City of Fernley

NEVADA

Members
Tessa Garvin - Chairwoman
Jenni McCullar - Vice Chair
Barry Williams Sr. - Commissioner
Cody Wagner - Commissioner
Jacob VanderHeiden - Commissioner
Robert Flores - Commissioner
Angela Lewis - Commissioner
Julianne White - Alternate

AGENDA
Regular Meeting
Planning Commission
Wednesday, May 13, 2026 • 5:00 PM

Fernley City Council Chambers, 595 Silver Lace Boulevard, Fernley, NV 89408

Zoom information:
Please click the following link to join the webinar: https://us02web.zoom.us/j/82966343247, or one tap mobile: 12532158782, Dial: 669 900 9128, Webinar ID: 829 6634 3247

Public Notice: This agenda has been physically posted in compliance with 241.020 at Fernley City Hall, 595 Silver Lace Blvd. In addition, this agenda has been electronically posted in compliance with NRS 241.020(3) at www.cityoffernley.org and NRS 232.2175 at https://notice.nv.gov/ To obtain further documentation regarding posting, please contact the City Clerk's Office at (775) 784-9830 or cityclerk@cityoffernley.org

Public Comment: Those wishing to address the Planning Commission may submit public comment through the online public comment form, or by sending an email to cityclerk@cityoffernley.org. Comments received prior to 4:00 pm the day of the meeting will be provided to the Planning Commission and added to the record but will not be read during the live meeting. Public comments received after 4 pm the day of the meeting will be included in the record but may not reach commission members before action is taken. Public comment, whether on action items or public comment, is limited to three (3) minutes per person. Unused time may not be reserved by the speaker, nor allocated to another speaker. The public may comment on any matter that is not specifically included on an agenda as an action item or comment on a specific agenda item. Items not included on the agenda cannot be acted upon other than to place them on a future agenda. Additionally, if you wish you can comment in person at the meeting or use the Raise your Hand feature in Zoom (*9 if you are participating via phone).

Accommodations: The Planning Commission and staff will make reasonable efforts to assist and accommodate individuals with disabilities desiring to attend the meeting. Please contact the City Clerk's Office at (775) 784-9830 in advance so that arrangements can be made.

Supporting Material: Staff reports and supporting material for the meeting are available at the City Clerk's Office, and on the City's website at www.cityoffernley.org Pursuant to NRS 241.020(6), supporting material is made available to the general public at the same time it is provided to the City Council.

Order of Business: The presiding officer shall determine the order of the agenda. The Fernley Planning Commission may combine two or more agenda items for consideration; remove an item from the agenda; or delay discussion relating to an item on the agenda at any time. All items are action items unless otherwise noted. Items scheduled to be heard at a specific time will be heard no earlier than the stated time but may be heard later.

1. INTRODUCTORY ITEMS

1.1. Pledge of Allegiance

1.2. Roll Call

1.3. Public Forum

1.4. (For Possible Action) Approval of Agenda

1.5. (Possible Action) Approval of Minutes

2. STAFF REPORTS

2.1. (For Possible Action) Discussion and possible action regarding a Waiver application (WVR26001) submitted by HG Construction on behalf of the Fernley Improvement Club to waive parking and landscaping requirements for a site located at 10 N Center Street in a Commercial (C2) zoning district. (APN: 020-015-05)

3. GENERAL BUSINESS

3.1. Presentation by Wood Rodgers to review the current and future traffic demands of Fernley roadways.

3.2. Presentation from Mendy Elliot from Summit Government Affairs regarding Nevada Assembly Bill 540 signed into law in 2025.

4. PUBLIC HEARINGS

A. DISCUSSION WITH PLANNING COMMISSION & STAFF B. PUBLIC INPUT C. ADDITIONAL DISCUSSION WITH PLANNING COMMISSION & STAFF D. COUNCIL ACTION OR DIRECTION TO STAFF

4.1. (For Possible Action) Discussion and possible action regarding Bill #385, associated with PD05-06MOD, a Major Modification to the handbook associated with the Friendly 5 Planned Development requested by Scott Berge to modify : 1) the proposed arterial roadway connection from the northern boundary of the development to U.S. Highway 50, 2) adding a new section to the handbook to establish design standards and requirements for the arterial roadway connection, and 3) revising Condition 4.K to modify the timing requirement for construction of the roadway connection, along with other clarifying revisions. The subject site is generally located on both the north and south sides of Farm District Road, approximately 800 linear feet east of its intersection with Jessica Lane.

4.2. (For Possible Action) Discussion and possible action regarding TSM26001, a Tentative Subdivision Map requested by Fred Altmann to allow for 253 townhomes on an approximately 16.88 acre lot zoned MF30 and located north of Westerlund Lane, east of Silverlace Boulevard, west of 6th Street, and south of US 50 Alternate. APN 021-103-61.

5. CHAIR AND COMMISSION ITEMS

(SUMMARY OR ACTIVITY REPORTS ON PLANNING ISSUES, ACTIVITIES OR ORGANIZATIONS IN WHICH INDIVIDUAL MEMBERS MAY BE INVOLVED. THIS ITEM IS TO PROVIDE GENERAL INFORMATION TO THE COMMISSION AND PUBLIC. NO DISCUSSION SHALL TAKE PLACE AND NO ACTION WILL BE TAKEN.)

6. PLANNING DIRECTOR ITEMS

(ACTIVITY SUMMARY OR UPDATES ON PROJECTS THAT HAVE BEEN PREVIOUSLY REVIEWED BY THE PLANNING COMMISSION. THIS ITEM IS TO PROVIDE GENERAL INFORMATION TO THE COMMISSION AND PUBLIC. NO DISCUSSION SHALL TAKE PLACE AND NO ACTION WILL BE TAKEN.)

6.1. Update on City Council actions from April 15, 2026 and May 6, 2026.

6.2. General Planning Department updates and announcements.

7. PUBLIC FORUM

8. ADJOURNMENT

Next Meeting: June 10th @ 5pm

MINUTES OF THE

FERNLEY PLANNING COMMISSION MEETING

APRIL 8, 2026

1. INTRODUCTORY ITEMS

1.1. Pledge of Allegiance

1.2. Roll Call

Chairwoman Tessa Garvin, Commissioner Jacob VanderHeiden, Commissioner Cody Wagner, Commissioner Angela Lewis, Commissioner Robert Flores, Vice Chair Jenni McCuller, Commissioner Julianna White, Acting City Manager Lydia Altick, Planning director Michele Rambo, City Attorney Aaron Mouritsen, Project Manager Alex Lopez Martinez, Deputy City Clerk Sandy Harris, Admin specialist II Rachael Goetz. **Absent:** Commissioner Barry Williams Sr.

1.3. Public Forum

None

1.4. (For Possible Action) Approval of Agenda

Motion: I MOVE TO APPROVE THE AGENDA. **Action:** Approve, **Moved by:** Commissioner Cody Wagner, **Seconded by:** Commissioner Angela Lewis. **Vote:** Passed, **Summary:** Yes 7 **Yes:** Vice Chairwoman McCullar, Commissioner Lewis, Commissioner Wagner, Commissioner VanderHeiden, Commissioner Flores, Chairwoman Garvin, Alternate Commissioner Holt.

1.5. (Possible Action) Approval of Minutes

Motion: I MOVE TO APPROVE THE MINUTES FROM THE PRIOR MEETING OF THE PLANNING COMMISSION. **Action:** Approve, **Moved by:** Commissioner Robert Flores, **Seconded by:** Commissioner Jake VanderHeiden. **Vote:** Passed, **Summary:** Yes 7 **Yes:** Vice Chairwoman McCullar, Commissioner Lewis, Commissioner Wagner, Commissioner VanderHeiden, Commissioner Flores, Chairwoman Garvin, Alternate Commissioner Holt

2. GENERAL BUSINESS

2.1. Discussion and possible action to formally establish a Steering Committee for the City of Fernley Comprehensive Master Plan (CMP) Update and for the Planning Commission to appoint members for Steering Committee membership.

Michelle Rambo, Planning Director, stated Commissioner's McCullar, VanderHeiden and Flores have submitted their nominees to her. It was decided that 7 or 8 committee nominees were needed. The commission was worried about getting members to commit due to the lack of specifics such as schedules.

Fred Turnier, a consultant, for the City of Fernley and for the steering committee. Clarified the meetings would typically take place after normal business hours. He prefers attendees to come in person, but they will have the option to zoom if needed. He stated that right now, the Steering

Committee is looking at four meetings over the next 12 months. He stated committee involvement is going to be about 10 hours.

3. PUBLIC HEARINGS

3.1. (For Possible Action) Discussion and possible action of a Type 1 Vacation request, T1V25001, by M4 Victory Development, LLC to abandon a portion of the public roadway known as "Duffy Road", located east of Nevada Pacific Parkway and south of Interstate 80 within the Mark IV Victory Logistics District.

Alex Lopez-Martinez, Project Manager presented. He stated it is roughly 0.53 miles, and that section of Duffy Road was relinquished by the Nevada Department of Transportation and was approved by City Council with a cooperative transfer agreement, and that agreement was recorded on July 29, 2024. As part of the abandonment of Duffy Road, a new road, Innovation Drive, will be constructed. This road will supplement public access and connectivity to the community that uses that portion of Duffy Road daily. Mark IV Capital will assume all Duffy Road maintenance and liability responsibilities. This easement and agreement will be in effect until the new road has been constructed and has been accepted by the City of Fernley for dedication.

Doug Thornley of Holland and Hart, on behalf of Mark IV Capital, confirmed the document itself does provide that Duffy Road will not be raised without access first being provided and that this project affects the roads and will not have any impact or changes to the underpass.

The commissioners asked for clarification if the neighbors had been contacted, and it was stated that the notice was provided via the Reno Gazette Journal, and it was individually mailed out to each of the property owners.

Scott Barnes, Vice President for Mark IV Capital, explained it is in the plans to complete construction of Innovation Drive before there is any demolition of Duffy Road. Mark IV Capital has been working with the City and NDOT for 3 years and must provide access underneath Interstate 80 because of the volume of semi-trucks. Once they finish this abandonment, they will be able to file and record Final Map C which defines the parcels. They have been instructed by NDOT to not touch anything within their right-of-way and that's that small pass-through that goes underneath the freeway. As they are constructing and paving Innovation Drive, they will have to do some traffic control that will allow traffic to go through until they finish the construction. The result is to have Duffy Road abandoned and fully demolished, and new traffic will go along a fully paved road.

John Duffy stated his family is the namesake of the road under discussion. He was grateful for the information gained from tonight's presentation. He states his family still owns property on Duffy Road, and they are concerned about access but feels tonight’s presentation answered most of his questions. Mr. Duffy requested the portion of Duffy Road that will become Innovation Drive to keep the name of Duffy Road in honor of his parents. He also stated the part of the road they are abandoning is the Central Pacific Railroad. That was the Transcontinental Railroad that went through there in 1868. He would appreciate it if the commission looked at the history for the area both the railroad and the Road.

Public Comment was opened.

Alisa Rhino, on Zoom, asked if there are plans to make the road larger for additional traffic.

Becki Howlett inquired how do you distinguish the two roads if you have an emergency.

The commission questioned whether Mark IV would be able to keep that portion of the road as Duffy Road. Mark IV would need to work with Lyon County and the NDOT, but they will do what is necessary to keep the name.

Motion: I MOVE TO RECOMMEND APPROVAL OF T1V25001, A TYPE 1 VACATION TO VACATE APPROXIMATELY 0.53 MILES OF THE PUBLIC ROADWAY KNOWN AS DUFFY ROAD. **Action:** Approve, **Moved by:** Commissioner Cody Wagner, **Seconded by:** Commissioner Jake VanderHeiden. **Vote:** Passed, **Summary:** Yes 7, **Yes:** Vice Chairwoman McCullar, Commissioner Lewis, Commissioner Wagner, Commissioner VanderHeiden, Commissioner Flores, Chairwoman Garvin, Alternate Commissioner Holt.

4. CHAIR AND COMMISSION ITEMS

Commissioner Wagner stated that prior to coming to the meeting he had some questions from a resident regarding The Sunrise Trails development, that is in disarray. Commissioner Wager requested a future update regarding this development.

Michele Rambo, Planning Director, stated that once construction began, the developer received a certificate of occupancy for the first 20 units. The developer came across a problem with another agency so while they are working this out with the other agency, they cannot continue construction. As for the weeds and construction defects, the information will be passed to code enforcement for a follow-up.

5. PLANNING DIRECTOR ITEMS

5.1. Update on City Council actions from April 1, 2026.

Michele Rambo, Planning Director, stated there were first readings for the zoning map amendment, and the master plan amendment for the Mark IV parcel. The Council adopted AB241 allowing multifamily and commercial properties.

5.2. General Planning Department updates and announcements.

Michele Rambo Planning Director said Kimley Horn would like to set up another round of meetings for the South Area Plan to look at the new version.

6. ADDRESS REQUEST(S) FOR FUTURE AGENDA ITEMS

Commissioner Lewis requested a traffic report for Farm District Road to be presented at the next meeting.

Michele Rambo stated that the city is working on a corridor study for Farm District Road and the Traffic Demand Model has been completed, it will be presented to the Planning commission in May or June.

Commissioner Flores would like a separate more accurate and more refined census to get a better idea of the needs of the city.

Michele Rambo said she would start looking into how to get this done.

7. PUBLIC FORUM

Scott Barnes with Mark IV Capital invited the public to an open house on May 9th 10 - 2.

John Duffy wanted to formally request that an investigation be made into keeping Duffy Road continuous.

8. ADJOURNMENT

There being no further business to come before it, the Fernley Planning Commission meeting adjourned at 5:51 pm.

Approved by the Fernley Planning Commission on May 13, 2026, by a vote of:

AYES _____ NAYS:_____ ABSTENTIONS:_____ ABSENT:_____

_____ _____

Tessa Garvin, Chair ATTEST:

CITY OF FERNLEY

Planning Commission
AGENDA REPORT

Meeting Date: May 13, 2026

REPORT TO:	Fernley Planning Commission
REPORT FROM:	**Lisa Warner**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes:	No: N/A	Yes:	No: N/A	N/A

ACTION REQUESTED: Motion

AGENDA ITEM:

(For Possible Action) Discussion and possible action regarding a Waiver application (WVR26001) submitted by HG Construction on behalf of the Fernley Improvement Club to waive parking and landscaping requirements for a site located at 10 N Center Street in a Commercial (C2) zoning district. (APN: 020-015-05)

AGENDA ITEM BRIEF:

The Fernley Arts Center was damaged by fire in 2024 and has not yet been repaired. Due to the City's code requirements, the rebuilding of the center requires compliance with current development standards, which include parking and landscaping. Waiver 26001 is requesting to waive parking and landscaping requirements in order to repair the fire damage.

RECOMMENDED MOTION:

Approval
“I move to approve the Waiver associated with WVR26001 subject to Conditions of Approval 1 through 18. Findings WVR01 through WVR05 for the Waiver have been met and the facts supporting these findings are included in the staff report."

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

Note:
Though no further specific language has been provided, all motions possible under the Planning Commission parliamentary procedure are appropriate.

BACKGROUND:

This building was constructed in 1940 and has been used as a clubhouse known as the Fernley Arts Center which is run by the Fernley Improvement Club where the ACES (Art Culture Event Squad) hold multiple events.

The site is currently substandard development, meaning it was originally constructed in accordance with the applicable regulations but no longer meets the standards of our current Development Code.

The site suffered fire damage in 2024, and the applicant is requesting a Waiver so they can obtain the building permit to repair the fire damage. The application for the building permit triggers the need to be brought up to the current Development Code.

Per Fernley Municipal Code (FMC) 32.03.090-1 the site is located in the designated downtown area where Waiver applications are permitted for number of parking spaces and landscaping. Although trash enclosures are not specifically identified in the Waiver code, trash enclosures are part of FMC 32.09.090.

Since the applicant is requesting a Waiver for landscaping, they have not presented any specific landscaping plans with the building permit application; however, the applicant has stated they plan to upgrade the current landscaping once the fire damage has been repaired.

ANALYSIS:
FMC32.08.060(d)(3) allows the Planning Commission to allow such changes or enlargements to a substandard development without full compliance with the current provisions of this title when the proposed changes are not detrimental to the public health, safety, and welfare.

FMC32.09.120-2 requires the project to have parking as follows: 1/150 square feet for a club/lodge facility use. As the building is 2,680 square feet, the required parking would be a total of 18 parking spaces. There is no parking at the rear of the building. There is informal parking on the east side of the building on Center Street, which is in the right-of-way and technically not allowable. There is parking on the south side of the building on Main Street which does not count towards the required number of parking spaces. The applicant has submitted a Waiver application (WVR26001) requesting to waive the number of required parking spaces.

FMC32.09.090-1 requires the application to provide landscaping to meet specific standards. The minimum percentage of landscaping that is required in a C2 (Commercial) zone is 15% of the site area. The site area is 7,000 square feet; therefore, 1,050 square feet of landscaping is needed to meet requirements. The applicant has submitted a Waiver application (WVR26001) requesting to waive the landscaping requirements.

FMC32.09.090(i) requires trash enclosures per current development standards. Trash enclosures must meet specific design standards, including being constructed of masonry, concrete block or other durable opaque material on three sides and a solid metal gate on the fourth side and shall be permanent in nature and architecturally compatible by incorporation building materials and colors consistent with the primary building. There is currently no trash enclosure on the site. The applicant has stated they do use a dumpster serviced by Waste Management that is sited on the northeast side of the building facing Center Street. The applicant has submitted a Waiver application (WVR26001) requesting to waive the trash enclosure requirements.

WAIVER APPLICATION FINDINGS:

WVR01: There is evidence of circumstances beyond the reasonable control of the property owner, such as: unusual size, shape, or topography; circumstances that make complying with the code impractical; or the site is somehow legally nonconforming.
The site is essentially a flat, rectangular parcel with no unusual angles, encumbrances, drop-offs or slopes; therefore, there are no unusual size, shape or topography issues with this site.

The site is a substandard development, meaning that it was originally constructed in accordance with the applicable regulations but no longer meets the standards of our current Development Code.
Can this finding be met? YES

WVR02: The waiver does not impair the purpose of the zoning district.
The site is zoned C2 (Commercial). According to FMC 32.06.100 of the Development Code, the purpose of the C2 zone is defined as "commercial districts are intended to create and preserve areas for businesses that provide a variety of retail and other commercial services in concentrated centers that serve the local community, or tourist-oriented used adjacent to I-80 and downtown Fernley. It may also include larger retail centers that serve as a regional draw. Single-use or "strip center" commercial patterns of development are discouraged unless the development is designed for pedestrian use. Smaller, limited use centers should be integrated into the surrounding neighborhood".

Granting the Waiver will have no impact on the intended purpose of the Commercial zoning district as the Waiver would preserve the area for businesses that provide a variety of retail and other commercial services to the local and tourist-oriented communities.
Can this finding be met? YES

WVR03: The waiver does not impact any fire, building, or health codes.
The granting of this waiver does not impact any fire, building, or health codes.
Can this finding be met? YES

WVR04: The waiver is consistent with the Master Plan.
As this site is zoned C2 (Commercial) and all parcels around this site are also zoned commercial and have commercial uses, it could be found that the Waiver which is allowed in this area is consistent with the Master Plan.
Can this finding be met? YES

WVR05: The waiver is necessary to preserve a substantial property right enjoyed by surrounding properties.
The granting of the waiver will provide a substantial property right that is available to other surrounding properties in the immediate area. It will also allow the applicant to move forward with their building permit application to repair fire damage.
Can this finding be met? YES

RELEVANT LAWS, STATUTES, AND REGULATIONS:

Nevada Revised Statutes (NRS), Chapter 278 – Planning and Zoning
Fernley Municipal Code (FMC), Title 32 – Development Code
FMC32.06.100, Title 32 – Development Code - Zoning Districts - Commercial (C1, C2, and TC)
FMC32.08.060 – Title 32 – Development Code – Nonconformities - Substandard Development
FMC32.09.090-1 – Title 32 – Development Code – Development Standards – Landscaping and Screening
FMC32.09.090(i) – Title 32 – Development Code – Development Standards – Trash Enclosures
FMC32.09.120-2 – Title 32 – Development Code – Development Standards – Parking and Loading

FINANCIAL IMPLICATIONS:

N/A

ATTACHMENTS:

1. CONDITIONS OF APPROVAL
2. Photo #1 West Rear Elevation
3. Photo #2 East Elevation (Center Street)
4. Photo #3 South Elevation (Main Street)

Conditions of Approval for WVR26001
WAIVER – FERNLEY ARTS CENTER

SCOPE AND DURATION OF APPROVAL

1. **APPROVAL:**
   The application is approved as described in Condition #2 below, subject to these Conditions of Approval. Any substantive change shall be reviewed by the Planning Commission and/or City Council as an amended Waiver.

2. **PROJECT DESCRIPTION:**
   The project approval is pertaining to the waiver of parking, landscaping, and trash enclosure requirements on a C2 (Commercial) zoned site located at 10 N Center Street (APN: 020-015-05).

3. **EXPIRATION DATE:**
   The Waiver shall expire within one (1) year of the date of approval, unless the permitted use has been established or construction to accommodate that use has begun and is being diligently pursued. If the approval expires, a new Waiver application shall be required.

4. **GOVERNING DOCUMENTS:**
   All City of Fernley Municipal Code (FMC) or Development Code references herein pertain to the most recent version of the Development Code unless otherwise noted. The developer may substitute requirements established in future FMC updates, if approved by the Administrator.

   Unless waived by this approval, the developer shall also comply with all standards found within the "City of Fernley Department of Public Works Design Standards & Review Guidelines" of March 2024, the "City of Fernley Standard Details for Public Works Construction" of July 2022, and the "City of Fernley Comprehensive Master Plan" of April 2024.

CONSTRUCTION PHASE

5. **PROJECT CONTACT:**
   The developer shall designate to the Administrator a project contact person responsible/authorized to correct problems regarding the project on a 24-hour/7-days a week basis. The developer shall designate the project contact person to the Administrator prior to issuance of any permit for the project.

6. **CONSTRUCTION MAINENANCE:**
   The developer shall locate a sufficient number of trash containers on site to be used during the construction of the project to maintain the project site in a clean and orderly state, to the approval of the Administrator.

7. CONSTRUCTION HOURS:
The developer shall limit all construction and construction-related activities to between the hours of 7:00 am and 7:00 pm, seven days per week. The developer shall install signs at all access points to the project that clearly indicate the hours of on-site activity prior to the start of any construction-related activities, subject to the approval of the Administrator. The developer shall maintain these signs in good repair for the duration of the construction of the project. Once construction is finished, the developer shall remove these signs.

BUILDING PERMIT REQUIREMENTS

8. TRASH DISPOSAL:
Prior to issue of any Certificate of Occupancy for this site, the developer shall contract with a trash disposal company subject to the approval by the Administrator.

REGULATORY AGENCIES

9. NORTH LYON COUNTY FIRE PROTECTION DISTRICT:
The developer shall comply with all requirements of the North Lyon County Fire Protection District including but not limited to developing a plan to provide adequate emergency access throughout the site, developing a master fire hydrant and fire flow plan, developing a master fire department connection (FDC) plan, and installing fire suppression and/or alarm systems to the approval of the Fire Chief prior to the issuance of a building permit.

10. FEDERAL, STATE, AND LOCAL AGENCIES:
The developer shall comply with all requirements of any federal, state, or local agency, department, or licensed professional with jurisdiction over the project including, but not limited to: Bureau of Reclamation (BOR), Nevada Department of Transportation (NDOT), Nevada Division of Water Resources (NDWR), Nevada State Environmental Commission, Truckee Carson Irrigation District (TCID), the City of Fernley Building Official, the City of Fernley Public Works Department, and the City of Fernley professional land surveyor.

11. NEVADA DEPARTMENT OF TRANSPORTATION:
Any construction or placement of items within the right-of-way will require review and approval from the Nevada Department of Transportation (NDOT). This includes any landscaping, signage, lighting, etc.

LOWE'S

Center
Cafe
Jewelry
TERMINAL ART CENTER
STOP

CITY OF FERNLEY

Planning Commission
AGENDA REPORT

Meeting Date: May 13, 2026

REPORT TO:	Fernley Planning Commission
REPORT FROM:	**Michele Rambo, Planning Director**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes:	No: X	Yes:	No: X	None

ACTION REQUESTED: Receive/File

AGENDA ITEM:

Presentation by Wood Rodgers to review the current and future traffic demands of Fernley roadways.

AGENDA ITEM BRIEF:

Wood Rodgers has been working on three Corridor Studies in coordination with the City of Fernley. As part of these studies, Wood Rodgers has created a Traffic Demand Model showing different scenarios based on how growth occurs within the City. A representative will be presenting this information and answering questions from the Planning Commission on their traffic concerns.

RECOMMENDED MOTION:

None

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

None

BACKGROUND:

None

RELEVANT LAWS, STATUTES, AND REGULATIONS:

None

FINANCIAL IMPLICATIONS:

None

ATTACHMENTS:
None

CITY OF FERNLEY

Planning Commission
AGENDA REPORT

Meeting Date: May 13, 2026

REPORT TO:	Fernley Planning Commission
REPORT FROM:	**Michele Rambo, Planning Director**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes:	No: X	Yes:	No: X	N/A

ACTION REQUESTED: Receive/File

AGENDA ITEM:

Presentation from Mendy Elliot from Summit Government Affairs regarding Nevada Assembly Bill 540 signed into law in 2025.

AGENDA ITEM BRIEF:

Assembly Bill 540 provides the State of Nevada with a framework to increase attainable housing units for middle-income households through public-private partnerships, targeted funding, and regulatory streamlining. For the City of Fernley, this legislation presents a strategic opportunity to address workforce housing shortages driven by regional economic growth. Overall, AB 540 represents a significant opportunity to expand housing supply and support economic stability in the region.

Ms. Elliott will be providing an overview of Assembly Bill 540 and its potential application within the City of Fernley.

RECOMMENDED MOTION:

None

BUSINESS IMPACT (per NRS Chapter 237):

N/A

See attached report for background, analysis, alternatives.

ALTERNATIVES:

None

BACKGROUND:

See Attached

RELEVANT LAWS, STATUTES, AND REGULATIONS:

Nevada Assembly Bill 540

FINANCIAL IMPLICATIONS:

To be determined depending on developer interest and future guideline requirements.

ATTACHMENTS:

1. AB540 Summary Report

Report on Implementation of Assembly Bill 540 (2025)
Prepared: April 2026

Executive Summary

Assembly Bill 540 (2025) provides the State of Nevada with a framework to increase attainable housing for middle-income households through public-private partnerships, targeted funding, and regulatory streamlining. For the City of Fernley, this legislation presents a strategic opportunity to address workforce housing shortages driven by regional economic growth.

The law enables collaboration between local governments and private developers by combining state funding with local tools such as expedited permitting, flexible zoning, fee reductions, and potential land contributions. Developers are required to provide matching funds and commit to delivering housing at attainable price points.

Successful implementation in Fernley will depend on proactive project identification, infrastructure coordination, and effective partnership structuring. Key challenges include infrastructure capacity constraints, developer market interest, and administrative resources. Overall, AB 540 represents a significant opportunity to expand housing supply and support economic stability in the region.

1. Introduction

This report provides an overview of Assembly Bill 540 (2025) and evaluates its potential application within the City of Fernley. The focus is on how the City can effectively partner with private developers to deliver attainable housing.

2. Local Context: Fernley, Nevada

Fernley is experiencing rapid population growth due to its proximity to Reno-Sparks and major industrial employment centers. While job growth has been strong, housing supply has not kept pace, resulting in affordability challenges for middle-income workers.

Key factors include:
- Workforce housing shortages
- Infrastructure limitations (water, sewer, transportation)
- Increasing housing costs relative to wages
- Demand driven by regional employment expansion

3. AB 540 Framework

AB 540 establishes a statewide attainable housing program that includes:
- State funding for housing development
- Requirements for developer matching funds
- Creation of oversight structures
- Incentives for local government participation
- Streamlined development processes

4. Implementation Strategies for the City of Fernley

4.1 Public-Private Partnerships

The City can collaborate with developers to structure projects that combine state funding, local incentives, and private capital.

4.2 Land and Infrastructure Coordination

The City may leverage publicly owned land and coordinate infrastructure investments to support housing development.

4.3 Regulatory Streamlining

Expedited permitting and flexible zoning policies can significantly reduce development timelines and costs.

4.4 Affordability Requirements

In exchange for incentives, the City can require developers to provide housing units at attainable price levels.

5. Example Development Scenario

A developer proposes a multi-unit housing project in Fernley. The City provides expedited approvals and fee reductions, while the State contributes funding through AB 540. The developer matches funding and agrees to affordability requirements. This partnership enables project feasibility and delivery of workforce housing.

6. Challenges and Considerations

- Infrastructure capacity and funding
- Attracting developer investment
- Administrative and staffing resources
- Ensuring long-term affordability compliance

7. Recommendations

- Proactively identify and market development sites
- Establish clear development guidelines under AB 540
- Coordinate infrastructure planning with housing goals
- Engage with regional employers to align workforce housing needs
- Build administrative capacity to manage partnerships

8. Conclusion

AB 540 provides the City of Fernley with a valuable tool to address housing challenges through strategic partnerships. With proactive planning and coordination, the City can leverage this legislation to expand housing supply and support long-term economic growth.

CITY OF FERNLEY

Planning Commission
AGENDA REPORT

Meeting Date: May 13, 2026

REPORT TO:	Fernley Planning Commission
REPORT FROM:	**Treston Rodriguez**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes:	No: x	Yes:	No: x	N/a

ACTION REQUESTED: Ordinance

AGENDA ITEM:

(For Possible Action) Discussion and possible action regarding Bill #385, associated with PD05-06MOD, a Major Modification to the handbook associated with the Friendly 5 Planned Development requested by Scott Berge to modify : 1) the proposed arterial roadway connection from the northern boundary of the development to U.S. Highway 50, 2) adding a new section to the handbook to establish design standards and requirements for the arterial roadway connection, and 3) revising Condition 4.K to modify the timing requirement for construction of the roadway connection, along with other clarifying revisions. The subject site is generally located on both the north and south sides of Farm District Road, approximately 800 linear feet east of its intersection with Jessica Lane.

AGENDA ITEM BRIEF:

This agenda item is a request for a Major Modification to the approved Friendly 5 Planned Unit Development (PD) Handbook. The modification includes: (1) revisions related to the proposed arterial roadway connection from the northern boundary of the development to U.S. Highway 50; (2) the addition of a new section to the PD Handbook establishing design standards and requirements for the arterial roadway connection; and (3) amendments to Condition 4.K to modify the timing requirement for construction of the roadway connection, along with other clarifying revisions.

RECOMMENDED MOTION:

“Based on the analysis presented in the staff report, I move to recommend approval of Bill #385 associated with the Friendly 5 Planned Unit Development to amend the PD Handbook, including the addition of Section 4.1.3 and revisions to Condition 4.K to adjust the timing of the required roadway connection to US 50.”

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

"Based on public testimony and the facts of the case, I move to recommend denial of the Major Modification associated with the Friendly 5 Planned Unit Development because I am unable to make the following required finding(s):

(State applicable finding and supporting rationale—repeat for each applicable finding)."

BACKGROUND:

The Friendly 5 Planned Unit Development (PD) was originally approved in 2006 and consists of approximately 260 acres located on both the north and south sides of Farm District Road in the City of Fernley. As part of the original approval, the PD Handbook established development standards, phasing expectations, and associated conditions of approval, including provisions related to regional roadway connectivity.

A key component of the original approval was Condition 4.K, which required construction of an arterial roadway extending from the northern boundary of the development to US 50. At the time of approval, the land necessary to complete this connection was under federal ownership, and the City did not have control over the right-of-way. As such, the condition was written to acknowledge this constraint and included provisions indicating that the City would work with the applicant to obtain the necessary easements or property rights, and that the requirement could be adjusted if those efforts were unsuccessful.

Following approval of the PD, development progressed incrementally over time. The broader development timeline was significantly impacted by the 2008 economic downturn, which delayed construction activity and associated infrastructure planning. In more recent years, development has resumed, with the final subdivision map for Village 1, consisting of 75 residential lots, recorded in February 2023, followed by the final map for Village 2, consisting of 52 residential lots, recorded in August 2024.

In parallel with ongoing development, the City pursued acquisition of the federal land necessary to facilitate the future roadway connection to US 50. This effort culminated in November 2025, when the City successfully completed the Recreation and Public Purpose (R&PP) acquisition process, thereby obtaining control of the parcel needed for the roadway extension. With the land now under City ownership, the applicant is able to proceed with design and future construction of the required connection.

In early 2026, the applicant prepared an updated Traffic Impact Study to evaluate current traffic conditions and reassess the timing of required infrastructure improvements. The study concluded that, based on updated traffic volumes and regional growth patterns, the previously established trigger requiring construction of the roadway at the 151st lot is no longer warranted. Instead, the study recommends that the roadway connection be constructed at a later phase of development, specifically tied to occupancy within Villages 4 and 5 located south

of Farm District Road.

As development continues and the recordation of the subdivision map containing the 151st lot is anticipated, strict adherence to the original condition would require the applicant to construct the roadway immediately, which is not feasible given the time required for design, permitting, and construction. This would effectively halt residential development despite the updated Traffic Impact Study indicating that the connection is not yet necessary. In response, the applicant has submitted a Major Modification request to amend Condition 4.K and add clarifying language to the PD Handbook, with the intent of aligning infrastructure timing with current conditions while still ensuring that the roadway connection to US 50 is constructed at an appropriate stage of development.

In addition to the proposed Section 4.1.3 and associated exhibits, the applicant has provided finalized language establishing the design, construction, and cost responsibility framework for the arterial roadway connection.

As proposed, the developer is responsible for designing the roadway in accordance with Exhibits 4.1.3(a) through (c), the updated Traffic Impact Study prepared by GCW dated March 3, 2026, and all applicable City of Fernley standards. The interim roadway improvements include necessary grading and drainage, with the ultimate roadway buildout to occur at a future time as determined by the City. Additional improvements beyond those identified in the exhibits may be required by the City, with such improvements to be constructed at the City's expense unless otherwise agreed.

The proposed language requires the developer to prepare and submit roadway design plans for City review and approval, complete right-of-way dedication, and obtain all necessary permits, including coordination with NDOT. The City will provide a temporary construction easement to facilitate construction, and upon completion, the roadway will be dedicated to and maintained by the City.

The developer is responsible for all costs associated with the design and construction of the roadway. However, the proposed language establishes a framework under which the developer may seek reimbursement of a portion of those costs. This includes the ability to submit a proportionate share analysis to allocate costs to future benefiting development within a defined service area, as well as the potential for reimbursement through future conveyance of City-owned property associated with the roadway alignment. Any reimbursement is subject to limitations, including that reimbursement shall not exceed the developer's documented costs and is contingent upon the City's actual receipt of funds.

This framework is intended to clarify roles and responsibilities, ensure delivery of the required roadway infrastructure, and provide a mechanism for cost recovery while maintaining the City's discretion and compliance with applicable law.

While the proposed reimbursement framework is reflected in both the revised Condition 4.K and Section 4.1.3, the provisions serve distinct but complementary purposes within the Planned Development Handbook. Condition 4.K establishes the timing and construction triggers for the arterial roadway connection, including requirements tied to development within Villages 4 and 5 and limitations on deferral based on roadway capacity. In contrast, Section 4.1.3 establishes the design, construction, and implementation requirements for the roadway, including applicable standards, permitting, right-of-way dedication, and coordination with outside agencies. Together, these provisions establish a comprehensive framework governing when the roadway must be constructed and how it will be designed, delivered, and maintained.

Pursuant to the Fernley Municipal Code, approval of a Major Modification to a Planned Development requires that specific findings be made. The proposed modification to the Friendly 5 Planned Development Handbook has been evaluated against the applicable criteria, and the following findings can be made in support of the request.

1. Consistency with the Master Plan and Applicable Law

The proposed Major Modification is consistent with the City of Fernley Comprehensive Master Plan and applicable state and federal law. The modification does not alter the underlying land use designation, density, or overall development pattern of the Friendly 5 Planned Development, but instead addresses the timing and implementation of a previously approved arterial roadway connection.

As discussed in the applicant's materials, the proposed modification aligns with Master Plan goals and policies related to infrastructure timing, coordination of growth with public facilities, and provision of roadway improvements commensurate with development impacts.

The modification ensures that the arterial roadway connection will be constructed at a stage of development consistent with current traffic conditions and updated analysis, while maintaining the intent of the original approval. Therefore, the request is consistent with the City's Master Plan and applicable law.

2. Compatibility with Surrounding Land Uses

The proposed Major Modification is compatible with surrounding land uses. The request is limited in scope to revising the timing and implementation framework for construction of an arterial roadway connection and does not modify the approved land uses, density, or development standards of the Planned Development.

Surrounding land uses include vacant land to the north and east, the Friendly 5 Planned Development to the south, and established single-family residential neighborhoods to the west.

The arterial roadway connection was contemplated as part of the original Planned Development approval and will provide improved regional connectivity when constructed. Adjusting the timing of the roadway to align with updated traffic conditions does not adversely impact adjacent properties and may improve overall circulation by delivering the improvement when it is warranted. Therefore, the proposed modification remains compatible with surrounding land uses.

3. Public Notice and Hearing Requirements

Public notice has been provided and a public hearing has been conducted in accordance with the requirements of the Fernley Municipal Code and Nevada Revised Statutes. The application has been processed in compliance with all applicable noticing and hearing procedures.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

<u>General</u>
Nevada Revised Statutes (NRS) Chapter 278 – Planning and Zoning
Fernley Municipal Code (FMC) Title 32 – Development Code
City of Fernley Comprehensive Master Plan

<u>Specific</u>
NRS 278.020 – Grant of power to cities and counties for regulation of land use and development
NRS 278.260 – Determination, establishment, enforcement and amendment of zoning regulations

FMC 32.06.140 – PD regulations, including establishment and modifications

FMC 32.03.020 – Application review procedures, general entitlement processing, hearings, and decision-making

authority

FINANCIAL IMPLICATIONS:

None.

ATTACHMENTS:

1. Exhibit 1 - BILL #385
2. Exhibit 2 - Redline Friendly 5 Planned Development Handbook (PD05-06MOD)
3. Exhibit 3 - Submitted Materials From Applicant

BILL #385
CITY OF FERNLEY
ORDINANCE #_____

AN ORDINANCE AMENDING TITLE 32, CHAPTER 6, SECTION 150-2 (USE TABLE) OF THE FERNLEY DEVELOPMENT CODE TO ALLOW THE USE OF "RECREATIONAL FACILITY, MAJOR" IN THE I (INDUSTRIAL) ZONING DISTRICT WITH A CONDITIONAL USE PERMIT.

THE CITY COUNCIL OF THE CITY OF FERNLEY, hereinafter "the Council", DO HEREBY ORDAIN:

Section 1. The Friendly 5 Planned Development (PD05-06) is hereby amended as follows:

Planned Development Amendment
The Friendly 5 Planned Development (PD05-06), as originally approved and subsequently amended, is hereby modified to incorporate the following changes to the Planned Development Handbook:

1. Condition 4.K is hereby amended to revise the timing and construction requirements for the arterial roadway connection from the northern boundary of the development to U.S. Highway 50, including provisions related to construction triggers, developer responsibility, and reimbursement framework.
2. Section 4.1.3 is hereby added to the Planned Development Handbook to establish design standards, construction requirements, and implementation procedures for the arterial roadway connection, including roadway cross-section, right-of-way dedication, coordination with applicable agencies, and cost responsibilities.
3. All other provisions of the Friendly 5 Planned Development Handbook shall remain in full force and effect unless specifically modified herein.

Section 2. All ordinances or parts of ordinances in conflict herewith are hereby repealed.

Section 3. The City Clerk is instructed and authorized to publish the title of this ordinance as provided by law.

Section 4. This ordinance shall become effective upon passage, approval, and publication.

Section 5. The provisions of this ordinance shall be liberally construed to effectively carry out its purposes in the interest of the public health, safety, welfare, and convenience.

Section 6. In any subsection, phrase, sentence, or portion of this ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions.

Section 7. The City Council finds that this ordinance is not likely to impose a direct and significant economic burden upon a business or directly restrict the formation, operation, or expansion of a business, or is otherwise exempt from Nevada Revised Statutes Chapter 237.

BILL #371 BEING HEREBY PROPOSED on the _3rd_ day of _June_, 2026.

BILL #371 BEING HEREBY PASSED, APPROVED, and ADOPTED this _17th_ day of _June_, 2026, by the following vote of the Council:

Ayes: _____ Nays: _____ Abstentions: _____ Absent: _____

FERNLEY CITY COUNCIL

By: _____ Date: _____
Neal E. McIntyre, Mayor

Attest By: _____ Date:_____
Kim Swanson, City Clerk

FRIENDLY 5 RANCH

Chapter 4

Infrastructure and Public Services

4.1 Access and Circulation

Access to Friendly 5 Ranch is provided via Farm District Road to both the north and south portions of the Development. A roadway and pedestrian pathways network has been designed to provide adequate and safe access into and through the Development for both vehicles and pedestrians. The following identifies the hierarchy of both vehicular roadways and pedestrian pathways through the Development.

4.1.1 Roadway System

The hierarchy for roadways shall be as identified below and depicted within Exhibits 4.1 through 4.5 on the following pages. All roadways shall be constructed per the City of Fernley Public Works Design Standards Manual.

Arterial Streets:

The main north/south roadway spine located on the northern portion of the Development shall be classified as an "arterial roadway" as identified within the City of Fernley Public Works Design Standards Manual. The arterial roadway consists of an 80-foot right of way including a 14-foot landscaped median and a minimum 10-foot parkway on both sides (including a meandering 4-foot sidewalk). The arterial roadway will provide for four (4) 12-foot travel lanes and two (2) 9-foot bike lanes at final build-out. The interim roadway will include a 12-foot travel lane and 9-foot bike lane on both sides with a 38-foot median until such time as four lanes are warranted and constructed by the City. The arterial roadway will be stubbed into the Bureau of Reclamations parcel for future connection to U.S. Highway 50, through the future school/park complex.

Utilities will be included within the right-of-way where possible. Where this is not feasible, Public Utility Easements (PUE's) shall be included within the 10-foot parkways on either side of the roadway.

Exhibit 4.1 – *Street Network*

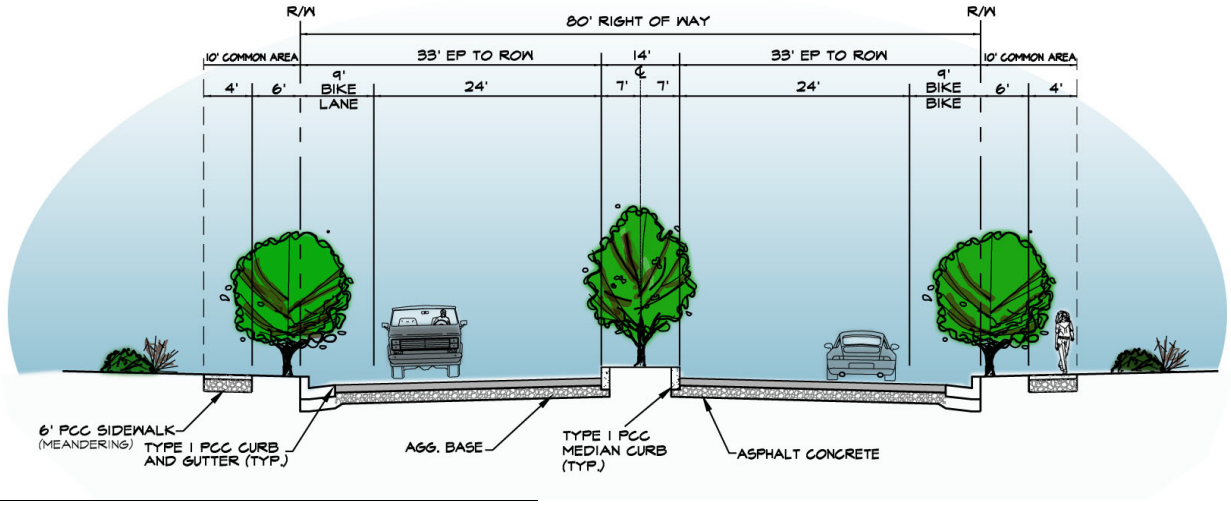

Exhibit 4.2 - *Arterial Street Section (Buildout)*

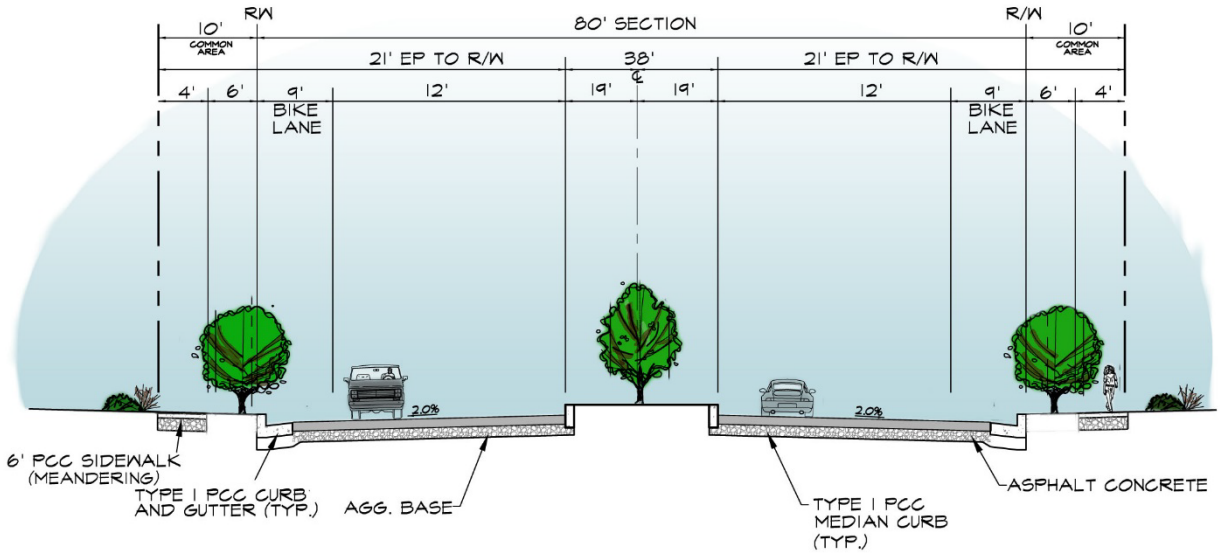

Exhibit 4.3 - *Arterial Street Section (Interim)*

Collector Streets:

The easer entry roadway to the southern portion of Friendly 5 Ranch is classified as a collector roadway. The collector street shall provide for a 60-foot overall right-of-way. Common area bounds either side of the collector street and will offer opportunities to separate the sidewalk on either side of the street with parkway planters.

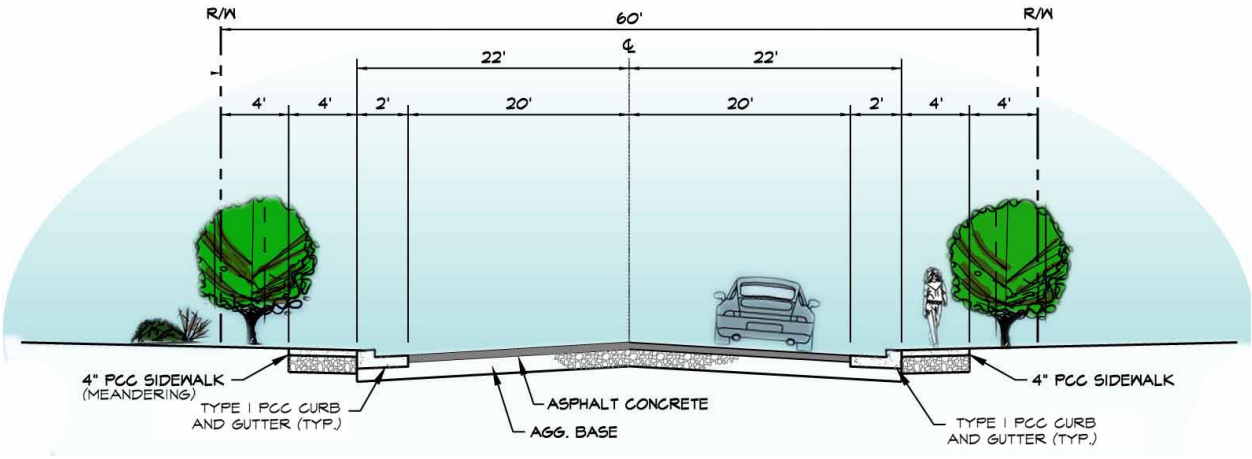

Exhibit 4.4 *- Collector Street Section*

Local Streets:

Local streets make up the predominance of the proposed roadways within F5 Ranch. Each local street shall be constructed per the City of Fernley standard 50-foot right-of-way section. The sidewalk shall be placed at the back face of the curb.

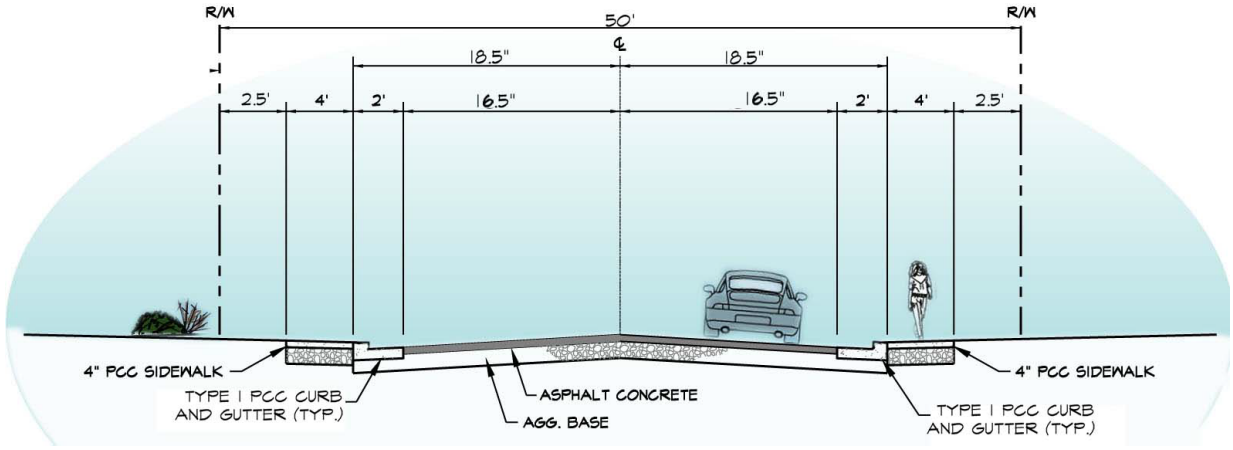

Exhibit 4.5 *- Local Street Section*

4.1.2 Pedestrian Circulation System

As with the roadways within Friendly 5 Ranch, the pedestrian facilities will also have a hierarchy of classifications. Pedestrian facilities include a mix of concrete sidewalks (both at the back of curb and separated by a parkway), and pedestrian trails. On the following pages, Exhibit 4.6 identifies the varying classifications and their relative location within the Development.

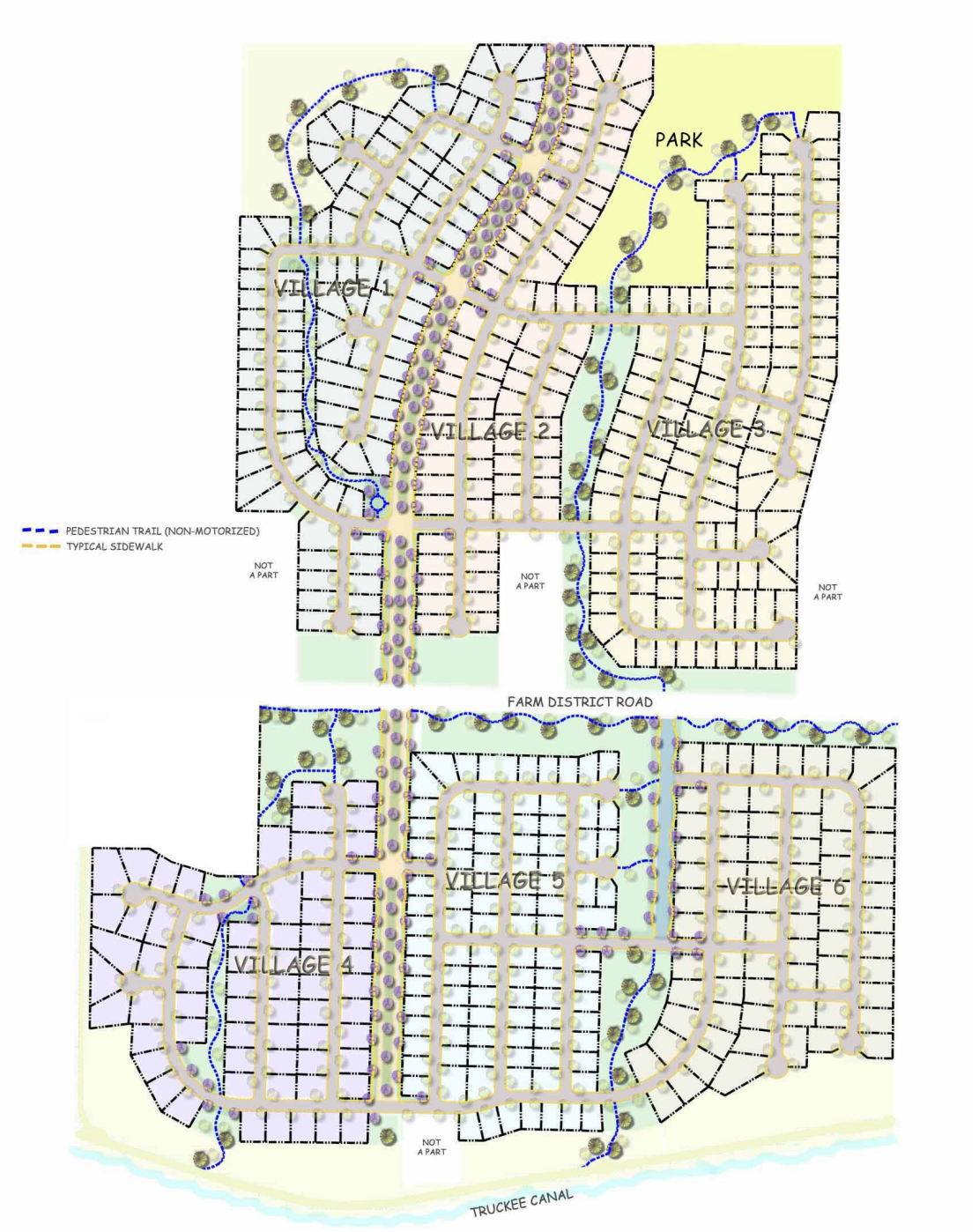

Exhibit 4.6 – *Pedestrian Circulation*

Sidewalks:

Sidewalks shall be provided on both sides of all roadways within the Development and shall be 4-feet in width, constructed of Portland cement concrete. Sidewalks shall allow for foot traffic only.

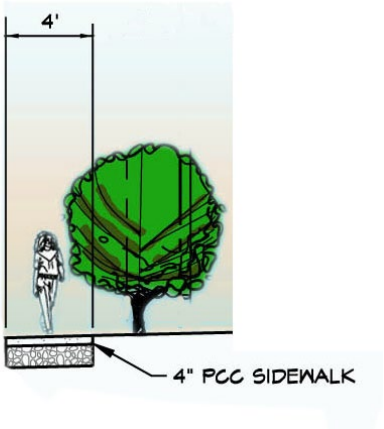

Exhibit 4.7 - *Portland Cement Concrete Sidewalk Detail*

Pedestrian Trail:

The pedestrian trail is primarily located within "semi-formal" common areas/open space. Pedestrian trails shall be provided for both pedestrian and non-motorized vehicle travel only. Equestrian use of pedestrian trails is prohibited. The pedestrian trail consists of a 6-foot wide asphalt, concrete, or acceptable alternative (at the discretion of the administrator) surface pathway.

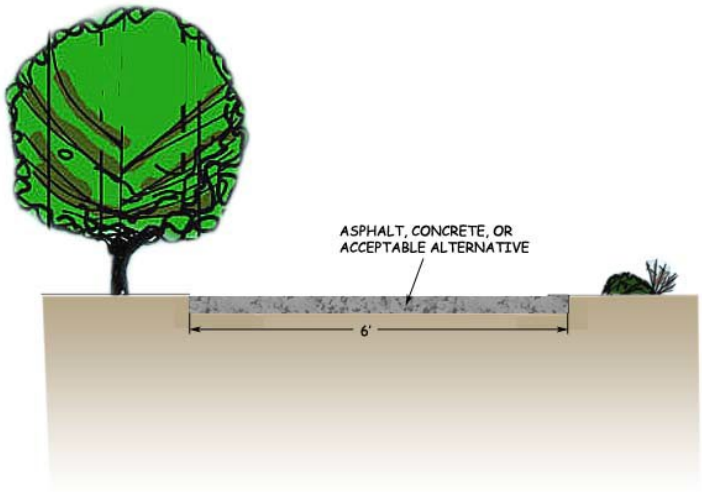

Exhibit 4.8 - *Pedestrian Trail Detail*

4.1.3 Arterial Connector (Interim)

The street connecting the northern project boundary to US Highway 50 at the existing High-T intersection shall be classified as a "arterial roadway" as identified within the City of Fernley Public Works Design Standards Manual. Persuant to recommendations in the updated Traffic Analysis (Traffic Impact Study for Friendly 5 GCW March 3, 2026) the developer shall construct the interim condition of the arterial connector identified in Exhibit 4.1.3(a) upon issuance of certificate of occupancy for any residence within Villages 4 or 5. The parcel this roadway bisects is a vacant parcel owned by the City of Fernley (previously owned by BOR) and is not part of the Friendly 5 PD. The initial roadway will provide two (2) 12-foot travel lanes and an 8-foot multi-use path on one side with a 34-foot median until such time as four lanes are warranted and constructed by the City. Refer to exhibits 4.1.3(a), 4.1.3(b), and 4.1.3(c) below.

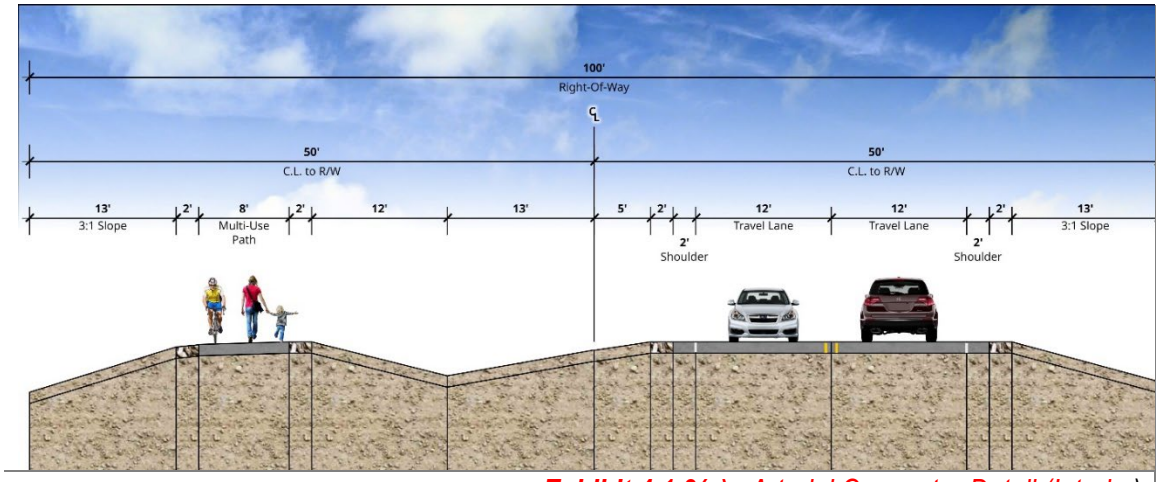

Exhibit 4.1.3(a) –*Arterial Connector Detail (Interim)*

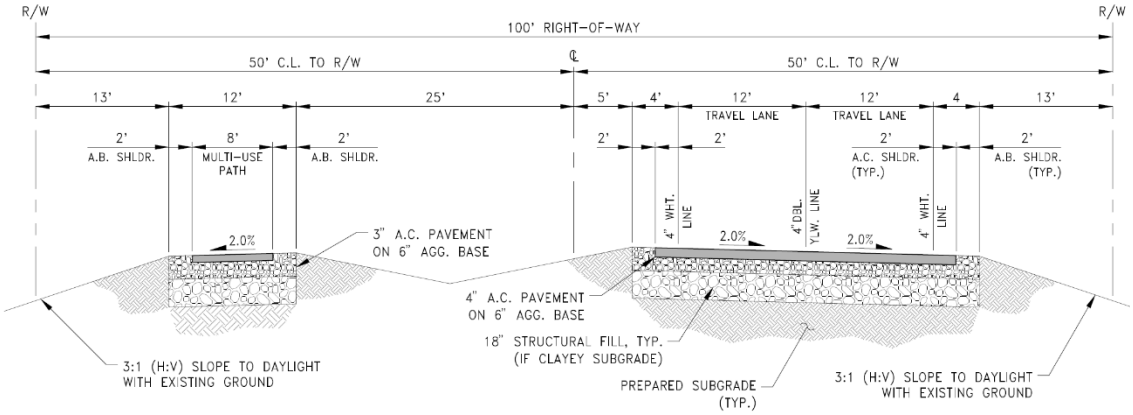

Exhibit 4.1.3(b) *–Arterial Connector Section (Interim)*

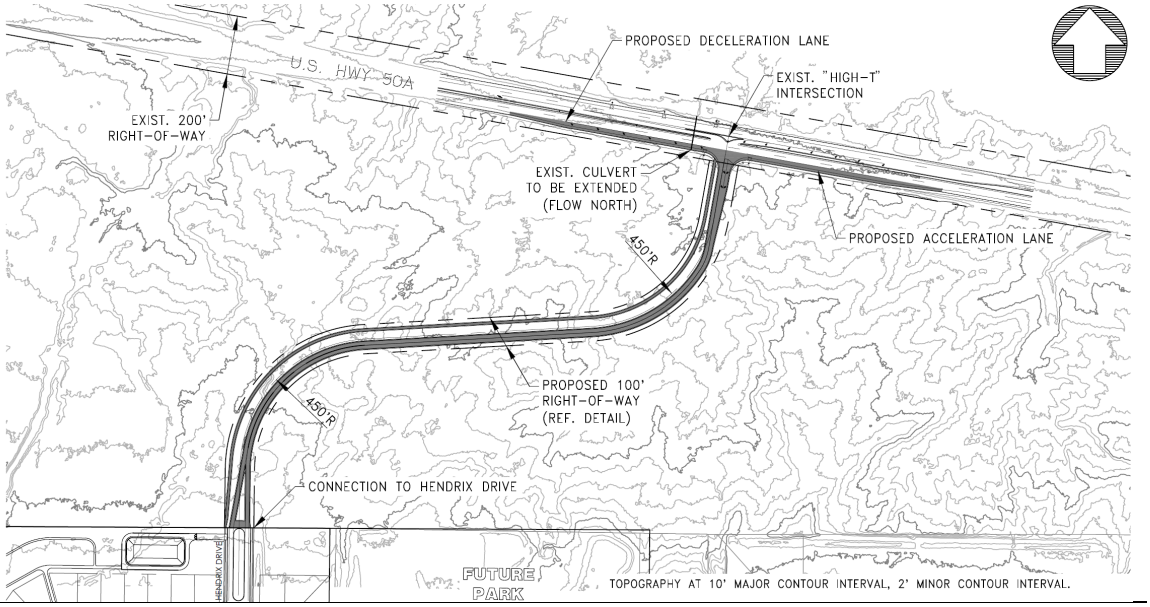

***Exhibit 4.1.3(c)** –Arterial Collector Alignment*

The developer shall design the roadway per exhibits 4.1.3 (a) – (c), the recommendations of the updated Traffic Analysis (Traffic Impact Study for Friendly 5 GCW March 3, 2026), and applicable City of Fernley Standards. The interim roadway design and construction shall include the grading and drainage necessary for the improvements. Additional design and construction for items such as future travel lanes, utilities, curb, gutter, sidewalk, future intersections, and other design elements not listed in exhibits 4.1.3 (a)-(c) may be provided if desired by the City of Fernley at their own cost. The developer shall submit the roadway design to the City of Fernley for design review. Upon City of Fernley approval of the design the developer shall prepare and submit a right-of-way dedication map to the City and an encroachment permit with NDOT. The City of Fernley shall issue a temporary construction easement for the developer to construct the roadway. The Developer shall be responsible for all costs associated with the design and construction of the roadway and all associated improvements. The developer may seek reimbursement of a portion of its documented roadway construction costs through the following mechanisms, subject to the limitations set forth below:

(a) Proportionate Share Contributions. The developer may, at its sole cost and expense, prepare and submit to the City a proportionate share analysis, prepared by a qualified traffic engineer using generally accepted methodology, identifying (i) the geographic benefit area served by the roadway and (ii) the proportionate share of roadway costs reasonably allocable to existing and reasonably anticipated future development within that benefit area, including the share allocable to the developer's own development. Such analysis must be submitted to the City no later than twenty-four (24) months after substantial completion of the roadway; failure to timely submit the analysis shall constitute a waiver of Developer's rights under this subsection (a). Upon the City's approval of the analysis and methodology (which approval shall not be unreasonably withheld), the City shall use commercially reasonable efforts, consistent with applicable law and the City's land use authority, to

condition approval of future development projects within the benefit area on payment of a proportionate share contribution toward Roadway costs, and to remit such contributions, when and if collected, to the developer as reimbursement until the developer has been reimbursed in full or until fifteen (15) years after substantial completion of the roadway, whichever occurs first.

(b) Conveyance Reimbursement. If the City conveys all or any portion of either of the resultant parcels created by the roadway alignment to a third party within ten (10) years after substantial completion of the roadway, the developer may request that the City enter into a reimbursement agreement providing for reimbursement of a portion of the developer's documented roadway construction costs from the proceeds of such conveyance, on terms to be mutually agreed by the parties.

(c) Limitations. In no event shall the aggregate reimbursement to the developer exceed the developer's documented actual costs of constructing the roadway, less the portion of such costs attributable to the developer's own proportionate share. The developer's right to reimbursement is contingent on the City's actual receipt of contributions or conveyance proceeds and does not obligate the City to advance funds from any other source or to collect any amount the City is unable to lawfully impose.

Upon completion of the roadway, the City of Fernley shall record the right-of-way dedication map. The completed roadway will be owned by and maintained by the City of Fernley.

4.2 Utilities

All utilities provided in Friendly 5 Ranch shall be subject to the standards and specifications identified in the City of Fernley Public Works Design Standards Manual.

4.2.1 Water Service

The City of Fernley shall be the water purveyor for the Friendly 5 Ranch. Appropriate water rights sufficient to serve the Development will be dedicated by the developer at the time of Final Map. The proposed project will be served by an existing 18" water line located in Farm District Road and operated by the City of Fernley. Because the project is located on both the north and south sides of Farm District Road, multiple taps off the 18" line can be expected.

The estimated residential demand is anticipated to be approximately 602± AF/year.

4.2.2 Sanitary Sewer Service

The project is proposed to sewer via a network of gravity mains to a lift station that will be located at the northwest corner of the project, where it will then be pumped in a force main to the wastewater treatment facility.

It is estimated that 538± homes will generate a peak hour demand of approximately 556,830 gallons/day. A detailed sewer report is provided within Supplemental Reports included with this Handbook.

4.2.3 Storm Drainage

The Development is located within a Shaded X flood zone as identified by FEMA. With the exception of roadside ditches and culverts on Farm District Road, there are no storm drain facilities in the vicinity of the Development. Storm water runoff generated from developed surfaces will be collected and routed to on-site retention basins via gutters, catch basins, and storm drains. Storm water management facilities will be installed as each phase of the Project is developed. As the site generally slopes to the north, retention basins will be located at the northern boundary of each developed area. Open spaces will be graded toward a meandering low point in the middle to collect and retain runoff generated within its boundaries. Storm water runoff within the Development will not drain to the Bureau of Reclamation's parcel directly north of the site.

4.2.4 Natural Gas Service

Southwest Gas owns and operates a 4" gas main located in Farm District Road that is of adequate size to serve the proposed project. As with the water system, multiple taps off the main is expected to serve the project. Natural gas shall be provided to every residential lot. Final design and location shall be coordinated with Southwest Gas.

4.2.5 Electrical Service

The project is adjacent to a network of overhead power lines operated by Sierra Pacific Power Company that includes both transmission and distribution lines. The project itself will be served with an underground electric system consisting of conduit, vaults and distribution cabling. Final locations and distribution design shall be provided by Sierra Pacific Power Company.

4.3 Fire Protection and Emergency Services

The project is located within the North Lyon County Fire District, approximately 4.1 miles by way of travel from the nearest fire station located on Main Street. A hierarchy of collector and local level streets are provided within the Development, designed such that minimum turning radii and maximum cul-de-sac lengths as identified by the City of Fernley Public Works Design Manual have been adhered to.

4.4 Schools

Currently, the Friendly 5 Ranch site is zoned for students to attend Cottonwood Elementary, Fernley Intermediate, and Fernley High Schools. Additionally, the Development is located adjacent to a Bureau of Reclamations parcel of which the City of Fernley is currently negotiating purchase of the property for future use as schools and parks sites. Currently, a conceptual development plan has been prepared by a consultant for the City identifying several potential school sites, which may include elementary, middle, and high school facilities, in addition to several park sites. The open space and trail network proposed within F5 Ranch foster safe routes for these potential future schools and parks and the Development promotes walkability for both Friendly 5 Ranch and surrounding residents.

Major Modification

Friendly 5 PUD

Submitted to City of Fernley

March 17, 2026

ORIGINAL

Prepared for

KDH Builders, LLC

5400 Equity Avenue

Reno, NV 89502

Prepared by

WOOD RODGERS

DEVELOPING INNOVATIVE DESIGN SOLUTIONS

1361 Corporate Blvd • Reno, NV 89502 • Tel: 775.823.4068

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Section 1

Planning Department
595 Silver Lace Blvd, Fernley, NV 89408
Development Application

APPLICATIONS, PLANS, AND/OR SUPPORTING DOCUMENTATION THAT ARE INCOMPLETE OR ILLEGIBLE WILL NOT BE ACCEPTED.
Please complete all sections that apply to you and/or your project. Various applications are only accepted on the application deadline dates. Please call before you submit to verify that someone will be available to assist you at (775) 784-9810.

☐ ADMINISTRATIVE REVIEW ..... (AR)	☐ APPEAL ..... (APP)
☐ ANNEXATION ..... (ANX)	☐ PLANNED DEVELOPMENT ..... (PD)
☐ CONDITIONAL USE PERMIT ..... (CUP)	☐ DEVELOPMENT AGREEMENT ..... (DA)
■ MAJOR DEVIATION ..... (MJD)	☐ TEMPORARY USE PERMIT ..... (TUP)
☐ MASTER PLAN AMENDMENT ..... (MPA)	☐ VARIANCE ..... (VAR)
☐ MINOR DEVIATION ..... (MND)	☐ REASONABLE ACCOMMODATION ..... (RAD)
☐ ZONING MAP AMENDMENT ..... (ZMA)	☐ OTHER

Applicant's Name	Signature	Primary Contact?
Scott Berge	Scott Berge	

Company Name: KDH Builders, LLC
Address: 5400 Equity Ave

City	State	Zip Code	Email
Reno	NV	89502	sbere@KDHbuilders.net

Phone No.	Cell No.	Fax No.
775-473-4215		

Property Owners Name	Primary Contact?
Jenuane Communities Onda Verde	

Company Name: Jenuane Communities Onda Verde
Address: 5400 Equity Ave

City	State	Zip Code	Email
Reno	NV	89502	sberge@KDHbuilders.net

Phone No.	Cell No.	Fax No.

Engineer / Representative	Primary Contact?
Derek Kirkland	Yes

Company Name: Wood Rodgers, Inc.
Address: 1361 Corporate Boulevard

City	State	Zip Code	Email
Reno	NV	89502	dkirkland@woodrodgers.com

Phone No.	Cell No.	Fax No.
775-823-4068		

Brief Project Type/Description (Attach Detailed Project Type / Description):
The subject request is for a Major Modification to modify the text of the Friendly 5 (F5) Ranch Planned Development (PD) Handbook to reflect a construction threshold for the Highway 50 roadway connector commensurate with known project timelines and existing conditions

Subdivision/Project Name And/Or Phase: Friendly 5 Ranch Planned Development
Project Location (Street Address): 2625 Farm District Rd, Fernley, NV
Assessor's Parcel Number(s): 021-303-09, -52, -54, -67

Current Zoning: Planned Development (PD)	Comprehensive Plan Land Use Designation	Single Family Residential (SFR)
Total Project Acreage:	% Commercial: no change	CITY UTILITIES: Water: ■ Currently Served ☐ Proposed; Sewer: ■ Currently Served ☐ Proposed
Number of Parcels Proposed: no change	% Open Space: no change	

Previous Applications For This Site? ■ Yes ☐ No
List Previous Application No(s) And Names: ZMA-05-15, PD 05-06, TSM 2016-003

2009 Flood Zone Designation: ☐ A ☐ AE ☐ AH ☐ AO — FEMA Map No.: 32019C0110E

Office Use Only			
Application Filing Date:		Application Fee:	
Application No.:	Development Review Meeting	Outsource Fee:	
Application Intake By:	Date:	Noticing Fee:	
Planner:	Time:	Total Due:	

LETTER OF AUTHORIZATION

This letter shall serve to notify and verify the I/we am/are the legal owner(s) of the property being considered under this application and do hereby authorize the above representative to file and represent my/our interest in this application.

I/we am/are the legal owner(s) of said property; have read the foregoing "Letter of Authorization" and know the contents thereof; and so hereby certify (or declare) under penalty of perjury under the laws of the State of Nevada that the information contained in this application is true and correct.

OWNER(S) OF RECORD: ***(Include all signatures-provide extra sheets if necessary)***

(Print Name)	(Signature)	(Date)
Jennifer D Hendrix		3-12-26

I certify under penalty of perjury that I am the applicant and that the foregoing statements and answers contained herein and the information herein submitted, are in all respects true and correct. I grant permission to City staff and officials to enter the property to conduct inspections/site visits necessary for the review of the project. I also certify that all plans and submittal requirements are in accordance with the Nevada Revised Statues and City Code, have been drawn to a standard engineering scale (e.g. 1"=20', 1"=50', 1"=100') or architectural scale (e.g. ¼"=1', 1/8"=1') that is appropriate to the project size, and clearly define and identify all of the required information.

APPLICANT:

(Print Name)	(Signature)	(Date)
Scott Berge	Scott Berge	3.16.26

APPLICANT'S ENGINEER/REPRESENTATIVE:

(Print Name)	(Signature)	(Date)
DEREK KIRKLAND, AICP		3/16/26

City of Fernley Development Code, Section 32.03.030, Common Review Procedures: The City will not process incomplete applications. Review for completeness of application forms is solely to determine whether preliminary information required for submission with the application is sufficient to allow further processing. A determination of completeness shall not constitute a decision as to whether an application complies with the City's Development Code.

Note: Development review meetings are preliminary nature and comments expressed by staff should not be construed as being Conditions of Approval for any project application.

EXHIBIT A
PROJECT LEGAL DESCRIPTION

All that certain real property situate within Section-Twenty-One (21) Township Twenty (20) North, Range Twenty-Five (25) East, Mount Diablo Meridian, City of Fernley, County of Lyon, State of Nevada, and being more particularly described as follows:

BEING Parcel 3 as shown on Parcel Map No. 366028, recorded October, 24, 2005, in the Official Records of Lyon County, Nevada;

EXCEPTING therefrom the "Farm District Road Easement State Rout 828" as shown on said map;

TOGETHER WITH Parcel 1 as shown on Parcel Map No. 366027, recorded October 24, 2005 in the Official County Records of Lyon County;

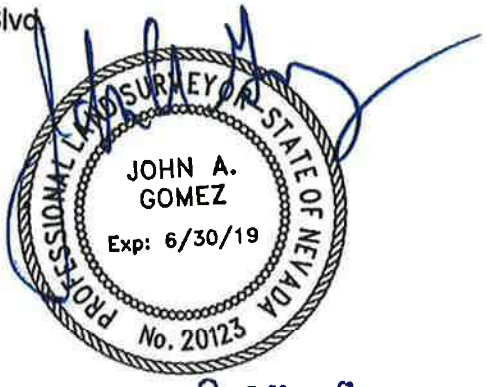
EXCEPTING therefrom the "Farm District Road Easement State Route 828" as shown on said map;

TOGETHER WITH Parcel 2 as shown on Parcel Map 497187, recorded October 12, 2012 in the Official Records of Lyon County;

TOGETHER WITH Parcel 2-A as shown o Parcel Map 366096, recorded October 25, 2005, in the Official County Records of Lyon County;

TOGETHER WITH Parcel E as described in Document No 560699, recorded February 6, 2017 in the Official Records of Lyon County.

Prepared by:
Wood Rodgers, Inc.
1361 Corporate Blvd
Reno, NV 89502



8-29-19

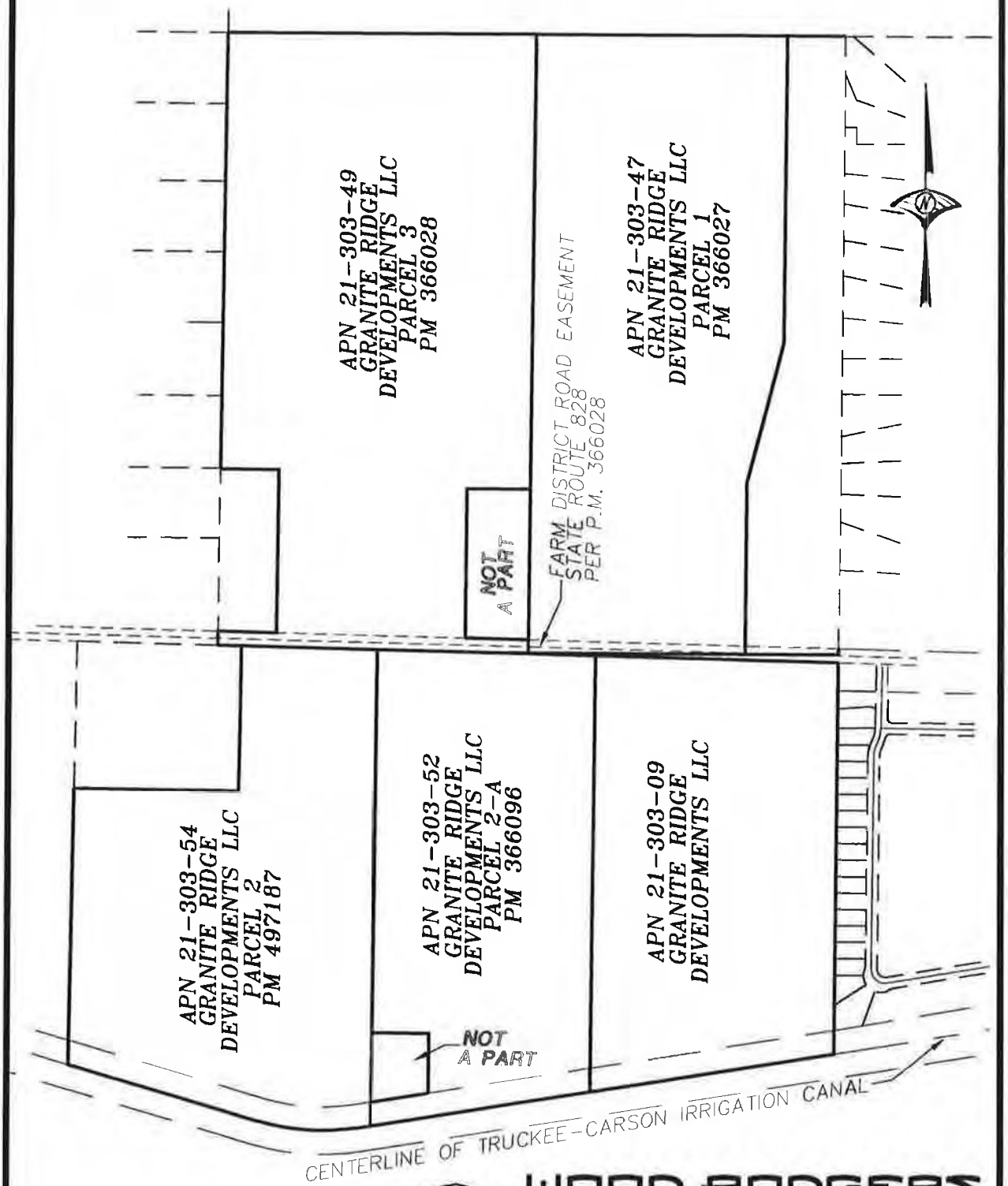
John A. Gomez, P.L.S.
Nevada Certificate No. 20123

EXHIBIT A-1

PLAT TO ACCOMPANY

PROJECT BOUNDARY

BEING A PORTION OF SECTION 21
TOWNSHIP 20 NORTH, RANGE 25 EAST, M.D.M
FERNLEY LYON COUNTY NEVADA



JOB NO. 1757.001
SHEET 1 OF 1

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

Lyon County Nevada

Tax Account 021-303-09

Owners

JENUANE COMMUNITIES ONDA VERDE
5400 EQUITY AVE
RENO, NV 89502-0000

Account Summary

Account ID	021-303-09
Account Type	Real Estate
Location	2725 FARM DISTRICT RD FERNLEY
Balance	$1,031.00
Currently Due	$1,031.00

$1,031.00 is due by March 02, 2026.

You can pay any amount up to $1,031.00 (the current balance).

Current Year

Description	2025/2026 REAL ESTATE TAXES
Original	$4,127.03
Total	$4,127.03
Paid	$3,096.03
Balance	$1,031.00
Due	$1,031.00
Ad Valorem Tax Rate	3.6579
Tax District	6.0 (City of Fernley)
Tax Cap	100% High 8.0%
Tax Cap Type	Other

Installments

#	Due Date	Penalty Date	Status	Original Total	Penalty	Interest	Total	Paid	Total Due	Pay Now
1	08/18/2025	08/29/2025	Paid	$1,034.03	$0.00	$0.00	$1,034.03	$1,034.03	$0.00	
2	10/06/2025	10/17/2025	Paid	$1,031.00	$0.00	$0.00	$1,031.00	$1,031.00	$0.00	
3	01/05/2026	01/16/2026	Paid	$1,031.00	$0.00	$0.00	$1,031.00	$1,031.00	$0.00	
4	03/02/2026	03/13/2026	Due	$1,031.00	$0.00	$0.00	$1,031.00	$0.00	$1,031.00	Pay $1,031.00 Now

Lyon County Nevada

Tax Account 021-303-52

Owners

JENUANE COMMUNITIES ONDA VERDE
5400 EQUITY AVE
RENO, NV 89502-0000

Account Summary

Account ID	021-303-52
Account Type	Real Estate
Location	2625 FARM DISTRICT RD FERNLEY
Balance	$1,045.00
Currently Due	$1,045.00

$1,045.00 is due by March 02, 2026.

You can pay any amount up to $1,045.00 (the current balance).

Current Year

Description	2025/2026 REAL ESTATE TAXES
Original	$4,183.39
Total	$4,183.39
Paid	$3,138.39
Balance	$1,045.00
Due	$1,045.00
Ad Valorem Tax Rate	3.6579
Tax District	6.0 (City of Fernley)
Tax Cap	100% High 8.0%
Tax Cap Type	P: NON QUALIFYING

Installments

#	Due Date	Penalty Date	Status	Original Total	Penalty	Interest	Total	Paid	Total Due	Pay Now
1	08/18/2025	08/29/2025	Paid	$1,048.39	$0.00	$0.00	$1,048.39	$1,048.39	$0.00	
2	10/06/2025	10/17/2025	Paid	$1,045.00	$0.00	$0.00	$1,045.00	$1,045.00	$0.00	
3	01/05/2026	01/16/2026	Paid	$1,045.00	$0.00	$0.00	$1,045.00	$1,045.00	$0.00	
4	03/02/2026	03/13/2026	Due	$1,045.00	$0.00	$0.00	$1,045.00	$0.00	$1,045.00	Pay $1,045.00 Now

Lyon County Nevada

Tax Account 021-303-54

Owners

JENUANE COMMUNITIES ONDA VERDE
5400 EQUITY AVE
RENO, NV 89502-0000

Account Summary

Account ID	021-303-54
Account Type	Real Estate
Location	0 FARM DISTRICT RD FERNLEY
Balance	$1,224.00
Currently Due	$1,224.00

$1,224.00 is due by March 02, 2026.

You can pay any amount up to $1,224.00 (the current balance).

Current Year

Description	2025/2026 REAL ESTATE TAXES
Original	$4,899.40
Total	$4,899.40
Paid	$3,675.40
Balance	$1,224.00
Due	$1,224.00
Ad Valorem Tax Rate	3.6579
Tax District	6.0 (City of Fernley)
Tax Cap	100% High 8.0%
Tax Cap Type	Other

Installments

#	Due Date	Penalty Date	Status	Original Total	Penalty	Interest	Total	Paid	Total Due	Pay Now
1	08/18/2025	08/29/2025	Paid	$1,227.40	$0.00	$0.00	$1,227.40	$1,227.40	$0.00	
2	10/06/2025	10/17/2025	Paid	$1,224.00	$0.00	$0.00	$1,224.00	$1,224.00	$0.00	
3	01/05/2026	01/16/2026	Paid	$1,224.00	$0.00	$0.00	$1,224.00	$1,224.00	$0.00	
4	03/02/2026	03/13/2026	Due	$1,224.00	$0.00	$0.00	$1,224.00	$0.00	$1,224.00	Pay $1,224.00 Now

Lyon County Nevada

Tax Account 021-303-67

Owners

JENUANE COMMUNITIES ONDA VERDE
5400 EQUITY AVE
RENO, NV 89502-0000

Account Summary

Account ID	021-303-67
Account Type	Real Estate
Location	0 FARM DISTRICT RD FERNLEY
Balance	$259.61
Currently Due	$259.61

$259.61 is due by March 02, 2026.

You can pay any amount up to $259.61 (the current balance).

Current Year

Description	2025/2026 REAL ESTATE TAXES
Original	$8,393.08
Total	$8,393.08
Paid	$8,133.47
Balance	$259.61
Due	$259.61
Ad Valorem Tax Rate	3.6579
Tax District	6.0 (City of Fernley)
Tax Cap	100% High 8.0%
Tax Cap Type	Other

Installments

#	Due Date	Penalty Date	Status	Original Total	Penalty	Interest	Total	Paid	Total Due	Pay Now
1	08/18/2025	08/29/2025	Paid	$2,099.08	$0.00	$0.00	$2,099.08	$2,099.08	$0.00	
2	10/06/2025	10/17/2025	Paid	$2,098.00	$0.00	$0.00	$2,098.00	$2,098.00	$0.00	
3	01/05/2026	01/16/2026	Paid	$2,098.00	$0.00	$0.00	$2,098.00	$2,098.00	$0.00	

Lyon County Nevada

Tax Account 022-628-15

Owners

JENUANE COMMUNITIES ONDA VERDE
5400 EQUITY AVE
RENO, NV 89502-0000

Account Summary

Account ID	022-628-15
Account Type	Real Estate
Location	0 FARM DISTRICT RD FERNLEY
Balance	$0.00
Currently Due	$0.00

No payment currently due.

This account has a balance of $0.00. No payment can be made.

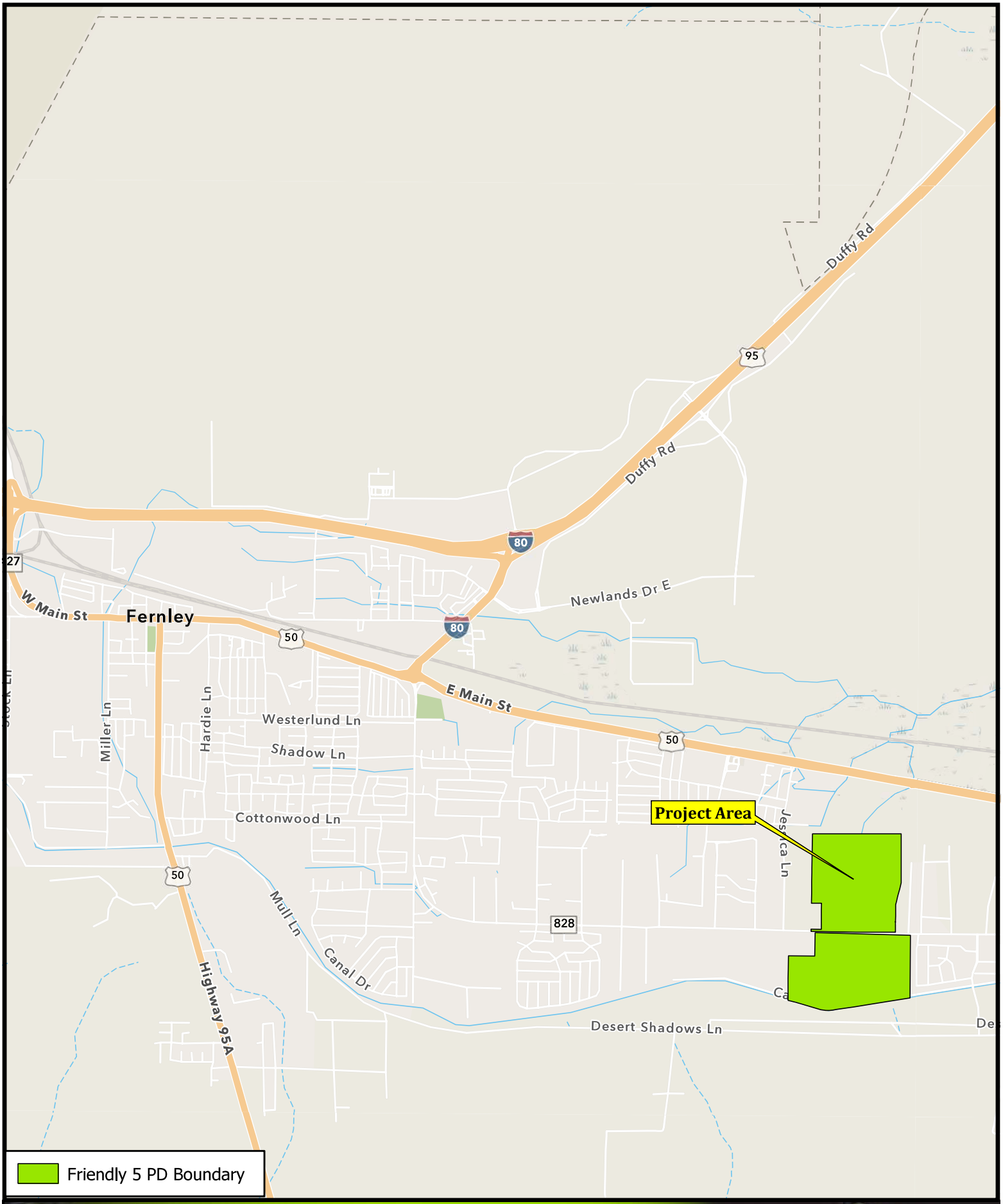
Current Year

Description	2025/2026 REAL ESTATE TAXES
Original	$26.17
Total	$26.17
Paid	$26.17
Balance	$0.00
Due	$0.00
Ad Valorem Tax Rate	3.6579
Tax District	6.0 (City of Fernley)
Tax Cap	100% High 8.0%
Tax Cap Type	Other

Installments

#	Due Date	Penalty Date	Status	Original Total	Penalty	Interest	Total	Paid	Total Due
1	08/18/2025	08/29/2025	Paid	$26.17	$0.00	$0.00	$26.17	$26.17	$0.00
2	10/06/2025	10/17/2025	Not due	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
3	01/05/2026	01/16/2026	Not due	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
4	03/02/2026	03/13/2026	Not due	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00

Section 2



Vicinity Map

Friendly 5 Major Deviation

March 2026

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

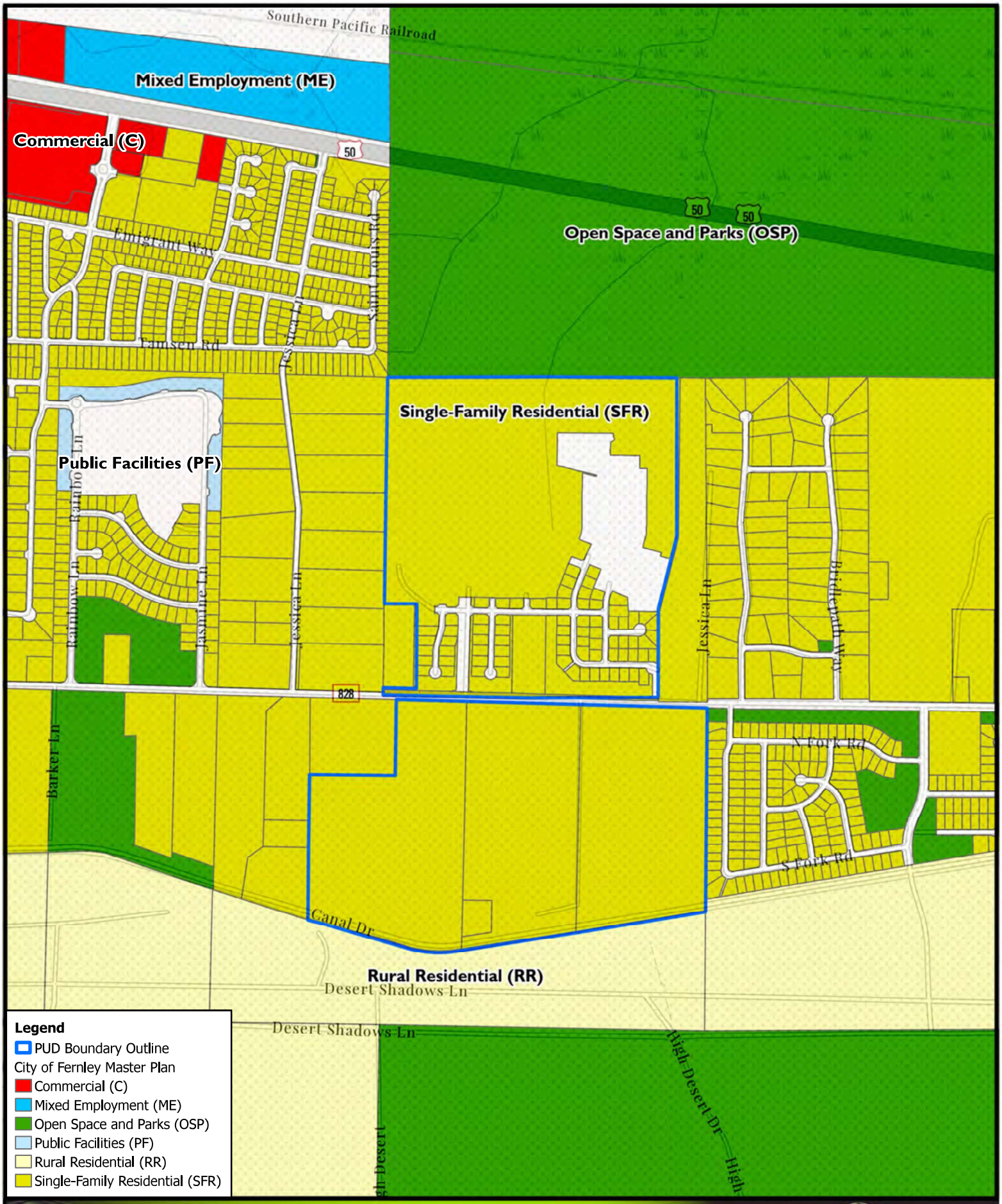
Aerial Map

Friendly 5 Major Deviation

March 2026

0 462½ 925 Feet

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

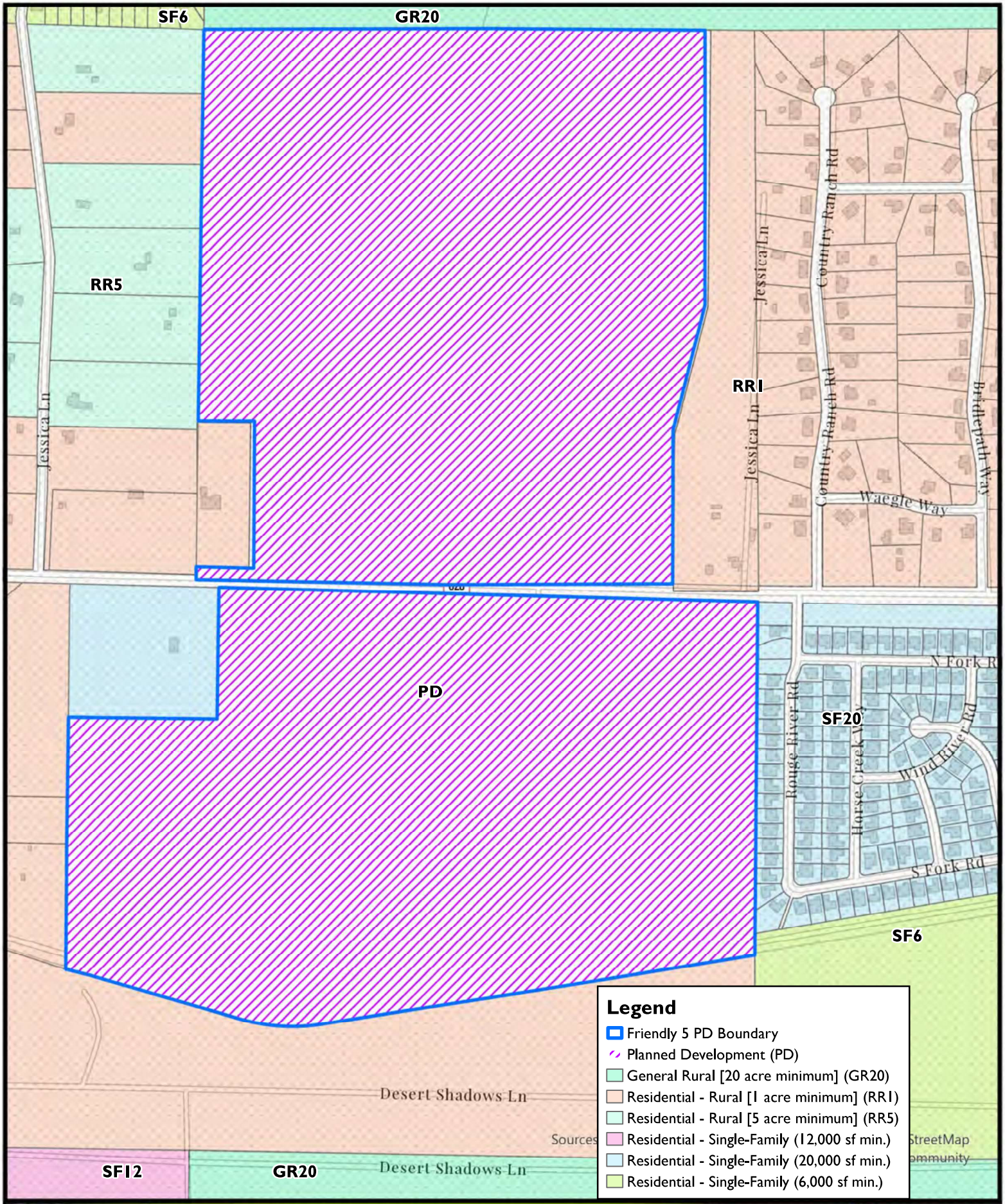


Master Plan

Friendly 5 Major Deviation

March 2026

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



Zoning

Friendly 5 Major Modification

March 2026

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

Section 3

Project Description

Executive Summary

Applicant:	KDH Builders, LLC
APN Number(s):	021-303-09, -52, -54, -67, and 022-628-15
Gross Site Area:	±260 acres (ac)
Request:	This is a request for: **Major Modification** to modify the Friendly 5 (F5) Ranch Planned Development (PD) Handbook (Handbook) and associated conditions of approval relative to the proposed roadway connecting the north side of Friendly 5 to US 50 as follows: 1) Add a **new section 4.1.3** to the PD Handbook in Chapter 4 to specify the requirements for the major arterial connector between Friendly 5 and US 50; and 2) Amend condition number "4.K" relative to the timing required for constructing the roadway connecting the north side of the Friendly 5 to US 50 from *"recordation of the 151st lot on the north side of Farm District Road"* to "***with the first Certificate of Occupancy within Village 4 and 5 south of Farm District Road."*** and other clarifications.
Location:	The F5 Ranch is located on both the north and south sides of Farm District Road approximately 500 linear feet east of the intersection of Farm District Road and Jessica Lane.

Background & Existing Conditions

The Friendly 5 (F5) Ranch Planned Development (PD) was approved in 2006 and originally included five parcels totaling approximately 260 acres (ac). At the time of approval, the land immediately north of the PD boundary, which was required for the planned north-south arterial connection to US Highway 50 (US-50), was owned by the Bureau of Reclamation (BOR) and subsequently by the Bureau of Land Management (BLM). A condition of the original Handbook's approval (*Condition 4.K*) required the roadway across the adjacent BLM parcel to the north to provide connectivity to US 50.

Condition 4.K required the developer to construct the roadway at the recordation of the 151st lot north of Farm District Road. Because the ability to construct the roadway depended on the City of Fernley's future acquisition of this land and associated federal approvals*, Condition 4.K* of the Handbook's approval was written to include some flexibility including the developer not building the road if an easement could not be provided. Recognizing the uncertainty of obtaining federal land and approvals, *Condition 4.K* explicitly stated: 1) The City would work with the applicant to acquire the necessary ROW or easements from BOR; 2) If BOR denied the acquisition or easement, the applicant would be exempt from the roadway requirement; and 3) The arterial would instead terminate at the northern project boundary. This condition language acknowledged that the developer could not reasonably be expected to design or construct the roadway until the City either acquired the parcel or secured federal authorization for use of the parcel.

Following approval of the PD, the development timeline included:

2008:	The **Great Recession** had a major impact on development, significantly delaying the overall progress of Friendly 5, including progress towards acquiring any easements.
2014:	**National Defense Authorization Act (NDAA)** passed including a massive public lands package that authorized the federal government to convey land to local governments for specific public purpose, often at no cost. This bill made acquiring the parcel by the City more feasible than obtaining a ROW easement from the BOR/BLM.
2018:	The City of Fernley initiated the Recreation and Public Purpose (R&PP) acquisition process to **acquire the adjacent parcel** necessary for the roadway connection to US 50.
February 2023:	Final subdivision map for **Village 1** is recorded and includes **75 residential lots** (*see **Figure 1***).

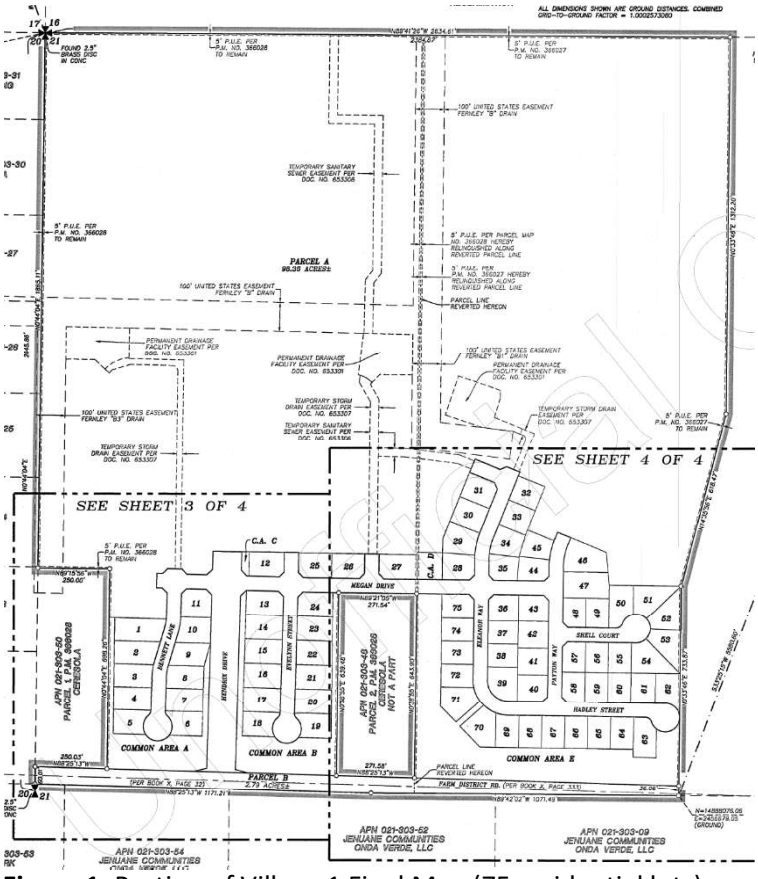


Figure 1: Portion of Village 1 Final Map (75 residential lots)

August 2024: Final subdivision map for **Village 2** is recorded and includes **52 residential lots** (*see **Figure 2***).

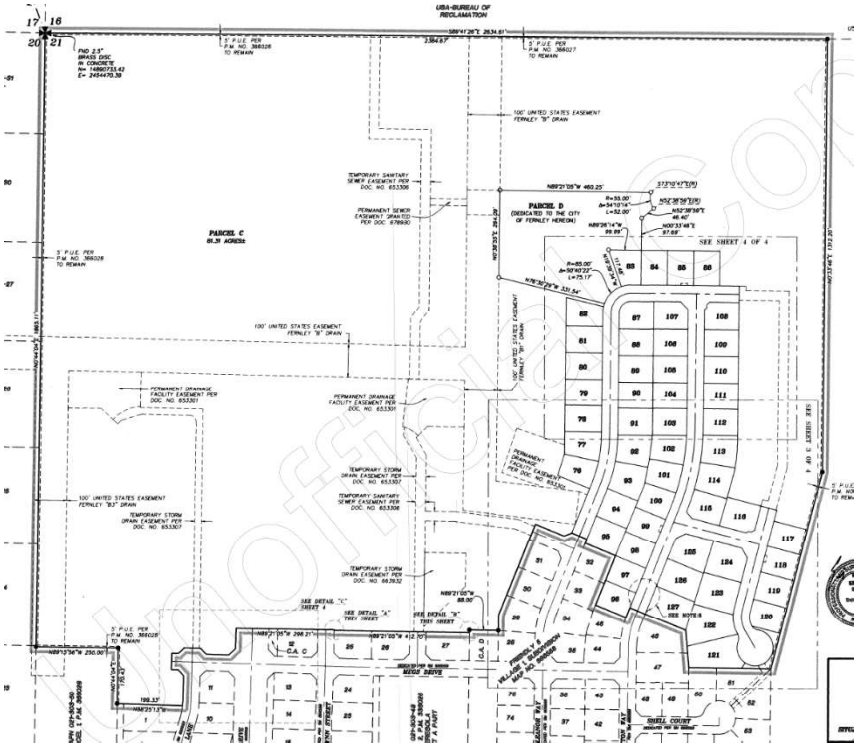


Figure 2: Portion of Village 2 Final Map (52 residential lots)

2024-2025: The applicant initiated and continued conversations with the City of Fernley to determine the process for acquiring an easement and constructing the roadway to US 50. The applicant also kicked off an updated traffic impact study to further analyze the requirement for the roadway extension.

November 2025: The City of Fernley successfully completed the R&PP acquisition process to **acquire the adjacent parcel** necessary for the roadway connection to US 50.

January 2026: An **updated Traffic Impact Study (TIS)** concluded that the roadway connection is no longer warranted at the 151st lot threshold due to changed traffic patterns and regional development.

March 2026 (anticipated): Recordation of the subdivision map containing the 151st lot north of Farm District Road is anticipated.

March 2026 (subject request): A Major Modification application is submitted to adjust *Condition 4.K* to reflect updated development timing and the City's acquisition of the federal parcel and align with the revised TIS. The amendment to the PD will allow the development to move forward while the applicant works on design of the new roadway to US 50.

May 2026 (anticipated)	Final subdivision map for **Village 3** is anticipated to be recorded by May 2026 and will include **50 residential lots**, which will include the recordation of the 151st lot (*see **Figure 3***).

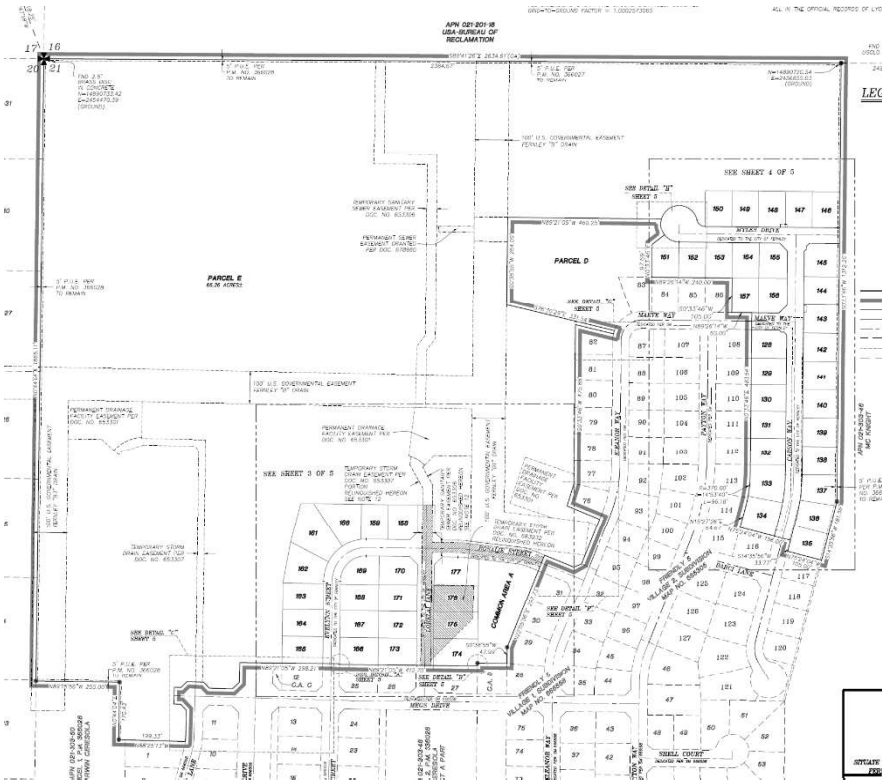


Figure 3: Portion of Village 3 final map (50 residential lots)

At the beginning of this year (2026) the City had secured the necessary federal approvals and completed acquisition of the federal land necessary for the roadway extension. The City of Fernley can now provide an easement for the applicant to move forward with design of the future roadway. Based on *Condition 4.K* the applicant could not invest in design of the roadway until an easement was secured or the City of Fernley became the landowner. The applicant has continued to move forward with construction of Friendly 5, which has seen increased demand leading to the need to record the current final map that will include the 151st lot. Design, permitting, and construction of the future roadway could take upwards of 18 months or more.

Strict adherence to the original timing would thus require residential construction to cease until the roadway is completed. This interruption to the development timeline is neither feasible nor consistent with the intent of the PD or housing goals of the City of Fenley's Comprehensive Master Plan (Master Plan). The PD was never expected to halt residential construction simply because the City's land acquisition timelines did not align perfectly with the phasing of the development. Furthermore, the applicant has updated the Traffic Impact Study (*refer to the 2026 Traffic Impact Study in Section 4 of this submittal packet*) to ensure shifting construction of the roadway to US 50 to a later phase would not create any adverse impacts. The updated Traffic Impact Study (2026 TIS) found that based on more current information, including updated traffic counts, the new roadway connection is actually not warranted at the 151st lot. The 2026 TIS recommends the roadway extension would be required once development reaches Villages 4 and 5 on the south side of Farm District Road.

Project Request

This submittal packet includes an application and associated materials for the below request:

Major Modification to modify the Friendly 5 (F5) Ranch Planned Development (PD) Handbook (Handbook) and associated conditions of approval relative to the proposed roadway connecting the north side of Friendly 5 to US 50 as follows:

1) Add a **new section 4.1.3** to the PD Handbook in Chapter 4 to specify the requirements for the major arterial connector between Friendly 5 and US 50 *(refer to Friendly 5 PD Handbook – Chapter 4 [with redlines] in Section 4 of this submittal packet*); and
2) Amend condition number "4.K" relative to the timing required for constructing the roadway connecting the north side of the Friendly 5 to US 50 from *"recordation of the 151st lot on the north side of Farm District Road"* to "***with the first Certificate of Occupancy within Village 4 and 5 south of Farm District Road."***

Below is the original condition language with any removed text shown with ~~red strikethrough~~ and any added text shown in red underline:

> ***Condition 4.K***
> "An access road extending the proposed arterial from the northern project boundary to the NDOT 'High-T' intersection along Highway 50A, ~~to~~ shall be incorporated with construction of Villages 4 and 5 ~~into the first phase north of Farm District Road~~. Said access road shall be built to City of Fernley standards and shall include two 12' travel lanes and ~~two 6' bicycle lanes~~ one 8' separated shared use path. Sidewalks and curbing will not be required for this road section. The arterial shall include dedicated left and right turn lanes at the intersection with Highway 50A. The City will provide ~~work with~~ the Applicant with ~~in acquiring~~ the necessary right-of-way or easement. ~~from the Bureau of Reclamation (BOR).~~ Said roadway is an 'arterial street' identified on the Comprehensive Plan and the Developer shall be reimbursed for actual construction costs. With recordation of the 31st lot on the north side of Farm District Road, the Developer shall provide a temporary secondary emergency access either to Farm District Road or to US 50. ~~With recordation of the 151st lot on the north side of~~ Prior to the first Certificate of Occupancy (COO) within Villages 4 or 5 south of Farm District Road, the Developer shall construct the roadway connection from the north project property line to US 50 as outlined above. If said right-of-way or easement is denied ~~by BOR~~, the applicant is exempt from the condition, and the arterial road shall terminate at the northerly project boundary."

A redlined version of the F5 PD Handbook has been included in *Section 4* of this submittal packet showing all proposed changes to the Handbook including the above condition amendment and any subsidiary changes stemming from said amendment. Specifically, *Handbook §4.1.3 [Major Arterial Connector (interim)]* has been added to outline the roadway cross section design for the Highway 50 connector. Beyond the changes to *Condition 4.K* and the addition of *§4.1.3,* no other modifications to the Handbook are proposed.

Project Analysis

The requested ***Major Modification*** proposes revising the PD Handbook's *Condition 4.K* so that the construction threshold for the roadway is tied to issuance of the first Certificate of Occupancy (COO) in Villages 4 and 5, two of the three villages located south of Farm District Road. This modification helps achieve several critical objectives:

- Maintains consistency with the PD Handbook while working within the City's land acquisition timeline;
- Prevents unnecessary delays in residential construction when the area has significant housing demand;
- Aligns roadway construction timing with current traffic needs identified in the updated TIS; and
- Ensures the roadway still gets built within a realistic timeframe.

The request also includes adding section 4.1.3 to clarify missing information from the current PD Handbook, which includes a conceptual alignment and cross section for the applicant to design the roadway to. Now that the City of Fernley owns the adjacent parcel it is assumed the City will eventually sell the land for future development. The proposed roadway alignment and cross section will serve the current Friendly 5 development as outlined in the updated TIS while providing flexibility for future development should the roadway need to be modified to serve future development. Future modifications to the roadway would be the responsibility of the future developer.

Essentially nothing substantive about the original infrastructure commitment is changing. The future roadway will still be designed and constructed as required. The modification simply aligns the timing of this requirement with the practical realities of federal land acquisition, development phasing, and updated traffic demand allowing for construction of much-needed housing in Fernley to continue uninterrupted. The modification will also provide clarity between the City and applicant on agreed upon location and standards for which the roadway will be designed and constructed.

At full build-out the development is anticipated to generate approximately 4,847 daily trips, with 360 AM peak hour trips and 483 PM peak hour trips. The F5 PD will have three primary access points: one intersection along Farm District Road which will provide access into villages north and south of Farm District Road; one intersection along Farm District Road that provides access to villages south of Farm District Road only; and a third connection at the northern property boundary connecting the site to US-50 via Hendrix Drive. This third connection is the requirement of *Condition 4.K* and is the primary focus of the subject request.

The TIS indicates that the two access points along Farm District Road will have adequate capacity to serve the project until approximately 70% build out, at which point the third access point at the northern property boundary connecting to US-50 would then be necessary. With the recommended roadway extension completed upon acquisition of the first COO for any residence within Villages 4 and 5 south of Farm District Road, the studied intersections are anticipated to operate within policy level of service under all scenarios. It is worth noting that intersection improvements on Farm District Road conditioned with the Handbook approval have already been constructed and the updated TIS does not recommend any improvements to Farm District Road at this time.

Findings Required for a Major Deviation (FMC §32.03.090[b][6])

The Fernley Municipal Code (FMC) establishes findings for all entitlement applications as well as those specific to a Major Deviations. The required findings are outlined below followed by responses for each. Prior to approving an application for a Major Deviation, the Planning Commission shall find that all of the following are true:

(1) The request is consistent with the stated purposes of title 32, zoning;

Response: Consistency with the stated purposes of Title 32 was analyzed at the PD inception and no change to the PD has occurred, or is proposed, that would in any way substantially change the Handbook's consistency with the purposes of Title 32. Furthermore, one of the purposes of Title 32 is explicitly: *"Develop a timely, orderly, and efficient arrangement of transportation and public facilities (FMC §32.01.010 [Purpose])."* The proposed modification's explicit purpose is to facilitate timely and efficient construction of an arterial roadway, commensurate with development in the area. In more ways than one, the proposed modification is consistent with and furthers the purposes of Title 32.

(2) *Granting the major deviation will not be materially detrimental to the public health, safety or welfare, or injurious to property or improvements in the vicinity;*

Response: As demonstrated thoroughly in the updated TIS, the threshold at which the third access point is warranted is approximately 70% build out, which is anticipated to be upon occupancy of the first unit within Villages 4 or 5 south of Farm District Road. Prior to 70% build out, the two access points along Farm District Road (which are already constructed) will adequately serve the F5 PD and surrounding area. Granting the modification will work to avoid impacts that could result from an unnecessary interruption to construction timelines in place for existing villages. Allowing the modification will continue to facilitate new housing for the community while the developer continues to honor the original intent of *Condition 4.K* by providing the connection to US 50 with a later phase. This connection to US 50 will provide a larger benefit to the City's future growth by supporting the overall transportation network consistent with the City's transportation master plan and ongoing planning efforts.

(3) Granting the major deviation is necessary for the preservation and enjoyment of a property right possessed by other property owners in the same vicinity and land use district and is denied to the property for which the major deviation is sought; and

Response: The proposed modification will help to preserve development rights enjoyed by property owners in the vicinity and within the F5 PD. Under the current language of *Condition 4.K*, recordation of the 151st lot north of Farm District Road would immediately trigger the roadway construction obligation that cannot reasonably be met in an appropriate time frame, given the City only recently secured the federal land, a necessary step needed prior to the applicant starting the design phase for the roadway. Enforcing this more than 20-year-old timing requirement would stop residential construction for an extended period, potentially years, despite the updated TIS demonstrating that the roadway is not yet warranted. Such a construction interruption would uniquely burden this property, depriving the ability to continue phasing development in a manner consistent with the Handbook and regional housing needs. The proposed modification aligns the

roadway construction with the issuance of the first COO in Villages 4 or 5, ensuring the connector road is still constructed. Approval of the major deviation is a benefit to the entire Farm District Road area preserving the ability for the developer to construct the roadway connection between Farm District Road and US 50.

(4) Granting of the major deviation does not constitute a special privilege inconsistent with the limitations upon other properties in the vicinity and land use district in which the property is located.

Response: Granting the major deviation does not constitute a special privilege because the request does not reduce or eliminate the infrastructure requirement, nor does it grant the applicant any entitlement. The modification only adjusts the timing of the already required roadway improvement so the requirement reflects the acquisition timeline and the updated TIS demonstrating when the connection is actually warranted. The proposed adjustment ensures the F5 PD maintains continuous construction. The proposed infrastructure delivery timeline aligns with actual development without granting any superior privilege or relaxing any substantive requirement.

Section 4

TRAFFIC IMPACT STUDY

for

FRIENDLY 5

March 3, 2026

PREPARED FOR:

KDH Builders, LLC

PREPARED BY:

GCW

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YOUR QUESTIONS ANSWERED QUICKLY

Why did you perform this study?

Friendly 5 is an approved residential development in the City of Fernley. Overall traffic conditions have changed in almost 20 years since the original Friendly 5 Ranch Development Handbook (2006) approval and conditions assumed in the associated traffic impact studies. This Traffic Impact Study is an update to the former Friendly 5 Traffic Impact Study (Solaegui Engineers, August 2019) and recommends revised improvements, revised thresholds for requiring improvements, and revised timing and phasing that better address the current conditions.

What does the project consist of?

The project consists of 514 single-family dwelling units. The site is located north and south of Farm District Road, just east of Jessica Lane. The project is divided into six villages with Villages 1-3 north of Farm District Road, and Villages 4-6 to the south. Villages 1 through 3 are already in early stages of final mapping approvals or already under construction, consistent with the prior approvals.

The project location within the region is shown in **Figure 1** and the project site location is shown in **Figure 2**. The preliminary site plan is shown in **Figure 3**.

How much traffic will the project generate?

The development is anticipated to generate approximately 4,847 Daily trips, 360 AM peak hour trips, and 483 PM peak hour trips. Approximately 57% of the units are north of Farm District Road, and 43% are to the south.

What are the updated proposed improvements and triggers?

A summary of the recommended improvements is provided in **Figure 10** and includes:

- Three access points are recommended – the two existing intersections on Farm District Road (Intersections 3 and 4 in the report Figures) and the planned Hendrix Drive Extension to US 50A at the existing High-T intersection which was built by NDOT for this purpose (Intersection 2).

- The existing Friendly 5 West and East access connections to Farm District Road are recommended to remain side-street stop controlled on the northbound and southbound approaches in their current configurations.

- The analysis indicates that the study intersections on Farm District Road will adequately function with Villages 1 through 3 and Village 6 (approximately 70% of the total build out) without the Hendrix Drive Extension. Therefore, the Hendrix Drive Extension should be completed prior to the first Certificate of Occupancy for a residence within Village 4 or Village 5. Hendrix Drive as a two-lane roadway (one lane each direction) is shown to provide adequate capacity for the Future Plus Project conditions with other regional traffic diverted to the roadway.

- With the construction of the Hendrix Drive Extension, the following turn lanes should be constructed at the US50A / Hendrix Drive Extension intersection:

    - Eastbound right turn lane (735' total length, with 25' of "storage" length and 710' of deceleration length). The total length will consist of 250' of taper and 485' of full lane width)
    - Northbound right turn lane to create separate left and right turn lanes (315' total length, with 100' storage length and 215' deceleration length which includes appropriate taper and the remainder as full lane width)

- A traffic signal may eventually be warranted at the US 50A / Hendrix Drive Extension intersection (the existing High-T) due to regional traffic flow combined with project traffic. Signalization is not a Condition of Approval of the Friendly 5 Ranch Development Handbook. Per NDOT policies and practices, a traffic signal cannot be constructed until MUTCD traffic signal warrants are met and installation is permitted by NDOT. Therefore, a signal cannot be conditioned at this time since there is no certainty NDOT would approve a signal.

- If/when signal warrants are met, a signal would be recommended for the following reasons:
    - Signalization maintains the existing High-T configuration. Signalized High-Ts are the common intersection configurations and controls along the US 50A corridor.
    - The US 50A / Hendrix Drive Extension intersection should initially be constructed with stop control and two approach lanes on the northbound approach and be re-evaluated for signal warrants after opening the complete extension.

- Note that the intersection improvements on Farm District Road conditioned in the Friendly 5 Ranch Development Handbook approval have already been constructed and no other improvements are recommended on Farm District Road at this time.

How will the roadway network operate with the proposed improvements?

With the recommended Hendrix Drive Extension completed prior to the first Certificate of Occupancy for a residence within Village 4 or Village 5, the studied intersections are anticipated to operate within policy level of service under all scenarios.

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INTRODUCTION

This Traffic Impact Study evaluates the potential traffic impacts associated with the proposed Friendly 5 residential development in Fernley, NV. This update to the prior approved traffic impact study was undertaken to determine the existing, opening year and future year traffic conditions, quantify traffic volumes generated by the proposed project, identify potential impacts, and develop recommendations to manage the project traffic that better fit current conditions.

Study Area and Evaluated Scenarios

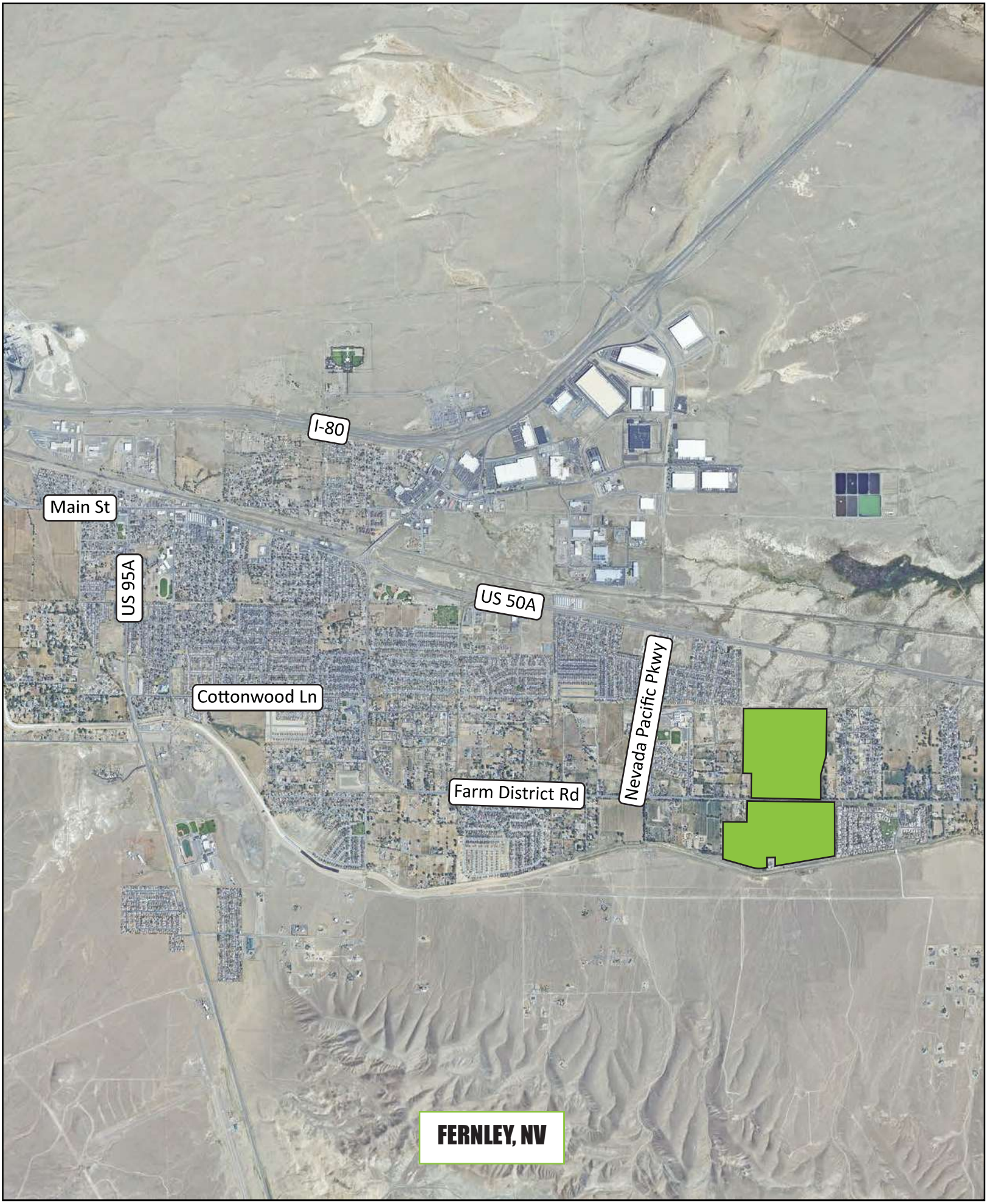
The project consists of 514 single-family dwelling units. The site is located north and south of Farm District Road, just east of Jessica Lane. Project access is proposed via Farm District Road and a future extension of Hendrix Drive to US 50A. The project is divided into six villages with Villages 1-3 north of Farm District Road, and Villages 4-6 to the south. Portions of Villages 1and 2 are currently under construction with approximately 17 homes built and or under construction at the time of traffic counts. The project location within the region is shown in **Figure 1** and the project site location is shown in **Figure 2**. The preliminary site plan is shown in **Figure 3**.

The following intersections are included in this study:

1. US 50A / Nevada Pacific Boulevard/ Nevada Pacific Parkway (NPP) – Signalized *T-intersection in Existing Conditions; four-leg signalized intersection including the extension in all other scenarios*
2. US 50A / Hendrix Drive Extension – *High-T intersection in the Plus Project Full Build-Out Project Conditions Only*
3. Farm District Road / Friendly 5 West Access
4. Farm District Road / Friendly 5 East Access – *Plus Project Conditions Only*

This study includes analysis of both the weekday AM and PM peak hours as these are the periods of time in which peak traffic is anticipated to occur. The evaluated development scenarios are:

- Existing Conditions
- Opening Year Conditions (5 Year horizon, no project)
- Future Conditions (20 Years from Opening Year, no project)
- Opening Year Plus Project Conditions
- Future Year Plus Project Conditions



GCW ENGINEERS \ SURVEYORS

NO SCALE

- Project Site

Figure 1

Friendly 5

Traffic Impact Study

Regional Project Location

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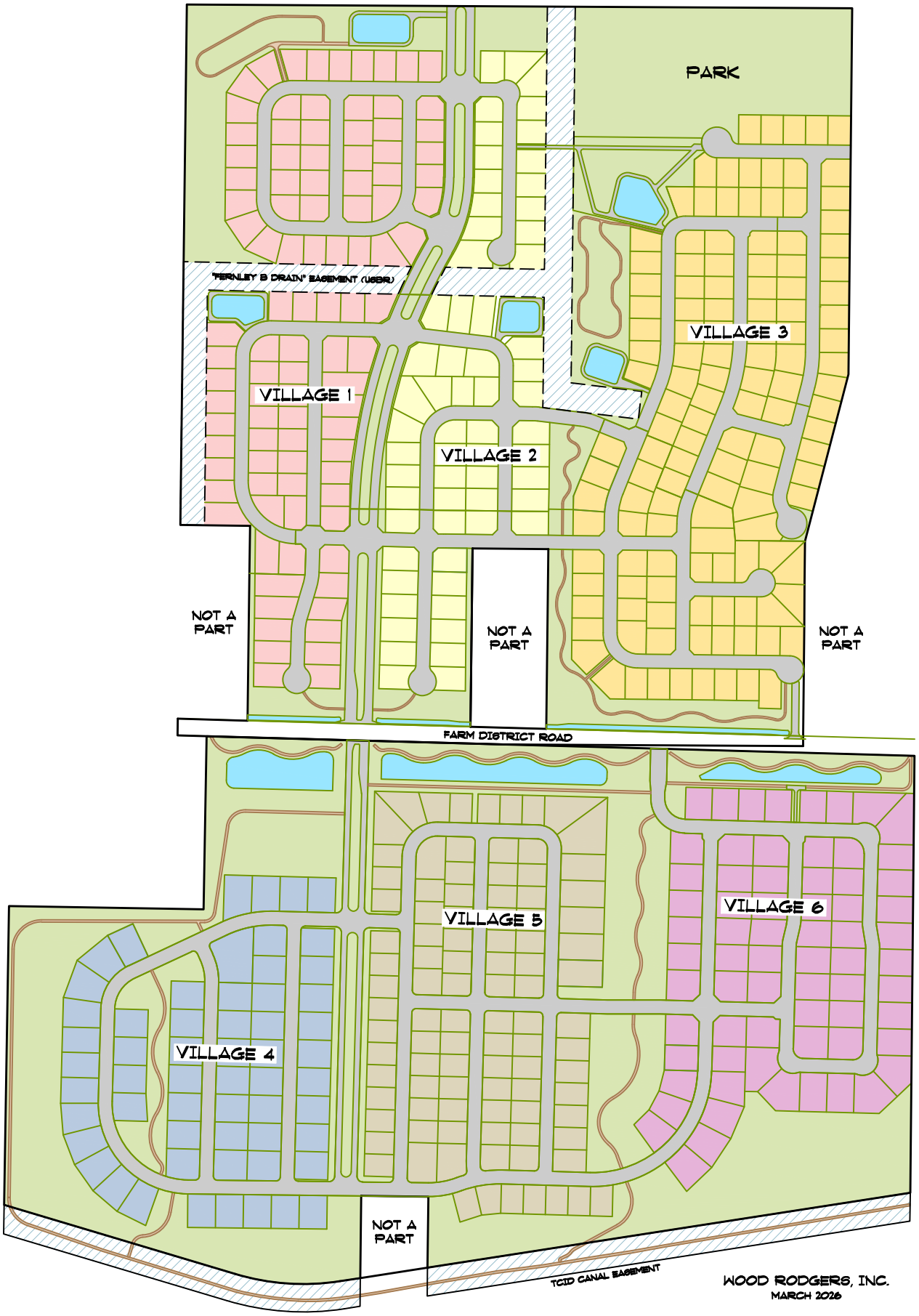
NO SCALE

- Project Site

(#) - Study Intersection

Figure 2
Friendly 5
Traffic Impact Study
Study Intersections



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NO SCALE

Figure 3
Friendly 5
Traffic Impact Study
Preliminary Site Plan

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), 7th 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: Level of Service Definition for Intersections

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, 7th Edition*

Level of service calculations were performed for the study intersections using the Synchro 12 software and Highway Capacity Software (HCS) package with analysis and results reported in accordance with *HCM* methodology.

Level of Service Policy

The *City of Fernley Comprehensive Master Plan* indicates that "the minimum Level of Service on all city-maintained roadways shall be LOS D." This is consistent with Nevada Department of Transportation (NDOT) policies, which indicate that "Level of Service 'C' will be the design objective for capacity and under no circumstances will less than Level of Service 'D' be accepted for site and non-site traffic."

Hence, LOS "D" was used as the threshold criteria for this analysis.

Traffic engineering practitioners recognize that LOS E/F conditions for the side street approach, during the peak hour(s), does not indicate an intersection failure or the need for mitigation. This condition (LOS E/F for a minor side-street approach) commonly exists throughout urban and suburban areas and is manageable in most cases.

EXISTING CONDITIONS

Roadway Facilities

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

US 50A is classified by NDOT as a Principal Arterial that runs east-west and connects I-80 in Fernley to US 50 near Fallon. In the immediate project vicinity, US 50A has two lanes in each direction and has a posted speed limit of 65 MPH.

Nevada Pacific Boulevard is classified by NDOT as a Minor Arterial. The roadway between US 50A and Farm District Road has four lanes with a 35 MPH speed limit. Nevada Pacific Parkway is planned to be extended north to fill the gap between US 50A and Newlands Drive in the near future, creating a new roadway connection between US 50A and I-80.

Farm District Road (SR 828) is an NDOT roadway classified as a Minor Arterial that runs east-west and connects to US 50A near downtown Fernley and to US 50A at the east end of Fernley. In the immediate project vicinity, Farm District Road is two lanes with a posted speed limit of 45 MPH.

Bicycle, Pedestrian & Transit Facilities

Sidewalks are present on the West Access roadway, and on Nevada Pacific Boulevard. Farm District Road and US 50A do not have sidewalks or bicycle lanes.

The Farm District Road / West Access intersection has pedestrian crossings on all four legs, with Rectangular Rapid Flashing Beacons (RRFB's) on the Farm District Road legs.

Crash History

Vehicle crash data was obtained from NDOT and includes information from:

- 2016 to 2020 – The most current five-year period available on the NDOT Crash Data website.
- 2021 and 2022 – Supplemental data request.

The available crash data is provided in **Appendix A.** The crash data is summarized as:

- Three crashes occurred on Farm District Road. All resulted in property damage only (PDO) and were single vehicle run-off-the-road type crashes.
- Three crashes occurred on US 50A (excluding the US 50A / NPP Extension intersection). Two were PDO and one was an injury crash; all were single vehicle run-off-the-road type crashes.

- The NPP / US 50A intersection was modified from side street stop control to signalized in 2023 and is planned to be modified to include a forth leg in the near future (approximately 2027). Approximately 8 crashes occurred between 2016 – 2020; however, safety improvements have been implemented and are planned since this time.

The crash data does not indicate any significant safety concerns in the area.

Traffic Volumes

AM and PM peak hour traffic volumes were collected at the study intersections on Tuesday, December 17, 2024, and Tuesday, January 14, 2025, when school was in regular session. Traffic volumes have not significantly increased in the one year since the counts were performed. NDOT's *2022 Seasonal Growth Factors* report provides monthly traffic volume factors by location. The month of January was found to have a seasonal factor indicating that counts are typically lower in this month and should be factored up to estimate average volumes. The counts were increased by a factor of 1.1 based on review of the report. The adjusted existing AM and PM peak hour intersection turning movement volumes are shown on **Figure 4**. It is noted that the existing counts show minimal traffic from the few homes that have been constructed in Village 1.

Intersection Level of Service Analysis

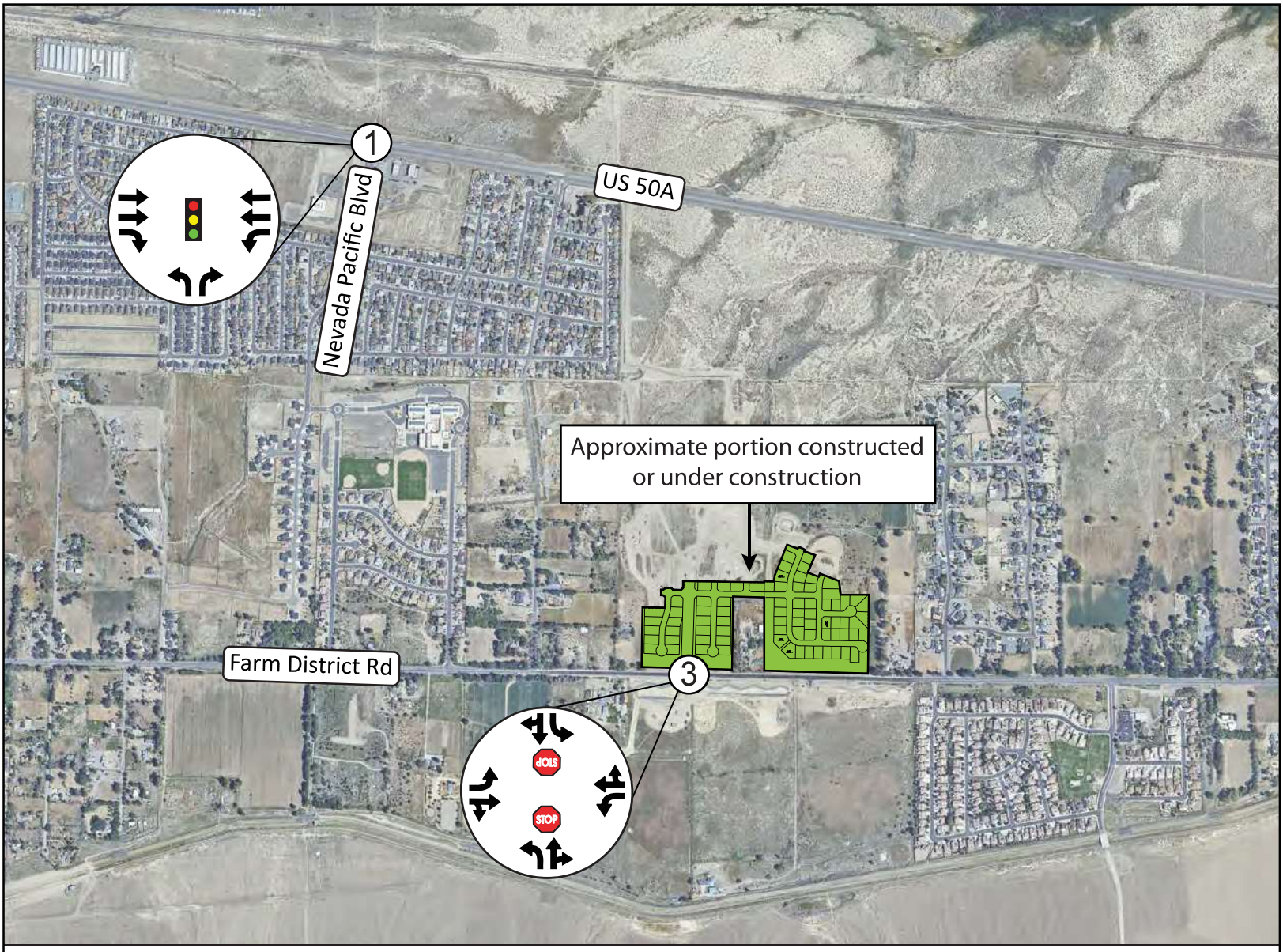
Existing weekday AM and PM peak hour intersection level of service analysis was performed for the study intersections using Synchro 12. The existing intersection lane configurations and controls are shown on **Figure 4. Table 2** shows the existing conditions level of service results, and the technical calculations are provided in **Appendix B**.

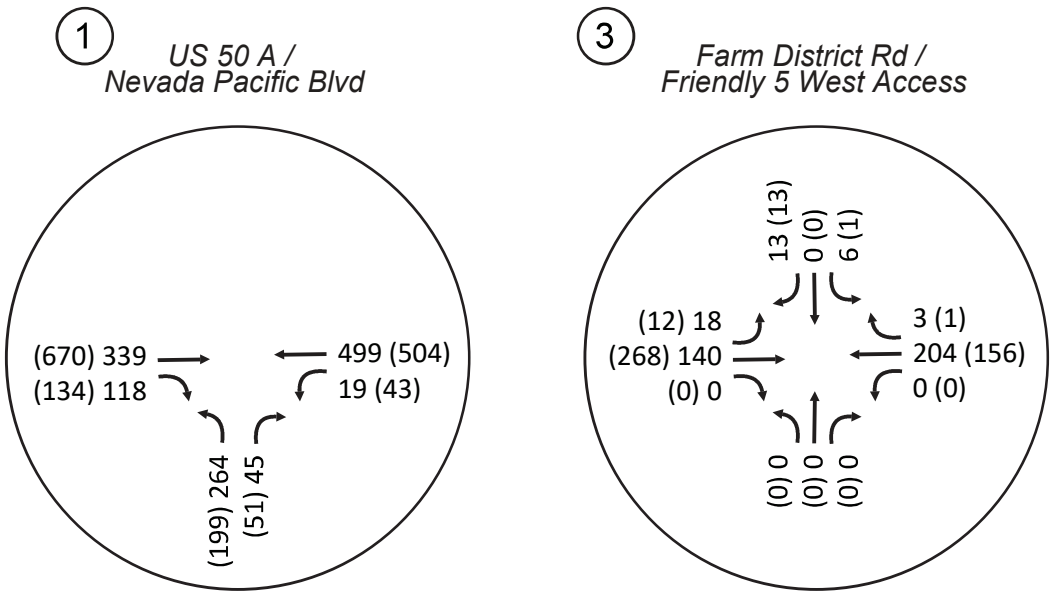
Table 2: Existing Intersection Level of Service

Int. ID	Intersection	Control	AM		PM	
			Delay[1]	LOS	Delay[1]	LOS
1	US 50A / Nevada Pacific Boulevard	Signalized High-T				
	Overall		13	B	12	B
	Northbound Left		31	C	40	D
	Northbound Right		22	C	32	C
	Eastbound Through		9	A	7	A
	Westbound Left		43	D	50	D
3	Farm District Road / West Access	Side Street Stop				
	Eastbound Left		8	A	8	A
	Southbound Left		13	B	13	B
	Southbound Through/Right		10	A	9	A

Notes: 1. Delay is reported in seconds per vehicle for the worst approach/movement for side street stop-controlled intersections, and overall and by movement for signalized intersections.
Source: GCW 2025

The study intersections currently operate within the LOS policy.





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NO SCALE

AM Peak Hour Volume (PM Peak Hour Volume)

(#) - Study Intersection STOP - Stop - Signal

- Project Site

Figure 4

Friendly 5

Traffic Impact Study

Existing Traffic Volumes, Lane Configurations, and Controls

OPENING YEAR AND FUTURE YEAR CONDITIONS

The project is expected to be constructed within approximately 4 years. This horizon is used to forecast traffic volumes for the Opening Year conditions, approximately 2030. Future Year represents 20 years after the Opening Year (24 to 25 years from Existing Conditions), approximately Year 2050.

Roadway/ Intersection Projects

The Nevada Pacific Parkway Extension is scheduled to be completed by approximately 2027 or 2028. This connection will join the segments of roadway between US 50A and Newlands Drive, creating a roadway connection between US 50A and I-80. The Nevada Pacific Parkway / US 50A intersection will be converted from a T-intersection to a four-leg intersection and remain signalized. The intersection design plans are included in **Appendix C**.

Traffic Volume Forecasts

Study intersection volumes were projected to the Opening Year (4 Years) and Future Year (20 Years beyond Opening Year) considering background growth and a number of planned projects including:

- The Nevada Pacific Parkway Extension – *Traffic Volumes for Noise Analysis for the Nevada Pacific Parkway Extension in Fernley, NV* (Headway Transportation, October 2024)
- *Clover Lane Traffic Impact Study* (Headway Transportation, December 2024)
- *Nevada Pacific Boulevard Development Traffic Impact Study* (Headway Transportation, October 2023)
- *River Ranch Apartments Traffic Impact Study* (Headway Transportation, September 2022)
- *Clements Ranch Traffic Impact Study* (Headway Transportation, April 2023)
- *Victory Traffic Impact Study* (Headway Transportation, February 2022)

Opening Year Volumes

The Opening Year volumes were developed by:

- Applying a 0.5% per year background growth to the existing traffic volumes (adjusted for seasonality) to account for any potential regional growth not accounted for with the approved developments in the area.
- Incorporating the Nevada Pacific Parkway extension, the Nevada Pacific Parkway / US 50A intersection improvements and resulting volume shifts.
- Adding project trips from approved developments planned to be constructed by the Opening Year: Clover Lane, Nevada Pacific Boulevard Development, River Ranch Apartments, Clements Ranch, and a portion of the Victory Development.

The Nevada Pacific Parkway / US 50A volumes are similar to and slightly higher than the volumes presented in the *Traffic Volumes for Noise Analysis for the Nevada Pacific Parkway Extension in Fernley, NV* (Headway Transportation, October 2024) since this analysis includes updated counts and incorporated additional known project traffic. This ultimately resulted in a five-year growth of approximately:

- 9% per year on US 50A (factor of 1.5)
- 2.5% per year on Farm District Road (factor of 1.12)

The resulting Opening Year volumes are shown in **Figure 5.**

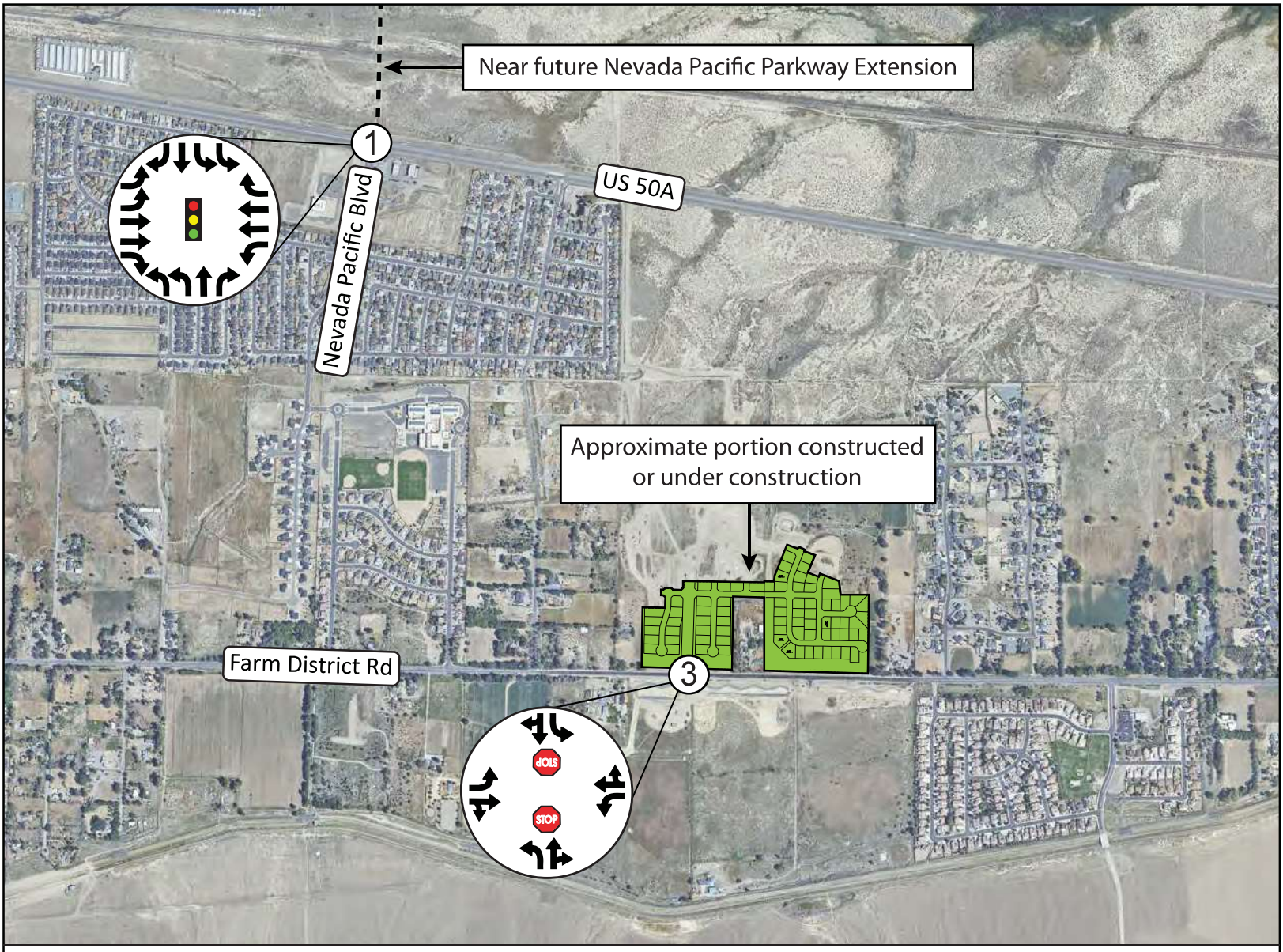
Future Year Volumes

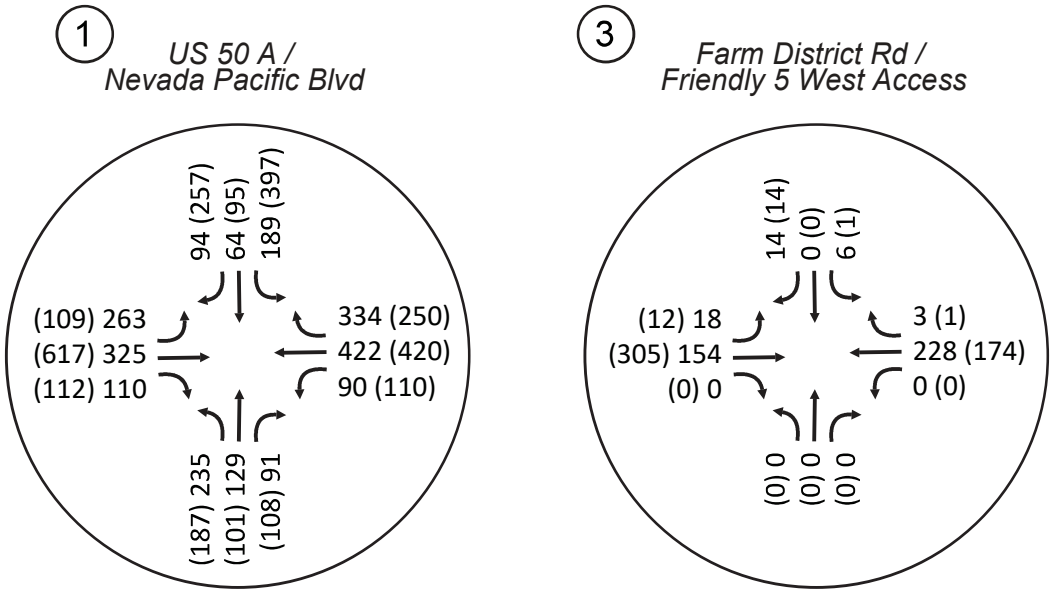
The Future Year volumes were developed using the same methodology as the Opening Year forecasts with the following differences:

- The above-mentioned projects account for most development in the study area. A 1% per year background growth was applied to US 50A volumes, and 2% per year was applied to Farm District Road volumes to project from Opening Year to Future Year to account for any additional development.
- The remaining portion of the Victory Development traffic volumes, not included in the Opening Year, was added.
- The volumes for US 50A / Nevada Pacific Parkway Extension were compared to the *Noise Letter* volumes, and the higher value was used for each movement. This ultimately resulted in volumes very similar to the *Noise Letter*.

This ultimately resulted in approximately 3% per year growth for 25 years (a growth factor of 2.2), from Existing to Future Year, on average, with some variation by intersection and movement. The resulting Future Year volumes are shown in **Figure 6**.

These projections for Opening Year and Future Year are comprehensive and consistent with the growth rate of 2% per year that was used in the City of Fernley *Comprehensive Master Plan*, the *Transportation Master Plan,* and previous approved traffic impact studies.





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NO SCALE

AM Peak Hour Volume (PM Peak Hour Volume)

(#) - Study Intersection STOP - Stop - Signal

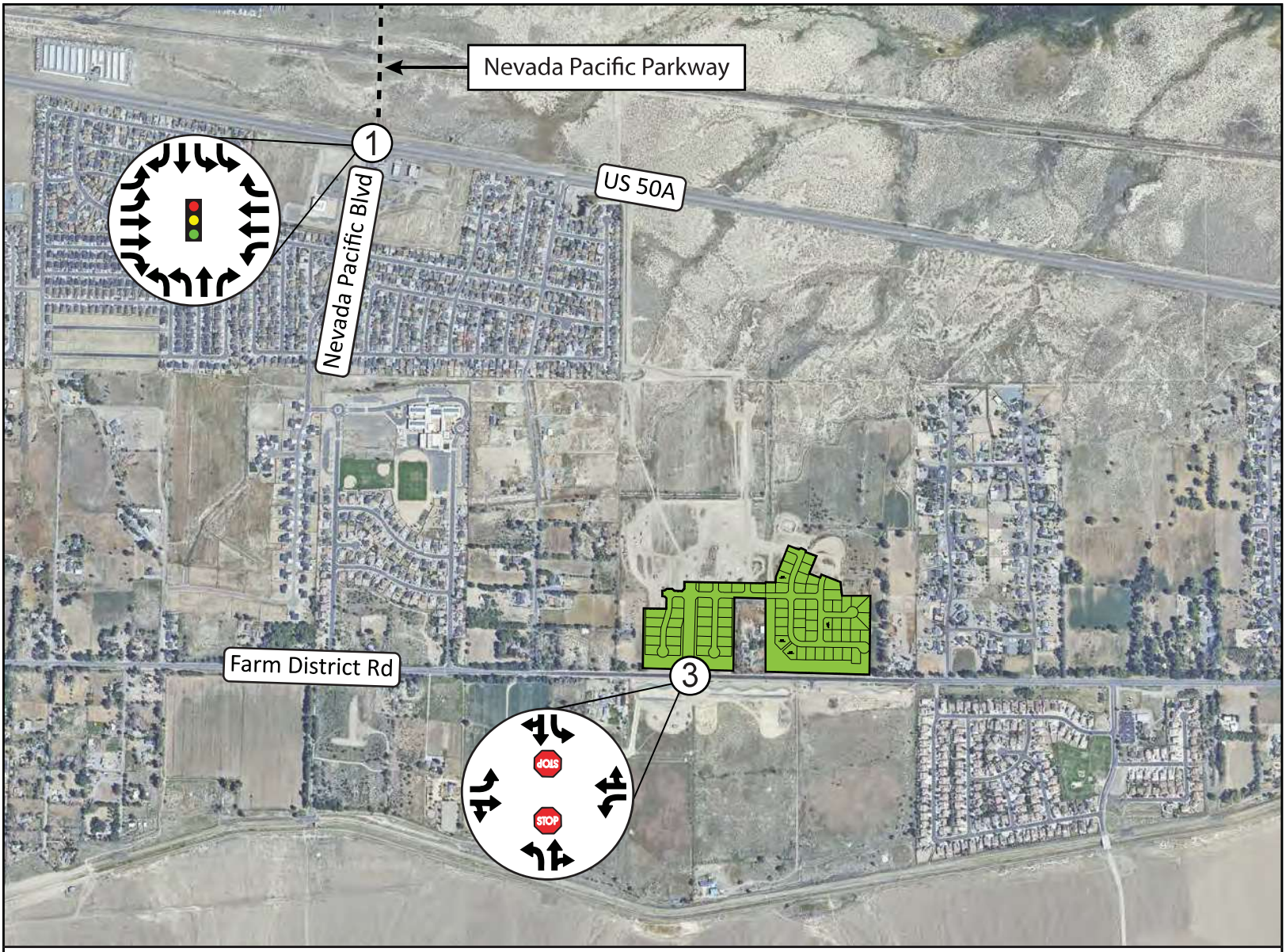
- Project Site

Figure 5

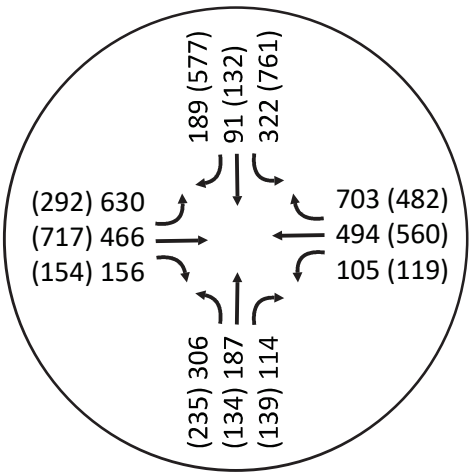
Friendly 5

Traffic Impact Study

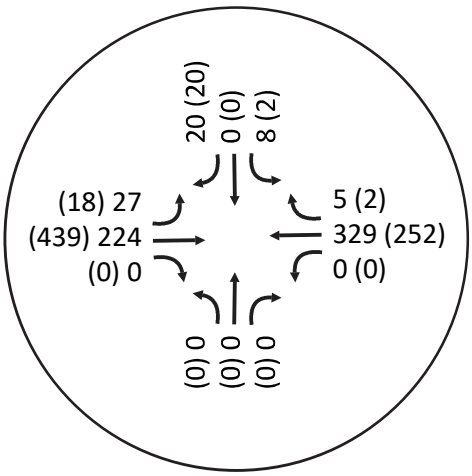
Opening Year Traffic Volumes, Lane Configurations, and Controls



1 *US 50 A / Nevada Pacific Blvd*



3 *Farm District Rd / Friendly 5 West Access*



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NO SCALE

AM Peak Hour Volume (PM Peak Hour Volume)

(#) - Study Intersection STOP - Stop - Signal

Figure 6

Friendly 5

Traffic Impact Study

Future Year Traffic Volumes, Lane Configurations, and Controls

Intersection Level of Service Analysis

Opening Year and Future Year weekday AM and PM peak hour intersection level of service analysis was performed for the study intersections using Synchro 12. **Table 3** shows the level of service results, and the technical calculations are provided in **Appendix D**.

Table 3: Opening Year and Future Year Intersection Level of Service

Int. ID	Intersection	Control	Opening Yr AM		Opening Yr PM		Future Yr AM		Future Yr PM	
			Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS
1	US 50A / Nevada Pacific Parkway	Signalized Four-leg with Extension								
	Overall		28	C	29	C	43	D	39	D
	Northbound Left		40	D	42	D	58	E	52	D
	Northbound Through		41	D	40	D	61	E	46	D
	Northbound Right		41	D	44	D	49	D	50	D
	Southbound Left		41	D	38	D	62	E	40	D
	Southbound Through		40	D	31	D	45	D	26	C
	Eastbound Left		39	D	44	D	55	D	52	D
	Eastbound Through		13	B	19	B	18	B	34	C
	Eastbound Right		12	B	16	B	18	B	28	C
	Westbound Left		48	D	48	D	59	E	62	E
	Westbound Through		15	B	15	B	29	C	32	C
3	Farm District Road / West Access	Side Street Stop								
	Eastbound Left		8	A	8	A	8	A	8	A
	Southbound Left		14	B	13	B	19	C	17	C
	Southbound Through/ Right		10	B	9	A	11	B	10	A

Notes:
1. Delay is reported in seconds per vehicle for the worst approach/movement for side street stop-controlled intersections, and overall and by movement for signalized intersections.
Source: GCW 2025

Table 3 indicates that the study intersections are expected to operate at LOS D or better in the Opening Year and Future Year Conditions (without the project).

PROJECT CONDITIONS

Trip generation rates from the *Trip Generation Manual, 11th 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 Detached Housing (ITE 210) use for 514 dwelling units. **Table 4a** and **Table 4b** show the Daily, AM peak hour, and PM peak hour trip generation estimates for the total project and by village, as shown on the site plan.

Table 4a: Trip Generation Estimates (Total Project)

Land Use (ITE Code)	Size[1]	Trips[2]						
		Daily	AM In	AM Out	Total AM	PM In	PM Out	Total PM
Single-Family Detached (210)	514 du	4,847	90	270	360	304	179	483

Table 4b: Trip Estimate Breakdown by Village

North (Village 1-3) - 291 Lots		Lots	%	Cumulative %	Trips[2]						
					Daily	AM In	AM Out	Total AM	PM In	PM Out	Total PM
					2,744	51	153	204	172	101	273
Phase	A	75	15%	15%	707	13	39	53	44	26	70
Phase	B	51	10%	25%	481	9	27	36	30	18	48
Phase	C	51	10%	34%	481	9	27	36	30	18	48
Phase	D	50	10%	44%	471	9	26	35	30	17	47
Phase	E	64	12%	57%	604	11	34	45	38	22	60
South (Village 4-6) - 223 Lots		**Lots**	**%**	**Cumulative %**	**Trips[2]**						
					Daily	**AM In**	**AM Out**	**Total AM**	**PM In**	**PM Out**	**Total PM**
					2,103	39	117	156	132	78	210
Village	6	68	13%	70%	641	12	36	48	40	24	64
Village	5	97	19%	89%	915	17	51	68	57	34	91
Village	4	58	11%	100%	547	10	30	41	34	20	55

Notes: 1. du = dwelling units
2. Trips were calculated based on the following rates per du:
Single-Family Detached: Daily – 9.43; AM – 0.70 (25% in / 75% out); PM – 0.94 (63% in / 37% out)

As shown in the table, the project is expected to generate 4,847 Daily, 360 AM peak hour, and 483 PM peak hour trips to the external roadway network. There are approximately 291 lots (57%) north of Farm District Road, and 223 lots (43%) on the southern portion.

Project Phasing and Access

The first step in the process of planning project access was to determine the percentage of occupancy that could be constructed before the Hendrix Drive Extension would be needed (if needed at all). This high-level analysis indicated that:

- The West Access intersection currently operates as a T-intersection and provides access to the northern portion of the project (Villages 1-3). The south leg will provide access to Villages 4-5 south of Farm District Road. The West Access is expected to operate at LOS D or better as a T-intersection with project traffic from Villages 1-3 and Village 6.
- When Villages 4 and 5 and the south leg of the West Access are constructed, the northbound left-turn volume is expected to trigger the intersection to operate with side street LOS E/F with access only on Farm District Road (i.e. the Hendrix Drive Extension is not constructed).
- The East Access will primarily provide access to Village 6 and is expected to operate within policy LOS in all scenarios. This is attributed to the fact that it is a T-intersection servicing only part of the southern portion of the project, and the two-way left-turn lane (TWLTL) on Farm District Road allows for a two-stage left from the side street.
- Therefore, it is recommended that Villages 1-3 and Village 6 (approximately 70% of the total buildout) be constructed first as **Phase 1** with access on Farm District Road. Prior to occupancy of residences associated with Villages 4 or 5, additional access or improvements should be provided.
- Two improvement alternatives were considered – additional access to US 50A via the Hendrix Drive Extension or improvements to the Farm District Road / West Access intersection. The preferred improvement is the Hendrix Drive Extension that is proposed to connect the development to US 50A at an existing High-T located approximately 0.6 miles east of Jessica Lane. This connection is recommended and desirable as:
    - The majority of traffic associated with the project is ultimately to/from US 50A and I-80.
    - A direct connection to US 50A will significantly decrease travel time for most residents. The Hendrix Drive Extension, in addition to the Nevada Pacific Parkway Extension, will also reduce the amount of traffic using the Farm District Road / US 50A roundabout.
    - This route will also serve as a cut-through and divert some traffic from the adjacent Red Rock Road that is using the route to travel between Farm District Road and US 50A.

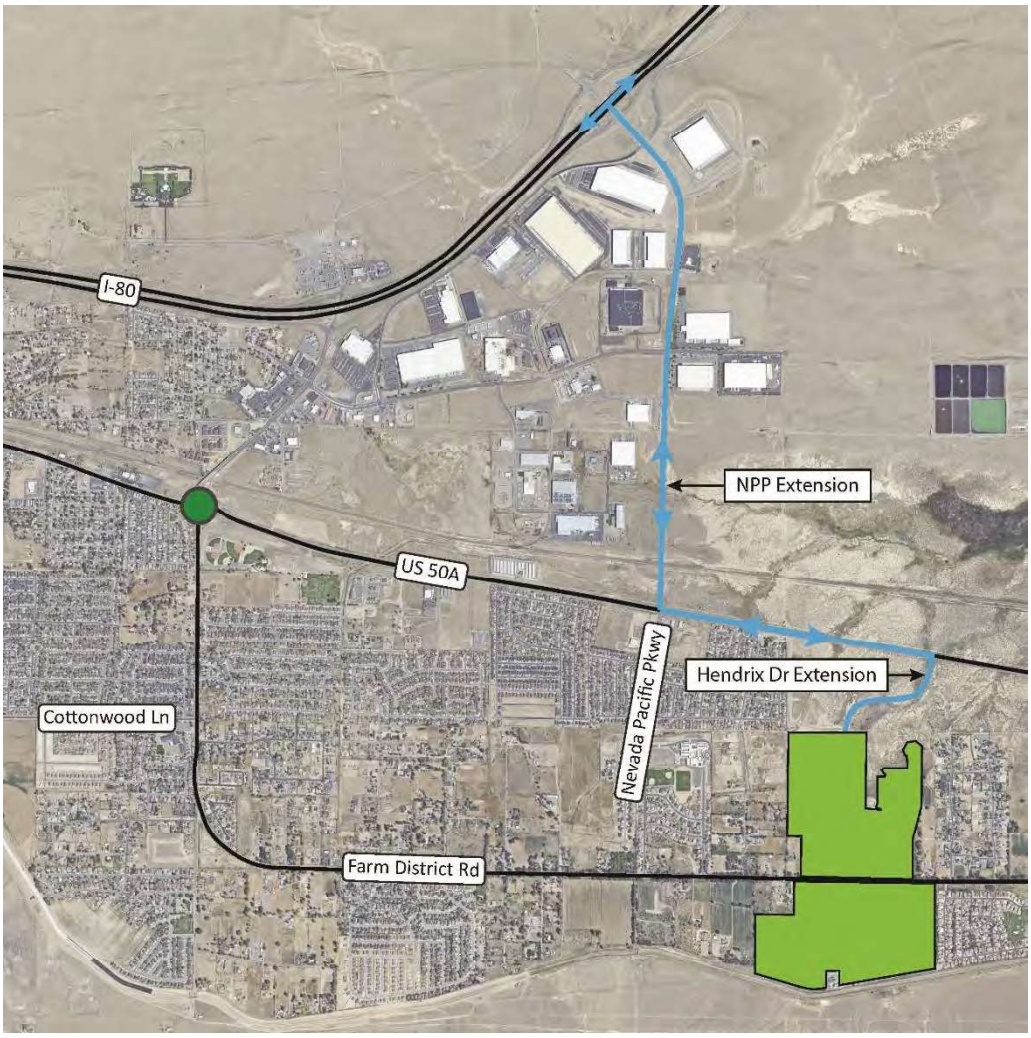


Exhibit 1: Hendrix Drive Extension provides direct access to US 50A and I-80

Trip Distribution by Phases

Access is planned via two existing driveways on Farm District Road, and a connection to US 50A. Access is planned in two phases – Phase 1 consisting of Villages 1-3 plus Village 6 (70% of total project traffic consisting of the north portion and one Village in the south portion), and Phase 2/Full Build-Out (the remaining 30% south portions Villages 4 and 5).

The Phase 1 (Villages 1-3 and Village 6) project trips were distributed to the roadway network as follows:

- 80% to/from the west via Farm District Road
- 20% to/from the east via Farm District Road

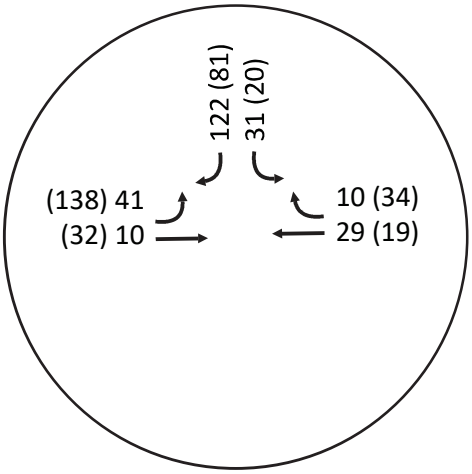
Project trips for Phase 1 are shown on **Figure 7a**.

At full Build-Out of the project with the Hendrix Drive Extension in place, the distribution is anticipated to be approximately:

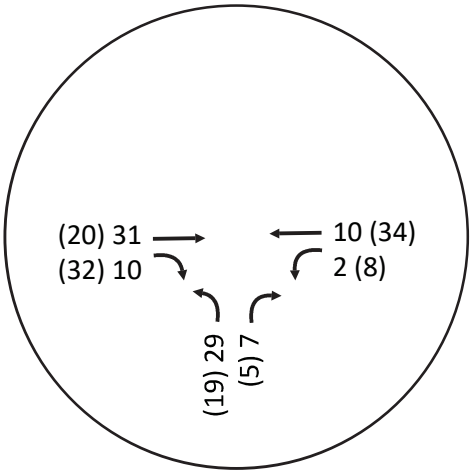
- 60% to/from the west via US 50A
- 10% to/from the east via US 50A
- 20% to/from the west via Farm District Road
- 10% to/from the east via Farm District Road

Figure 7b shows the project trip distribution and assignment for Full Build-Out.

3 *Farm District Rd / Friendly 5 West Access*



4 *Farm District Rd / Friendly 5 East Access*



GCW ENGINEERS \ SURVEYORS

NO SCALE

AM Peak Hour Volume (PM Peak Hour Volume)

(#) - Study Intersection

XX% - Phase 1 Trip Distribution

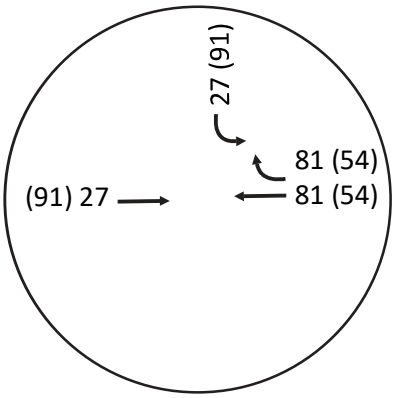
- Project Site

Figure 7a

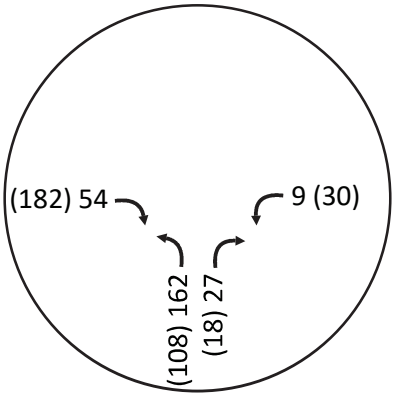
Friendly 5 Traffic Impact Study

Phase 1 (Villages 1-3 & 6) Project Trip Distribution and Assignment

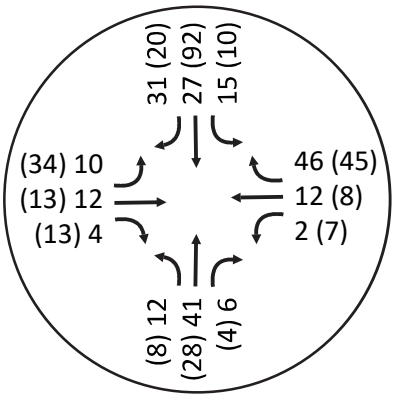
1 *US 50 A / Nevada Pacific Blvd*



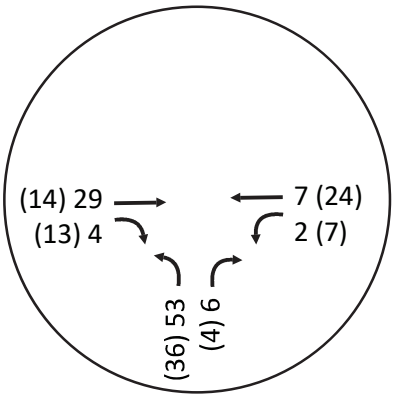
2 *US 50A / Hendrix Dr Extension*



3 *Farm District Rd / Friendly 5 West Access*



4 *Farm District Rd / Friendly 5 East Access*



GCW ENGINEERS \ SURVEYORS

NO SCALE

AM Peak Hour Volume (PM Peak Hour Volume)

(#) - Study Intersection

XX% - Full Build Out Trip Distribution

- Project Site

Figure 7b

Friendly 5

Traffic Impact Study

Full Build Out Project Trip Distribution and Assignment

OPENING YEAR AND FUTURE YEAR PLUS PROJECT CONDITIONS

Traffic Volumes

Opening Year Plus Project (Phase 1) Conditions are shown in **Figure 8a** and includes Opening Year traffic volumes (**Figure 5**) and Phase 1 project trips (**Figure 7a**).

Opening Year Plus Project (Full Build-Out) Conditions are shown in **Figure 8b** and include Opening Year traffic volumes (**Figure 5**), and Full Build-Out project trips (**Figure 7b**), plus additional cut-through traffic that is anticipated to use the proposed Hendrix Drive Extension to traverse between Farm District Road and US 50A. For analysis purposes, the cut-through traffic is estimated at approximately 50% of the volume on the adjacent Red Rock Road.

Future Year Plus Project Condition traffic volumes are shown on **Figure 9** and include Future Year traffic volumes (**Figure 6**), Full Build-Out project trips (**Figure 7b**), and the rerouted traffic on the Hendrix Drive Extension.

Lane Configurations and Controls

Right Turn Lane Requirements

Left turn lanes from the major street already exist at all studied intersections.

Right turn lane requirement evaluations were conducted for the US 50A / Hendrix Drive Extension intersection using the Future Year Plus Project traffic volumes and the criteria in the NDOT *Access Management System and Standards* (*AMSS,* 2017). **Table 5** summarizes the results based on the Future Year Plus Project volumes (rounded).

Table 5: Turn Lane Requirements

Turn Lane	AMSS Table	Turn Volume / Through Volume	Turn Lane Required	Deceleration Length[2]
US 50A / Hendrix Drive Extension Eastbound Right Turn Lane	4-18[1]	80 / 950 (AM) 250 / 1800 (PM)	Yes	710’

Notes:
1. AMSS Table 4-18: Right-Turn Lane Warrants at Unsignalized Intersections, Multilane Roadways in Urban Areas, 65 mph
2. AMSS Table 4-20: Minimum Length of Left-Turn or Right-Turn Deceleration Lanes. Deceleration length; without queue storage required. Assumed minimum lengths for 0-2% grades, adjustments due to grade to be determined in design phase.

With the construction of the Hendrix Drive Extension, the following turn lanes should be constructed at the US50A / Hendrix Drive Extension intersection:

- Eastbound right turn lane (735’ total length, with 25’ of “storage” length and 710’ of deceleration length). The total length will consist of 250’ of taper and 485’ of full lane width)

- Northbound right turn lane to create separate left and right turn lanes (315' total length, with 100' storage length and 215' deceleration length which includes appropriate taper and the remainder as full lane width)

Preliminary Signal Warrant Analysis

Preliminary signal warrant analysis was conducted for the US 50A / Hendrix Drive Extension intersection based on the Opening Year Plus Project and Future Year Plus Project volumes. Warrant 2, the Four-Hour Vehicular Volume warrant was evaluated for roadways with speed limits greater than 40 mph.

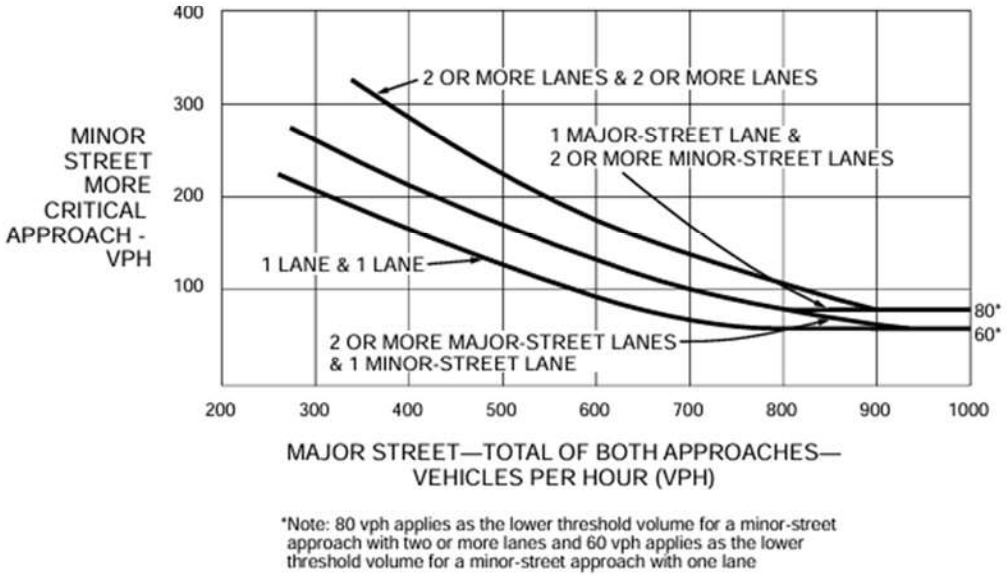
Warrant 2, Four-Hour Vehicular Volume

Criteria

According to the MUTCD, "the need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in **Figure 4C-2** for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours."

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane

Source: MUTCD 11th Edition

Evaluation

US 50A has a posted speed limit above 40 miles per hour (mph), therefore the 70% Factor warrant criteria, MUTCD Figure 4C-2, was used. The volumes were input and evaluated in a spreadsheet-based signal warrant program. **Table 6** shows volume scenarios and if the warrant criteria is met.

Table 6: Four-Hour Signal Warrant
US 50A / Hendrix Drive Extension

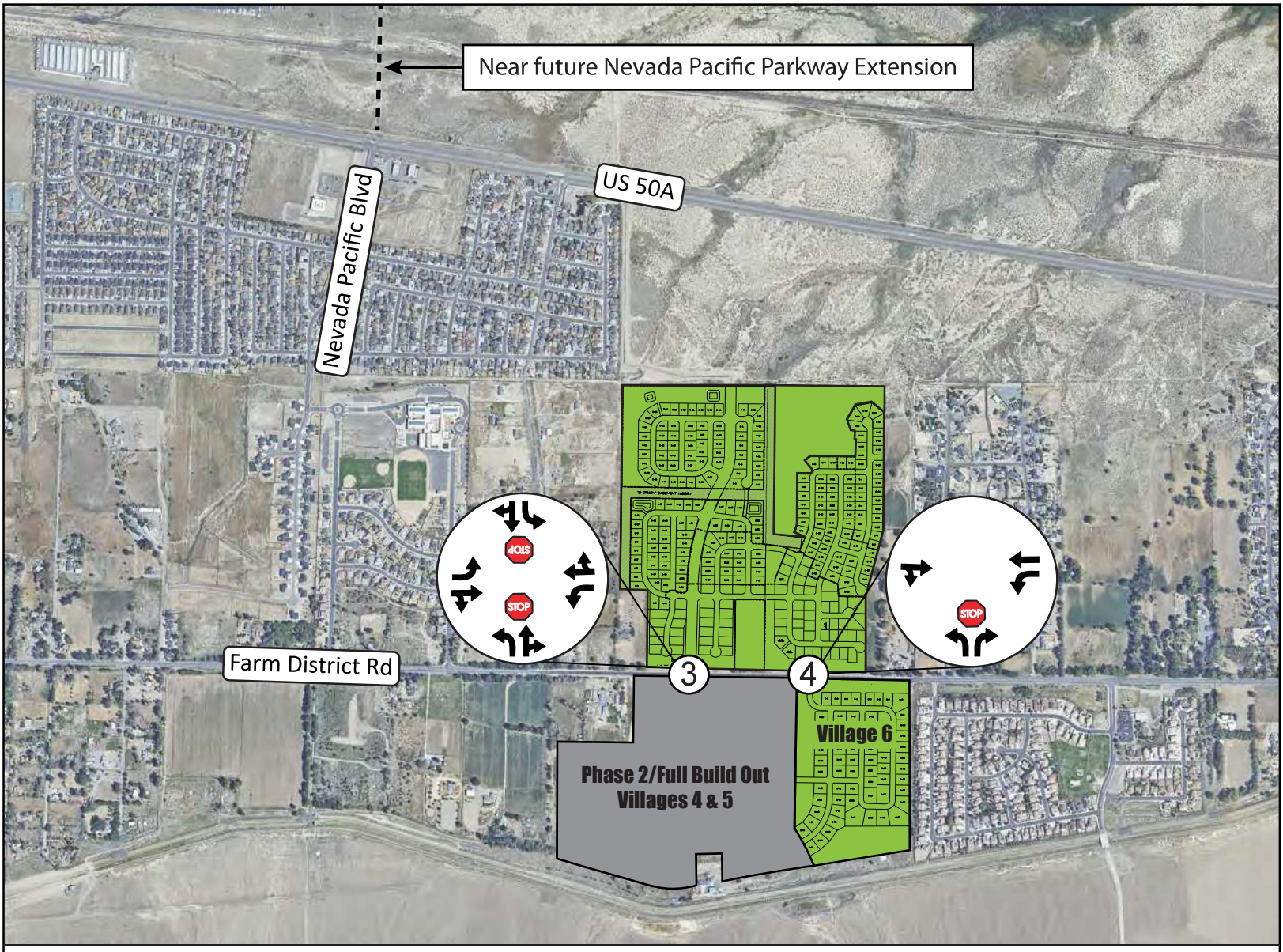
Intersection and Peak Hour	4-Hr Warrant Criteria		Hour Warrant Met?
	Major Street Combined (vph)[1]	Highest Minor Street Approach (vph)[2]	
Opening Year Phase 1 with Hendrix Drive Extension (through 70% of construction – Villages 1-3 and Village 6)			
US 50A / Hendrix Drive Extension AM Hr1	640	190	Yes
US 50A / Hendrix Drive Extension AM Hr2	540	160	Yes (On verge)
US 50A / Hendrix Drive Extension PM Hr1	1,170	110	Yes
US 50A / Hendrix Drive Extension PM Hr2	1,180	110	Yes
Opening Year Plus Project (Full Build Out)			
US 50A / Hendrix Drive Extension AM Hr1	660	240	Yes
US 50A / Hendrix Drive Extension AM Hr2	550	200	Yes
US 50A / Hendrix Drive Extension PM Hr1	1,230	140	Yes
US 50A / Hendrix Drive Extension PM Hr2	1,230	150	Yes

Notes: vph = vehicles per hour
1. Eastbound through + right movement only. Westbound mainline not included since this movement is not opposed in the High-T configuration.
2. Analysis conducted as one lane, with the northbound left turn volume only.

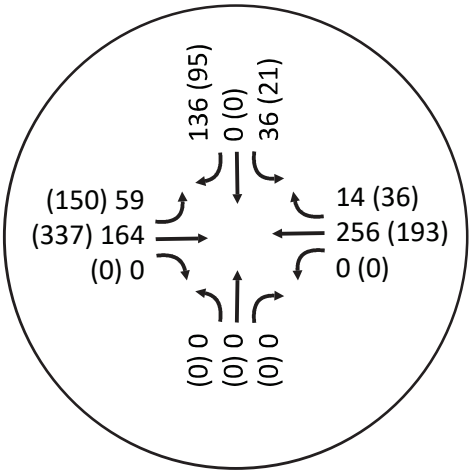
Source: GCW 2025

The table indicates that the US 50A / Hendrix Drive Extension intersection is anticipated to meet signal warrants at its proposed opening – at 70% of the construction (Villages 1-3 and Village 6). Note that the signal evaluation was prepared considering only the eastbound volumes on US 50A (NOT including the westbound through volumes) due to the High-T configuration. Inclusion of the westbound through volume would increase the margin by which warrants were met.

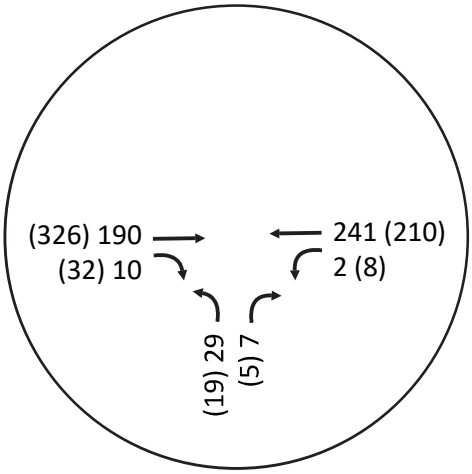
Figures 8a, 8b, and **9** show the Opening Year Plus Project and Future Year Plus Project volumes and proposed lane configurations and controls.



3 *Farm District Rd / Friendly 5 West Access*



4 *Farm District Rd / Friendly 5 East Access*



ENGINEERS \ SURVEYORS

NO SCALE

AM Peak Hour Volume (PM Peak Hour Volume)

(#) - Study Intersection - Project Site STOP - Stop - Signal

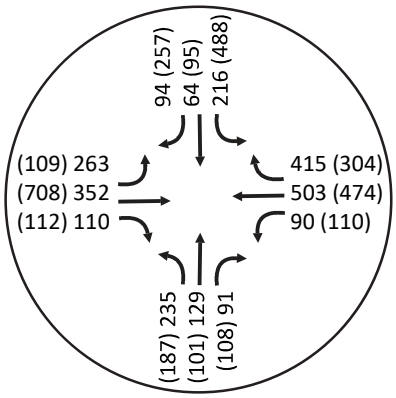
Opening Year Plus Project (Phase 1 - Villages 1-3 & 6) Traffic Volumes, Lane Configurations, and Controls

Figure 8a

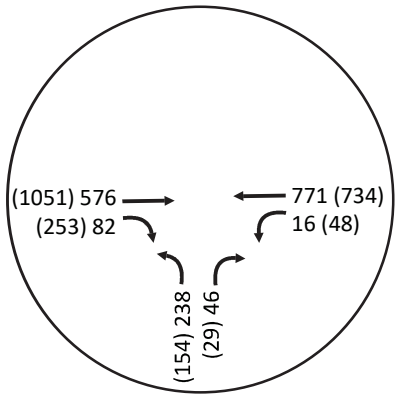
Friendly 5

Traffic Impact Study

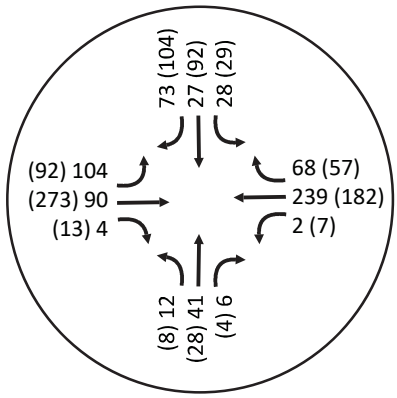
1 *US 50 A / Nevada Pacific Blvd*



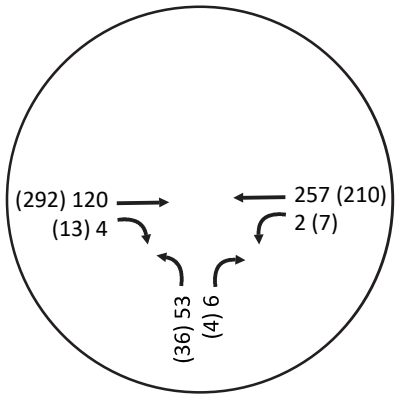
2 *US 50A / Hendrix Dr Extension*



3 *Farm District Rd / Friendly 5 West Access*



4 *Farm District Rd / Friendly 5 East Access*



GCV ENGINEERS \ SURVEYORS

NO SCALE

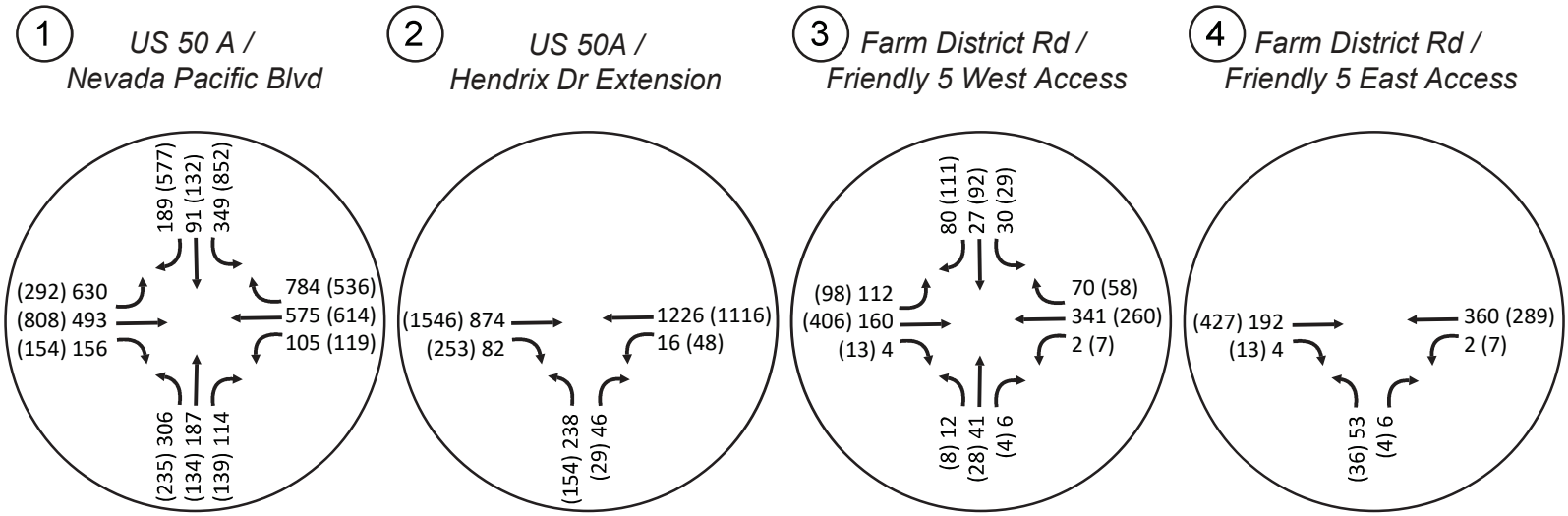
AM Peak Hour Volume (PM Peak Hour Volume)

(#) - Study Intersection STOP - Stop - Signal

- Project Site

Opening Year Plus Project (Build Out) Traffic Volumes, Lane Configurations, and Controls

Figure 8b
Friendly 5
Traffic Impact Study



GCW ENGINEERS \ SURVEYORS

NO SCALE

AM Peak Hour Volume (PM Peak Hour Volume)

(#) - Study Intersection STOP - Stop - Signal

- Project Site

Future Year Plus Project Traffic Volumes, Lane Configurations, and Controls

Figure 9

Friendly 5

Traffic Impact Study

Plus Project Intersection Level of Service

AM and PM peak hour intersection level of service analysis was performed for the study intersections for the Opening Year Plus Project and Future Year Plus Project conditions. **Tables 7** and **8** show the level of service results, and the technical calculations are provided in **Appendix F**. The Plus Project Conditions were evaluated in phases to identify the trigger for the extension of Hendrix Drive:

- Opening Year Plus Phase 1 - Villages 1-3 and Village 6 (**Table 7**) **–** Farm District Road Access Only
- Opening Year Plus Full Build-Out and Future Year Plus Full Build Out (**Table 8**) – with access on Farm District Road and the Hendrix Drive Extension to US 50A

Table 7: Opening Year Plus Project Phase 1 (Villages 1-3 and Village 6) with Farm District Road Access Only
Intersection Level of Service

Int. ID	Intersection	Control	Opening Yr Plus Project AM		Opening Yr Plus Project PM	
			Delay[1]	LOS	Delay[1]	LOS
3	Farm District Road / West Access	Phase 1: Side Street Stop				
	Overall		4	A	3	A
	Southbound Left		20	C	24	C
	Southbound Through/Right		12	B	10	B
	Eastbound Left		8	A	8	A
4	Farm District Road / East (Secondary Entrance)	Phase 1: Side Street Stop				
	Overall		1	A	1	A
	Northbound Left		12	B	12	B
	Northbound Right		12	B	12	B
	Westbound Left		8	A	8	A

Notes:
1. Delay is reported in seconds per vehicle for the worst approach/movement for side street stop-controlled intersections, and overall and by movement for signalized intersections.
Source: GCW 2025

The table indicates that the Farm District Road accesses will operate acceptably through Phase 1, or through the construction of Villages 1-3 and Village 6 (70% of total buildout) with no other improvements.

Table 8 shows the Opening Year Plus Full Build-Out and Future Year Plus Full-Build Out operations with the proposed Hendrix Drive Extension providing access to/from US 50A. The US 50A / Hendrix Drive intersection was evaluated with both side-street stop and traffic signal control.

Table 8: Opening Year Plus Project and Future Year Plus Project Intersection Level of Service - with Hendrix Drive Extension

Int. ID	Intersection	Control	Opening Yr Plus Project AM		Opening Yr Plus Project PM		Future Yr Plus Project AM		Future Yr Plus Project PM	
			Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS
1	**US 50A / Nevada Pacific Parkway**	Signal								
	Overall		28	C	30	C	44	D	44	D
	Northbound Left		40	D	44	D	58	E	61	E
	Northbound Through		41	D	42	D	62	E	50	D
	Northbound Right		41	D	46	D	50	D	58	E
	Southbound Left		41	D	39	D	68	E	45	D
	Southbound Through		28	D	30	D	45	D	26	C
	Eastbound Left		40	D	46	D	56	E	57	E
	Eastbound Through		13	B	22	B	19	B	40	D
	Eastbound Right		13	B	18	B	18	B	31	C
	Westbound Left		48	D	50	D	59	E	69	E
	Westbound Through		16	B	17	B	31	C	36	D
2	**US 50A / Hendrix Drive Extension**	Side-Street Stop					N/A - Opening Year Analysis + Signal Warrants indicates that signal control is recommended by Future Year			
	Overall		12	B	15	C				
	Northbound Left		45	E	144	F				
	Northbound Right		11	B	13	B				
	Eastbound Through		-	-	-	-				
	Eastbound Right		-	-	-	-				
	Westbound Left		10	A	13	B				
2	**US 50A / Hendrix Drive Extension**	Signal								
	Overall		11	B	7	A	11	B	7	A
	Northbound Left		17	B	19	B	21	C	32	C
	Northbound Right		17	B	16	B	16	B	26	C
	Eastbound Through		13	B	6	A	8	A	6	A
	Eastbound Right		11	B	6	A	6	A	4	A
	Westbound Left		9	A	10	A	11	B	15	B

Table 8 Continued: Opening Year Plus Project and Future Year Plus Project Intersection Level of Service – with Hendrix Drive Extension

Int. ID	Intersection	Control	Opening Yr Plus Project AM		Opening Yr Plus Project PM		Future Yr Plus Project AM		Future Yr Plus Project PM	
			Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS
3	**Farm District Road / West Access**	**Side Street Stop**								
	Northbound Left		24	C	28	D	42	E	51	F
	Northbound Through/Right		22	C	18	C	33	D	24	C
	Southbound Left		28	D	21	C	55	F	32	D
	Southbound Through/Right		16	C	20	C	21	C	33	D
	Eastbound Left		9	A	8	A	9	A	8	A
	Westbound Left		8	A	8	A	8	A	8	A
4	**Farm District Road / East Access**	**Side Street Stop**								
	Northbound Approach		12	B	12	B	14	B	14	B
	Westbound Left		8	A	8	A	8	A	8	A

Notes:
1. Delay is reported in seconds per vehicle for the worst approach/movement for side street stop-controlled intersections, and overall and by movement for signalized intersections.
Source: GCW 2025

As shown in the table,

- US 50A / Nevada Pacific Parkway is anticipated to operate within the level of service policy with the addition of project traffic.
- At build-out, US 50A / Hendrix Drive Extension is anticipated to have substantial delay and LOS F on the northbound approach as an unsignalized High-T. A signal is anticipated to be warranted at the opening of the extension to support both project traffic and additional regional cut through traffic. The intersection is anticipated to operate acceptably if/when signalized, subject to NDOT permitting.
- Farm District Road / West Access is anticipated to operate acceptably in the Opening Year with the project as side-street stop.
- Farm District Road / East Access is anticipated to operate acceptably in the Opening Year with the project as side-street stop.

PROJECT ROADWAY AND INTERSECTION MODIFICATIONS

A summary of the recommended project roadway and intersection modifications is provided in **Figure 10**.

Hendrix Drive Extension

The Average Daily Traffic (ADT) for the proposed Hendrix Drive Extension was estimated based on peak hour traffic as 10% of the ADT, equating to approximately 5,000 vehicles per day. This volume is well within typical thresholds for a two-lane roadway (one lane per direction).

US 50A / Hendrix Drive Extension Recommended Controls

The Hendrix Drive Extension / US 50A intersection is anticipated to meet signal warrants at or near opening of the extension. Different types of intersection controls were considered, and signalization is recommended when warrants are met for the following reasons:

- Signalization maintains the High-T configuration that has already been constructed and is a common intersection configuration and control along the corridor.
- The intersection is anticipated to operate acceptably when signalized.
- The northbound approach is recommended to have separate left turn and right turn lanes. The left turn and right turn queues are expected to be minimal (less than one vehicle). Deceleration length would be based on the speed limit. A deceleration length of 215’ is recommended based on a 35-mph speed limit. The total length of 315’ (100’ storage plus deceleration length) would be sufficient for storage/deceleration for a right turn pocket (the lower turning volume).

The US 50A / Hendrix Drive Extension intersection should initially be constructed as stop control and later reevaluated for signal warrants in the future. The signal should be constructed if / when warrants are met and signalization is permitted by NDOT. Signalization is not a Condition of Approval of the Friendly 5 Ranch Development Handbook.

Safety Considerations

All of the proposed modifications can be considered safety improvements.

Hendrix Drive Extension – This will provide an alternative access and a direct route to US 50A. This has safety benefits for emergency responders as well as for incidents or evacuations.

US 50 A / Hendrix Drive Extension signalization and turn lanes – Signalization can provide a safety benefit when signal warrants are met. The *NDOT Planning Level Crash Modification (CMF) List* acknowledges this as a safety benefit but does not provide a “one size fits all” Crash Modification Factor (CMF).

Access Spacing

US 50A is classified as a Principal Arterial with a posted speed limit of 65 MPH. NDOT's AMSS provides spacing standards of 5,280 feet for full access signalized intersections and 1,320 feet for full access unsignalized intersections. The High-T is already constructed and is spaced over 3,000' from the nearest intersections on either side and is approximately 5,000' from the signal at US 50A/ Nevada Pacific Parkway; this is approximately 95% of the required spacing. Additionally, the location was chosen and constructed by NDOT with the understanding that it would serve the planned connection. If a Deviation Letter is required, one will be provided during the NDOT permitting process.

All other study intersections exist and there are no recommended changes to the controls, therefore the spacing has already been approved.

CONCLUSIONS & RECOMMENDATIONS

Key Findings

- The project consists of 514 single-family dwelling units.
- Substantial regional traffic growth is expected in the project area due to several other large projects and developments. Additionally, the Nevada Pacific Parkway Extension is anticipated to provide additional capacity and a connection between I-80 and US 50A.
- The study intersections operate acceptably in the Existing, Opening Year, and Future Year Conditions without the project.
- The project is expected to generate 4,847 Daily, 360 AM peak hour, and 483 PM peak hour trips to the external roadway network.
- The study intersections are anticipated to operate acceptably with the recommendations outlined below.

Summary of Recommendations

- A graphical summary of the recommendations is shown on **Figure 10**.
- Three access points are recommended – the two existing intersections on Farm District Road (Intersections 3 and 4 in the report) and the planned Hendrix Drive Extension to US 50A at the existing High-T intersection which was built by NDOT for this purpose (Intersection 2).
- The existing Friendly 5 West and East access connections to Farm District Road are recommended to remain side-street stop controlled on the northbound and southbound approaches in their current configurations.

- The analysis indicates that the study intersections on Farm District Road will adequately function with Villages 1-3 and Village 6 (approximately 70% of the total build out) without the Hendrix Drive Extension. Therefore, the Hendrix Drive Extension should be completed prior to the first Certificate of Occupancy for a residence within Village 4 or Village 5. Hendrix Drive as a two-lane roadway (one lane each direction) is shown to provide adequate capacity for the Future Plus Project conditions with other regional traffic diverted to the roadway.

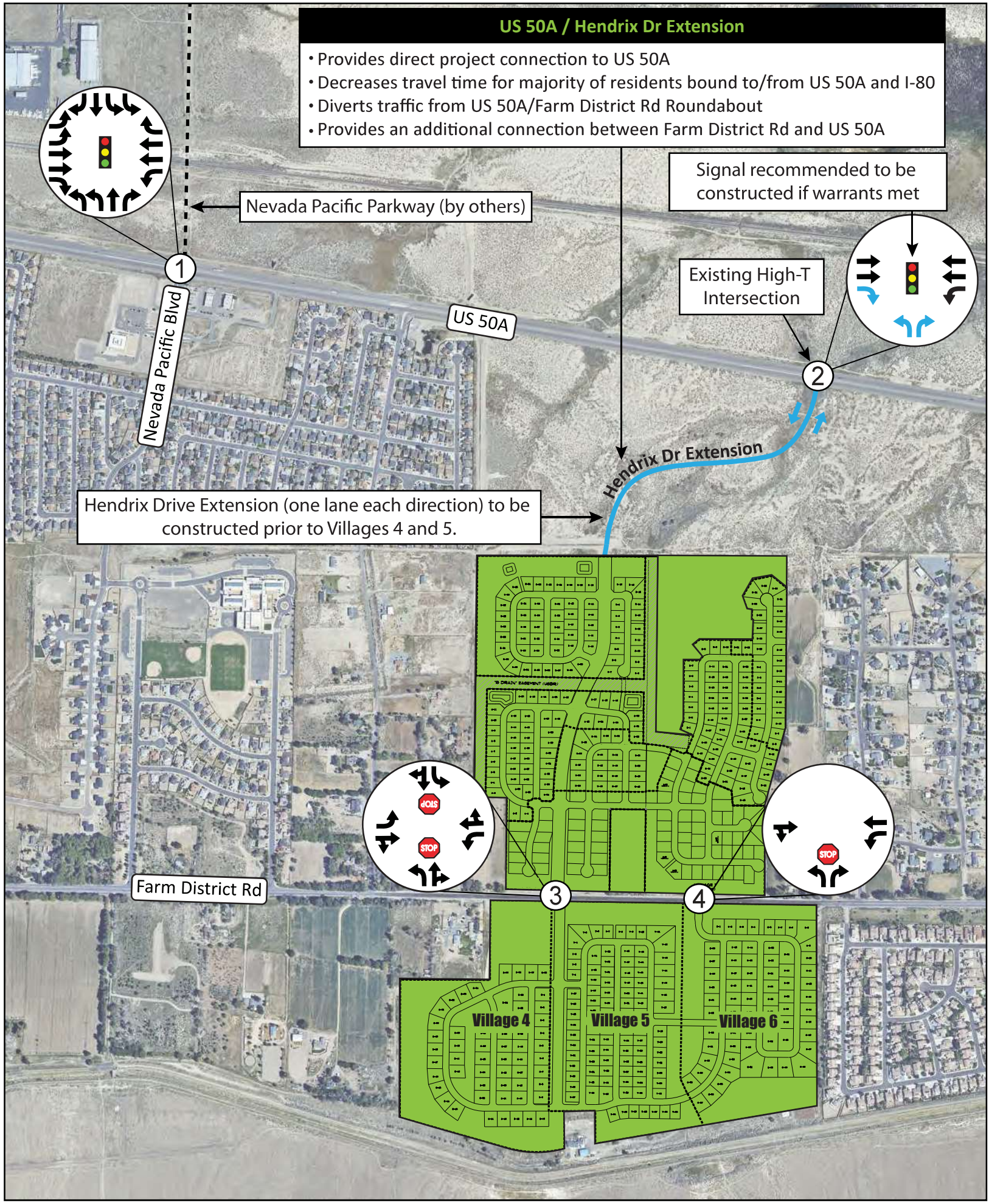
- With the construction of the Hendrix Drive Extension, the following turn lanes should be constructed at the US50A / Hendrix Drive Extension intersection:

    - Eastbound right turn lane (735' total length, with 25' of "storage" length and 710' of deceleration length). The total length will consist of 250' of taper and 485' of full lane width)
    - Northbound right turn lane to create separate left and right turn lanes (315' total length, with 100' storage length and 215' deceleration length which includes appropriate taper and the remainder as full lane width)

- A traffic signal may eventually be warranted at the US 50A / Hendrix Drive Extension intersection (the existing High-T) due to regional traffic flow combined with project traffic. Signalization is not a Condition of Approval of the Friendly 5 Ranch Development Handbook. Per NDOT policies and practices, a traffic signal cannot be constructed until MUTCD traffic signal warrants are met and installation is permitted by NDOT. Therefore, a signal cannot be conditioned at this time since there is no certainty NDOT would approve a signal.

- If/when signal warrants are met, a signal would be recommended for the following reasons:
    - Signalization maintains the existing High-T configuration. Signalized High-Ts are the common intersection configurations and controls along the US 50A corridor.
    - The US 50A / Hendrix Drive Extension intersection should initially be constructed with stop control and two approach lanes on the northbound approach and be re-evaluated for signal warrants after opening the complete extension.

- Note that the intersection improvements on Farm District Road conditioned in the Friendly 5 Ranch Development Handbook approval have already been constructed and no other improvements are recommended on Farm District Road at this time.



GCW ENGINEERS \ SURVEYORS

NO SCALE

(#) - Study Intersection | STOP - Stop | - Signal | - Existing Lane

- Project Site | - New Turn Lanes | - New Roadway

Figure 10
Friendly 5
Traffic Impact Study
Summary of Recommendations

Appendix A

Crash Data

OBJECTID	Crash Date	Primary Street	Dir	Property Da	Injury Type	Crash Type
1681583	5/6/2016, 7:15 PM	SR828E	E	PDO	No Data	NON-COLLISION
1690528	7/13/2016, 12:15 PM	US50A	W	No Data	B	NON-COLLISION
1758934	11/8/2017, 4:35 PM	SR828E	E	PDO	No Data	NON-COLLISION
1798954	9/1/2018, 3:26 AM	SR828E	E	PDO	No Data	NON-COLLISION
1853422	10/10/2019, 6:17 AM	US50A	E	PDO	No Data	NON-COLLISION
	4/16/2021	US50A	WB	PDO		Non-Collision

Appendix B

Existing Conditions LOS Calculations

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	339	118	19	499	264	45
Future Volume (veh/h)	339	118	19	499	264	45
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	394	137	22	580	307	52
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	1838	820	42	2140	369	329
Arrive On Green	0.54	0.54	0.02	0.63	0.22	0.22
Sat Flow, veh/h	3474	1510	1697	3474	1697	1510
Grp Volume(v), veh/h	394	137	22	580	307	52
Grp Sat Flow(s),veh/h/ln	1692	1510	1697	1692	1697	1510
Q Serve(g_s), s	4.2	3.2	0.9	5.3	12.1	2.0
Cycle Q Clear(g_c), s	4.2	3.2	0.9	5.3	12.1	2.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1838	820	42	2140	369	329
V/C Ratio(X)	0.21	0.17	0.52	0.27	0.83	0.16
Avail Cap(c_a), veh/h	1838	820	279	2612	1346	1197
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.3	8.0	33.7	5.7	26.1	22.2
Incr Delay (d2), s/veh	0.3	0.4	9.6	0.1	4.9	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.0	0.5	1.5	5.1	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	8.5	8.5	43.3	5.8	31.0	22.4
LnGrp LOS	A	A	D	A	C	C
Approach Vol, veh/h	531			602	359	
Approach Delay, s/veh	8.5			7.1	29.8	
Approach LOS	A			A	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	6.2	44.0		19.7		50.2
Change Period (Y+Rc), s	4.5	6.0		4.5		6.0
Max Green Setting (Gmax), s	11.5	38.0		55.5		54.0
Max Q Clear Time (g_c+I1), s	2.9	6.2		14.1		7.3
Green Ext Time (p_c), s	0.0	3.3		1.2		4.6

Intersection Summary						
HCM 7th Control Delay, s/veh			13.1			
HCM 7th LOS			B			

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	140	0	0	204	3	0	0	0	6	0	13
Future Vol, veh/h	18	140	0	0	204	3	0	0	0	6	0	13
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	200	-	-	200	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	25	194	0	0	283	4	0	0	0	8	0	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	288	0	0	194	0	0	528	532	194	530	530	285
Stage 1	-	-	-	-	-	-	244	244	-	285	285	-
Stage 2	-	-	-	-	-	-	283	288	-	244	244	-
Critical Hdwy	4.15	-	-	4.15	-	-	7.15	6.55	6.25	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.15	5.55	-
Follow-up Hdwy	2.245	-	-	2.245	-	-	3.545	4.045	3.345	3.545	4.045	3.345
Pot Cap-1 Maneuver	1257	-	-	1361	-	-	456	449	839	455	450	746
Stage 1	-	-	-	-	-	-	753	698	-	715	670	-
Stage 2	-	-	-	-	-	-	717	669	-	753	698	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1257	-	-	1361	-	-	437	440	839	446	441	746
Mov Cap-2 Maneuver	-	-	-	-	-	-	437	440	-	446	441	-
Stage 1	-	-	-	-	-	-	738	684	-	715	670	-
Stage 2	-	-	-	-	-	-	700	669	-	738	684	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.9	0	0	10.98
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1257	-	-	1361	-	-	446	746
HCM Lane V/C Ratio	-	-	0.02	-	-	-	-	-	0.019	0.024
HCM Control Delay (s/veh)	0	0	7.9	-	-	0	-	-	13.2	9.9
HCM Lane LOS	A	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	-	-	0	-	-	0.1	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	670	134	43	504	199	51
Future Volume (veh/h)	670	134	43	504	199	51
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	705	141	45	531	209	54
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	2216	989	68	2540	260	231
Arrive On Green	0.63	0.63	0.04	0.73	0.15	0.15
Sat Flow, veh/h	3589	1560	1753	3589	1753	1560
Grp Volume(v), veh/h	705	141	45	531	209	54
Grp Sat Flow(s),veh/h/ln	1749	1560	1753	1749	1753	1560
Q Serve(g_s), s	7.7	3.0	2.1	4.1	9.6	2.6
Cycle Q Clear(g_c), s	7.7	3.0	2.1	4.1	9.6	2.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2216	989	68	2540	260	231
V/C Ratio(X)	0.32	0.14	0.66	0.21	0.80	0.23
Avail Cap(c_a), veh/h	2216	989	304	3011	786	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.0	6.2	39.7	3.7	34.5	31.4
Incr Delay (d2), s/veh	0.4	0.3	10.5	0.0	5.8	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	1.0	1.1	1.1	4.4	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	7.4	6.5	50.1	3.7	40.2	31.9
LnGrp LOS	A	A	D	A	D	C
Approach Vol, veh/h	846			576	263	
Approach Delay, s/veh	7.2			7.4	38.5	
Approach LOS	A			A	D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	7.7	59.0		16.9		66.7
Change Period (Y+Rc), s	4.5	6.0		4.5		6.0
Max Green Setting (Gmax), s	14.5	53.0		37.5		72.0
Max Q Clear Time (g_c+I1), s	4.1	9.7		11.6		6.1
Green Ext Time (p_c), s	0.0	6.4		0.8		4.2

Intersection Summary	
HCM 7th Control Delay, s/veh	12.2
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	268	0	0	156	1	0	0	0	1	0	13
Future Vol, veh/h	12	268	0	0	156	1	0	0	0	1	0	13
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	200	-	-	200	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	298	0	0	173	1	0	0	0	1	0	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	174	0	0	298	0	0	498	499	298	498	498	174
Stage 1	-	-	-	-	-	-	324	324	-	174	174	-
Stage 2	-	-	-	-	-	-	173	174	-	324	324	-
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	1402	-	-	1263	-	-	483	473	742	482	474	870
Stage 1	-	-	-	-	-	-	688	649	-	828	755	-
Stage 2	-	-	-	-	-	-	829	755	-	688	649	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1402	-	-	1263	-	-	470	469	742	478	469	870
Mov Cap-2 Maneuver	-	-	-	-	-	-	470	469	-	478	469	-
Stage 1	-	-	-	-	-	-	681	643	-	828	755	-
Stage 2	-	-	-	-	-	-	815	755	-	681	643	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.33	0	0	9.45
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1402	-	-	1263	-	-	478	870
HCM Lane V/C Ratio	-	-	0.01	-	-	-	-	-	0.002	0.017
HCM Control Delay (s/veh)	0	0	7.6	-	-	0	-	-	12.6	9.2
HCM Lane LOS	A	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	0	0.1

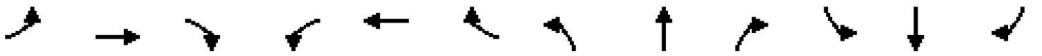
Appendix C

Nevada Pacific Parkway / US 50A intersection
Preliminary Plan Layouts

LUMOS & ASSOCIATES
990 SANDHILL ROAD, SUITE 100
RENO, NEVADA 89521
TEL: 775.829.2811
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM
M4 NEW FENLEY GOZB, LLC.
NEVADA PACIFIC PARKWAY
ROADWAY EXTENSION
STRIPING PLAN
FERNLEY
LYON
NEVADA
PRELIMINARY
NOT FOR CONSTRUCTION
AUGUST 2024
REV
DATE
DESCRIPTION
BY
BAR IS 1 INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET
ADJUST SCALES ACCORDINGLY
C2.3
DRAWN BY: CV/JNAC
DESIGNED BY: CVJ
CHECKED BY: CAB
JOB NO.: 10067.031
KEYMAP
NEWLANDS DR
GAVIN RD
NEVADA PACIFIC PARKWAY
US Hwy 50
MATCH
(STA. 104+75)
LINE
SEE SHT. C2.4)
8' SHOULDER
12' TRAVEL LANE
LANE WIDTH VARIES
EXISTING STRIPING (TYP.)
THERMOPLASTIC WHITE DIRECTIONAL ARROW (TYP.)
LINE
SEE SHT. C2.6)
MATCH
(STA. 5+00)
NEVADA PACIFIC PARKWAY
US HIGHWAY 50 ALT
(EXISTING/PUBLIC)
NEVADA PACIFIC PARKWAY
(PROPOSED/PUBLIC)
MATCH
(STA. 100+25)
LINE
SEE SHT. C2.2)
4' SHOULDER
N
0
20'
40'
22x34 SHEETS 1" = 20'
11x17 SHEETS 1" = 40'

Appendix D

Opening Year and Future Year LOS Calculations



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	325	110	90	422	334	235	129	91	189	64	94
Future Volume (veh/h)	263	325	110	90	422	334	235	129	91	189	64	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1781	1781	1781	1870	1781	1870	1781	1870	1870	1870
Adj Flow Rate, veh/h	296	378	128	105	491	0	273	145	106	212	72	0
Peak Hour Factor	0.89	0.86	0.86	0.86	0.86	0.89	0.86	0.89	0.86	0.89	0.89	0.89
Percent Heavy Veh, %	2	8	8	8	8	2	8	2	8	2	2	2
Cap, veh/h	400	1672	746	134	1548		369	204	165	304	159	
Arrive On Green	0.12	0.49	0.49	0.08	0.46	0.00	0.11	0.11	0.11	0.09	0.09	0.00
Sat Flow, veh/h	3456	3385	1510	1697	3385	1585	3291	1870	1510	3456	1870	1585
Grp Volume(v), veh/h	296	378	128	105	491	0	273	145	106	212	72	0
Grp Sat Flow(s),veh/h/ln	1728	1692	1510	1697	1692	1585	1646	1870	1510	1728	1870	1585
Q Serve(g_s), s	7.0	5.4	4.0	5.2	7.8	0.0	6.8	6.4	5.7	5.1	3.1	0.0
Cycle Q Clear(g_c), s	7.0	5.4	4.0	5.2	7.8	0.0	6.8	6.4	5.7	5.1	3.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	400	1672	746	134	1548		369	204	165	304	159	
V/C Ratio(X)	0.74	0.23	0.17	0.78	0.32		0.74	0.71	0.64	0.70	0.45	
Avail Cap(c_a), veh/h	874	1672	746	389	1593		794	495	400	671	407	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.3	12.2	11.9	38.4	14.6	0.0	36.5	36.5	36.3	37.7	37.0	0.0
Incr Delay (d2), s/veh	2.7	0.3	0.5	9.5	0.1	0.0	2.9	4.5	4.1	2.9	2.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	2.0	1.4	2.5	2.9	0.0	2.8	3.1	2.3	2.2	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.0	12.6	12.4	47.9	14.8	0.0	39.4	41.0	40.4	40.5	39.0	0.0
LnGrp LOS	D	B	B	D	B		D	D	D	D	D	
Approach Vol, veh/h		802			596			524			284	
Approach Delay, s/veh		22.3			20.6			40.1			40.2	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	48.0	14.0	11.7	14.3	44.9	12.0	13.8
Change Period (Y+Rc), s	4.5	6.0	4.5	4.5	4.5	6.0	4.5	4.5
Max Green Setting (Gmax), s	19.5	42.0	20.5	18.5	21.5	40.0	16.5	22.5
Max Q Clear Time (g_c+I1), s	7.2	7.4	8.8	5.1	9.0	9.8	7.1	8.4
Green Ext Time (p_c), s	0.2	3.2	0.7	0.2	0.8	3.6	0.5	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	28.4
HCM 7th LOS	C

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

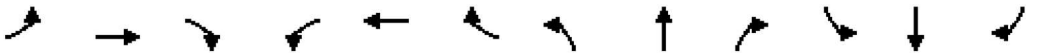
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	154	0	0	228	3	0	0	0	6	0	14
Future Vol, veh/h	18	154	0	0	228	3	0	0	0	6	0	14
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	200	-	-	200	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	25	214	0	0	317	4	0	0	0	8	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	321	0	0	214	0	0	581	585	214	583	583	319
Stage 1	-	-	-	-	-	-	264	264	-	319	319	-
Stage 2	-	-	-	-	-	-	317	321	-	264	264	-
Critical Hdwy	4.15	-	-	4.15	-	-	7.15	6.55	6.25	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.15	5.55	-
Follow-up Hdwy	2.245	-	-	2.245	-	-	3.545	4.045	3.345	3.545	4.045	3.345
Pot Cap-1 Maneuver	1222	-	-	1339	-	-	421	419	819	420	420	715
Stage 1	-	-	-	-	-	-	735	685	-	686	648	-
Stage 2	-	-	-	-	-	-	688	646	-	735	685	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1222	-	-	1339	-	-	401	410	819	411	412	715
Mov Cap-2 Maneuver	-	-	-	-	-	-	401	410	-	411	412	-
Stage 1	-	-	-	-	-	-	720	671	-	686	648	-
Stage 2	-	-	-	-	-	-	669	646	-	720	671	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.84	0	0	11.31
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1222	-	-	1339	-	-	411	715
HCM Lane V/C Ratio	-	-	0.02	-	-	-	-	-	0.02	0.027
HCM Control Delay (s/veh)	0	0	8	-	-	0	-	-	13.9	10.2
HCM Lane LOS	A	A	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	-	-	0.1	-	-	0	-	-	0.1	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	617	112	110	420	250	187	101	108	397	95	257
Future Volume (veh/h)	109	617	112	110	420	250	187	101	108	397	95	257
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1841	1841	1841	1841	1870	1841	1870	1841	1870	1870	1870
Adj Flow Rate, veh/h	122	649	118	116	442	0	197	113	114	446	107	0
Peak Hour Factor	0.89	0.95	0.95	0.95	0.95	0.89	0.95	0.89	0.95	0.89	0.89	0.89
Percent Heavy Veh, %	2	4	4	4	4	2	4	2	4	2	2	2
Cap, veh/h	193	1490	665	148	1590		282	191	159	564	340	
Arrive On Green	0.06	0.43	0.43	0.08	0.45	0.00	0.08	0.10	0.10	0.16	0.18	0.00
Sat Flow, veh/h	3456	3497	1560	1753	3497	1585	3401	1870	1560	3456	1870	1585
Grp Volume(v), veh/h	122	649	118	116	442	0	197	113	114	446	107	0
Grp Sat Flow(s),veh/h/ln	1728	1749	1560	1753	1749	1585	1700	1870	1560	1728	1870	1585
Q Serve(g_s), s	3.0	11.4	4.1	5.6	6.9	0.0	4.9	5.0	6.1	10.8	4.3	0.0
Cycle Q Clear(g_c), s	3.0	11.4	4.1	5.6	6.9	0.0	4.9	5.0	6.1	10.8	4.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	193	1490	665	148	1590		282	191	159	564	340	
V/C Ratio(X)	0.63	0.44	0.18	0.78	0.28		0.70	0.59	0.72	0.79	0.31	
Avail Cap(c_a), veh/h	378	1490	665	353	1812		568	420	350	1054	678	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.1	17.6	15.5	39.0	14.8	0.0	38.8	37.3	37.8	34.9	30.8	0.0
Incr Delay (d2), s/veh	3.4	0.9	0.6	8.7	0.1	0.0	3.1	2.9	5.9	2.6	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.6	1.5	2.7	2.6	0.0	2.1	2.4	2.6	4.6	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.5	18.5	16.1	47.7	14.9	0.0	41.9	40.2	43.7	37.5	31.3	0.0
LnGrp LOS	D	B	B	D	B		D	D	D	D	C	
Approach Vol, veh/h		889			558			424			553	
Approach Delay, s/veh		21.6			21.7			41.9			36.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	43.0	11.7	20.3	9.4	45.5	18.7	13.3
Change Period (Y+Rc), s	4.5	6.0	4.5	4.5	4.5	6.0	4.5	4.5
Max Green Setting (Gmax), s	17.5	37.0	14.5	31.5	9.5	45.0	26.5	19.5
Max Q Clear Time (g_c+I1), s	7.6	13.4	6.9	6.3	5.0	8.9	12.8	8.1
Green Ext Time (p_c), s	0.2	5.1	0.4	0.5	0.1	3.3	1.4	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	28.5
HCM 7th LOS	C

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

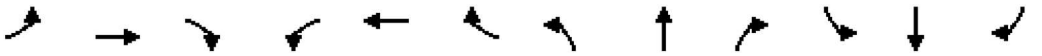
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	305	0	0	174	1	0	0	0	1	0	14
Future Vol, veh/h	12	305	0	0	174	1	0	0	0	1	0	14
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	200	-	-	200	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	339	0	0	193	1	0	0	0	1	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	194	0	0	339	0	0	559	560	339	559	559	194
Stage 1	-	-	-	-	-	-	366	366	-	194	194	-
Stage 2	-	-	-	-	-	-	193	194	-	366	366	-
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	1379	-	-	1220	-	-	440	437	703	439	437	848
Stage 1	-	-	-	-	-	-	654	623	-	808	740	-
Stage 2	-	-	-	-	-	-	808	740	-	654	623	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1379	-	-	1220	-	-	427	433	703	435	433	848
Mov Cap-2 Maneuver	-	-	-	-	-	-	427	433	-	435	433	-
Stage 1	-	-	-	-	-	-	647	617	-	808	740	-
Stage 2	-	-	-	-	-	-	794	740	-	647	617	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.29	0	0	9.59
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1379	-	-	1220	-	-	435	848
HCM Lane V/C Ratio	-	-	0.01	-	-	-	-	-	0.003	0.018
HCM Control Delay (s/veh)	0	0	7.6	-	-	0	-	-	13.3	9.3
HCM Lane LOS	A	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	0	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	630	466	156	105	494	703	306	187	114	322	91	189
Future Volume (veh/h)	630	466	156	105	494	703	306	187	114	322	91	189
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1781	1781	1781	1870	1781	1870	1781	1870	1870	1870
Adj Flow Rate, veh/h	708	542	181	122	574	0	356	210	133	362	102	0
Peak Hour Factor	0.89	0.86	0.86	0.86	0.86	0.89	0.86	0.89	0.86	0.89	0.89	0.89
Percent Heavy Veh, %	2	8	8	8	8	2	8	2	8	2	2	2
Cap, veh/h	776	1613	719	150	1151		421	250	202	422	240	
Arrive On Green	0.22	0.48	0.48	0.09	0.34	0.00	0.13	0.13	0.13	0.12	0.13	0.00
Sat Flow, veh/h	3456	3385	1510	1697	3385	1585	3291	1870	1510	3456	1870	1585
Grp Volume(v), veh/h	708	542	181	122	574	0	356	210	133	362	102	0
Grp Sat Flow(s),veh/h/ln	1728	1692	1510	1697	1692	1585	1646	1870	1510	1728	1870	1585
Q Serve(g_s), s	21.7	10.8	7.8	7.7	14.7	0.0	11.5	11.9	9.1	11.2	5.5	0.0
Cycle Q Clear(g_c), s	21.7	10.8	7.8	7.7	14.7	0.0	11.5	11.9	9.1	11.2	5.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	776	1613	719	150	1151		421	250	202	422	240	
V/C Ratio(X)	0.91	0.34	0.25	0.82	0.50		0.85	0.84	0.66	0.86	0.43	
Avail Cap(c_a), veh/h	823	1613	719	261	1326		500	311	251	442	267	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.1	17.7	16.9	48.7	28.5	0.0	46.4	45.9	44.7	46.8	43.7	0.0
Incr Delay (d2), s/veh	13.9	0.6	0.8	10.2	0.3	0.0	11.1	15.2	4.4	14.9	1.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	4.3	2.8	3.7	5.9	0.0	5.3	6.6	3.6	5.7	2.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	55.0	18.3	17.8	58.9	28.8	0.0	57.5	61.1	49.1	61.7	44.9	0.0
LnGrp LOS	D	B	B	E	C		E	E	D	E	D	
Approach Vol, veh/h		1431			696			699			464	
Approach Delay, s/veh		36.4			34.1			57.0			58.0	
Approach LOS		D			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.1	57.8	18.4	18.4	28.9	43.0	17.8	19.0
Change Period (Y+Rc), s	4.5	6.0	4.5	4.5	4.5	6.0	4.5	4.5
Max Green Setting (Gmax), s	16.7	51.8	16.5	15.5	25.9	42.6	13.9	18.1
Max Q Clear Time (g_c+I1), s	9.7	12.8	13.5	7.5	23.7	16.7	13.2	13.9
Green Ext Time (p_c), s	0.2	4.9	0.4	0.2	0.7	4.2	0.1	0.6

Intersection Summary	
HCM 7th Control Delay, s/veh	43.3
HCM 7th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

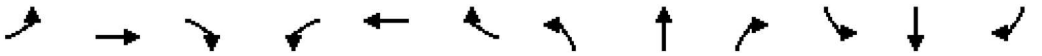
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	224	0	0	329	5	0	0	0	8	0	20
Future Vol, veh/h	27	224	0	0	329	5	0	0	0	8	0	20
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	200	-	-	200	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	38	311	0	0	457	7	0	0	0	11	0	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	464	0	0	311	0	0	843	850	311	847	847	460
Stage 1	-	-	-	-	-	-	386	386	-	460	460	-
Stage 2	-	-	-	-	-	-	457	464	-	386	386	-
Critical Hdwy	4.15	-	-	4.15	-	-	7.15	6.55	6.25	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.15	5.55	-
Follow-up Hdwy	2.245	-	-	2.245	-	-	3.545	4.045	3.345	3.545	4.045	3.345
Pot Cap-1 Maneuver	1082	-	-	1232	-	-	280	294	722	279	296	595
Stage 1	-	-	-	-	-	-	631	605	-	575	561	-
Stage 2	-	-	-	-	-	-	578	559	-	631	605	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1082	-	-	1232	-	-	258	284	722	269	285	595
Mov Cap-2 Maneuver	-	-	-	-	-	-	258	284	-	269	285	-
Stage 1	-	-	-	-	-	-	609	584	-	575	561	-
Stage 2	-	-	-	-	-	-	551	559	-	609	584	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.91	0	0	13.52
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1082	-	-	1232	-	-	269	595
HCM Lane V/C Ratio	-	-	0.035	-	-	-	-	-	0.041	0.047
HCM Control Delay (s/veh)	0	0	8.4	-	-	0	-	-	19	11.3
HCM Lane LOS	A	A	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.1	-	-	0	-	-	0.1	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	292	717	154	119	560	482	235	134	139	761	132	577
Future Volume (veh/h)	292	717	154	119	560	482	235	134	139	761	132	577
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1841	1841	1841	1841	1870	1841	1870	1841	1870	1870	1870
Adj Flow Rate, veh/h	328	755	162	125	589	0	247	151	146	855	148	0
Peak Hour Factor	0.89	0.95	0.95	0.95	0.95	0.89	0.95	0.89	0.95	0.89	0.89	0.89
Percent Heavy Veh, %	2	4	4	4	4	2	4	2	4	2	2	2
Cap, veh/h	402	1102	491	154	1002		317	223	186	980	579	
Arrive On Green	0.12	0.31	0.31	0.09	0.29	0.00	0.09	0.12	0.12	0.28	0.31	0.00
Sat Flow, veh/h	3456	3497	1560	1753	3497	1585	3401	1870	1560	3456	1870	1585
Grp Volume(v), veh/h	328	755	162	125	589	0	247	151	146	855	148	0
Grp Sat Flow(s),veh/h/ln	1728	1749	1560	1753	1749	1585	1700	1870	1560	1728	1870	1585
Q Serve(g_s), s	9.3	18.9	8.0	7.0	14.5	0.0	7.1	7.8	9.1	23.6	6.0	0.0
Cycle Q Clear(g_c), s	9.3	18.9	8.0	7.0	14.5	0.0	7.1	7.8	9.1	23.6	6.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	402	1102	491	154	1002		317	223	186	980	579	
V/C Ratio(X)	0.82	0.69	0.33	0.81	0.59		0.78	0.68	0.79	0.87	0.26	
Avail Cap(c_a), veh/h	499	1102	491	201	1002		403	367	306	1299	848	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	43.3	30.0	26.3	44.9	30.7	0.0	44.5	42.3	42.9	34.2	26.0	0.0
Incr Delay (d2), s/veh	8.3	3.5	1.8	17.1	0.9	0.0	7.4	3.6	7.1	5.3	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	8.3	3.2	3.8	6.1	0.0	3.3	3.8	3.9	10.4	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.6	33.5	28.1	62.0	31.6	0.0	51.8	45.9	50.1	39.5	26.2	0.0
LnGrp LOS	D	C	C	E	C		D	D	D	D	C	
Approach Vol, veh/h		1245			714			544			1003	
Approach Delay, s/veh		37.6			36.9			49.7			37.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	37.6	13.8	35.6	16.2	34.7	33.0	16.5
Change Period (Y+Rc), s	4.5	6.0	4.5	4.5	4.5	6.0	4.5	4.5
Max Green Setting (Gmax), s	11.5	31.6	11.9	45.5	14.5	28.6	37.7	19.7
Max Q Clear Time (g_c+I1), s	9.0	20.9	9.1	8.0	11.3	16.5	25.6	11.1
Green Ext Time (p_c), s	0.1	4.3	0.2	0.9	0.4	3.2	2.8	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	39.3
HCM 7th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	439	0	0	252	2	0	0	0	2	0	20
Future Vol, veh/h	18	439	0	0	252	2	0	0	0	2	0	20
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	200	-	-	200	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	488	0	0	280	2	0	0	0	2	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	282	0	0	488	0	0	808	810	488	809	809	281
Stage 1	-	-	-	-	-	-	528	528	-	281	281	-
Stage 2	-	-	-	-	-	-	280	282	-	528	528	-
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	1280	-	-	1075	-	-	299	314	580	299	314	758
Stage 1	-	-	-	-	-	-	534	528	-	726	678	-
Stage 2	-	-	-	-	-	-	727	678	-	534	528	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1280	-	-	1075	-	-	286	309	580	294	309	758
Mov Cap-2 Maneuver	-	-	-	-	-	-	286	309	-	294	309	-
Stage 1	-	-	-	-	-	-	526	520	-	726	678	-
Stage 2	-	-	-	-	-	-	705	678	-	526	520	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.31	0	0	10.57
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1280	-	-	1075	-	-	294	758
HCM Lane V/C Ratio	-	-	0.016	-	-	-	-	-	0.008	0.029
HCM Control Delay (s/veh)	0	0	7.9	-	-	0	-	-	17.3	9.9
HCM Lane LOS	A	A	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	0	0.1

Appendix E

Opening Year Plus Project and Future Year Plus Project LOS Calculations

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	59	164	0	0	256	14	0	0	0	36	0	136
Future Vol, veh/h	59	164	0	0	256	14	0	0	0	36	0	136
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	200	-	-	200	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	82	228	0	0	356	19	0	0	0	50	0	189

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	375	0	0	228	0	0	747	767	228	757	757	365
Stage 1	-	-	-	-	-	-	392	392	-	365	365	-
Stage 2	-	-	-	-	-	-	356	375	-	392	392	-
Critical Hdwy	4.15	-	-	4.15	-	-	7.15	6.55	6.25	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.15	5.55	-
Follow-up Hdwy	2.245	-	-	2.245	-	-	3.545	4.045	3.345	3.545	4.045	3.345
Pot Cap-1 Maneuver	1167	-	-	1323	-	-	325	329	804	320	333	673
Stage 1	-	-	-	-	-	-	627	601	-	648	618	-
Stage 2	-	-	-	-	-	-	656	612	-	627	601	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1167	-	-	1323	-	-	218	306	804	298	310	673
Mov Cap-2 Maneuver	-	-	-	-	-	-	218	306	-	298	310	-
Stage 1	-	-	-	-	-	-	583	559	-	648	618	-
Stage 2	-	-	-	-	-	-	472	612	-	583	559	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	2.2	0	0	13.9
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1167	-	-	1323	-	-	298	673
HCM Lane V/C Ratio	-	-	0.07	-	-	-	-	-	0.168	0.281
HCM Control Delay (s/veh)	0	0	8.3	-	-	0	-	-	19.5	12.4
HCM Lane LOS	A	A	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.2	-	-	0	-	-	0.6	1.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	190	10	2	241	29	7
Future Vol, veh/h	190	10	2	241	29	7
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	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	264	14	3	335	40	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	278	0	611	271
Stage 1	-	-	-	-	271	-
Stage 2	-	-	-	-	340	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1268	-	452	761
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	714	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1268	-	451	761
Mov Cap-2 Maneuver	-	-	-	-	542	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	712	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.06	11.86
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	575	-	-	1268	-
HCM Lane V/C Ratio	0.087	-	-	0.002	-
HCM Control Delay (s/veh)	11.9	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	150	337	0	0	193	36	0	0	0	21	0	95
Future Vol, veh/h	150	337	0	0	193	36	0	0	0	21	0	95
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	200	-	-	200	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	167	374	0	0	214	40	0	0	0	23	0	106

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	254	0	0	374	0	0	922	962	374	942	942	234
Stage 1	-	-	-	-	-	-	708	708	-	234	234	-
Stage 2	-	-	-	-	-	-	214	254	-	708	708	-
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	1311	-	-	1184	-	-	251	256	672	243	263	805
Stage 1	-	-	-	-	-	-	426	438	-	769	711	-
Stage 2	-	-	-	-	-	-	788	697	-	426	438	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1311	-	-	1184	-	-	190	223	672	212	229	805
Mov Cap-2 Maneuver	-	-	-	-	-	-	190	223	-	212	229	-
Stage 1	-	-	-	-	-	-	371	382	-	769	711	-
Stage 2	-	-	-	-	-	-	684	697	-	371	382	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	2.51	0	0	12.67
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1311	-	-	1184	-	-	212	805
HCM Lane V/C Ratio	-	-	0.127	-	-	-	-	-	0.11	0.131
HCM Control Delay (s/veh)	0	0	8.1	-	-	0	-	-	24.1	10.1
HCM Lane LOS	A	A	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.4	-	-	0	-	-	0.4	0.5

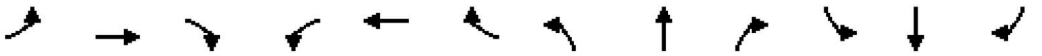
Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	326	32	8	210	19	5
Future Vol, veh/h	326	32	8	210	19	5
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	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	362	36	9	233	21	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	398	0	631	380
Stage 1	-	-	-	-	380	-
Stage 2	-	-	-	-	251	-
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	-	-	1161	-	445	667
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	791	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1161	-	442	667
Mov Cap-2 Maneuver	-	-	-	-	535	-
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	785	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.3	11.78
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	558	-	-	1161	-
HCM Lane V/C Ratio	0.048	-	-	0.008	-
HCM Control Delay (s/veh)	11.8	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	352	110	90	503	415	235	129	91	216	64	94
Future Volume (veh/h)	263	352	110	90	503	415	235	129	91	216	64	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1781	1781	1781	1870	1781	1870	1781	1870	1870	1870
Adj Flow Rate, veh/h	296	409	128	105	585	0	273	145	106	243	72	0
Peak Hour Factor	0.89	0.86	0.86	0.86	0.86	0.89	0.86	0.89	0.86	0.89	0.89	0.89
Percent Heavy Veh, %	2	8	8	8	8	2	8	2	8	2	2	2
Cap, veh/h	399	1652	737	134	1529		368	204	164	336	177	
Arrive On Green	0.12	0.49	0.49	0.08	0.45	0.00	0.11	0.11	0.11	0.10	0.09	0.00
Sat Flow, veh/h	3456	3385	1510	1697	3385	1585	3291	1870	1510	3456	1870	1585
Grp Volume(v), veh/h	296	409	128	105	585	0	273	145	106	243	72	0
Grp Sat Flow(s),veh/h/ln	1728	1692	1510	1697	1692	1585	1646	1870	1510	1728	1870	1585
Q Serve(g_s), s	7.1	6.1	4.1	5.2	9.9	0.0	6.9	6.4	5.8	5.9	3.1	0.0
Cycle Q Clear(g_c), s	7.1	6.1	4.1	5.2	9.9	0.0	6.9	6.4	5.8	5.9	3.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	399	1652	737	134	1529		368	204	164	336	177	
V/C Ratio(X)	0.74	0.25	0.17	0.78	0.38		0.74	0.71	0.64	0.72	0.41	
Avail Cap(c_a), veh/h	863	1652	737	384	1573		784	489	395	663	402	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.8	12.8	12.3	38.9	15.6	0.0	37.0	37.0	36.7	37.7	36.7	0.0
Incr Delay (d2), s/veh	2.7	0.4	0.5	9.5	0.2	0.0	3.0	4.6	4.2	2.9	1.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	2.3	1.4	2.5	3.6	0.0	2.9	3.1	2.3	2.6	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.5	13.2	12.8	48.4	15.8	0.0	40.0	41.6	40.9	40.7	38.2	0.0
LnGrp LOS	D	B	B	D	B		D	D	D	D	D	
Approach Vol, veh/h		833			690			524			315	
Approach Delay, s/veh		22.5			20.8			40.6			40.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	48.0	14.1	12.6	14.4	44.9	12.9	13.9
Change Period (Y+Rc), s	4.5	6.0	4.5	4.5	4.5	6.0	4.5	4.5
Max Green Setting (Gmax), s	19.5	42.0	20.5	18.5	21.5	40.0	16.5	22.5
Max Q Clear Time (g_c+I1), s	7.2	8.1	8.9	5.1	9.1	11.9	7.9	8.4
Green Ext Time (p_c), s	0.2	3.4	0.7	0.2	0.8	4.3	0.5	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	28.4
HCM 7th LOS	C

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	12

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	576	82	16	0	238	46
Future Vol, veh/h	576	82	16	0	238	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	700	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	670	95	19	0	277	53

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	765	0	707	335
Stage 1	-	-	-	-	670	-
Stage 2	-	-	-	-	37	-
Critical Hdwy	-	-	4.26	-	6.96	7.06
Critical Hdwy Stg 1	-	-	-	-	5.96	-
Critical Hdwy Stg 2	-	-	-	-	5.96	-
Follow-up Hdwy	-	-	2.28	-	3.58	3.38
Pot Cap-1 Maneuver	-	-	806	-	357	644
Stage 1	-	-	-	-	454	-
Stage 2	-	-	-	-	963	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	806	-	349	644
Mov Cap-2 Maneuver	-	-	-	-	349	-
Stage 1	-	-	-	-	454	-
Stage 2	-	-	-	-	941	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	9.57	39.79
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	349	644	-	-	806	-
HCM Lane V/C Ratio	0.794	0.083	-	-	0.023	-
HCM Control Delay (s/veh)	45.3	11.1	-	-	9.6	-
HCM Lane LOS	E	B	-	-	A	-
HCM 95th %tile Q(veh)	6.6	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	104	90	4	2	239	68	12	41	6	28	27	73
Future Vol, veh/h	104	90	4	2	239	68	12	41	6	28	27	73
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	200	-	-	200	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	144	125	6	3	332	94	17	57	8	39	38	101

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	426	0	0	131	0	0	773	849	128	827	804	379
Stage 1	-	-	-	-	-	-	417	417	-	385	385	-
Stage 2	-	-	-	-	-	-	356	432	-	442	419	-
Critical Hdwy	4.15	-	-	4.15	-	-	7.15	6.55	6.25	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.15	5.55	-
Follow-up Hdwy	2.245	-	-	2.245	-	-	3.545	4.045	3.345	3.545	4.045	3.345
Pot Cap-1 Maneuver	1117	-	-	1436	-	-	312	295	914	287	313	661
Stage 1	-	-	-	-	-	-	608	586	-	632	606	-
Stage 2	-	-	-	-	-	-	655	577	-	588	585	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1117	-	-	1436	-	-	202	256	914	198	272	661
Mov Cap-2 Maneuver	-	-	-	-	-	-	202	256	-	198	272	-
Stage 1	-	-	-	-	-	-	529	510	-	631	605	-
Stage 2	-	-	-	-	-	-	519	576	-	451	509	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	4.57	0.05	22.14	18.23
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	202	282	1117	-	-	1436	-	-	198	477
HCM Lane V/C Ratio	0.083	0.231	0.129	-	-	0.002	-	-	0.196	0.291
HCM Control Delay (s/veh)	24.4	21.6	8.7	-	-	7.5	-	-	27.6	15.6
HCM Lane LOS	C	C	A	-	-	A	-	-	D	C
HCM 95th %tile Q(veh)	0.3	0.9	0.4	-	-	0	-	-	0.7	1.2

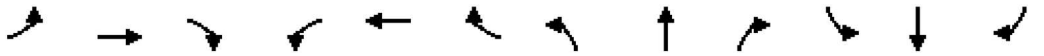
Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	120	4	2	257	53	6
Future Vol, veh/h	120	4	2	257	53	6
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	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	167	6	3	357	74	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	172	0	532	169
Stage 1	-	-	-	-	169	-
Stage 2	-	-	-	-	363	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1387	-	503	867
Stage 1	-	-	-	-	853	-
Stage 2	-	-	-	-	698	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1387	-	502	867
Mov Cap-2 Maneuver	-	-	-	-	572	-
Stage 1	-	-	-	-	853	-
Stage 2	-	-	-	-	696	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.06	12.04
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	593	-	-	1387	-
HCM Lane V/C Ratio	0.138	-	-	0.002	-
HCM Control Delay (s/veh)	12	-	-	7.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	708	112	110	474	304	187	101	108	488	95	257
Future Volume (veh/h)	109	708	112	110	474	304	187	101	108	488	95	257
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1841	1841	1841	1841	1870	1841	1870	1841	1870	1870	1870
Adj Flow Rate, veh/h	122	745	118	116	499	0	197	113	114	548	107	0
Peak Hour Factor	0.89	0.95	0.95	0.95	0.95	0.89	0.95	0.89	0.95	0.89	0.89	0.89
Percent Heavy Veh, %	2	4	4	4	4	2	4	2	4	2	2	2
Cap, veh/h	191	1428	637	147	1529		279	188	157	663	394	
Arrive On Green	0.06	0.41	0.41	0.08	0.44	0.00	0.08	0.10	0.10	0.19	0.21	0.00
Sat Flow, veh/h	3456	3497	1560	1753	3497	1585	3401	1870	1560	3456	1870	1585
Grp Volume(v), veh/h	122	745	118	116	499	0	197	113	114	548	107	0
Grp Sat Flow(s),veh/h/ln	1728	1749	1560	1753	1749	1585	1700	1870	1560	1728	1870	1585
Q Serve(g_s), s	3.1	14.5	4.4	5.9	8.5	0.0	5.1	5.2	6.4	13.8	4.3	0.0
Cycle Q Clear(g_c), s	3.1	14.5	4.4	5.9	8.5	0.0	5.1	5.2	6.4	13.8	4.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	1428	637	147	1529		279	188	157	663	394	
V/C Ratio(X)	0.64	0.52	0.19	0.79	0.33		0.71	0.60	0.73	0.83	0.27	
Avail Cap(c_a), veh/h	362	1428	637	338	1736		544	402	336	1010	650	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.9	20.2	17.2	40.7	16.8	0.0	40.5	39.0	39.6	35.2	30.0	0.0
Incr Delay (d2), s/veh	3.5	1.4	0.6	8.9	0.1	0.0	3.3	3.1	6.3	3.5	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	6.0	1.6	2.9	3.3	0.0	2.2	2.5	2.7	6.0	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.5	21.5	17.8	49.6	16.9	0.0	43.8	42.1	45.8	38.7	30.3	0.0
LnGrp LOS	D	C	B	D	B		D	D	D	D	C	
Approach Vol, veh/h		985			615			424			655	
Approach Delay, s/veh		24.1			23.1			43.9			37.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	43.0	11.9	23.6	9.5	45.6	21.9	13.6
Change Period (Y+Rc), s	4.5	6.0	4.5	4.5	4.5	6.0	4.5	4.5
Max Green Setting (Gmax), s	17.5	37.0	14.5	31.5	9.5	45.0	26.5	19.5
Max Q Clear Time (g_c+I1), s	7.9	16.5	7.1	6.3	5.1	10.5	15.8	8.4
Green Ext Time (p_c), s	0.2	5.7	0.4	0.5	0.1	3.7	1.6	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	30.2
HCM 7th LOS	C

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	15.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1051	253	48	0	154	29
Future Vol, veh/h	1051	253	48	0	154	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	700	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	1106	266	51	0	162	31

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1373	0	1207	553
Stage 1	-	-	-	-	1106	-
Stage 2	-	-	-	-	101	-
Critical Hdwy	-	-	4.18	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	5.88	-
Follow-up Hdwy	-	-	2.24	-	3.54	3.34
Pot Cap-1 Maneuver	-	-	486	-	173	471
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	906	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	486	-	~ 155	471
Mov Cap-2 Maneuver	-	-	-	-	~ 155	-
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	812	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	13.27	123.12
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	155	471	-	-	486	-
HCM Lane V/C Ratio	1.046	0.065	-	-	0.104	-
HCM Control Delay (s/veh)	143.8	13.2	-	-	13.3	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	8.3	0.2	-	-	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	92	273	13	7	182	58	8	28	4	29	92	104
Future Vol, veh/h	92	273	13	7	182	58	8	28	4	29	92	104
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	200	-	-	200	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	102	303	14	8	202	64	9	31	4	32	102	116

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	267	0	0	318	0	0	784	797	311	773	772	234
Stage 1	-	-	-	-	-	-	515	515	-	250	250	-
Stage 2	-	-	-	-	-	-	269	282	-	523	522	-
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	1297	-	-	1242	-	-	311	319	730	316	330	805
Stage 1	-	-	-	-	-	-	543	535	-	754	700	-
Stage 2	-	-	-	-	-	-	737	678	-	537	531	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1297	-	-	1242	-	-	166	292	730	259	302	805
Mov Cap-2 Maneuver	-	-	-	-	-	-	166	292	-	259	302	-
Stage 1	-	-	-	-	-	-	500	493	-	749	695	-
Stage 2	-	-	-	-	-	-	535	673	-	461	489	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	1.95	0.22	19.85	20.24
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	166	316	1297	-	-	1242	-	-	259	452
HCM Lane V/C Ratio	0.054	0.113	0.079	-	-	0.006	-	-	0.124	0.482
HCM Control Delay (s/veh)	27.9	17.8	8	-	-	7.9	-	-	20.9	20.2
HCM Lane LOS	D	C	A	-	-	A	-	-	C	C
HCM 95th %tile Q(veh)	0.2	0.4	0.3	-	-	0	-	-	0.4	2.6

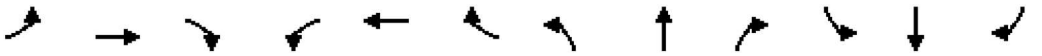
Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	292	13	7	210	36	4
Future Vol, veh/h	292	13	7	210	36	4
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	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	324	14	8	233	40	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	339	0	581	332
Stage 1	-	-	-	-	332	-
Stage 2	-	-	-	-	249	-
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	-	-	1220	-	476	710
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	793	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1220	-	473	710
Mov Cap-2 Maneuver	-	-	-	-	560	-
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	787	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.26	11.82
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	572	-	-	1220	-
HCM Lane V/C Ratio	0.078	-	-	0.006	-
HCM Control Delay (s/veh)	11.8	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	630	493	156	105	575	784	306	187	114	349	91	189
Future Volume (veh/h)	630	493	156	105	575	784	306	187	114	349	91	189
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1781	1781	1781	1870	1781	1870	1781	1870	1870	1870
Adj Flow Rate, veh/h	708	573	181	122	669	0	356	210	133	392	102	0
Peak Hour Factor	0.89	0.86	0.86	0.86	0.86	0.89	0.86	0.89	0.86	0.89	0.89	0.89
Percent Heavy Veh, %	2	8	8	8	8	2	8	2	8	2	2	2
Cap, veh/h	775	1602	714	149	1141		420	250	202	439	249	
Arrive On Green	0.22	0.47	0.47	0.09	0.34	0.00	0.13	0.13	0.13	0.13	0.13	0.00
Sat Flow, veh/h	3456	3385	1510	1697	3385	1585	3291	1870	1510	3456	1870	1585
Grp Volume(v), veh/h	708	573	181	122	669	0	356	210	133	392	102	0
Grp Sat Flow(s),veh/h/ln	1728	1692	1510	1697	1692	1585	1646	1870	1510	1728	1870	1585
Q Serve(g_s), s	21.9	11.8	7.9	7.7	17.9	0.0	11.6	12.0	9.2	12.2	5.5	0.0
Cycle Q Clear(g_c), s	21.9	11.8	7.9	7.7	17.9	0.0	11.6	12.0	9.2	12.2	5.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	775	1602	714	149	1141		420	250	202	439	249	
V/C Ratio(X)	0.91	0.36	0.25	0.82	0.59		0.85	0.84	0.66	0.89	0.41	
Avail Cap(c_a), veh/h	818	1602	714	259	1317		496	309	250	439	265	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.4	18.3	17.3	49.0	30.0	0.0	46.7	46.3	45.1	47.0	43.5	0.0
Incr Delay (d2), s/veh	14.2	0.6	0.9	10.3	0.5	0.0	11.4	15.5	4.5	20.1	1.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	4.7	2.9	3.7	7.3	0.0	5.4	6.6	3.7	6.5	2.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	55.7	18.9	18.1	59.3	30.5	0.0	58.1	61.8	49.6	67.2	44.6	0.0
LnGrp LOS	E	B	B	E	C		E	E	D	E	D	
Approach Vol, veh/h		1462			791			699			494	
Approach Delay, s/veh		36.6			34.9			57.6			62.5	
Approach LOS		D			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.1	57.8	18.5	19.0	29.0	42.9	18.4	19.1
Change Period (Y+Rc), s	4.5	6.0	4.5	4.5	4.5	6.0	4.5	4.5
Max Green Setting (Gmax), s	16.7	51.8	16.5	15.5	25.9	42.6	13.9	18.1
Max Q Clear Time (g_c+I1), s	9.7	13.8	13.6	7.5	23.9	19.9	14.2	14.0
Green Ext Time (p_c), s	0.2	5.2	0.4	0.2	0.7	4.8	0.0	0.6

Intersection Summary	
HCM 7th Control Delay, s/veh	44.2
HCM 7th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	874	82	16	1226	238	46
Future Volume (veh/h)	874	82	16	1226	238	46
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	1016	95	19	1426	277	53
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	1829	816	316	1829	356	317
Arrive On Green	0.54	0.54	0.54	0.54	0.21	0.21
Sat Flow, veh/h	3474	1510	483	3474	1697	1510
Grp Volume(v), veh/h	1016	95	19	1426	277	53
Grp Sat Flow(s),veh/h/ln	1692	1510	483	1692	1697	1510
Q Serve(g_s), s	9.5	1.5	1.3	16.1	7.4	1.4
Cycle Q Clear(g_c), s	9.5	1.5	10.8	16.1	7.4	1.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1829	816	316	1829	356	317
V/C Ratio(X)	0.56	0.12	0.06	0.78	0.78	0.17
Avail Cap(c_a), veh/h	2113	942	356	2113	635	565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.3	5.4	10.8	8.8	17.9	15.5
Incr Delay (d2), s/veh	0.3	0.1	0.1	1.7	3.7	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.3	0.1	4.4	2.9	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	7.5	5.5	10.9	10.5	21.6	15.8
LnGrp LOS	A	A	B	B	C	B
Approach Vol, veh/h	1111			1445	330	
Approach Delay, s/veh	7.3			10.5	20.7	
Approach LOS	A			B	C	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	16.1	32.0	32.0
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	18.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	9.4	11.5	18.1
Green Ext Time (p_c), s	0.7	7.6	7.9

Intersection Summary	
HCM 7th Control Delay, s/veh	10.4
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	112	160	4	2	341	70	12	41	6	30	27	80
Future Vol, veh/h	112	160	4	2	341	70	12	41	6	30	27	80
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	200	-	-	200	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	156	222	6	3	474	97	17	57	8	42	38	111

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	571	0	0	228	0	0	1034	1113	225	1090	1067	522
Stage 1	-	-	-	-	-	-	536	536	-	528	528	-
Stage 2	-	-	-	-	-	-	498	576	-	562	539	-
Critical Hdwy	4.15	-	-	4.15	-	-	7.15	6.55	6.25	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.15	5.55	-
Follow-up Hdwy	2.245	-	-	2.245	-	-	3.545	4.045	3.345	3.545	4.045	3.345
Pot Cap-1 Maneuver	987	-	-	1323	-	-	208	206	807	190	219	549
Stage 1	-	-	-	-	-	-	523	518	-	529	523	-
Stage 2	-	-	-	-	-	-	549	497	-	506	517	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	987	-	-	1323	-	-	115	173	807	112	184	549
Mov Cap-2 Maneuver	-	-	-	-	-	-	115	173	-	112	184	-
Stage 1	-	-	-	-	-	-	441	437	-	527	522	-
Stage 2	-	-	-	-	-	-	405	496	-	367	435	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	3.79	0.04	34.78	28.75
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	115	192	987	-	-	1323	-	-	112	366
HCM Lane V/C Ratio	0.145	0.339	0.158	-	-	0.002	-	-	0.372	0.406
HCM Control Delay (s/veh)	41.7	33	9.3	-	-	7.7	-	-	55	21.4
HCM Lane LOS	E	D	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	0.5	1.4	0.6	-	-	0	-	-	1.5	1.9

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	192	4	2	360	53	6
Future Vol, veh/h	192	4	2	360	53	6
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	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	267	6	3	500	74	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	272	0	775	269
Stage 1	-	-	-	-	269	-
Stage 2	-	-	-	-	506	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1274	-	362	762
Stage 1	-	-	-	-	769	-
Stage 2	-	-	-	-	600	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1274	-	361	762
Mov Cap-2 Maneuver	-	-	-	-	467	-
Stage 1	-	-	-	-	769	-
Stage 2	-	-	-	-	598	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.04	13.91
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	486	-	-	1274	-
HCM Lane V/C Ratio	0.169	-	-	0.002	-
HCM Control Delay (s/veh)	13.9	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	292	808	154	119	614	536	235	134	139	852	132	577
Future Volume (veh/h)	292	808	154	119	614	536	235	134	139	852	132	577
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1841	1841	1841	1841	1870	1841	1870	1841	1870	1870	1870
Adj Flow Rate, veh/h	328	851	162	125	646	0	247	151	146	957	148	0
Peak Hour Factor	0.89	0.95	0.95	0.95	0.95	0.89	0.95	0.89	0.95	0.89	0.89	0.89
Percent Heavy Veh, %	2	4	4	4	4	2	4	2	4	2	2	2
Cap, veh/h	395	1085	484	153	990		307	217	181	1058	620	
Arrive On Green	0.11	0.31	0.31	0.09	0.28	0.00	0.09	0.12	0.12	0.31	0.33	0.00
Sat Flow, veh/h	3456	3497	1560	1753	3497	1585	3401	1870	1560	3456	1870	1585
Grp Volume(v), veh/h	328	851	162	125	646	0	247	151	146	957	148	0
Grp Sat Flow(s),veh/h/ln	1728	1749	1560	1753	1749	1585	1700	1870	1560	1728	1870	1585
Q Serve(g_s), s	10.0	23.9	8.6	7.6	17.5	0.0	7.7	8.4	9.9	28.7	6.2	0.0
Cycle Q Clear(g_c), s	10.0	23.9	8.6	7.6	17.5	0.0	7.7	8.4	9.9	28.7	6.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	395	1085	484	153	990		307	217	181	1058	620	
V/C Ratio(X)	0.83	0.78	0.33	0.82	0.65		0.80	0.70	0.81	0.90	0.24	
Avail Cap(c_a), veh/h	464	1085	484	187	990		331	312	260	1200	780	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	46.8	33.9	28.7	48.5	34.0	0.0	48.2	45.9	46.5	35.9	26.2	0.0
Incr Delay (d2), s/veh	10.6	5.7	1.9	20.6	1.5	0.0	12.6	4.0	11.5	9.1	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	10.9	3.5	4.2	7.6	0.0	3.8	4.1	4.4	13.2	2.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.4	39.6	30.5	69.0	35.6	0.0	60.8	49.9	58.0	45.0	26.4	0.0
LnGrp LOS	E	D	C	E	D		E	D	E	D	C	
Approach Vol, veh/h		1341			771			544			1105	
Approach Delay, s/veh		42.9			41.0			57.0			42.5	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	39.5	14.3	40.3	16.8	36.6	37.5	17.0
Change Period (Y+Rc), s	4.5	6.0	4.5	4.5	4.5	6.0	4.5	4.5
Max Green Setting (Gmax), s	11.5	33.5	10.5	45.0	14.5	30.5	37.5	18.0
Max Q Clear Time (g_c+I1), s	9.6	25.9	9.7	8.2	12.0	19.5	30.7	11.9
Green Ext Time (p_c), s	0.1	3.8	0.1	0.9	0.3	3.3	2.4	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	44.4
HCM 7th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1546	253	48	1116	154	29
Future Volume (veh/h)	1546	253	48	1116	154	29
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	1627	266	51	1175	162	31
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	2419	1079	209	2419	221	197
Arrive On Green	0.69	0.69	0.69	0.69	0.13	0.13
Sat Flow, veh/h	3589	1560	235	3589	1753	1560
Grp Volume(v), veh/h	1627	266	51	1175	162	31
Grp Sat Flow(s),veh/h/ln	1749	1560	235	1749	1753	1560
Q Serve(g_s), s	17.7	4.2	10.5	10.3	5.9	1.2
Cycle Q Clear(g_c), s	17.7	4.2	28.2	10.3	5.9	1.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2419	1079	209	2419	221	197
V/C Ratio(X)	0.67	0.25	0.24	0.49	0.73	0.16
Avail Cap(c_a), veh/h	4509	2011	349	4509	612	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.9	3.8	14.0	4.7	27.7	25.7
Incr Delay (d2), s/veh	0.3	0.1	0.6	0.2	4.6	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.9	0.5	2.5	2.6	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	6.2	3.9	14.6	4.9	32.4	26.0
LnGrp LOS	A	A	B	A	C	C
Approach Vol, veh/h	1893			1226	193	
Approach Delay, s/veh	5.9			5.3	31.3	
Approach LOS	A			A	C	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	14.3	51.6	51.6
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	23.0	85.0	85.0
Max Q Clear Time (g_c+I1), s	7.9	19.7	30.2
Green Ext Time (p_c), s	0.5	25.5	15.4

Intersection Summary	
HCM 7th Control Delay, s/veh	7.1
HCM 7th LOS	A

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	98	406	13	7	260	58	8	28	4	29	92	111
Future Vol, veh/h	98	406	13	7	260	58	8	28	4	29	92	111
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	200	-	-	200	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	109	451	14	8	289	64	9	31	4	32	102	123

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	353	0	0	466	0	0	1032	1045	458	1021	1020	321
Stage 1	-	-	-	-	-	-	676	676	-	337	337	-
Stage 2	-	-	-	-	-	-	356	369	-	684	683	-
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	1205	-	-	1096	-	-	211	229	603	215	237	720
Stage 1	-	-	-	-	-	-	443	453	-	678	641	-
Stage 2	-	-	-	-	-	-	662	621	-	438	449	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1205	-	-	1096	-	-	86	207	603	166	214	720
Mov Cap-2 Maneuver	-	-	-	-	-	-	86	207	-	166	214	-
Stage 1	-	-	-	-	-	-	403	412	-	673	637	-
Stage 2	-	-	-	-	-	-	457	616	-	366	409	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	1.57	0.18	29.45	32.59
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	86	225	1205	-	-	1096	-	-	166	347
HCM Lane V/C Ratio	0.103	0.158	0.09	-	-	0.007	-	-	0.194	0.65
HCM Control Delay (s/veh)	51.4	24	8.3	-	-	8.3	-	-	31.9	32.7
HCM Lane LOS	F	C	A	-	-	A	-	-	D	D
HCM 95th %tile Q(veh)	0.3	0.6	0.3	-	-	0	-	-	0.7	4.3

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	427	13	7	289	36	4
Future Vol, veh/h	427	13	7	289	36	4
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	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	474	14	8	321	40	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	489	0	818	482
Stage 1	-	-	-	-	482	-
Stage 2	-	-	-	-	337	-
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	-	-	1074	-	345	585
Stage 1	-	-	-	-	621	-
Stage 2	-	-	-	-	723	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1074	-	343	585
Mov Cap-2 Maneuver	-	-	-	-	459	-
Stage 1	-	-	-	-	621	-
Stage 2	-	-	-	-	718	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.2	13.48
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	469	-	-	1074	-
HCM Lane V/C Ratio	0.095	-	-	0.007	-
HCM Control Delay (s/veh)	13.5	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

FRIENDLY 5 RANCH

Chapter 4

Infrastructure and Public Services

4.1 Access and Circulation

Access to Friendly 5 Ranch is provided via Farm District Road to both the north and south portions of the Development. A roadway and pedestrian pathways network has been designed to provide adequate and safe access into and through the Development for both vehicles and pedestrians. The following identifies the hierarchy of both vehicular roadways and pedestrian pathways through the Development.

4.1.1 Roadway System

The hierarchy for roadways shall be as identified below and depicted within Exhibits 4.1 through 4.5 on the following pages. All roadways shall be constructed per the City of Fernley Public Works Design Standards Manual.

Arterial Streets:

The main north/south roadway spine located on the northern portion of the Development shall be classified as an "arterial roadway" as identified within the City of Fernley Public Works Design Standards Manual. The arterial roadway consists of an 80-foot right of way including a 14-foot landscaped median and a minimum 10-foot parkway on both sides (including a meandering 4-foot sidewalk). The arterial roadway will provide for four (4) 12-foot travel lanes and two (2) 9-foot bike lanes at final build-out. The interim roadway will include a 12-foot travel lane and 9-foot bike lane on both sides with a 38-foot median until such time as four lanes are warranted and constructed by the City. The arterial roadway will be stubbed into the Bureau of Reclamations parcel for future connection to U.S. Highway 50, through the future school/park complex.

Utilities will be included within the right-of-way where possible. Where this is not feasible, Public Utility Easements (PUE's) shall be included within the 10-foot parkways on either side of the roadway.

***Exhibit 4.1** – Street Network*

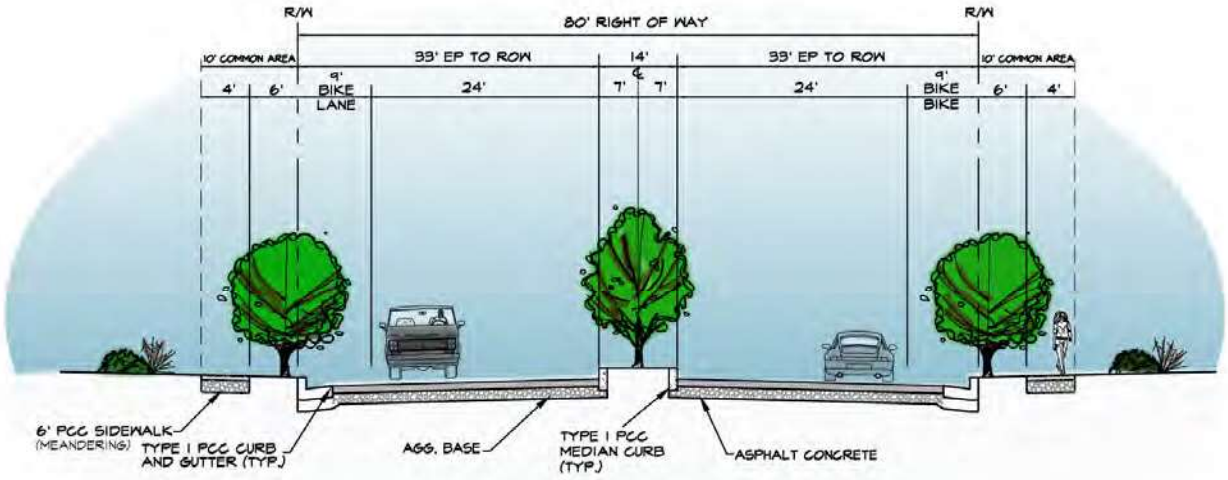


***Exhibit 4.2** - Arterial Street Section (Buildout)*

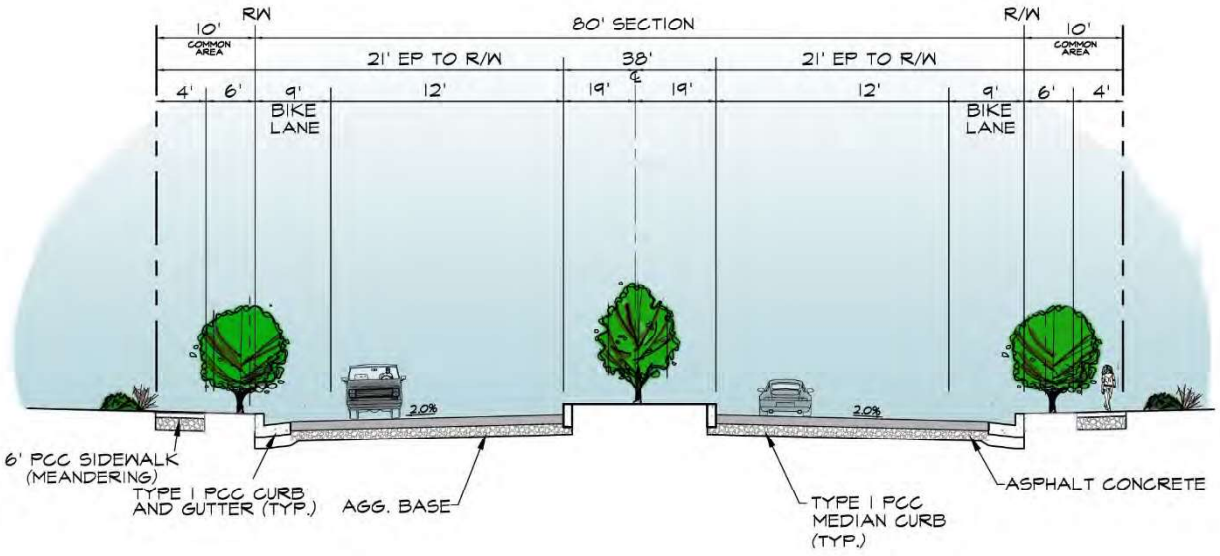


***Exhibit 4.3** - Arterial Street Section (Interim)*

Collector Streets:

The easer entry roadway to the southern portion of Friendly 5 Ranch is classified as a collector roadway. The collector street shall provide for a 60-foot overall right-of-way. Common area bounds either side of the collector street and will offer opportunities to separate the sidewalk on either side of the street with parkway planters.

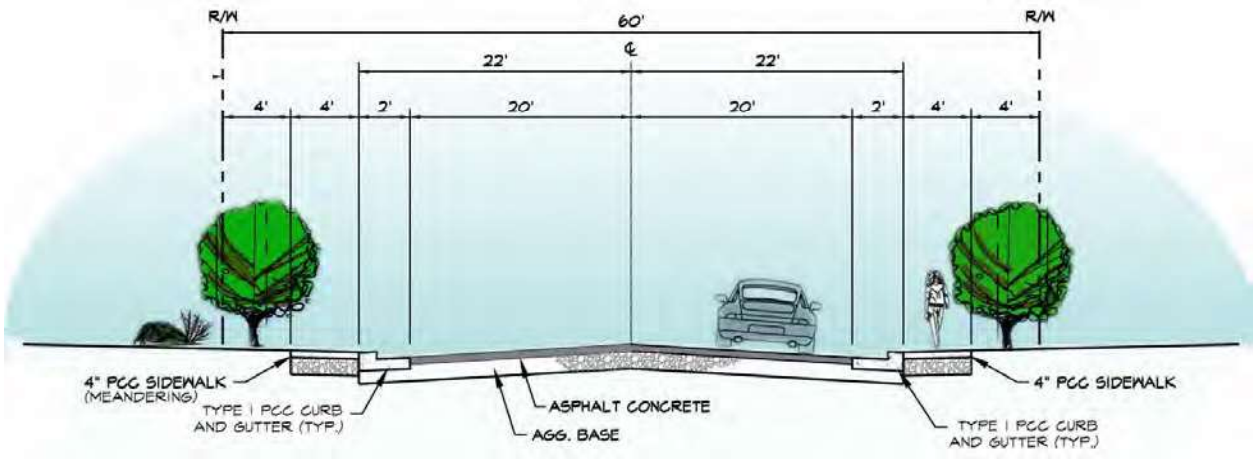


Exhibit 4.4 *- Collector Street Section*

Local Streets:

Local streets make up the predominance of the proposed roadways within F5 Ranch. Each local street shall be constructed per the City of Fernley standard 50-foot right-of-way section. The sidewalk shall be placed at the back face of the curb.

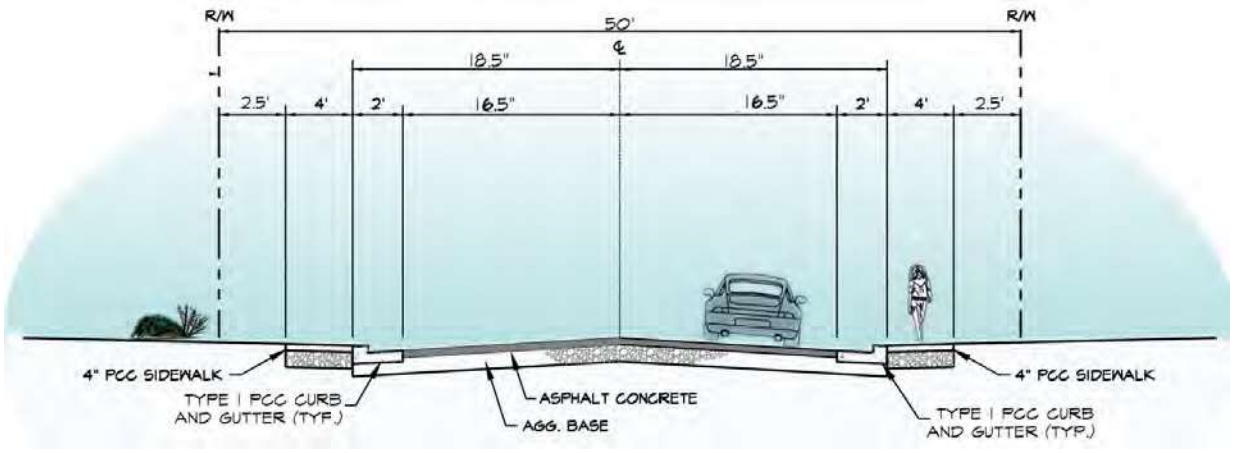


Exhibit 4.5 *- Local Street Section*

4.1.2 Pedestrian Circulation System

As with the roadways within Friendly 5 Ranch, the pedestrian facilities will also have a hierarchy of classifications. Pedestrian facilities include a mix of concrete sidewalks (both at the back of curb and separated by a parkway), and pedestrian trails. On the following pages, Exhibit 4.6 identifies the varying classifications and their relative location within the Development.

Exhibit 4.6 *– Pedestrian Circulation*

Sidewalks:

Sidewalks shall be provided on both sides of all roadways within the Development and shall be 4-feet in width, constructed of Portland cement concrete. Sidewalks shall allow for foot traffic only.

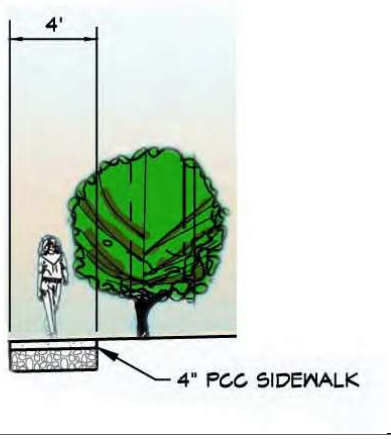


Exhibit 4.7 *- Portland Cement Concrete Sidewalk Detail*

Pedestrian Trail:

The pedestrian trail is primarily located within "semi-formal" common areas/open space. Pedestrian trails shall be provided for both pedestrian and non-motorized vehicle travel only. Equestrian use of pedestrian trails is prohibited. The pedestrian trail consists of a 6-foot wide asphalt, concrete, or acceptable alternative (at the discretion of the administrator) surface pathway.

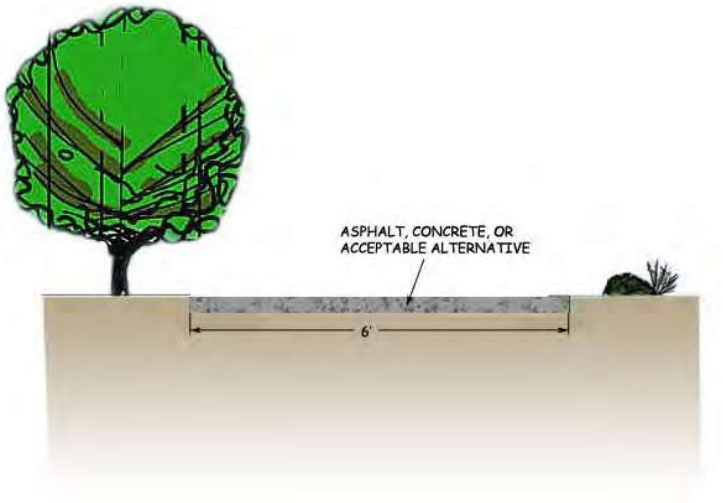


Exhibit 4.8 *- Pedestrian Trail Detail*

4.1.3 Major Arterial Connector (Interim)

The street connecting the northern project boundary to US Highway 50 at the existing High-T intersection shall be classified as a "major arterial" as identified within the City of Fernley Public Works Design Standards Manual. Persuant to recommendations in the updated Traffic Analysis (Traffic Impact Study for Friendly 5 GCW March 3, 2026) the developer shall construct the interim condition of the major arterial connector identified in Exhibit 4.1.3(a) upon issuance of certificate of occupancy for any residence within Villages 4 or 5. The parcel this roadway bisects is a vacant parcel owned by the City of Fernley (previously owned by BOR) and is not part of the Friendly 5 PD. The initial roadway will provide two (2) 12-foot travel lanes and an 8-foot multi-use path on one side with a 34-foot median until such time as four lanes are warranted and constructed by the City. Refer to exhibits 4.1.3(a), 4.1.3(b), and 4.1.3(c) below.

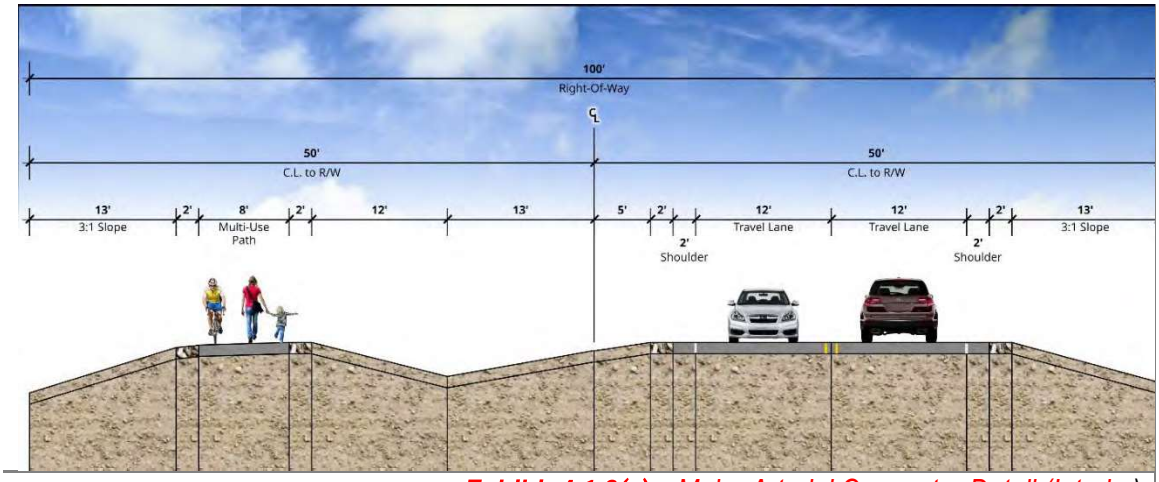


Exhibit 4.1.3(a) – Major Arterial Connector Detail (Interim)

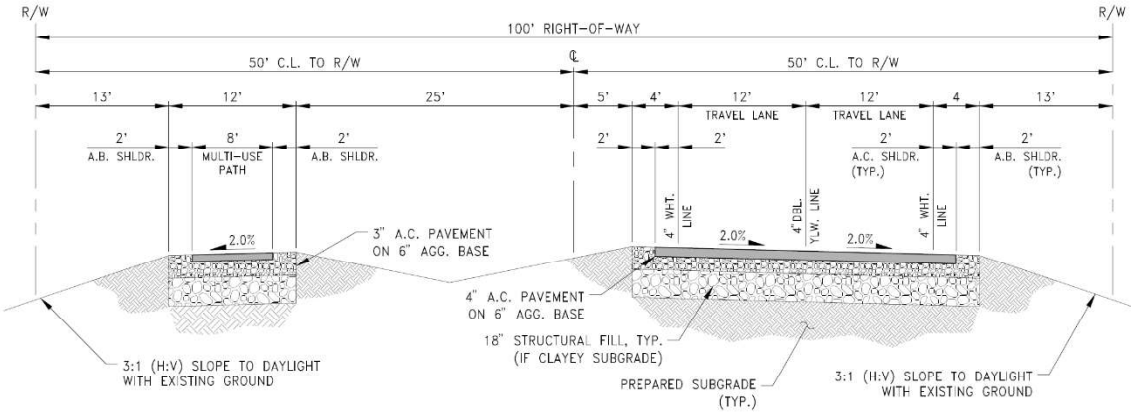


Exhibit 4.1.3(b) – Major Arterial Connector Section (Interim)

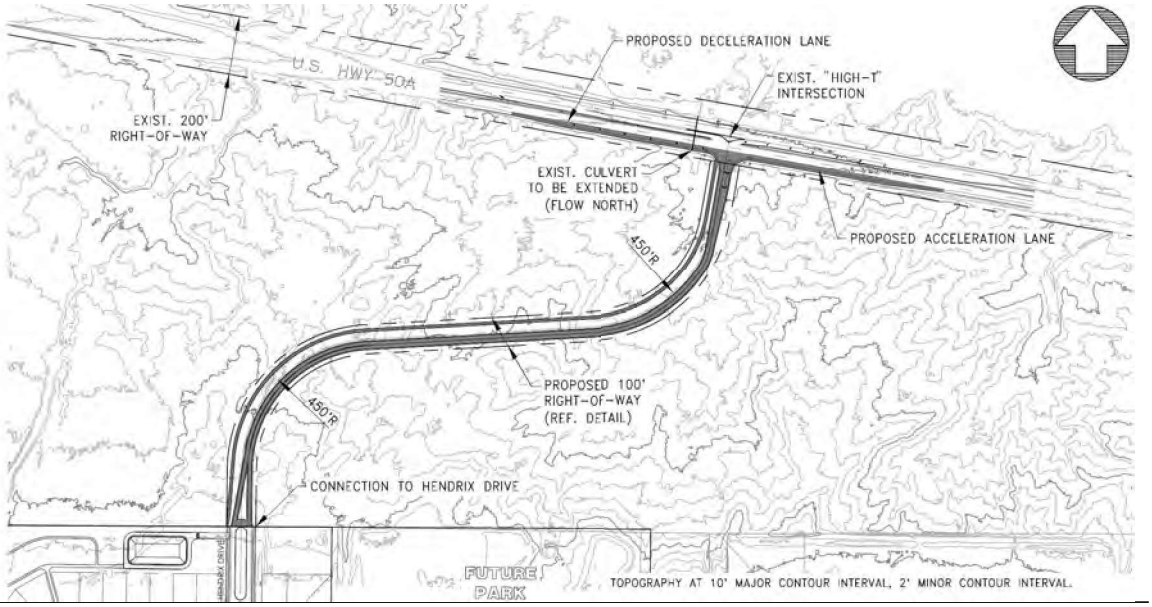


***Exhibit 4.1.3(c)** – Major Arterial Collector Alignment*

The developer shall design the roadway per exhibits 4.1.3 (a)-(c), the recommendations of the updated Traffic Analysis (Traffic Impact Study for Friendly 5 GCW March 3, 2026), and applicable City of Fernley standards. The interim roadway design and construction shall include the grading and drainage necessary for the improvements. Additional design and construction for items such as future travel lanes, utilities, curb, gutter, sidewalk, future intersections, and other design elements not listed in exhibits 4.1.3 (a)-(c) may be provided if desired by the City of Fernley at their own cost. The developer shall submit the roadway design to the City of Fernley for design review. Upon City of Fernley approval of the design the developer shall prepare and submit a right-of-way dedication map to the City and an encroachment permit with NDOT. The City of Fernley shall issue a temporary construction easement for the developer to construct the roadway and enter into an agreement with the developer for reimbursement of the construction costs. Upon completion of the roadway the City of Fernley shall record the right-of-way dedication map and reimburse the developer for construction costs per the agreement. The completed roadway will be owned and maintained by the City of Fernley.

4.2 Utilities

All utilities provided in Friendly 5 Ranch shall be subject to the standards and specifications identified in the City of Fernley Public Works Design Standards Manual.

4.2.1 Water Service

The City of Fernley shall be the water purveyor for the Friendly 5 Ranch. Appropriate water rights sufficient to serve the Development will be dedicated by the developer at the time of Final Map. The proposed project will be served by an existing 18" water line located in Farm District Road and operated by the City of Fernley. Because the project is located on both the north and south sides of Farm District Road, multiple taps off the 18" line can be expected.

The estimated residential demand is anticipated to be approximately 602± AF/year.

4.2.2 Sanitary Sewer Service

The project is proposed to sewer via a network of gravity mains to a lift station that will be located at the northwest corner of the project, where it will then be pumped in a force main to the wastewater treatment facility.

It is estimated that 538± homes will generate a peak hour demand of approximately 556,830 gallons/day. A detailed sewer report is provided within Supplemental Reports included with this Handbook.

4.2.3 Storm Drainage

The Development is located within a Shaded X flood zone as identified by FEMA. With the exception of roadside ditches and culverts on Farm District Road, there are no storm drain facilities in the vicinity of the Development. Storm water runoff generated from developed surfaces will be collected and routed to on-site retention basins via gutters, catch basins, and storm drains. Storm water management facilities will be installed as each phase of the Project is developed. As the site generally slopes to the north, retention basins will be located at the northern boundary of each developed area. Open spaces will be graded toward a meandering low point in the middle to collect and retain runoff generated within its boundaries. Storm water runoff within the Development will not drain to the Bureau of Reclamation's parcel directly north of the site.

4.2.4 Natural Gas Service

Southwest Gas owns and operates a 4" gas main located in Farm District Road that is of adequate size to serve the proposed project. As with the water system, multiple taps off the main is expected to serve the project. Natural gas shall be provided to every residential lot. Final design and location shall be coordinated with Southwest Gas.

4.2.5 Electrical Service

The project is adjacent to a network of overhead power lines operated by Sierra Pacific Power Company that includes both transmission and distribution lines. The project itself will be served with an underground electric system consisting of conduit, vaults and distribution cabling. Final locations and distribution design shall be provided by Sierra Pacific Power Company.

4.3 Fire Protection and Emergency Services

The project is located within the North Lyon County Fire District, approximately 4.1 miles by way of travel from the nearest fire station located on Main Street. A hierarchy of collector and local level streets are provided within the Development, designed such that minimum turning radii and maximum cul-de-sac lengths as identified by the City of Fernley Public Works Design Manual have been adhered to.

4.4 Schools

Currently, the Friendly 5 Ranch site is zoned for students to attend Cottonwood Elementary, Fernley Intermediate, and Fernley High Schools. Additionally, the Development is located adjacent to a Bureau of Reclamations parcel of which the City of Fernley is currently negotiating purchase of the property for future use as schools and parks sites. Currently, a conceptual development plan has been prepared by a consultant for the City identifying several potential school sites, which may include elementary, middle, and high school facilities, in addition to several park sites. The open space and trail network proposed within F5 Ranch foster safe routes for these potential future schools and parks and the Development promotes walkability for both Friendly 5 Ranch and surrounding residents.

CITY OF FERNLEY

Planning Commission
AGENDA REPORT

Meeting Date: May 13, 2026

REPORT TO:	Fernley Planning Commission
REPORT FROM:	**Treston Rodriguez**

FINANCIAL IMPACT:		**CURRENTLY BUDGETED:**		**FUND/ACCOUNT:**
Yes:	No: x	Yes:	No: x	N/a

ACTION REQUESTED: Motion

AGENDA ITEM:

(For Possible Action) Discussion and possible action regarding TSM26001, a Tentative Subdivision Map requested by Fred Altmann to allow for 253 townhomes on an approximately 16.88 acre lot zoned MF30 and located north of Westerlund Lane, east of Silverlace Boulevard, west of 6th Street, and south of US 50 Alternate. APN 021-103-61.

AGENDA ITEM BRIEF:

This agenda item is a request for a Tentative Subdivision Map (TSM) to allow for the development of 253 townhomes on an approximately 16.88-acre parcel zoned MF30. The request includes the subdivision of the property into individual lots and associated common areas, along with the establishment of internal circulation, utilities, and other supporting infrastructure necessary to serve the proposed residential development.

RECOMMENDED MOTION:

Considering the information contained in the applicant's submittal package and based on the analysis presented in the staff report, I move to recommend approval of TSM26001, subdividing approximately 16.88 acres into a 253-unit townhome development, subject to the conditions of approval.

BUSINESS IMPACT (per NRS Chapter 237):

A Business Impact Statement is not required because this is not a rule (term excludes vehicles by which legislative powers are exercised under NRS Chapters 271, 278, 278A, or 278B).

See attached report for background, analysis, alternatives.

ALTERNATIVES:

Based on public testimony and the facts of the case, I move to recommend denial of the of TSM26001 because I am unable to make the following required finding(s):

(State applicable finding and supporting rationale—repeat for each applicable finding).

BACKGROUND:

The subject property (APN 021-103-61) consists of approximately 16.88 acres located north of Westerlund Lane, east of Silverlace Boulevard, west of 6th Street, and south of U.S. Highway 50 Alternate. The site is currently zoned MF30 (Multi-Family Residential, up to 30 dwelling units per acre), which permits higher-density residential development.

The subject site is currently vacant and has not been developed. The surrounding area consists primarily of existing residential development. The property represents an infill development opportunity within an established residential area and is consistent with the City's long-range planning framework.

The site's location within an area served by existing roadway infrastructure and nearby utilities makes it suitable for residential infill and continued urban development. The property is generally flat and does not appear to be constrained by significant topographic limitations that would preclude development.

The applicant, Fred Altmann, has submitted Tentative Subdivision Map application TSM26001 to allow for the development of 253 townhome units on the subject property.

Analysis:

Project Description

The applicant has submitted a Tentative Subdivision Map request to allow for the development of a 253-unit townhome subdivision on an approximately 16.88-acre parcel zoned MF30, generally located north of Westerlund Lane, east of Silverlace Boulevard, west of 6th Street, and south of U.S. Highway 50 Alternate (APN 021-103-61).

The proposed development consists of attached residential units (townhomes) that share common walls and lot lines and will include internal roadways, parking areas, and common open space areas.

Density and Zoning Compliance

The MF30 zoning district permits a maximum density of 30 dwelling units per acre. The proposed development includes 253 dwelling units on approximately 16.88 acres, resulting in a density of approximately 14.99 dwelling units per acre. This density is consistent with, and below, the maximum allowable density for the MF30 zoning district.

Parking and Circulation

Pursuant to Fernley Municipal Code Title 32, single-family attached residential development is required to provide a minimum of two (2) parking spaces per dwelling unit.

The proposed development includes internal circulation and parking areas designed to accommodate residents and visitors. Final parking counts and layout will be reviewed for compliance with City standards, and conditions

of approval may be applied to ensure adequate parking and safe circulation throughout the development.

Design Standards

Conceptual site planning indicates that the project can be designed to meet applicable setbacks, lot configuration, and building design requirements. Final compliance with all applicable standards will be verified at the time of building permit review.

Phasing

No phasing plan has been submitted with the application. Therefore, the project is anticipated to be constructed in a single phase unless otherwise approved by the City. Any final map submitted for approval shall include all proposed lots and associated improvements.

Utilities and Infrastructure

The development will be required to connect to existing City water and sewer systems and pay all applicable connection and impact fees. The applicant will also be required to dedicate sufficient water rights to serve the project and construct all necessary infrastructure improvements in accordance with City standards.

Agency Review

The application was distributed to applicable City departments and outside agencies for review and comment. Comments received have been provided to the applicant, and any outstanding items have been incorporated into the Conditions of Approval.

Analysis: Tentative Subdivision Map

Recommendations and decisions on tentative maps shall be based on consideration of all of the following criteria:

1. Compliance with environmental and health laws and regulations concerning water and air pollution, solid waste disposal, water supply facilities, community or public sewage disposal, and, where applicable, individual systems for sewage disposal;

The proposed subdivision will be required to comply with all applicable federal, state, and local regulations related to water quality, air quality, solid waste disposal, water supply, and sewage disposal. Public water and sanitary sewer service will be required for the development, and on-site drainage improvements will be designed in accordance with City standards to address potential impacts. Temporary measures to control dust, erosion, and sedimentation will be required during construction. Compliance with these requirements will be ensured through applicable regulations, agency review, and conditions of approval.

2. Availability of water that meets applicable health standards and is sufficient for the reasonably foreseeable needs of the subdivision;

Water service meeting applicable health standards will be required to be provided by the City. The developer will be required to dedicate sufficient water rights to serve the proposed development and pay all applicable connection and impact fees. Any necessary system improvements or capacity requirements identified through the review process will be required to be constructed or addressed prior to recordation of the final map.

3. Availability and accessibility of utilities;

Utilities necessary to serve the proposed subdivision, including water, sewer, gas, and communication services, will be required to be extended to the site in accordance with City standards. The developer will be responsible for the design and construction of all required infrastructure improvements. Final utility design, capacity, and system connections will be reviewed and approved through the improvement plan review process.

4. Availability and accessibility of public services such as schools, police and fire protection, transportation, recreation facilities, and parks;

The project site is located within an area served by public services, including police and fire protection, schools, transportation infrastructure, and recreational facilities. The Lyon County Sheriff's Office and the North Lyon County Fire Protection District provide service to the area. The development will be required to provide adequate access and infrastructure to support emergency response and service provision. Compliance with applicable standards will ensure that public services can adequately serve the proposed subdivision.

5. Consistency with the zoning district regulations;

The subject property is zoned MF30, which permits residential development at a maximum density of 30 dwelling units per acre. The proposed development includes 253 dwelling units on approximately 16.88 acres, resulting in a density of approximately 14.99 dwelling units per acre. This density is consistent with, and below, the maximum allowable density for the zoning district. Compliance with all applicable development standards will be verified through the Tentative Subdivision Map and subsequent review processes.

6. Conformity with the master streets and highways plan;

The proposed development will be required to construct any roadway improvements necessary to serve the subdivision in accordance with City standards and applicable transportation planning documents. Roadway design, access, and connectivity will be reviewed through the improvement plan process to ensure conformance with adopted plans and standards.

7. Effect of the proposed subdivision on existing public streets and the need for new streets or highways to serve the subdivision.

The development will be required to provide access and roadway improvements necessary to serve the subdivision. Any impacts to existing public streets, including traffic circulation and access, will be evaluated during the review process and addressed through required improvements and conditions of approval. All internal and connecting roadways will be required to meet City design standards

8. Physical land characteristics, such as floodplain, slope, soil, and elevation differentials with abutting properties;

The subject site will be required to demonstrate compliance with all applicable standards related to grading, drainage, geotechnical conditions, and floodplain requirements. Any potential physical constraints associated with the site will be evaluated through required studies and addressed through project design and conditions of approval. Compliance will be verified prior to recordation of the final map.

9. Recommendations and comments of review bodies;

The application has been distributed to applicable City departments and outside agencies for review and

comment. Comments received during the review process have been provided to the applicant, and any outstanding items will be addressed through conditions of approval. All applicable requirements of reviewing agencies must be satisfied prior to final map approval.

10. Conformity to the master sewer and water utility plan; and

The proposed development will be required to conform to the City's master sewer and water utility plans. All water and sewer infrastructure improvements must be designed and constructed in accordance with City standards. Final improvement plans will be reviewed and approved to ensure compliance with applicable regulations and system requirements.

11. Compliance with this Code and all other applicable regulations.

The proposed subdivision, as conditioned, will be required to comply with all applicable provisions of the City of Fernley Municipal Code, as well as all relevant local, state, and federal regulations. Compliance will be verified through the Tentative Subdivision Map review, improvement plan review, and subsequent permitting processes.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

City of Fernley Development Code: Section 32.03.060 – Land Division Applications
Section 32.06.080 – Residential – Multiple Family
Section 32.09.035 – Dedication of Water Rights and Facilities for Residential Subdivision and Parcel Maps, Construction of New Homes and Industrial and Commercial Buildings.
Section 32.09.140 – Streets (Roadways)
Section 32.09.150 – Utilities
Section 32.12.010 – Adequate Public Facilities Required

FINANCIAL IMPLICATIONS:

None

ATTACHMENTS:

1. Exhibit 1 - Conditions of Approval
2. Exhibit 2 - Fernley Garden Townhomes Map

Conditions of Approval for TSM26001

TENTATIVE SUBDIVISION MAP – Fernley Gardens Townhomes

SCOPE AND DURATION OF APPROVAL

1. APPROVAL:
The project is approved as conditioned and described below. Any substantive change shall require approval from the City of Fernley and shall be processed as outlined in the Development Code.

2. PROJECT DESCRIPTION:
The project approval is limited to a Tentative Subdivision Map (TSM26001) to allow for the development of a 253-unit townhome subdivision on an approximately 16.88-acre parcel zoned MF30 (Multi-Family Residential), generally located north of Westerlund Lane, east of Silverlace Boulevard, west of 6th Street, and south of U.S. Highway 50 Alternate (APN 021-103-61).

3. EXPIRATION DATE:
The Tentative Subdivision Map shall expire within four (4) years of the date of City Council approval, unless an extension of time of up to two (2) years has been approved by the Planning Commission or the Final Subdivision Map or a phase of the Final Subdivision Map has been recorded.

4. GOVERNING DOCUMENTS:
All City of Fernley Municipal Code (FMC) references herein pertain to the most recent version of the code unless otherwise noted. The developer may substitute requirements established in future FMC updates, if approved by the Administrator.

The developer shall also comply with all standards found within the "City of Fernley Department of Public Works Design Standards & Review Guidelines" as updated March 2024, the City of Fernley Standard Details for Public Works Construction" as updated July 2022, and the "City of Fernley Comprehensive Master Plan" as updated April 2024.

DESIGN STANDARDS

5. DESIGN STANDARDS:
The developer shall comply with the design standards and regulation as set forth in the City of Fernley Development Code and Public Works Manual unless in conflict with the local, state, or federal regulations, in which case the more stringent regulation will take precedence.

6. ENGINEERING DEPARTMENT:
The developer shall comply with all Engineering Department requirements within the City of Fernley Municipal Code Title 32, including but not limited to, compliance with site development standards, floodplain management, roadways, undergrounding of utilities, and water and wastewater facilities to the approval of the Administrator, the City Engineer, and the Public Works Director prior to the recordation of any Final Subdivision Map for the project.

7. LEGAL ACCESS:
The developer shall demonstrate that legal access is provided to each proposed parcel to the approval of the Administrator, the City Engineer, and the Public Works Director prior to the recordation of the Final Subdivision Map for the project.

GRADING PERMIT CONDITIONS

8. GEOTECHNICAL REPORT:
The developer shall provide a final geotechnical report for the project in conformance with the requirements of the Development Code for review and approval by the City Engineer prior to issue of a grading permit or building permit for any portion of the project.

9. GRADING PERMIT:
Prior to issue of a grading permit for the development, the developer shall post a surety bond for regrading and reclamation of the site. The developer shall comply with all grading requirements set forth in the City of Fernley Development Code, as well as all state and federal regulations including, but not limited to, storm water pollution prevention and air quality.

The developer shall provide verification of a Storm Water Discharge Permit from the Nevada Department of Environmental Protection as well as a Surface Area Disturbance Permit, prior to issue of a grading permit. This requirement is subject to the approval of the City Engineer.

10. DRAINAGE AND GRADING:
The developer shall comply with all requirements of the City of Fernley Municipal Code Chapter 32 (Drainage and Grading) and Chapter 10 of the City of Fernley Public Works Design Manual to the approval of the Administrator, the City Engineer, and the Public Works Director.

The developer shall provide a drainage report for the project in conformance with the City of Fernley Development Code, Municipal Code, and the Public Works Design Manual for the review and approval by the City Engineer.

Each successive phase of the project shall submit an updated drainage report for review and approval by the City Engineer showing the cumulative effect of the developed portion of the project along with the proposed phase's effect on the total discharge into the drainage system. The drainage report and grading plans for any phase of the development shall be reviewed and approved by the Administrator, the City Engineer, and the Public Works Director prior to the issuance of a grading permit.

CIVIL PERMIT CONDITIONS

11. STREET IMPROVEMENTS:
The developer shall construct any roadway improvements necessary to serve the project to the approval of the Administrator, the City Engineer, and the Public Works Director.

12. IMPROVEMENT PLANS SECURITY:
With the submittal of any Final Subdivision Map application for the project, the developer shall construct all required public improvements or provide a security in accordance with the provisions set forth in Title 32, (Improvements and Agreements) of the City of Fernley Municipal Code and complete the minimum improvements identified in Title 32.03.060 of the City of Fernley Municipal Code.

13. WATER RIGHTS:
The developer shall comply with all City of Fernley Municipal Code regarding the dedication of water rights and all associated fees for the connection to the City of Fernley municipal water system in the amount that is required prior to the recordation of a Final Subdivision Map.

14. WATER AND SEWER MAINS AND SERVICES:
The developer shall comply with all standards, codes, and requirements regarding connection to the City of Fernley sanitary sewer and potable water systems, including but not limited to, associated fees, easements, design standards, system looping, development code requirements, and state requirements.

Along with the submittal of a Final Subdivision Map for any phase of the project, the developer shall provide the City of Fernley with a utility plan for water and sanitary sewer that is in conformance with the Nevada Administrative Code 445A, the City of Fernley Municipal Code, and the Public Works Design Manual to the approval of the Administrator, the City engineer, and the Public Works Director.

15. WATER AND SEWER SYSTEM MODELING:
Prior to issue of a building permit, the developer shall complete water and sewer modeling and construct any improvements identified as necessary to serve the project in accordance with state and local regulations. This requirement is subject to approval of the City Engineer and the Public Works Director.

16. WATER SYSTEM LOOPING:
Through the Public Infrastructure Permit process, the developer shall provide the City of Fernley with a utility plan for the water system that demonstrates adequate system looping. The plan shall be in conformance with the City of Fernley Municipal Code, Nevada Administrative Code, and the Public Works Design Manual. This requirement is subject to the approval of the City Engineer and the Public Works Director.

17. UTILITY EASEMENTS:
The developer shall provide easements to the City of Fernley for the maintenance of the water mains, meter boxes and sewer mains being installed on private property. The easements shall include the City of Fernley standard easement language and shall be recorded along with the Final Subdivision Map.

18. SANITARY SEWER SYSTEM:
All onsite sewer mains must be privately owned and maintained by the commercial owners' association.

19. SANITARY SEWER REPORT:
Prior to issue of a building permit, the developer shall provide a final sanitary sewer report for the project in conformance with the City of Fernley Municipal Code and the Public Works Design Manual for review and approval by the City Engineer.

20. STORM WATER TREATMENT AND DRAINAGE:
The developer shall provide a final drainage report for the project in conformance with City of Fernley Municipal Code and the Public Works Design Manual for review and approval by the City Engineer. The developer shall utilize structural controls for the treatment of storm water runoff, in accordance with best management practices.

Prior to issue of a building permit for any phase of the project, drainage conveyance facilities and other improvements must be constructed and functional. Design and construction of all drainage conveyance facilities is subject to approval of the Administrator, the City Engineer, and the Public Works Director.

CONSTRUCTION PHASE

21. CONSTRUCTION MAINTENANCE:
The developer shall locate and utilize a sufficient number of trash containers on-site to be used during the construction of the project and shall maintain the project site in a clean and orderly state, to the approval of the Administrator.

22. PROJECT CONTACT:
The developer shall designate to the administrator a project contact person responsible/authorized to correct problems regarding the project on a 24-hour, seven-day-per-week basis. The developer shall designate the project contact person to the administrator prior to issue of a grading permit for the project.

23. CONSTRUCTION HOURS:
Prior to the start of any construction-related activity, the developer shall install signs at all access points to the project that clearly indicate the hours of activity on-site. The developer shall limit all construction-related activities to between the hours of seven am and seven pm, seven days per week. Once construction is finished, the developer shall remove these signs.

BUILDING PERMIT REQUIREMENTS

24. BUILDING PERMIT:
The developer shall submit a building permit application for review and approval by the Building Official prior to beginning construction.

25. CONVENANTS, CONDITIONS AND RESTRICTIONS (CC&Rs):
The developer shall provide Covenants, Conditions, and Restrictions (CC&Rs) with the first Final Subdivision Map to be reviewed by the Administrator and the City Attorney. CC&Rs shall be recorded concurrently with the Final Subdivision Map.

The developer shall include in the CC&RS provisions outlining perpetual maintenance responsibilities of common areas, landscape medians, perimeter fencing, or other common elements to the approval of the Administrator, the City Engineer, and the Public Works Director.

The City of Fernley shall be named a third-party beneficiary of said maintenance obligations to the approval of the Administrator and shall disclose that the City of Fernley may require formation of a landscape maintenance assessment district in the event of default under such maintenance obligations.

All internal storm drain infrastructure shall be maintained by the property owner.

REGULATORY AGENCIES

26. NORTH LYON COUNTY FIRE PROTECTION DISTRICT:
The developer shall comply with all requirements of the most recent fire code adopted by the North Lyon County Fire Protection District, to the approval of the Fire Chief and the Fire Marshal, or designee.

27. FEDERAL, STATE, AND LOCAL AGENCIES:
The developer shall comply with all requirements of any federal, state, local agency, department, or licensed professional with jurisdiction over the project including, but not limited to: the Bureau of Reclamation (BOR), the Nevada Department of Transportation (NDOT), the Nevada Division of Environmental Protection (NDEP), the Nevada Division of Water Resources (NDWR), the Nevada Bureau of Water Pollution Control, the Nevada Bureau of Safe Drinking Water, the Nevada State Environmental Commission, the Truckee Carson Irrigation District (TCID), the City of Fernley Building Official, the City of Fernley Engineer, the City of Fernley Planning Department, and the City of Fernley Public Works Department.

28. POSTAL SERVICE:
Prior to issue of a building permit for each phase, the developer shall comply with all requirements of the United States Postal Service for mail delivery, mailbox design, and mailbox location for that phase. This requirement is subject to approval of the

Administrator, the City Engineer, the Fernley Postmaster, and the Public Works Director.

29. ADDRESSING:
The developer shall submit a request for address form to the City of Fernley Engineering Department for review and approval. All addressing shall be completed by the City of Fernley prior to issue of a building permit.

30. NEVADA DEPARTMENT OF ENVIRONMENTAL PROTECTION:
The developer shall comply with all requirements of the Nevada Department of Environmental Protection, the Bureau of Safe Drinking Water, and the Bureau of Water Pollution Control for the water and sewer infrastructure design and construction to the approval of the Administrator, the City Engineer, and the Public Works Director.

31. NEVADA REVISED STATUES 278 COMPLIANCE:
The Tentative Subdivision Map shall conform to the form and contents of a Tentative Subdivision Map as required by NRS 278.

32. WASTE MANAGEMENT:
The developer shall provide a will-serve from Waste Management, subject to approval of the Administrator, prior to recording any Final Subdivision Map.

33. STREETS AND SIGNAGE:
Street identification signs must be in place and streets within the subdivision must be complete, to the approval of the City Engineer and the Fire Chief, prior to submitting the Final Subdivision Map application.

34. COMPLIANCE WITH TRAFFIC STUDY:
The developer shall comply with all NDOT standards and specific recommended improvements outlined in the traffic study approved by NDOT.

(E) TOWNHOMES
DECORATIVE WALL OR ART PIECE
GATED ENTRY
PAVED ENTRY
(E) APARTMENTS
CLUSTER MAILBOXES
AMENITY AREA
FENCED DOG PARK
UUUNYAKU AMENITY AREA
SILVERLAKE BLVD.
MONUMENT SIGN AND DECORATIVE WALL
WESTERLUND LANE