
2020	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2019	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2018	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2017	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2016	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total					\$0.00

Disclaimer

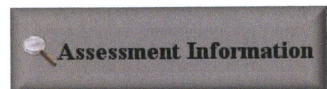
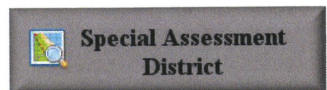
- ALERTS:** If your real property taxes are delinquent, the search results displayed may not reflect the correct amount owing. Please contact our office for the current amount due.
- For your convenience, online payment is available on this site. E-check payments are accepted without a fee. However, a service fee does apply for online credit card payments. See Payment Information for details.

Pay By Check

Please make checks payable to:
WASHOE COUNTY TREASURER

Mailing Address:
 P.O. Box 30039
 Reno, NV 89520-3039

Overnight Address:
 1001 E. Ninth St., Ste D140
 Reno, NV 89512-2845



Account Detail

[Back to Account Detail](#)

[Change of Address](#)

[Print this Page](#)

CollectionCart

Collection Cart	Items	Total	Checkout	View
	0	\$0.00		

Pay Online

Washoe County Parcel Information

Parcel ID	Status	Last Update
07639138	Active	5/5/2021 1:40:30 AM
Current Owner: UNIVERSITY NEVADA RENO FOUNDATION MAIL STOP 162 RENO, NV 89557		SITUS: 0 YUCCA CT WCTY NV
Taxing District 4000	Geo CD:	

Tax Bill (Click on desired tax year for due dates and further details)

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
2020	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2019	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2018	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2017	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2016	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total					\$0.00

Disclaimer

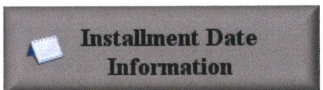
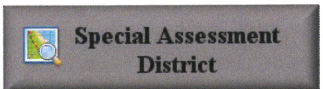
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- For your convenience, online payment is available on this site. E-check payments are accepted without a fee. However, a service fee does apply for online credit card payments. See Payment Information for details.

Pay By Check

Please make checks payable to:
WASHOE COUNTY TREASURER

Mailing Address:
P.O. Box 30039
Reno, NV 89520-3039

Overnight Address:
1001 E. Ninth St., Ste D140
Reno, NV 89512-2845



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CollectionCart

Collection Cart	Items	Total	Checkout	View
	0	\$0.00		

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Washoe County Parcel Information

Parcel ID	Status	Last Update
07639139	Active	5/5/2021 1:40:30 AM
Current Owner: UNIVERSITY NEVADA RENO FOUNDATION MAIL STOP 162 RENO, NV 89557		SITUS: 2205 YUCCA CT WCTY NV
Taxing District 4000		Geo CD:

Tax Bill (Click on desired tax year for due dates and further details)

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
2020	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2019	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2018	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2017	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2016	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total					\$0.00

Disclaimer

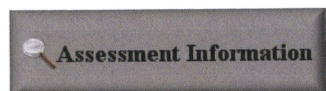
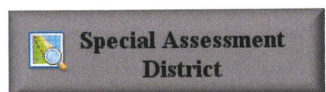
- **ALERTS:** If your real property taxes are delinquent, the search results displayed may not reflect the correct amount owing. Please contact our office for the current amount due.
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Collection Cart	Items	Total	Checkout	View
	0	\$0.00		

Pay Online

Washoe County Parcel Information

Parcel ID	Status	Last Update
07639140	Active	5/5/2021 1:40:30 AM

Current Owner:
SCIBILIA, FRANK & GEORGINA
1795 GRANITE DR
RENO, NV 89509

SITUS:
0 LA POSADA DR
WCTY NV

Taxing District:
4000

Geo CD:

Tax Bill (Click on desired tax year for due dates and further details)

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
2020	\$800.64	\$800.64	\$0.00	\$0.00	\$0.00
2019	\$762.52	\$762.52	\$0.00	\$0.00	\$0.00
2018	\$727.61	\$727.61	\$0.00	\$0.00	\$0.00
2017	\$698.44	\$698.44	\$0.00	\$0.00	\$0.00
2016	\$680.61	\$696.26	\$0.00	\$0.00	\$0.00
Total					\$0.00

Disclaimer

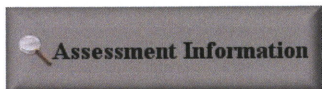
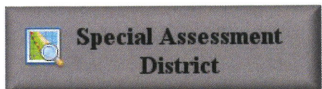
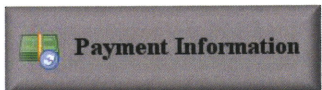
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Section 2

Project Description

Location

The project site is within unincorporated Washoe County, in the Spanish Springs area. The 47.01± acre site includes five parcels and are referred to as Washoe County Assessor Parcel Number (APN) 076-391-36, 37, 38, 39 and 40. The site is located on the north side of La Posada Drive between Cielo Vista Drive and Piedras Drive, within the Spanish Springs Area Plan/Spanish Springs Rural Character Management Area. The site is generally bordered by existing single-family neighborhoods within the City of Sparks to the south and rural/suburban estates to the west, east and north (*Refer to Vicinity Map, Assessor's Parcel Map and Site Aerial in Section 3 of this submittal packet*).

Background

The five parcels totaling 73.1± acres (project site) are within the Spanish Springs Area Plan (SSAP). The parcels are located within the Rural Character Management Area. Additionally, the parcels are located within the area identified in the Truckee Meadows Regional Plan as Rural Area and are currently located outside of, but adjoining, the Truckee Meadows Service Area (the area of the Truckee Meadows that should receive municipal services). Further, the properties are located within Washoe County Special Assessment District (SAD) 32, which was formed to provide infrastructure improvements to properties within this general area. Infrastructure adjacent to the site, as well as within close proximity, includes paved roadways (including curb, gutter and sidewalk), water, gas, and sewer. Additionally, the Regional Transportation Commission has identified La Posada as a regional roadway, with planned future extension into the Northeast Sparks Sphere of Influence (SOI) with future connection to the Tahoe Reno Industrial Center (TRIC).

Washoe County Master Plan and Zoning

The Washoe County master plan for the area identifies that the subject properties are have a master plan designation of Rural (R), with a zoning designation of General Rural (GR). Surrounding properties have a diverse mix of suburban level master plan and zoning designations, both within unincorporated Washoe County and the City of Sparks. To the north, the area is consistent with the subject properties' rural classifications. However, when looking at the adjacent and adjoining properties to the south and west, as well as future considerations to the east, the broader area is predominantly suburban in character. Specifically, to the west (±1,400 west of the site), is a very large area of County Suburban designated land and directly adjacent to the south is a mix of County and City of Sparks land that contains suburban designations with many properties developed at densities equivalent to 3 du/acre. Existing City of Sparks land is located directly south of the project site, with the Northeast Sparks SOI adjoining the site to the east. (*Refer to Section 3 of the submittal packet for Existing and Proposed Zoning Maps*).

Project Request

The applicant is requesting a Master Plan Amendment, Regulatory Zone Amendment, and Regional Plan Amendment on five parcels totaling 73.1± acres. The current land use designations, and conforming zoning designations, are generally not supported by the existing conditions and infrastructure availability for the site. To support future single family residential development on this site, the following changes are requested:

Master Plan Designation

- Existing:
 - Rural (R) 73.1± Acres (100%)
- Proposed:
 - Suburban Residential (SR)¹ 73.1± Acres (100%)

Zoning Designation

- Existing:
 - General Rural (GR) 73.1± Acres (100%)
- Proposed:
 - Low Density Suburban (MDS) 73.1± Acres (100%)

Regional Plan Designation

- Existing:
 - Rural (R) 73.1± Acres (100%)
- Proposed:
 - Tier 3/Truckee Meadows Service Area 73.1± Acres (100%)

1 – With the proposed change to Suburban Residential, an amendment to the SSAP is also required to identify the property within the Suburban Character Management Area.

The proposed change in land use and zoning designations is compatible with the surrounding area and provides additional opportunity for residential development to help address regional housing needs. (Refer to the Existing and Proposed Master Plan and Zoning Maps in Section 3 of this submittal packet.)

Land Use Compatibility

The project site is located within the Spanish Springs Area Plan (SSAP). Surrounding land uses include existing single family residential in both the County and City of Sparks surround the project site. The current and proposed land use and zoning designations are conforming with and allowed within the SSAP.

ADJACENT PROPERTY DESCRIPTION			
	Land Use Designation	Zoning	Use
North	R	GR	Single Family/Vacant
South	SR LLR/RR ¹	MDS//LDS/HDR/OS PD ²	Single Family Single Family/Open Space
East	GR RR ¹	GR	Single Family/Vacant Single Family/Vacant
West	GR/SR	GR/LDS	Single Family

1 – RR (Rural Reserve) is a City of Sparks designation that is identified in the City of Sparks Master Plan as a designation to “preserve existing land for future development” and “may also be considered as an interim use with the intent that sometime in the future these areas will transition to urban uses.”

2 – Planned Developments (PD) located south of the property include The Foothills at Wingfield Springs and Highlands/Upper Highlands at Cimarron planned developments.

The proposed amendment on the Project Site will be compatible with the surrounding uses and represents a transition from higher density development in the City of Sparks that is generally provided

at 3 du/acre with rural/suburban development in the County that includes densities from 1-acre to 10-acre lots.

Utilities

Public utilities currently exist and are located within adjacent streets (La Posada Drive, Piedras Drive and Cielo Vista Drive). Water is located along the entire Cielo Vista Drive and La Posada Drive rights of way, adjacent to the project site. Gas and electric facilities are present on the west, south and eastern sides of the property. Sanitary sewer is stubbed to La Posada Drive adjacent to the eastern half of the property at the intersection with Desert Vista Drive. Additional sanitary sewer is located west of the project site, approximately 1,200 lineal feet at the intersection of Hubble Drive and Light Speed Drive and 4,000 lineal feet near the intersection of La Posada and Benedict Drive. Furthermore, the subject properties were included in Washoe County Special Assessment District 32, which was formed to provide additional infrastructure improvements in the area.



View east from Cielo Vista Drive with water main and fire hydrant.

Public Services

Fire service is currently provided to the surrounding area by Truckee Meadows Fire District. The closest fire station is Truckee Meadows Fire Station 17 located approximately 2 miles to the west at the intersection of La Posada Drive and Rockwell Boulevard. Police service is provided by Washoe County Sheriff.

Traffic Impact Report

A traffic analysis must be prepared for any amendments to the Spanish Springs Area Plan. To address this requirement, Headway Transportation assessed the magnitude of traffic impacts the proposed change would have on key intersections. The study looked at key intersections and trip generation rates based on the proposed residential land use, which would result in a maximum of 73 lots. The study found that the proposed land use change is anticipated to generate 689 average daily trips (ADT) with 54 AM peak hour trips and 72 PM peak hour trips. Please note that this level of traffic generation is below the Washoe County threshold of 80 peak hour trips to warrant a traffic study. However, in accordance with the SSAP, the traffic study analyzed surrounding roadway intersections that may experience traffic impacts from the project to determine that policy level of service requirements can still be met with the land use change. Headway’s study concluded that the studied intersections would generally operate a levels of service of A or B, with only the La Posada Drive/Cordoba Drive intersection operating at a level of service C in the PM peak hour, both under current conditions and when factoring in the Regional Transportation Commission’s (RTC) 20-year horizon travel demand model.

Additionally, it is necessary to note that La Posada Drive is identified by the RTC as a significant roadway for future regional transportation connectivity. Specifically, La Posada is identified in the RTC’s 2050 Regional Transportation Plan (RTP) as a programmed project of regional significance. Due to growth in

the broader region, which includes adjacent Storey County and the Tahoe Regional Industrial Centers (TRIC) growing significance as a major regional employment center, the RTC has identified the TRIC Northern Connector as an extension of La Posada Drive to connect into TRIC. This would be a significant expansion of the roadway infrastructure in the Spanish Springs area and would represent an increase in likely traffic on La Posada Drive.



View toward the west of La Posada Drive improvements.

While the proposed land use change may have some impacts on the existing street network, the impacts will be minimal and adopted levels of service are maintained (see the *La Posada Traffic Impact Study* included in Section 4 of this submittal).

Truckee Meadows Service Area

Provided the above municipal services (utilities and public services) that are available to serve future development, the property is inappropriately designated as Rural and not included in the Truckee Meadows Service Area (TMSA). The TMSA is “the defined area within which services and infrastructure are anticipated to be provided. The TMSA is also used as a tool to limit premature expansion, avoid environmental degradation, optimize infrastructure, and maintain a compact form while providing for a variety of living and working situations.” Due to the proximity and availability of utilities and other municipal facilities and services, the property is appropriate for a higher intensity of development.

Namely, the property does not represent premature expansion, as the TMSA is essentially surrounding the project site on three sides. The properties directly to the south have been developed with higher densities than those requested and areas to the west within close proximity provide the same density that is requested. Further, lands located to the north and east that are identified within the City of Sparks’ Northeast SOI are arguably more premature for expansion, given the proximity of municipal services to serve the project site, however they have been included in the TMSA. The expansion of the TMSA on these properties does not represent any environmental degradation, as the properties are not identified as development constrained in both the Regional Plan and SSAP. The inclusion of the properties in the TMSA promote the optimization of infrastructure by way of the previously noted adjacency and close proximity of available infrastructure, including water, sewer, gas, electric, and roadways. Additionally, the future plans to extend La Posada Drive to connect to TRIC calls for an expansion of the TMSA in this particular area to provide more appropriate future land uses associated with this proposed major regional transportation investment. Lastly, the expansion does not jeopardize the goals of maintaining a compact form. As previously noted, the properties are essentially surrounded by existing TMSA and the expansion does not represent a “leapfrogging” of infrastructure or densities. The proposed change provides for a greater variety of living opportunities, by introducing 1-acre lot density with surrounding 3 du/acre and larger lots. Rather, this proposed land use change and associated regional plan change represents an appropriate metered growth of the region.

The Truckee Meadows Regional Plan identifies the process by which properties may be amended to be included in the TMSA. The following criteria is utilized for analysis and consideration for requests from the Rural Area to come in to the TMSA:

- a) *Indication of regional need for additional land, uses, or purposes, and why the need cannot otherwise be accommodated within the existing TMSA:*

The need for housing at all levels has reached almost crisis levels, with the median home prices and median rents reaching all-time highs in Northern Nevada. Due in large part to a constrained supply of available lots that are within close proximity of infrastructure to make them economically viable, area home builders are struggling to find land to backfill the pipeline of future lots, as current communities are selling out months or even years faster than anticipated. While it is acknowledged that the Truckee Meadows Regional Planning Agency tracks approved projects and thousands of theoretical units remain undeveloped in the Truckee Meadows, many of the previously approved units are unfortunately not ripe for development for a myriad of reasons, ranging from lack of infrastructure to unwilling land sellers. As such, properties such as those proposed with this application should be evaluated on current conditions, which, as described above, are in fact ripe for development in the very near term future.

- b) *An analysis consistent with the requested Regional Land Use Designation as described above*

Requested with this application is a change in the regional plan designation to include the property in the TMSA as a Tier 3 land use category. Please note, the majority of the suburban development in the SSAP is classified as Tier 3. The regional plan identifies Tier 3 land as:

“Area that is generally on the periphery of the TMSA and contains low density development, is undeveloped, or contains significant development constraints. Development in this area is lowest on the priority hierarchy service provision is generally not available or planned for.” – 2019 Truckee Meadows Regional Plan, pg. 88

As stated previously, the lands surrounding the property to the west, south and east are all generally within either Tier 3 or Tier 2. All of the County land in the vicinity that is within the TMSA is identified as Tier 3, as is the majority of similarly developed suburban levels of existing development (1- to 3-du/acre). Further, Tier 3 is appropriate at this location of undeveloped land that does not contain any significant development constraints, as identified by both the County and TMRPA in their constraints mapping. Finally, the properties do have available services and infrastructure to serve the project, which supports the move to a higher tier level. Arguably, the property could qualify for Tier 2 status, as there are adequate services and infrastructure to serve the project.

In accordance with Regional Plan policy RF3, the approval of LDS on the subject property with 1 du/acre density would be consistent with existing densities in the County in the vicinity and largely consist of large swaths of LDS land west and south of the project site.

Given the above rationale, the regional plan amendment is appropriate as it will promote logical growth of the region, while also meets the locational criteria and characteristics of other

similarly designated tier land in the area. Namely, using the criteria established for changes to Tier 2 land (there is not a criteria specific to Tier 3 lands other than items a thru d addressed here).

- Proximity to Tier 2 (and Tier 3) Land – as noted previously, Tier 2 land exists to the south, with additional Tier 3 land to the south, east and west.
- Proposed density is consistent with Policy RF3 – as stated above, the existing density for the majority of other Tier 3 land in the vicinity is a range of MDS (3 du/acre) to LDS (1 du/acre), as such, the proposed density is consistent with the established existing densities.
- Enhanced potential for land use diversity and mix of housing types – the change will allow for an additional mix of lots that are consistent with the established land use patterns of the area for both the County and City of Sparks.
- Potential for connectivity to existing/planned multimodal transportation options – La Posada Drive contains bike lanes with a multiuse path on the south side. As such, connectivity already exists.
- Proximity an availability of adequate infrastructure and facilities, or feasibility to construct and operate capacity improvements – Adequate infrastructure exists adjacent to or within close proximity to serve the project. Further future expansions of infrastructure are planned to occur that further support a higher density land use. Specifically, RTC’s planned TRIC Northeast Connector will represent a major infrastructure investment in the area. Additionally, planned regional sanitary sewer improvements are underway to address potential looming treatment issues at the Truckee Meadows Water Reclamation Facility (TMWRF). It is the applicant’s understanding the both the City of Sparks and Washoe County are actively working on solutions to future sewer treatment needs and that the treatment solutions will occur prior to the likely development schedule for the subject project site.
- An assessment of impacts to planned land uses in higher priority Regional Land Designations – The change in land use on the proposed project, which will consist of a maximum of 73 dwelling units, will have negligible impacts on higher priority sites. The overwhelming need for housing at all levels of density and intensity creates a current situation that should allow for broad development opportunities across all of the priority levels contained within the Regional Plan.



Existing suburban development to the south.

- c) Proximity and availability of adequate infrastructure and facilities, or feasibility to construct and operate capacity improvements

Adequate infrastructure exists adjacent to or within close proximity to serve the project. Further future expansions of infrastructure are planned to occur that further support a higher

density land use. Specifically, RTC's planned TRIC Northeast Connector will represent a major infrastructure investment in the area. Additionally, planned regional sanitary sewer improvements are underway to address potential looming treatment issues at the Truckee Meadows Water Reclamation Facility (TMWRF). It is the applicant's understanding the both the City of Sparks and Washoe County are actively working on solutions to future sewer treatment needs and that the treatment solutions will occur prior to the likely development schedule for the subject project site.

- d) An assessment of the potential impacts to the existing land within the TMSA

The change in land use on the proposed project, which will consist of a maximum of 73 dwelling units, will have negligible impacts on higher priority sites. The overwhelming need for housing at all levels of density and intensity creates a current situation that should allow for broad development opportunities across all of the priority levels contained within the Regional Plan. Further, as the properties already benefit from infrastructure availability, this change would not otherwise require any major shifts in public investments in the area and represent an efficient use of the available infrastructure.

Goals and Policies

The project meets the following goals and policies listed within the Spanish Springs Area Plan, (goals and policies not listed are not applicable to the project):

Goal One: The pattern of land use designations in the Spanish Springs Area Plan will implement and preserve the community character described in the Character Statement.

Response: The project seeks to change the properties from the Rural to Suburban Character Management areas, based upon the rationale provide above. Specifically, the properties currently receive services and have available infrastructure that is more alignment with the Suburban Character Management Area guidelines, rather than the Rural Character Management Area guidelines. An established land use pattern exists in the vicinity that consists of a range of residential densities, including densities in the County and City of Sparks as high as 3 du/acre. As such, the proposed change represents an appropriate transitional land use from higher density properties to the south and those more rural properties to the north.

Additionally, the Character Statement talks of transitioning land uses from the suburban core to the rural stretches out into the valley an includes lower density, suburban residential opportunities (one- to five-acre parcels). Given the subject properties' proximity to existing suburban level densities of up to 3 du/acre in both the County and the City of Sparks, as well as the future Sparks SOI adjoining the eastern edge of the property, the proposed LDS zoning is appropriate and provides a transitioning density for the area.

Policies

SS1.2 The Policy Growth Level for the Spanish Springs Suburban Character Management Area is 1,500 new residential units of land use capacity. Land use intensifications will not add more than 1,500 new units of Land Use Capacity through 2025. The Washoe County

Department of Community Development will be responsible for tracking increasing land use potential to ensure this growth level is not exceeded.

Response: It is the applicant's understanding that an adequate number of remaining residential units exists and it is anticipated that the proposed 73 units will have a negligible impact on these policy levels.

SS.1.3 The following Regulatory Zones are permitted within the Spanish Springs Suburban Character Management Area:

- a. High Density Rural (HDR – One unit per 2.5 acres).
- b. Low Density Suburban (LDS – One unit per acre).
- c. Medium Density Suburban (MDS – Three units per acre).
- d. High Density Suburban (HDS limited to the areas designated HDS prior to August 17, 2004)
- e. Neighborhood Commercial/Office (NC).
- f. General Commercial (GC) – GC limited to the areas designated GC prior to August 17, 2004.
- g. Industrial (I).
- h. Public/Semi-Public Facilities (PSP).
- i. Parks and Recreation (PR).
- j. General Rural (GR).
- k. Open Space (OS).
- l. Medium Density Rural (MDR – One unit per 5 acres).

Response: Upon change of the property to the Suburban Character Management Area, the proposed LDS designation complies. It should be noted that the existing zoning on the property is not congruent with the established parcels sizes, with none of the subject parcels meeting the underlying GR zoning's minimum lot size requirements.

SS.1.5 In some cases, the land uses available in certain regulatory zones in the Spanish Springs Area Plan differ from those in the same regulatory zones in the Development Code. Appendix C – Allowable Land Uses in the Spanish Springs Area Plan, lists the land uses available under each land use designation in the Spanish Springs Area Plan. Regulatory zones not listed above in.

Response: In the Spanish Springs Area Plan (SSAP), table C-1 within Appendix C lists single family, detached as an allowed use under the LDS zoning designation. If approved the applicant intends to submit a Tentative Map to allow development of a single family, detached neighborhood, designed in accordance with the SSAP standards.

SS.1.6 Staff will review any proposed Master Plan Amendment against the findings identified in the Plan Maintenance section of this plan and make a recommendation to the Planning Commission. At a minimum, the Planning Commission must make each of these findings in order to recommend approval of the amendment to the Board of County Commissioners.

Response: The request is able to make all of the findings. A list and response to each finding is provided in detail below.

SS.1.7 The Washoe County Planning Commission will review any application to expand the Suburban Character Management Area into the Rural Character Management Area against the findings in the Plan Maintenance section of this plan. At a minimum, the Planning Commission must make each of the applicable findings in order to recommend approval of the amendment to the Board of County Commissioners.

Response: The request is able to make all of the findings. A list and response to each finding is provided in detail below.

Goal Three: The regional and local transportation system in the Spanish Springs planning area will be a safe, efficient, multi-modal system providing significant connections to the greater region, and access to commercial services, public lands and employment opportunities in the community. The system will contribute to the preservation and implementation of the community character as described in the Spanish Springs Vision and Character Statement.

Response: The proposed change promotes the use of established roadways, while maintaining adopted levels of service.

Policies

SS.3.1 Washoe County’s policy level of service (LOS) for local transportation facilities in the Spanish Springs planning area is LOS “C.”

Response: The traffic study provided with this application identifies that area intersections will continue to operate at LOS C or better.

SS.3.2 The Washoe County Regional Transportation Commission (RTC) sets levels of service on regional roads. Washoe County will advocate for the RTC to establish policy levels of service “C” for all regional roads in the Spanish Springs planning area.

Response: The traffic study provided with this application identifies that area intersections will continue to operate at LOS C or better.

SS.3.6 Washoe County will support and be an advocate for new regional connections that provide alternatives to Pyramid Highway.

Response: The RTC has identified La Posada Drive as a future connector to TRIC, which will be an alternative commute route and have a positive impact on Pyramid Highway. The properties proximity to La Posada Drive as a future regional connector calls for a higher density of development that is commensurate with the planned regional roadway investment.

SS.3.10 Washoe County will work with the Regional Transportation Commission (RTC) to develop and implement an RTC bikeways plan for the Spanish Springs planning area that is integrated with the local and regional trails system and provides access to commercial services and employment opportunities.

Response: La Posada Drive currently has bike lanes and a multiuse path on the south side that provide connectivity to the commercial core of Spanish Springs located at Pyramid Highway and La

Posada Drive. As such, a suburban level of development is appropriate adjacent to La Posada Drive to take advantage of this existing infrastructure.

Goal Seven: The Spanish Springs planning area will contain an extensive system of parks and trails that provides the community and the region with a broad range of recreational opportunities; provides connections between major developments, recreational facilities, the Regional Trail System, public lands and schools; and contributes to the preservation and implementation of the community character.

Response: La Posada Drive currently has bike lanes and a multiuse path on the south side that provide connectivity to the commercial core of Spanish Springs located at Pyramid Highway and La Posada Drive, as well as surrounding established neighborhoods and surrounding existing trails/open space. As such, a suburban level of development is appropriate adjacent to La Posada Drive to take advantage of this existing infrastructure.

Goal Eleven: Personal and economic losses associated with flooding will be minimized. Development in the Spanish Springs planning area will be protected from the 100-year flood event.

Response: The request is not located within the 100-year flood plain.

Policies

SS.11.3 Development in areas where the land use designations have changed subsequent to the 2004 baseline will provide on-site mitigation to ensure that the North Spanish Springs Floodplain Detention Facility and appurtenant conveyance structures remain hydraulically equivalent to the baseline design.

Response: On-site mitigation will be provided as necessary with future development.

Goal Fifteen: Water resources will be provided to residential and non-residential uses in a manner that implements and preserves the community character as described in the Spanish Springs Vision and Character Statement.

Response: Water service is currently available adjacent to the project site sufficient to serve future intensification.

Policies

SS.15.1 Whenever applicable, all development within the Spanish Springs Suburban Character Management Area will connect to a community water service.

Response: Water service is currently available adjacent to the project site sufficient to serve future intensification.

Goal Sixteen: Wastewater treatment and disposal will be provided to residential and non-residential uses in a manner that implements and preserves the community character as described in the Spanish Springs Vision and Character Statement.

Response: Sewer service is currently available within close proximity to the project site sufficient to serve future intensification.

Policies

SS.16.1 Whenever applicable, all development within the Spanish Springs Suburban Character Management Area will connect to a community sewer service.

Response: Sewer service is currently available within close proximity to the project site sufficient to serve future intensification.

Findings

Goal Seventeen: Amendments to the Spanish Springs Area Plan will be for the purpose of further implementing the Vision and Character Statement, or to respond to new or changing circumstances. Amendments must conform to the Spanish Springs Vision and Character Statement. Amendments will be reviewed against a set of criteria and thresholds that are measures of the impact on, or progress toward, the Vision and Character Statement.

Response: As stated previously, the request further implements the vision and character statement of the SSAP and is a response to the changing circumstances of the region. Namely, with growing demand for properties that are ripe for immediate residential development to meet the Region's growing housing needs, there is a need to identify properties that can accommodate higher densities due to their proximity to available infrastructure. Additionally, with the identification of La Posada Drive as a future TRIC North Connector in the RTC's 2050 Regional Transportation Plan, higher densities are warranted on properties such as those included with this application.

Policies

SS.17.1 In order for the Washoe County Planning Commission to recommend the approval of ANY amendment to the Spanish Springs Area Plan, the following findings must be made:
a. The amendment will further implement and preserve the Vision and Character Statement.

Response: The request is in substantial conformance with the vision by expanding the existing residential development pattern into this area. It is the applicant's intent, assuming the request is approved, is to return with a tentative map. The tentative map will be designed based on the LDS zoning (1 du/ac) to be consistent with the surrounding and existing neighborhoods in the County and City of Sparks. Furthermore, it is in substantial conformance with the Character Statement by providing a transition between the commercial core located along Pyramid Highway and Eagle Canyon Drive, to the suburban neighborhood to the north and east.

b. The amendment conforms to all applicable policies of the Spanish Springs Area Plan and the Washoe County Master Plan.

Response: As discussed here, the requested amendment from R to SR complete with the GR to LDS, conforms to all applicable policies and goals within the SSAP and the Washoe County Master Plans as outlined above.

c. The amendment will not conflict with the public’s health, safety or welfare.

Response: The request is not currently associated with a project. In the future, the applicant anticipates submitting a tentative map based on the proposed zoning. At that time, the project will address public health, safety and welfare. Based upon the level of detail available to date, the project does not create any adverse relevant to infrastructure needs to serve future development. Of particular note, the project does not impact the adopted levels of service for area roads. The current request is simply a change in land use and zoning designations and will not conflict with the public’s health, safety or welfare.

SS.17.2 In order for the Washoe County Planning Commission to recommend approval of any amendment involving a change of land use, the following findings must be made:

a. A feasibility study has been conducted, commissioned and paid for by the applicant, relative to municipal water, sewer and storm water that clearly identifies the improvements likely to be required to support the intensification, and those improvements have been determined to be in substantial compliance with all applicable existing facilities and resource plans for Spanish Springs by the Department of Water Resources. The Department of Water Resources will establish and maintain the standards and methodologies for these feasibility studies.

Response: Existing infrastructure exists adjacent to or within close proximity to serve the future development of the site. An infrastructure feasibility study has been included with this application that documents compliance with this finding.

b. A traffic analysis has been conducted that clearly identifies the impact to the adopted level of service within the [unincorporated] Spanish Springs Hydrographic Basin and the improvements likely to be required to maintain/achieve the adopted level of service. This finding may be waived by the Department of Public Works for projects that are determined to have minimal impacts. The Department of Public Works may request any information it deems necessary to make this determination.

Response: A traffic analysis must be prepared for any amendments to the Spanish Springs Area Plan. To address this requirement, Headway Transportation assessed the magnitude of traffic impacts the proposed change would have on key intersections. The study looked at key intersections and trip generation rates based on the proposed residential land use, which would result in a maximum of 73 lots. The study found that the proposed land use change is anticipated to generate 689 average daily trips (ADT) with 54 AM peak hour trips and 72 PM peak hour trips. Please note that this level of traffic generation is below the Washoe County threshold of 80 peak hour trips to warrant a traffic study. However, in accordance with the SSAP, the traffic study analyzed surrounding roadway intersections that may experience traffic impacts from the project to determine that policy level of service requirements can still be met with the land use change. Headway’s study concluded that the studied intersections would generally operate a levels of service of A or B, with only the La Posada Drive/Cordoba Drive intersection operating at a level of service C in the PM peak hour, both under current conditions and when factoring in the Regional Transportation Commission’s (RTC) 20-year horizon travel demand model.

- c. **For commercial and industrial land use intensifications, the overall percentage of commercial and industrial regulatory zone acreage will not exceed 9.86 percent of the Suburban Character Management Area.**

Response: The proposed project does not include any commercial or industrial regulatory zoning and is not applicable to this request.

- d. **For residential land use intensifications, the potential increase in residential units will not exceed Washoe County's policy growth level for the Spanish Springs Area Plan, as established in Policy SS.1.2.**

Response: It is the applicant's understanding that an adequate number of remaining residential units exists and it is anticipated that the proposed 73 units will have a negligible impact on these policy levels.

- e. **If the proposed intensification will result in a drop below the established policy level of service for transportation (as established by the Regional Transportation Commission and Washoe County) within the Spanish Springs Hydrographic Basin, the necessary improvements required to maintain the established level of service are scheduled in either the Washoe County Capital Improvements Program or Regional Transportation Improvement Program within three years of approval of the intensification. For impacts to regional roads, this finding may be waived by the Washoe County Planning Commission upon written request from the Regional Transportation Commission.**

Response: Based upon the findings of the traffic impact study provided with this application, the intensification will not result in a reduction in the established level of service standards.

- f. **If roadways impacted by the proposed intensification are currently operating below adopted levels of service, the intensification will not require infrastructure improvements beyond those articulated in Washoe County and Regional transportation plans AND the necessary improvements are scheduled in either the Washoe County Capital Improvements Program or Regional Transportation Improvement Program within three years of approval of the intensification.**

Response: Based upon the findings of the traffic impact study provided with this application, the area roadways current operate within the adopted level of service and will continue to with the future development of the project.

- g. **Washoe County will work to ensure that the long-range plans of facilities providers for transportation, water resources, schools and parks reflect the policy growth level established in Policy SS.1.2.**

Response: As discussed above, the project is located in an area that is currently served by various service providers and facilities that make it appropriate for the proposed land use change. In particular, the project is served by available infrastructure located adjacent to or within close proximity to serve future development. This includes water, gas, electric, sewer and roadways.

With respect to roadway infrastructure, La Posada Drive has been identified by the RTC in their 2050 RTP as a proposed regional connector to TRIC. As such, it is appropriate to have higher densities adjacent to the roadway and it is not appropriate to have rural land uses in the context of the area.

Regarding sewer, there are multiple options to serve the project area with sewer. It is understood that Washoe County and the City of Sparks are working on various improvements, both in the Spanish Springs valley, as well as at TMWRF that will provide sufficient capacity to serve the minimal sewer treatment being generated by future development. Based upon the typical development time frame, it is anticipated the first residents of this future development will not take residency until 2024. This allows for an adequate time frame to address regional sewer treatment needs.

With only 73 future residential lots, very few students are anticipated to attend local schools. With the passage of WC1 several years ago, the Washoe County School District has been proactive in the acquisition and construction of new schools throughout the region. These properties are currently zoned for Spanish Springs Elementary, Shaw Middle School and Spanish Springs High School. Past acquisitions of school sites in the Stonebrook and Foothills developments will assist in locating future elementary schools as needs increase. Additionally, the construction of the Sky Ranch Middle School and the New Hug High School have and will aid in addressing previous overcrowding issues in the Spanish Springs area.

- h. If the proposed intensification results in existing facilities exceeding design capacity and compromises the Washoe County School District's ability to implement the neighborhood school philosophy for elementary facilities, then there must be a current capital improvement plan or rezoning plan in place that would enable the District to absorb the additional enrollment. This finding may be waived by the Washoe County Planning Commission upon request of the Washoe County Board of Trustees.**

Response: With only 73 future residential lots, very few students are anticipated to attend local schools. With the passage of WC1 several years ago, the Washoe County School District has been proactive in the acquisition and construction of new schools throughout the region. These properties are currently zoned for Spanish Springs Elementary, Shaw Middle School and Spanish Springs High School. Past acquisitions of school sites in the Stonebrook and Foothills developments will assist in locating future elementary schools as needs increase. Additionally, the construction of the Sky Ranch Middle School and the New Hug High School have and will aid in addressing previous overcrowding issues in the Spanish Springs area.

- i. Any existing development in the Spanish Springs planning area, the Sun Valley planning area, the Warm Springs planning area, or the City of Sparks, which is subject to the conditions of a special use permit will not experience undue hardship in the ability to continue to comply with the conditions of the special use permit or otherwise to continue operation of its permitted activities.**

Response: There is no Special Use Permit associated with this request.

Regulatory Zone Amendment Findings

To make a recommendation for approval, all of the following findings must be made by the commission:

- a. Consistency with Master Plan. The proposed amendment is in substantial compliance with the policies and action programs of the Master Plan.

Response: Upon approval of the proposed master plan amendment and in light of the justifications provided above, the proposed amendment is compliant with the policies and action programs of the master plan. Specifically, the property is in an area that is currently able to be served by municipal services and is adjacent to both County and City of Sparks land to the south, west and east that is of a comparable zoning district or a higher density zoning district to that being proposed.

- b. Compatible Land Uses. The proposed amendment will provide for land uses compatible with (existing or planned) adjacent land uses, and will not adversely impact the public health, safety or welfare.

Response: The proposed amendment is conforming with the existing land uses and provides a transition from higher density zoning districts to the south within the County and City of Sparks. Furthermore, the planned extension of La Posada Drive to the east of the site into the Sparks Sphere of Influence and potential further extension to TRIC provides a land use case for higher density in this location. The existing zoning is neither conforming to the actual parcel sizes (the <10-acre parcels are zoned for 40-acre minimum lot sizes), nor is it appropriate next to the suburban level of development and future expansion of La Posada Drive.

- c. Response to Change Conditions; more desirable use. The proposed amendment responds to changed conditions or further studies that have occurred since the plan was adopted by the Board of County Commissioners, and the requested amendment represents a more desirable utilization of land.

Response: As noted above, the expansion of the City of Sparks over the last 10-15 years in the Spanish Springs valley provides suburban level of development directly south of the project site. Further, the Sparks SOI has been expanded and is adjacent to the site to the east. Lastly, the future planned extension of La Posada to the east further identifies these parcels and the general area as an area that has changed conditions.

- d. Availability of Facilities. There are or are planned to be adequate transportation, recreation, utility, and other facilities to accommodate the uses and densities permitted by the proposed amendment.

Response: As noted within the above justification for this request and provided in the Infrastructure Feasibility Report, there is sufficient infrastructure and services to address the increased density.

- e. No Adverse Effects. The proposed amendment will not adversely affect the implementation of the policies and action programs of the Washoe County Master Plan.

Response: With the approval of the associated master plan amendment, the zoning will not have an adverse effect on the approved master plan policies and action programs. Approval of both the master plan amendment and zoning amendment further the expansion of housing options in the County and address the growing regional need for housing within all aspects of the housing market.

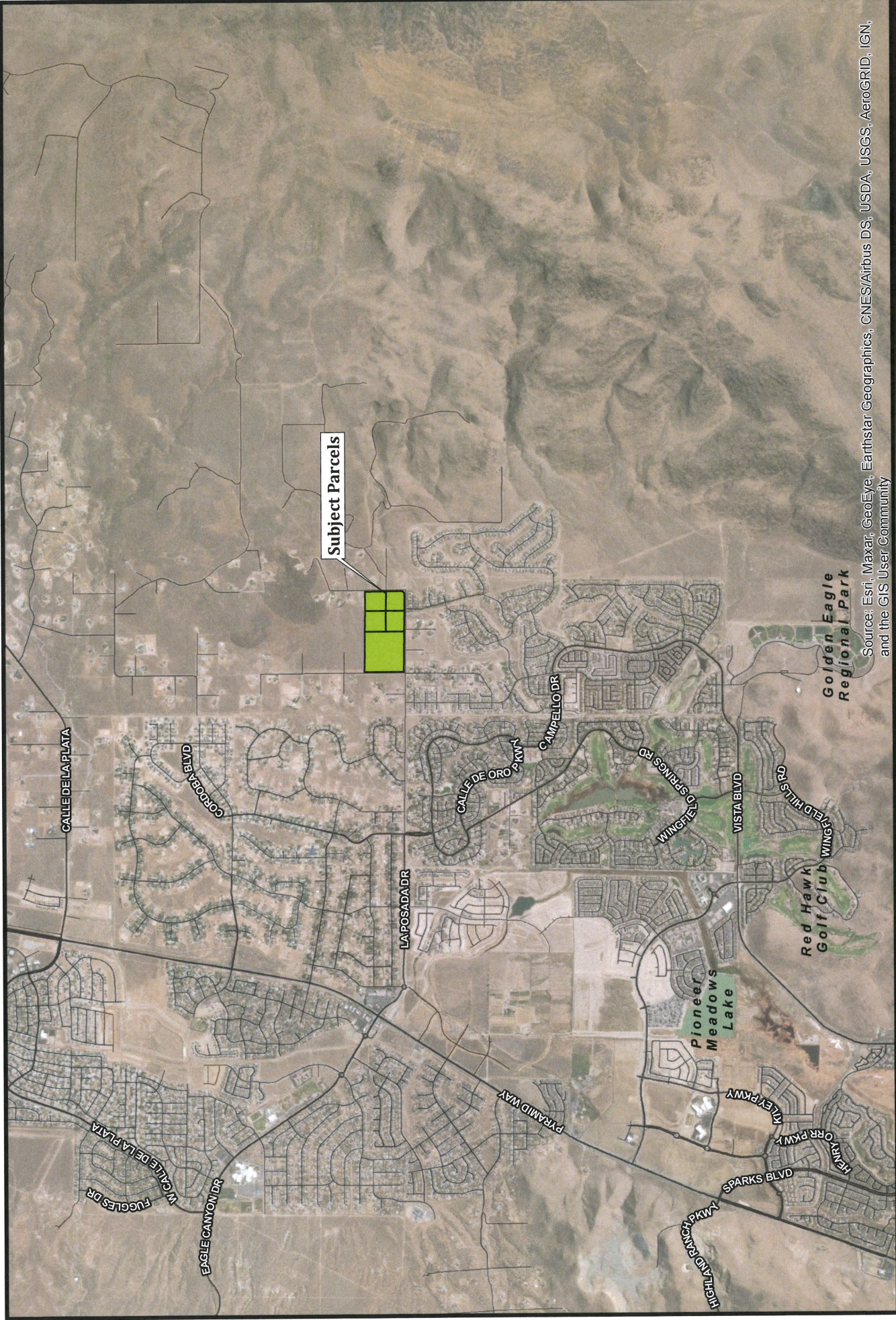
- f. Desired Pattern of Growth. The proposed amendment will promote the desired pattern for the orderly physical growth of the County and guides development of the County based on the projected population growth with the least amount of natural resource impairment and the efficient expenditure of funds for public services.

Response: As outlined above, the site is both adjacent to existing suburban levels of development, in both the County and Sparks and represents a transition from denser development to south to larger lots to the north. Additionally, with the future planned extension of La Posada Drive into the Northeast Sparks SOI, with ultimate connection to TRIC, the pattern of growth is and will continue to change toward a more suburban pattern in this immediate area. This results in a responsible expenditure of municipal funds in an area with existing infrastructure and public services.

- g. Effect on a Military Installation When a Military Installation is Required to be Noticed. The proposed amendment will not affect the location, purpose and mission of a military installation.

Response: There is no military installation within the immediate area.

Section 3



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



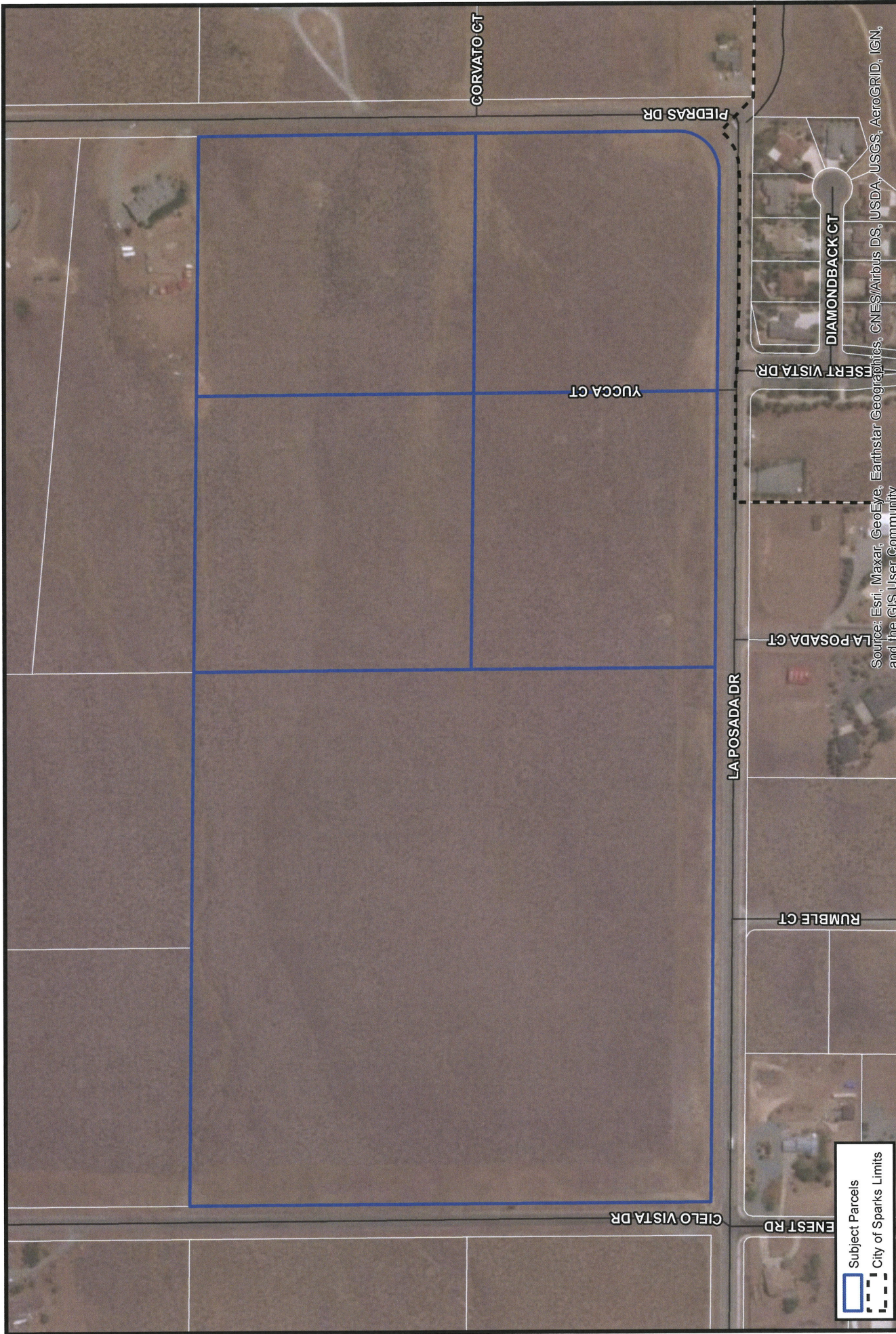
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La Posada Master Plan and Regulatory Zoning Amendments

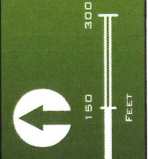
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 Subject Parcels
 City of Sparks Limits



Aerial

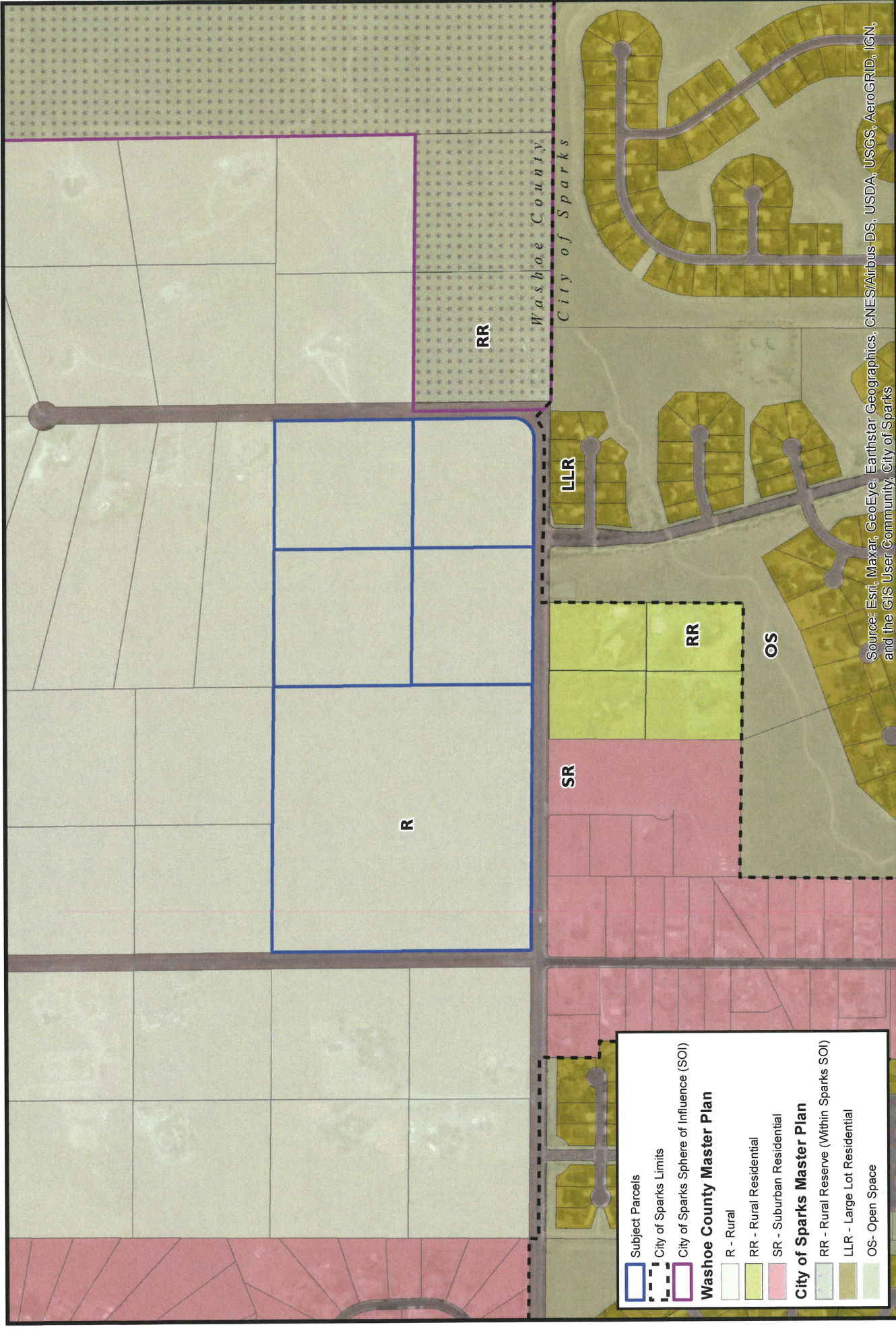
La Posada Master Plan and Regulatory Zoning Amendments

May 2021

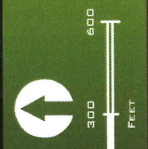
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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	Subject Parcels
	City of Sparks Limits
	City of Sparks Sphere of Influence (SOI)
Washoe County Master Plan	
	R - Rural
	RR - Rural Residential
	SR - Suburban Residential
City of Sparks Master Plan	
	RR - Rural Reserve (Within Sparks SOI)
	LLR - Large Lot Residential
	OS - Open Space



Existing Master Plan

La Posada Master Plan and Regulatory Zoning Amendments

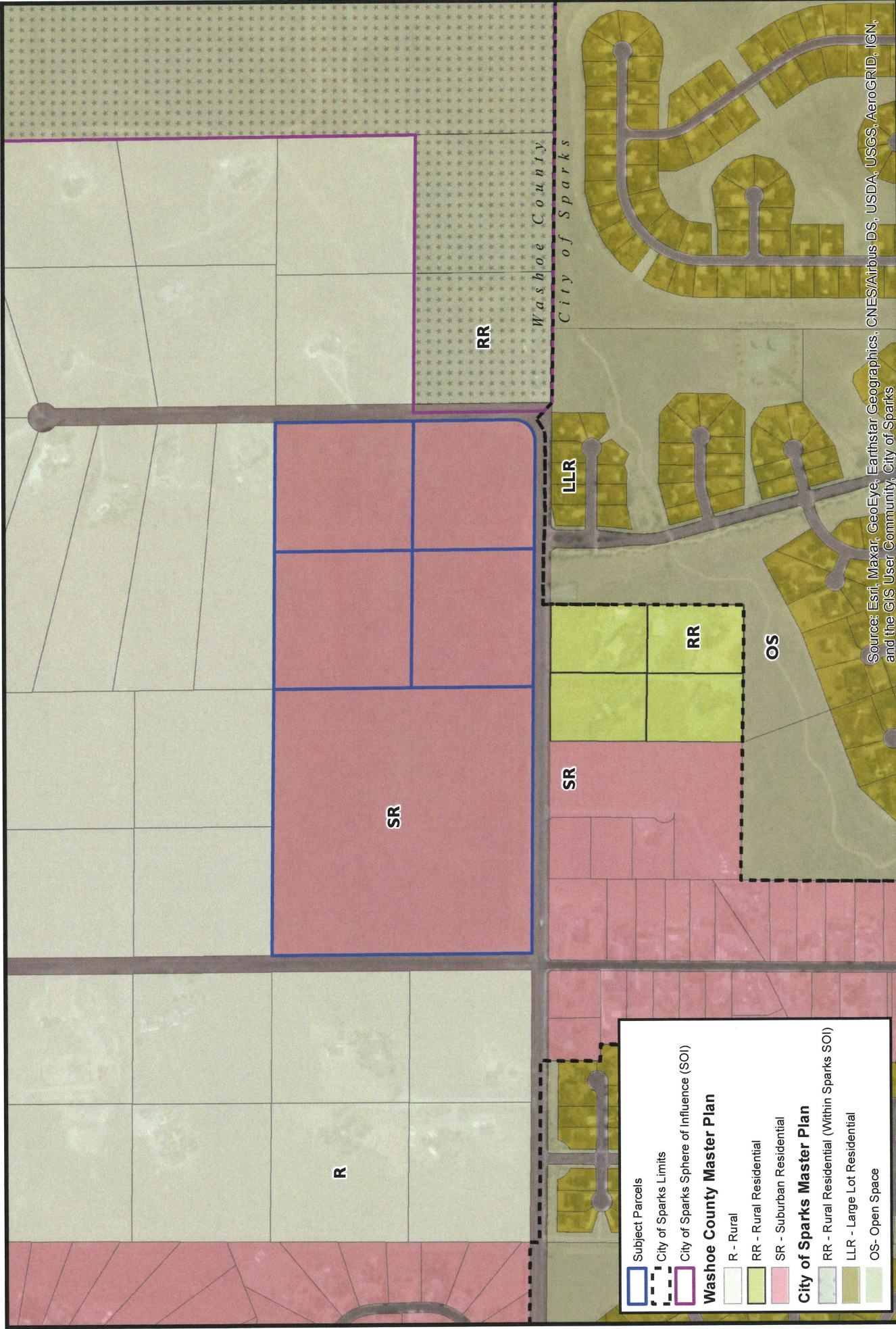
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Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, City of Sparks

RR
City of Sparks
Washoe County



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Subject Parcels

- City of Sparks Limits
- City of Sparks Sphere of Influence (SOI)

Washoe County Master Plan

- R - Rural
- RR - Rural Residential
- SR - Suburban Residential

City of Sparks Master Plan

- RR - Rural Residential (Within Sparks SOI)
- LLR - Large Lot Residential
- OS - Open Space



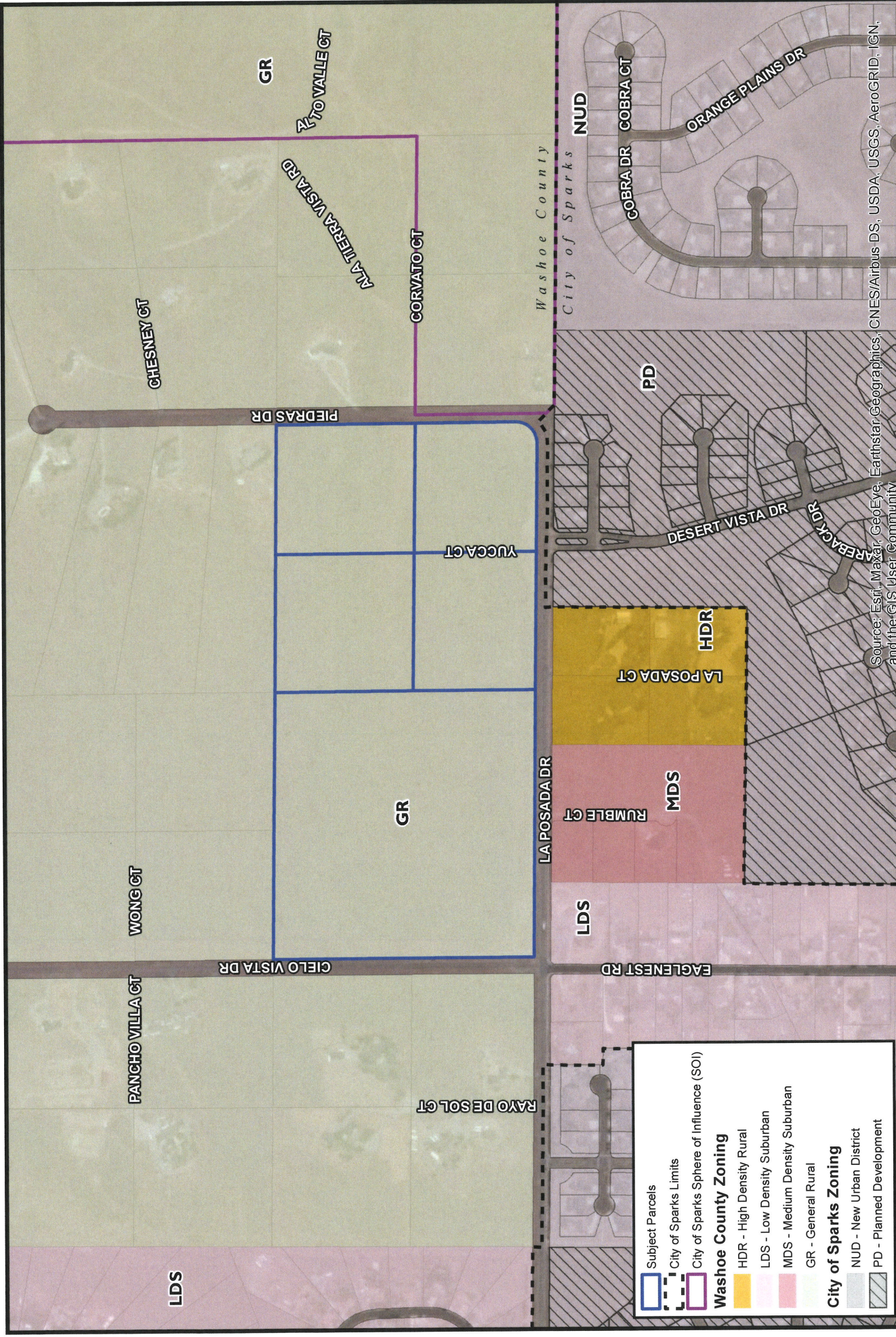
Proposed Master Plan

La Posada Master Plan and Regulatory Zoning Amendments

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Legend

- Subject Parcels
- City of Sparks Limits
- City of Sparks Sphere of Influence (SOI)

Washoe County Zoning

- HDR - High Density Rural
- LDS - Low Density Suburban
- MDS - Medium Density Suburban
- GR - General Rural

City of Sparks Zoning

- NUD - New Urban District
- PD - Planned Development



Existing Zoning

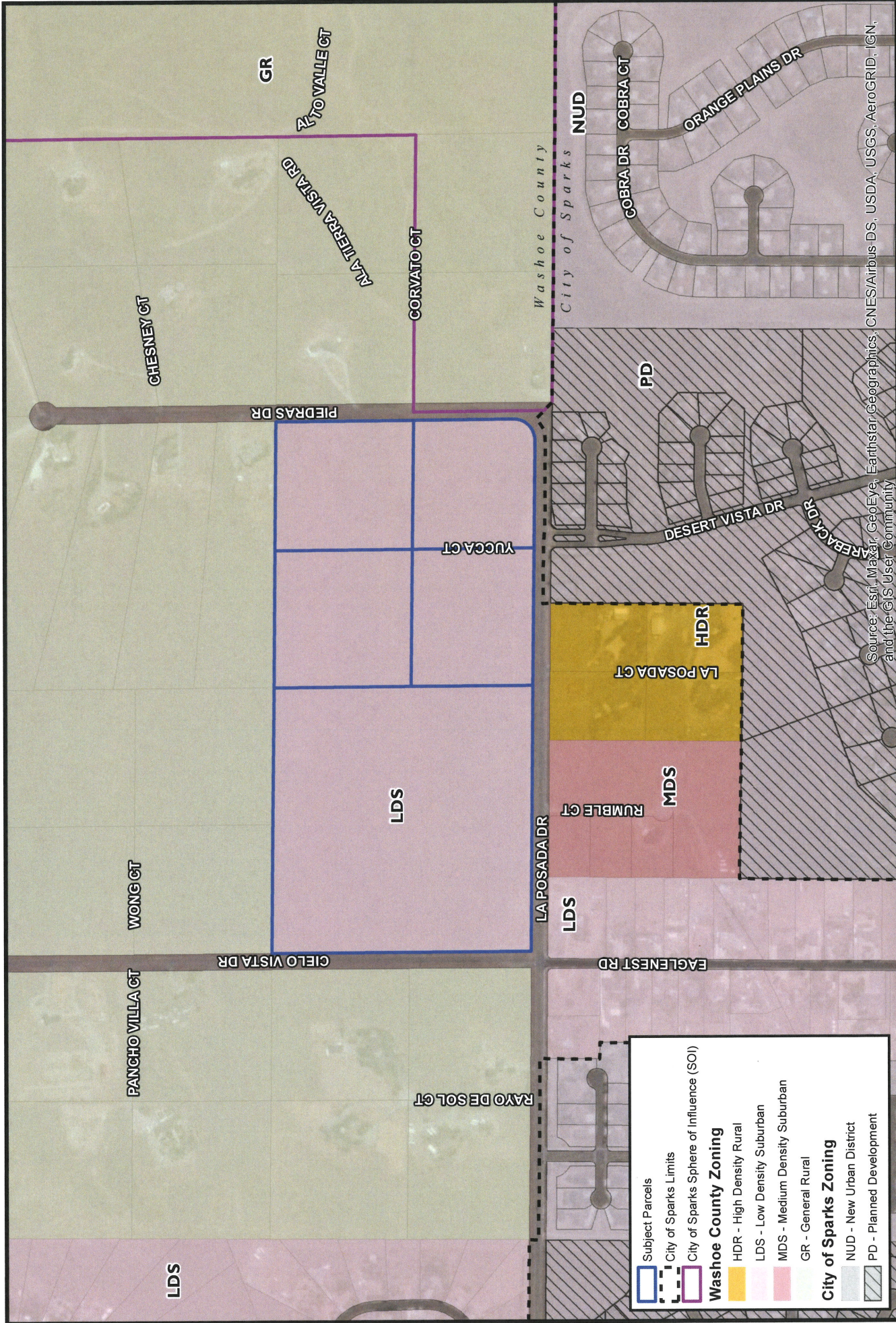
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May 2021

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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












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
Legend

-  Subject Parcels
-  City of Sparks Limits
-  City of Sparks Sphere of Influence (SOI)

Washoe County Zoning

-  HDR - High Density Rural
-  LDS - Low Density Suburban
-  MDS - Medium Density Suburban
-  GR - General Rural

City of Sparks Zoning

-  NUD - New Urban District
-  PD - Planned Development

Proposed Zoning

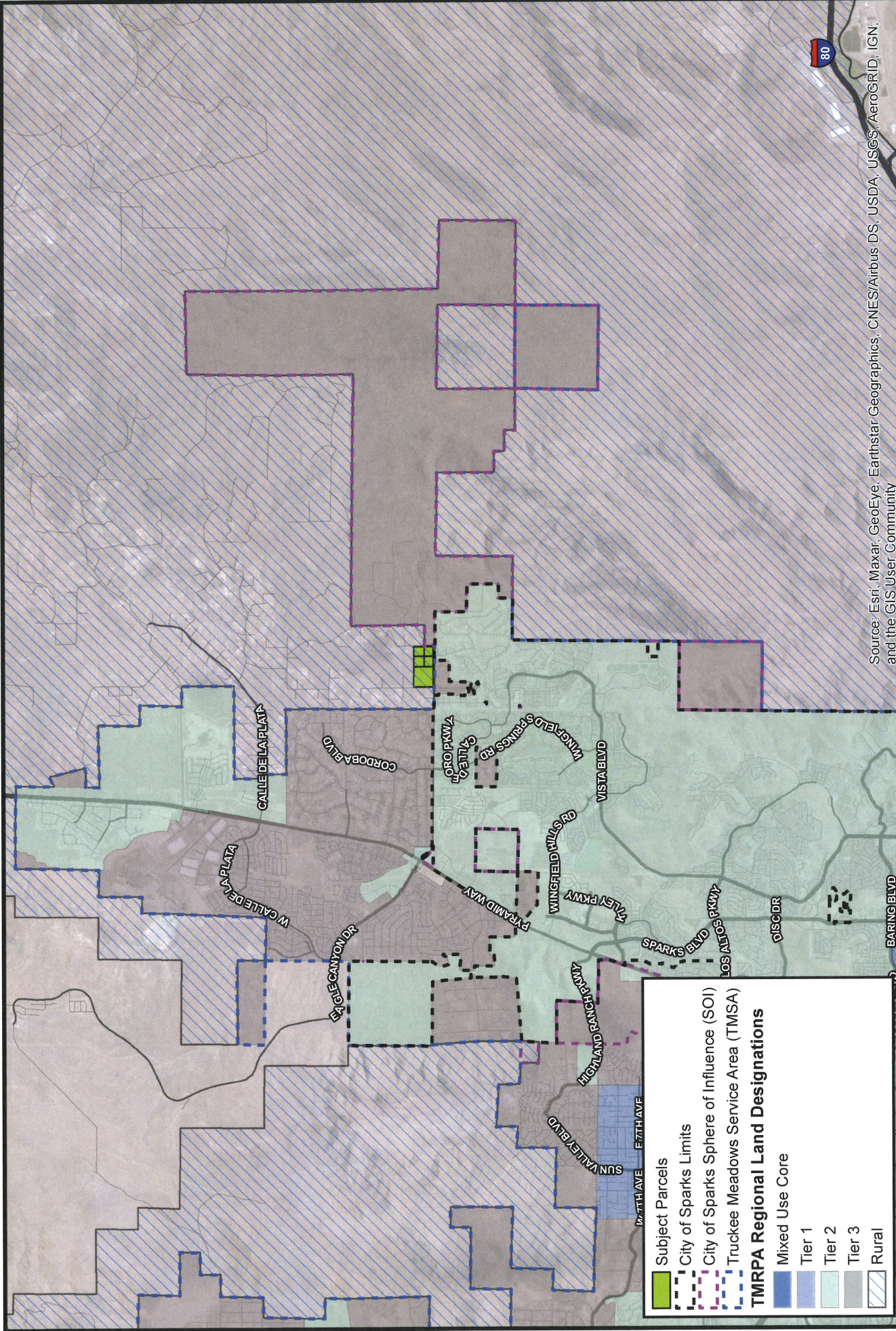
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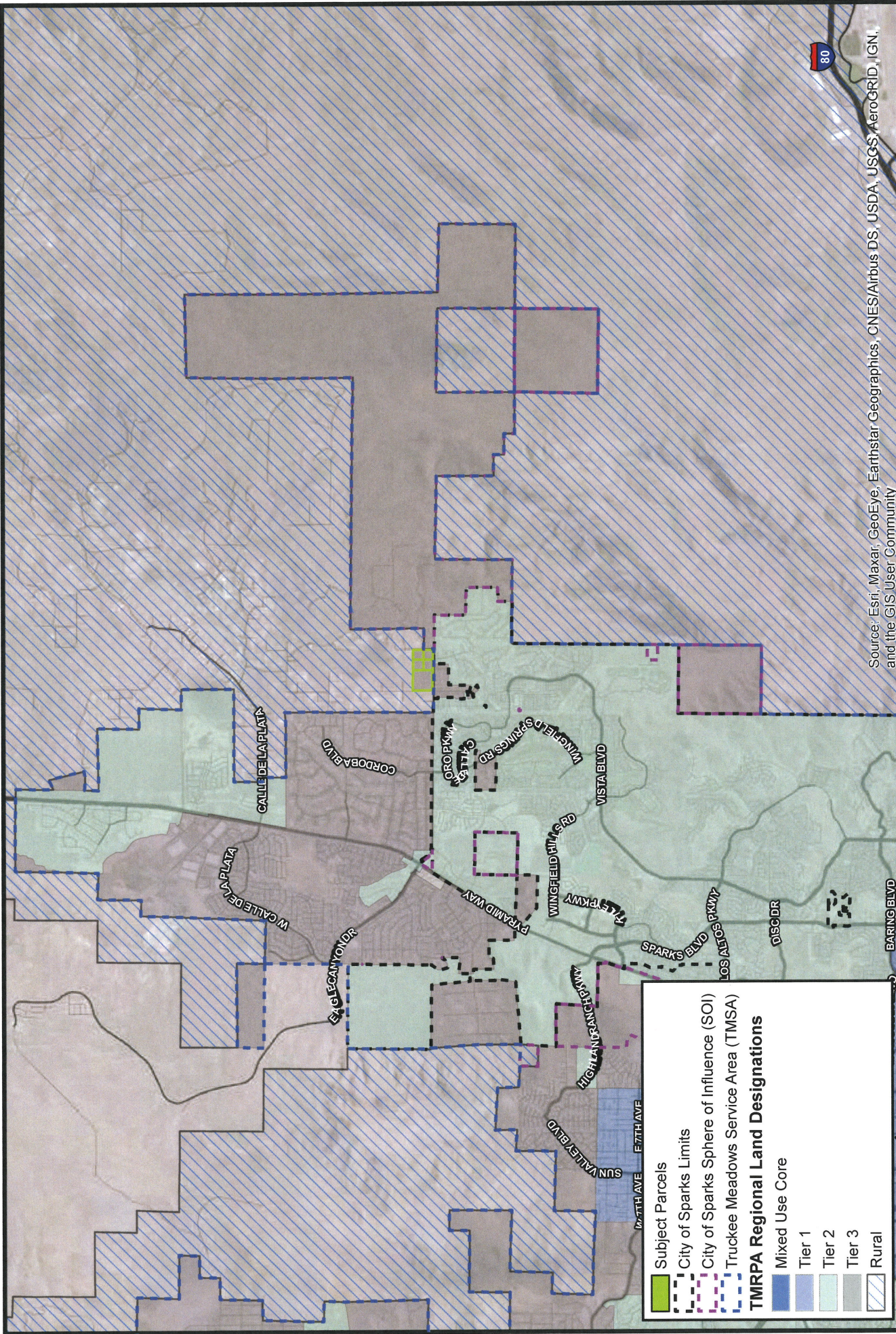
Existing Regional Zoning

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Proposed Regional Zoning

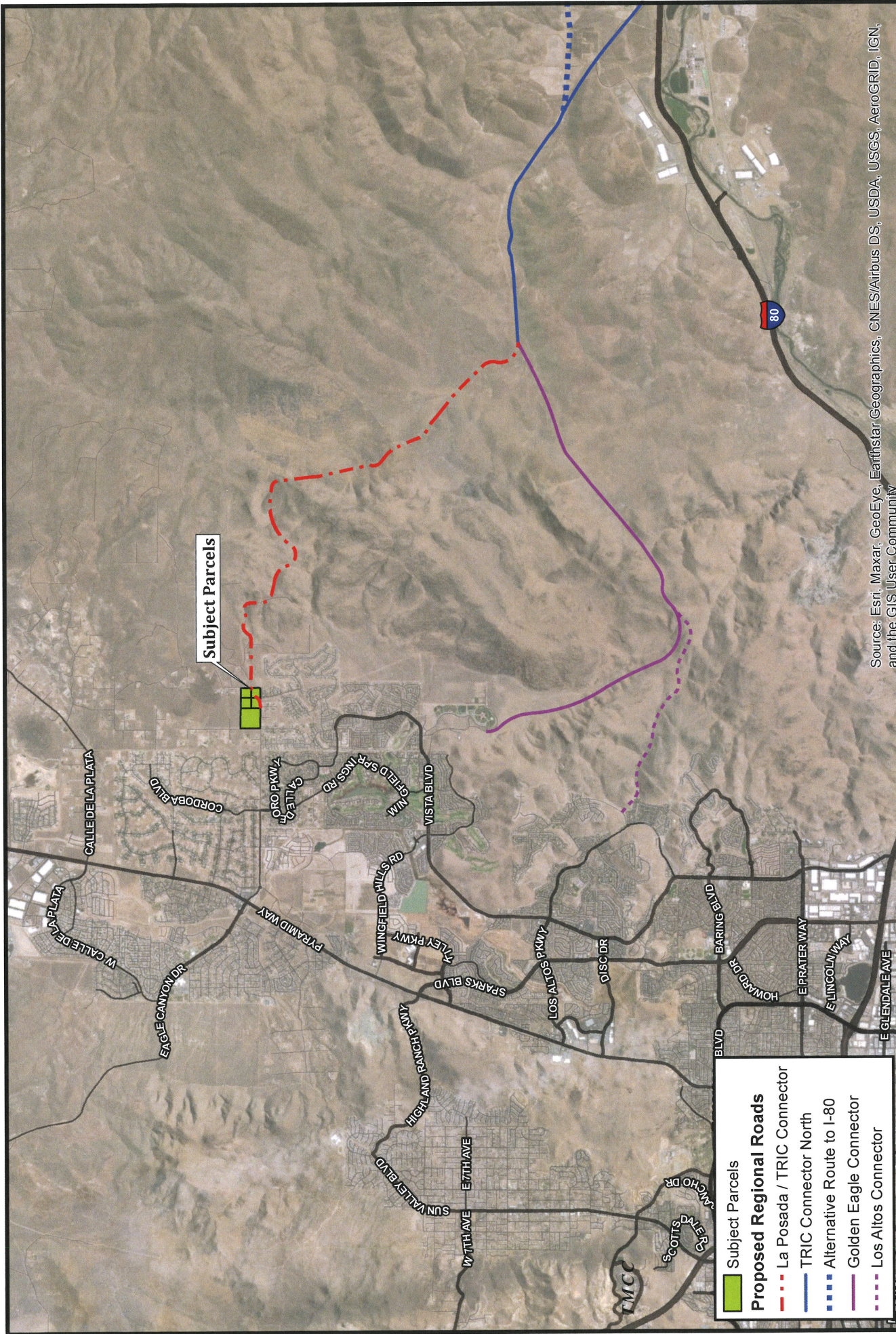
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May 2021








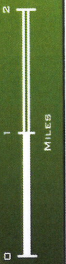
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Subject Parcels

-  Subject Parcels
- Proposed Regional Roads**
-  La Posada / TRIC Connector
-  TRIC Connector North
-  Alternative Route to I-80
-  Golden Eagle Connector
-  Los Altos Connector



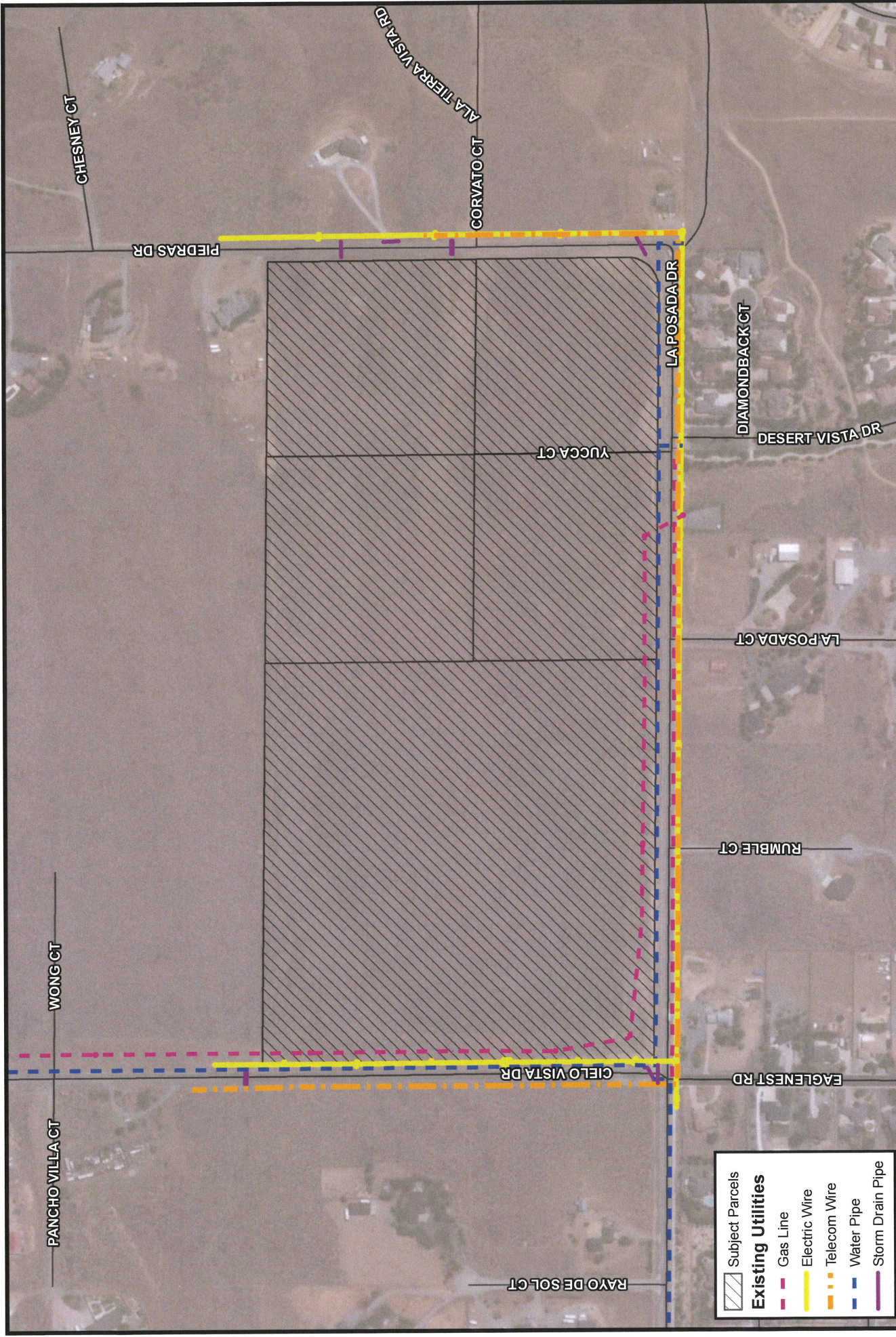
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Regional Roadways

La Posada Master Plan and Regulatory Zoning Amendments
 May 2021



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-  Subject Parcels
- Existing Utilities**
-  Gas Line
-  Electric Wire
-  Telecom Wire
-  Water Pipe
-  Storm Drain Pipe



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Existing Infrastructure

La Posada Master Plan and Regulatory Zoning Amendments

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Section 4



May 7, 2021

Andrew D. Durling, AICP
Wood Rodgers, Inc.
1361 Corporate Boulevard
Reno, NV 89502

Traffic Impact Study for La Posada

Dear Mr. Durling,

This letter presents the findings of a Traffic Impact Study completed to assess the potential traffic impacts associated with the proposed zone change and master plan amendment for the La Posada project in Washoe County, NV. This traffic impact study has been prepared to document existing traffic conditions, quantify traffic volumes generated by the proposed zone change, identify potential impacts, document findings, and make recommendations for future mitigations, if any significant impacts are found.

STUDY AREA & EVALUATED SCENARIOS

The project site is located north of La Posada Drive, east of Cielo Vista Drive, and west of Piedras Drive. The zoning action could enable up to 73 single family residential units. The project location is shown on **Figure 1**.

The following intersections are included in this study as these are the locations most likely to be impacted:

- ▶ La Posada Drive/Cordoba Boulevard
- ▶ La Posada Drive/Hubble Drive
- ▶ La Posada Drive/La Posada Court

This study includes analysis of the weekday AM and PM peak hours for the following scenarios:

- ▶ Existing Conditions
- ▶ Existing Plus Project Conditions
- ▶ Future Year Conditions – based on 20-year horizon traffic volume forecasts
- ▶ Future Year Plus Project Conditions

ANALYSIS METHODOLOGY

Level of service (LOS) is a term commonly used by transportation practitioners to measure and describe the operational characteristics of intersections, roadway segments, and other facilities. This term equates

seconds of delay per vehicle at intersections to letter grades “A” through “F” with “A” representing optimum conditions and “F” representing breakdown or over capacity flows.

Intersections

The complete methodology for intersection level of service analysis is established in the *Highway Capacity Manual (HCM) 6th Edition*, published by the Transportation Research Board (TRB). **Table 1** presents the delay thresholds for each level of service grade at signalized and unsignalized intersections.

Table 1: Intersection Level of Service Definitions

Level of Service	Brief Description	Average Delay (seconds per vehicle)	
		Signalized Intersections	Unsignalized Intersections
A	Free flow conditions.	< 10	< 10
B	Stable conditions with some affect from other vehicles.	10 to 20	10 to 15
C	Stable conditions with significant affect from other vehicles.	20 to 35	15 to 25
D	High density traffic conditions still with stable flow.	35 to 55	25 to 35
E	At or near capacity flows.	55 to 80	35 to 50
F	Over capacity conditions.	> 80	> 50

Source: *Highway Capacity Manual, 6th Edition*

Level of service calculations were performed for the study intersections using the Synchro 11 software package with analysis and results reported based on *HCM 6th Edition* methodology.

Level of Service Policy

Washoe County

The Regional Transportation Commission’s (RTC) *2050 Regional Transportation Plan (RTP)* establishes level of service criteria for regional roadway facilities in the City of Reno, City of Sparks, and Washoe County. The current Level of Service policy is:

“All regional roadway facilities projected to carry less than 27,000 ADT at the latest RTP horizon – LOS D or better.”

“All regional roadway facilities projected to carry 27,000 or more ADT at the latest RTP horizon – LOS E or better.”

“All intersections shall be designed to provide a level of service consistent with maintaining the policy level of service of the intersecting corridors”.

La Posada Drive is a Regional Roadway classified as a Moderate Access Control (MAC) Arterial from Pyramid Highway to Cordoba Boulevard in the *2050 RTP*, and as an Arterial roadway in the *Spanish Springs*



Area Plan (Washoe County, amended February 2020). The roadway is fully under City of Sparks jurisdiction to approximately 3,700 feet east of Cordoba Boulevard (near Hubble Drive). The short segment from roughly Cielo Vista Drive to Desert Vista Drive is within Washoe County. It is projected to carry less than 27,000 ADT at the latest RTP horizon. Since La Posada Drive is managed by the City of Sparks and a Regional Roadway, LOS “D” was used as the threshold criteria for this analysis.

EXISTING CONDITIONS

Existing Roadway Facilities

A brief description of the key roadways in the study area is provided below.

La Posada Drive is an east-west regional arterial that connects Pyramid Highway at its west end to Piedras Drive at its eastern terminus. La Posada Drive from Pyramid Highway to Cordoba Boulevard is classified as a MAC Arterial in the *2050 RTP* and an Arterial in the *Spanish Springs Area Plan*. In the immediate project vicinity, La Posada Drive is a two-lane roadway (with one lane in each direction). The posted speed limit in the project area is 45 mph.

Hubble Drive is generally a north-south roadway that connects La Posada Drive to Vista Boulevard. Hubble Drive is a two-lane Collector roadway with a posted speed limit of 35 mph.

Bicycle & Pedestrian Facilities

There are existing bicycle lanes on both sides of La Posada Drive for the entire length of the roadway except for a section of approximately 1,100 feet just west of Cordoba Boulevard. There are also sidewalks along the south side of La Posada Drive from Piedras Drive to just west of Hubble Drive and from Cordoba Boulevard to Rockwell Boulevard. There are sidewalks on both sides of La Posada Drive from Rockwell Boulevard to Pyramid Highway. There is also a multi-use path along the south side of La Posada Drive from just west of Hubble Drive to Cordoba Boulevard that connects to other trails south of La Posada Drive.

Traffic Volumes

Existing AM and PM peak hour intersection turning movement volumes were collected on Wednesday, April 21, 2021. An evaluation of traffic volume trends in the region was conducted to determine if traffic volumes are lower than typical conditions due to COVID-19 restrictions. Recent data shows that 2021 traffic counts appear to match or exceed pre-COVID conditions during the PM peak hour and are approximately 10 percent lower during the AM peak hour. Therefore, the AM peak hour traffic volumes were adjusted up by 10 percent to account for irregularities caused by COVID restrictions. **Figure 2** shows the existing (adjusted) peak hour traffic volumes at the study intersections.



Intersection Level of Service

Existing AM and PM peak hour intersection level of service analysis was performed for the study intersections using Synchro 11 analysis software. The existing intersection lane configurations and controls are shown on **Figure 3**. **Table 2** shows the existing conditions level of service results and the technical calculations are provided in **Appendix A**.

Table 2: Existing Intersection Level of Service

Intersection	Control	AM		PM	
		Delay ¹	LOS	Delay ¹	LOS
La Posada Dr/Cordoba Blvd	All Way Stop				
Overall		11.3	B	14.4	B
La Posada Dr/Hubble Dr	Side Street Stop				
Northbound Approach		9.9	A	10.4	B
Westbound Left		7.4	A	7.7	A
La Posada Dr/La Posada Ct	Side Street Stop				
Northbound Approach		8.8	A	9.1	A
Westbound Left		7.3	A	7.4	A

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for all way stop controlled intersections, and for the worst approach/movement for side street stop controlled intersections.

Source: Headway Transportation, 2021

As shown in the table, the study intersections currently operate within policy level of service thresholds during the AM and PM peak hours.

PROJECT ANALYSIS

Project Description

The proposed action is a zone change and master plan amendment for approximately 73 acres north of La Posada Drive, east of Cielo Vista Drive, and west of Piedras Drive. The requested zoning would enable up to 73 single family residential units. The primary access to the site would likely be on La Posada Drive opposite La Posada Court (shown on **Figure 3**).

Trip Generation

Trip generation rates from *Trip Generation Manual, 10th Edition* published by the Institute of Transportation Engineers (ITE) were used to develop trip generation estimates for the proposed project based on the Single Family Residential rates. **Table 3** shows the Daily, AM peak hour, and PM peak hour trip generation estimates.



Table 3: Trip Generation Estimates

Land Use (ITE Code)	Size	Trips ¹				
		Daily	AM	AM In/Out	PM	PM In/Out
Single-Family Residential (210)	73 du	689	54	14 / 40	72	45 / 27
Total Trip		689	54	14 / 40	72	45 / 27

Notes: du = dwelling units

1. Trips calculated based on the following rates per dwelling unit: Daily – 9.44; AM – 0.74 (25% in / 75% out); PM – 0.99 (63% in / 37% out)

Source: Headway Transportation, 2021

As shown in the table, the proposed zoning is expected to generate 689 Daily, 54 AM peak hour, and 72 PM peak hour trips. This low number of trips is below Washoe County’s typical requirement for a traffic study (80 or more peak hour trips).

Trip Distribution

Project trips were distributed to the adjacent roadway network based on existing traffic volumes, the locations of complimentary land uses, and anticipated travel patterns. Project trips were distributed based on the following:

- ▶ 70% to/from the west via La Posada Drive
- ▶ 5% to/from the south via Cordoba Boulevard
- ▶ 25% to/from the south via Hubble Drive

Figure 4 shows the project trip distribution and assignment.

EXISTING PLUS PROJECT CONDITIONS

Traffic Volumes

Project trips (**Figure 4**) were added to the existing traffic volumes (**Figure 2**) to develop the Existing Plus Project conditions traffic volumes, shown on **Figure 5**.

Intersection Level of Service

AM and PM peak hour intersection level of service analysis was performed for the study intersections based on the Existing Plus Project traffic volumes, the existing peak hour factors from the counts, and the lane configurations and controls shown on **Figure 3**. **Table 4** shows the level of service results and the technical calculations are provided in **Appendix B**.



Table 4: Existing Plus Project Intersection Level of Service

Intersection	Control	Existing				Existing Plus Project			
		AM		PM		AM		PM	
		Delay ¹	LOS	Delay ¹	LOS	Delay ¹	LOS	Delay ¹	LOS
La Posada Dr/Cordoba Blvd	All Way								
Overall	Stop	11.3	B	14.4	B	11.9	B	16.1	C
La Posada Dr/Hubble Dr	Side								
Northbound Approach	Street	9.9	A	10.4	B	10.5	B	11.1	B
Westbound Left	Stop	7.4	A	7.7	A	7.5	A	7.8	A
La Posada Dr/La Posada Ct									
Northbound Approach	Side	8.8	A	9.1	A	9.4	A	10.3	B
Southbound Approach	Street	NA				8.7	A	8.6	A
Westbound Left	Stop	7.3	A	7.4	A	7.3	A	7.4	A
Eastbound Left		NA				7.3	A	7.4	A

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for all way stop controlled intersections, and for the worst approach/movement for side street stop controlled intersections.

Source: Headway Transportation, 2021

As shown in the table, the study intersections are expected to operate at LOS C or better with project traffic.

FUTURE YEAR CONDITIONS

The Future Year analysis estimates operating conditions for the 20 year horizon.

Planned Roadway Improvements

The RTC's 2050 RTP outlines programmed roadway projects of regional significance. The project list is split into three time periods: 2021 – 2025 (first five years of the plan), 2026 – 2030 (second five years of the plan), and 2031 – 2050 (remaining years of the plan). The following roadway improvement is listed within the project vicinity:

RTP Complete Street Project Listing (2031-2050)

- ▶ TRI Center Northern Connection (Private Funding Required) – La Posada Drive to TRI Center

The timing, funding source, and roadway alignment for this potential project are unknown at this time. Realistically, the extension of La Posada Drive to TRI Center is not anticipated in the next 20 years. It should be noted that the extension is not in the regional travel demand model in the 20 year horizon (2040). For these reasons the Future Year conditions analysis does not include this roadway extension.

Traffic Volume Forecasts

Future Year (20 year horizon) background traffic volumes were developed based on projected growth in the area unrelated to this project. Traffic volume projections from the RTC's regional travel demand model



estimate growth in the immediate project area of approximately 0.5 percent per year. Background traffic volumes were developed by applying the annual growth rate to the existing traffic volumes for 20 years. **Figure 6** shows the Future Year (No Project) traffic volumes at the study intersections.

Intersection Level of Service

Future Year conditions intersection level of service analysis was performed for the study intersections based on the traffic volume forecasts shown on **Figure 6** and the existing lane configurations and controls (shown on **Figure 3**). **Table 5** shows the AM and PM peak hour level of service results. The technical calculations are provided in **Attachment C**.

Table 5: Future Year Intersection Level of Service

Intersection	Control	AM		PM	
		Delay ¹	LOS	Delay ¹	LOS
La Posada Dr/Cordoba Blvd	All Way Stop				
Overall		12.3	B	17.4	C
La Posada Dr/Hubble Dr	Side Street Stop				
Northbound Approach		10.1	B	10.7	B
Westbound Left		7.4	A	7.8	A
La Posada Dr/La Posada Ct	Side Street Stop				
Northbound Approach		8.9	A	9.2	A
Westbound Left		7.3	A	7.4	A

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for all way stop controlled intersections, and for the worst approach/movement for side street stop controlled intersections.

Source: Headway Transportation, 2021

As shown in the table, the study intersections are expected to operate within policy level of service thresholds during the AM and PM peak hours.

FUTURE YEAR PLUS PROJECT CONDITIONS

Traffic Volumes

Project trips (**Figure 4**) were added to the Future Year background traffic volumes (**Figure 6**) to develop Future Year Plus Project conditions traffic volumes, shown on **Figure 7**.

Intersection Level of Service

AM and PM peak hour intersection level of service analysis was performed for the study intersections based on the Future Year Plus Project traffic volumes, the existing lane configurations, and existing peak hour factors. **Table 6** shows the level of service results and the technical calculations are provided in **Attachment D**.



Table 6: Future Year Plus Project Intersection Level of Service

Intersection	Control	Future Year				Future Year Plus Project			
		AM		PM		AM		PM	
		Delay ¹	LOS	Delay ¹	LOS	Delay ¹	LOS	Delay ¹	LOS
La Posada Dr/Cordoba Blvd	All Way								
Overall	Stop	12.3	B	17.4	C	13.0	B	20.3	C
La Posada Dr/Hubble Dr	Side								
Northbound Approach	Street	10.1	B	10.7	B	10.7	B	11.4	B
Westbound Left	Stop	7.4	A	7.8	A	7.5	A	7.9	A
La Posada Dr/La Posada Ct									
Northbound Approach	Side	8.9	A	9.2	A	9.5	A	10.4	B
Southbound Approach	Street	NA				8.7	A	8.6	A
Westbound Left	Stop	7.3	A	7.4	A	7.3	A	7.4	A
Eastbound Left		NA				7.3	A	7.4	A

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for signalized and all way stop controlled intersections, and for the worst approach/movement for side street stop controlled intersections.

Source: Headway Transportation, 2021

As shown in the table, the study intersections are expected to operate at LOS C or better with project traffic.

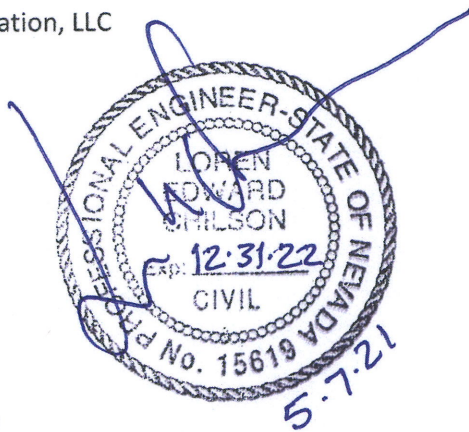


CONCLUSIONS & RECOMMENDATIONS

The following is a list of our key findings and recommendations:

- ▶ The subject site has direct access to an arterial roadway.
- ▶ The zone change would allow up to 73 single family residential units and is anticipated to generate approximately 689 Daily, 54 AM peak hour, and 72 PM peak hour trips.
- ▶ Under Existing and Existing Plus Project conditions, the study intersections are expected to operate within policy level of service thresholds (at LOS "C" or better).
- ▶ Under Future Year and Future Year Plus Project conditions, the study intersections are expected to continue to operate within policy level of service thresholds (at LOS "C" or better).
- ▶ Rezoning for 73 one acre lots is not anticipated to have any significant impact on the roadway network. Any future project would be required to pay standard Regional Road Impact Fees (RRIF) to address minor impacts on the roadway network.

Sincerely,
Headway Transportation, LLC



Loren E. Chilson, PE
Principal

Attachments:

Figures 1-7

A – Existing LOS Calculations

B – Existing Plus Project LOS Calculations

C – Future Year LOS Calculations

D – Future Year Plus Project LOS Calculations



Study Locations

- ① La Posada Dr / Cordoba Blvd
- ② La Posada Dr / Hubble Dr
- ③ La Posada Dr / La Posada Ct

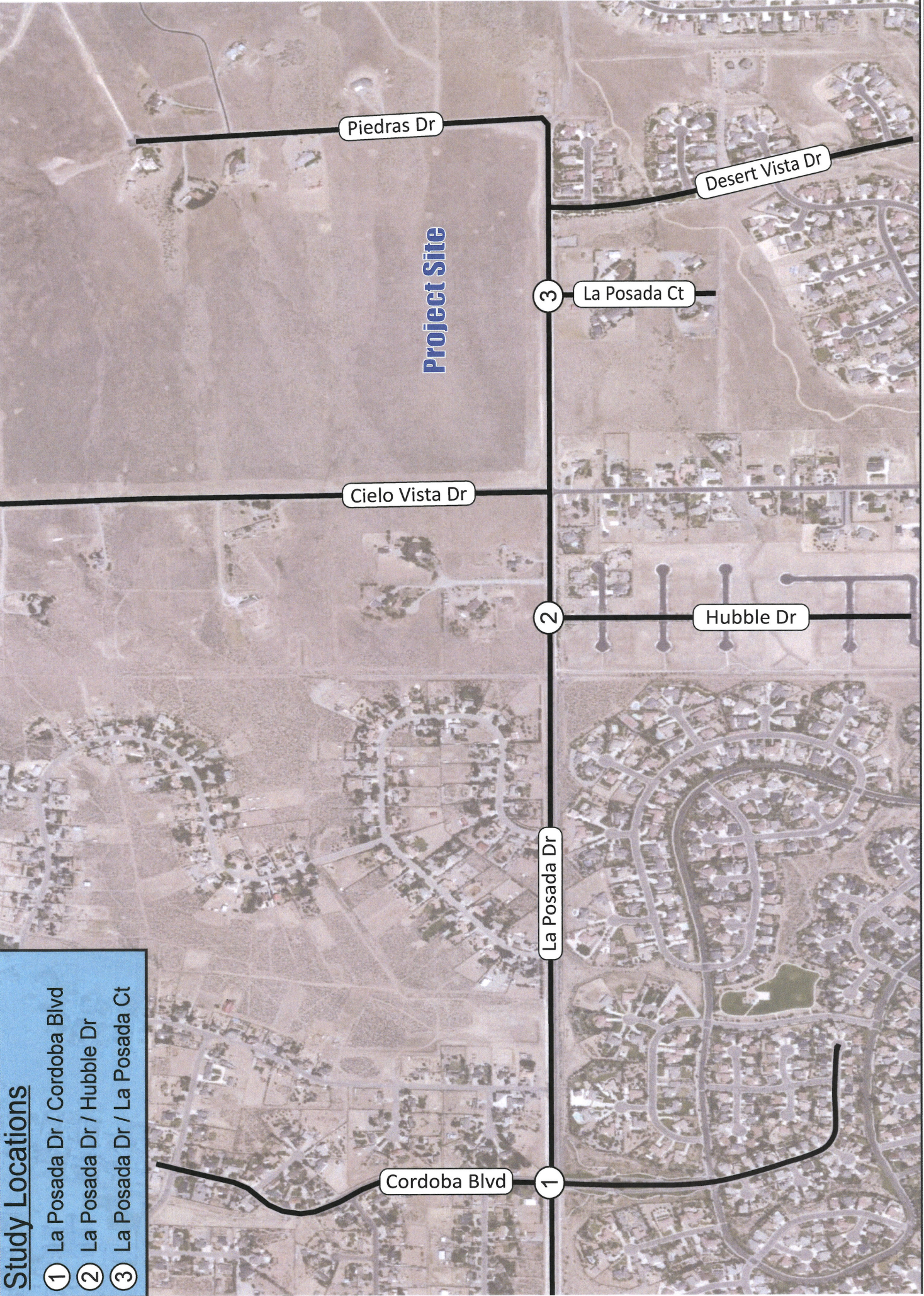
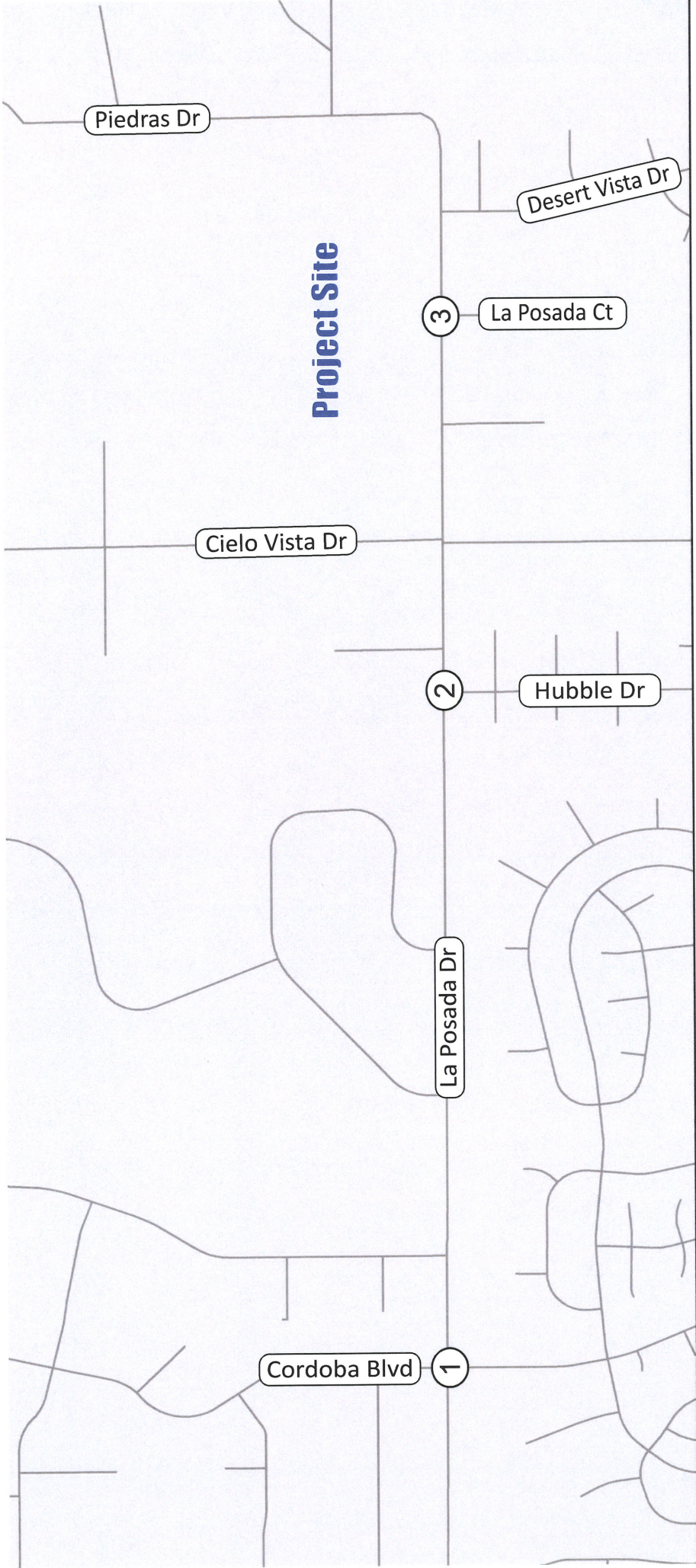
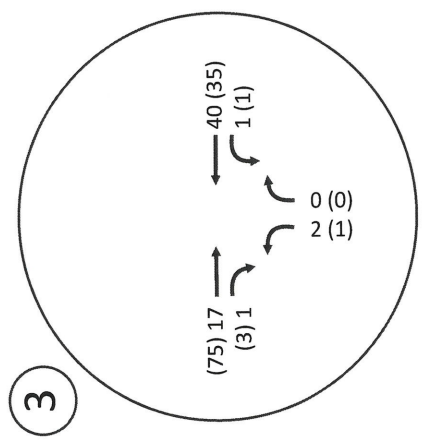


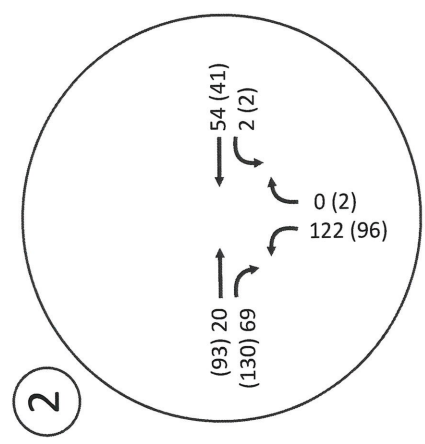
Figure
La Posad
Traffic Impact Stud



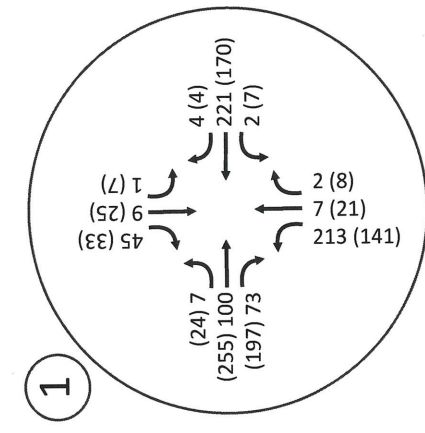
La Posada Dr / La Posada Ct

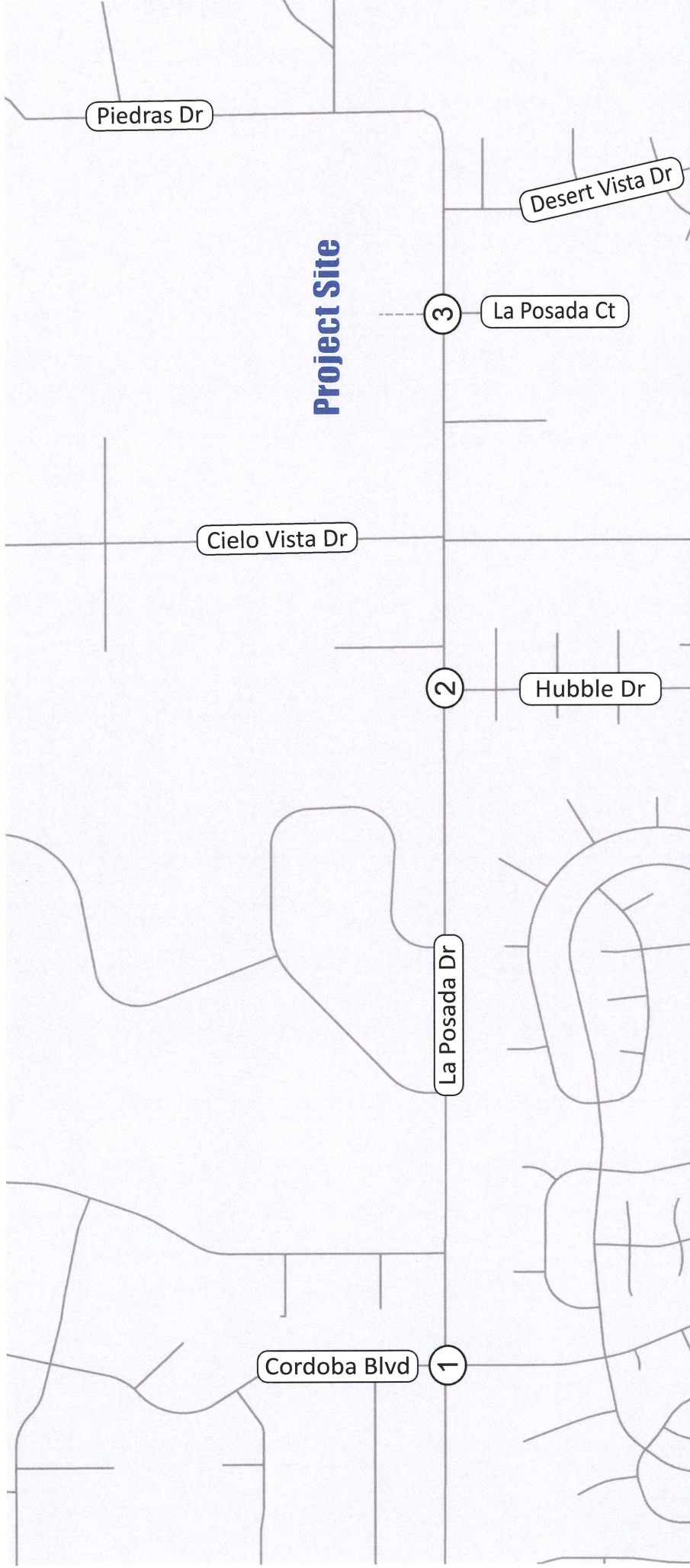


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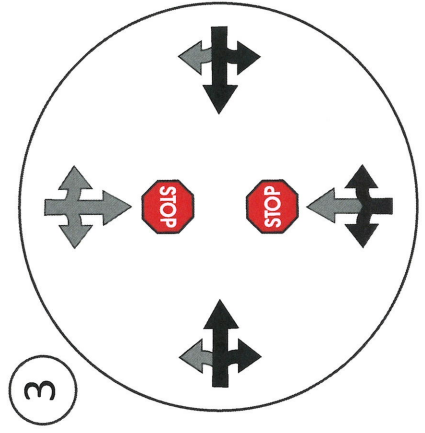


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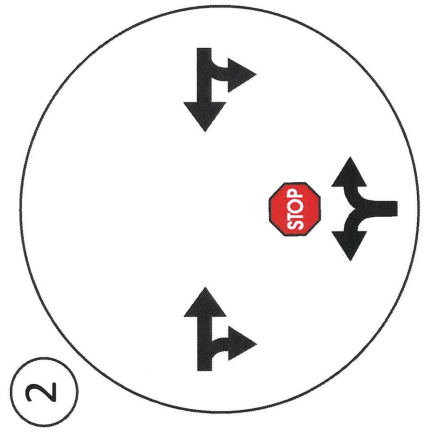




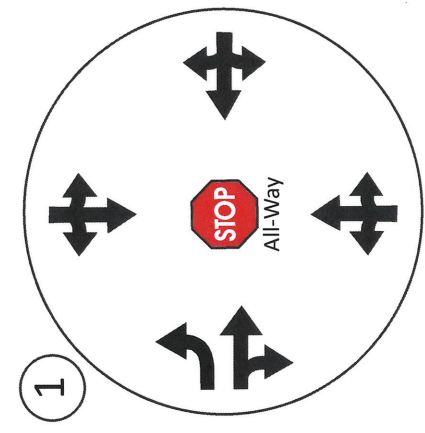
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La Posada Dr / Hubble Dr



La Posada Dr / Cordoba Dr

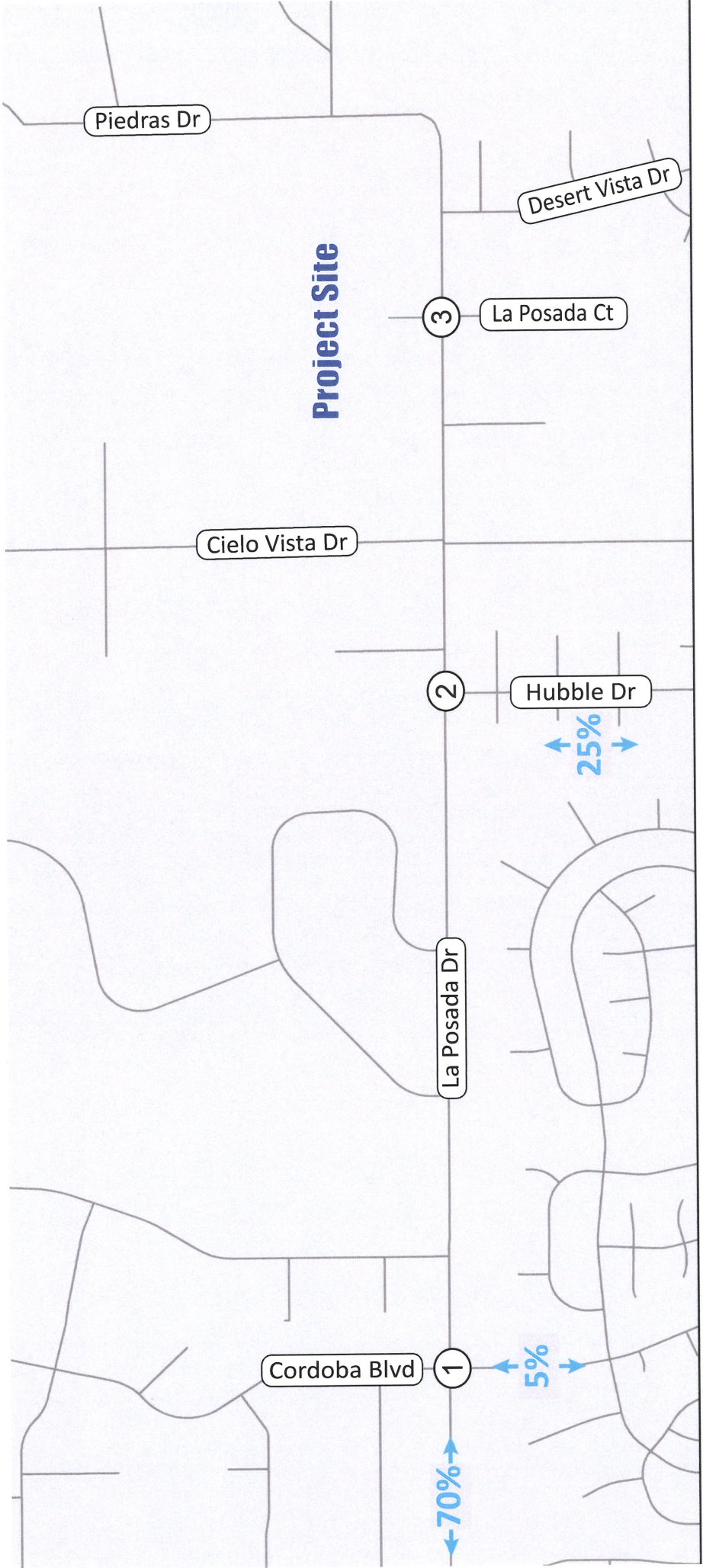


Anticipated Lane Configuration (Plus Project)

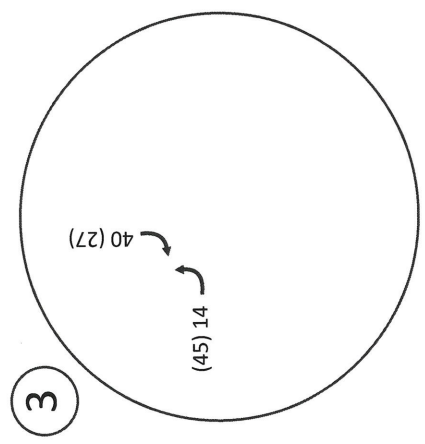
Existing Lane Configuration

Stop

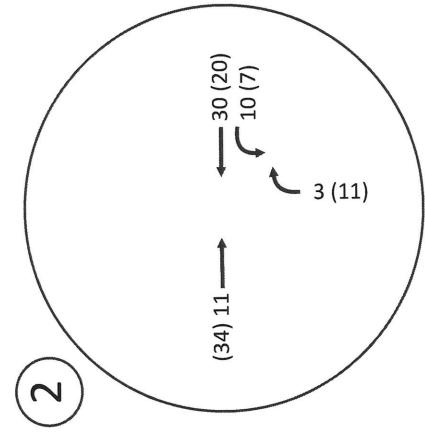
All-Way



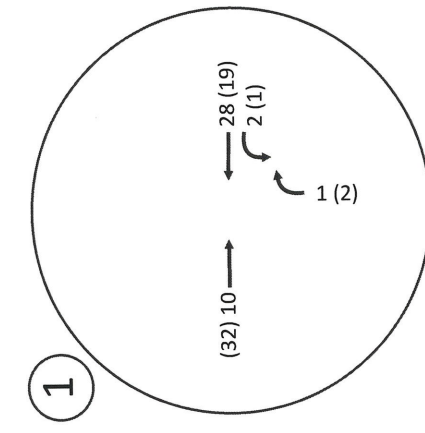
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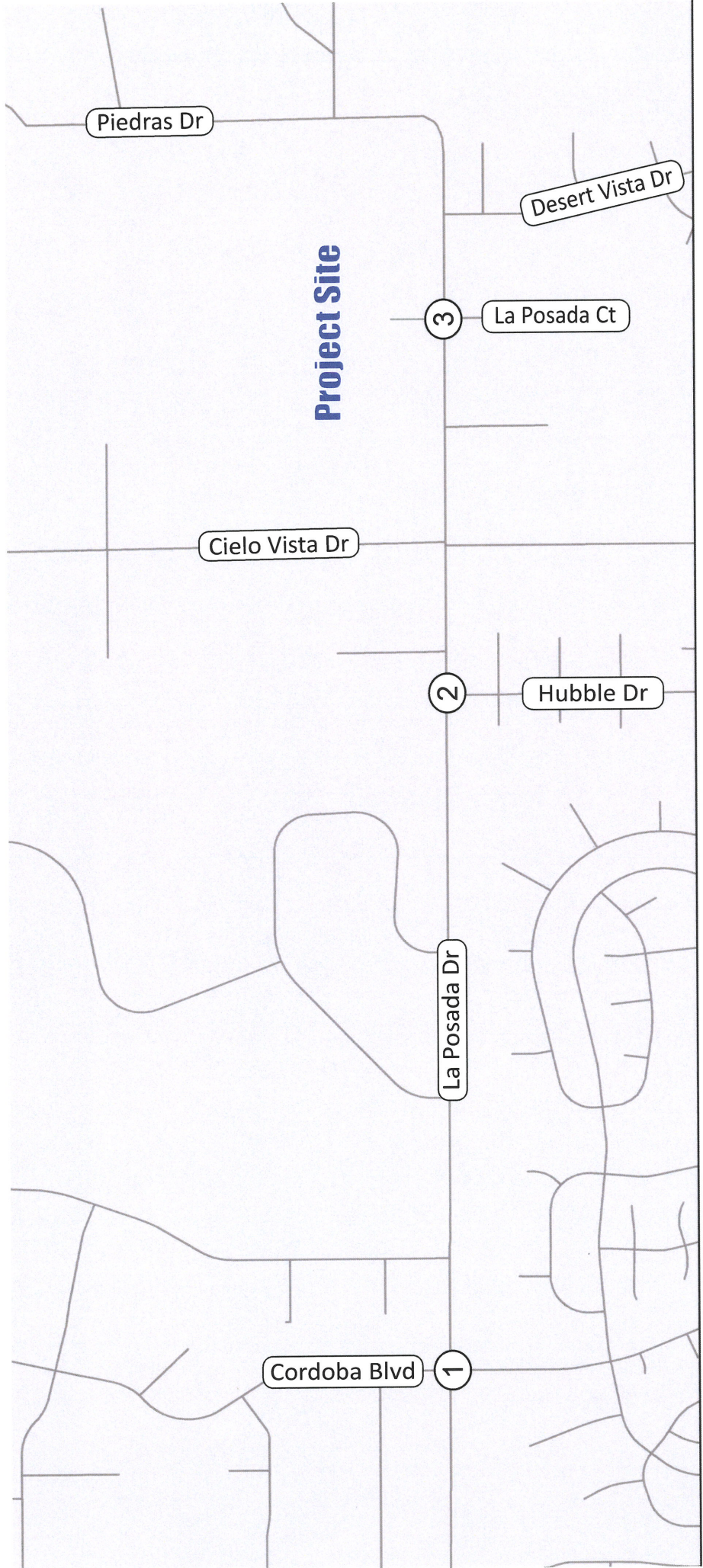


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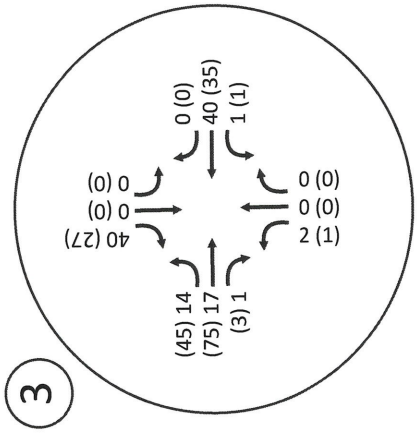


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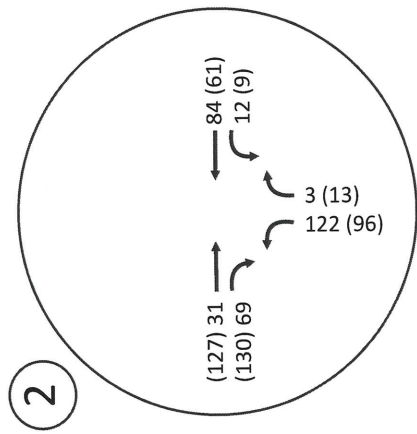




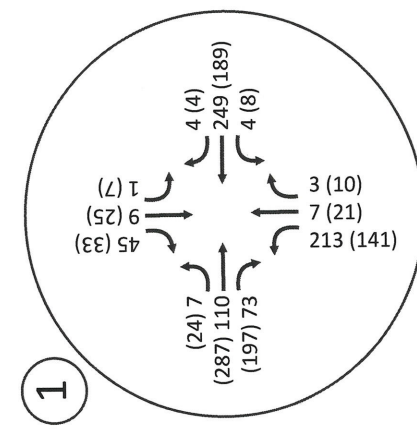
La Posada Dr / La Posada Ct

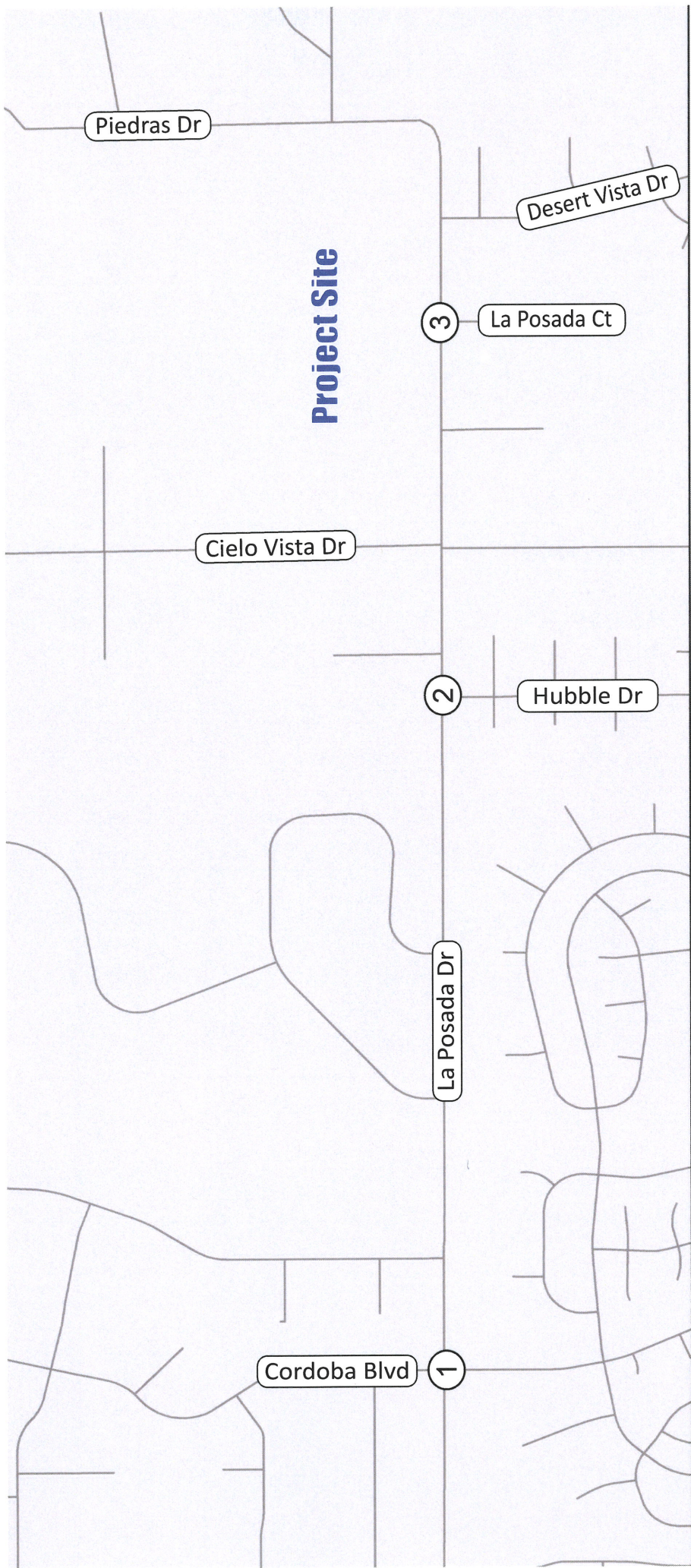


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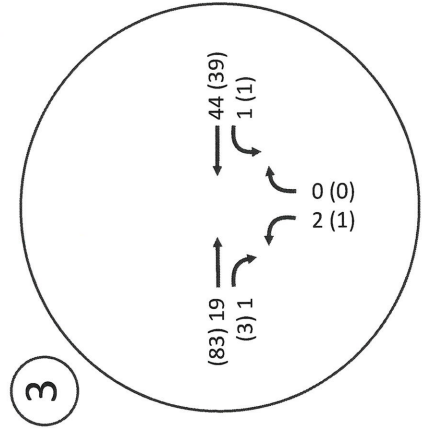


La Posada Dr / Cordoba Dr

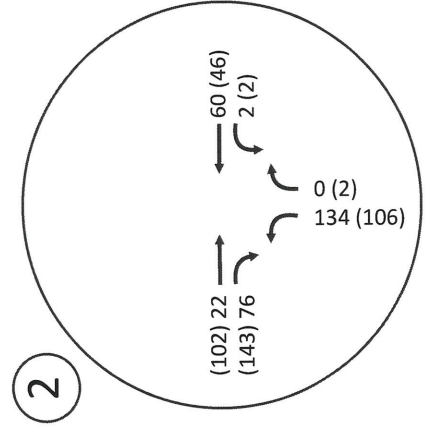




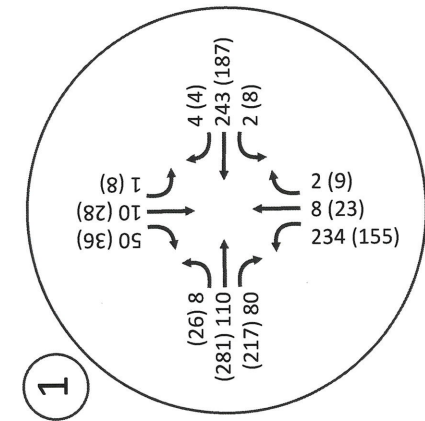
La Posada Dr / La Posada Ct

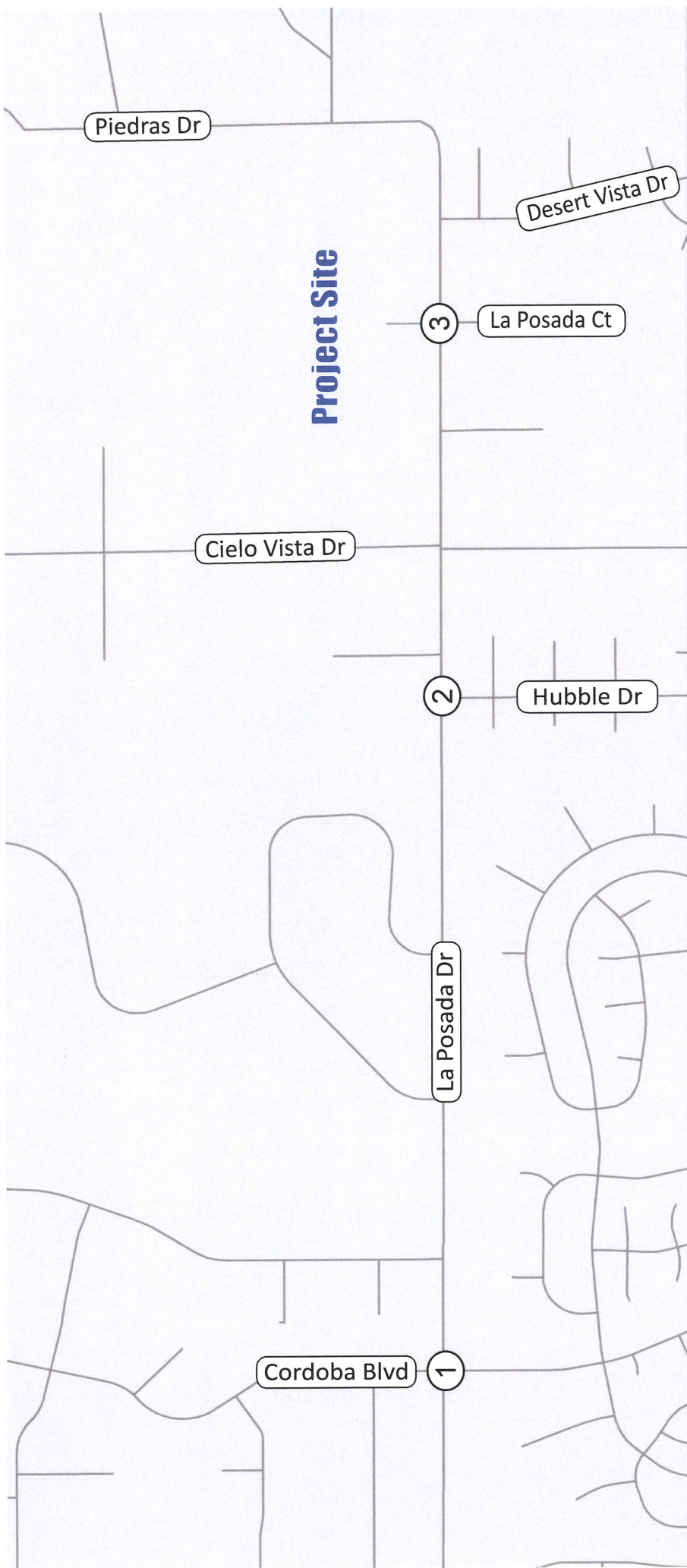


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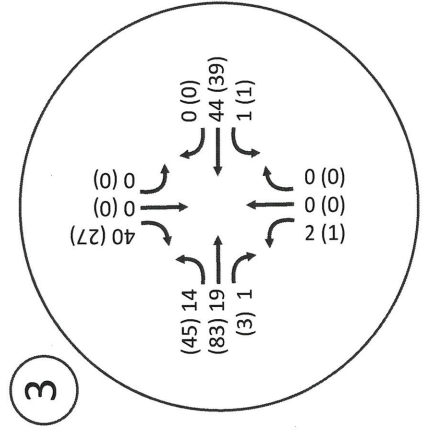


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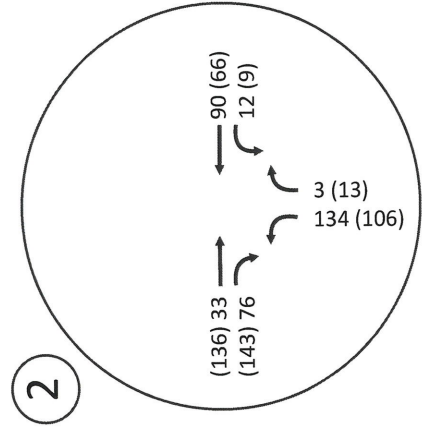




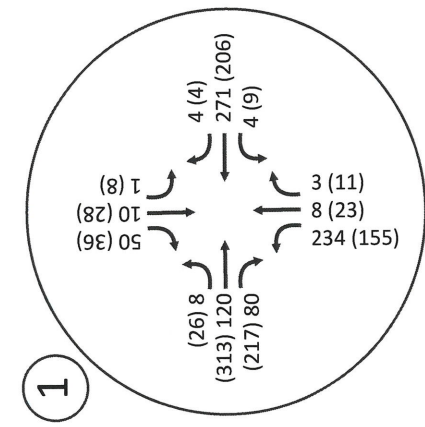
La Posada Dr / La Posada Ct



La Posada Dr / Hubble Dr



La Posada Dr / Cordoba Dr



Attachment A

Existing LOS Calculations



Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷			↷			↷			↷	
Traffic Vol, veh/h	7	100	73	2	221	4	213	7	2	1	9	45
Future Vol, veh/h	7	100	73	2	221	4	213	7	2	1	9	45
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	8	116	85	2	257	5	248	8	2	1	10	52
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	10.6	11.7	12.1	8.8
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	96%	100%	0%	1%	2%
Vol Thru, %	3%	0%	58%	97%	16%
Vol Right, %	1%	0%	42%	2%	82%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	222	7	173	227	55
LT Vol	213	7	0	2	1
Through Vol	7	0	100	221	9
RT Vol	2	0	73	4	45
Lane Flow Rate	258	8	201	264	64
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.396	0.014	0.308	0.388	0.093
Departure Headway (Hd)	5.516	6.316	5.511	5.296	5.208
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	653	567	652	681	688
Service Time	3.545	4.047	3.242	3.325	3.246
HCM Lane V/C Ratio	0.395	0.014	0.308	0.388	0.093
HCM Control Delay	12.1	9.1	10.7	11.7	8.8
HCM Lane LOS	B	A	B	B	A
HCM 95th-tile Q	1.9	0	1.3	1.8	0.3

Intersection						
Int Delay, s/veh	4.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	20	69	2	54	122	0
Future Vol, veh/h	20	69	2	54	122	0
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	75	2	59	133	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	97	0	123
Stage 1	-	-	-	-	60
Stage 2	-	-	-	-	63
Critical Hdwy	-	-	4.13	-	6.43
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	-	-	2.227	-	3.527
Pot Cap-1 Maneuver	-	-	1490	-	870
Stage 1	-	-	-	-	960
Stage 2	-	-	-	-	957
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1490	-	869
Mov Cap-2 Maneuver	-	-	-	-	869
Stage 1	-	-	-	-	960
Stage 2	-	-	-	-	956

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	869	-	-	1490	-
HCM Lane V/C Ratio	0.153	-	-	0.001	-
HCM Control Delay (s)	9.9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection

Int Delay, s/veh 0.4

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↔			↕	↕	
Traffic Vol, veh/h	17	1	1	40	2	0
Future Vol, veh/h	17	1	1	40	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	1	1	43	2	0

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	19	0	64	19
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1597	-	942	1059
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	977	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1597	-	941	1059
Mov Cap-2 Maneuver	-	-	-	-	941	-
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	976	-

Approach EB WB NB

HCM Control Delay, s	0	0.2	8.8
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	941	-	-	1597	-
HCM Lane V/C Ratio	0.002	-	-	0.001	-
HCM Control Delay (s)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷			↕			↕			↕	
Traffic Vol, veh/h	24	255	197	7	170	4	141	21	8	7	25	33
Future Vol, veh/h	24	255	197	7	170	4	141	21	8	7	25	33
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	263	203	7	175	4	145	22	8	7	26	34
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	17.5	10.7	11.4	9.5
HCM LOS	C	B	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	83%	100%	0%	4%	11%
Vol Thru, %	12%	0%	56%	94%	38%
Vol Right, %	5%	0%	44%	2%	51%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	170	24	452	181	65
LT Vol	141	24	0	7	7
Through Vol	21	0	255	170	25
RT Vol	8	0	197	4	33
Lane Flow Rate	175	25	466	187	67
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.289	0.041	0.673	0.283	0.107
Departure Headway (Hd)	5.941	6.01	5.197	5.461	5.771
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	605	597	694	659	620
Service Time	3.981	3.735	2.921	3.496	3.818
HCM Lane V/C Ratio	0.289	0.042	0.671	0.284	0.108
HCM Control Delay	11.4	9	18	10.7	9.5
HCM Lane LOS	B	A	C	B	A
HCM 95th-tile Q	1.2	0.1	5.2	1.2	0.4

Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	93	130	2	41	96	2
Future Vol, veh/h	93	130	2	41	96	2
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	99	138	2	44	102	2
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	240	0	219	171
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	48	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1327	-	769	873
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	974	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1323	-	765	871
Mov Cap-2 Maneuver	-	-	-	-	765	-
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	972	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.4	10.4			
HCM LOS			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	767	-	-	1323	-	
HCM Lane V/C Ratio	0.136	-	-	0.002	-	
HCM Control Delay (s)	10.4	-	-	7.7	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.5	-	-	0	-	

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	75	3	1	35	1	0
Future Vol, veh/h	75	3	1	35	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	3	1	38	1	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	85	0	124
Stage 1	-	-	-	-	84
Stage 2	-	-	-	-	40
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1512	-	871
Stage 1	-	-	-	-	939
Stage 2	-	-	-	-	982
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1512	-	870
Mov Cap-2 Maneuver	-	-	-	-	870
Stage 1	-	-	-	-	939
Stage 2	-	-	-	-	981

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	870	-	-	1512	-
HCM Lane V/C Ratio	0.001	-	-	0.001	-
HCM Control Delay (s)	9.1	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Attachment B

Existing Plus Project LOS Calculations



Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↶			↷			↷			↷	
Traffic Vol, veh/h	7	110	73	4	249	4	213	7	3	1	9	45
Future Vol, veh/h	7	110	73	4	249	4	213	7	3	1	9	45
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	8	128	85	5	290	5	248	8	3	1	10	52
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	11	12.6	12.5	9
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	96%	100%	0%	2%	2%
Vol Thru, %	3%	0%	60%	97%	16%
Vol Right, %	1%	0%	40%	2%	82%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	223	7	183	257	55
LT Vol	213	7	0	4	1
Through Vol	7	0	110	249	9
RT Vol	3	0	73	4	45
Lane Flow Rate	259	8	213	299	64
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.407	0.014	0.331	0.444	0.095
Departure Headway (Hd)	5.648	6.392	5.602	5.346	5.371
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	638	560	643	672	665
Service Time	3.684	4.127	3.337	3.379	3.419
HCM Lane V/C Ratio	0.406	0.014	0.331	0.445	0.096
HCM Control Delay	12.5	9.2	11.1	12.6	9
HCM Lane LOS	B	A	B	B	A
HCM 95th-tile Q	2	0	1.4	2.3	0.3

Intersection						
Int Delay, s/veh	4.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	31	69	12	84	122	3
Future Vol, veh/h	31	69	12	84	122	3
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	34	75	13	91	133	3

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	109	0	189
Stage 1	-	-	-	-	72
Stage 2	-	-	-	-	117
Critical Hdwy	-	-	4.13	-	6.43
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	-	-	2.227	-	3.527
Pot Cap-1 Maneuver	-	-	1475	-	798
Stage 1	-	-	-	-	948
Stage 2	-	-	-	-	906
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1475	-	791
Mov Cap-2 Maneuver	-	-	-	-	791
Stage 1	-	-	-	-	948
Stage 2	-	-	-	-	898

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	795	-	-	1475	-
HCM Lane V/C Ratio	0.171	-	-	0.009	-
HCM Control Delay (s)	10.5	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	14	17	1	1	40	0	2	0	0	0	0	40
Future Vol, veh/h	14	17	1	1	40	0	2	0	0	0	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	18	1	1	43	0	2	0	0	0	0	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	43	0	0	19	0	0	116	94	19	94	94	43
Stage 1	-	-	-	-	-	-	49	49	-	45	45	-
Stage 2	-	-	-	-	-	-	67	45	-	49	49	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1566	-	-	1597	-	-	861	796	1059	889	796	1027
Stage 1	-	-	-	-	-	-	964	854	-	969	857	-
Stage 2	-	-	-	-	-	-	943	857	-	964	854	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1566	-	-	1597	-	-	818	787	1059	882	787	1027
Mov Cap-2 Maneuver	-	-	-	-	-	-	818	787	-	882	787	-
Stage 1	-	-	-	-	-	-	954	845	-	959	856	-
Stage 2	-	-	-	-	-	-	902	856	-	954	845	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.2			0.2			9.4			8.7		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	818	1566	-	-	1597	-	-	1027
HCM Lane V/C Ratio	0.003	0.01	-	-	0.001	-	-	0.042
HCM Control Delay (s)	9.4	7.3	0	-	7.3	0	-	8.7
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Intersection Delay, s/veh	16.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷			↕			↕			↕	
Traffic Vol, veh/h	24	287	197	8	189	4	141	21	10	7	25	33
Future Vol, veh/h	24	287	197	8	189	4	141	21	10	7	25	33
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	296	203	8	195	4	145	22	10	7	26	34
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	20.4	11.2	11.7	9.8
HCM LOS	C	B	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	82%	100%	0%	4%	11%
Vol Thru, %	12%	0%	59%	94%	38%
Vol Right, %	6%	0%	41%	2%	51%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	172	24	484	201	65
LT Vol	141	24	0	8	7
Through Vol	21	0	287	189	25
RT Vol	10	0	197	4	33
Lane Flow Rate	177	25	499	207	67
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.3	0.042	0.731	0.319	0.111
Departure Headway (Hd)	6.089	6.065	5.272	5.545	5.95
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	589	591	689	647	600
Service Time	4.138	3.797	3.003	3.59	4.009
HCM Lane V/C Ratio	0.301	0.042	0.724	0.32	0.112
HCM Control Delay	11.7	9.1	21	11.2	9.8
HCM Lane LOS	B	A	C	B	A
HCM 95th-tile Q	1.3	0.1	6.4	1.4	0.4

Intersection						
Int Delay, s/veh	2.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	127	130	9	61	96	13
Future Vol, veh/h	127	130	9	61	96	13
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	138	10	65	102	14
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	276	0	292	207
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	85	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1287	-	699	833
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	938	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1283	-	691	831
Mov Cap-2 Maneuver	-	-	-	-	691	-
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	930	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	1	11.1			
HCM LOS			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	705	-	-	1283	-	
HCM Lane V/C Ratio	0.164	-	-	0.007	-	
HCM Control Delay (s)	11.1	-	-	7.8	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.6	-	-	0	-	

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	45	75	3	1	35	0	1	0	0	0	0	27
Future Vol, veh/h	45	75	3	1	35	0	1	0	0	0	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	82	3	1	38	0	1	0	0	0	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	38	0	0	85	0	0	237	222	84	222	223	38
Stage 1	-	-	-	-	-	-	182	182	-	40	40	-
Stage 2	-	-	-	-	-	-	55	40	-	182	183	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1572	-	-	1512	-	-	717	677	975	734	676	1034
Stage 1	-	-	-	-	-	-	820	749	-	975	862	-
Stage 2	-	-	-	-	-	-	957	862	-	820	748	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1572	-	-	1512	-	-	678	654	975	715	653	1034
Mov Cap-2 Maneuver	-	-	-	-	-	-	678	654	-	715	653	-
Stage 1	-	-	-	-	-	-	793	724	-	943	861	-
Stage 2	-	-	-	-	-	-	929	861	-	793	723	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.7			0.2			10.3			8.6		
HCM LOS							B			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	678	1572	-	-	1512	-	-	1034
HCM Lane V/C Ratio	0.002	0.031	-	-	0.001	-	-	0.028
HCM Control Delay (s)	10.3	7.4	0	-	7.4	0	-	8.6
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1

Attachment C

Future Year LOS Calculations



Intersection

Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷			↕			↕			↕	
Traffic Vol, veh/h	8	110	80	2	243	4	234	8	2	1	10	50
Future Vol, veh/h	8	110	80	2	243	4	234	8	2	1	10	50
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	9	128	93	2	283	5	272	9	2	1	12	58
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	11.4	12.8	13.3	9.2
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	96%	100%	0%	1%	2%
Vol Thru, %	3%	0%	58%	98%	16%
Vol Right, %	1%	0%	42%	2%	82%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	244	8	190	249	61
LT Vol	234	8	0	2	1
Through Vol	8	0	110	243	10
RT Vol	2	0	80	4	50
Lane Flow Rate	284	9	221	290	71
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.449	0.017	0.349	0.44	0.107
Departure Headway (Hd)	5.691	6.499	5.693	5.469	5.448
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	633	550	632	657	655
Service Time	3.731	4.242	3.436	3.511	3.505
HCM Lane V/C Ratio	0.449	0.016	0.35	0.441	0.108
HCM Control Delay	13.3	9.4	11.5	12.8	9.2
HCM Lane LOS	B	A	B	B	A
HCM 95th-tile Q	2.3	0.1	1.6	2.2	0.4

Intersection

Int Delay, s/veh 4.6

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↖			↗	↘	
Traffic Vol, veh/h	22	76	2	60	134	0
Future Vol, veh/h	22	76	2	60	134	0
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	24	83	2	65	146	0

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	107	0	135	67
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	69	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1478	-	856	994
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	951	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1478	-	855	993
Mov Cap-2 Maneuver	-	-	-	-	855	-
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	950	-

Approach EB WB NB

HCM Control Delay, s 0 0.2 10.1
HCM LOS B

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	855	-	-	1478	-
HCM Lane V/C Ratio	0.17	-	-	0.001	-
HCM Control Delay (s)	10.1	-	-	7.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection

Int Delay, s/veh 0.4

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↗			↖	↘	
Traffic Vol, veh/h	19	1	1	44	2	0
Future Vol, veh/h	19	1	1	44	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	1	1	48	2	0

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	22	0	72	22
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	50	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1593	-	932	1055
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	972	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1593	-	931	1055
Mov Cap-2 Maneuver	-	-	-	-	931	-
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	971	-

Approach EB WB NB

HCM Control Delay, s	0	0.2	8.9
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	931	-	-	1593	-
HCM Lane V/C Ratio	0.002	-	-	0.001	-
HCM Control Delay (s)	8.9	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Intersection Delay, s/veh	17.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷			↕			↕			↕	
Traffic Vol, veh/h	26	281	217	8	187	4	155	23	9	8	28	36
Future Vol, veh/h	26	281	217	8	187	4	155	23	9	8	28	36
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	290	224	8	193	4	160	24	9	8	29	37
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	22.5	11.4	12.3	10
HCM LOS	C	B	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	83%	100%	0%	4%	11%
Vol Thru, %	12%	0%	56%	94%	39%
Vol Right, %	5%	0%	44%	2%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	187	26	498	199	72
LT Vol	155	26	0	8	8
Through Vol	23	0	281	187	28
RT Vol	9	0	217	4	36
Lane Flow Rate	193	27	513	205	74
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.331	0.046	0.762	0.323	0.125
Departure Headway (Hd)	6.173	6.154	5.341	5.672	6.06
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	580	582	678	632	589
Service Time	4.23	3.895	3.08	3.726	4.13
HCM Lane V/C Ratio	0.333	0.046	0.757	0.324	0.126
HCM Control Delay	12.3	9.2	23.2	11.4	10
HCM Lane LOS	B	A	C	B	A
HCM 95th-tile Q	1.4	0.1	7.1	1.4	0.4

Intersection						
Int Delay, s/veh	2.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	102	143	2	46	106	2
Future Vol, veh/h	102	143	2	46	106	2
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	152	2	49	113	2

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	264	0	241
Stage 1	-	-	-	-	188
Stage 2	-	-	-	-	53
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1300	-	747
Stage 1	-	-	-	-	844
Stage 2	-	-	-	-	970
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1296	-	743
Mov Cap-2 Maneuver	-	-	-	-	743
Stage 1	-	-	-	-	841
Stage 2	-	-	-	-	968

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	745	-	-	1296	-
HCM Lane V/C Ratio	0.154	-	-	0.002	-
HCM Control Delay (s)	10.7	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	↙
Traffic Vol, veh/h	83	3	1	39	1	0
Future Vol, veh/h	83	3	1	39	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	90	3	1	42	1	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	93	0	136
Stage 1	-	-	-	-	92
Stage 2	-	-	-	-	44
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1501	-	857
Stage 1	-	-	-	-	932
Stage 2	-	-	-	-	978
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1501	-	856
Mov Cap-2 Maneuver	-	-	-	-	856
Stage 1	-	-	-	-	932
Stage 2	-	-	-	-	977

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	856	-	-	1501	-
HCM Lane V/C Ratio	0.001	-	-	0.001	-
HCM Control Delay (s)	9.2	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Attachment D
Future Year Plus Project
LOS Calculations



Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔			↔			↔			↔	
Traffic Vol, veh/h	8	120	80	4	271	4	234	8	3	1	10	50
Future Vol, veh/h	8	120	80	4	271	4	234	8	3	1	10	50
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	9	140	93	5	315	5	272	9	3	1	12	58
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	11.9	14	13.8	9.4
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	96%	100%	0%	1%	2%
Vol Thru, %	3%	0%	60%	97%	16%
Vol Right, %	1%	0%	40%	1%	82%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	8	200	279	61
LT Vol	234	8	0	4	1
Through Vol	8	0	120	271	10
RT Vol	3	0	80	4	50
Lane Flow Rate	285	9	233	324	71
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.461	0.017	0.374	0.498	0.111
Departure Headway (Hd)	5.831	6.585	5.793	5.528	5.624
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	615	543	619	652	633
Service Time	3.88	4.334	3.542	3.574	3.691
HCM Lane V/C Ratio	0.463	0.017	0.376	0.497	0.112
HCM Control Delay	13.8	9.4	12	14	9.4
HCM Lane LOS	B	A	B	B	A
HCM 95th-tile Q	2.4	0.1	1.7	2.8	0.4

Intersection

Int Delay, s/veh 4.5

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↗			↖	↘	
Traffic Vol, veh/h	33	76	12	90	134	3
Future Vol, veh/h	33	76	12	90	134	3
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	36	83	13	98	146	3

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	119	0	202	79
Stage 1	-	-	-	-	78	-
Stage 2	-	-	-	-	124	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1463	-	784	979
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	899	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1463	-	777	978
Mov Cap-2 Maneuver	-	-	-	-	777	-
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	891	-

Approach EB WB NB

HCM Control Delay, s 0 0.9 10.7
 HCM LOS B

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	781	-	-	1463	-
HCM Lane V/C Ratio	0.191	-	-	0.009	-
HCM Control Delay (s)	10.7	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	14	19	1	1	44	0	2	0	0	0	0	40
Future Vol, veh/h	14	19	1	1	44	0	2	0	0	0	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	21	1	1	48	0	2	0	0	0	0	43

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	48	0	0	22	0	0	124	102	22	102	102	48
Stage 1	-	-	-	-	-	-	52	52	-	50	50	-
Stage 2	-	-	-	-	-	-	72	50	-	52	52	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1559	-	-	1593	-	-	850	788	1055	879	788	1021
Stage 1	-	-	-	-	-	-	961	852	-	963	853	-
Stage 2	-	-	-	-	-	-	938	853	-	961	852	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	1559	-	-	1593	-	-	807	779	1055	872	779	1021
Mov Cap-2 Maneuver	-	-	-	-	-	-	807	779	-	872	779	-
Stage 1	-	-	-	-	-	-	951	843	-	953	852	-
Stage 2	-	-	-	-	-	-	897	852	-	951	843	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3	0.2	9.5	8.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	807	1559	-	-	1593	-	-	1021
HCM Lane V/C Ratio	0.003	0.01	-	-	0.001	-	-	0.043
HCM Control Delay (s)	9.5	7.3	0	-	7.3	0	-	8.7
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Intersection Delay, s/veh	20.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕			↕			↕	
Traffic Vol, veh/h	26	313	217	9	206	4	155	23	11	8	28	36
Future Vol, veh/h	26	313	217	9	206	4	155	23	11	8	28	36
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	323	224	9	212	4	160	24	11	8	29	37
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	27.5	12.1	12.7	10.3
HCM LOS	D	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	82%	100%	0%	4%	11%
Vol Thru, %	12%	0%	59%	94%	39%
Vol Right, %	6%	0%	41%	2%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	189	26	530	219	72
LT Vol	155	26	0	9	8
Through Vol	23	0	313	206	28
RT Vol	11	0	217	4	36
Lane Flow Rate	195	27	546	226	74
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.342	0.046	0.823	0.362	0.129
Departure Headway (Hd)	6.327	6.218	5.422	5.766	6.25
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	565	575	667	621	569
Service Time	4.396	3.961	3.165	3.825	4.333
HCM Lane V/C Ratio	0.345	0.047	0.819	0.364	0.13
HCM Control Delay	12.7	9.3	28.4	12.1	10.3
HCM Lane LOS	B	A	D	B	B
HCM 95th-tile Q	1.5	0.1	8.7	1.6	0.4

Intersection

Int Delay, s/veh 3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↕	↕	
Traffic Vol, veh/h	136	143	9	66	106	13
Future Vol, veh/h	136	143	9	66	106	13
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	152	10	70	113	14

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	300	0	314 224
Stage 1	-	-	-	-	224 -
Stage 2	-	-	-	-	90 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1261	-	679 815
Stage 1	-	-	-	-	813 -
Stage 2	-	-	-	-	934 -
Platoon blocked, %	-	-	-	-	
Mov Cap-1 Maneuver	-	-	1257	-	672 813
Mov Cap-2 Maneuver	-	-	-	-	672 -
Stage 1	-	-	-	-	811 -
Stage 2	-	-	-	-	927 -

Approach

	EB	WB	NB
HCM Control Delay, s	0	0.9	11.4
HCM LOS			B

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	685	-	-	1257	-
HCM Lane V/C Ratio	0.185	-	-	0.008	-
HCM Control Delay (s)	11.4	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-

Intersection

Int Delay, s/veh 2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	45	83	3	1	39	0	1	0	0	0	0	27
Future Vol, veh/h	45	83	3	1	39	0	1	0	0	0	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	90	3	1	42	0	1	0	0	0	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	42	0	0	93	0	0	249	234	92	234	235	42
Stage 1	-	-	-	-	-	-	190	190	-	44	44	-
Stage 2	-	-	-	-	-	-	59	44	-	190	191	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1567	-	-	1501	-	-	705	666	965	721	666	1029
Stage 1	-	-	-	-	-	-	812	743	-	970	858	-
Stage 2	-	-	-	-	-	-	953	858	-	812	742	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1567	-	-	1501	-	-	667	643	965	702	643	1029
Mov Cap-2 Maneuver	-	-	-	-	-	-	667	643	-	702	643	-
Stage 1	-	-	-	-	-	-	785	718	-	938	857	-
Stage 2	-	-	-	-	-	-	925	857	-	785	718	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.5			0.2			10.4			8.6		
HCM LOS							B			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	667	1567	-	-	1501	-	-	1029
HCM Lane V/C Ratio	0.002	0.031	-	-	0.001	-	-	0.029
HCM Control Delay (s)	10.4	7.4	0	-	7.4	0	-	8.6
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1

INFRASTRUCTURE FEASIBILITY REPORT

FOR

LA POSADA

MASTER PLAN AMENDMENT

Prepared for:

**Toll Brothers
9433 Double Diamond Prkwy #3
Reno, NV 89511**

May 10, 2021

Prepared by:

**Wood Rodgers Inc.
1361 Corporate Boulevard
Reno, Nevada 89502
775.823.4063
Cary Chisum, P.E.**



WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

PURPOSE

The purpose of this feasibility study is to fulfill the requirements of the Washoe County Spanish Springs Area Plan (Area Plan) with respect to a Master Plan Amendment to land use. Specifically, this report will address issues as outlined in the Spanish Springs Area Plan for modification and as shown below:

A feasibility study (has) been conducted, commissioned and paid for by the applicant, relative to municipal water, sewer and storm water that clearly identifies (1) the improvements likely to be required to support the intensification, and (2) those improvements have been determined to be in substantial compliance with all applicable existing facilities and resource plans for Spanish Springs by the Department of Water Resources. The Department of Water Resources will establish and maintain the standards and methodologies for these feasibility studies.

PROJECT LOCATION

The project area is located northeast of the intersection of La Posada Drive and Cielo Vista Drive in Unincorporated Washoe County. The project encompasses five parcels (APN 076-391-36, 37, 38, 39, and 40, consisting of a total of 73.13± acres) currently owned by Frank & Georgina Scibilia and the University Nevada Reno Foundation. Please reference to location maps included in the main application packet.

PROJECT DESCRIPTION

The parcels to be modified are currently master planned General Rural (1 dwelling units per 40 acres) according to Spanish Springs Master Plan, but the current number of parcels would allow for a total of 5 DU's. The proposed modification will change all 73.13± acres to LDS within the Master Plan. The areas to the north, west and east of

the project are zoned General Rural, and the area to the south is within the City of Sparks. Subheadings of this report will cover various issues regarding the modification including sanitary sewer, domestic water, existing and required infrastructure, onsite and offsite storm drainage, FEMA flood zone information, and dry utilities including gas, electric, etc. Please reference to applicable maps within the body of the main application packet for zoning, intensity, etc.

DOMESTIC WATER

The domestic water system within the area is under the jurisdiction of the Truckee Meadows Water Authority (TMWA). Domestic wells in the area and Truckee Meadows Water Authority (TMWA) provide water to the area. The following outlines possibilities with respect to domestic water service for the property in the ultimate build out condition. Although the following represent possibilities for service and storage in the area, a “Discovery” will be necessary through TMWA to determine the full extent of necessary improvements/upgrades to the existing system and storage, if any.

Service

- A 16” water line exists parallel to the east side of the property in the Right of Way for Cielo Vista Drive adjacent to the western edge of the subject property. The line connects to the existing 16” water main in La Posada Drive at the southeast corner of the site and extends to the north of the property.
- A 16” water line exists within the northern portion of the right of way for La Posada Drive along the southern boundary of the site, and is part of the La Posada transmission main which runs east-west along La Posada drive south of the site.

Storage

- Several water storage tanks exist within the vicinity of the site, including the Spring Creek 3 and Spring Creek 4 tanks to the southeast of the site off of Desert Vista Drive.

Please reference to **Figure 1** for locations of potential connection points for domestic water.

TMWA WATER RIGHTS - METHODOLOGY FOR CALCULATING DEMAND AND WATER RESOURCES REQUIREMENTS – WATER RIGHTS SUBJECT TO TMWA RULE 7

Project Site: 73.13± Acres

Low Density Suburban – (AFY = ac-ft/year)

- 70 units – Assume 22,100 SF lots
= $1 / (1.1 + (15,000 / 22,100)) = 0.56 \text{ AFY/unit}$
= $0.56 \text{ AFY/unit} * 70 = 39.35 \text{ AFY}$
- **TOTAL WATER RIGHTS RESIDENTIAL AREA**
= **39.4 AFY**

TOTAL WATER RIGHTS WITH 1.11 TRUCKEE RIVER RIGHTS MULTIPLIER

- $39.4 \times 1.11 = 43.7 \text{ AFY}$

* See Appendix for TMWA Rule 7 excerpts.

SANITARY SEWER

The property lies under the jurisdiction of Washoe County with respect to sanitary sewer service. The following outlines possibilities with respect to sewerage of the property in the ultimate buildout condition:

- Option 1 is to utilize the existing 8" sanitary sewer line in La Posada Drive stubbed out to the east of Benedict Drive.
- Option 2 is to connect directly to the City of Sparks 8" sewer line located in Foothills Village 2 at the intersection of Hubble Drive and Mythical Court.

Total Sanitary Sewer outflow from the proposed zone change is as follows:

Land Use	Units	Average Daily Flow	Average Daily Flow (gpd)	Peaking Factor	Peak Daily Flow (gpd)
Residential	70	270 gpd/unit	18,900	3	56,700
Total	70		18,900		56,700

* Flow rates per Washoe County Sewer Design Standards for Residential.

It should also be noted that the sanitary sewer within the area is under jurisdiction of Washoe County. However, sanitary sewer from this area feeds south into the City of Sparks system and ultimately feeds to the Truckee Meadows Water Reclamation Facility (TMWRF). There is an interlocal agreement between the City of Sparks and Washoe County allowing properties in Washoe County to utilize the City of Sparks sewer system for a portion of the sewer fees collected from the development.

DRY UTILITIES

NV Energy currently has electrical lines running parallel to the east side of Cielo Vista Drive servicing properties to the north, adjacent to the west side of the property, and lines running east-west along the south boundary of the property. A 12" gas main exists along the south side of La Posada Drive.. In order to gage whether or not additional infrastructure would be necessary to service the subject property, a discovery would need to be performed by NV Energy, but it is anticipated that existing gas and electric facility will be sufficient to service the future uses on the property.

A Tuscarora 20" high pressure gas main runs within the project boundaries along the west edge of APN 076-391-40 and the south edge of APN 076-391-38 and 40 however this Main can't be utilized for service connections.

Please reference to **Figure 1** for locations of potential connection points for dry utilities.

FEMA FLOOD ZONE MITIGATION/STORM DRAINAGE

FEMA Flood Zone Mitigation

The project site is located in FEMA Flood Zone X, reference **Figure 3** for the FEMA flood zone area.

Storm Drainage

The property naturally drains to the west for eventual outflow south and east. An existing rock lined drainage channel exists along the south side of the project to the

north of La Posada Drive, which carries flow from the properties to the north of La Posada west.

An existing conditions drainage map was created for the site (**Figure 4** in the Appendix). There is a large offsite drainage basin that channelizes in the northwestern corner of the site. This drainage area will remain undisturbed. A second offsite basin drains onto the site from culverts that cross Piedras Drive. The drainage along with any onsite increases in runoff caused by development of the site will be directed to onsite storm drain facilities and detention basins as needed.

CONCLUSION

In conclusion, the findings included in this Infrastructure Feasibility Report support the requirements of the Area with respect to a Master Plan Amendments, specifically, *(1) the improvements likely to be required to support the intensification, and (2) those improvements have been determined to be in substantial compliance with all applicable existing facilities and resource plans for Spanish Springs by Washoe County.*







APPENDIX

(FIGURE 1 - UTILITIES EXHIBIT)

LA POSADA
WASHOE COUNTY, NV

MAY, 2021

LEGEND

-  WATER PIPE
-  STORM DRAIN PIPE
-  GAS LINE
-  ELECTRIC WIRE
-  ELECTRIC WIRE
-  SUBJECT PROPERTIES

DOUGLAS S & BETTY L,
WONG FAMILY
076-391-41

MORTON M F & EUNICE E,
WONG TRUST
076-391-42

MICHAEL W &
DENISE S, BUIS
076-391-35

FRANK & GEORGINA, SCIBILIA
076-391-40

UNIVERSITY OF NEVADA
FOUNDATION
076-391-39

UNIVERSITY OF NEVADA
FOUNDATION
076-391-36

UNIVERSITY OF NEVADA
FOUNDATION
076-391-38

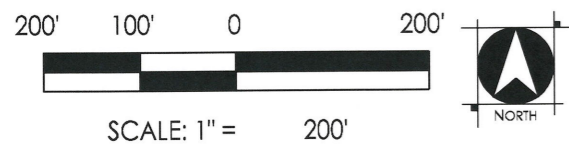
UNIVERSITY OF NEVADA
FOUNDATION
076-391-37

CIELO VISTA DR

PIEDRAS DR

LA POSADA DR

ELECTRIC
POLE (TYP.)




WOOD ROGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

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Truckee Meadows Water Authority

RULE 7

REQUIREMENTS FOR WILL-SERVE COMMITMENT LETTERS



A. Applicability

This Rule applies to and sets forth the responsibilities and requirements of a Person applying to the Authority for a Will-Serve Commitment letter from the Authority for the delivery of water to a new Service or Modified Service.

B. Definitions

1. Terms not defined in this Section shall have the meaning set forth in Rule 1.
2. As used in this Rule:
 - a. "Applicant" shall mean the Person applying for a Will-Serve Commitment letter.
 - b. "Authority Water Resources" shall mean water resources owned by the Authority and previously held within the Will-Serve Commitment Inventory.
 - c. "Current Usage" shall mean the annual quantity of water actually delivered to a Service Property based on most recent usage data as determined by Authority pursuant to Section 1.2, generally expressed in acre-feet per annum or acre-feet per year.
 - d. "Dedicated Water Resource" shall mean water resource credits, water rights, or water rights and necessary facilities accepted for dedication by an Applicant prior to the issuance of a Will-Serve Commitment letter, in order to meet the actual Demand of a new Service or Modified Service and/or Deficit Demand.
 - e. "Deficit Demand" shall mean the difference, as determined by the Authority pursuant to Section 1.2, between the Current Usage at the Service Property and the Demand recognized in the Will-Serve Commitment letter or Historic Demand, if any, to a Service Property.
 - f. "Demand" shall mean the estimated annual quantity of water to be delivered to a Service Property, generally expressed in acre-feet per annum or acre-feet per year.
 - g. "Historic Demand" shall mean the estimated annual quantity of water, as determined by Authority, historically delivered by Authority or Authority's predecessor to a Service Property.
 - h. "Permitted Water Right" shall mean a water right for which the Authority has been issued a permit by the Nevada Division of Water Resources to use for municipal purposes in the Authority's place of use and to be diverted at the Authority's points of diversion.
 - i. "Will-Serve Inventory" shall mean the inventory of uncommitted water resources owned by the Authority which may be made available to Applicants to support an Applicant's Will-Serve Commitment pursuant to this Rule.

Truckee Meadows Water Authority

RULE 7

REQUIREMENTS FOR WILL-SERVE COMMITMENT LETTERS

C. Will-Serve Commitment Letter Required

1. When Required. All Applicants for new Service or Modified Service must file an Application with the Authority for, and if the Authority determines that water resources are required to service the Demand of the new Service or Modified Service, a Will-Serve Commitment letter must be obtained for such service.
2. Methods to Obtain. A Will-Serve Commitment letter may be obtained from the Authority by the dedication to the Authority of Dedicated Water Resources as provided in Section F or by purchase from the Authority as provided in Section G.

D. Responsibilities and Requirements of Applicant

1. The Applicant shall submit, at the time of Application for a Will-Serve Commitment letter, plans and specifications sufficient for the Authority to estimate Demand of the new Service or Modified Service as follows:
 - a. Subdivision plat or parcel map with square footages of lots, including landscaping plans for common irrigation areas showing turf areas with square footage and drip areas with water use calculations; and/or
 - b. Site plan(s) with layout of project, including plumbing and mechanical plans, floor plan(s), and landscaping plans showing turf areas with square footage and drip areas with water use calculations; and/or
 - c. Any other information that the Authority may reasonably require to estimate annual Demand.
2. An Applicant with project(s) requiring Irrigation Service(s) must furnish with the Application a written determination by the Local Government with jurisdiction over the sale of Reclaimed Water as to the extent to which the Local Government will commit to provide Reclaimed Water to the Applicant for some or all of the Irrigation Service Demand.

Use of Reclaimed Water is subject to the requirements of the Authority and NAC 445A to protect and separate the Authority's Potable supplies from Non-Potable water sources. If Applicant project(s) cannot be served by Reclaimed water or backflow protection devices do not meet Authority's Standards, the Applicant must supply water resources pursuant to Section F or G of this Rule sufficient to meet the Irrigation Service(s) Demand for the project(s).



Added: 03/23/01 Amended: 10/01/03; 10/19/05; 01/01/15; 02/19/20

Truckee Meadows Water Authority

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REQUIREMENTS FOR WILL-SERVE COMMITMENT LETTERS

E. Methodology for Calculating Demand and Water Resources Requirement

1. The Applicant's Demand for new Service or Modified Service shall be estimated using best available data and estimating procedures as determined by the Authority and computed as follows:

<u>Type of Unit</u>	<u>Demand (Acre-Feet Per year)</u>
Single family residential lot based on square foot lot size, with a minimum Demand of .11 acre-feet per lot	$\frac{1}{1.1 + (15,000 / \text{Lot size})}$
Mobile home parks with separate irrigation (per space)	0.25
Demand per unit for apartments, duplexes, condominiums, or townhouse units (excluding outside, utility room, laundry room and/or recreation uses)	0.11
Commercial or Industrial Services (including residential utility room/ recreation areas)	The best available data and estimating procedures as determined by the Authority shall be used or estimated average annual Demand as furnished by the Applicant or Customer and accepted by the Authority shall be used.
Irrigation	3.41 acre-feet per acre, or, for drip systems, the Demand as calculated by a landscape architect or other qualified professional and verified by the Authority.

2. The acre-feet required for a new Service or Modified Service will be computed as follows:

Total Acre-Feet Required (AFA) = Total Project Demand x Multiplier

Multiplier = (a) for mainstream Truckee River Rights the multiplier shall be 1.11.

(b) for groundwater rights, the multiplier shall be 1.00.



Added: 03/23/01 Amended: 10/01/03; 06/19/13; 01/01/15; 02/19/20

Truckee Meadows Water Authority

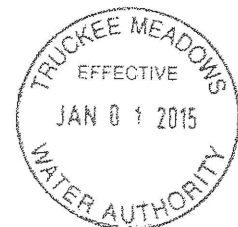
RULE 7

REQUIREMENTS FOR WILL-SERVE COMMITMENT LETTERS

(c) for all other water resources listed in Section F, the multiplier shall be such other number and/or other water sources/rights sufficient to provide an acceptable water supply, including but not limited to return-flow requirements, as determined by the Authority on a case by case basis.

F. Obtaining a Will-Serve Commitment Letter by Dedication of Water Rights

1. Requirement. When an Applicant seeks issuance of a Will-Serve Commitment letter from Dedicated Water Resources, the Applicant must dedicate to the Authority water rights sufficient to meet the Demand of the new Service or Modified Service as calculated pursuant to this Rule. Dedication of water rights will typically occur through conveyance to the Authority of title to the water rights. Under limited circumstances consistent with the Authority's discretion set forth in Section F.3, the Authority may consider acquisition of water rights for dedication through exchanges, leases, future purchases, or other acquisition agreements. Except in case where the Authority has expressly agreed to accept a temporary dedication or except as provided in Section I, dedication of water rights is irrevocable.
2. Types of Water Rights Eligible for Dedication. Water rights acceptable for dedication to the Authority may be comprised of one or a combination of the following. For purposes of calculating the quantity of water rights required for dedication, different multipliers may apply as set forth in this Rule to different types of water rights and/or water sources.
 - a. Mainstream Truckee River rights with a multiplier as set forth in Section E.2 of this Rule.
 - b. Other water rights of acceptable quantity and quality to the Authority with a multiplier as set forth in Section E.2 of this Rule.
 - c. Credits associated with the conversion of a domestic well to the Authority's water system as allowed by the Nevada Division of Water Resources.
 - d. Groundwater rights permitted for the Authority's use by the Nevada Division of Water Resources with a multiplier as set forth in Section E.2 of this Rule.
 - e. Imported or other water sources/rights and additional facilities/treatment necessary to implement or utilize these water sources which the Authority determines provide a sufficient water supply to meet the Demands of the new Service or Modified Service with a multiplier as set forth in Section E.2 of this Rule.



Truckee Meadows Water Authority

RULE 7

REQUIREMENTS FOR WILL-SERVE COMMITMENT LETTERS

- f. Credits established pursuant to this Section I of this Rule.

The Authority may require analysis of drought-year supply or yield of the water right(s), Nevada Division of Water Resources approval of transfer, and/or special conveyance to the Authority's facilities as conditions of accepting dedication of the aforementioned water rights.

3. Acceptance or Rejection of Water Rights. The Authority shall have the right, in its sole discretion, to accept or reject any water right(s) offered for dedication based upon its application of Section F.2 and its consideration of the following:

- a. Whether the priority, quantity, ability to put the water right(s) to beneficial use, drought-year supply, yield, and quality of the water right(s) is sufficient to meet the Demand of the project for new Service or Modified Service;
- b. Whether the water right(s) can be successfully changed under applicable law to allow their use by the Authority for municipal and industrial purposes, at the Authority's place of use, and for diversion at the Authority's points of diversion; and
- c. Whether the Applicant can show unencumbered and clear title to ownership of the water right(s).

G. Obtaining a Will-Serve Commitment Letter by Purchase from the Authority

1. The Authority may maintain and make available from its Will-Serve Inventory of water resources available for commitment to support a Will-Serve Commitment letter to an Applicant's Project within the Service Area as provided in this Section. The Authority shall determine the price of purchasing a Will-Serve Commitment based on a weighted average of all direct and indirect costs associated with the acquisition of water rights held in the Will-Serve Inventory, which shall include, but not be limited to:
 - a. The actual purchase or lease price of the water rights;
 - b. The cost or value of water rights determined through exchanges or trades of different various types of water rights or water resources identified in Section F.2 of this Rule;
 - c. The Authority's cost to research, verify and acquire title to the water rights;



Added: 03/23/01 Amended: 10/01/03; 10/19/05; 01/01/15; 02/19/20

Truckee Meadows Water Authority

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- d. The Authority's cost to change the point of diversion, place and manner of use of the water rights through the Nevada Division of Water Resources;
 - e. An annual carrying charge pursuant to the weighted average interest on the Authority's debt calculated and applied on a daily basis; and
 - f. Miscellaneous fees and office expenses associated with acquiring the water rights.
2. Will-Serve Commitment letters utilizing Will-Serve Inventory can only be purchased to the extent of the demand of Applicant's project and to the extent sufficient inventory exists in the Will-Serve Inventory. An Applicant shall not be permitted to purchase an allocation of more than 100 acre-feet from the Will-Serve Inventory under a single Application unless approved by the General Manager. Only Applicants eligible under Section G.4 may purchase Will-Serve Commitment letters. Priority among eligible Applicants to purchase Will-Serve Commitment letters shall be on a first come, first served basis determined by the date Authority has received a complete Application for the new or Modified Service. The Authority will notify an Applicant with priority in writing of the availability of sufficient inventory to serve the demand of Applicant's project via certified mail, hand delivery, fax, or email, and will reserve such inventory until 5:00 PM PST of the tenth full business day following delivery of such notice. In the event the Applicant does not purchase the Will-Serve Commitment letter by 5:00 PM PST of the tenth full business day following such notice, the Authority will release the inventory to the next eligible Applicant, and the Applicant electing not to purchase the Will-Serve Commitment letter shall forfeit its priority and move to the end of the line of all then eligible Applicants.
 3. The price of purchasing a Will-Serve Commitment letter utilizing the Will-Serve Inventory will be established by the Authority in the following manner:
 - a. Within fifteen (15) days of the end of each month, the Authority will calculate the general price associated with the acquisition of water rights in the Will-Serve Inventory by dividing the costs associated with the acquisition of water rights by the remaining balance of water rights in inventory. The resulting price shall be effective on the first business day of the following week; or
 - b. In the event additional water rights are acquired, the Authority shall determine a new price by dividing the costs associated with the acquisition of water rights by the remaining balance of water rights in inventory. The resulting price shall become effective on the first business day of the following week,



Added: 03/23/01 Amended: 10/01/03; 10/19/05; 03/01/08; 02/19/20

Truckee Meadows Water Authority

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4. The Applicant may purchase a Will-Serve Commitment letter sufficient to meet the Demand for the Applicant's Project within the Service Area from the Authority only if the following conditions are met:
 - a. No water rights acceptable for dedication are appurtenant to the location at which new Service or Modified Service is being sought; or
 - b. The Applicant does not have any water rights banked with or previously conveyed to the Authority or other Local Government which remain uncommitted to a Project but could be available for Applicant's Project; or
 - c. The Applicant does not own any water rights that could be dedicated to the Authority pursuant to Section F of this Rule; and
 - d. The Authority has a sufficient inventory of water rights, in both quantity and type of resource, in the Will-Serve Inventory to meet the Demand for the Applicant's Project.

Where the Applicant is a Local Government or State agency seeking new or Modified Service, the Applicant may be granted an exemption to Section G.4(c) if Applicant's Water Resource(s) are committed to current or future water quality purposes, return flow requirements, effluent reuse, recharge, drought reserve, protection against demand fluctuations or such other appropriate water resource management or public use purposes approved by the Board.

Where the Applicant is a Wholesale Service applying for new or Modified Service on behalf of the owner of a retail project within the Wholesale Service's retail service area, Section G.4 shall apply to the owner of the of retail project as if the owner of the retail project were the Applicant.

H. Fees and Issuance of Will-Serve Commitment Letter

1. Fees Related to Dedication of Water Rights. Prior to the acceptance of Dedicated Water Resources to the Authority, Applicants will pay fees provided in Rate Schedule BSF to research and verify title, and the Applicant shall provide the Authority all documents and maps evidencing the water rights, including but not limited to (i) Nevada Division of Water Resources Application to Change and supporting Map and/or Report of Conveyance, and Abstract of Title; and (ii) copies of permits and/or certificates issued by the Nevada Division of Water Resources evidencing water rights, and Applicant is responsible for the costs as determined by the Nevada Division of Water Resources for the submission of a Report of Conveyance, Abstract of Title and all related documents as part of the application process with the Nevada Division of Water Resources.



Added: 03/23/01 Amended: 10/01/03; 10/19/05; 07/19/06; 01/19/12; 01/01/15; 02/19/20

Truckee Meadows Water Authority

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2. Fees for Issuance of Will-Serve Commitment letter. In addition to any other fees in this Rule, Applicants shall pay fees provided in Rate Schedule BSF to prepare the documents necessary to issue each Will-Serve Commitment letter.
3. Water Resource Sustainability Fee. Applicants for new or Modified Service within the Service Area relying on any water right other than the conversion of domestic well, imported water sources or groundwater rights for a Will-Serve Commitment letter will pay to the Authority's water resource sustainability fund the sum of \$1,600.00 per AF of Demand related to the new Service or Modified Service and to Deficit Demand prior to the issuance of the Will-Serve Commitment letter. Funds collected under this fee must be used for projects that improve the Authority's drought resiliency and water resource sustainability.
4. The Applicant is responsible for delivery of the Authority-issued Will-Serve Commitment letter and accompanying documentation to appropriate government entities.
5. Banking Water Rights. The Authority may, in its sole discretion, allow any Person to bank water rights with the Authority for future use by any Person. In the event an individual, any joint venture, partnership, corporation or other entity desires to dedicate water rights to the Authority for the Authority to hold or bank for the future use by the Applicant, or Applicant's designated successor, for a Will-Serve Commitment letter, the Applicant, or Applicant's designated successor, will pay applicable fees set forth in this Section and execute a banking agreement with the Authority. The Applicant, or Applicant's designated successor, shall be billed by the Authority for any fees such as Extension of Time associated with maintaining banked water rights in good standing with the Nevada Division of Water Resources.
6. Issuance of Will-Serve Commitment Letter After Dedication of Water Rights. After the Applicant has satisfied the requirements of Section F and paid the fees under Section H, and the Authority has accepted the Dedicated Water Resource, the Authority shall:
 - a. Prepare the necessary documentation to deed the Dedicated Water Resource to the Authority or Local Government;
 - b. Record such deed at the County Recorder; and
 - c. Upon execution of such deed and acceptance of the Dedicated Water Resource by the Authority, issue a Will-Serve Commitment letter to the Applicant for new Service or Modified Service at the location requested by Applicant.



Added: 10/01/03 Amended: 03/17/04; 10/19/05; 07/19/06; 03/01/08; 01/19/12; 06/19/13; 01/01/15; 01/16/19; 02/19/20

Truckee Meadows Water Authority

RULE 7

REQUIREMENTS FOR WILL-SERVE COMMITMENT LETTERS

7. Issuance of Will-Serve Commitment Letter After Purchase. After an Applicant has satisfied the requirements of Section G, paid the price determined in Section G, and paid the fees under Section H, the Authority will issue a Will-Serve Commitment letter to the Applicant for new Service or Modified Service at the location requested by the Applicant.
8. Obligation to Serve. Until such time as the Authority has issued a Will-Serve Commitment letter to an Applicant and facilities are installed pursuant to the Authority's rules to delivery water to the Project, the Authority is not obligated to provide the new Service or Modified Service.
9. Will-Serve Commitments Appurtenance. Will-Serve Commitment letters issued by the Authority and Historic Demand are appurtenant to the Service Property.

I. Project Cancellation, Expiration or Termination and Adjustments

1. A Will-Serve Commitment letter is automatically revoked and shall be null and void without further notice from the Authority on the date (i) Applicant provides written notice to the Authority that Applicant's project is canceled; or (ii) approval for Applicant's project expires or is terminated by the applicable governing body. In such event and upon written request of the Applicant:
 - a. The Authority shall reconvey to the Applicant any water rights dedicated by the Applicant pursuant to Section F of this Rule for the revoked Will-Serve Commitment Letter; or
 - b. In the Authority's sole discretion, the Authority may hold or bank Dedicated Water Resources or Authority Water Resources in connection with the revoked Will-Serve Commitment letter for the use by the Applicant, or Applicant's designated successor or assign, for a new Will-Serve Commitment letter for another project(s); or
 - c. The Authority shall refund to the Applicant, without interest, the full amount paid to the Authority by the Applicant under Sections H.3 and G as applicable provided (i) the Applicant submits a written request for such a refund to the Authority within ninety (90) days of the issuance of the Will-Serve Commitment letter, or (ii) the total amount eligible for refund is \$100,000 or less. In the event the Authority grants a refund under this subsection, the Authority will return the Authority Water Resources supporting the revoked Will-Serve Commitment Letter to the Will-Serve Inventory; or



Truckee Meadows Water Authority

RULE 7

REQUIREMENTS FOR WILL-SERVE COMMITMENT LETTERS

- d. The Authority shall credit (credited in acre-feet) the Applicant, or Applicant's designated successor or assign, the amount of Water Resources purchased by Applicant under Section G, which credit can be applied to Application(s) for new Service and Modified Service within the Authority's Service Area, subject to compliance with Authority's Rules, as directed in writing by the Applicant, or Applicant's designated successor or assign.
2. Will-Serve Commitment Adjustments and Issuance of Water Resource Credits. Adjustments to the quantity of water resources committed to a Service Property may be made pursuant to this Section where:
 - a. An existing building(s) or facility(ies) has been demolished or removed and service to the Service Property is disconnected. A water resource credit (credited in acre-feet) will be issued to the owner of the Service Property under this Section 1.2.a equal to the Demand in the Will-Serve Commitment letter or Historic Demand, if:
 - (1) The owner of the Service Property on which service is to be disconnected records a deed restriction with the County Recorder in form acceptable to Authority declaring that there is no entitlement to water resources and/or water service from the Authority benefiting such parcel(s) at the Service Property; and
 - (2) Service at the Service Property is retired in accordance with Rule 6.

After completion of the requirements of Section 1.2.a(1) and 1.2.a(2) the Authority's commitment to deliver water to the Service Property shall be deemed revoked and any Applicant for the delivery of water to the Service Property must submit an Application for new Service and satisfy all requirements in this Rule, including supplying water resources pursuant to Section F or G prior to issuance of a Will-Serve Commitment letter for the new Service at the Service Property.
 - b. The projected Demand of a new Service or Modified Service at the Service Property is less than the Demand in the Will-Serve Commitment letter or the Historic Demand at the Service Property, in which event a water resource credit (credited in acre-feet) will be issued to the owner of the Service Property under this Section 1.2.b equal to the difference. If the projected Demand of the new Service or Modified Service is greater than the Demand in the Will-Serve Commitment letter or the Historic Demand at the Service Property, no adjustment will be made or water resource credit issued, and the Applicant must dedicate sufficient water resources to the Authority in accordance with this Rule equal to the projected increase in Demand plus any Deficit Demand at the Service Property prior to the issuance of a new or revised Will-Serve Commitment letter for any new Service or Modified Service at the Service Property.



Added: 10/01/03 Amended: 03/17/04; 10/19/05; 07/19/06; 03/01/08; 01/19/12; 06/19/13; 01/01/15; 02/19/20

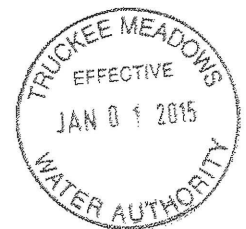
Truckee Meadows Water Authority

RULE 7

REQUIREMENTS FOR WILL-SERVE COMMITMENT LETTERS

- c. The owner(s) of a Service Property requests an adjustment of Demand based on Current Usage at the Service Property and:
- (1) The Service Property is not located on a parcel created by subdivision plat (or map) pursuant to NRS Chapter 278;
 - (2) The Demand being adjusted is not a Residential Service;
 - (3) The person(s) requesting the adjustment owns all real property at the Service Property benefitted by the quantity of water committed to the Service Property; and
 - (4) There is at least three (3) or more years of continuous metered water use data or other historic Demand data as determined by the Authority to establish the Current Usage for the Service Property being adjusted.

If the Service Property satisfies the requirements of Section 1.2.c and Demand in the Will-Serve Commitment letter or Historic Demand is greater than the Current Usage, Authority shall issue a water resource credit (credited in acre-feet) to the owner of the Service Property equal to the difference and issue a revised Will-Serve Commitment letter to the Service Property. If a Deficit Demand exists at the Service Property no adjustment will be made or water resource credit issued.



Truckee Meadows Water Authority

RULE 7

REQUIREMENTS FOR WILL-SERVE COMMITMENT LETTERS

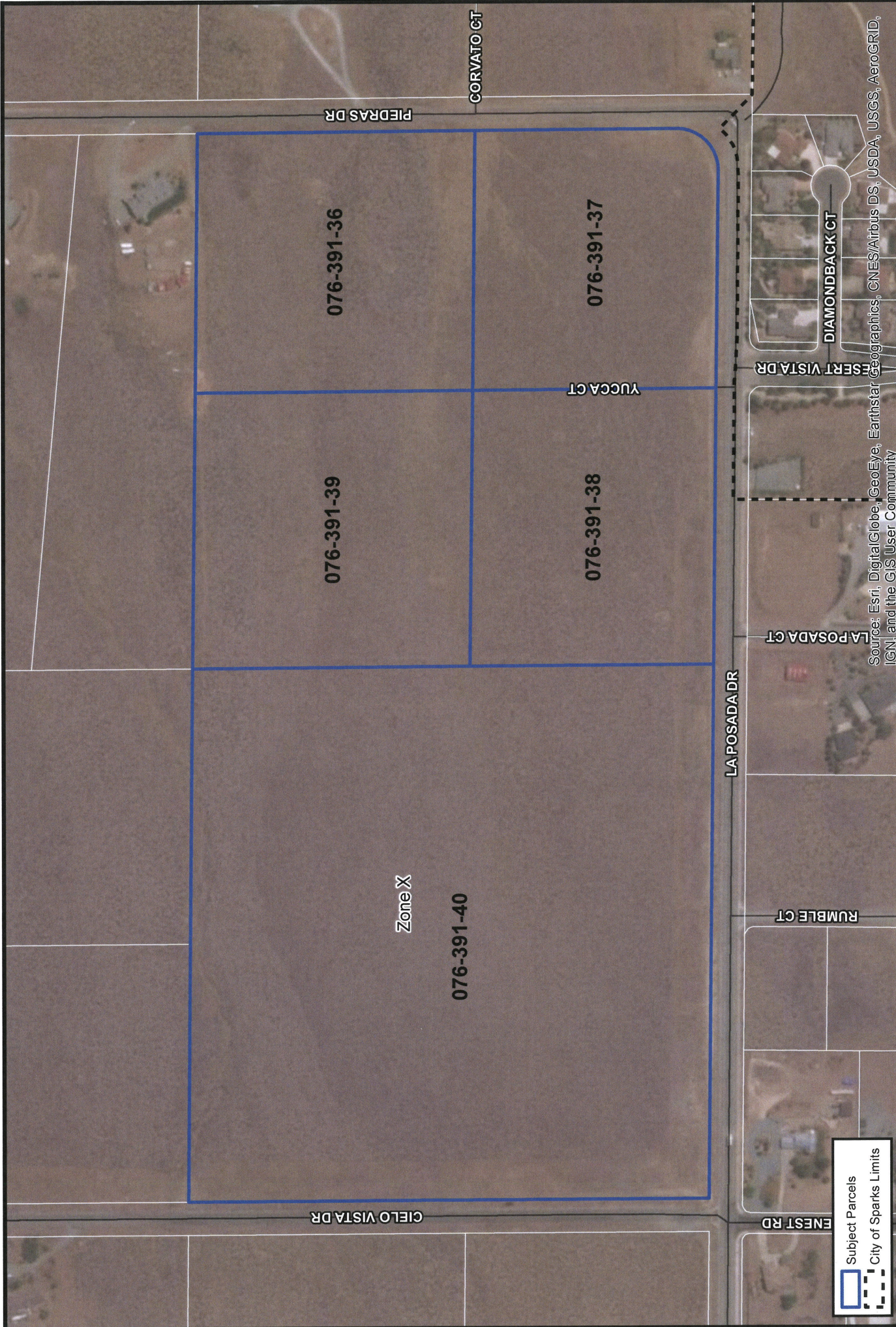
3. Water resources supporting any water resource credits issued by the Authority to the owner of a Service Property are owned by the Authority and shall be held for the benefit of the owner(s) of the Service Property, or his designated successor or assign subject to the terms and conditions set forth in Authority's water resource banking agreement. Water resource credits:
 - a. Shall be issued in acre-feet and shall state quantity in terms of Demand;
 - b. May be used in connection with an Application for new Service or Modified Service and is acceptable to meet the Demand under this Rule;
 - c. Must be used in the Authority's Service Area;
 - d. In areas where sewer flows are not returned to the Truckee River, additional resources must be supplied pursuant to Sections F or G for sufficient for return flows;
 - e. Shall be issued to the owner of the Service Property;
 - f. May be sold, assigned or transferred to other parties upon notification to and written approval from the Authority and only to the extent the water resource credits exceed one acre foot. The Authority may assist with such sales on request.

J. General Provisions

1. Nothing in this Rule shall be construed to usurp the planning functions of the Local Governments. Applicants shall be deemed in compliance with the provisions of this Rule if the Applicant causes the Local Government(s) to sell or lease to the Authority, pursuant to such Local Government(s) Ordinances, sufficient resources from resources held by the Cities or County, if such procedure is required by local Ordinance.





Added: 03/01/08 Amended: 01/19/12; 01/01/15; 02/19/20



FEMA Flood Zones


La Posada Master Plan and Regulatory Zoning Amendments

May, 2021

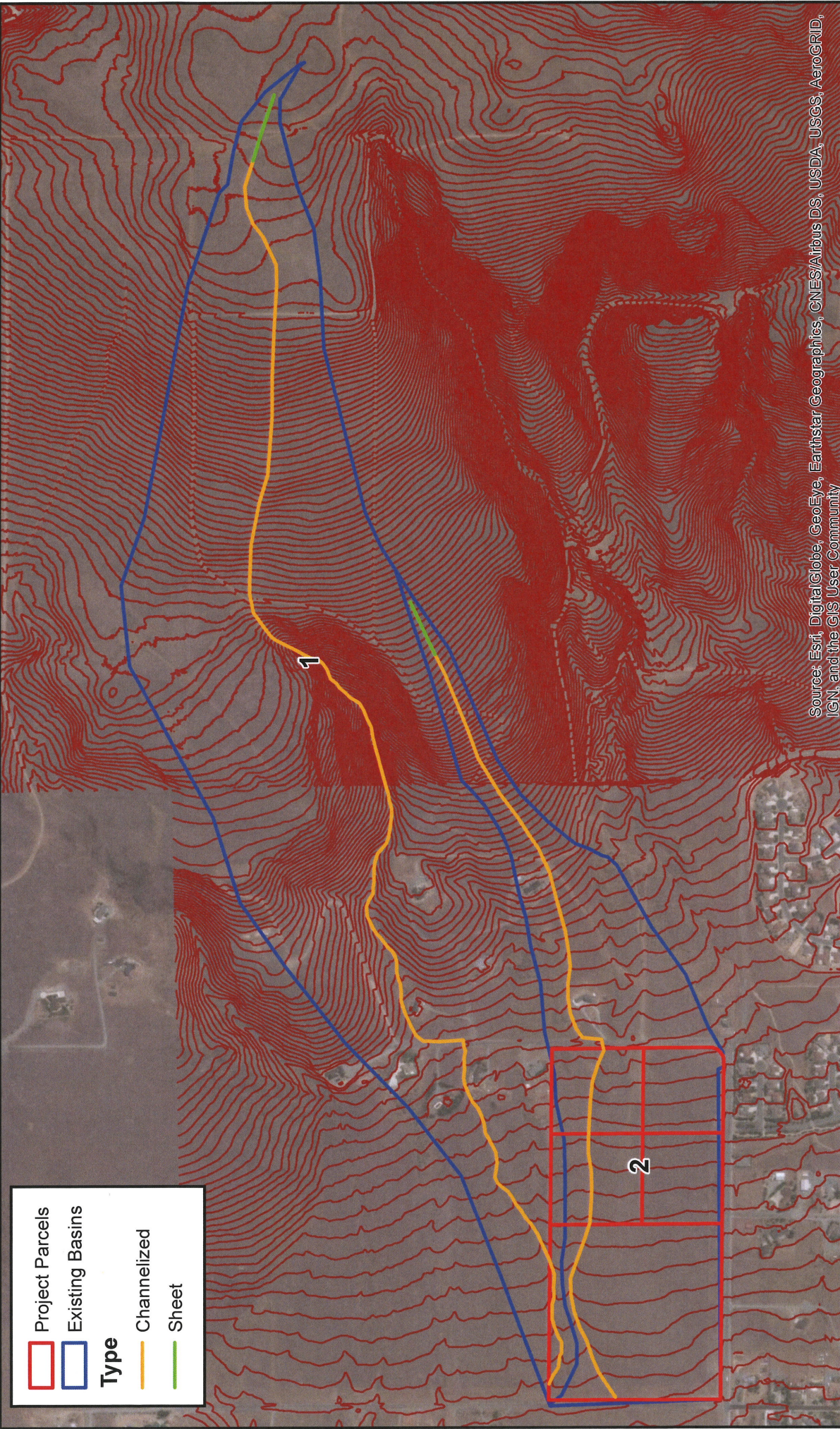



Subject Parcels

City of Sparks Limits



WOOD RODGERS
 BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
 1381 Corporate Boulevard
 Reno, NV 89502
 Tel: 775.823.4068
 Fax: 775.823.4066



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community








EXISTING TOPO
LA POSADA
WASHOE COUNTY
MAY, 2021

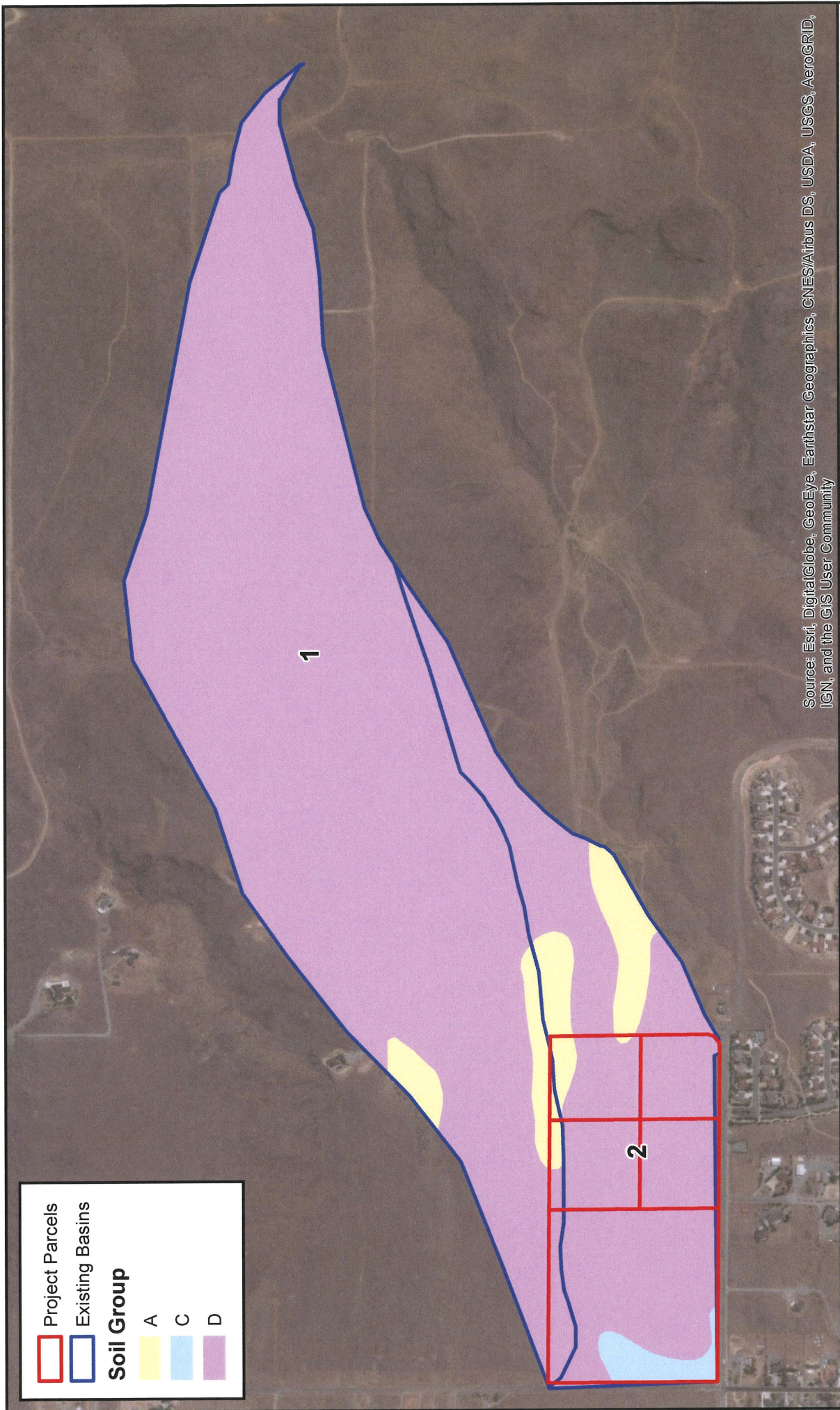
NOTES

PRELIMINARY

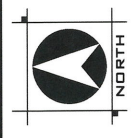


WOOD RODGERS
 BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
 1361 Corporate Boulevard
 Reno, NV 89502
 Tel: 775.823.4068
 Fax: 775.823.4066

	Project Parcels
	Existing Basins
Soil Group	
	A
	C
	D



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

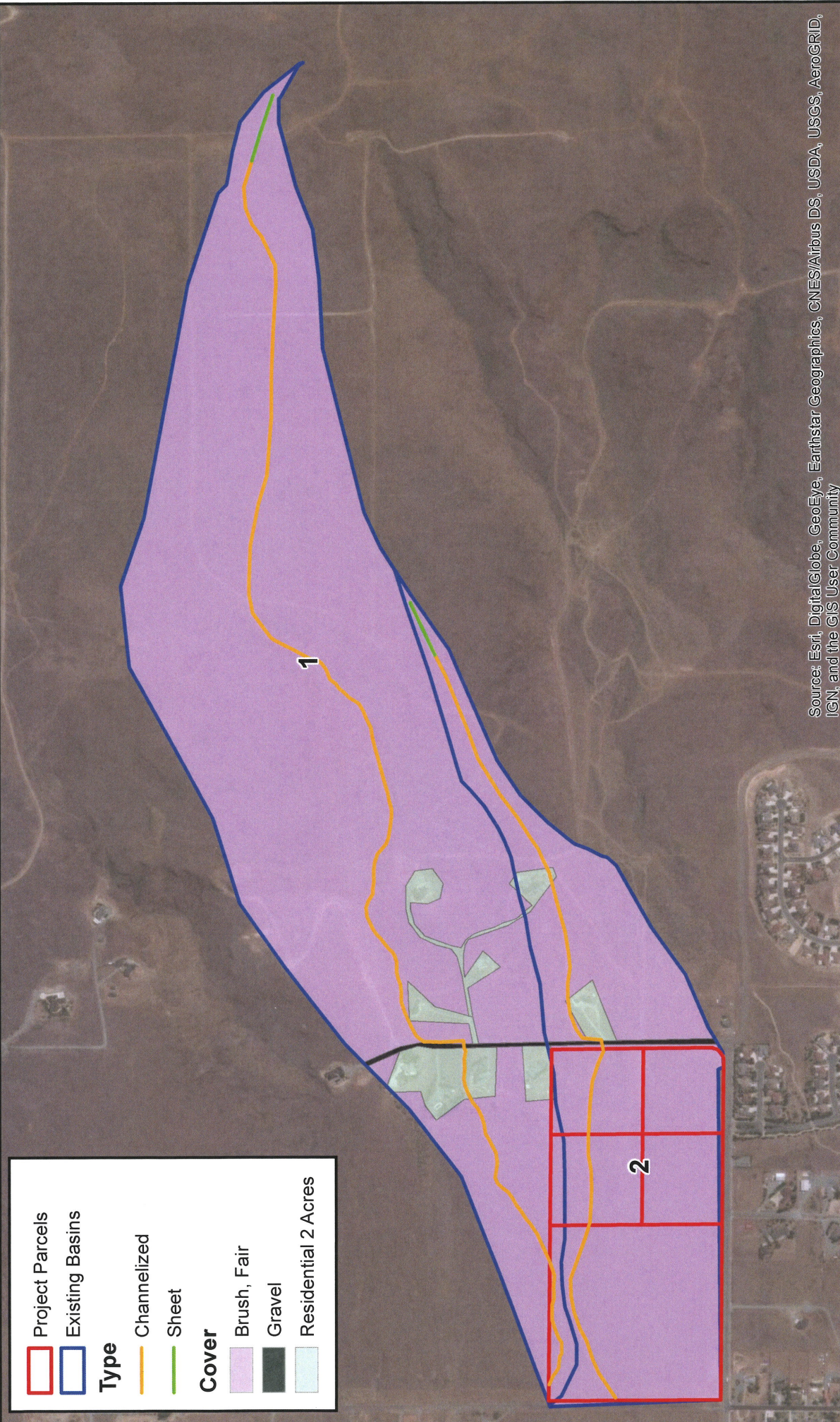


SOILS
LA POSADA
WASHOE COUNTY
MAY, 2021
 NOTES

PRELIMINARY



WOOD RODGERS
 BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
 1361 Corporate Boulevard
 Reno, NV 89502
 Tel: 775.823.4066
 Fax: 775.823.4066



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Project Parcels
Existing Basins

Type

Channelized
Sheet

Cover

Brush, Fair
Gravel
Residential 2 Acres

EXISTING BASINS AND LAND USE

LA POSADA
WASHOE COUNTY
MAY, 2021

NOTES



PRELIMINARY



WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
1861 Corporate Boulevard
Reno, NV 89502
Tel: 775.823.4068
Fax: 775.823.4066

Watershed 1			
Land Use	Soil	Area (ac.)	Curve Number
Residential 2 Acres	A	3.06	46
Residential 2 Acres	D	9.90	82
Gravel	A	0.12	76
Gravel	D	0.84	91
Brush, Fair	A	5.39	35
Brush, Fair	D	258.46	77
Total Area (ac.)		277.79	
Final Curve Number			76.06

Watershed 2			
Land Use	Soil	Area (ac.)	Curve Number
Residential 2 Acres	A	0.11	46
Residential 2 Acres	D	3.16	82
Gravel	A	0.22	76
Gravel	D	0.65	91
Brush, Fair	A	13.53	35
Brush, Fair	C	5.22	70
Brush, Fair	D	87.57	77
Total Area (ac.)		110.46	
Final Curve Number			71.72

Time of Concentration
Existing Basins

TIME OF CONCENTRATION																	
Drainage Basin	Drainage Area (AC)	Initial Flow Time, T _i					Travel Time, T _t					Total (T _i +T _t)	Urbanized Basins Check	Final			
		Overland Flow					Channelized Flow							T _c (min)	T _c * (min)	T _c (min)	TLAG (min)
		L _i (ft)	S (ft/ft)	R	T _i (min)		L _s (ft)	S (ft/ft)	V (ft/s)	T _{t1} (min)	T _c (min)						
1	277.79	499.4	0.0300	0.61	13.6	10057.9	0.0857	3.0	55.9	69.5	68.7	69.5	41.70				
2	110.46	419.5	0.0953	0.56	9.5	5888.1	0.0948	3.0	32.7	42.2	45.0	42.2	25.34				



NOAA Atlas 14, Volume 1, Version 5
Location name: Sparks, Nevada, USA*
Latitude: 39.644°, Longitude: -119.658°
Elevation: 5070.65 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerals](#)

PF tabular

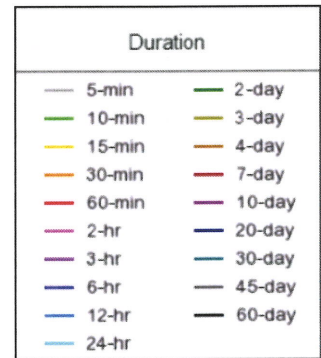
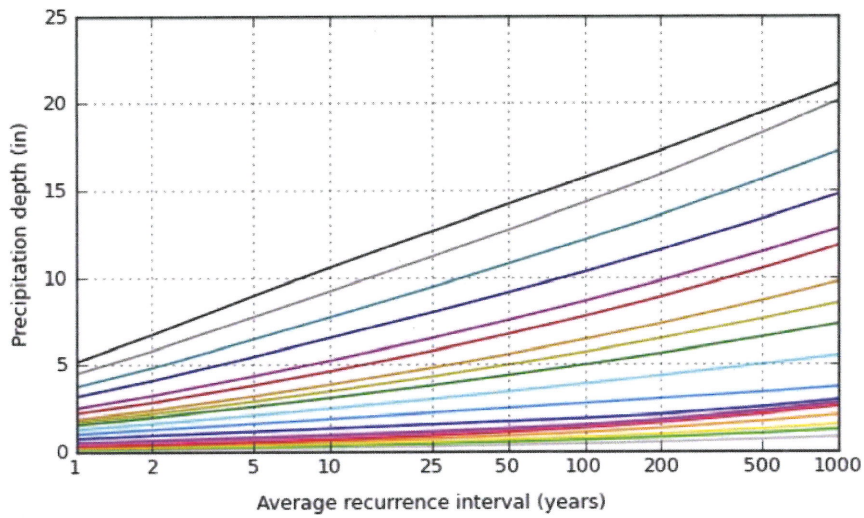
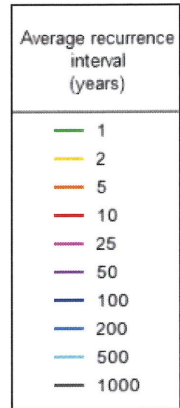
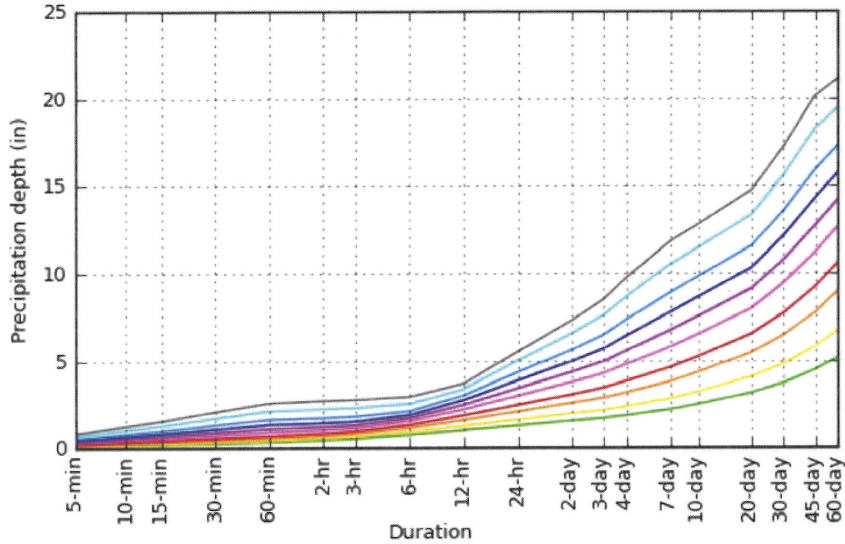
PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.105 (0.088-0.121)	0.131 (0.109-0.153)	0.175 (0.147-0.207)	0.217 (0.182-0.257)	0.286 (0.235-0.345)	0.350 (0.280-0.429)	0.427 (0.332-0.532)	0.521 (0.390-0.665)	0.674 (0.478-0.893)	0.817 (0.554-1.11)
10-min	0.159 (0.134-0.184)	0.200 (0.167-0.233)	0.267 (0.224-0.315)	0.331 (0.276-0.391)	0.436 (0.357-0.525)	0.533 (0.426-0.652)	0.650 (0.505-0.810)	0.792 (0.593-1.01)	1.03 (0.727-1.36)	1.24 (0.843-1.69)
15-min	0.197 (0.165-0.228)	0.247 (0.206-0.289)	0.331 (0.277-0.390)	0.410 (0.343-0.485)	0.540 (0.443-0.650)	0.661 (0.528-0.809)	0.806 (0.626-1.00)	0.982 (0.735-1.25)	1.27 (0.901-1.69)	1.54 (1.05-2.10)
30-min	0.265 (0.223-0.307)	0.333 (0.278-0.389)	0.446 (0.374-0.525)	0.552 (0.461-0.653)	0.727 (0.596-0.876)	0.890 (0.711-1.09)	1.09 (0.843-1.35)	1.32 (0.990-1.69)	1.71 (1.21-2.27)	2.08 (1.41-2.82)
60-min	0.329 (0.276-0.379)	0.412 (0.344-0.481)	0.552 (0.462-0.649)	0.683 (0.571-0.809)	0.900 (0.738-1.08)	1.10 (0.880-1.35)	1.34 (1.04-1.67)	1.64 (1.23-2.09)	2.12 (1.50-2.81)	2.57 (1.74-3.49)
2-hr	0.434 (0.381-0.504)	0.540 (0.476-0.627)	0.693 (0.604-0.808)	0.827 (0.711-0.963)	1.03 (0.866-1.21)	1.22 (0.996-1.44)	1.44 (1.15-1.73)	1.72 (1.33-2.10)	2.23 (1.65-2.84)	2.71 (1.94-3.53)
3-hr	0.524 (0.465-0.599)	0.653 (0.583-0.749)	0.818 (0.724-0.936)	0.953 (0.835-1.10)	1.15 (0.988-1.32)	1.31 (1.12-1.53)	1.52 (1.26-1.79)	1.80 (1.47-2.16)	2.30 (1.82-2.87)	2.77 (2.14-3.56)
6-hr	0.750 (0.668-0.849)	0.937 (0.835-1.07)	1.16 (1.03-1.32)	1.33 (1.17-1.51)	1.55 (1.35-1.78)	1.72 (1.48-1.98)	1.89 (1.61-2.20)	2.11 (1.76-2.49)	2.52 (2.07-3.02)	2.94 (2.37-3.59)
12-hr	1.01 (0.900-1.14)	1.27 (1.13-1.43)	1.60 (1.42-1.81)	1.86 (1.64-2.11)	2.20 (1.92-2.51)	2.47 (2.13-2.84)	2.74 (2.33-3.18)	3.01 (2.51-3.54)	3.37 (2.74-4.04)	3.68 (2.94-4.49)
24-hr	1.27 (1.14-1.44)	1.61 (1.44-1.82)	2.08 (1.85-2.34)	2.45 (2.17-2.77)	2.98 (2.62-3.37)	3.40 (2.96-3.86)	3.85 (3.32-4.40)	4.32 (3.68-4.97)	4.97 (4.16-5.78)	5.50 (4.52-6.46)
2-day	1.54 (1.36-1.76)	1.96 (1.73-2.24)	2.57 (2.26-2.93)	3.06 (2.68-3.49)	3.77 (3.26-4.32)	4.34 (3.72-5.00)	4.96 (4.19-5.75)	5.61 (4.68-6.56)	6.54 (5.34-7.75)	7.30 (5.85-8.77)
3-day	1.69 (1.49-1.94)	2.16 (1.91-2.47)	2.87 (2.52-3.28)	3.44 (3.01-3.94)	4.27 (3.69-4.90)	4.95 (4.24-5.71)	5.68 (4.80-6.59)	6.47 (5.38-7.55)	7.59 (6.18-8.99)	8.51 (6.80-10.2)
4-day	1.84 (1.63-2.11)	2.37 (2.08-2.71)	3.17 (2.78-3.63)	3.83 (3.34-4.38)	4.78 (4.13-5.49)	5.56 (4.75-6.41)	6.41 (5.41-7.43)	7.32 (6.08-8.55)	8.64 (7.01-10.2)	9.72 (7.75-11.6)
7-day	2.19 (1.90-2.53)	2.81 (2.45-3.26)	3.79 (3.29-4.39)	4.60 (3.97-5.33)	5.76 (4.92-6.70)	6.71 (5.67-7.85)	7.75 (6.47-9.12)	8.86 (7.30-10.5)	10.5 (8.44-12.6)	11.8 (9.35-14.3)
10-day	2.48 (2.15-2.87)	3.21 (2.79-3.71)	4.32 (3.75-5.01)	5.22 (4.51-6.05)	6.49 (5.54-7.55)	7.52 (6.36-8.77)	8.62 (7.21-10.1)	9.78 (8.08-11.6)	11.4 (9.26-13.7)	12.8 (10.2-15.5)
20-day	3.15 (2.75-3.63)	4.07 (3.55-4.69)	5.45 (4.74-6.29)	6.52 (5.65-7.52)	7.97 (6.86-9.21)	9.11 (7.78-10.6)	10.3 (8.70-12.0)	11.6 (9.66-13.6)	13.3 (10.9-15.9)	14.7 (11.9-17.7)
30-day	3.71 (3.23-4.30)	4.81 (4.20-5.57)	6.44 (5.60-7.46)	7.70 (6.67-8.91)	9.41 (8.10-10.9)	10.7 (9.17-12.5)	12.1 (10.3-14.2)	13.6 (11.4-15.9)	15.6 (12.9-18.5)	17.2 (14.0-20.6)
45-day	4.46 (3.89-5.09)	5.79 (5.04-6.60)	7.73 (6.71-8.81)	9.20 (7.96-10.5)	11.2 (9.60-12.8)	12.7 (10.8-14.6)	14.3 (12.1-16.5)	15.9 (13.3-18.5)	18.2 (15.1-21.4)	20.1 (16.4-23.8)
60-day	5.14 (4.46-5.88)	6.71 (5.82-7.66)	8.95 (7.75-10.2)	10.6 (9.13-12.1)	12.6 (10.9-14.5)	14.2 (12.1-16.3)	15.7 (13.3-18.1)	17.3 (14.5-20.0)	19.4 (16.1-22.7)	21.1 (17.3-24.9)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 39.6440°, Longitude: -119.6580°

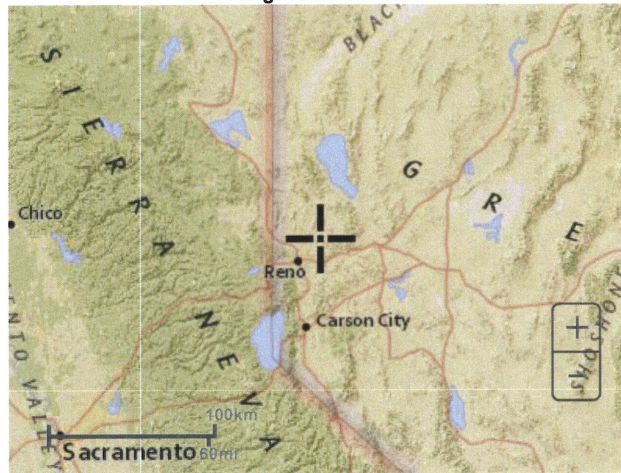


Maps & aerials

Small scale terrain



Large scale terrain



Large scale map



Large scale aerial



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[National Oceanic and Atmospheric Administration](#)
[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)

Project: LaPosada Simulation Run: 5year Existing

Start of Run: 01Jan2021, 00:00

Basin Model: Existing

End of Run: 02Jan2021, 00:00

Meteorologic Model: 5-year

Compute Time: 07May2021, 14:40:13

Control Specifications:Control 1

Hydrologic Element	Drainage Area (MI ²)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
1	0.4340	32.1	01Jan2021, 12:49	10.2
2	0.1726	9.6	01Jan2021, 12:32	2.9

Project: LaPosada Simulation Run: 100year Existing

Start of Run: 01Jan2021, 00:00

Basin Model: Existing

End of Run: 02Jan2021, 00:00

Meteorologic Model: 100-year

Compute Time: 07May2021, 14:40:08

Control Specifications: Control 1

Hydrologic Element	Drainage Area (MI ²)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
1	0.4340	174.2	01Jan2021, 12:46	36.4
2	0.1726	77.8	01Jan2021, 12:29	12.0