



N E V A D A

AGENDA
Regular Meeting
Planning Commission

Wednesday, January 8, 2025 • 5:00 PM

Members

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

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) Consideration and possible action on a Tentative Parcel Map application (TPM24002) submitted by Jim Cutler on behalf of King Construction to split an existing ± 5-acre parcel into two (2) smaller parcels measuring approximately ± 4.28-acres and ± 31,199 square feet, generally located at 2040 Farm District Road (APN: 021-331-05).**
- 2.2. (For Possible Action) Consideration and possible action on a Tentative Parcel Map application (TPM24001) submitted by Nev Dev, LLC to split a ± 26.55-acre parcel into four (4) parcels in order to separate the different uses which were approved by the Conditional Use Permit (CUP24003) (allow for the development of a 90,000 square foot mini-storage facility and a 73-unit manufactured home park). The site is generally located on the south side of Farm District Road, west of Desert Lakes Drive, and east of Donna Way and is currently zoned Commercial (C2). (APN: 021-301-35)**

3. 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

- 3.1. (For possible action) Discussion and possible action regarding a Zoning Map Amendment (ZMA 24002) and Tentative Subdivision Map (TSM 24002), a request by Phelps Engineering, Inc on behalf of Creekwood Development Group for 1) changing the zoning designation from SF20 (Single-Family Residential; 20,000 square foot minimum) to SF6 (Single-Family Residential; 6,000 square foot minimum; and 2) the division of approximately 39.67 acres into 153 single-family lots. The project is located on the south side of Farm District Road between Browne Lane and Rainbow Lane (APN 021-303-20).**
- 3.2. (For possible action) Discussion and possible action regarding Resolution #25-002 in association with a Master Plan Amendment (MPA 25001), submitted by the City of Fernley to remove the Level of Service requirements at the intersection of Highway 50A/Highway 95A/Main Street/Farm District Road ("the roundabout") from both the Comprehensive Master Plan and the Transportation Master Plan to maintain economic development opportunities within the City of Fernley until the roundabout is updated by the Nevada Department of Transportation.**

4. 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.)

5. 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. ADDRESS REQUEST(S) FOR FUTURE AGENDA ITEMS

7. PUBLIC FORUM

8. ADJOURNMENT

Next Meeting: February 12th @ 5pm



CITY OF FERNLEY

Planning Commission AGENDA REPORT

Meeting Date: January 8, 2025

REPORT TO: Fernley Planning Commission

REPORT FROM: Lisa Warner

FINANCIAL IMPACT:

Yes: No: X

CURRENTLY BUDGETED:

Yes: No: X

FUND/ACCOUNT:

N/A

ACTION REQUESTED: Motion

AGENDA ITEM:

(For Possible Action) Consideration and possible action on a Tentative Parcel Map application (TPM24002) submitted by Jim Cutler on behalf of King Construction to split an existing $\pm$ 5-acre parcel into two (2) smaller parcels measuring approximately $\pm$ 4.28-acres and $\pm$ 31,199 square feet, generally located at 2040 Farm District Road (APN: 021-331-05).

AGENDA ITEM BRIEF:

These parcels have a land use designation of Single Family Residential and are equivalently zoned as Single Family (SF20). The purpose of this parcel map is to split the area into two separate (2) single-family residences.

RECOMMENDED MOTION:

Approval

"I move to approve the Tentative Parcel Map request associated with TPM24002 subject to conditions of approval 1 through 15 as presented by staff and based on Findings TM1 through TM5 and the supporting data as set forth 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:

Denial

“Based on information received in written materials and at the public hearings on this matter, I move to recommend Planning Commission deny the tentative parcel map request associated with TPM24002 because I have determined the proposed changes are detrimental to the public’s health, safety, and general welfare and am unable to make the following required finding(s): I am unable to make the finding _____ as it relates to _____. Therefore, I cannot recommend approval of the parcel map.”

Note: Though further specific language has not been provided, all motions possible under Planning Commission parliamentary procedure are appropriate.

BACKGROUND:

BACKGROUND:

The parcel has been under the ownership of Edward and Jaynee King since April 1981. There are currently two (2) single-family residences on the property. The current parcel was created by a Parcel Map recorded in February 1981 (Document #58430). The parcel is $\pm$ 5-acres in size and is located at 2040 Farm District Road (APN: 021-331-05). The parcel is surrounded by Rural Residential zoned land to the North, South, East, and West.

ANALYSIS:

The applicant has submitted a Tentative Parcel Map request to subdivide $\pm$ 5-acre parcel into two (2) smaller lots. The proposed new parcels will be approximately $\pm$ 4.28-acres and $\pm$ 31,199 square feet in size, generally located at 2040 Farm District Road (APN: 021-331-05). The purpose of this parcel map is to split the area into two (2) single-family residences.

The City of Fernley’s Land Use Map states that the parcel site currently has a land use designation of Single Family Residential (SFR) and the City’s Zoning Map identifies the parcel as being located within the Single-Family (SF20), 20,000 square feet minimum lot size. As the minimum lot size for Single Family (SF20) is 20,000 square feet and both lots will be more than 20,000 square feet, the proposed parcel map is in conformance with the City’s regulations.

Given that the properties surrounding the project site generally share the residential rural zoning, lot transitioning and adjacency standards will not be a concern. As a result, no improvements are expected to be made regarding adjacency between the new and existing lots and buffering between the project site and the surrounding area.

The proposed project materials were additionally distributed to the City’s outside agencies for comment, and any relevant agency comments will be incorporated into the Conditions of Approval prior to the recordation of the Final Map.

Should the Planning Commission determine the project is consistent with the development code, will not have a significant adverse impact on the existing surrounding uses, promotes public health, safety, and general welfare, and can make the applicable Findings, the Planning Commission can approve the project.

If the Planning Commission cannot make some or all the applicable Findings and determines the project is not consistent with the development, will have a significant adverse impact on the existing uses, and/or does not promote the public health, safety and general welfare, the Planning Commission could deny the application. The motion to deny should be based upon information received in written materials and at the public hearings on this matter and the Planning Commission’s inability to make any Finding(s) should be explicitly described.

FINDINGS:

TPM1: Availability and Accessibility of Utilities

The subject parcel is already services by existing public facilities. The subdivision of the parcel will not create any additional use of utilities.

TPM2: Availability and Accessibility of public services such as schools, police and fire protection, recreation facilities and parks.

Police and Fire: The parcel site is located in an area currently serviced by the Lyon County Sheriff's Office and the North Lyon Fire Protection District.

Schools: The project was submitted to the Lyon County Office of Education for review and no response was received; therefore, the current infrastructure of the school district is deemed sufficient as any school-age children/youth residing on the parcel are already in school.

Parks & Recreational Facilities: The parcel is located in close proximity to Autumn Winds Park and Ponderosa Park. The Golf Club at Fernley is also located quite close by.

TPM3: Consistency with zoning district regulations.

The proposed tentative parcel map is generally consistent with the zoning regulations as outlined within the City of Fernley Development Code.

TPM 4: Recommendations and Comments of Review Bodies.

All agency comments and recommendations have been addressed. Given that Truckee Carson Irrigation District (TCID) facilities exist near the project site, the final map will require TCID approval.

TPM 5: Compliance with this Code and all other applicable regulations.

This tentative parcel map is in compliance with the City's Development Code and all other applicable regulations.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

Nevada Revised Statutes (NRS) Chapter 278 – Planning and Zoning
Fernley Municipal Code (FMC), Title 32 – Development Code
City of Fernley Master Plan, August 2018

Specific References:

NRS 278.461 – 278.469 – Parcel Maps

FMC 32.03.020, Table 32.02.020-1 – Development Code, Administration, Review and decision-making bodies,
Summary Table of Development Code Procedures

FMC 32.03.060(d) – Development Code, Administration, Land division applications, Parcel Maps

Section 32.06.070– Development Code, Zoning Districts, Residential (SF20, SF12, SF9, SF6)

FMC Chapter 32.09 – Development Code, Development Standards

Master Plan, Chapter 3, Page 63 – Land Use, Residential Uses

FINANCIAL IMPLICATIONS:

N/A

ATTACHMENTS:

1. CONDITIONS OF APPROVAL 12.20.24
2. 19003-PM 9-12-24 SHEET 1-VICINITY MAP
3. 19003-PM9-12-24 SHEET 2-PARCEL MAP

Conditions of Approval for TPM24002

TENTATIVE PARCEL MAP

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 THE SPLITTING OF AN EXISTING ± 5-ACRE PARCEL INTO TWO (2) SMALLER PARCELS, APPROXIMATELY ± 4.28-ACRES AND ± 31,199 SQUARE FEET GENERALLY LOCATED AT 2040 FARM DISTRICT ROAD (APN: 021-331-05).

3. EXPIRATION DATE:

THE TENTATIVE PARCEL MAP SHALL EXPIRE WITHIN FOUR (4) YEARS OF THE DATE OF THE PLANNING COMMISSION APPROVAL, UNLESS THE FINAL MAP HAS BEEN RECORDED.

4. GOVERNING DOCUMENTS:

ALL CITY OF FERNLEY MUNICIPAL CODE (FMC) REFERENCES HEREIN PERTAIN TO THE VERSION OF THE CODE ESTABLISHED BY ORDINANCE NUMBER 2023-008, 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 "CITY OF FERNLEY DEPARTMENT OF PUBLIC WORKS DESIGN STANDARDS & REVIEW GUIDELINES" AS UPDATED MARCH 2024, "CITY OF FERNLEY STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION" AS UPDATED JULY 2022, AND "CITY OF FERNLEY COMPREHENSIVE MASTER PLAN" AS UPDATED APRIL 2024.

5. THE DEVELOPER SHALL BE IN COMPLIANCE WITH ALL THE CONDITIONS OF APPROVAL FOR THE CONDITIONAL USE PERMIT (CUP24003) WHICH WAS APPROVED BY THE PLANNING COMMISSION ON JULY 12, 2024.

DESIGN STANDARDS

6. DESIGN STANDARDS:

THE DEVELOPER SHALL COMPLY WITH THE DESIGN STANDARDS AND REGULATION AS SET FORTH IN THE CITY OF FERNLEY'S 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.

7. ENGINEERING DEPARTMENT:

THE DEVELOPER SHALL COMPLY WITH ALL ENGINEERING REQUIREMENTS WITHIN 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, CITY ENGINEER, AND PUBLIC WORKS DIRECTOR PRIOR TO THE RECORDATION OF ANY FINAL MAP FOR THE PROJECT.

8. LEGAL ACCESS:

THE DEVELOPER SHALL DEMONSTRATE THAT LEGAL ACCESS IS PROVIDED TO EACH PROPOSED PARCEL TO THE APPROVAL OF THE ADMINISTRATOR, CITY ENGINEER, AND PUBLIC WORKS DIRECTOR PRIOR TO THE RECORDATION OF THE FINAL PARCEL MAP FOR THE PROJECT.

Conditions of Approval for TPM24002

TENTATIVE PARCEL MAP

GRADING AND CIVIL PERMIT CONDITIONS

9. THE DEVELOPER SHALL PROVIDE CURB, GUTTER, SIDEWALK, AC PAVEMENT, UNDERGROUND UTILITIES, STREET LIGHT IMPROVEMENTS, AND HALF-STREET PAVING/PAVEMNT RECONSTRUCTION ON BROWNE LANE ALONG THE FRONTAGE OF BOTH PROPOSED PARCELS PRIOR TO RECORDATION OF THE FINAL PARCEL MAP OR BONDING IN PLACE TO COVER REQUIRED IMPROVEMENTS.
10. DEVELOPER SHALL DEDICATE THE ACCESS EASEMENT LONG THE FRONTAGE OF BOTH PROPOSED PARCELS ON BROWN LANE TO THE CITY OF FERNLEY.
11. DEVELOPER SHALL PROVIDE A DRAINAGE REPORT WITH THE FINAL PARCEL MAP WHICH COVERS THE REQUIRED IMPROVEMENTS TO BROWNE LANE.
12. DEVELOPER SHALL PROVIDE A GEOTECHNICAL REPORT TO COVER THE ROADWAY IMPROVEMENTS.

REGULATORY AGENCIES

13. 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, FIRE MARSHAL, OR DESIGNEE.

14. 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: BUREAU OF RECLAMATION (BOR), NEVADA DEPARTMENT OF TRANSPORTATION (NDOT), NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP), NEVADA DIVISION OF WATER RESOURCES (NDWR), NEVADA BUREAU OF WATER POLLUTION CONTROL, NEVADA BUREAU OF SAFE DRINKING WATER, NEVADA STATE ENVIRONMENTAL COMMISSION, TRUCKEE CARSON IRRIGATION DISTRICT (TCID), THE CITY OF FERNLEY BUILDING OFFICIAL, THE CITY OF FERNLEY ENGINEER, CITY OF FERNLEY PLANNING DEPARTMENT, CITY OF FERNLEY PUBLIC WORKS DEPARTMENT.

15. NEVADA FEVISED STATUES 278 COMPLIANCE:

THE FINAL MAP SHALL CONFORM TO THE FORM AND CONTENTS OF A FINAL PARCEL MAP AS REQUIRED BY NRS 278.

OWNER’S CERTIFICATE

THIS TO CERTIFY THAT THE UNDERSIGNED, THE EDWARD W. KING AND JAYNEE R. KING, AS TRUSTEES OF THE KING FAMILY TRUST ARE THE OWNER'S OF THAT TRACT OF LAND REPRESENTED ON THIS PLAT AND HAS CONSENTED TO THE PREPARATION AND RECORDATION OF THIS PLAT AND THAT THE SAME IS EXECUTED IN COMPLIANCE WITH AND SUBJECT TO THE PROVISIONS OF N.R.S. CHAPTER 278; AND THE OWNER HEREBY GRANTS TO ALL PUBLIC UTILITY COMPANIES (INCLUDING CABLE TV), THE PERMANENT EASEMENTS SHOWN ON THIS PLAT FOR THE CONSTRUCTION AND MAINTENANCE OF UTILITY SYSTEMS, TOGETHER WITH THE RIGHT OF ACCESS THERETO FOREVER.

EDWARD W. KING
JAYNEE R. KING
BY: OWNER

EDWARD W. KING TRUSTEE

JAYNEE R. KING TRUSTEE

STATE OF NEVADA } S.S.
COUNTY OF LYON }
SIGNED BEFORE ME ON THIS _____ DAY OF _____, 2024.
BY EDWARD W. KING

NOTARY PUBLIC _____ DATE _____

STATE OF NEVADA } S.S.
COUNTY OF LYON }
SIGNED BEFORE ME ON THIS _____ DAY OF _____, 2024.
BY JAYNEE R. KING

NOTARY PUBLIC _____ DATE _____

COUNTY CLERK'S CERTIFICATE

I, NIKKI BRYAN, LYON COUNTY CLERK/TREASURER HEREBY CERTIFY THAT THERE ARE NO LIENS FOR UNPAID STATE, COUNTY, CITY OR LOCAL TAXES OR SPECIAL ASSESSMENTS AND THAT ALL TAXES FOR THE FISCAL YEAR HAVE BEEN PAID ON PROPERTY, THE SUBJECT OF THIS MAP. (APN 021-331-05)

LYON COUNTY CLERK/TREASURER
BY _____ DATE _____

NAME & TITLE _____

TCID CERTIFICATE

I, RUSTY D. JARDINE, ESQ., MANAGER OF THE TRUCKEE-CARSON IRRIGATION DISTRICT ("DISTRICT") CERTIFY THAT:

- THE PARCEL(S) DEPICTED ON THIS MAP IS/ARE SITUATE WITHIN THE GEO-PHYSICAL BOUNDARIES OF THE NEWLANDS FEDERAL RECLAMATION PROJECT (PROJECT) ESTABLISHED BY ACT OF CONGRESS IN 1902 (32 Stat. 388), RESERVED TO THE UNITED STATES (THROUGH THE BUREAU OF RECLAMATION OF THE DEPARTMENT OF THE INTERIOR), IS/ARE AN EASEMENT(S) AND/OR RIGHT(S) OF WAY, AS DEPICTED HEREIN, FOR THE CONSTRUCTION, MAINTENANCE AND/OR OPERATION OF PROJECT CANALS, DITCHES, AND/OR DRAINS, PURSUANT TO THE ACT BY CONGRESS OF 1890 (26 Stat. 391). OBSTRUCTIONS WITHIN THE EASEMENT(S) AND/OR RIGHT(S) OF WAY THAT WOULD INTERFERE WITH THE CONSTRUCTION, MAINTENANCE AND OPERATION OF CANALS, DITCHES, AND/OR DRAINS, ARE NOT PERMITTED..
- THE DISTRICT IS THE CONTRACTOR FOR THE UNITED STATES, THROUGH THE BUREAU OF RECLAMATION OF THE DEPARTMENT OF THE INTERIOR, AND IS RESPONSIBLE FOR THE CARE, OPERATION, AND MAINTENANCE OF ALL PROJECT WORKS, INCLUDING, WITHOUT LIMITATION, CANALS, DITCHES, AND DRAINS.
- THE PARCEL(S) DEPICTED HEREIN IS/ARE SUBJECT TO SURFACE WATER DELIVERY POLICIES OF THE TRUCKEE-CARSON IRRIGATION DISTRICT.
- REVIEW AND APPROVAL OF THIS MAP BY THE DISTRICT IS LIMITED TO EASEMENTS, WATER RIGHTS, AND THE APPLICABILITY OF SURFACE WATER DELIVERY POLICIES OF THE DISTRICT. REVIEW AND CERTIFICATION HEREOF IS NOT INTENDED TO CREATE ANY RELIANCE, OR EXPECTATION, OR WARRANTY, BY THE PROPERTY OWNERS(S), THAT THE DISTRICT HAS UNDERTAKEN ANY REVIEW HEREOF OTHER THAN THAT EXPRESSLY STATED HEREIN. THE DISTRICT DOES NOT ENGAGE IN, NOR IS THE SAME RESPONSIBLE FOR, ANY ASSESSMENT, CERTIFICATION, INSPECTION, REVIEW OR APPROVAL OF HYDROLOGIC CONDITIONS THAT DO OR MAY EXIST VIS-A-VIS THE PARCEL(S) HEREIN DEPICTED, AS RELATING TO CONDITIONS, INCLUDING, WITHOUT LIMITATION, CHANGES IN SURFACE OR GROUND WATER CONDITIONS, WATER TABLES, OR FLOODING, AS THE SAID CONDITIONS DO, OR MAY HAVE, AN EFFECT UPON THE CONSTRUCTION, PLACEMENT, OR USE-ABILITY OF ANY STRUCTURE(S) NOW EXISTING UPON THE PARCEL(S) OR AS TO ANY STRUCTURES THAT MAY BE PLACED UPON THE SAME IN THE FUTURE.
- IT IS THE DUTY OF THE OWNERS(S), THROUGH ASSISTANCE OF A LICENSED PROFESSIONAL ENGINEER AS NECESSARY, TO ENGAGE IN APPROPRIATE CONSTRUCTION PLANNING AND/OR REVIEW, AND/OR PLACEMENT OF STRUCTURES ON THE PARCEL(S), SO AS TO ELIMINATE OR MINIMIZE DAMAGE THERETO FROM ANY CAUSE OR CAUSES ASSOCIATED WITH THE PROXIMITY TO SURFACE OR GROUND WATER SOURCES, THE EFFECT OF THE EXISTING WATER TABLE UPON EXISTING OR PROPOSED STRUCTURES AND/OR FACILITIES, AND/OR THE RESULT OF FLOODING TO EXISTING OR PLANNED STRUCTURES OR FACILITIES.
- ANY WATER RIGHTS DEPICTED ON THIS MAP ARE INTENDED ONLY AS A REPRESENTATION OF SUCH WATER RIGHTS THAT ARE OR MAY BE APPURTENANT TO THIS/THESE PARCEL(S). THE ACCURACY OF SUCH WATER RIGHTS, THEIR OWNERSHIP, ACTUAL LEGAL STATUS, PLACEMENT TO BENEFICIAL USE, OR THE CONDITIONS THAT MAY EXIST UPON THEIR USE, HAVE NOT BEEN VERIFIED BY A LICENSED WATER RIGHT SURVEYOR OR PROFESSIONAL ENGINEER. THE VALIDITY OF SUCH WATER RIGHTS MAY BE SUBJECT TO SALE, TRANSFER, AND/OR EXISTING OR THREATENED LITIGATION. RELIANCE UPON THE REPRESENTATIONS BORNE BY THIS MAP AS TO WATER RIGHTS, THEIR EXISTENCE, AND/OR VERIFICATION, IS NOT WARRANTED.

BENJAMIN D. SHAWCROFT ESQ. _____ DATE _____
DISTRICT MANAGER

CITY SURVEYOR’S CERTIFICATE

I HEREBY CERTIFY THAT THE FINAL PARCEL MAP HAS BEEN EXAMINED AND I AM SATISFIED THAT THIS MAP IS TECHNICALLY CORRECT.

KAITLIN CONSTANTINE _____ DATE _____
P.L.S. 30222
ACTING CITY SURVEYOR

TITLE COMPANY CERTIFICATE

THE UNDERSIGNED HEREBY CERTIFIES THAT THIS PLAT HAS BEEN EXAMINED AND THAT THE SUB-DIVIDER OFFERING THIS PLAT, IS THE ONLY OWNER OF RECORD OF SAID LAND; THAT ALL OWNERS OF RECORD OF THE LAND HAVE SIGNED THE FINAL MAP; THAT NOVASEL & SCHWARTZ INVESTMENTS, INC., A PROFIT SHARING PLAN HOLDS OF RECORD A SECURITY INTEREST/DEED OF TRUST DOC. NO. 578909 IN SAID LAND AND THAT THERE ARE NO LIENS OF RECORD AGAINST THE LANDS DELINEATED HEREON FOR DELINQUENT STATE, COUNTY, MUNICIPAL, FEDERAL, OR LOCAL TAXES OR ASSESSMENTS COLLECTED AS TAXES OR SPECIAL ASSESSMENTS.

TIRCOR TITLE OF NEVADA INC. _____
BY: _____ DATE _____
TITLE: _____

RIGHT TO FARM

THE LANDS SHOWN HEREON ARE SUBJECT TO THE PROVISIONS AS SET FORTH BY CITY OF FERNLEY CITY CODE.

GIS CERTIFICATE

A DIGITAL COPY OF THIS MAP HAS BEEN DELIVERED TO THE CITY OF FERNLEY AND LYON COUNTY GIS DEPARTMENTS.

CITY OF FERNLEY GIS DEPARTMENT
SIGNATURE _____ PRINT NAME / TITLE _____ DATE _____
LYON COUNTY GIS DEPARTMENT
SIGNATURE _____ PRINT NAME / TITLE _____ DATE _____

CITY OF FERNLEY CERTIFICATE

IT IS HEREBY CERTIFIED THAT THIS MAP IS IN SUBSTANTIAL COMPLIANCE WITH THE CITY OF FERNLEY WATER, WASTEWATER, ROADWAYS AND DRAINAGE STANDARDS AND REGULATIONS AND THAT ALL REQUIRED IMPROVEMENTS HAVE BEEN COMPLETED OR PROPER FINANCIAL SECURITY HAS BEEN POSTED GUARANTEEING COMPLETION OF THE IMPROVEMENTS.

CITY OF FERNLEY ENGINEER _____ DATE _____
PRINT NAME / TITLE _____

SURVEYOR’S CERTIFICATE

I, MICHAEL TALONEN, A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF NEVADA, CERTIFY THAT:

- THIS PLAT REPRESENTS THE RESULTS OF A SURVEY CONDUCTED UNDER MY DIRECT SUPERVISION AND IS SUFFICIENT TO LOCATE AND IDENTIFY PROPERLY THE PROPOSED PARCEL MAP.
- ALL CORNERS AND ANGLE POINTS OF THE PARCEL MAP HAVE BEEN DEFINED BY MONUMENTS AND ARE OF SUFFICIENT NUMBER AND DURABILITY OR WILL BE OTHERWISE DEFINED ON A DOCUMENT OF RECORD AS REQUIRED BY NRS 625.340.
- THE LAND SURVEYED LIES WITHIN SECTION 20, T20N, R25E, MDM, FERNLEY, NEVADA AND THE SURVEY WAS COMPLETED ON SEPTEMBER 11, 2024.
- THE SURVEY WAS CONDUCTED AT THE INSTANCE OF THE EDWARD W. KING.
- THIS PLAT COMPLIES WITH APPLICABLE STATUTES OF THIS STATE AND ANY LOCAL ORDINANCES IN EFFECT ON THE DATE THAT THE GOVERNING BODY GAVE ITS FINAL APPROVAL, AND THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH CHAPTER 625 OF THE NEVADA ADMINISTRATIVE CODE.
- THE MAP IS NOT IN CONFLICT WITH THE PROVISIONS OF NRS 278.010 TO 278.630, INCLUSIVE.

MICHAEL TALONEN (PLS) _____ DATE _____

EXP. 06/30/2026

RECORDER’S CERTIFICATE

FILED FOR RECORD AT THE REQUEST OF _____
ON THIS _____ DAY OF _____, 2019
AT _____ MIN. PAST _____ M. IN BOOK _____ PAGE _____
OF THE OFFICIAL RECORDS OF LYON COUNTY, NEVADA.
RECORDING FEE _____
FILE No. _____
RECORDER _____
TCID #18-005

TENTATIVE PARCEL MAP

FOR
EDWARD W. KING AND JAYNEE R. KING, AS TRUSTEES OF
THE KING FAMILY TRUST
A DIVISION OF PARCEL 2 OF PARCEL MAP FILE 58430
SITUATE IN SECTION 20, T20N, R25E, MDM
FERNLEY, NEVADA
SHEET 1 OF 2

UTILITY COMPANY CERTIFICATE

THE UTILITY EASEMENTS SHOWN HEREON THIS PARCEL MAP HAVE BEEN CHECKED, BY THE UNDERSIGNED CABLE TV AND PUBLIC UTILITY COMPANIES.

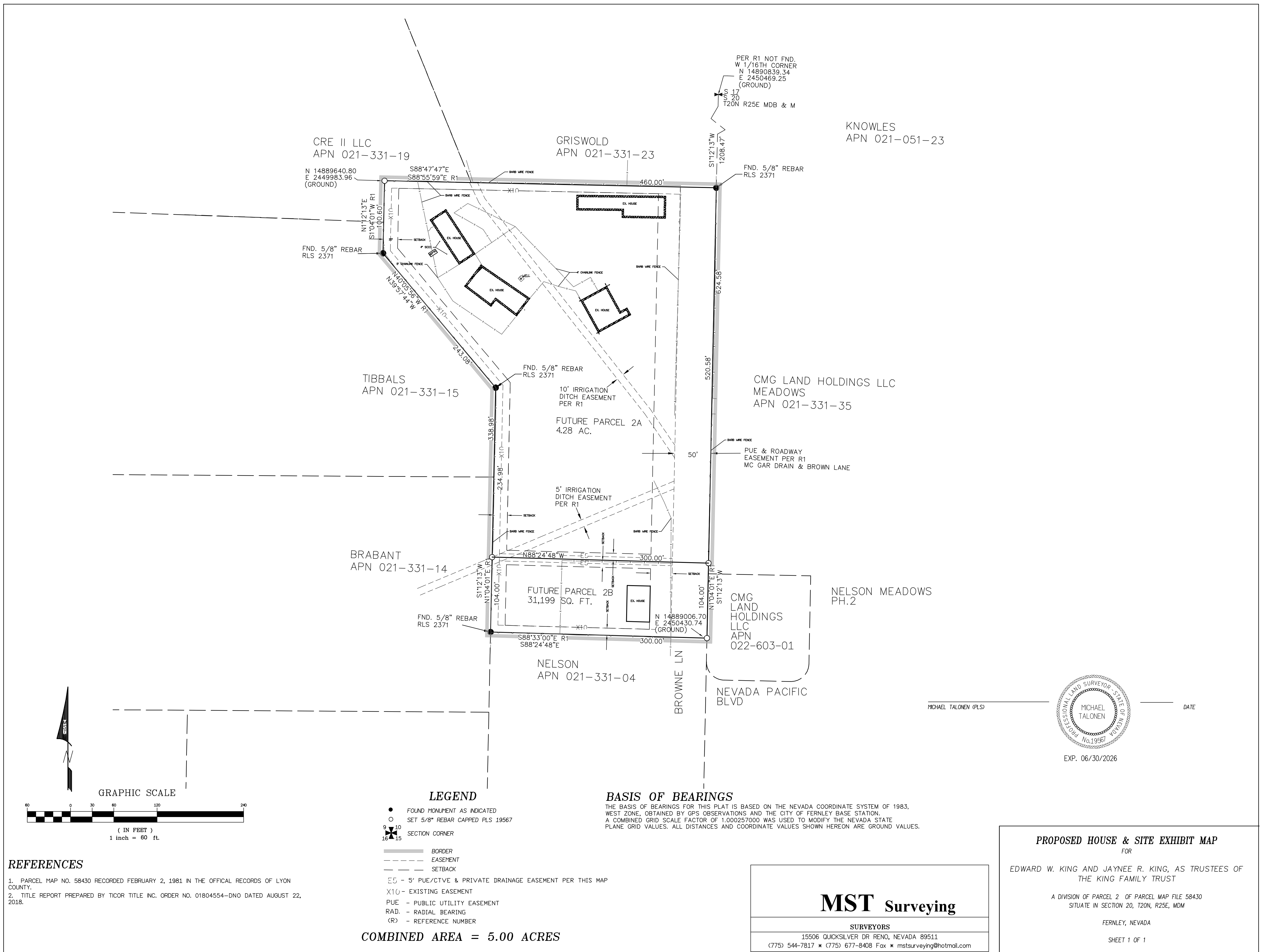
SIERRA PACIFIC POWER COMPANY, D.B.A. NV ENERGY _____ DATE _____
PRINT NAME / TITLE _____
NEVADA BELL TELEPHONE COMPANY D.B.A. AT&T NEVADA _____ DATE _____
PRINT NAME / TITLE _____
CHARTER COMMUNICATIONS _____ DATE _____
PRINT NAME / TITLE _____
SOUTHWEST GAS CORP. _____ DATE _____
PRINT NAME / TITLE _____

NOTES

- 5' PUE ON BOTH SIDES OF INTERIOR LOT LINES AND 5' ON EXTERIOR LOT LINES OR AS SHOWN.
- TWO NEW PARCELS HAVE BEEN CREATED AS A RESULT OF THIS MAP.
- A PUBLIC UTILITY EASEMENT IS ALSO HEREBY GRANTED SPECIFICALLY TO NV ENERGY & CHARTER COMMUNICATIONS WITHIN EACH PARCEL FOR THE EXCLUSIVE PURPOSE OF INSTALLING AND MAINTAINING UTILITY FACILITIES TO THAT PARCEL/LOT AND THE RIGHT TO EXIT THAT PARCEL/LOT WITH SAID UTILITY FACILITIES FOR THE PURPOSE OF SERVING OTHER PARCELS/LOTS AT LOCATIONS MUTUALLY AGREED UPON BY THE OWNERS OF RECORD, AT THE TIME AND THE UTILITY COMPANY.
- A PUBLIC UTILITY EASEMENT IS ALSO HEREBY GRANTED SPECIFICALLY TO SOUTHWEST GAS CORPORATION WITHIN EACH PARCEL FOR THE EXCLUSIVE PURPOSE OF INGRESS/EGRESS, INSTALLING, MAINTAINING, INSPECTING AND REPAIRING UTILITY FACILITIES WHICH PROVIDE SERVICE TO THAT PARCEL/LOT, WITH THE RIGHT TO EXIT THAT PARCEL/LOT WITH ADDITIONAL UTILITY FACILITIES FOR THE PURPOSE OF SERVING OTHER PARCELS/LOTS.
- A PUBLIC UTILITY EASEMENT IS ALSO HEREBY GRANTED SPECIFICALLY TO NEVADA BELL COMPANY, D/B/A AT&T NEVADA, WITHIN EACH PARCEL FOR THE EXCLUSIVE PURPOSE OF INGRESS/EGRESS, INSTALLING, MAINTAINING, INSPECTING AND REPAIRING UTILITY FACILITIES WHICH PROVIDE SERVICE TO THAT PARCEL/LOT, WITH THE RIGHT TO EXIT THAT PARCEL/LOT WITH ADDITIONAL UTILITY FACILITIES FOR THE PURPOSE OF SERVING OTHER PARCELS/LOTS.
- ALL PUBLIC UTILITY EASEMENTS SHALL INCLUDE CABLE TV.

MST Surveying

SURVEYORS
15506 QUICKSILVER DR RENO, NEVADA 89511
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CITY OF FERNLEY

Planning Commission AGENDA REPORT

Meeting Date: January 8, 2025

REPORT TO: Fernley Planning Commission

REPORT FROM: Lisa Warner

FINANCIAL IMPACT:

Yes: No: X

CURRENTLY BUDGETED:

Yes: No: X

FUND/ACCOUNT:

N/A

ACTION REQUESTED: Motion

AGENDA ITEM:

(For Possible Action) Consideration and possible action on a Tentative Parcel Map application (TPM24001) submitted by Nev Dev, LLC to split a $\pm$ 26.55-acre parcel into four (4) parcels in order to separate the different uses which were approved by the Conditional Use Permit (CUP24003) (allow for the development of a 90,000 square foot mini-storage facility and a 73-unit manufactured home park). The site is generally located on the south side of Farm District Road, west of Desert Lakes Drive, and east of Donna Way and is currently zoned Commercial (C2). (APN: 021-301-35)

AGENDA ITEM BRIEF:

Split a 26.55-acre parcel into four (4) parcels to allow for the separation of different uses which were approved by the Conditional Use Permit (CUP24003) to allow for the development of a 90,000 square foot mini-storage facility and a 73-unit manufactured home park.

RECOMMENDED MOTION:

Approval

"I move to approve the Tentative Parcel Map request associated with TPM24001 subject to conditions of approval 1 through 31 as presented by staff and based on Findings TPM1 through TPM5 and the supporting data as set forth 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:

Denial

"Based on information received in written materials and at the public hearings on this matter, I move to recommend Planning Commission deny the tentative parcel map request associated with TPM24001 because I have determined the proposed changes are detrimental to the public's health, safety, and general welfare and am unable to make the following required finding(s): I am unable to make the finding _____ as it relates to _____. Therefore, I cannot recommend approval of this parcel map."

BACKGROUND:

BACKGROUND:

The project site has been under the ownership of Nev Dev, LLC since September 2024, and is currently vacant with no permanent development or personal property. The site is ± 26.55-acres in size and is located approximately on the south side of Farm District Road, west of Desert Lakes Drive, and east of Donna Way (APN: 021-301-35) and is currently zoned Commercial (C2).

On September 20, 2023, City Council approved a Zoning Map Amendment (ZMA23001) and a Master Plan Amendment (MPA23001) to redesignate ± 26.55-acres from Single Family Residential (SF20) to Commercial (C2) to coincide with a Conditional Use Permit (CUP23005) which was approved by Planning Commission on August 9, 2023, on a ± 15.08-acre portion of the parcel to establish a mini-warehouse and vehicle storage facility use.

In 2024, the developer opted to change the project significantly; therefore, the Conditional Use Permit (CUP23005) was no longer a valid entitlement. A new Conditional Use Permit (CUP24003) application was approved by Planning Commission on July 12, 2024, to allow for the development of a 90,000 square foot mini-storage facility and a 73-unit manufactured home park on ±15.66-acres of the ± 26.55-acre parcel.

ANALYSIS:

The applicant submitted a Tentative Parcel Map application request to subdivide the project area into four (4) parcels of land for proposed commercial development. The existing project area of ± 26.55-acres will be divided into parcels of varying size, which are shown below:

- Parcel 1 - ± 16.66-acres – Manufactured Home Park
- Parcel 2 - ± 73,067 square feet – Future Commercial Development
- Parcel 3 - ± 71,432 square feet – Future Commercial Development
- Parcel 4 - ± 6.74-acres – Mini Storage Facility

All parcels are expected to be used for commercial development. The uses for Parcel 1 and Parcel 4 have been established by the approved Conditional Use Permit (CUP24003). The uses for Parcel 2 and Parcel 3 will be addressed in the future at which time the intended use will determine if it requires a Conditional Use Permit or an Administrative Review.

According to the City of Fernley's Comprehensive Master Plan, the project site has a land use designation of Single Family Residential (SF20) and the City's Zoning Map identified the parcel as being located within the Rural Residential (RR1) zoning district. The approved Zoning Map Amendment and Master Plan Amendment has redesignated the parcel to a Commercial zone.

The project is zoned Commercial (C2); therefore, lot adjacency and standards are required to provide adequate buffering between the proposed commercial development and the existing rural residential zones.

As the estimated completion of the project date is 2026, a traffic study was completed and it shows results of Level of Service (LOS) as C or higher which essentially means that although the project does lead to additional traffic on nearby roadways, the existing infrastructure provides sufficient capacity for the additional traffic. A single egress lane will be sufficient for this project. Additional requirements for right and left deceleration lanes, project driveway spacing, stop sign and multi-use pedestrian and bike path will be conditions of approval for the proposed project.

FINDINGS:

TPM1: Availability and Accessibility of Utilities.

The subject parcel is currently vacant, though it is surrounded by existing public facilities, roads, and services. The applicant is aiming to connect to existing infrastructure such as roads, sanitary sewer, and municipal water. Through the submission of technical analysis and supporting studies, it is understood that sufficient capacity generally exists for connecting to existing municipal facilities such as sewer and water. Any new roadways or other facilities proposed to be constructed are required to be developed in compliance with the development standards laid out by the City of Fernley Department of Public Works and the City of Fernley Engineering Department.

TPM2: Availability and Accessibility of public services such as schools, police and fire protection, recreation facilities and parks.

Police and Fire: The project area is located in an area currently serviced by the Lyon County Sheriff's Office and the North Lyon Fire Protection District. The project site is within the service area of both the North Lyon Fire Protection District office and the Lyon County Sheriff's Office.

Schools: The project was submitted to the Lyon County Office of Education for review and no response was received; therefore, the current infrastructure of the school district is deemed sufficient to absorb any additional school-age children that would be residing in the 73-unit manufactured home park.

TPM 3: Consistency with the Zoning District regulations.

The proposed tentative parcel map is generally consistent with the zoning regulations as outlined within the City of Fernley Development Code. This will be addressed after specific lot-site plans have been received during a separate permit process.

TPM 4: Recommendations and Comments of Review Bodies.

All agency comments and recommendations have been addressed. Given that Truckee Carson Irrigation District (TCID) facilities exist near the project site, the final map will require TCID approval.

TPM 5: Compliance with this Code and all other applicable regulations.

This tentative parcel map is in compliance with the City's Development Code and all other applicable regulations.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

Nevada Revised Statutes (NRS) Chapter 278 – Planning and Zoning

Fernley Municipal Code (FMC), Title 32 – Development Code

City of Fernley Master Plan, August 2018

Specific References:

NRS 278.461 – 278.469 – Parcel Maps

FMC 32.03.020, Table 32.02.020-1 – Development Code, Administration, Review and decision-making bodies,

Summary Table of Development Code Procedures

FMC 32.03.060(d) – Development Code, Administration, Land division applications, Parcel Maps

Section 32.06.100– Development Code, Zoning Districts, Commercial (C1, C2, and TC)

FMC Chapter 32.09 – Development Code, Development Standards

Master Plan, Chapter 3, Page 63 – Land Use, Residential Uses

Master Plan, Chapter 3, Page 65 – Land Use, Commercial Uses

FINANCIAL IMPLICATIONS:

N/A

ATTACHMENTS:

1. CONDITIONS OF APPROVAL FINAL
2. 05-Nev Dev Farm District Vicinity Map and Parcel Map
3. 07-Color Concept Plan

Conditions of Approval for TPM24001

TENTATIVE PARCEL MAP

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 90,000 SQUARE FOOT MINI-WAREHOUSE (MINI STORAGE FACILITY) AND A 73-UNIT MANUFACTURED HOME PARK ON A ± 15.66-ACRE PORTION OF THE PARCEL GENERALLY LOCATED SOUTH OF FARM DISTRICT ROAD, WEST OF DESERT LAKES DRIVE, AND EAST OF DONNA WAY (APN: 021-301-35).

3. EXPIRATION DATE:

THE TENTATIVE PARCEL MAP SHALL EXPIRE WITHIN FOUR (4) YEARS OF THE DATE OF THE PLANNING COMMISSION APPROVAL, UNLESS THE FINAL MAP HAS BEEN RECORDED.

4. GOVERNING DOCUMENTS:

ALL CITY OF FERNLEY MUNICIPAL CODE (FMC) REFERENCES HEREIN PERTAIN TO THE VERSION OF THE CODE ESTABLISHED BY ORDINANCE NUMBER 2023-008, 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 "CITY OF FERNLEY DEPARTMENT OF PUBLIC WORKS DESIGN STANDARDS & REVIEW GUIDELINES" AS UPDATED MARCH 2024, "CITY OF FERNLEY STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION" AS UPDATED JULY 2022, AND "CITY OF FERNLEY COMPREHENSIVE MASTER PLAN" AS UPDATED APRIL 2024.

- 5. THE DEVELOPER SHALL BE IN COMPLIANCE WITH ALL THE CONDITIONS OF APPROVAL FOR THE CONDITIONAL USE PERMIT (CUP24003) WHICH WAS APPROVED BY THE PLANNING COMMISSION ON JULY 12, 2024.**

DESIGN STANDARDS

6. DESIGN STANDARDS:

THE DEVELOPER SHALL COMPLY WITH THE DESIGN STANDARDS AND REGULATION AS SET FORTH IN THE CITY OF FERNLEY'S 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.

7. ENGINEERING DEPARTMENT:

THE DEVELOPER SHALL COMPLY WITH ALL ENGINEERING REQUIREMENTS WITHIN 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, CITY ENGINEER, AND PUBLIC WORKS DIRECTOR PRIOR TO THE RECORDATION OF ANY FINAL MAP FOR THE PROJECT.

8. LEGAL ACCESS:

THE DEVELOPER SHALL DEMONSTRATE THAT LEGAL ACCESS IS PROVIDED TO EACH PROPOSED PARCEL TO THE APPROVAL OF THE ADMINISTRATOR, CITY ENGINEER, AND PUBLIC WORKS DIRECTOR PRIOR TO THE RECORDATION OF THE FINAL PARCEL MAP FOR THE PROJECT.

Conditions of Approval for TPM24001

TENTATIVE PARCEL MAP

GRADING AND CIVIL PERMIT CONDITIONS

9. 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 GRADING PERMIT OR BUILDING PERMIT FOR ANY PORTION OF THE PROJECT.

10. 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.

11. DRAINAGE AND GRADING:

THE DEVELOPER SHALL COMPLY WITH ALL REQUIREMENTS OF THE CITY'S MUNICIPAL CODE CHAPTER 32 (DRAINAGE AND GRADING) AND CHAPTER 10 OF THE CITY OF FERNLEY'S PUBLIC WORKS DESIGN MANUAL TO THE APPROVAL OF THE ADMINISTRATOR, CITY ENGINEER, AND PUBLIC WORKS DIRECTOR.

THE DEVELOPER SHALL PROVIDE A DRAINAGE REPORT FOR THE PROJECT IN CONFORMANCE WITH THE CITY'S 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, CITY ENGINEER, AND PUBLIC WORKS DIRECTOR PRIOR TO THE ISSUANCE OF A GRADING PERMIT.

BUILDING PERMIT REQUIREMENTS

12. STREET IMPROVEMENTS:

THE DEVELOPER SHALL CONSTRUCT ANY ROADWAY IMPROVEMENTS NECESSARY TO SERVE THE PROJECT TO THE APPROVAL OF THE ADMINISTRATOR, CITY ENGINEER, AND PUBLIC WORKS DIRECTOR.

13. COVENANTS, CONDITIONS AND RESTRICTIONS (CC&Rs):

THE DEVELOPER SHALL PROVIDE COVENANTS, CONDITIONS, AND RESTRICTIONS (CC&Rs) WITH THE FIRST FINAL MAP TO BE REVIEWED BY THE ADMINISTRATOR AND CITY ATTORNEY. CC&Rs SHALL BE RECORDED CONCURRENTLY WITH THE FINAL PARCEL 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, CITY ENGINEER, AND PUBLIC WORKS DIRECTOR.

Conditions of Approval for TPM24001

TENTATIVE PARCEL MAP

THE CITY SHALL BE NAMED A THIRD-PARTY BENEFICIARY OF SAID MAINTENANCE OBLIGATIONS TO THE APPROVAL OF THE ADMINISTRATOR AND SHALL DISCLOSE THAT THE CITY MAY REQUIRE FORMATION OF A LANDSCAPE MAINTENANCE ASSESSMENT DISTRICT IN THE EVENT OF DEFAULT UNDER SUCH MAINTENANCE OBLIGATIONS.

14. IMPROVEMENT PLANS SECURITY:

WITH THE SUBMITTAL OF ANY FINAL 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 FERNLEY MUNICIPAL CODE AND COMPLETE THE MINIMUM IMPROVEMENTS IDENTIFIED IN TITLE 32.03.060 OF THE CITY OF FERNLEY MUNICIPAL CODE.

15. WATER RIGHTS:

THE DEVELOPER SHALL COMPLY WITH ALL CITY OF FERNLEY MUNICIPAL CODES REGARDING THE DEDICATION OF WATER RIGHTS AND ALL ASSOCIATED FEES FOR THE CONNECTION TO THE CITY'S MUNICIPAL WATER SYSTEM IN THE AMOUNT THAT IS REQUIRED PRIOR TO THE RECORDATION OF A FINAL MAP.

16. WATER AND SEWER MAINS AND SERVICES:

THE DEVELOPER SHALL COMPLY WITH ALL STANDARDS, CODES, AND REQUIREMENTS REGARDING CONNECTION TO THE CITY'S 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 MAP FOR ANY PHASE OF THE PROJECT, THE DEVELOPER SHALL PROVIDE THE CITY WITH A UTILITY PLAN FOR WATER AND SANITARY SEWER THAT IS IN CONFORMANCE WITH THE NEVADA ADMINISTRATIVE CODE 445A, THE CITY OF FERNLEY'S MUNICIPAL CODE, AND PUBLIC WORKS DESIGN MANUAL TO THE APPROVAL OF THE CITY ENGINEER, PUBLIC WORKS DIRECTOR, AND THE ADMINISTRATOR.

17. 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 PUBLIC WORKS DIRECTOR.

18. WATER SYSTEM LOOPING:

PRIOR TO ISSUE OF A BUILDING PERMIT, THE DEVELOPER SHALL PROVIDE THE CITY WITH A UTILITY PLAN FOR THE WATER SYSTEM THAT DEMONSTRATES ADEQUATE SYSTEM LOOPING. THE PLAN SHALL BE IN CONFORMANCE WITH THE CITY OF FERNLEY'S MUNICIPAL CODE, NEVADA ADMINISTRATIVE CODE, AND PUBLIC WORKS DESIGN MANUAL. THIS REQUIREMENT IS SUBJECT TO THE APPROVAL OF THE CITY ENGINEER AND PUBLIC WORKS DIRECTOR.

PUBLIC WATER MAIN EXTENSION ONTO PRIVATE PROPERTY WILL NOT BE PERMITTED. SERVICES SHALL BE TAPPED OFF OF THE 18-INCH WATER MAIN WITHIN FARM DISTRICT ROAD. THE METER SERVICES SHALL BE LOCATED OUTSIDE OF NDOT RIGHT OF WAY WITHIN A PUBLIC UTILITY EASEMENT.

19. 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

Conditions of Approval for TPM24001

TENTATIVE PARCEL MAP

ON PRIVATE PROPERTY. THE EASEMENTS SHALL INCLUDE THE CITY OF FERNLEY'S STANDARD EASEMENT LANGUAGE AND SHALL BE RECORDED ALONG WITH THE FINAL MAP.

20. SANITARY SEWER SYSTEM:

ALL ONSITE SEWER MAINS MUST BE PRIVATELY OWNED AND MAINTAINED BY THE COMMERCIAL OWNERS' ASSOCIATION. THE DEVELOPER SHALL INSTALL A SANITARY SEWER MANHOLE WITHIN 5-FEET OF THE NDOT RIGHT OF WAY. THIS MANHOLE WILL DELINEATE BETWEEN THE PUBLIC AND PRIVATE SEWER SYSTEMS.

21. 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 FERNLEY MUNICIPAL CODE AND THE PUBLIC WORKS DESIGN MANUAL FOR REVIEW AND APPROVAL BY THE CITY ENGINEER.

22. STORM WATER TREATMENT AND DRAINAGE:

THE DEVELOPER SHALL PROVIDE A FINAL DRAINAGE REPORT FOR THE PROJECT IN CONFORMANCE WITH 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, CITY ENGINEER, AND PUBLIC WORKS DIRECTOR.

ALL INTERNAL STORM DRAIN INFRASTRUCTURE SHALL BE MAINTAINED BY THE PROPERTY OWNER.

REGULATORY AGENCIES

23. 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, FIRE MARSHAL, OR DESIGNEE.

24. 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: BUREAU OF RECLAMATION (BOR), NEVADA DEPARTMENT OF TRANSPORTATION (NDOT), NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP), NEVADA DIVISION OF WATER RESOURCES (NDWR), NEVADA BUREAU OF WATER POLLUTION CONTROL, NEVADA BUREAU OF SAFE DRINKING WATER, NEVADA STATE ENVIRONMENTAL COMMISSION, TRUCKEE CARSON IRRIGATION DISTRICT (TCID), THE CITY OF FERNLEY BUILDING OFFICIAL, THE CITY OF FERNLEY ENGINEER, CITY OF FERNLEY PLANNING DEPARTMENT, AND CITY OF FERNLEY PUBLIC WORKS DEPARTMENT.

25. 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

Conditions of Approval for TPM24001

TENTATIVE PARCEL MAP

SUBJECT TO APPROVAL OF THE ADMINISTRATOR, CITY ENGINEER, FERNLEY POSTMASTER, AND PUBLIC WORKS DIRECTOR.

26. 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 PRIOR TO ISSUE OF A BUILDING PERMIT.

27. NEVADA DEPARTMENT OF ENVIRONMENTAL PROTECTION:

THE DEVELOPER SHALL COMPLY WITH ALL REQUIREMENTS OF THE NEVADA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF SAFE DRINKING WATER AND BUREAU OF WATER POLLUTION CONTROL FOR THE WATER AND SEWER INFRASTRUCTURE DESIGN AND CONSTRUCTION TO THE APPROVAL OF THE ADMINISTRATOR, PUBLIC WORKS DIRECTOR, AND CITY ENGINEER.

28. NEVADA REVISED STATUTES 278 COMPLIANCE:

THE FINAL MAP SHALL CONFORM TO THE FORM AND CONTENTS OF A FINAL PARCEL MAP AS REQUIRED BY NRS 278.

29. 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.

30. 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 FIRE CHIEF, PRIOR TO SUBMITTING THE FINAL MAP APPLICATION.

31. COMPLIANCE WITH TRAFFIC STUDY:

THE DEVELOPER SHALL COMPLY WITH ALL NDOT STANDARDS AND SPECIFIC RECOMMENDED IMPROVEMENTS OUTLINED IN THE TRAFFIC STUDY APPROVED BY NDOT.

OWNER'S CERTIFICATE

THIS IS TO CERTIFY THAT THE UNDERSIGNED,NEV DEV LLC, A NEVADA LIMITED LIABILITY COMPANY ARE THE OWNERS OF THE TRACT OF LAND REPRESENTED ON THIS PLAT AND HAVE CONSENTED TO THE PREPARATION AND RECORDATION OF THIS PLAT AND THAT THE SAME IS EXECUTED IN COMPLIANCE WITH AND SUBJECT TO THE PROVISIONS OF N.R.S. 278 AND LYON COUNTY CODE TITLE 15, THE PUBLIC UTILITY EASEMENTS SHOWN HEREON ARE HEREBY GRANTED FOR THE STATED PURPOSES.

THE PUBLIC UTILITY EASEMENTS SHOWN HEREON ARE HEREBY GRANTED AS PERMANENT EASEMENTS FOR THE STATED PURPOSE.

THE OWNER OF THIS AND THEIR HEIRS, ASSIGNS AND SUCCESSORS, AGREE TO PROVIDE NOTICE OF THE PROVISIONS OF NRS 40.140 AND CHAPTER 15.20 OF THE LYON COUNTY CODE TO ANY AND ALL SUBSEQUENT PURCHASERS.

I DECLARE THAT I EXECUTED THIS CERTIFICATE FOR THE PURPOSES STATED HEREIN, IN WITNESS WHEREOF, THE UNDERSIGNED HAVE AFFIXED THEIR NAME.

NEV DEV LLC, A NEVADA LIMITED LIABILITY COMPANY

JESSICA STANGER, MANAGING MEMBER

STATE OF NEVADA)
COUNTY OF LYON)

ON _____ PERSONALLY APPEARED BEFORE ME, A NOTARY PUBLIC,
JESSICA STANGER, MANAGING MEMBER OF
NEV DEV LLC, A NEVADA LIMITED LIABILITY COMPANY
WHO ACKNOWLEDGED THAT THEY EXECUTED THE ABOVE INSTRUMENT.

NOTARY PUBLIC

UTILITY COMPANIES CERTIFICATE

THE PUBLIC UTILITY EASEMENTS SHOWN ON THIS MAP HAVE BEEN CHECKED AND APPROVED BY:

SIERRA PACIFIC POWER Co., D/B/A NV ENERGY DATE
CHRIS ROBINSON, RIGHT OF WAY AGENT

CHARTER COMMUNICATIONS DATE
ARMANDO ESPINO, CONSTRUCTION SUPERVISOR

NEVADA BELL TLEPHONE COMPANY, D/B/A NEVADA AT&T DATE
CLIFF COOPER, MANAGER OSP PLANNING AND ENGINEERING DESIGN

LYON COUNTY PUBLIC UTILITIES DATE
DAVID BRUKETTA
LYON COUNTY PUBLIC UTILITIES DIRECTOR

SOUTHWEST GAS CORPORATION CERTIFICATE

A PUBLIC UTILITY EASEMENT IS HEREBY GRANTED TO SOUTHWEST GAS CORPORATION WITHIN EACH PARCEL AS SHOWN FOR THE EXCLUSIVE PURPOSE OF INSTALLING AND MAINTAINING UTILITY SERVICE FACILITIES TO THAT PARCEL, WITH THE RIGHT TO EXIT THAT PARCEL WITH SAID UTILITY FACILITIES FOR THE PURPOSE OF SERVING ADJACENT PARCELS.

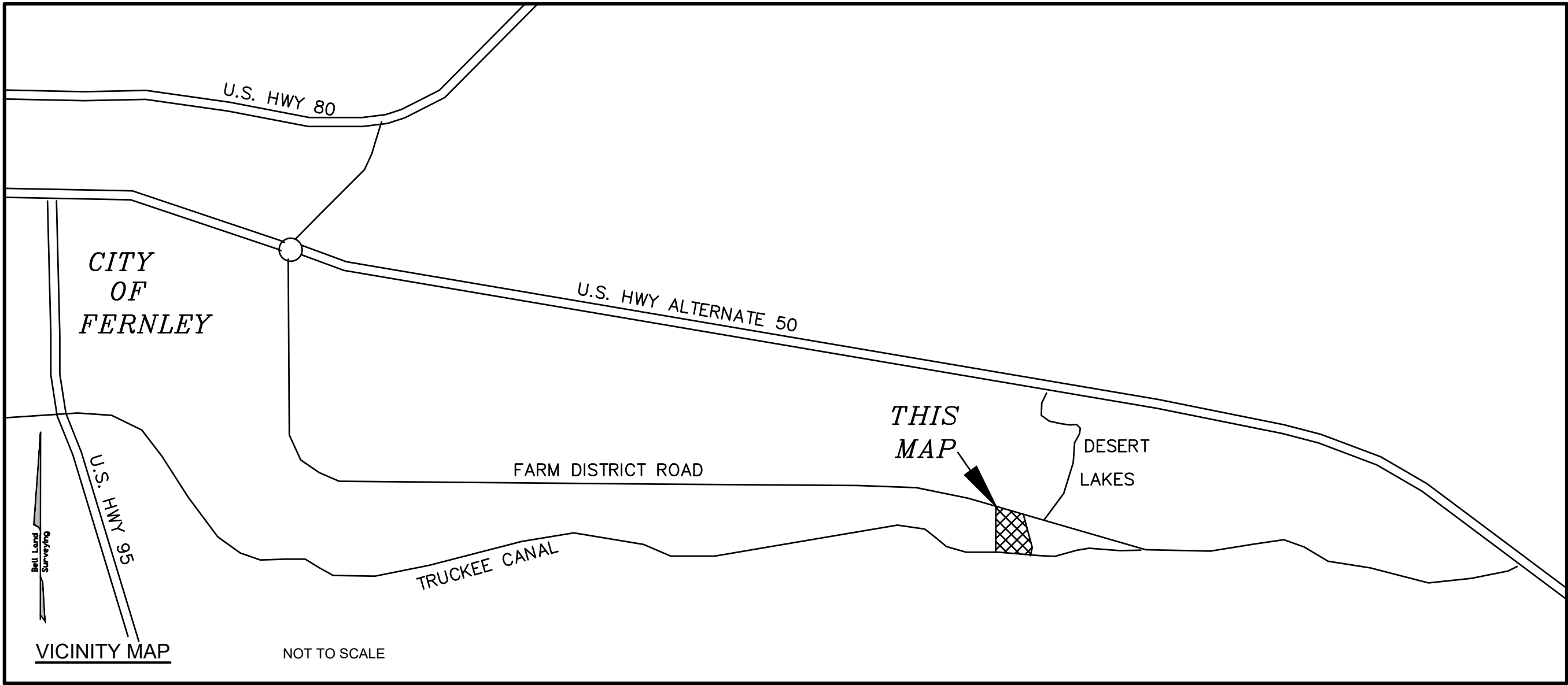
DATE TITLE PRINTED NAME SIGNATURE
SOUTHWEST GAS CORPORATION

NOTES

1. ACCEPTANCE BY LYON COUNTY OF THIS PARCEL MAP IS NOT A COMMITMENT THAT ANY OR ALL OF THE LOTS ARE ELIGIBLE FOR A COUNTY BUILDING PERMIT.
2. EACH SELLER OF ONE OR MORE LOTS CREATED BY A PARCEL MAP MUST DISCLOSE ON THE MAP THAT THE CITY, COUNTY, SCHOOL DISTRICT AND SPECIAL DISTRICTS ARE NOT OBLIGATED TO FURNISH ANY SERVICE, SPECIFICALLY MENTIONING FIRE PROTECTION AND ROADS, TO THE LAND SO DIVIDED, AND THAT ANY PUBLIC UTILITY MAY BE SIMILARLY FREE OF OBLIGATION.
3. ANY FURTHER DIVISION MAY BE SUBJECT TO THE IMPOSITION OF SUBDIVISION IMPROVEMENT STANDARDS AS MAY BE LEGALLY IMPOSED AT THE TIME.

RIGHT TO FARM NOTE

THE LANDS SHOWN HEREON ARE SUBJECT TO THE PROVISIONS OF N.R.S. 40.140 AND CHAPTER 15.20 OF THE LYON COUNTY CODE. THE RIGHT TO FARM. LYON COUNTY HAS DETERMINED THAT THE HIGHEST AND BEST USE FOR AGRICULTURAL LAND IS TO DEVELOP OR PRESERVE SAID LANDS FOR THE PURPOSES OF AGRICULTURAL OPERATIONS AND IT WILL NOT CONSIDER THE INCONVENIENCES OR DISCOMFORTS ARISING FROM OR RELATED TO AGRICULTURAL OPERATIONS TO BE A PERCEIVED NUISANCE IF SUCH OPERATIONS ARE LEGAL, CONSISTENT WITH ACCEPTED CUSTOMS AND STANDARDS AND OPERATED IN A NON-NEGLIGENT MANNER



COMMUNITY DEVELOPMENT & PLANNING COMMISSION CERTIFICATE

THIS MAP HAS BEEN EXAMINED AND FOUND TO BE IN SUBSTANTIAL CONFORMANCE WITH THE TENTATIVE MAP APPROVED BY THE BOARD OF COUNTY COMMISSIONERS ON THE _____ DAY OF _____, 2024, AND ALL CONDITIONS IMPOSED UPON ITS APPROVAL HAVE BEEN SATISFIED AND ALL OFFERS OF DEDICATION FOR ALL PUBLIC ROADWAYS WERE REJECTED WITH THE RESERVATION TO ACCEPT SAID OFFERS AT A LATER DATE

PLANNING COMMISSION CHAIRMAN DATE

COMMUNITY DEVELOPMENT DIRECTOR DATE

TITLE COMPANY CERTIFICATE

THE UNDERSIGNED, ON BEHALF OF TICOR TITLE OF NEVADA, INC, DOES HEREBY CERTIFY THAT THIS MAP HAS BEEN EXAMINED, AND THAT:

- (1) THERE ARE NO LIENS OF RECORD AGAINST THE LAND DELINEATED HEREIN OR ANY PART THEREOF FOR DELINQUENT STATE, COUNTY, MUNICIPAL, FEDERAL, OR LOCAL TAXES OR ASSESSMENTS COLLECTED AS TAXES OR SPECIAL ASSESSMENTS;
- (2) THE OWNERS IDENTIFIED IN THE OWNER'S CERTIFICATE ARE THE ONLY OWNERS OF RECORD OF THE PROPERTY DELINEATED HEREON;
- (3) THAT ONLY HOLDERS OF SECURITY INTEREST CREATED BY MORTGAGE OR DEED OF TRUST ARE: RONALD G. WARD, BENEFICIARY OF DEED OF TRUST DOC. No. 686793 DATED 9/30/2024
- WHO HAS CONSENTED TO THIS MAP BY SIGNING A SEPARATE SECURITY INTEREST HOLDER DOCUMENT NO. _____;
- (4) THE TITLE COMPANY HAS ISSUED A GUARANTEE FOR THE BENEFIT OF CHURCHILL COUNTY,

ORDER NUMBER: 2300329B - JN2, DATED OCTOBER 16, 2024, APN: 021 - 301 - 35

Date Title Printed name Signature

DIVISION OF WATER RESOURCES

THIS FINAL MAP IS APPROVED BY THE DIVISION OF WATER RESOURCES OF THE DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES CONCERNING WATER QUANTITY, SUBJECT TO THE REVIEW OF APPROVAL ON FILE IN THIS OFFICE

DIVISION OF WATER RESOURCES DATE

NAME / TITLE

OWNER
NEV DEV LLC
KIM McCREARY
3305 HWY 50, SUITE A
FERNLEY NV 89408

SITE: FARM DISTRICT ROAD
APN: 21 - 301 - 35
TOTAL AREA: 26.55 ACRES +/-

RECORDER'S CERTIFICATE

FILE NO. _____
FILED FOR RECORD AT THE REQUEST
OF _____ ON THE
_____ DAY OF _____, 2025, AT
_____ MINUTES PAST _____ M IN THE MAP
FILES OF LYON COUNTY, NEVADA.
FEE: _____

LYON COUNTY RECORDER

DEPUTY

TRUCKEE-CARSON IRRIGATION DISTRICT CERTIFICATE

I, BENJAMIN D. SHAWCROFT, MANAGER OF THE TRUCKEE-CARSON IRRIGATION DISTRICT (DISTRICT) does hereby declare as follows:

1. Every parcel depicted upon this map lies within the geo-physical boundaries of the Newlands Federal Reclamation Project (Project) established by act of Congress in 1902 (32 Stat. 388), and the boundaries of the District as authorized by the Nevada Irrigation District Act (NRS 539.010 et seq). Depicted on this map are Project easements and/or rights of way for the construction, maintenance, and/or operation of Project canals, laterals, drains, and/or facilities. Obstructions and/or nuisances to or within Project canals, laterals, drains, and/or facilities, are impermissible.
2. The District by agreement with the United States of America, through the Bureau of Reclamation (Reclamation) of the Department of the Interior, is the agent for the operation and maintenance of the Project. The District is authorized to enter Project easements and/or rights of way for all lawful purposes associated with the operation and maintenance of the Project.
3. All lands depicted hereon, having surface water rights appurtenant thereto, are subject to regulation by the District for the delivery and distribution of water as provided for by NRS 539.233.
4. The District assumes no legal duty, as to the lands depicted hereon, for the inspection or review of past or future hydrologic conditions, including, without limitation, changes to surface or groundwater sources, water tables, or flooding, and makes no claim or warranty as to the existence of such adverse hydrologic condition(s) now attending the lands, or existing structures, or as to any structure(s) to be planned or to be constructed thereon.
5. The District assumes no legal duty for, nor makes any warranty associated with, the accuracy of the water rights depicted on this map.

BENJAMIN D. SHAWCROFT, ESQ.
DISTRICT MANAGER

COUNTY ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT I HAVE EXAMINED THIS PARCEL MAP AND AM SATISFIED THAT THIS MAP IS TECHNICALLY CORRECT.

CHARLES L. RENO
COUNTY ENGINEER

G.I.S. CERTIFICATE

A DIGITAL COPY OF THIS MAP HAS BEEN PROVIDED TO THE LYON COUNTY G. I. S. DEPARTMENT

BY: _____ TITLE: _____ DATE _____

COUNTY CLERK'S CERTIFICATE

I, STACI LINDBERG LYON COUNTY CLERK/TREASURER, HEREBY CERTIFY THAT THERE ARE NO LIENS FOR UNPAID STATE, COUNTY, CITY OR LOCAL TAXES, OR SPECIAL ASSESSMENTS AND THAT ALL TAXES FOR THE FISCAL YEAR HAVE BEEN PAID ON PROPERTY THAT IS THE SUBJECT OF THIS MAP.
APN: 021 - 301 - 35

DATE _____ STACI LINDBERG _____ LYON COUNTY CLERK - TREASURER

SURVEYOR'S CERTIFICATE

I, STEVEN N. BELL, A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF NEVADA, CERTIFY THAT:

1. THIS PLAT REPRESENTS THE RESULTS OF A SURVEY CONDUCTED UNDER MY SUPERVISION AT THE INSTANCE OF KIM McCREARY
2. THE LAND SURVEYED LIES WITHIN A PORTION OF THE SE 1/4 OF SECTION 22, TOWNSHIP 20 NORTH, RANGE 25 EAST M.D.B.& M. THE SURVEY WAS COMPLETED ON _____, 2024.
3. THIS PLAT COMPLIES WITH APPLICABLE STATE STATUTES AND ANY LOCAL ORDINANCES IN EFFECT ON THE DATE THAT THE GOVERNING BODY GAVE ITS FINAL APPROVAL.
4. THE MONUMENTS DEPICTED ON THE PLAT ARE OF THE CHARACTER SHOWN, OCCUPY THE POSITIONS INDICATED AND ARE OF SUFFICIENT NUMBER AND DURABILITY.

STEVEN N. BELL, P.L.S. 11420



NOTE:
IN ACCORDANCE WITH NRS 247 AND 239, TO OBTAIN AN OFFICIAL COPY OF THIS MAP, CONTACT THE CHURCHILL COUNTY RECORDER.

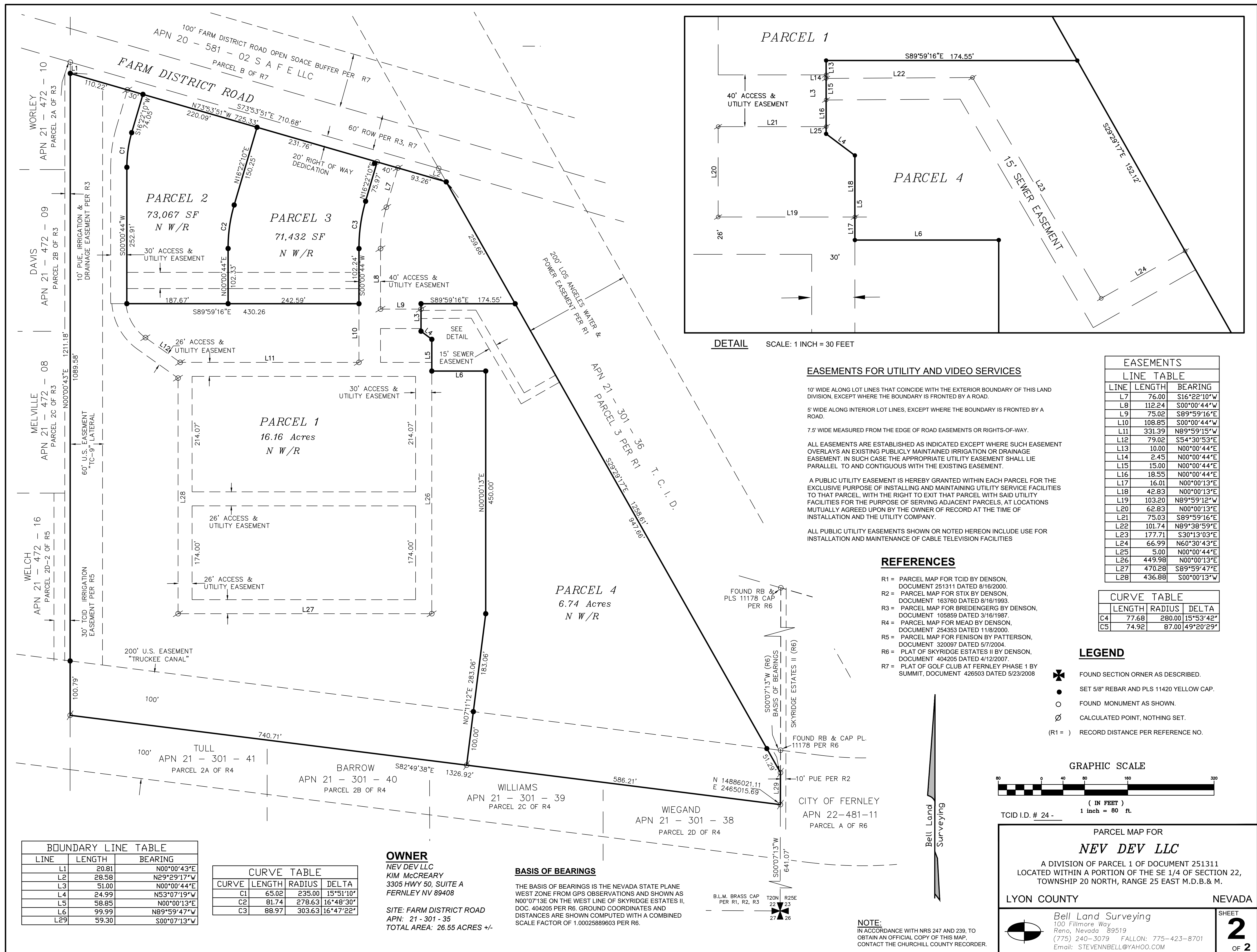
TCID I.D. # 24 - _____

PARCEL MAP FOR
NEV DEV LLC
A DIVISION OF PARCEL 1 OF DOCUMENT 251311
LOCATED WITHIN A PORTION OF THE SE 1/4 OF SECTION 22,
TOWNSHIP 20 NORTH, RANGE 25 EAST M.D.B.& M.

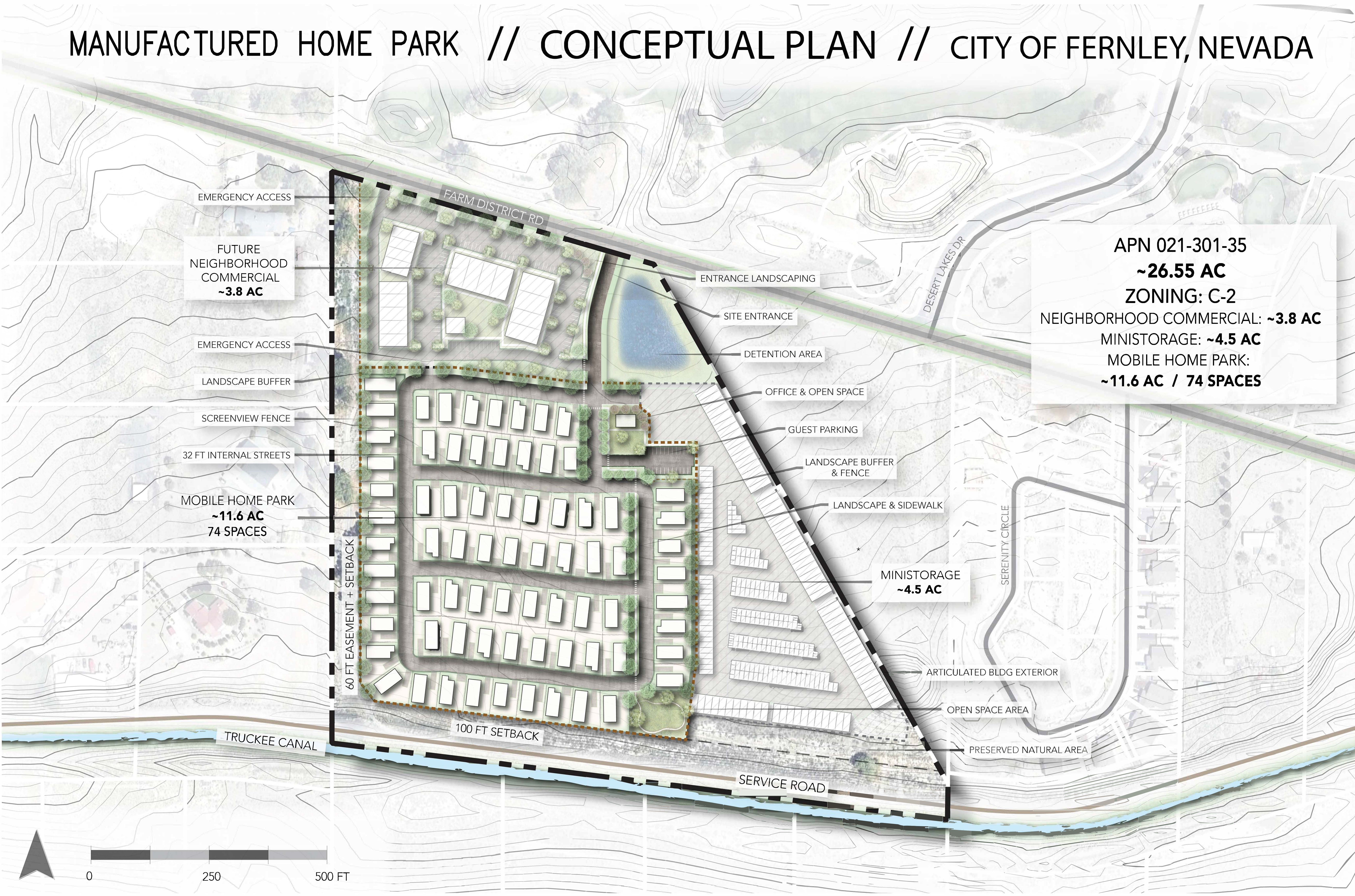
LYON COUNTY NEVADA

Bell Land Surveying
100 Fillmore Way
Reno, Nevada 89519
(775) 240-3079 FALLON: 775-423-8701
Email: STEVENNBELL@YAHOO.COM

SHEET
1
OF 2



MANUFACTURED HOME PARK // CONCEPTUAL PLAN // CITY OF FERNLEY, NEVADA





CITY OF FERNLEY

Planning Commission AGENDA REPORT

Meeting Date: January 8, 2025

REPORT TO: Fernley Planning Commission

REPORT FROM: Michele Rambo, Planning Director

FINANCIAL IMPACT:

Yes: No: X

CURRENTLY BUDGETED:

Yes: No: X

FUND/ACCOUNT:

N/A

ACTION REQUESTED: Motion

AGENDA ITEM:

(For possible action) Discussion and possible action regarding a Zoning Map Amendment (ZMA 24002) and Tentative Subdivision Map (TSM 24002), a request by Phelps Engineering, Inc on behalf of Creekwood Development Group for 1) changing the zoning designation from SF20 (Single-Family Residential; 20,000 square foot minimum) to SF6 (Single-Family Residential; 6,000 square foot minimum; and 2) the division of approximately 39.67 acres into 153 single-family lots. The project is located on the south side of Farm District Road between Browne Lane and Rainbow Lane (APN 021-303-20).

AGENDA ITEM BRIEF:

The applicant is proposing 153 single-family unit parcels, as well as a zone change from SF20 to SF6. This item was continued from the December 11, 2024 Planning Commission meeting.

RECOMMENDED MOTION:

I move to recommend that the City Council 1) approve Bill #353 and ZMA24002 changing the zoning from SF20 to SF6, and 2) approve TSM24002 to divide 39.67 acres into 153 single-family lots based on the Findings and Conditions of Approval 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:

Denial

"Based on information received in written materials and at the public hearings on this matter, I move to recommend City Council deny the tentative subdivision map and zoning map amendment for Creekwood Commons associated with TSM24002 and ZMA24002. I cannot recommend approval of this tentative subdivision map and zoning map amendment because I have determined the proposed changes are detrimental to the public's health, safety, and general welfare and am unable to make the following required findings:"

"I am unable to make finding _____ as it relates to _____."

BACKGROUND:

The applicant is seeking approval for a Zoning Map Amendment (ZMA) and Tentative Subdivision Map (TSM) for the 39.67-acre property from the current Zoning Designation (SF20) to (SF6). The proposed development provides 153 single family units with on-site stormwater detention facilities.

ANALYSIS:

The current zoning designation of SF20, residential single-family (minimum lot size of 20,000 square feet), permits a maximum of 2 detached single-family units per acre. The applicant is requesting a zoning map amendment to change the zoning to SF6, residential single-family (minimum lot size of 6,000 square feet), which permits a maximum of 7 detached single-family units per acre. The zone change would allow up to 3.86 dwelling units per acre to accommodate the proposed 153 dwelling units.

FINDINGS:

a. Consistent with the city's master plan and otherwise consistent with state and federal law.

This finding can be made. The proposed zone (SF6) is an equivalent zoning district of the master plan's Single-Family Residential (SF) designated land use. The applicant suggests that the proposed zone change supports the master plan community goals and action strategies regarding Land Use (LU) listed below and staff concurs.

LU. 1.2 - Encourage new development to be in accordance with the Comprehensive Master Plan land use category.

The proposed SF6 is an equivalent zoning designation of the SF designated land use.

b. Consistent with the surrounding land uses.

The proposed project is consistent with the surrounding land uses, as there are SF-6 zoned single-family residences to the North, RR5 zoned single-family residences and multi-family residences to the West, and SF20 vacant land and SF9 single-family residences to the East.

c. A public notice was given, and a public hearing held, per the requirements of the development code and Nevada Revised Statutes.

Staff will ensure this finding can be made. The applicable provisions of the "Development Code" (FMC, Title 32) and Nevada Revised Statutes (NRS) are FMC §32.03.040(e) regarding "Zoning map amendments (rezoning)" and NRS 278.260 regarding "...amendment of zoning regulations".

This item will have a public hearing at both the Planning Commission and City Council meetings. At least 10 days prior to each public hearing, staff will purchase an ad in the Reno Gazette Journal and mail letters to all parcels within a 300-foot radius, all manufactured homes of any manufactured home park within a 300-foot radius, and the nearest 30 separately owned parcels. Staff will also mail a letter to both the parcel location and the owner's mailing address in cases where those addresses are not the same.

APPROVAL CRITERIA:

Recommendations and decisions on tentative maps shall be based on consideration of all 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;

Condition of approval 11 is intended to keep dust erosion from polluting the air. No other significant source of air pollution was identified. To ensure compliance with environmental and health laws and regulations concerning solid waste disposal, staff added condition of approval 21, which requires proof that Waste Management intends to provide solid waste disposal for the community.

Water and sewer services will be provided by City of Fernley. To ensure City of Fernley systems maintain compliance with applicable regulations once the project is developed. To ensure this, staff included a number of conditions of approval. Currently there are no sewer mains within the Creekwood Estates development area. The developer proposes new sewer by extending approximately 870 LF of gravity main from the existing manhole located along an existing 8-Inch main running south-north within Rainbow Lane. The main extension will also have portions within NDOT Right of Way along Farm District Road. The developer also plans to install new water lines for the subdivision through two connection points to an 18-inch main within Farm District Road. The developer will grant easements so that City of Fernley may maintain the water and sewer infrastructure once built. Finally, the developer is responsible for constructing all necessary storm water treatment and drainage structures.

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

Each of the 153 single-family parcels requires 1.12 acre-feet of surface water to be dedicated to City of Fernley to provide municipal services, for a total of 44.43 acre-feet. Should the applicant instead provide groundwater rights, which is a rare occurrence, the City Engineer will make the appropriate calculation based on lot size and number of lots. The applicant has indicated they have sufficient water rights for the proposed tentative subdivision map.

Additionally, in accordance with Fernley Municipal Code Section 32.09.035, the applicant shall dedicate to the city, as a condition precedent to approval of a final subdivision map, the surface water or groundwater rights reasonably necessary to ensure an adequate water supply to serve all parcels or lots within the project. Staff added condition 18 to make the need for dedication of water rights very clear. If the applicant is unable to dedicate the appropriate amount of water rights, their final subdivision map will not be approved by City of Fernley.

3. Availability and accessibility of utilities;

The land is currently vacant. All water, sewer, and other public utilities are proposed as new and included as part of the development of the subdivision.

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

This tentative map was forwarded to Lyon County School Board in accordance with NRS §278.346; the board did not indicate a school site is needed within the area. This subdivision is vacant land but is located within areas

already served by Lyon County Sheriff's Department and the North Lyon County Fire Protection District.

The question of automobile transportation is addressed through the Development Code which requires the streets to be built out prior to submitting the final map application. The submitted traffic impact study did identify the need for additional improvements to existing public streets and highways, such as the construction of site frontage improvements to NDOT Standards to accommodate the master planned improvements for SR 828, and the construction of dual site accesses, of at least 600 feet apart, with dedicated left turn and right turn lanes. All streets within the subdivision are required to have sidewalks, which will allow pedestrian access.

Condition 29 discusses residential construction tax. Given the current market rate of single-family homes in City of Fernley, the developer will be required to pay \$1,000 per dwelling unit in residential construction tax.

5. Consistency with the zoning district regulations;

This parcel is currently zoned as SF20 (Single-Family Residential, 20,000 square foot minimum lot size); however, the applicant is requesting a zone change to SF6 (Single Family Residential, 6,000 square foot minimum lot size). As mapped, the proposed new parcels meet all requirements of the SF6 zone, to include:

- 6,000 square feet minimum lot size
- 35' minimum lot frontage
- 60' minimum lot width
- 65' minimum corner lot width.

6. Conformity with the master streets and highways plan;

Staff verified that this development complies with the "City of Fernley Transportation Master Plan" of July 2020.

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

The proposed subdivision includes developing streets on-site that will not only internally connect the 153 single family homes, but also connect to existing City streets, such as Farm District Road and Iron Court/Rainbow Lane. The proposed new streets to be constructed internally include Shoshone Street, Great Basin Drive, Black Rock Drive, Toiyabe Drive, Pah Rah Drive, and Gold Street.

The proposed subdivision is expected to generate an additional 1,443 daily trips, with 115 occurring during peak AM hours and 151 occurring during peak PM hours. This estimate was prepared by Phelps Engineering and sourced from the Institute of Transportation Engineers (ITE).

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

As part of their submission, the developer provided a preliminary technical drainage and geotechnical report. Staff screened recommendations from these reports and found no items of concern related to floodplain, slope, soil, or topography.

9. Recommendations and comments of review bodies;

There are no outstanding comments from review bodies. NDOT provided minor access mitigations for SR828, Rainbow Lane, and Great Basin Drive. These mitigations include realignment of the multi-use pedestrian paths and ADA compliant ramps, installing deceleration lanes, and constructing a trail connection from the multi-use path along SR828 to the proposed site trail network.

10. Conformity to the master sewer and water utility plan; This project conforms to both the master sewer and water utility plan. Because it is currently vacant land, new water and sewer connections are proposed during the development of the subdivision. Internal infrastructure is also proposed as new and needed in order to

distribute utilities to each single-family residence.

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

Planning and Engineering staff actively screened all requirements in Fernley Municipal Code and have determined there are no compliance issues.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

General

[Nevada Revised Statutes \(NRS\), Chapter 278](#) - Planning and Zoning

[Fernley Municipal Code \(FMC\), Title 32](#) - Development Code

[City of Fernley Comprehensive Master Plan](#)

Specific

[NRS §278.330-278.353](#) - Subdivision of Land: Tentative Maps

[FMC §32.03.060\(f\)\(1\)](#) - Tentative subdivision maps

NRS §278.260 - Determination, establishment, enforcement and amendment of zoning regulations...

FMC §32.03.040(e) - Zoning map amendments (rezoning)

[FMC §32.06.070](#) - Residential - Single-family (SF20, SF12, SF9, SF6)

[FMC §32.09](#) - Development Standards

Note: City of Fernley does not guarantee the operation or applicability of the provided links beyond the December 11th, 2024, Planning Commission meeting.

FINANCIAL IMPLICATIONS:

None

ATTACHMENTS:

1. Bill 353
2. Conditions of Approval
3. Proposed Tentative Map
4. Project Narrative
5. Traffic Impact Study

When recorded, mail to:
City Clerk
City of Fernley
595 Silver Lace Boulevard
Fernley, NV 89408

BILL # 353
CITY OF FERNLEY
ORDINANCE # _____

A GENERAL ORDINANCE FOR A ZONING MAP AMENDMENT, ASSOCIATED WITH ZMA24002, TO CHANGE THE ZONING OF ±39.67 -ACRES GENERALLY LOCATED SOUTH OF FARM DISTRICT ROAD BETWEEN BROWN LANE AND RAINBOW LANE (APN: 020-303-20) FROM SF20 (SINGLE-FAMILY MINIMUM LOT SIZE OF 20,000 SQUARE FEET) TO SF6 (SINGLE-FAMILY MINIMUM LOT SIZE OF 6,000 SQUARE FEET) IN ORDER TO DEVELOP A SUBDIVISION CONSISTING OF 153 SINGLE-FAMILY RESIDENCES.

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

Section 1: The zoning of that certain real property totaling 39.67 acres, more or less, situated in the City of Fernley, Nevada, and owned by Creekwood Development Group, being more particularly described on Exhibit “A” attached hereto and depicted on “Exhibit B” attached hereto is hereby reclassified from SF20 to SF6.

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 to this ordinance as provided by law and to record the plan certified herein 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 public health, safety, welfare and convenience.

SECTION 6: If any subsection, phrase, sentence or portion of this section 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 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 # 353 BEING HEREBY PROPOSED this 15th day of January 29025.

BILL # 353 BEING HEREBY PASSED, APPROVED and ADOPTED this 5th day of February 2025, by the following vote of the Council:

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

FERNLEY CITY COUNCIL

By:

Neal E. McIntyre, Mayor

Date: _____

Attest By:

Kim Swanson, City Clerk

Date: _____

Exhibit A
Legal Description

THE LAND REFERRED TO HEREIN IS SITUATED IN THE STATE OF NEVADA, COUNTY OF LYON, DESCRIBED AS FOLLOWS:

TOWNSHIP 20 NORTH, RANGE 25 EAST, M.D.M., SECTION 20: ALL THAT PORTION OF THE EAST HALF OF THE SOUTHWEST QUARTER LYING NORTH OF THE T.C.I.D. CANAL.

NOTE: THE ABOVE LEGAL DESCRIPTION IS FOR USE ON ATTACHED PRELIMINARY TITLE REPORT ONLY AND IS NOT FOR USE ON ANY CONVEYANCING OR RECORDING DOCUMENTS.

CAN BE FURTHER DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SECTION 20, TOWNSHIP 20 NORTH, RANGE 25 EAST, MOUNT DIABLO BASE & MERIDIAN, SITUATE IN LYON COUNTY, NEVADA; THENCE NORTH 01°07'08" EAST ALONG THE WEST LINE OF THE SOUTHWEST QUARTER (SW $\frac{1}{4}$) OF SAID SECTION 20, A DISTANCE OF 2637.56 FEET; THENCE DEPARTING SAID WEST LINE, SOUTH 88°21'03" EAST ALONG THE NORTH LINE OF SAID SOUTHWEST QUARTER (SW $\frac{1}{4}$), A DISTANCE OF 1329.69 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE ALONG SAID NORTH LINE, SOUTH 88°20'35" EAST, A DISTANCE OF 1330.31 FEET TO THE CENTER OF SAID SECTION 20; THENCE DEPARTING SAID NORTH LINE, SOUTH 01°17'49" WEST ALONG THE EAST LINE OF SAID SOUTHWEST QUARTER (SW $\frac{1}{4}$), A DISTANCE OF 1220.18 FEET TO A POINT ON THE NORTH RIGHT-OF-WAY OF THAT CERTAIN 200 FOOT WIDE TRUCKEE CARSON IRRIGATION DISTRICT (TCID) CANAL AS SHOWN ON THE UNITED STATES RECLAMATION SERVICE PROPERTY AND STRUCTURE MAP FOR SAID SECTION 20, DATED 1911, FILED WITH THE TRUCKEE CARSON IRRIGATION DISTRICT; THENCE DEPARTING SAID EAST LINE, SOUTH 88°26'51" WEST ALONG SAID NORTH RIGHT-OF-WAY, A DISTANCE OF 540.51 FEET TO A POINT OF TANGENCY; THENCE CONTINUE ALONG SAID NORTH RIGHT-OF-WAY, BEGINNING AT A CURVE CONCAVE TO THE SOUTHEAST, HAVING A RADIUS OF 1054.92 FEET, A CENTRAL ANGLE OF 14°22'30", AND AN ARC DISTANCE OF 264.67 FEET; THENCE CONTINUE ALONG SAID NORTH RIGHT-OF-WAY, SOUTH 74°04'21" WEST, A DISTANCE OF 552.95 FEET; THENCE DEPARTING SAID NORTH RIGHT-OF-WAY, NORTH 01°12'18" EAST ALONG THE WEST LINE OF THE EAST HALF (E $\frac{1}{2}$) OF THE SOUTHWEST QUARTER (SW $\frac{1}{4}$) OF SAID SECTION 20, A DISTANCE OF 1465.15 FEET TO THE POINT OF BEGINNING.

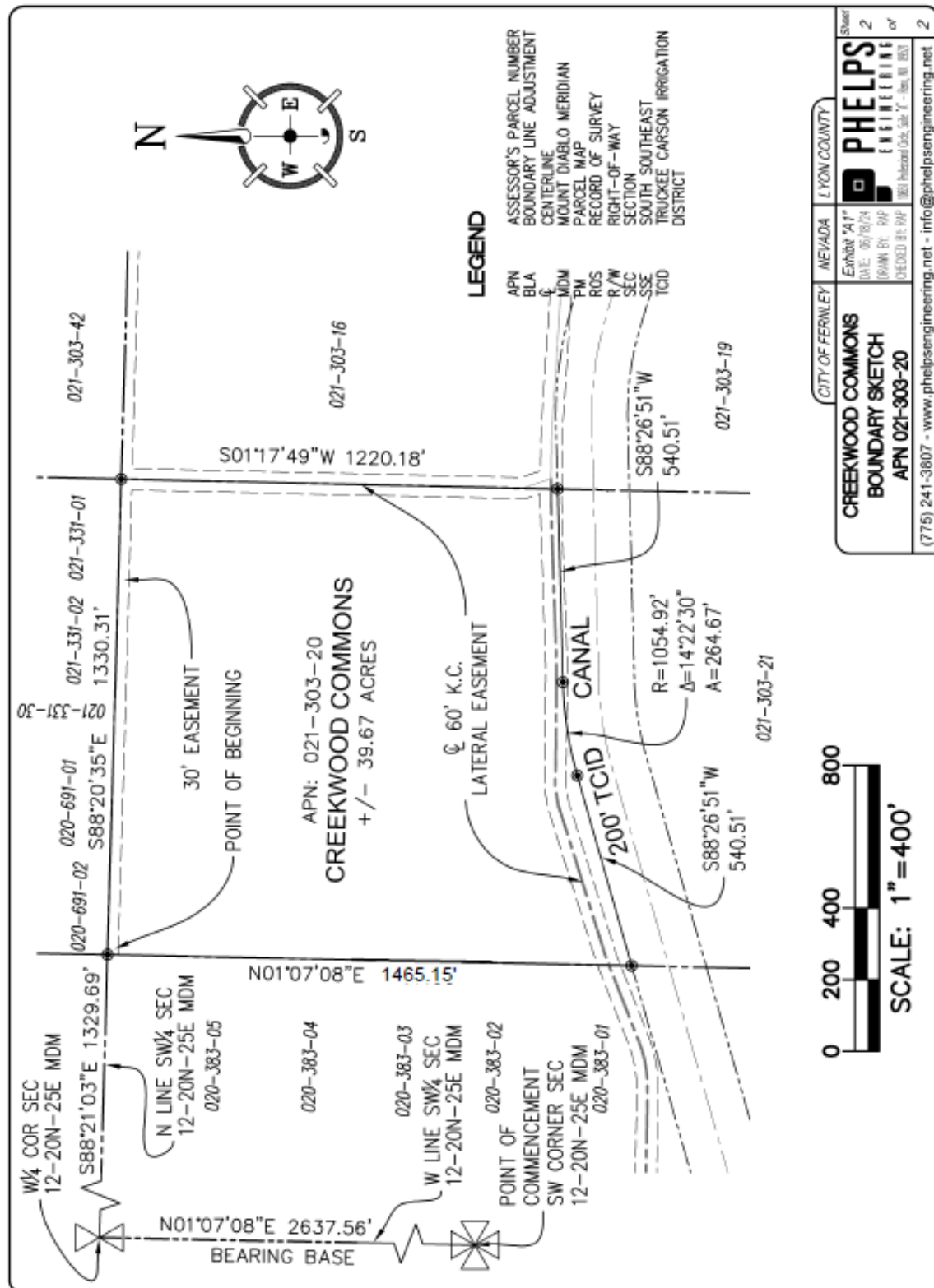
SUBJECT TO EASEMENTS, RESTRICTIONS, RESERVATIONS, AND RIGHTS OF WAY, IF ANY.

CONTAINING 39.67 ACRES, MORE OR LESS.

Prepared By: Richard A. Pedraza, PSM/PLS
In the offices of: Phelps Engineering Services, Inc.
10651 Professional Circle, Suite "A"
Reno, NV 89521



Exhibit B
Plat Map



CREEKWOOD COMMONS PROJECT NARRATIVE ZONE MAP AMENDMENT & TENTATIVE MAP



Conceptual Examples of single family detached homes & entry monument.

Prepared for:

Creekwood Group, LLC
3860 Richards Blvd.
Carson City, NV 89703

Prepared by:

Phelps Engineering Services Inc.
10651 Professional Circle
Suite A
Reno, Nevada 89521

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COVER LETTER

June 18, 2024

Shay League, Senior Planner
City of Fernley
595 Silverlace Blvd.
Fernley, NV. 89408

Subject: Creekwood Commons Zone Map Amendment and Tentative Subdivision Map Application

Dear Shay,

Please accept the attached Zone Map Amendment (ZMA) and Tentative Subdivision Map (TSM) Application for a parcel located on the south side of Farm District Road on behalf of owner Creekwood Group, LLC.

The parcel (property) totals approximately 39.67 acres and is located entirely within the boundary of the City of Fernley, Nevada. The current zoning is SF20 Residential Single-Family – 20,000 square feet, developer maximum density 2 dwelling units (du) per acre, with a Single-Family Residential land use designation. The project proposes 3.86 du/acre.

A narrative is provided as part of this submittal which describes the purpose of the Zone Map Amendment and how the new zoning designation brings the property into compliance with the current City of Fernley Comprehensive Master Plan.

This ZMA intends to re-classify the current SF20 zoning classification to SF6.

The following is a list of materials included with this ZMA submittal:

- ✓ ZMA Application Checklist
- ✓ Land Development Application signed by owner
- ✓ Application Fee
- ✓ NRS Time Waiver Agreement
- ✓ Project Narrative
- ✓ Vicinity Map
- ✓ Legal Description (wet stamped)
- ✓ Tentative Subdivision Map
- ✓ Property Tax Receipt

The following is a list of materials included with this TSM submittal:

- ✓ TSM Application Checklist
- ✓ Land Division Application signed by owner
- ✓ Application Fee

Creekwood Zone Map Amendment and Tentative Subdivision Map

- ✓ NRS Time Waiver Agreement
- ✓ Project Narrative
- ✓ Tentative Subdivision Map
- ✓ Vicinity Map
- ✓ Title Report
- ✓ Pending Street Name Application
- ✓ Traffic Study
- ✓ Preliminary Drainage Report
- ✓ Sewer/Water Discovery Report Application
- ✓ Geotechnical Report
- ✓ Fiscal Impact Form

If you have any questions concerning this application or the proposed project, please contact me at the contact info listed below.

Sincerely,

Devin Perry
Planning Manager
Phelps Engineering Services Inc.
dperry@phelpsengineering.net
775-462-9919 - mobile

PROJECT DESCRIPTION

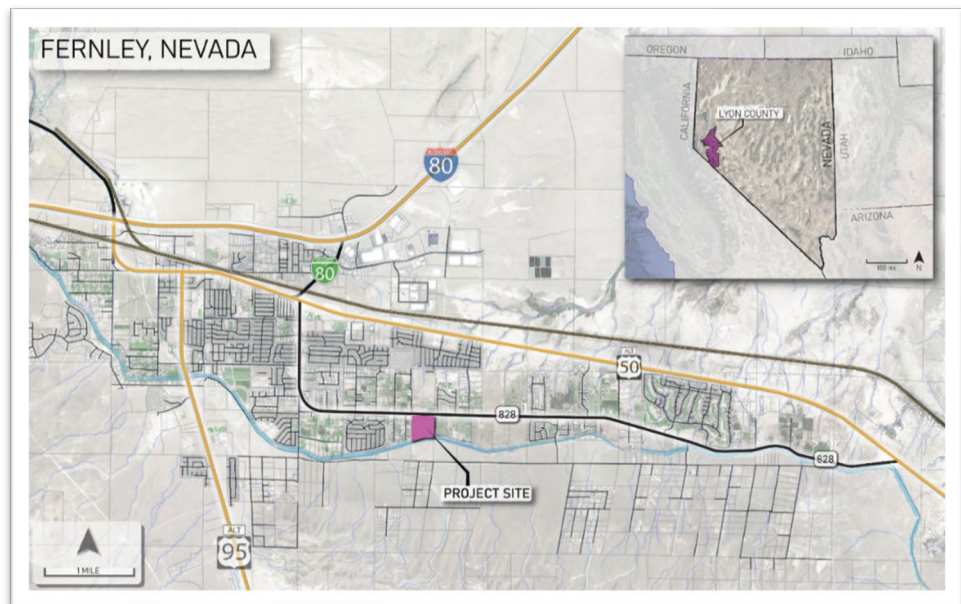
OBJECTIVE

This project is seeking approval for a Zone Map Amendment (ZMA) and Tentative Subdivision Map (TSM) for the 39.67-acre property from the current Zoning designation (SF20) to (SF6). The proposed development provides 153 single family units with on-site stormwater detention facilities. The development also provides a minimum 30' buffer at the perimeter of the property, and over 346,000 sf of Outlots.

Creekwood Commons is a proposed moderately dense residential community consisting of single-family homes. The project will help alleviate the City's need for housing and will help support the Fernley workforce by addressing housing affordability.

PROJECT LOCATION

APN: 021-303-20



Creekwood Commons is in the City of Fernley, in Lyon County Nevada within a portion of the East $\frac{1}{2}$ of SW $\frac{1}{4}$ of Section 20, Township 20 North, Range 25 East. Creekwood Commons consists of ± 41 acres and is located on the south side of Farm District Road (NV 828), between Browne Lane to the west and Rainbow Lane to the east. The Truckee Carson Irrigation District canal forms the southern boundary of the property.

The property currently serves as agricultural land and is undeveloped. Topography is gently sloping down to the north, with an average approximate slope of $\sim 2.7\%$. Aside from the agricultural area in the center, the property is moderately vegetated with low-lying grasses and scattered shrubs. Some large trees are present but are mostly confined to the northern and eastern edges. The property is accessed from Farm District Road.

Recent surrounding development includes Silverland Middle School, built in 2011 (0.5 miles to the north), and several residential subdivisions and small neighborhood parks. Farm District Road, as its name implies, formed the backbone of Fernley's historic agricultural community.

LAND USE

The City of Fernley has a desire to move away from a bedroom community/commuter town and provide a focus as a growing community with opportunities to live, work, and play while maintaining the rural character of the area as defined by the City of Fernley Comprehensive Master Plan dated August 2018 (page 70).

The property's Land Use is currently Single-Family Residential (SFR). No changes to Land Use are proposed as the project complies with the current designation.

ZONING

The City of Fernley updated their Development Code in February 2020. Section 32.06.050 of the Development Code describes the purpose of the applied zoning districts as follows.

SF6, Residential Single-Family – 6,000 square feet

Purpose. This district is intended to preserve areas where the predominant dwelling type is single-family, detached units at seven units per acre. Single-family land uses are considered appropriate adjacent to low density multifamily, SF9 and MDR14 zoning districts. The maximum number of dwelling units that may be located in this district is seven units per one acre.

The following maps illustrate the existing and proposed zoning districts for Creekwood.



CONSISTENCY WITH DEVELOPMENT CODE AND COMPREHENSIVE PLAN

In 2018, the Fernley City Council adopted an update to the City of Fernley Comprehensive Master Plan. The purpose of the City's Master Plan is to guide decision making regarding the physical development of the city. The Master Plan identified a development pattern, which has catered to large lot single-family homes with minimal opportunity for employment because over half of Fernley residents commute to other counties and neighboring cities for work. The larger lot single-family home is no longer affordable for many. In addition, this pattern has created a financial burden for the City due to the lack of employment and folks spending their

money primarily outside of Fernley. The current Comprehensive Master Plan strives to revitalize the town center, add new employment centers, and diversify the historic land use patterns to be more in line with the new goals to support the workforce, first time home buyers, and the aging and lower income populations.

Primary uses within the applied single-family residential land use include detached single-family residences. Other allowed uses include parks, open space, and religious institutions. Density is 2 to 7 du/acre. Characteristics and location features include:

- Primarily single-family detached homes with varied lot sizes
- Residences should be sited as to provide privacy to the occupants while providing connectivity to adjoining commercial or other uses
- New development should provide buffering, lot matching, or transition of density when adjacent to existing residential
- Residences shall be sufficiently buffered from adjacent roadways
- Municipal services are required

The project is compatible with the following Comprehensive Master Plan relevant goals for: 1) Population, Housing, and Employment; 2) Conservation; 3) Land Use; 4) Transportation; 5) and Public Services and Facilities. Where the proposed project deviates from Master Plan goals, an explanation is provided.

Consistency with surrounding land use

Listed below are the City of Fernley Comprehensive Master Plan Goals and Action Strategies for Land Use, Housing Plan and Population, Housing and Employment, followed by an explanation as to how they are supported and upheld in the Creekwood Commons development:

Land Use. Discussion on how the proposed project is compatible with Land Use goals follows the relevant Comprehensive Master Plan Land Use goals listed below:

Goal LU.1.1 Encourage and plan for new development in areas where adequate public services and facilities can be provided efficiently.

Action Strategy LU.1.1.1 Require new development to provide its proportionate share of improvements to avoid a degradation of services for existing residents. This requirement will be applied regardless of project size in order to avoid incremental erosion of services and facilities.

Action Strategy LU.1.1.2 Encourage development of vacant or underutilized lands within the community core where adequate infrastructure and facilities currently exists.

Action Strategy LU.1.1.3 Require new development to provide certified, stamped studies demonstrating the impact proposed development will have on existing

infrastructure and to provide improvements and/or funding in lieu of improvements in proportion to the impacts of the proposed projects on the city's roadway, sewer and water systems.

The Creekwood development is located on Farm District Rd, a major corridor through town, in an area that has close connections to critical infrastructure such as water, sewer, and electricity. The on-site construction will involve improvements that expand this infrastructure.

Sewer service calculations obtained from Shaw Engineering Sewer Discovery dated April 18, 2022 estimates average daily inflow of 250 gpd/ERC. Current ERC count of 153 times 250 gpd/ERC = 38,250 gpd

Water service calculations obtained from Shaw Engineering Water Discovery dated April 18, 2022 with a project demand of 178 ERCs stated "There is deemed to be sufficient system capacity with regards to groundwater and treatment plant capacity for the new development using a multiplying factor of 2.1 to calculate maximum day demand (MDD) from average day demand (ADD) and a multiplying factor of 2 to calculate peak hour demand (PHD) from maximum day demand."

This revised Site Plan decreases the lot count by 14% (153 lots) with an anticipated demand of 55.7 acre-feet/year.

A Fiscal Impact Analysis Form is provided as part of this submittal. The Developer will finance their proportionate share the required public works improvements to avoid a degradation of services for existing residents.

As per the Land Use Map in the City's Comprehensive Master Plan (page 63), the Creekwood Commons parcel is designated as Single Family Residential and allows for SF6 zoning:

RESIDENTIAL LAND USES			
Land Use Category	Uses and Density	Characteristics and Location	Equivalent Zoning Category
SINGLE FAMILY RESIDENTIAL (SFR)	Primary Uses: Single family detached residences Other Uses: Parks and open space, religious institutions. Density: 2-7 du/acre	Primarily single family detached homes with varied lot sizes Residences should be sited as to provide privacy to the occupants while providing connectivity to adjoining commercial or other uses New development should provide buffering, lot matching, or transition of density when adjacent to existing residential Residences shall be sufficiently buffered from adjacent roadways Municipal services are required.	SF6 SF9 SF12 SF20 PD

Goal LU.1.4 Ensure existing and future land uses are compatible.

Action Strategy LU.1.4.2 Projects shall be evaluated with the intent to promote land use compatibility; community design measures can increase compatibility among adjoining land uses.

Action Strategy LU.1.4.5 Require development plans to address conditions unique to the developing area and minimize impacts to adjacent properties.

Action Strategy LU.1.4.6 Review all projects in relation to their geographic location, impacts to adjacent communities, fiscal impact and mitigation measures to protect natural and cultural resources. Apply specific conditions of approval tailored for each development proposal.

The current land use is specified as Single-Family Residential and will not change. This land use is consistent along Farm District Road where new planned medium-density residential communities, parks, and schools are intermingled with low-density residential development.

To provide a buffer to the surrounding low-density single-family residential developments to the west, north, and south, the Creekwood Commons development maintains a 30+ foot buffer.

The development also provides for a future connection to the eastern City-owned property which will allow a more interconnected developed environment.

Population, Housing, and Employment. Discussion on how the proposed project is compatible with Population, Housing, and Employment goals follows relevant Comprehensive Master Plan goals as follows:

Goal HP.1.1 Enhance Fernley's vitality as a community by providing a variety of housing types, density and costs that accommodate the needs, desires and financial abilities of the current and future households.

Action Strategy HP.1.1.2 Encourage large-scale housing development that incorporates efficient land use techniques and creates a distinct sense of place and neighborhood diversity.

Action Strategy HP.1.1.4 Encourage the efficient use of land and existing infrastructure by focusing on achieving good design in new housing or redeveloped housing on either vacant land, infill parcels and/or under-developed parcels.

The proposed project location offers the ability to achieve good design in new housing on underdeveloped parcels, and further provides a variety of housing types, density and costs that accommodate the needs for current and future households looking to live in Fernley.

Chapter 1, page 35 of the Master Plan states:

"Based on the City of Fernley's current land use patterns, the City will likely be unable to attract new firms and new jobs because of the lack of diversity in its current available housing stock. In short, the City of Fernley could find itself left out of the next 20 years of regional economic growth and development and remain as a bedroom community. Remaining a bedroom community will force the City of Fernley to remain dependent on other jurisdictions outside of Lyon County to provide the jobs and income Fernley residents need. As people often shop and recreate where they work but consume services where they live, most bedroom communities tend to eventually find themselves in a position where they can no longer generate the revenue and resources needed to support growing levels of public services."

Chapter 1, page 41 and 42 state the need to diversify current housing stock:

"The City of Fernley is strategically located to become a significant driver of norther Nevada's significantly improved economy expansion and growth. By becoming such a driver, existing and future residents will have improved access to various employment, shopping, entertainment and recreational opportunities. However, this is only conceivable if the City of Fernley takes the appropriate steps today in order to diversify and better balance its land use.... Based on current projections, the City of Fernley is likely to double its current residential population.... This population will demand a multi-generational diversity in housing stock, price and product type

that currently does not exist, but could as the City pursues a new land use and development pattern as part of its larger economic development and diversification strategy.”

The Master plan reveals housing needs for 2018. Chapter 1, page 37 states:

“Total housing demand for the entire three county northern Nevada region of Carson City, Lyon County, and Washoe County is expected to rise to an estimated 9,209 total new units, including demand for both workforce housing and non-workforce housing, in 2018. Total housing demand for Lyon County is 400 total new residential units (4.3 percent of the region-wide total).”

HP.1.2 Encourage housing that supports sustainable development patterns by promoting the efficient use of land, conservation of natural resources, easy access to services and public facilities such as parks, and resource efficient design and construction.

HP.1.2.1 Foster flexibility in the division of land and the siting of buildings and other improvements to reduce new development’s impact on environmentally sensitive areas.

The Creekwood Commons development project is a large-scale housing development that incorporates efficient land use techniques and creates a distinct sense of place through neighborhood and streetscape design. The project also fosters flexibility in the division of land and the siting of buildings away from environmentally sensitive areas by locating the development away from the TCID canal and outside of the existing KIC easement at the south. On-site stormwater detention facilities also help alleviate the impact that the development has on city infrastructure.

Goal HP.1.6 Provide a spectrum of high quality housing to meet the City’s need.

Action Strategy HP.1.6.3 Consider the cumulative impact of regulations on the ability of housing developers to meet current and future housing demand.

Nearby large employment providers include Amazon, Nevada Cement, Nevada Department of Transportation, Sherwin Williams, TREX, and Tahoe Reno Industrial Center (TRIC).

Creekwood Commons creates new housing opportunities that will serve multiple generations.

HP.1.7 Coordinate population growth with the availability of housing, water, sanitary sewer, streets, and other public facilities and services.

HP.1.8 Coordinate population growth with the availability of water, sanitary sewer, streets and highways and other public facilities and services.

Dedication of water rights and facilities or the purchase of Intent-to-serve commitments is required for residential subdivision parcel maps, and commercial buildings by the City of Fernley.

Conservation. The following goals and objectives are provided for Conservation in the Comprehensive Master Plan. Discussion on how the proposed project is compatible with the Conservation goals follow:

C.1.3 Maintain and improve the quality of Fernley's air, water and land resources and protect neighborhoods from detrimental noise pollution.

C.1.3.1 Cooperate with public agencies concerned with the improvement of air quality and implement plans and/or programs to maintain overall state and federal air quality standards.

C.1.3.7 Maintain coordination of land use planning and capital improvements to insure the most efficient use of the city's sanitary and stormwater run-off facilities.

The TSM will be submitted by the developer for review by the Bureau of Water Pollution Control per NRS 278 and Nevada Administrative Code 278. Improvement plans will be reviewed by both the Bureau of Safe Drinking Water and the Bureau of Water Pollution Control for adherence to all state and federal standards.

Before obtaining Civil Improvement Plan approvals from the City of Fernley, a NDEP Dust Control Permit and SWPPP will be obtained by the operator/contractor.

C.1.4 Ensure future growth and development is sensitive to Fernley's natural and scenic resources.

C.1.4.1 Enhance the value and beauty of Fernley's bicycle and pedestrian routes by locating them along significant viewpoints, scenic sites and scenic corridors.

C.1.4.3 Encourage new public and private development to use water conservation landscaping and fixtures.

The site will preserve existing old growth trees along Farm District Rd and the eastern boundary through appropriate buffers. Although the current use of land will be shifting from agricultural to residential, there will be a net gain in the diversity of trees, vegetation and habitat, which will all be selected and maintained through water conservation methods. All proposed irrigation will utilize water-saving technology including drip irrigation and drought-tolerant vegetation.

The site layout is sensitive to preserving scenic resources and character of Fernley and will incorporate pedestrian-oriented design and trails to link open spaces and encourage active lifestyles.

C.1.5 Regulate development in areas that may be subject to earthquakes, erosion and landslides.

C.1.5.1 Ensure new development proposals near known or mapped faults conduct fault studies to determine the specific orientation, location and relative activity of nearby faults. Locate structures a minimum of 50 feet from any identified Holocene fault.

A Geotechnical study was conducted as part of the proposed project. The report stated that the site is geotechnically suitable to host the proposed improvements.

Transportation. Discussion on how the proposed project is compatible with Transportation goals follow the relevant Comprehensive Master Plan goals listed below:

T.1.1 Require that roadway facilities be maintained and constructed as needed to ensure high quality and safe travel on major streets and at major intersections.

T.1.1.6 Require all new development to be consistent with the access right-of-way dedication and improvement standards as specified in the Public Works Design Manual and pursuant to the functional classification as defined in this chapter.

The proposed right of ways within the Creekwood Commons are 50 feet wide and comply with improvement standards as specified in the Public Works Design Manual.

Farm District Road is also Nevada State Route 828. The existing road is 3-lane with a middle turning lane and a speed limit of 45 MPH. A Right-of-way access permit is required for all points of access onto any street that is part of the State highway system (NDOT Access Management Systems & Standards 2017 Edition, Section 2.2 Access Requests and Access Permits).

With the amount of residential development that is expected to occur along Farm District Road, the City prefers that Farm District Road maintain a consistent roadway section and corresponding capacity.

Public Service and Facilities. Discussion on how the proposed project is compatible with Public Service and Facilities goals follow the relevant Comprehensive Master Plan goals listed below:

PSF.1.4 Reduce water demand through xeriscape project landscaping, reclamation and reuse of treated wastewater for golf courses, medians, parkways and other appropriate application uses.

The use of drought-tolerant plant material and low water efficiency irrigation technology is a feature of this Development. The Development will work with the City of Fernley to determine appropriate demand and dedication of water.

EXISTING CONDITIONS

The property was a small farm with a house and outbuildings. Currently, the property is undeveloped, and the house and buildings have been demolished. Topography gently slopes from south to north with the southern portion of the site sitting approximately between 30 to 35 feet above the northern portion of the site with an average slope of ~2.7 percent. Mature poplar

and cottonwood trees line the banks of a small irrigation canal along Farm District Road. Views are pastoral and rural residential, with desert mountains in the distance. The property is currently accessed from Linley Lane at the western boundary and Barker Lane at the eastern boundary.

SURROUNDING LAND USES

Surrounding Land Use and Zoning

Location	Existing Land Use and Zoning	Roadway
Site	Single-Family Residential and Single-Family - 20 dwelling units per acre	
North	Single-Family Residential and Single-Family – 6 dwelling units per acre (SF6)	Farm District Road
South	Truckee Canal and Rural Residential - 1 dwelling units per acre	None
West	Single-Family Residential and Rural Residential - 5 dwelling units per acre	Linley Lane (private road, within project APN)
East	Open Space and Single-Family - 20 dwelling units per acre	Barker Lane

PROPOSED SITE

The project proposes 153 SF6 lots. There will be ~346,000 sf of open space and ~159,000 cubic feet of stormwater detention facilities. Primary access will be served from Farm District Road, with a secondary access running through the North East corner through the adjacent COF parcel, ultimately aligning with Rainbow Ln. Streetscapes include trees, landscaping, sidewalks, and parking.

The development provides important buffer space around all its edges. A buffer of 84 feet from Farm District Road and 50 feet from the northern property line preserves old-growth cottonwood trees and the road's rural character, while enhancing the streetscape through additional landscaping. On the east side is a buffer of 30 feet, which will also preserve old growth trees and create a scenic corridor. The K1C lateral corridor on the south side is maintained. The site borders larger two acre lots on the west side, so to provide a better transition of lot sizes a landscaped 30-foot buffer with no pedestrian access will be provided. This prevents backyard fences from abutting and will allow for adequate privacy.

A concept plan is provided below.



TRAFFIC OVERVIEW

A Traffic Impact Study prepared by Phelps Engineering Traffic Engineer, Dan Eybs determined that traffic generated by the development will have some impact on the adjacent street network. A near-term ("build-out" year, 2026) and long-term (NDOT design year, 2046) analysis was completed as part of the study.

As shown in the table below, not all the studied intersections would operate acceptably with the added traffic volumes from the project in the near-term. Traffic operations at intersection No. 1 are already near failure during the PM peak-hour without the project and are pushed into unacceptable levels of services with the project.

Table 7: Near-Term (2026) Project Impact on Intersection Operations

	Without Project		With Project	
	AM	PM	AM	PM
1: BR 80-SR 828 at Main St – US-50A	A 9.55 (EB) B 10.90 (WB) C 16.61 (NB) A 7.09 (SB)	D 31.61 (EB) B 11.03 (WB) D 33.55 (NB) D 28.09 (SB)	A 9.85 (EB) B 11.65 (WB) C 19.53 (NB) A 7.36 (SB)	E 39.78 (EB) B 11.48 (WB) E 41.14 (NB) E 38.53 (SB)
2: SR 828 at Shadow Lane	C 17.24 (EB) B 14.91 (WB)	D 29.94 (EB) B 14.96 (WB)	C 18.58 (EB) C 15.83 (WB)	E 35.31 (EB) C 16.07 (WB)
3: SR 828 at East Jenny's Lane	C 15.96 (EB) B 12.70 (WB)	C 24.07 (EB) B 14.73 (WB)	C 17.16 (EB) B 13.34 (WB)	D 27.51 (EB) C 15.87 (WB)
4: SR 828 at Cottonwood Lane	C 17.67 (EB)	C 15.55 (EB)	C 20.16 (EB)	C 17.91 (EB)
5: North Jenny's Lane at SR 828	B 14.38 (NB) B 11.86 (SB)	B 14.10 (NB) B 11.84 (SB)	C 15.66 (NB) B 12.57 (SB)	C 15.78 (NB) B 12.83 (SB)
6: Site Access at SR 828	--	--	B 12.64 (NB)	B 12.46 (NB)
7: Rainbow Ln. at SR 828	B 11.81 (SB)	B 11.35 (SB)	B 13.89 (NB) B 12.03 (SB)	B 13.35 (NB) B 11.69 (SB)

However, traffic volume reductions at the roundabout resulting from the implementation of the Wadsworth Bypass to the west and the extension of Nevada Pacific Parkway to the east would elevate operations at the roundabout to acceptable levels in the long-term, as shown in the table below.

Table 9: Long-Term Project Impact on Intersection Operations

	Without Project		With Project	
	AM	PM	AM	PM
1: BR 80-SR 828 at Main St – US-50A	A 8.47 (EB) A 9.53 (WB) B 13.40 (NB) A 6.54 (SB)	C 20.75 (EB) A 9.61 (WB) C 22.65 (NB) C 19.02 (SB)	A 8.55 (EB) A 9.80 (WB) B 14.21 (NB) A 6.60 (SB)	C 22.22 (EB) A 9.78 (WB) C 24.16 (NB) C 20.89 (SB)
2: SR 828 at Shadow Lane	D 28.23 (EB) C 21.17 (WB)	F 94.20 (EB) C 22.10 (WB)	D 29.71 (EB) C 21.99 (WB)	F 106.59 (EB) C 23.10 (WB)
3: SR 828 at East Jenny's Lane	C 24.08 (EB) C 16.07 (WB)	E 49.67 (EB) C 21.43 (WB)	D 25.24 (EB) C 16.55 (WB)	F 54.13 (EB) C 22.44 (WB)
4: SR 828 at Cottonwood Lane	E 47.34 (EB)	D 28.76 (EB)	F 60.14 (EB)	D 34.76 (EB)
5: North Jenny's Lane at SR 828	C 19.41 (NB) B 13.77 (SB)	C 18.14 (NB) B 13.95 (SB)	C 20.82 (NB) B 14.35 (SB)	C 19.57 (NB) B 14.72 (SB)
6: Site Access at SR 828	--	--	B 13.49 (NB)	B 13.14 (NB)
7: Rainbow Ln. at SR 828	B 13.63 (SB)	B 12.93 (SB)	C 16.86 (NB) C 15.17 (SB)	C 15.65 (NB) B 14.86 (SB)

Furthermore, the addition of "roadway capacity and safety" improvements on SR 828 and Cottonwood Ln., as called for in the City of Fernley Transportation Master Plan, are necessary

Creekwood Zone Map Ammendment and Tentative Subdivision Map

to elevate operations to acceptable levels in the long-term at intersections numbers 2,3 and 4. The study recommendations include: 1) construct site frontage improvements on SR828 to NDOT standards with dedicated right-turn and left-turn lanes, and 2) construct ADA accessible connections to regional trail systems.

GEOTECHNICAL OVERVIEW

Black Eagle Consulting performed exploration at the Creekwood property on February 9 – 11, 2022. It was determined that the silty and poorly graded sands (native soils) will provide adequate support for the proposed improvements.

DRAINAGE OVERVIEW

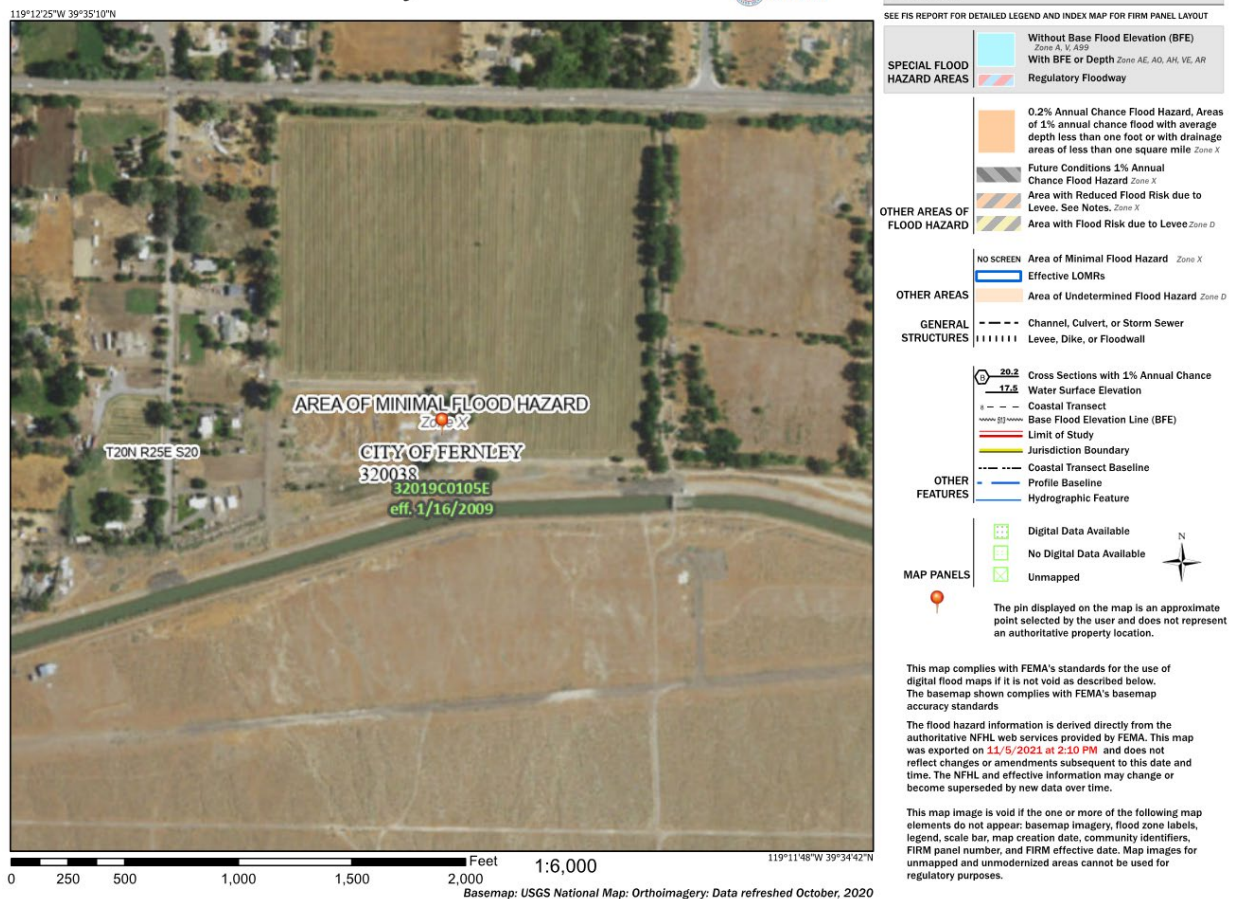
Topography gently slopes from south to north with the southern portion of the site sitting approximately between 30 to 35 feet above the northern portion of the site with an average slope of ~2.7 percent.

The property is currently shown as lying within zone X of the 100-year floodplain according to FEMA FIRM panel 32019-C0105E, Effective October 2020 32001C1732F, 32001C1734F, effective 1/16/2009. See FEMA FIRM panel provided below.

UTILITIES

ELECTRICITY: NV Energy

National Flood Hazard Layer FIRMette



TELEPHONE / CABLE: Multiple providers including AT&T and Charter
INTERNET: AT&T, Charter, and CC Communications

PUBLIC SCHOOLS:

Cottonwood Elementary School	1.5 miles
East Valley Elementary School	3.5 miles
Silverland Middle School	0.4 miles
Fernley High School	4.0 miles

PARKS: Autumn Winds Park is located approximately 1.7 miles east; Ponderosa Park is 0.6 miles to the west from the proposed Creekwood development.

POLICE:

Lyon County Sheriff's Office	3.2 miles
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Creekwood Zone Map Ammendment and Tentative Subdivision Map

FIRE PROTECTION:

North Lyon County Fire Department Station 62 1.9 miles

The NLCFPD has adopted the State amended code standards requiring internal fire suppression devices for all new development that is further than 500 feet from a fire hydrant.

FINDINGS FOR APPROVAL

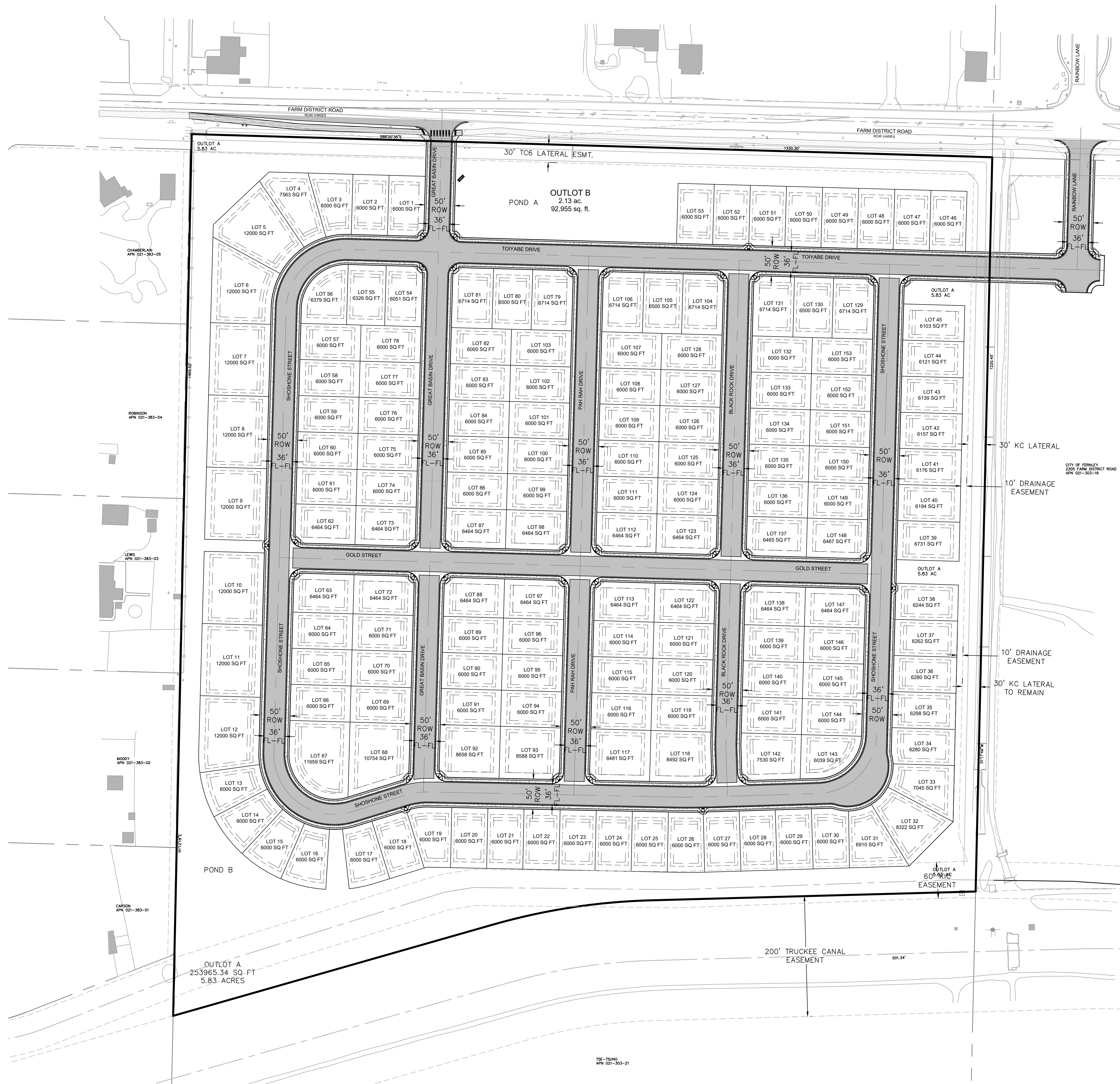
The Creekwood Commons development project is compliant with the City of Fernley Comprehensive Master Plan dated August 2018. It provides efficient use of land development that will support additional residences looking to move to or stay in Fernley, and provides buffer areas to surrounding rural parcels, thereby fostering the unique character of Fernley.

Development of Creekwood Commons does not impair any natural resources, but instead provides natural resource enhancement to the neighborhood by adding trees, landscaping, a trail, and an open space drainage system. The use of drought tolerant plant material and low water efficiency irrigation technology is a primary feature of this development.

Creekwood Commons promotes land use compatibility and is desirable because it is an infill project which allows for smart growth of public facilities and municipal services. The Development will create and construct new streets, sidewalks, lighting, signage, drainage, sewer, and water infrastructure improvements.

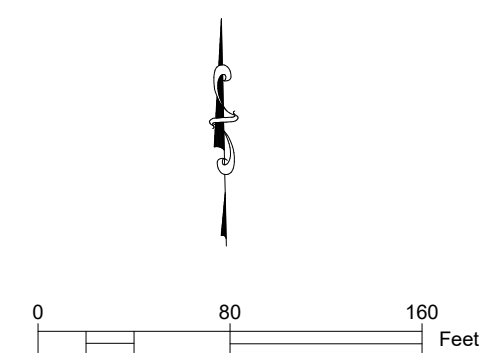
The open space provides recreation amenities for residents, and the trail surrounding the development will provide connectivity to existing and future pedestrian and bicycle City trails.

The development is consistent with the City of Fernley Public Works Design Manual. All local internal streets will be privately maintained by a legal association. A Traffic Study is provided with this document.



LEGEND:

- | | |
|--|-----------------------------|
| | EXISTING CONTOURS |
| | PROPOSED CONTOURS |
| | LOT LINE |
| | SETBACK LINE |
| | RIGHT-OF-WAY |
| | EXISTING RIGHT-OF-WAY |
| | PROPERTY LINE |
| | EXISTING BOUNDARY LINE |
| | EXISTING SECTION LINE |
| | TRACT |
| | EASEMENT LINE |
| | EXISTING EASEMENT LINE |
| | ALIGNMENT CENTER LINE |
| | EXISTING ROAD CENTER LINE |
| | EDGE OF PAVEMENT |
| | PROPOSED CURB & GUTTER |
| | STORM SEWER W/INLET AND FES |
| | DRAINAGE FLOWLINE |
| | 100-YR FLOOD PLAIN |
| | EXISTING 100-YR FLOOD PLAIN |
| | PROPOSED STREET LIGHT |

TABULAR DATA

RIGHT OF WAY.....	8.51 ACRES
OUTLOTS (COMMON AREAS).....	7.95 ACRES
RESIDENTIAL LOTS	
SINGLE FAMILY.....	23.21 ACRES

SITE TOTAL.....	39.67 ACRES

Creekwood Commons

...a proposed single-family residential development serving Fernley, Nevada.

Traffic Impact Study

**Prepared by Phelps
Engineering Services Inc.**

10651 Professional Circle, Suite A
Reno, Nevada 89521
Tel: 303-298-1644

June 13, 2023





21203
Creekwood Commons Residential
Development Fernley, NV

Traffic Impact Report
June 13, 2023



6/2/23

PLANNERS

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Englewood, Colorado 80113
(303) 298-1644 (o)

ENGINEERS

ANALYSTS

10651 Professional Circle, Suite A
Reno, NV 89521

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1.0 Introduction

Creekwood Group, LLC proposes development of the Creekwood Commons Residential Development project on the south side of State Route 828 (Farm District Road) between Brown Lane to the west and Jessica Lane to the east in the City of Fernley, Nevada.

The project consists of a total of 209 housing units including 77 detached single-family units and 132 townhome units. The units are arranged to accommodate open space which includes a central park and on-site pathways. Such an open space arrangement would encourage multi-modal (pedestrian, equestrian, bicycle, transit, vehicle, etc.) trip making, promote healthy lifestyles, preserve the environment, and address the nation's chronic housing shortage. While a combination of single-family detached and single-family attached (townhome) housing would typically have lower trip generating characteristics than an exclusive single-family detached housing land use, the Single-Family Detached Land Use (ITE Land Use Code 210) was used for purposes of projecting the Trip Generation. Therefore, the analysis is conservative. Additionally, the inclusion of pedestrian pathways would not only reduce vehicle trip making, but it would also promote healthy lifestyles.

1.1 Purpose and Scope of this Report

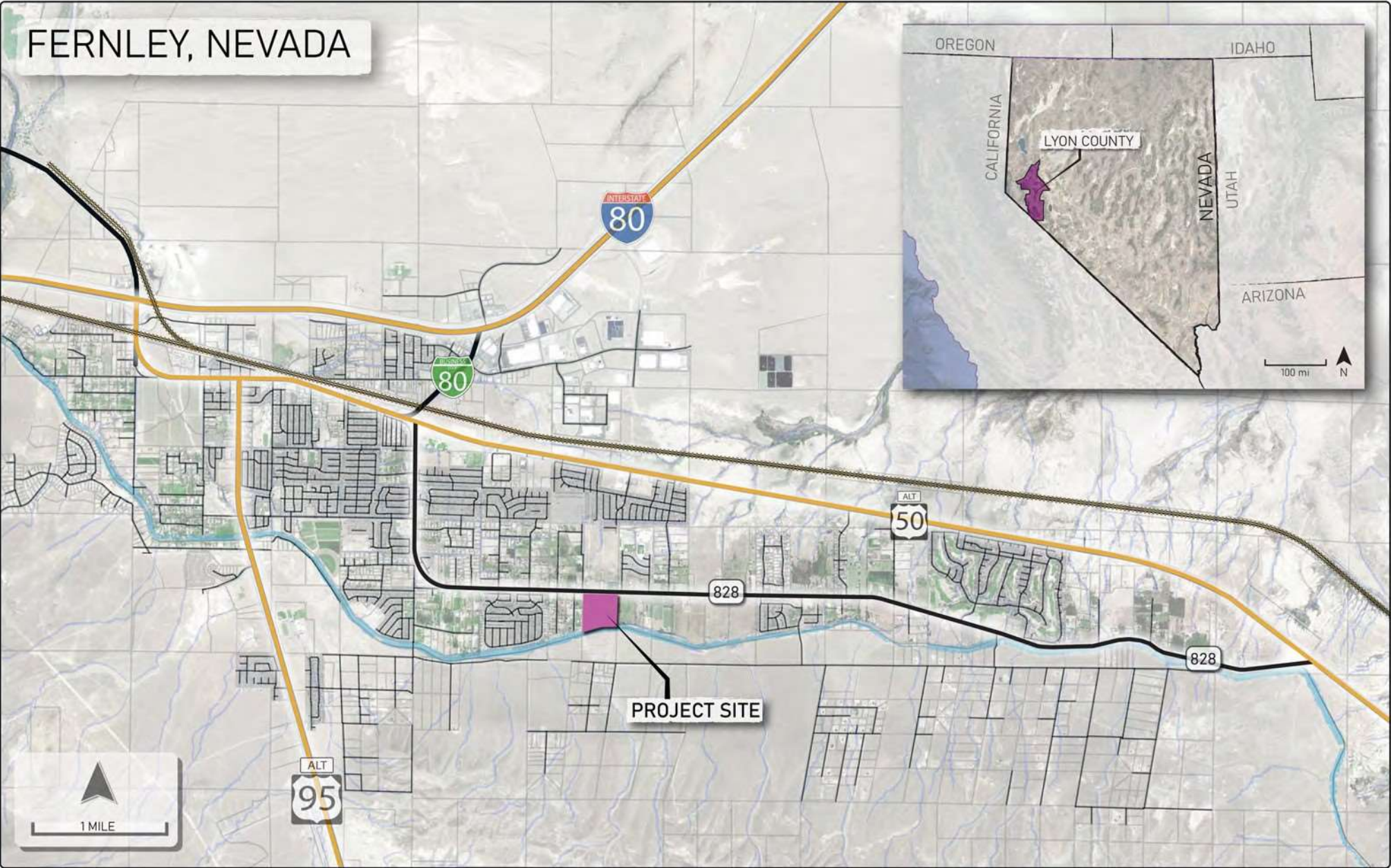
The purpose of this *Traffic Impact Report* is to communicate to the City of Fernley and the Nevada Department of Transportation (NDOT) the near-term and long-term impacts of the project on the six study intersections based on a comparison of the with and without-project operational analysis results. The analysis was conducted using Synchro Version 11 based on *Highway Capacity Manual Sixth Edition (2016)* methodologies. These are the latest software and manual editions available at the time of this study.

The scope of this report includes a discussion of the regional setting, the site plan and land use composition, the existing site and zoning amendment, the traffic study parameters including analysis intersections and study scenarios, the methodology existing setting, the projected trip generation, the near-term impact analysis, the long-term impact analysis, conclusions, and recommendations, and a preliminary Vehicle Miles Traveled (VMT) analysis. Brochures providing photographic representation of some of the key elements of the study are included in Appendix A. The numeric analysis including the progressive traffic volumes at the study intersections; trip generation, distribution, and assignment calculations; and crash, turn lane, and signal warrant analyses are included in Appendix B. The Level of Service (LOS) worksheets are included in Appendix C.

1.2 Regional Setting

Figure 1: Regional and Vicinity Maps identify the project's location within the State of Nevada and the City of Fernley. The project is located approximately 35 miles northeast

FIGURE 1: REGIONAL AND VICINITY MAPS



of Reno within the geographic boundaries of Lyon County. The nearest freeway interchange is Business Route 80 at Interstate 80. Business Route 80 transitions to State Route 828 south of the Roundabout with East Main Street and US Highway 50 (Lincoln Highway).

1.3 Site Plan and Land Use Composition

Figure 2: Site Plan shows the layout of the proposed development including the relative locations of the residential and open space elements. Site access is proposed via two accesses on to State Route 828 to the north and one access to a future extension of Rainbow Lane to the east.

The site encompasses 42.87 acres. The land use breakdown of the 42-acre site is 11.25 acres (26%) of single-family detached housing, 4.96 acres (12%) of single-family attached housing, 7.15 acres (16%) of public right-of-way, 1.65 acres (4%) of alley way, 17.05 acres (40%) of open space and common areas, and 0.84 acres (2%) of parking lots.

An on-site trail network would connect to a proposed trail along Farm District Road to the north and a proposed trail along the Truckee Carson Irrigation District (TCID) Canal to the south. The inclusion of the on-site trail network and its associated connections with the off-site networks would encourage multi-modal activity (walking, bicycling, etc.), thereby promoting healthy lifestyles. On-site roadways would include four-foot-wide sidewalks on both sides of the on-site streets as an additional measure to encourage multi-modal activity and healthy lifestyles, thereby capitalizing on the “complete streets” concept.

The State Route 828 (Farm District Road) streetscape to the north would include a divided roadway with a landscaped median and a landscape greenbelt along the project site frontage to enhance the aesthetic appeal of the roadway while reducing noise. The proposed Creekwood Commons project is designed for a “seamless integration” into the surrounding environment while serving as an “extension to this proposed streetscape”.

1.4 Existing Site and Proposed Zoning Amendment

The existing site within the East Development Area of the City of Fernley is agricultural land on APN 21-303-20. State Route 828 (Farm District Road) borders to the north. The Truckee Carson Irrigation District (TCID) Canal borders the south. Jessica Lane borders to the east. Brown Lane borders to the west.

The *City of Fernley Comprehensive Land Use Map* dated August 2018 identifies the proposed land use designation as Single-Family Residential (SFR) and the current zoning as SF20 (on residential dwelling unit per 20,000 square feet or approximately 0.46 acres, thereby correlating to a maximum density of approximately 2.2 residential dwelling units per acre). This density is insufficient to accommodate the proposed land use configuration, specifically the number of single-family dwelling units. Therefore,

FIGURE 2: SITE PLAN



associated with the development proposal is an amendment to the zoning from SF20 to allow up to 4.88 dwelling units per acre to accommodate the proposed 209 dwelling units.

The land use designation is Single-Family Residential (SFR). This SFR designation is independent of the land use allocation. Although the actual density of 209 dwelling units over just the 31-acre residential and right-of-way portion correlates to a density of 5.8 dwelling units per acre, the overall density including both the residential/right-of-way and open space components (totaling 42 acres) is 4.88 dwelling units per acre. The total site area of 42 acres is used for purposes of zoning. While the introduction of higher-density residential development within a lower-density area can occasionally generate some opposition to residents fearful of change, such an amendment to the zoning to allow for an increase in the density of residential units is essential for addressing the nationwide housing crisis. Specifically, the *Housing Needs Assessment – Churchill County, Nevada* dated September 11, 2021, underscores the severe housing shortage in nearby Churchill County escalated by a lack of new residential construction over the past decade, thereby underscoring the need to aggressively remove the barriers to residential construction. While attached townhome units have a higher relative density than standard residential units, the inclusion of open space increases the political appeal of the neighborhood to surrounding residents. Specifically, such residents perceive the open space as actually reducing the density while preserving more of the environment.

1.5 Scope of the Traffic Impact Study

The proposed scope entails assessing the multi-modal (vehicle, bicycle, pedestrian, equestrian, transit, etc.) transportation impacts of the proposed development on the analysis intersections identified in Table 1 during the study scenarios identified in Table 2 for both the AM (7:00 to 9:00) and PM (4:00 to 6:00) peak hours. The peak hours are defined as the busiest four-consecutive 15-minute intervals during these respective timeframes based on actual turning movement counts conducted in the field.

Table 1: Analysis Intersections

No	North-South Roadway	East-West Roadway
1	BR 80-SR 828	East Main Street/US-50A
2	SR 828	Shadow Lane
3	SR 828	East Jenny's Lane
4	SR 828	Cottonwood Lane
5	North Jenny's Lane	SR 828
6	Site Access	SR 828

Intersection No. 1 (East Main Street/US-50A) is a single-lane yield-controlled roundabout just south of the Union Pacific Railroad (UPRR) Tracks. Yield on Entry and dedicated Right Turn Yield on Entry lanes exist on all approaches. Continental Crosswalks cross the splitter islands on all four approaches. This roundabout is slated for upgrades in the *Draft City of Fernley Transportation Master Plan* that was presented to the Fernley City Council in June 2020. During the Wednesday, November 17, 2021, field investigation,

considerable congestion at the roundabout itself and queuing more than a quarter mile on the southbound and eastbound approaches was noted during the PM peak hour. The future extension of Nevada Pacific Parkway from its current terminus north of the railroad tracks south to US-50A is projected to provide congestion relief at the roundabout by reducing traffic volumes in the vicinity of the roundabout by approximately 30 percent.

The remaining intersections are un-signalized stop controlled.

Intersection No. 2 (Shadow Lane) contains dedicated northbound and southbound left turn lanes and Continental Crosswalks across the north and south legs.

Intersection No. 3 (East Jenny's Lane) contains dedicated northbound and southbound left turn lanes and Continental Crosswalks across the north and south legs.

Intersection No. 4 (Cottonwood Lane) contains a dedicated northbound left turn lane, a dedicated southbound right turn lane, a Continental Crosswalk across the south leg, and a Continental Crosswalk across the west leg at the eastern entrance to Cottonwood Elementary School.

Intersection No. 5 (North Jenny's Lane) contains dedicated southbound left and eastbound left turn lanes and Continental Crosswalks across the north and east legs.

The Level of Service (LOS) analysis explores improvement options for those intersections that fall at or below the Nevada Department of Transportation (NDOT) LOS Standard of D or better.

Table 2: Study Scenarios

No	Description
A	Near-Term
B	Near-Term Plus Project
C	Long-Term
D	Long-Term Plus Project

Appendix A shows the photo brochures including existing conditions, a sample access management strategy, and selected roundabouts.

Appendix B shows the numeric analysis consisting of the generation, distribution, and assignment of development trips; and the calculation of the intersection volumes for each of the four scenarios identified above along with a crash analysis, turn lane warrant analysis, and signal warrant analysis.

Appendix C shows the worksheets from the Synchro analysis that was conducted at each of the six intersections under the four scenarios identified above during the AM and PM peak hours.

2.0 Methodology

The scope entailed conducting capacity evaluations at six study intersections using Level of Service (LOS) based on *Highway Capacity Manual 6th Edition* methodologies. Level of Service is a qualitative measure describing operating conditions at intersections and their perception by intersection users.

Table 3 defines the intersection capacity evaluation criteria at un-signalized intersections by LOS designation as a function of delay along with a narrative description of each designation.

Table 3: Capacity at Un-Signalized Intersections

Designation	Delay (Seconds per Vehicle)	Description
A	0-10	Long, frequent gaps
B	10-15	Shorter, less frequent gaps, no more than 1 vehicle in queue
C	15-25	Less frequent gaps, 2 vehicles in queue
D	25-35	Less frequent gaps, 3 vehicles in queue
E	35-50	Less frequent gaps, 3 or more vehicles in queue
F	50+	Excessive delays waiting for suitable gaps, longer queues

Source: Transportation Research Board, *Highway Capacity Manual 6th Edition*

Table 4 defines the intersection capacity evaluation criteria at signalized intersections by LOS designation as a function of delay along with a narrative description of each designation.

Table 4: Capacity at Signalized Intersections

Designation	Delay (Seconds per Vehicle)	Description
A	0-10	Some slowing on green, but most vehicles do not stop
B	10-20	Some vehicles stop, but most do not
C	20-35	More vehicles stop, but many still pass through without stopping
D	35-55	Most vehicles stop
E	55-80	Almost all vehicles stop, but can clear the intersection within one cycle
F	80+	All vehicles stop, and some may not be able to clear the intersection within one cycle

Source: Transportation Research Board, *Highway Capacity Manual 6th Edition*

According to the City of Fernley and the Nevada Department of Transportation, the Level of Service Standard is “D” or better. When operational analyses were conducted showing results falling below this standard, measures were recommended to elevate operations to acceptable levels.

3.0 Existing Setting

The existing transportation system and topographical conditions were evaluated by studying satellite imagery and conducting a field investigation of the site and the study area on Tuesday, October 19, 2021. This was followed by a low-level field investigation conducted on Wednesday, November 17, 2021.

Figure 3: Existing Setting defines the existing roadways, lane configurations, and intersection geometrics.

Table 5 describes the key roadways within the existing setting.

Table 3: Existing Setting: Key Roadways

Roadway	Divided or Un-Divided	Lanes	Posted Speed	Functional Classification
Alt US-50 East of Business Route 80 (BR 80)	Divided	4	65	Principal Arterial
Business Route 80 (BR 80)	Divided	2	55	Minor Arterial
Main St (SR 427, Alt US-50) West of BR 80 and SR 828	Divided	4	55	Minor Arterial
State Route 828 (West of North Jenny's Lane)	Divided	2	35	Minor Arterial
State Route 828 (East of North Jenny's Lane)	Un-Divided	3	55	Minor Arterial
Shadow Lane	Un-Divided	2	25	Minor Collector
East Jenny's Lane	Un-Divided	2	25	Minor Collector
Cottonwood Lane	Un-Divided	2	25	Minor Collector
North Jenny's Lane	Un-Divided	2	25	Minor Collector
South Jenny's Lane	Divided	2	25	Minor Collector

Source: City of Fernley Comprehensive Master Plan (August 2018)

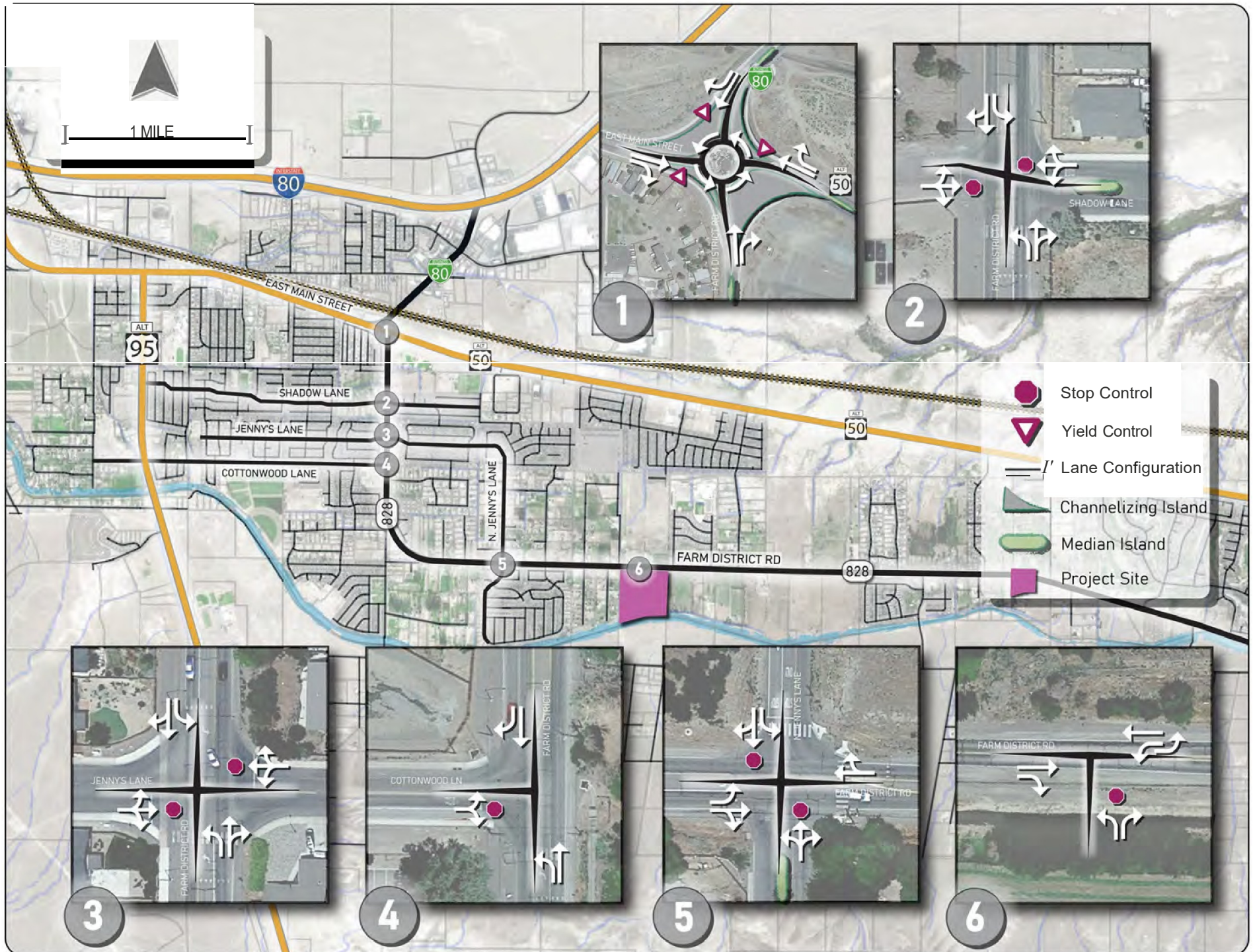
Source: Nevada DOT Roadway Functional Classification, Fernley, Lyon County, Nevada (2017)

State Route 828 west of Farm District Road includes streetlighting and Class I (Trail) Bicycle Facilities on the west side of the street.

State Route 828/Farm District Road includes a wide gravel shoulder on the south side of the street along the site frontage to accommodate future widening which would include a greenbelt to accommodate a network of meandering asphalt trails. A paved pathway currently exists out to Rainbow Lane.

Cottonwood Lane includes Class II (Lane) Bicycle Facilities on both the north and south sides of the street.

FIGURE 3: EXISTING SETTING



4.0 Near-Term Impact Analysis

The Near-Term Impact Analysis was conducted to assess the impact of the project relative to existing conditions by adding the project volumes to the existing volumes (volumes without project) for each of the 6 intersections, calculating the Level of Service (LOS) for with and without-project conditions based on the methodology described in Section 2, and conducting a side-by-side comparison of intersection operations. Calculating the project volumes entailed determining the number of vehicle trips generated by the project (trip generation), evaluating how the trips would disperse throughout the study area (trip distribution), and assigning the trips to individual turning movements at each of the six study intersections (trip assignment).

4.1 Volumes without Project

Figure 4: Near-Term Volumes shows the AM (7:00 to 9:00) and PM (4:00 to 6:00) peak hour traffic volumes based on the busiest four consecutive fifteen-minute intervals during these timeframes. These volumes were obtained on Tuesday, January 4, 2022, from National Data and Surveying, and are shown in tabular form in Appendix B.

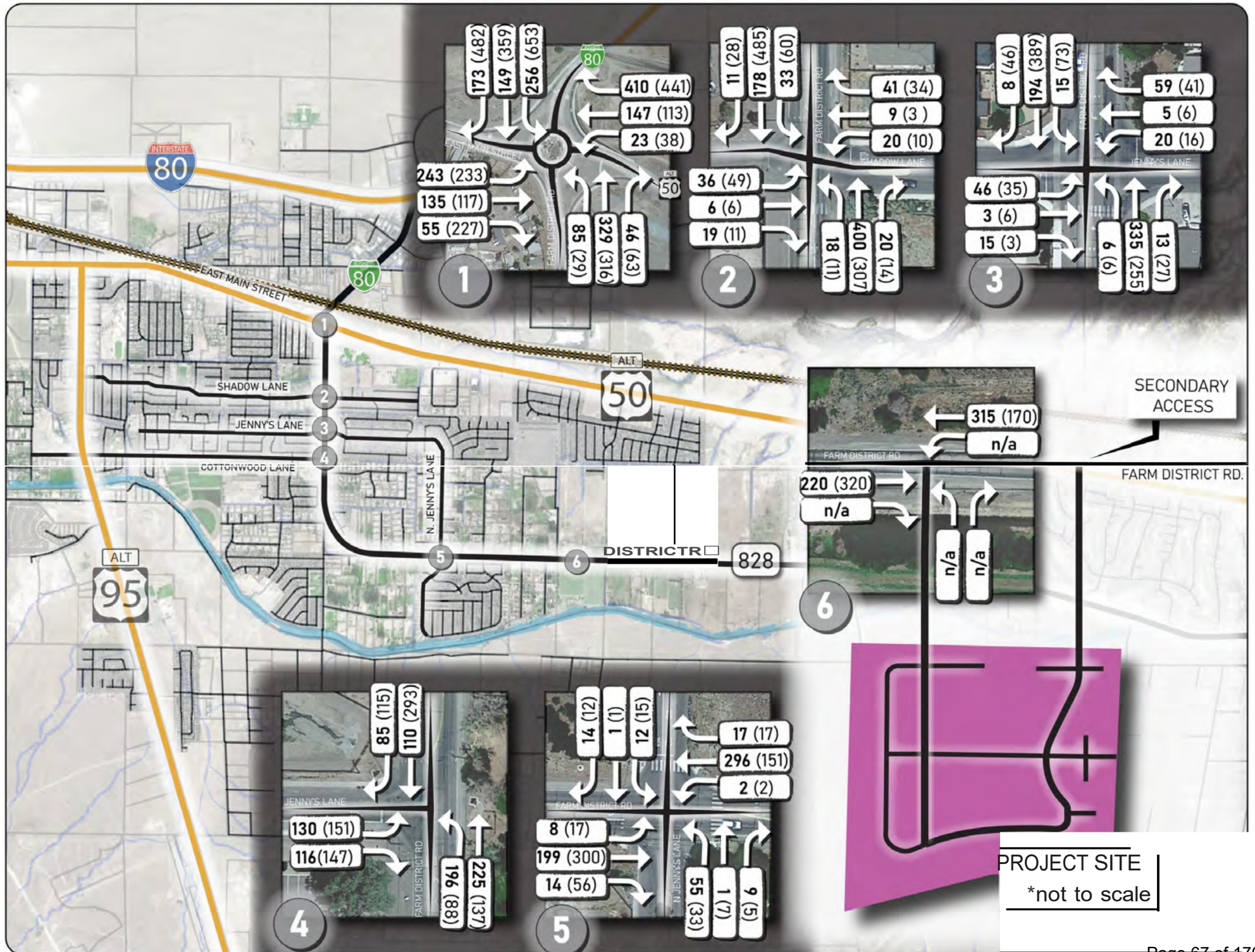
The Nevada Department of Transportation (NDOT) made crash data available for Intersections 1 (Main St-US-50A), 2 (Shadow Lane), 3 (East Jenny's Lane), 4 (Cottonwood Lane), and 5 (North Jenny's Lane) along State Route 828 for Calendar Years 2017, 2018, and 2019. Severity, Type, and Cause Analyses were conducted, and rates were calculated based on Million Entering Vehicles per year (MEV). Injury crashes were reported at Intersections 1, 2, and 5 with the crashes at the remaining intersections being limited to Property Damage Only (PDO). Predominant crash types were Rear-End at Intersection No. 1, and Angle at the remaining intersections. Predominant causes were Following Too Closely at Intersection No. 1 and Failure to Yield the Right of Way at the remaining intersections. Rates ranged from 0.303 per MEV at Intersection No. 3 to 0.535 per MEV at Intersection No. 1. While rates less than 1 indicate satisfactory operations, the City of Fernley and NDOT may want to explore grant funding options for redesigning and reconstructing the roundabout to modern FHWA standards per the brochures in Appendix A to reduce the number of rear-end crashes. For more details on the crash analysis, see Appendix B.

4.2 Trip Generation

A vehicle trip is defined as a trip whose primary purpose is to visit the site. Such trips include resident, guest, service, and delivery, among other types.

Trip generation was calculated based on rates published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition (2021)*. Specifically, the number of trips was projected by multiplying the rates by an individual independent variable quantity. For example, calculating the total weekday trips for the Single-Family Detached Housing Land Use (ITE Land Use Code 210) based on 209 Dwelling Units entails multiplying the independent variable quantity of 209 Dwelling Units by the rate of 9.43 Trips per Dwelling

Figure 4: Near-Term Traffic Volumes



Unit to yield 1,971 Weekday Trips.

Table 6 shows the results of the trip generation analysis based on the Single-Family Detached Housing Land Use. Rates and trips are shown in more detail in **Appendix B**.

Table 6: Trip Generation

Description	Weekday	AM Peak Hour			PM Peak Hour		
	Total	Enter	Exit	Total	Enter	Exit	Total
Single-Family Detached Housing (210) based on 209 Dwelling Units							
Rates	9.43	0.18	0.52	0.70	0.59	0.35	0.94
Trips	1971	38	109	146	123	73	196

Source: Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition (2021)

According to Table 6, the project would generate 1,971 vehicle trips during an average weekday, 146 vehicle trips during the AM peak hour, and 196 vehicle trips during the PM peak hour.

4.3 Trip Distribution

Two trip distribution analyses were conducted to evaluate how the trips would disperse throughout the study area between the project and the five gates (points of entry to or exit from the study network). The first was a near-term analysis based on the near-term roadway network as discussed in this section. The second was a long-term analysis, discussed in the next section, based on 5-year, 10-year, and 20-year improvements/additions to the transportation network as indicated in the *Draft Transportation Master Plan* presented to the Fernley City Council on June 3, 2020.

The near-term trip distribution percentages were determined based on the following assumptions:

1. The trips would be characteristic of residential trips in general, namely strong familiarity with the local transportation network and attracted to local services. Such services would include, but are not limited to, shopping centers, grocery stores, schools, employment, parks, and recreation.
2. Primary retail opportunities are located to the north within downtown, along Main Street, and near the interchanges with I-80 with the most preferred routes branching off Farm District Road to the west of the project.
3. Primary educational opportunities are located near SR 828 at Cottonwood to the northwest, US-95A to the southwest, and the junction of Business Route 50 and Farm District Road to the east.
4. Primary employment opportunities are located within downtown, in the hospitality and industrial developments along Main Street and the I-80 corridor through town, and along I-80 to the west including the Greater Reno/Sparks population center.

5. Primary recreation opportunities include the parks to the north and the Pyramid Lake Recreation Area to the northwest.

Appendix B provides further elaboration on the trip distribution analysis including the gate (points of entry to or from the study network) percentages for each of the three distinct analyses.

4.4 Trip Assignment

Trip assignment is calculated by multiplying the trip generation values from Table 6 by the trip distribution percentages described above. The resulting trip assignment values are proportioned among each of the gates and assigned to individual turning movements at each of the study intersections.

Figure 5: Near-Term Trip Distribution shows the near-term trip distribution percentages for each of the gates (points of entry to or exit from the study network).

Figure 6: Near-Term Trip Assignment shows the trip assignment values for individual turning movements at each of the analysis intersections.

These percentages and values are shown in tabular form in **Appendix B**.

4.5 Volumes with Project

Figure 7: Near-Term Plus Project Volumes shows the with-project traffic volumes at each of the study intersections by adding the Figure 6 trip assignment volumes to the Figure 4 existing traffic volumes.

The need for turn lanes was evaluated at the two site access intersections at SR 828 to the north under near-term conditions. These two site accesses would be located approximately 600 feet apart to balance the needs for complying with NDOT Access Management requirements and providing redundancy within the on-site transportation network. The need for left-turn (Table 4-12) and right-turn (Table 4-16) lanes was evaluated based on the respective tables in the NDOT Access Management System and Standards dated 2017. According to analysis, left turn and right turn lanes are warranted at both accesses under near-term conditions, and are therefore recommended. For more information on the turn lane warrant analysis, see Appendix B.

The need for signalization was evaluated at the two site access intersections at SR 828 to the north under near-term conditions based on the Peak Hour Warrant in the Manual on Uniform Traffic Control Devices (MUTCD) Figure 4C-4. According to the analysis, signals are not warranted at either intersection; Therefore, signalization is not projected to be needed under near-term conditions. For more information on the signal warrant analysis, see Appendix B.

FIGURE 5: NEAR-TERM TRIP DISTRIBUTION

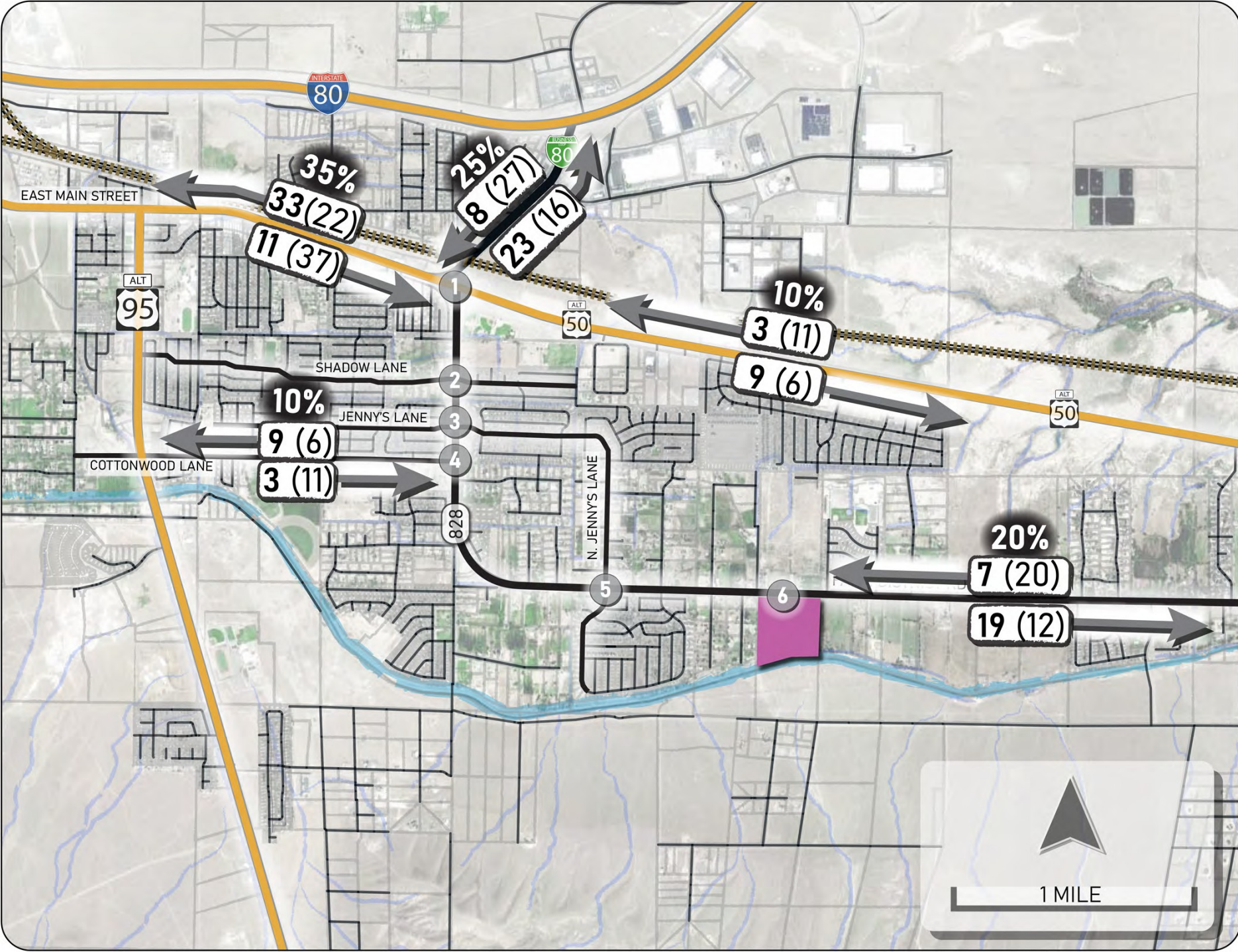


FIGURE 6: NEAR-TERM TRIP ASSIGNMENT

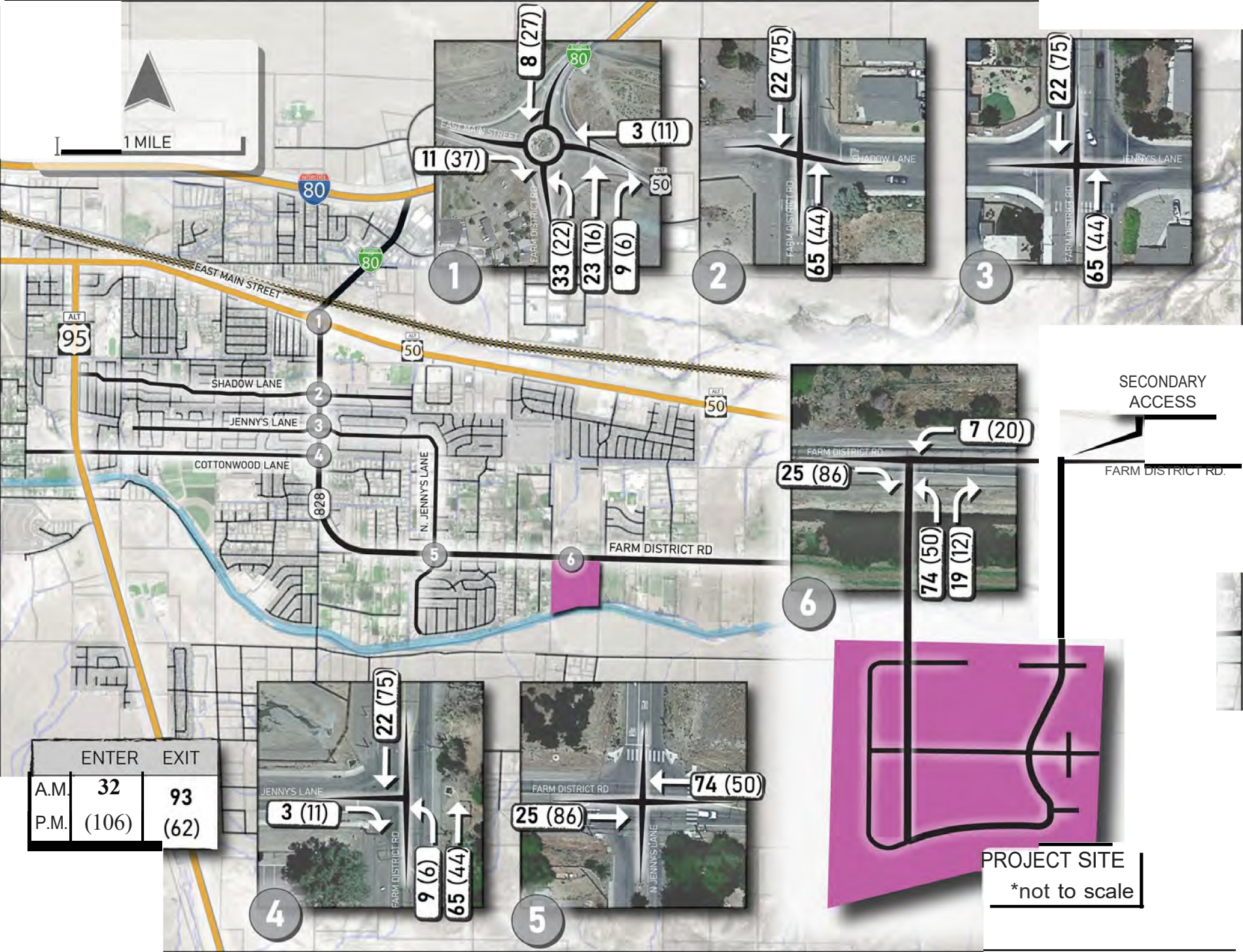
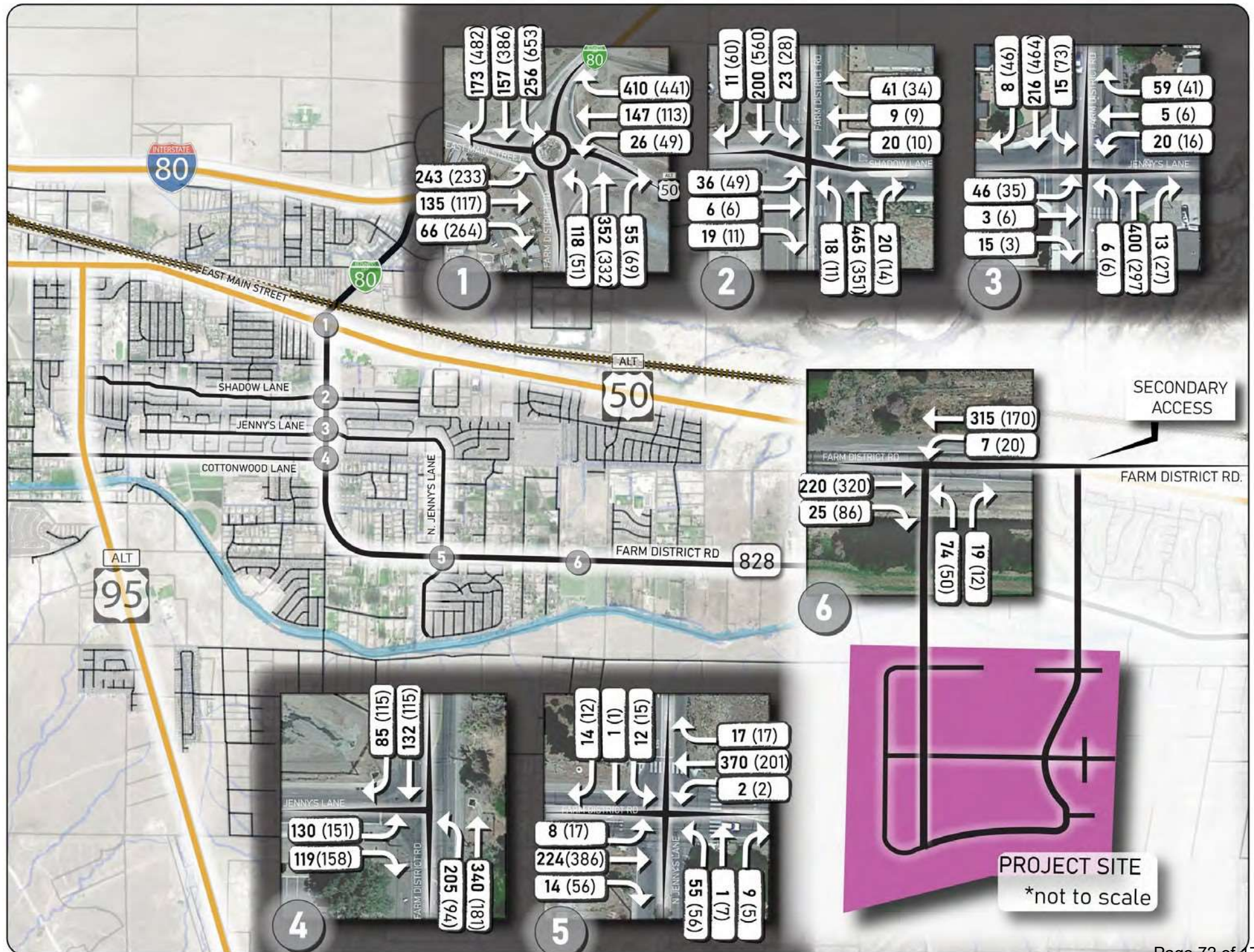


Figure 7: Near-Term Plus Project Traffic Volumes



4.6 Impact on Existing Intersection Operations

Appendices C-1 (AM) and **C-2 (PM)** contain the calculation reports for near-term intersection operations without the project. **Appendices C-3 (AM)** and **C-4 (PM)** contain the calculation reports for near-term intersection operations with the project. These calculations are based on the *Highway Capacity Manual* methodology described in Section 2.

Peak Hour Factors are based on the actual intersection counts.

Table 7 shows the near-term impact of the project on the study intersections.

Table 7: Near-Term Project Impact on Intersection Operations

	Without Project		With Project	
	AM	PM	AM	PM
1: BR 80-SR 828 at Main St – US-50A	A 8.7 (EB)	C 24.4 (EB)	A 8.7 (EB)	D 25.9 (EB)
	A 2.5 (WB)	A 1.9 (WB)	A 2.8 (WB)	A 2.1 (WB)
	C 15.0 (NB)	D 28.4 (NB)	C 18.3 (NB)	E 36.7 (NB)
	A 5.5 (SB)	C 22.2 (SB)	A 6.0 (SB)	D 30.3 (SB)
2: SR 828 at Shadow Lane	C 19.7 (EB)	D 28.5 (EB)	C 23.2 (EB)	D 33.0 (EB)
	C 16.5 (WB)	B 14.6 (WB)	C 18.7 (WB)	C 17.0 (WB)
3: SR 828 at East Jenny's Lane	C 19.3 (EB)	C 23.5 (EB)	C 22.8 (EB)	D 28.8 (EB)
	B 14.2 (WB)	B 14.6 (WB)	C 15.9 (WB)	C 16.4 (WB)
4: SR 828 at Cottonwood Lane	D 34.4 (EB)	C 24.7 (EB)	F 52.6 (EB)	C 17.7 (EB)
5: North Jenny's Lane at SR 828	C 18.3 (NB)	B 14.1 (NB)	C 22.4 (NB)	C 17.9 (NB)
	B 13.4 (SB)	B 11.9 (SB)	C 15.1 (SB)	B 13.4 (SB)
6: Site Access at SR 828	--	--	B 12.4 (NB)	B 12.0 (NB)

Source: Trafficware, *Synchro 11*

Source: Transportation Research Board, *Highway Capacity Manual, 6th Edition*

According to Table 7, all intersections would operate acceptably under both without and with project conditions except the northbound approach to Intersection No. 1 during the PM peak hour and the eastbound approach at Intersection No. 4 during the AM peak hour. Traffic volume reductions at the roundabout from the implementation of the Wadsworth Bypass to the west and the southward extension of Nevada Pacific Parkway to US-50A to the south would elevate operations to an acceptable level for this approach. The addition of a dedicated eastbound right turn lane at Intersection No. 4 and associated roadway improvements as called for in the City of Fernley Transportation Master Plan would elevate operations to acceptable levels.

5.0 Long-Term Impact Analysis

The Long-Term Impact Analysis was conducted to assess the project's impact on the 6 study intersections during calendar year 2041 using the same methodology as described in Section 4 for the Near-Term Impact Analysis, except that a compounded annual growth rate was applied to the near-term without-project traffic volumes to obtain the long-term without project volumes.

5.1 Volumes without Project Volumes

Figure 8: Long-Term Volumes shows the future without project traffic volumes obtained by applying a compounded annual growth rate of 1.2 percent to the near-term without project volumes from the Nevada DOT Annual Traffic Report for Count Station 019033 on State Route 828 for Intersections 3 to 6. A 30 percent reduction was applied to Intersections 1 and 2 to account for the addition of the Wadsworth Bypass to the southwest and the extension of the Nevada Pacific Parkway southward to US-50A.

5.2 Trip Generation

For analysis purposes, the same trip generation values calculated in Section 4 were applied to the future impact analysis to assess the impact of the project during calendar year 2041.

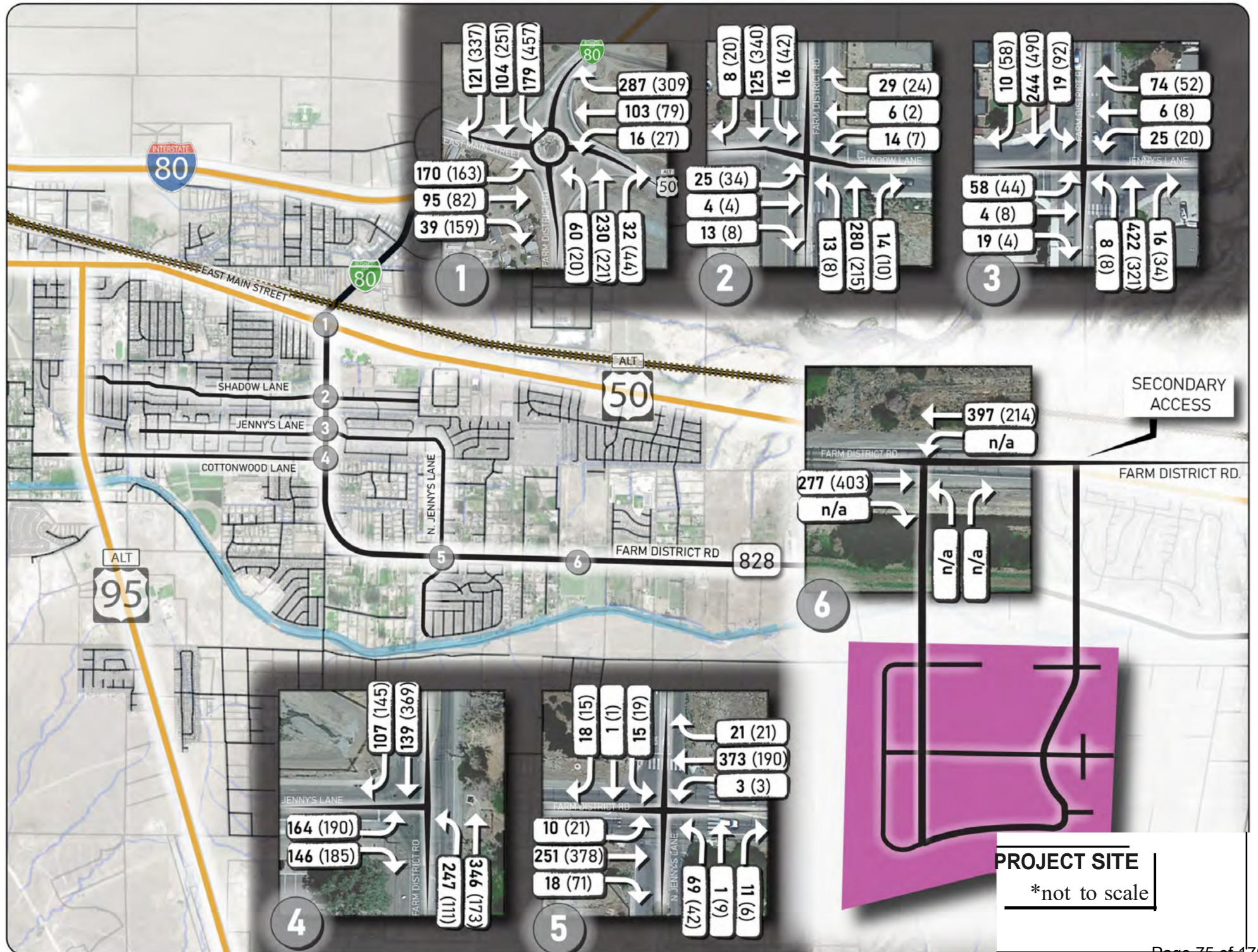
5.3 Distribution

The long-term trip distribution percentages for calendar year 2041 are based on the same assumptions as in the near-term analysis except with the inclusion of 5-year, 10-year, and 20-year improvements and additions the transportation network thereby more evenly dispersing the trips over a broader area. Such improvements are indicated in the *Draft Transportation Master Plan* presented to the Fernley City Council on June 3, 2020.

Five-year improvements/additions are as follows:

1. Spot improvement at the Main/I-80 Interchange
2. Spot improvements in the vicinity of US-95A at Cottonwood
3. Corridor improvements along Business Route 80 between Main and I-80
4. Spot improvement at the Roundabout at Business Route 80 and East Main Street
5. Spot improvements at US-95A and US-50A
6. Corridor improvements at Nevada Pacific Parkway, specifically the extension south across the railroad tracks to intersect US-50A

Figure 8: Long-Term Traffic Volumes



7. Corridor improvements to SR 828 west of US-50A to the east

Ten-year improvements/additions are as follows:

1. Bridges across the Truckee-Carson Irrigation Canal including between SR 828 and Desert Shadows Lane just east of Jessica Lane
2. Corridor improvements to US-95A between Sage Street and Main Street across the Truckee-Carson Irrigation Canal
3. The addition of Desert Shadows Lane between US-95A and US-50A
4. Corridor improvements to SR 427 between the Washoe/Lyon County Line and US-95A

Twenty-year improvements/additions are as follows:

1. The addition of the North Fernley Roadway between SR 427 and the Nevada Pacific Parkway/I-80 Interchange
2. The addition of the Western Bypass between I-80 and US-95A/Desert Shadows Lane
3. Corridor improvements to Cottonwood Lane between US-95A and SR 828
4. Corridor improvements to SR 828 between the Roundabout at East Main Street/US-50A and Red Rock Road (connecting north to US-50A)
5. The addition of the I-11 Interchange with I-80 to the east
6. Spot Improvement at Vine St/I-80

Appendix B provides further elaboration on the trip distribution analysis including the gate percentages for the long-term analysis.

5.4 Trip Assignment

Trip assignment is calculated by multiplying the trip generation values from Table 4 by the trip distribution percentages described above.

Figure 9: Long-Term Trip Distribution shows the long-term trip distribution percentages for each of the gates.

Figure 10: Long-Term Trip Assignment shows the long-term trip assignment values for individual turning movements at each of the analysis intersections.

FIGURE 9: LONG-TERM TRIP DISTRIBUTION

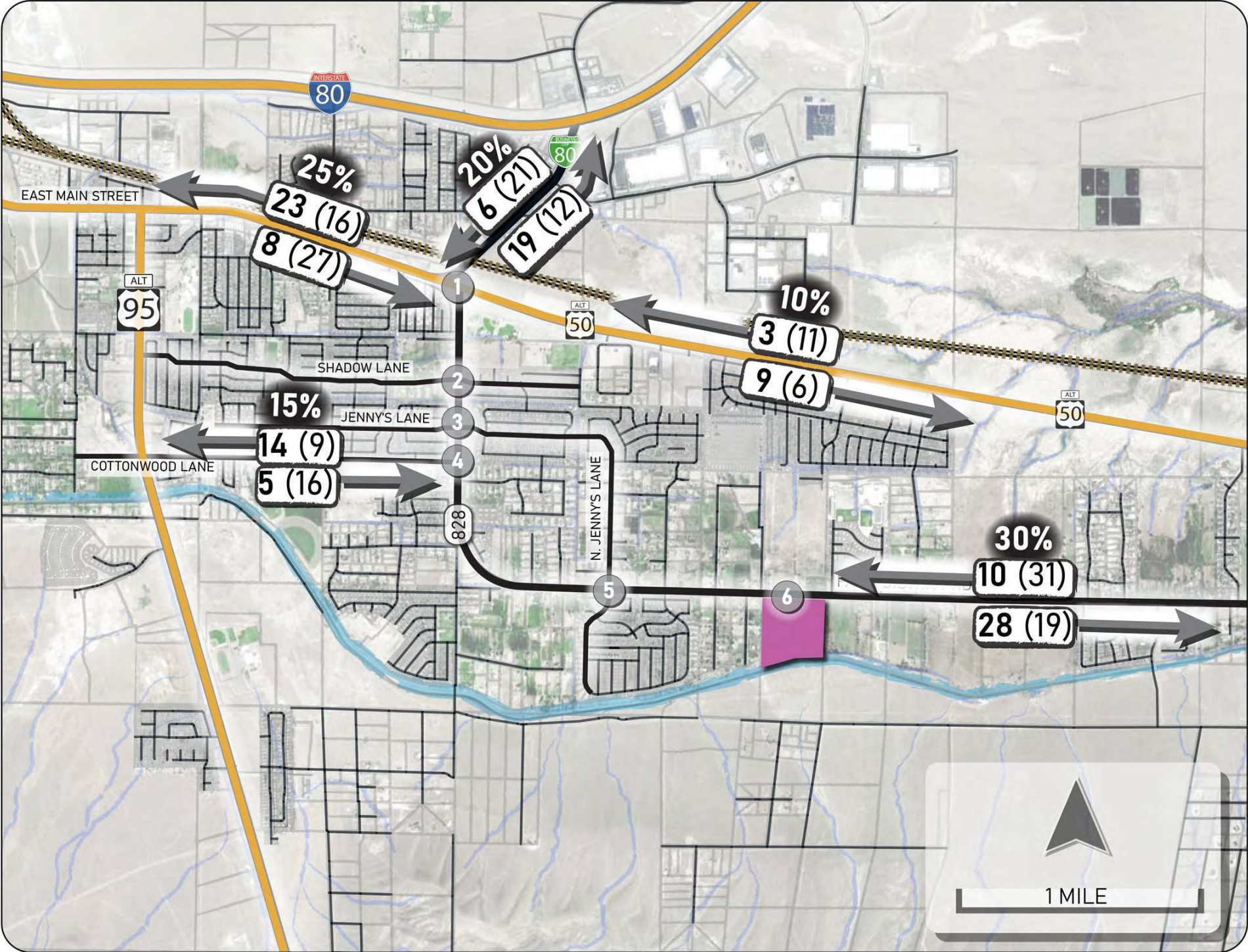
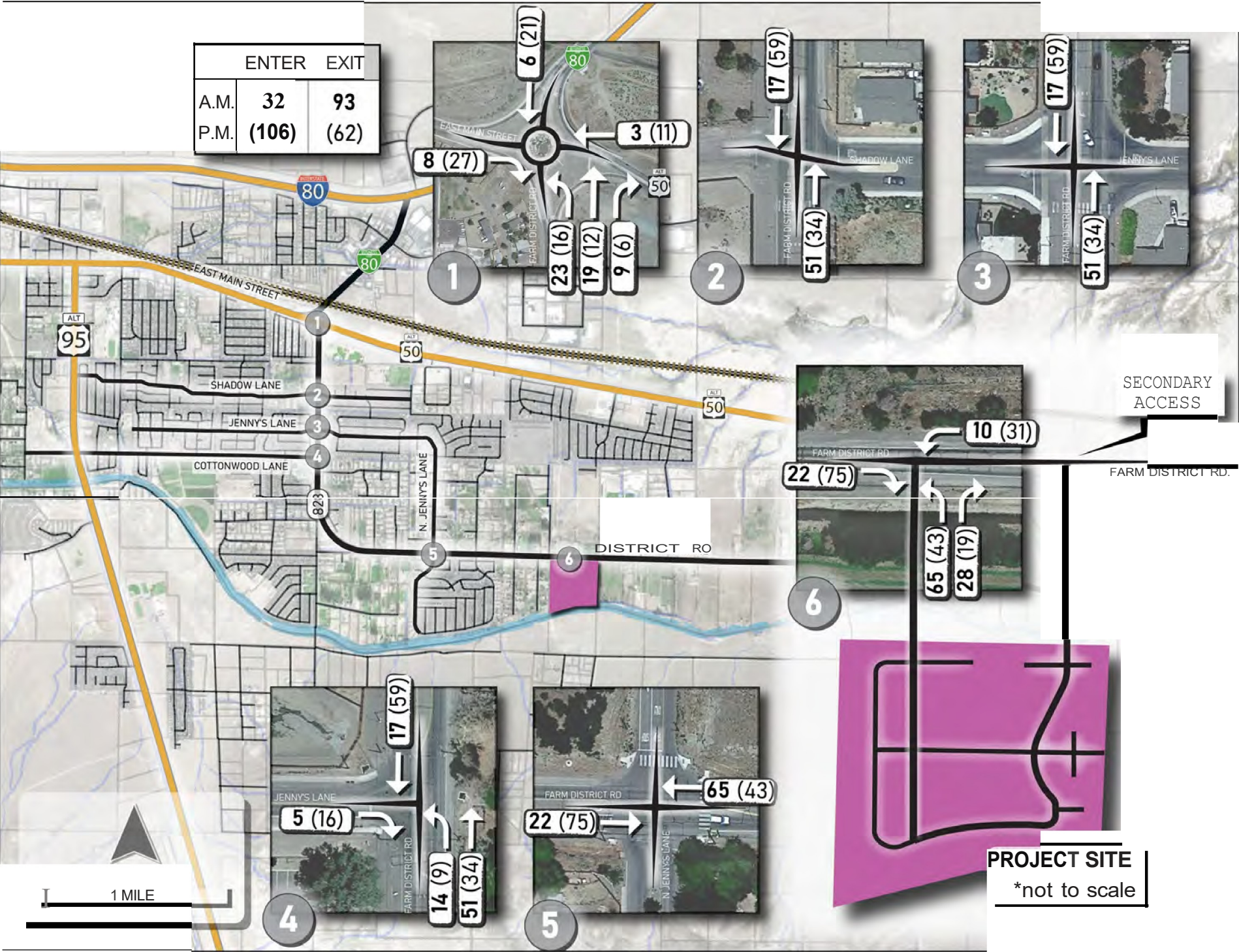


FIGURE 10: LONG-TERM TRIP ASSIGNMENT



These percentages and values are shown in tabular form in **Appendix B**.

5.5 Volumes with Project

Figure 11: Long-Term Plus Project Traffic Volumes shows the with-project traffic volumes obtained by adding the project-generated traffic volumes to the long-term without-project traffic volumes.

The need for turn lanes was evaluated at the two site access intersections at SR 828 to the north under long-term conditions. These two site accesses would be located approximately 600 feet apart to balance the needs for complying with NDOT Access Management requirements and providing redundancy within the on-site transportation network. The need for left-turn (Table 4-12) and right-turn (Table 4-16) lanes was evaluated based on the respective tables in the NDOT Access Management System and Standards dated 2017. According to analysis, left turn and right turn lanes are warranted at both accesses under long-term conditions, and are therefore recommended. For more information on the turn lane warrant analysis, see Appendix B.

The need for signalization was evaluated at the two site access intersections at SR 828 to the north under long-term conditions based on the Peak Hour Warrant in the Manual on Uniform Traffic Control Devices (MUTCD) Figure 4C-4. According to the analysis, signals are not warranted at either intersection. Therefore, signalization is not projected to be needed under long-term conditions. For more information on the signal warrant analysis, see Appendix B.

5.6 Impacts on Future Intersection Operations

Appendices C-5 (AM) and **C-6 (PM)** contain the calculation reports for long-term intersection operations without the project. **Appendices C-7 (AM)** and **C-8 (PM)** contain the calculation reports for long-term intersection operations with the project. These calculations are based on the Highway Capacity Manual methodology described in Section 2 just like in the existing impact analysis, except that the Peak Hour Factor is the default value of 0.92.

Figure 11: Long-Term Plus Project Traffic Volumes

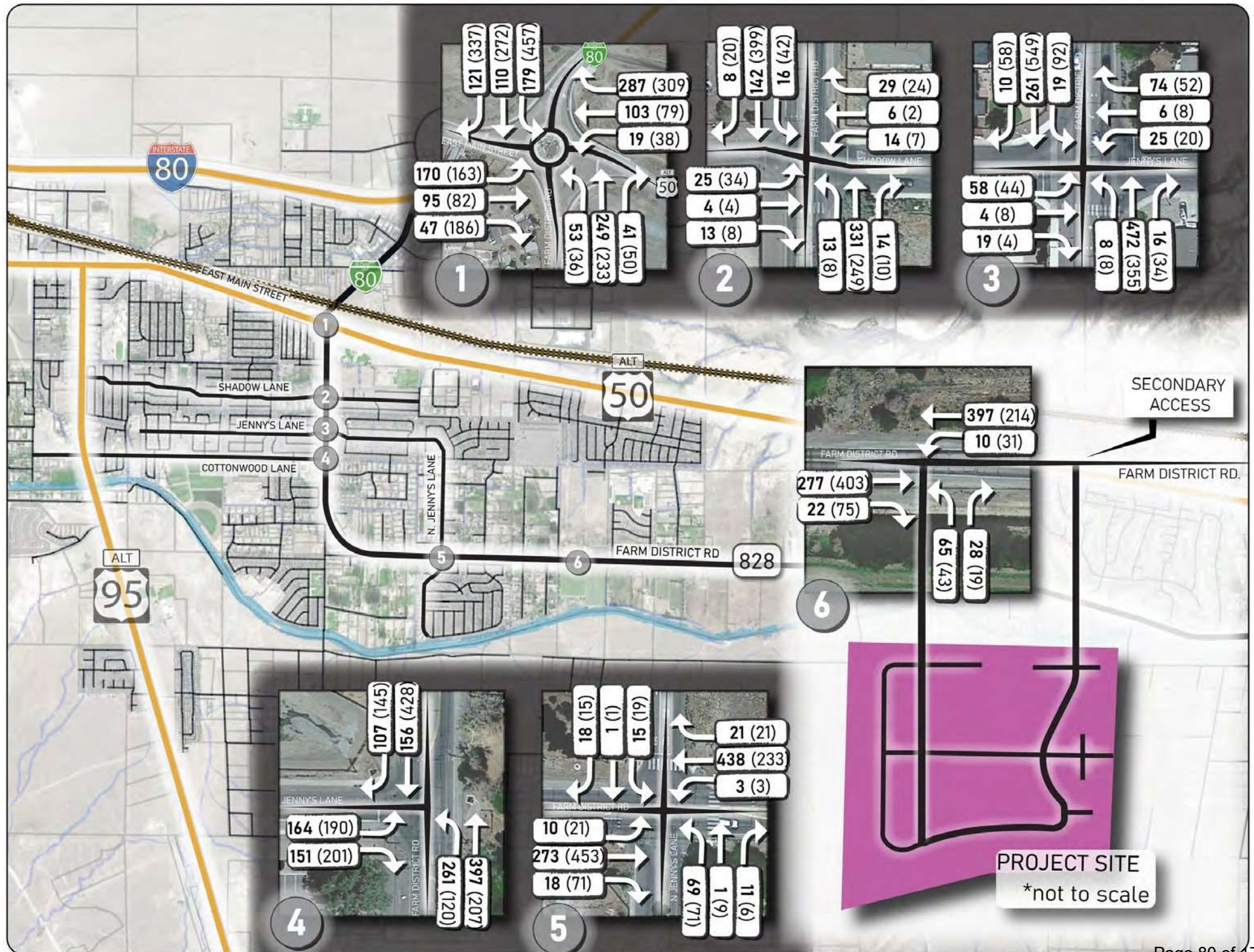


Table 8 shows the long-term impact of the project on the study intersections.

Table 8: Long-Term Project Impact on Intersection Operations

	Without Project		With Project	
	AM	PM	AM	PM
1: BR 80-SR 828 at Main St – US-50A	A 5.9 (EB) A 1.8 (WB) A 8.1 (NB) A 4.1 (SB)	A 8.1 (EB) A 1.4 (WB) B 10.4 (NB) A 8.1 (SB)	A 5.9 (EB) A 1.9 (WB) A 8.9 (NB) A 4.4 (SB)	A 8.1 (EB) A 1.6 (WB) B 11.4 (NB) A 9.3 (SB)
2: SR 828 at Shadow Lane	B 12.7 (EB) B 11.8 (WB)	C 17.4 (EB) B 11.8 (WB)	B 13.6 (EB) B 12.6 (WB)	C 17.8 (EB) B 12.2 (WB)
3: SR 828 at East Jenny’s Lane	C 23.0 (EB) C 15.7 (WB)	E 44.9 (EB) C 20.7 (WB)	D 26.5 (EB) C 17.1 (WB)	E 46.4 (EB) C 22.1 (WB)
4: SR 828 at Cottonwood Lane	F 114.0 (EB)	F 77.3 (EB)	F 178.9 (EB)	F 79.2 (EB)
5: North Jenny’s Lane at SR 828	C 18.9 (NB) B 13.5 (SB)	C 17.8 (NB) B 13.7 (SB)	C 21.8 (NB) B 14.8 (SB)	C 20.8 (NB) B 15.1 (SB)
6: Site Access at SR 828	--	--	B 13.3 (NB)	B 14.1 (NB)

Source: Trafficware, *Synchro 11*

Source: Transportation Research Board, *Highway Capacity Manual, 6th Edition*

According to Table 8, all intersections would continue to operate acceptably under without and with project conditions except for the eastbound approach to Intersection No. 3 during the PM peak hour and the eastbound approach to Intersection No. 4 during both peak hours. A Dedicated Eastbound Right Turn Lane at Intersection No. 4 and improvements to Cottonwood Lane as called for in the City of Fernley Transportation Master Plan would elevate operations to acceptable levels.

6.0 Findings and Recommendations

6.1 Findings

Findings from the near-term impact analysis are as follows:

1. All approaches to the study intersections would operate acceptably except the northbound approach to SR 828/BR 80 at East Main St/US-50A during the PM peak hour and the eastbound approach to SR 828 at Cottonwood Lane during the AM peak hour.
2. Volume reductions at SR 828/BR 80 at East Main St/US-50A associated with the construction of the Wadsworth Bypass to the west and the southward extension of Nevada Pacific Parkway to US-50A would elevate operations to acceptable levels.
3. The addition of a Dedicated Right Turn Lane at SR 828 and Cottonwood Lane and the implementation of improvements along Cottonwood Lane associated with the implementation of the City of Fernley Master Plan would elevate operations to acceptable levels.
4. The project would not have a significant adverse impact on the surrounding transportation network.

Findings from the long-term impact analysis are as follows:

1. All approaches to the study intersections would continue to operate acceptably except the eastbound approach to SR 828 at East Jenny's Lane during the PM peak hour and the eastbound approach to SR 828 at Cottonwood Lane during the AM peak hour.
2. The addition of a Dedicated Right Turn Lane at SR 828 and Cottonwood Lane and the implementation of improvements along Cottonwood Lane associated with the implementation of the City of Fernley Master Plan would elevate operations to acceptable levels.
3. The project would not have a significant adverse impact on the surrounding transportation network.

6.2 Recommendations

Recommendations are as follows:

1. Construct Site Frontage Improvements to NDOT Standards to accommodate the master planned improvements for SR 828.
2. Construct dual site accesses at least 600 feet apart with dedicated left turn and

right turn lanes to balance the need for meeting NDOT requirements while providing access redundancy to enhance on-site circulation while expediting emergency vehicle response.

7.0 Preliminary Vehicle Miles Traveled Analysis

7.1 Regulatory Context

On July 1, 2020, the new Vehicle Miles Traveled (VMT) metric took effect in California and replaced the traditional Level of Service (LOS) metric that had been in effect the past half century. Many additional states are incorporating elements of the new VMT metric to encourage urban infill, reduce vehicle trip lengths, encourage active transportation (walking, bicycling, transit riding, etc.), encourage more compact development, and boost the sustainability of mitigation measures. Specifically, this new VMT metric is intended to address these nine limitations associated with the traditional LOS metric:

1. “Punishing” last-in development projects, discouraging infill development, and encouraging a “sprawling” development pattern;
2. Creating regional congestion at the expense of solving local congestion issues;
3. Discouraging transit use;
4. Discouraging active transportation (walking, bicycling, transit riding, etc.);
5. Poorly measuring access to developments within the network;
6. Posing limitations on optimizing roadway networks;
7. Creating more roadway construction than jurisdictions can afford to maintain;
8. Posing calculation challenges and inaccuracies; and
9. Creating costly unhelpful solutions.

Specifically, the traditional LOS metric has served as a barrier to residential development through the imposition of costly transportation impact mitigation measures when the objective is to encourage residential development to address the housing crisis while boosting the sustainability of such measures.

Therefore, a preliminary VMT analysis was conducted in connection with this report. VMT is generally calculated by multiplying the trip generation by the trip length on a per capita basis. A VMT impact is typically considered significant when it exceeds 85 percent of the average per capita VMT for a given area.

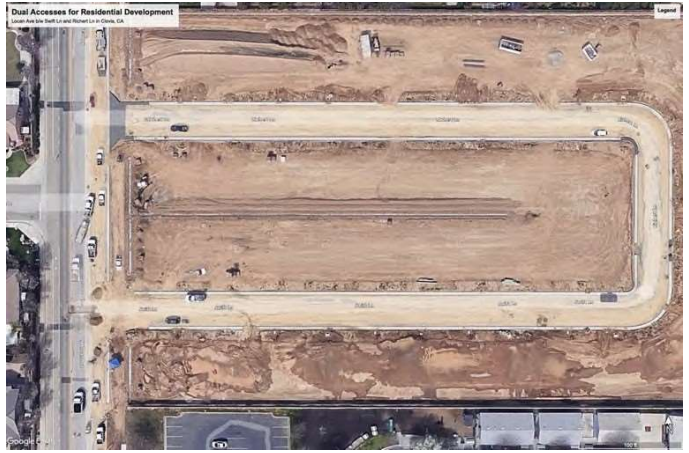
7.2 Potential VMT Reduction Measures

The Creekwood Commons study area was examined through a VMT context. VMT reduction measures to be incorporated into the project are as follows:

1. Pedestrian pathways to SR 828 to the north and the Truckee Carson Irrigation District (TCID) Canal to the south to encourage increased pedestrian activity; and
2. Inclusion of additional bicycle paths and lanes along SR 828 to encourage increased bicycle use in addition to the pathway that is now paved to Rainbow Lane.

Appendix A: Brochures

Access Management Concept for Creekwood Commons



Dual Lanes onto an Arterial with a Two-Way-Left-Turn Lane

Creekwood Commons proposes dual accesses onto SR 828 (Farm District Road). The access and circulation system was studied for a recently opened residential development on Locan Ave between Swift Ln and Richert Ln in Clovis, CA with a 200-foot centerline to centerline separation between accesses (Upper Right). The dual access connections utilize a two-way-left-turn-lane. (Lower Left: North of Richert Looking South with Access on Left; Lower Right: South of Swift Looking North with Access on Right)

Exit and Complete Street Concepts



Richert Egress (Top Left)

The Richert (North) Egress is stop-sign controlled with a shared left-right lane.

Swift Egress (Middle Right)

The Swift (South) Egress is stop-sign controlled with a shared left-right lane.



Complete Street Concept for SR 828 (Bottom Left)

The complete street concept includes single through lanes in each direction, a two-way-left-turn lane, a bike lane, a paved shoulder, a landscape strip, and a shaded sidewalk such as what is shown here at Locan Ave and Richert Ln looking north on Locan Ave.



Existing Roadway and Geometric Conditions



Site Frontage and North Intersections

- Upper Right: Site Frontage along SR 828 (Looking East): Center Turn Lane and Gravel Shoulder (Site South of Gravel Shoulder)
- Lower Left: Roundabout: SR 828 at US-50A: Inner Radius = 145 ft; Outer Radius = 180 ft; EBLT = 500 ft; EBRT = 725 ft; WBLT = 450 ft; WBRT = 600 ft; NBLT = 325 ft; NBRT = 350 ft; SBLT = 375 ft; SBRT = 375 ft
- Lower Right: SR 828 at Shadow Lane: NBLT = 125 ft; SBLT = 175 ft + Center Turn Lane

(Photo Credits: Google Earth)

South Intersections



SR 828 at East Jenny's Lane
(Top Left)
NBLT = 85 ft
SBLT = 325 ft + Center Turn Lane
(Photo Credit: Google Earth)

SR 828 at Cottonwood Lane (Middle Right)

EB: Crosswalk to Stop Bar = 195 ft
NBLT = 85 ft + Center Turn Lane
SBRT = 185 ft
(Photo Credit: Google Earth)



North Jenny's Lane at SR 828 (Bottom Left)

EBLT = 250 ft
NBLTR: South End of Island to Stop Bar = 135 ft
SBLT = 65 ft + Center Turn Lane
SBTR = 65 ft
(Photo Credit: Google Earth)

Roundabout Analysis and Design



Roundabouts: Operations & Aesthetics

State Route 28 between Bear and Coons Streets near Kings Beach on the north shore of Lake Tahoe (upper right) includes two closely spaced roundabouts. Roundabouts are desirable in both emerging Transit Oriented Development (TOD) communities such as Downtown Roseville (lower left), and more traditional suburban communities such as within the Herndon/Clovis Community Medical Center vicinity. Pictured in the lower right is North Temperance Avenue at Alluvial Avenue-Owens Mountain Parkway in Clovis.

North Temperance Avenue/Alluvial. Avenue- Owens Mountain Parkway in Clovis



Roundabouts for Vehicles, Bicyclists, and Pedestrians (Upper Left)

The latest roundabouts such as this one that opened in 2021 often feature innovative bicycle treatments such as painting the bicycle pathways green with broken stripes to delineate merging vehicles.

Clear Striping and Pavement Legends (Middle Right)

One of the keys for effectively accommodating multiple types of users is carefully designing the curb returns to the appropriate radii to accommodate a diversity of vehicle types, and clear pavement legends (stripes and arrows) to delineate the lane uses and flow pathways of vehicle traffic.



Accommodating Pedestrians within the Inner Circle (Lower Left)

This roundabout within the raised circular island in the middle of the intersection features a wide recessed pathway to give pedestrians a greater sense of being shielded from the surrounding circulating vehicle traffic. The City of Clovis (near Fresno) now requires that all new residential neighborhoods include pedestrian pathways. Pathways within the inner circle in areas with a mix of commercial and residential uses enhance the overall connectivity of the pedestrian network, thereby encouraging healthy lifestyles.

Improvement Considerations for BR-80/SR 828 at Main St/US-50A



Existing Conditions and Improvement Considerations

BR-80/SR 828 at Main St/US-50A includes unusually large splitter islands for right turns onto the next roadway to right and sharp right turns for entering the circle (Upper Right). Consider a dual-lane roundabout with smaller splitter islands for the right turns onto the next roadway to the right and more gentle right turns for entering the circle. Also consider dual approach and circulating lanes for higher volume movements such as what is currently in place at Ranchharah Pkwy-Kietzke Ln at Neil Rd in Reno (Lower Left and Right).

Additional Roundabout Concepts



SR 431 at SR 28 in Incline Village (Upper Left)

This modern roundabout features a single circular lane and single-lane approaches at the intersection of two state highways.

Dual Roundabouts at SR 89 and I-80 in Truckee (Middle Right)

As Fernley expands to the north and interchanges get upgraded and added, modern single-lane and dual-lane roundabouts could be considered at the freeway ramps.



SR 89 and Truckee Road (Lower Left)

Innovative pedestrian treatments could also be considered at roundabouts in an era with an ever-growing emphasis on active transportation.

Appendix B: Numeric Analysis

Creekwood Commons

A1_Trip_Generation

Table A1.1: Inputs

Code	Land Use	Units	Quantity	Weekday			AM Peak Hour			PM Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
210	Single-Family Detached Housing	Dwelling Units	209	4.72	4.71	9.43	0.18	0.52	0.70	0.59	0.35	0.94

Table A1.2: Values

Code	Land Use	Units	Quantity	Weekday			AM Peak Hour			PM Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
210	Single-Family Detached Housing	Dwelling Units	209	986	984	1971	38	109	146	123	73	196
Total				986	984	1971	38	109	146	123	73	196

Creekwood Commons

A2_Trip Distribution

Table A2.1: Near-Term Analysis

No	Description	Percent	Weekday			AM Peak Hour			PM Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
1	BR 80 NO Main St	25.00%	247	246	493	9	27	37	31	18	49
2	Main St WO SR 828	35.00%	345	345	690	13	38	51	43	26	69
3	Main St EO SR 828	10.00%	99	98	197	4	11	15	12	7	20
4	Cottonwood Lane	10.00%	99	98	197	4	11	15	12	7	20
5	Farm District Rd E	20.00%	197	197	394	8	22	29	25	15	39
	Total	100.00%	986	984	1971	38	109	146	123	73	196

Table A2.2: Long-Term Analysis

No	Description	Percent	Weekday			AM Peak Hour			PM Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
1	BR 80 NO Main St	20.00%	197	197	394	8	22	29	25	15	39
2	Main St WO SR 828	25.00%	247	246	493	9	27	37	31	18	49
3	Main St EO SR 828	10.00%	99	98	197	4	11	15	12	7	20
4	Cottonwood Lane	15.00%	148	148	296	6	16	22	18	11	29
5	Farm District Rd E	30.00%	296	295	591	11	33	44	37	22	59
	Total	100.00%	986	984	1971	38	109	146	123	73	196

Creekwood Commons

A3_Trip Assignment

Table A3.1: Intersection AM: Near-Term

No	Description	Eastbound			Westbound			Northbound			Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	BR 80-SR 828/Main			13	4			39	27	11		9	
2	SR 828/Shadow								76			26	
3	SR 828/E Jenny's								76			26	
4	SR 828/Cottonwood			4				11	76			26	
5	N Jenny's/SR 828		29			86							
6	Site Access/SR 828			29	8			86		22			

Table A3.2: Intersection PM: Near-Term

No	Description	Eastbound			Westbound			Northbound			Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	BR 80-SR 828/Main			43	13			26	19	7		32	
2	SR 828/Shadow								51			88	
3	SR 828/E Jenny's								51			88	
4	SR 828/Cottonwood				13			7	51			88	
5	N Jenny's/SR 828		100				58						
6	Site Access/SR 828			100	23			58		14			

Table A3.3: Intersection AM: Long-Term

No	Description	Eastbound			Westbound			Northbound			Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	BR 80-SR 828/Main			9	4			27	22	11		7	
2	SR 828/Shadow								60			20	
3	SR 828/E Jenny's								60			20	
4	SR 828/Cottonwood			6				16	60			20	
5	N Jenny's/SR 828		26			76							
6	Site Access/SR 828			26	12			76		33			

Table A3.4: Intersection PM: Long-Term

No	Description	Eastbound			Westbound			Northbound			Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	BR 80-SR 828/Main			32	13			19	14	7		25	
2	SR 828/Shadow								40			69	
3	SR 828/E Jenny's								40			69	
4	SR 828/Cottonwood			19				11	40			69	
5	N Jenny's/SR 828		88			50							
6	Site Access/SR 828			88	36			50		22			

Creekwood Commons

Table B.1: BR 80-SR 828 at Main St - US-50A

	Eastbound			Westbound			Northbound			Southbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Near-Term AM												
Near-Term	243	135	55	23	147	410	85	329	46	256	149	173
Project			13	4			39	27	11		9	
NT w/Project	243	135	68	27	147	410	124	356	57	256	158	173
Near-Term PM												
Near-Term	233	117	227	38	113	441	29	316	63	653	359	482
Project			43	13			26	19	7		32	
NT w/Project	233	117	270	51	113	441	55	335	70	653	391	482
Long-Term AM												
Long-Term	170	95	39	16	103	287	60	230	32	179	104	121
Project			9	4			27	22	11		7	
LT w/Project	170	95	48	20	103	287	87	252	43	179	111	121
Long-Term PM												
Long-Term	163	82	159	27	79	309	20	221	44	457	251	337
Project			32	13			19	14	7		25	
LT w/Project	163	82	191	40	79	309	39	235	51	457	276	337

Reduction

Factor	0.7
Wadsworth Bypass	
Nevada Pacific Parkway	

Creekwood Commons

Table B.2: SR 828 at Shadow Lane

	Eastbound			Westbound			Northbound			Southbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Near-Term AM												
Near-Term	36	6	19	20	9	41	18	400	20	23	178	11
Project								76			26	
NT w/Project	36	6	19	20	9	41	18	476	20	23	204	11
Near-Term PM												
Near-Term	49	6	11	10	3	34	11	307	14	60	485	28
Project								51			88	
NT w/Project	49	6	11	10	3	34	11	358	14	60	573	28
Long-Term AM												
Long-Term	25	4	13	14	6	29	13	280	14	16	125	8
Project								60			20	
LT w/Project	25	4	13	14	6	29	13	340	14	16	145	8
Long-Term PM												
Long-Term	34	4	8	7	2	24	8	215	10	42	340	20
Project								40			69	
LT w/Project	34	4	8	7	2	24	8	255	10	42	409	20

Reduction

Factor 0.7

Wadsworth Bypass

Nevada Pacific Parkway

Creekwood Commons

Table B.3: SR 828 at East Jenny's Lane

	Eastbound			Westbound			Northbound			Southbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Near-Term AM												
Near-Term	46	3	15	20	5	59	6	335	13	15	194	8
Project								76			26	
NT w/Project	46	3	15	20	5	59	6	411	13	15	220	8
Near-Term PM												
Near-Term	35	6	3	16	6	41	6	255	27	73	389	46
Project								51			88	
NT w/Project	35	6	3	16	6	41	6	306	27	73	477	46
Long-Term AM												
Long-Term	58	4	19	25	6	74	8	422	16	19	244	10
Project								60			20	
LT w/Project	58	4	19	25	6	74	8	482	16	19	264	10
Long-Term PM												
Long-Term	44	8	4	20	8	52	8	321	34	92	490	58
Project								40			69	
LT w/Project	44	8	4	20	8	52	8	361	34	92	559	58

Projection

Near-Term	9500
Long-Term	10300
Growth Rate	1.2%

Source: Nevada DOT Annual Traffic Report for Count Station 019033

AADT = 9500 (2011) and 10300 (2018)

Creekwood Commons

Table B.4: SR 828 at Cottonwood Lane

	Eastbound			Westbound			Northbound			Southbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Near-Term AM												
Near-Term	130		116				196	275			110	85
Project			4				11	76			26	
NT w/Project	130		120				207	351			136	85
Near-Term PM												
Near-Term	151		147				88	137			293	115
Project			13				7	51			88	
NT w/Project	151		160				95	188			381	115
Long-Term AM												
Long-Term	164		146				247	346			139	107
Project			6				16	60			20	
LT w/Project	164		152				263	406			159	107
Long-Term PM												
Long-Term	190		185				111	173			369	145
Project			19				11	40			69	
LT w/Project	190		204				122	213			438	145

Projection

Near-Term	9500
Long-Term	10300
Growth Rate	1.2%

Source: Nevada DOT Annual Traffic Report for Count Station 019033

AADT = 9500 (2011) and 10300 (2018)

Creekwood Commons

Table B.5: North Jenny's Lane at SR 828

	Eastbound			Westbound			Northbound			Southbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Near-Term AM												
Near-Term	8	199	14	2	296	17	55	1	9	12	1	14
Project		29			86							
NT w/Project	8	228	14	2	382	17	55	1	9	12	1	14
Near-Term PM												
Near-Term	17	300	56	2	151	17	33	7	5	15	1	12
Project		100			58							
NT w/Project	17	400	56	2	209	17	33	7	5	15	1	12
Long-Term AM												
Long-Term	10	251	18	3	373	21	69	1	11	15	1	18
Project		26			76							
LT w/Project	10	277	18	3	449	21	69	1	11	15	1	18
Long-Term PM												
Long-Term	21	378	71	3	190	21	42	9	6	19	1	15
Project		88			50							
LT w/Project	21	466	71	3	240	21	42	9	6	19	1	15

Projection

Near-Term	9500
Long-Term	10300
Growth Rate	1.2%

Source: Nevada DOT Annual Traffic Report for Count Station 019033

AADT = 9500 (2011) and 10300 (2018)

Creekwood Commons

Table B.6: Site Access at SR 828

Eastbound			Westbound			Northbound			Southbound			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Near-Term AM												
Near-Term		220			315							
Project			29	8			86		22			
NT w/Project		220	29	8	315		86		22			
Near-Term PM												
Near-Term		320			170							
Project			100	23			58		14			
NT w/Project		320	100	23	170		58		14			
Long-Term AM												
Long-Term		277			397							
Project			26	12			76		33			
LT w/Project		277	26	12	397		76		33			
Long-Term PM												
Long-Term		403			214							
Project			88	36			50		22			
LT w/Project		403	88	36	214		50		22			

Projection

Near-Term	9500
Long-Term	10300
Growth Rate	1.2%

Source: Nevada DOT Annual Traffic Report for Count Station 019033

AADT = 9500 (2011) and 10300 (2018)

Creekwood Commons Traffic Study:

Table C.1: PM Peak Hour Turning Movements

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Vol
1: SR 828 at Main St-US-50A	233	117	227	38	113	441	29	316	63	653	359	482	3071
2: SR 828 at Shadow Lane	49	6	11	10	3	34	11	307	114	60	485	28	1118
3: SR 828 at East Jenny's Lane	35	6	3	16	6	41	6	255	27	73	389	46	903
4: SR 828 at Cottonwood Lane	151	0	147	0	0	0	88	137	0	0	293	115	931
5: North Jenny's Lane at SR 828	17	300	56	2	151	17	33	7	5	15	1	12	616

Remarks

Per Data Collected by National Data and Surveying Services on Tuesday, January 4, 2022

Table C.2: Severity Analysis

Intersection	FAT		INJ		PDO		TOT
	No	%	No	%	No	%	
1: SR 828 at Main St-US-50A	0	0%	3	17%	15	83%	18
2: SR 828 at Shadow Lane	0	0%	2	40%	3	60%	5
3: SR 828 at East Jenny's Lane	0	0%	0	0%	3	100%	3
4: SR 828 at Cottonwood Lane	0	0%	0	0%	5	100%	5
5: North Jenny's Lane at SR 828	0	0%	1	67%	2	33%	3

Remarks

FAT: Fatalities

INJ: Injuries

PDO: Property Damage Only

TOT: Total

Creekwood Commons Traffic Study:

Table C.3: Type Analysis

Intersection	Type 1		Type 2		Type 3		Other		TOT
	No	%	No	%	No	%	No	%	
1: SR 828 at Main St-US-50A	12	67%	3	17%	1	6%	2	11%	18
2: SR 828 at Shadow Lane	1	20%	4	80%	0	0%	0	0%	5
3: SR 828 at East Jenny's Lane	0	0%	2	67%	0	0%	1	33%	3
4: SR 828 at Cottonwood Lane	1	20%	4	80%	0	0%	0	0%	5
5: North Jenny's Lane at SR 828	1	33%	2	67%	0	0%	0	0%	3

Remarks

Type 1: Most Common Type: Rear-End

Type 2: Second Most Common Type: Angle

Type 3: Third Most Common Type: Unknown

Other: Other Types not within the Top 3 Ranks: Non Collision

TOT: Total

Table C.4: Cause Analysis

Intersection	Cause 1		Cause 2		Cause 3		Other		TOT
	No	%	No	%	No	%	No	%	
1: SR 828 at Main St-US-50A	5	33%	3	20%	2	13%	5	33%	15
2: SR 828 at Shadow Lane	0	0%	0	0%	4	80%	1	20%	5
3: SR 828 at East Jenny's Lane	0	0%	1	33%	2	67%	0	0%	3
4: SR 828 at Cottonwood Lane	0	0%	0	0%	5	100%	0	0%	5
5: North Jenny's Lane at SR 828	1	33%	0	0%	2	67%	0	0%	3

Remarks

Cause 1: Follow Too Closely

Cause 2: Driving Too Fast

Cause 3: Fail to Yield ROW

Other:

TOT: Total

Creekwood Commons Traffic Study:

Table C.5: Rate Analysis

Intersection	TOT	YR	Vol	K	Days	Rate
1: SR 828 at Main St-US-50A	18	3	3071	10	365	0.535
2: SR 828 at Shadow Lane	5	3	1118	10	365	0.408
3: SR 828 at East Jenny's Lane	3	3	903	10	365	0.303
4: SR 828 at Cottonwood Lane	5	3	931	10	365	0.490
5: North Jenny's Lane at SR 828	3	3	616	10	365	0.445

Remarks

TOT: Total Collisions

YR: Number of Years of Data

Vol: Volume Entering Intersection during PM Peak Hour

K: K-Factor: (Weekday Volume)/(PM Peak Hour Volume)

Days: Number of Days in Year

Rate: Per Million Entering Vehicles Per Year = $((TOT) * (1E6)) / ((YR) * (Vol) * (K) * (Days))$

Creekwood Commons Traffic Study: Turn Lane

Table D.1: Peak Hour Turning Movements at West Driveway

Scenario	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBTL	EBR	EBTR
NT+P AM	0	220	13	4	315	0	37	0	10	0	0	0	4	319	13	233
NT+P PM	0	320	43	10	315	0	25	0	6	0	0	0	10	325	43	363
LT+P AM	0	277	11	5	397	0	33	0	14	0	0	0	5	402	11	288
LT+P PM	0	403	38	15	214	0	22	0	9	0	0	0	15	229	38	441

Table D.2: Peak Hour Turning Movements at East Driveway

Scenario	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBTL	EBR	EBTR
NT+P AM	0	220	13	4	315	0	37	0	10	0	0	0	4	319	13	233
NT+P PM	0	320	43	10	315	0	25	0	6	0	0	0	10	325	43	363
LT+P AM	0	277	11	5	397	0	33	0	14	0	0	0	5	402	11	288
LT+P PM	0	403	38	15	214	0	22	0	9	0	0	0	15	229	38	441

Remarks for Parts 1 and 2

Source: Nevada DOT Access Management System and Standards (2017 Edition)

NT+P: Near-Term Plus Project per Figure 7 of the Creekwood Commons Traffic Study

LT+P: Long-Term Plus Project per Figure 11 of the Creekwood Commons Traffic Study

AM: AM Peak Hour (4 Highest Consecutive 15-minute intervals between 7:00 and 9:00)

PM: PM Peak Hour (4 Highest Consecutive 15-minute intervals between 4:00 and 6:00)

WBL: Turning Volume per Table 4-12 (Two-Lane Roadways in Urban Areas)

WBTL: Directional Volume in Through Lane (Left + Through) per Table 4-12 (Two-Lane Roadways in Urban Areas)

EBR: Turning Volume per Table 4-16 (Two-Lane Roadways in Urban Areas)

EBTR: Directional Volume in Through Lane (Right + Through) per Table 4-16 (Two-Lane Roadways in Urban Areas)

Creekwood Commons Traffic Study: Turn Lane

Table D.3: Turn Lane Warrant Analysis at West Driveway

	West Driveway (Left and Right)									
	EBR		EBTR		Right	WBL		WBTL		Left
Scenario	Act	Min	Act	Min	Lane?	Act	Min	Act	Min	Lane?
NT+P	43	40	363	0	Yes	10	10	325	210	Yes
LT+P	38	35	441	100	Yes	15	15	229	150	Yes

Table D.4: Turn Lane Warrant Analysis at East Driveway

	East Driveway (Left and Right)									
	EBR		EBTR		Right	WBL		WBTL		Left
Scenario	Act	Min	Act	Min	Lane?	Act	Min	Act	Min	Lane?
NT+P	43	40	363	0	Yes	10	10	325	210	Yes
LT+P	38	35	441	100	Yes	15	15	229	150	Yes

Remarks for Parts 3 and 4

Act: Actual from Parts 1 and 2 and Higher of AM or PM

Min: Minimum to Trigger Satisfaction of Turn Lane Warrant

Right Lane?: Right Turn Lane Warrant Satisfied? Yes or No per Table 4-16

Left Lane?: Left Turn Lane Warrant Satisfied? Yes or No per Table 4-12

SR 828 Posted Speed Limit: 45 MPH

SR 828 Functional Classification: Minor Arterial

Creekwood Commons Traffic Study: Progressive Peak Hour Signal Warrant Analysis at Site

Accesses Table E.1: Peak Hour Turning Movements

Scenario	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Major St	Minor St
NT+P AM	0	220	25	7	315	0	74	0	19	0	0	0	567	93
NT+P PM	0	320	86	20	170	0	50	0	12	0	0	0	596	62
LT+P AM	0	277	20	10	397	0	65	0	28	0	0	0	704	93
LT+P PM	0	403	75	31	214	0	43	0	19	0	0	0	723	62

Remarks

NT+P: Near-Term Plus Project per Figure 7 of the Creekwood Commons Traffic

Study LT+P: Long-Term Plus Project per Figure 11 of the Creekwood Commons

Traffic Study

AM: AM Peak Hour (4 Highest Consecutive 15-minute intervals between 7:00 and 9:00)

PM: PM Peak Hour (4 Highest Consecutive 15-minute intervals between 4:00 and 6:00)

Major St: Total of both major street (eastbound and westbound) approaches per MUTCD Figure 4C-4

Minor St: Higher minor street (northbound or southbound) approach per MUTCD Figure 4C-4

MUTCD: Manual on Uniform Traffic Control Devices

Table E.2: Peak Hour Signal Warrant Analysis

	Major St		Minor St		Sig?	NB
Scenario	Act	Min	Act	Min		Deficient?
NT+P	567	920	93	190	No	97
LT+P	704	920	93	150	No	57

Remarks

Act: Actual from Part 1 and Higher of AM or PM

Min: Minimum to Trigger Satisfaction of Signal Warrant

Sig?: Peak Hour Signal Warrant Satisfied? Yes or No (Based on 1 Thru Lane Major and 1 Thru Lane Minor)

NB Deficient? Amount of Additional Northbound Traffic to Satisfy Peak Hour Warrant

Appendix C: Level of Service Analysis

Appendix C-1: Near-Term AM

HCM 6th Roundabout
1: SR 828 /BR 80 & East Main St/US-50A

02/09/2022

Intersection									
Intersection Delay, s/veh	7.5								
Intersection LOS	A								
Approach	EB		WB		NB		SB		
Entry Lanes	1		1		1		1		
Conflicting Circle Lanes	1		1		1		1		
Adj Approach Flow, veh/h	447		599		474		596		
Demand Flow Rate, veh/h	456		610		484		608		
Vehicles Circulating, veh/h	450		692		667		269		
Vehicles Exiting, veh/h	245		411		181		602		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	8.7		2.5		15.0		5.5		
Approach LOS	A		A		C		A		
Lane	Left	Bypass	Left	Bypass	Left	Bypass	Left	Bypass	
Designated Moves	L	R	L	R	L	R	L	R	
Assumed Moves	L	R	L	R	L	R	L	R	
RT Channelized		Free		Free		Free		Free	
Lane Util	1.000		1.000		1.000		1.000		
Follow-Up Headway, s	2.609		2.609		2.609		2.609		
Critical Headway, s	4.976	58	4.976	431	4.976	48	4.976	182	
Entry Flow, veh/h	398	1938	179	1938	436	1938	426	1938	
Cap Entry Lane, veh/h	872	0.980	681	0.980	699	0.980	1049	0.980	
Entry HV Adj Factor	0.980	57	0.983	423	0.980	47	0.981	178	
Flow Entry, veh/h	390	1900	176	1900	427	1900	418	1900	
Cap Entry, veh/h	855	0.030	670	0.223	685	0.025	1029	0.094	
V/C Ratio	0.456	0.0	0.263	0.0	0.624	0.0	0.406	0.0	
Control Delay, s/veh	10.0	A	8.6	A	16.7	A	7.9	A	
LOS	A	0	A	1	C	0	A	0	
95th %tile Queue, veh	2		1		4		2		

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	6	19	20	9	41	18	400	20	23	178	11
Future Vol, veh/h	36	6	19	20	9	41	18	400	20	23	178	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	175	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	7	23	24	11	49	22	482	24	28	214	13
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	845	827	221	830	821	494	227	0	0	506	0	0
Stage 1	277	277	-	538	538	-	-	-	-	-	-	-
Stage 2	568	550	-	292	283	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	283	307	819	289	309	575	1341	-	-	1059	-	-
Stage 1	729	681	-	527	522	-	-	-	-	-	-	-
Stage 2	508	516	-	716	677	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	243	294	819	267	296	575	1341	-	-	1059	-	-
Mov Cap-2 Maneuver	243	294	-	267	296	-	-	-	-	-	-	-
Stage 1	717	663	-	519	514	-	-	-	-	-	-	-
Stage 2	447	508	-	670	659	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	19.7		16.5		0.3		0.9					
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1341	-	-	318	396	1059	-	-				
HCM Lane V/C Ratio	0.016	-	-	0.231	0.213	0.026	-	-				
HCM Control Delay (s)	7.7	-	-	19.7	16.5	8.5	-	-				
HCM Lane LOS	A	-	-	C	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.9	0.8	0.1	-	-				

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	3	15	20	5	59	6	335	13	15	194	8
Future Vol, veh/h	46	3	15	20	5	59	6	335	13	15	194	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	85	-	-	325	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	4	19	25	6	73	7	414	16	19	240	10
Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	759	727	245	731	724	422	250	0	0	430	0	0
Stage 1	283	283	-	436	436	-	-	-	-	-	-	-
Stage 2	476	444	-	295	288	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	323	351	794	337	352	632	1316	-	-	1129	-	-
Stage 1	724	677	-	599	580	-	-	-	-	-	-	-
Stage 2	570	575	-	713	674	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	277	343	794	321	344	632	1316	-	-	1129	-	-
Mov Cap-2 Maneuver	277	343	-	321	344	-	-	-	-	-	-	-
Stage 1	720	665	-	596	577	-	-	-	-	-	-	-
Stage 2	496	572	-	681	663	-	-	-	-	-	-	-
Approach	EB		WB		NB			SB				
HCM Control Delay, s	19.3		14.2		0.1			0.6				
HCM LOS	C		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1316	-	-	330	494	1129	-	-				
HCM Lane V/C Ratio	0.006	-	-	0.239	0.21	0.016	-	-				
HCM Control Delay (s)	7.8	-	-	19.3	14.2	8.2	-	-				
HCM Lane LOS	A	-	-	C	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.9	0.8	0.1	-	-				

Intersection						
Int Delay, s/veh	11					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	130	116	196	275	110	85
Future Vol, veh/h	130	116	196	275	110	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	185	-	-	185
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	149	133	225	316	126	98
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	892	126	224	0	-	0
Stage 1	126	-	-	-	-	-
Stage 2	766	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	312	924	1345	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	459	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	260	924	1345	-	-	-
Mov Cap-2 Maneuver	260	-	-	-	-	-
Stage 1	750	-	-	-	-	-
Stage 2	459	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	34.4		3.4		0	
HCM LOS	D					
Minor Lane/Major Mvmt	NBL		NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1345		-	393	-	-
HCM Lane V/C Ratio	0.167		-	0.719	-	-
HCM Control Delay (s)	8.2		-	34.4	-	-
HCM Lane LOS	A		-	D	-	-
HCM 95th %tile Q(veh)	0.6		-	5.5	-	-

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	199	14	2	296	17	55	1	9	12	1	14
Future Vol, veh/h	8	199	14	2	296	17	55	1	9	12	1	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	250	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	265	19	3	395	23	73	1	12	16	1	19
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	418	0	0	284	0	0	720	721	275	716	719	407
Stage 1	-	-	-	-	-	-	297	297	-	413	413	-
Stage 2	-	-	-	-	-	-	423	424	-	303	306	-
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	1141	-	-	1278	-	-	343	353	764	345	354	644
Stage 1	-	-	-	-	-	-	712	668	-	616	594	-
Stage 2	-	-	-	-	-	-	609	587	-	706	662	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1141	-	-	1278	-	-	329	348	764	335	349	644
Mov Cap-2 Maneuver	-	-	-	-	-	-	329	348	-	335	349	-
Stage 1	-	-	-	-	-	-	705	661	-	610	592	-
Stage 2	-	-	-	-	-	-	588	585	-	687	655	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0			18.3			13.4		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	357	1141	-	-	1278	-	-	335	610			
HCM Lane V/C Ratio	0.243	0.009	-	-	0.002	-	-	0.048	0.033			
HCM Control Delay (s)	18.3	8.2	-	-	7.8	0	-	16.3	11.1			
HCM Lane LOS	C	A	-	-	A	A	-	C	B			
HCM 95th %tile Q(veh)	0.9	0	-	-	0	-	-	0.1	0.1			

Appendix C-2: Near-Term PM

HCM 6th Roundabout
1: SR 828 /BR 80 & East Main St/US-50A

02/09/2022

Intersection									
Intersection Delay, s/veh	19.5								
Intersection LOS	C								
Approach	EB		WB		NB		SB		
Entry Lanes	1		1		1		1		
Conflicting Circle Lanes	1		1		1		1		
Adj Approach Flow, veh/h	595		610		421		1540		
Demand Flow Rate, veh/h	607		622		430		1570		
Vehicles Circulating, veh/h	1103		609		1054		189		
Vehicles Exiting, veh/h	149		809		417		578		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	24.4		1.9		28.4		22.2		
Approach LOS	C		A		D		C		
Lane	Left	Bypass	Left	Bypass	Left	Bypass	Left	Bypass	
Designated Moves	L	R	L	R	L	R	L	R	
Assumed Moves	L	R	L	R	L	R	L	R	
RT Channelized	Free		Free		Free		Free		
Lane Util	1.000		1.000		1.000		1.000		
Follow-Up Headway, s	2.609		2.609		2.609		2.609		
Critical Headway, s	4.976	239	4.976	464	4.976	66	4.976	507	
Entry Flow, veh/h	368	1938	158	1938	364	1938	1063	1938	
Cap Entry Lane, veh/h	448	0.980	741	0.980	471	0.980	1138	0.980	
Entry HV Adj Factor	0.980	234	0.979	455	0.979	65	0.981	497	
Flow Entry, veh/h	361	1900	155	1900	356	1900	1043	1900	
Cap Entry, veh/h	439	0.123	726	0.239	461	0.034	1116	0.262	
V/C Ratio	0.821	0.0	0.213	0.0	0.773	0.0	0.934	0.0	
Control Delay, s/veh	40.3	A	7.4	A	33.5	A	32.8	A	
LOS	E	0	A	1	D	0	D	1	
95th %tile Queue, veh	8		1		7		16		

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	6	11	10	3	34	11	307	14	60	485	28
Future Vol, veh/h	49	6	11	10	3	34	11	307	14	60	485	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	175	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	6	11	10	3	35	11	320	15	63	505	29
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1015	1003	520	1004	1010	328	534	0	0	335	0	0
Stage 1	646	646	-	350	350	-	-	-	-	-	-	-
Stage 2	369	357	-	654	660	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	217	242	556	220	240	713	1034	-	-	1224	-	-
Stage 1	460	467	-	666	633	-	-	-	-	-	-	-
Stage 2	651	628	-	456	460	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	194	227	556	201	225	713	1034	-	-	1224	-	-
Mov Cap-2 Maneuver	194	227	-	201	225	-	-	-	-	-	-	-
Stage 1	455	443	-	659	626	-	-	-	-	-	-	-
Stage 2	609	621	-	418	437	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	28.5		14.6		0.3		0.8					
HCM LOS	D		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1034	-	-	221	424	1224	-	-				
HCM Lane V/C Ratio	0.011	-	-	0.311	0.115	0.051	-	-				
HCM Control Delay (s)	8.5	-	-	28.5	14.6	8.1	-	-				
HCM Lane LOS	A	-	-	D	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	1.3	0.4	0.2	-	-				

HCM 6th TWSC
3: SR 828 & East Jenny's Lane

02/09/2022

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	6	3	16	6	41	6	255	27	73	389	46
Future Vol, veh/h	35	6	3	16	6	41	6	255	27	73	389	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	85	-	-	325	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	6	3	17	6	43	6	268	28	77	409	48
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	906	895	433	886	905	282	457	0	0	296	0	0
Stage 1	587	587	-	294	294	-	-	-	-	-	-	-
Stage 2	319	308	-	592	611	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	257	280	623	265	276	757	1104	-	-	1265	-	-
Stage 1	496	497	-	714	670	-	-	-	-	-	-	-
Stage 2	693	660	-	493	484	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	226	262	623	246	258	757	1104	-	-	1265	-	-
Mov Cap-2 Maneuver	226	262	-	246	258	-	-	-	-	-	-	-
Stage 1	494	467	-	710	667	-	-	-	-	-	-	-
Stage 2	644	657	-	454	454	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	23.5		14.6		0.2		1.2					
HCM LOS	C		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1104	-	-	241	442	1265	-	-				
HCM Lane V/C Ratio	0.006	-	-	0.192	0.15	0.061	-	-				
HCM Control Delay (s)	8.3	-	-	23.5	14.6	8	-	-				
HCM Lane LOS	A	-	-	C	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.7	0.5	0.2	-	-				

Intersection						
Int Delay, s/veh	8.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	151	147	88	137	293	115
Future Vol, veh/h	151	147	88	137	293	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	185	-	-	185
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	166	162	97	151	322	126
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	667	322	448	0	-	0
Stage 1	322	-	-	-	-	-
Stage 2	345	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	424	719	1112	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	717	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	387	719	1112	-	-	-
Mov Cap-2 Maneuver	387	-	-	-	-	-
Stage 1	671	-	-	-	-	-
Stage 2	717	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	24.7		3.3		0	
HCM LOS	C					
Minor Lane/Major Mvmt	NBL		NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1112		-	501	-	-
HCM Lane V/C Ratio	0.087		-	0.654	-	-
HCM Control Delay (s)	8.5		-	24.7	-	-
HCM Lane LOS	A		-	C	-	-
HCM 95th %tile Q(veh)	0.3		-	4.7	-	-

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	300	56	2	151	17	33	7	5	15	1	12
Future Vol, veh/h	17	300	56	2	151	17	33	7	5	15	1	12
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	250	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	319	60	2	161	18	35	7	5	16	1	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	179	0	0	379	0	0	566	568	349	565	589	170
Stage 1	-	-	-	-	-	-	385	385	-	174	174	-
Stage 2	-	-	-	-	-	-	181	183	-	391	415	-
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	1397	-	-	1179	-	-	435	432	694	436	421	874
Stage 1	-	-	-	-	-	-	638	611	-	828	755	-
Stage 2	-	-	-	-	-	-	821	748	-	633	592	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1397	-	-	1179	-	-	423	426	694	422	415	874
Mov Cap-2 Maneuver	-	-	-	-	-	-	423	426	-	422	415	-
Stage 1	-	-	-	-	-	-	630	603	-	817	753	-
Stage 2	-	-	-	-	-	-	806	747	-	612	584	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	14.1	11.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	443	1397	-	-	1179	-	-	422	805
HCM Lane V/C Ratio	0.108	0.013	-	-	0.002	-	-	0.038	0.017
HCM Control Delay (s)	14.1	7.6	-	-	8.1	0	-	13.9	9.6
HCM Lane LOS	B	A	-	-	A	A	-	B	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.1	0.1

Appendix C-3: Near-Term Plus Project AM

HCM 6th Roundabout
1: SR 828 /BR 80 & East Main St/US-50A

02/09/2022

Intersection									
Intersection Delay, s/veh	8.7								
Intersection LOS	A								
Approach	EB		WB		NB		SB		
Entry Lanes	1		1		1		1		
Conflicting Circle Lanes	1		1		1		1		
Adj Approach Flow, veh/h	458		602		542		604		
Demand Flow Rate, veh/h	467		614		552		616		
Vehicles Circulating, veh/h	462		750		667		307		
Vehicles Exiting, veh/h	279		411		193		626		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	8.7		2.8		18.3		6.0		
Approach LOS	A		A		C		A		
Lane	Left	Bypass	Left	Bypass	Left	Bypass	Left	Bypass	
Designated Moves	L	R	L	R	L	R	L	R	
Assumed Moves	L	R	L	R	L	R	L	R	
RT Channelized	Free		Free		Free		Free		
Lane Util	1.000		1.000		1.000		1.000		
Follow-Up Headway, s	2.609		2.609		2.609		2.609		
Critical Headway, s	4.976	69	4.976	431	4.976	58	4.976	182	
Entry Flow, veh/h	398	1938	183	1938	494	1938	434	1938	
Cap Entry Lane, veh/h	861	0.980	642	0.980	699	0.980	1009	0.980	
Entry HV Adj Factor	0.980	68	0.978	423	0.981	57	0.981	178	
Flow Entry, veh/h	390	1900	179	1900	485	1900	426	1900	
Cap Entry, veh/h	845	0.036	628	0.223	686	0.030	990	0.094	
V/C Ratio	0.462	0.0	0.285	0.0	0.707	0.0	0.430	0.0	
Control Delay, s/veh	10.2	A	9.4	A	20.4	A	8.5	A	
LOS	B	0	A	1	C	0	A	0	
95th %tile Queue, veh	2		1		6		2		

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	6	19	20	9	41	18	465	20	23	200	11
Future Vol, veh/h	36	6	19	20	9	41	18	465	20	23	200	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	175	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	7	23	24	11	49	22	560	24	28	241	13
Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	950	932	248	935	926	572	254	0	0	584	0	0
Stage 1	304	304	-	616	616	-	-	-	-	-	-	-
Stage 2	646	628	-	319	310	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	240	266	791	246	269	520	1311	-	-	991	-	-
Stage 1	705	663	-	478	482	-	-	-	-	-	-	-
Stage 2	460	476	-	693	659	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	203	254	791	226	257	520	1311	-	-	991	-	-
Mov Cap-2 Maneuver	203	254	-	226	257	-	-	-	-	-	-	-
Stage 1	693	644	-	470	474	-	-	-	-	-	-	-
Stage 2	400	468	-	647	641	-	-	-	-	-	-	-
Approach	EB		WB		NB			SB				
HCM Control Delay, s	23.2		18.7		0.3			0.9				
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1311	-	-	271	346	991	-	-				
HCM Lane V/C Ratio	0.017	-	-	0.271	0.244	0.028	-	-				
HCM Control Delay (s)	7.8	-	-	23.2	18.7	8.7	-	-				
HCM Lane LOS	A	-	-	C	C	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	1.1	0.9	0.1	-	-				

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	3	15	20	5	59	6	400	13	15	216	8
Future Vol, veh/h	46	3	15	20	5	59	6	400	13	15	216	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	85	-	-	325	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	4	19	25	6	73	7	494	16	19	267	10
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	866	834	272	838	831	502	277	0	0	510	0	0
Stage 1	310	310	-	516	516	-	-	-	-	-	-	-
Stage 2	556	524	-	322	315	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	274	304	767	286	305	569	1286	-	-	1055	-	-
Stage 1	700	659	-	542	534	-	-	-	-	-	-	-
Stage 2	515	530	-	690	656	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	231	297	767	271	298	569	1286	-	-	1055	-	-
Mov Cap-2 Maneuver	231	297	-	271	298	-	-	-	-	-	-	-
Stage 1	697	647	-	539	531	-	-	-	-	-	-	-
Stage 2	441	527	-	657	644	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	22.8		15.9		0.1		0.5					
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1286	-	-	280	432	1055	-	-				
HCM Lane V/C Ratio	0.006	-	-	0.282	0.24	0.018	-	-				
HCM Control Delay (s)	7.8	-	-	22.8	15.9	8.5	-	-				
HCM Lane LOS	A	-	-	C	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	1.1	0.9	0.1	-	-				

Intersection						
Int Delay, s/veh	14.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	130	119	205	340	132	85
Future Vol, veh/h	130	119	205	340	132	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	185	-	-	185
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	149	137	236	391	152	98
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1015	152	250	0	-	0
Stage 1	152	-	-	-	-	-
Stage 2	863	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	264	894	1316	-	-	-
Stage 1	876	-	-	-	-	-
Stage 2	413	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	217	894	1316	-	-	-
Mov Cap-2 Maneuver	217	-	-	-	-	-
Stage 1	719	-	-	-	-	-
Stage 2	413	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	52.6	3.1		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1316	-	340	-	-	
HCM Lane V/C Ratio	0.179	-	0.842	-	-	
HCM Control Delay (s)	8.3	-	52.6	-	-	
HCM Lane LOS	A	-	F	-	-	
HCM 95th %tile Q(veh)	0.7	-	7.5	-	-	

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	224	14	2	370	17	55	1	9	12	1	14
Future Vol, veh/h	8	224	14	2	370	17	55	1	9	12	1	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	250	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	299	19	3	493	23	73	1	12	16	1	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	516	0	0	318	0	0	852	853	309	848	851	505
Stage 1	-	-	-	-	-	-	331	331	-	511	511	-
Stage 2	-	-	-	-	-	-	521	522	-	337	340	-
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	1050	-	-	1242	-	-	280	296	731	281	297	567
Stage 1	-	-	-	-	-	-	682	645	-	545	537	-
Stage 2	-	-	-	-	-	-	539	531	-	677	639	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1050	-	-	1242	-	-	267	292	731	273	293	567
Mov Cap-2 Maneuver	-	-	-	-	-	-	267	292	-	273	293	-
Stage 1	-	-	-	-	-	-	675	639	-	540	535	-
Stage 2	-	-	-	-	-	-	518	529	-	658	633	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	22.4	15.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	293	1050	-	-	1242	-	-	273	534
HCM Lane V/C Ratio	0.296	0.01	-	-	0.002	-	-	0.059	0.037
HCM Control Delay (s)	22.4	8.5	-	-	7.9	0	-	19	12
HCM Lane LOS	C	A	-	-	A	A	-	C	B
HCM 95th %tile Q(veh)	1.2	0	-	-	0	-	-	0.2	0.1

Intersection						
Int Delay, s/veh	1.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘↗	
Traffic Vol, veh/h	220	25	7	315	74	19
Future Vol, veh/h	220	25	7	315	74	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	239	27	8	342	80	21
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	266	0	597	239
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	358	-
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	-	-	1298	-	466	800
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	707	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1298	-	463	800
Mov Cap-2 Maneuver	-	-	-	-	551	-
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	703	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		12.4	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	588	-	-	1298	-	
HCM Lane V/C Ratio	0.172	-	-	0.006	-	
HCM Control Delay (s)	12.4	-	-	7.8	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0.6	-	-	0	-	

Appendix C-4: Near-Term Plus Project PM

HCM 6th Roundabout
1: SR 828 /BR 80 & East Main St/US-50A

02/09/2022

Intersection									
Intersection Delay, s/veh	25.0								
Intersection LOS	D								
Approach	EB		WB		NB		SB		
Entry Lanes	1		1		1		1		
Conflicting Circle Lanes	1		1		1		1		
Adj Approach Flow, veh/h	633		622		466		1562		
Demand Flow Rate, veh/h	645		634		475		1593		
Vehicles Circulating, veh/h	1138		648		1054		224		
Vehicles Exiting, veh/h	172		809		452		594		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	25.9		2.1		36.7		30.3		
Approach LOS	D		A		E		D		
Lane	Left	Bypass	Left	Bypass	Left	Bypass	Left	Bypass	
Designated Moves	L	R	L	R	L	R	L	R	
Assumed Moves	L	R	L	R	L	R	L	R	
RT Channelized	Free		Free		Free		Free		
Lane Util	1.000		1.000		1.000		1.000		
Follow-Up Headway, s	2.609		2.609		2.609		2.609		
Critical Headway, s	4.976	277	4.976	464	4.976	72	4.976	507	
Entry Flow, veh/h	368	1938	170	1938	403	1938	1086	1938	
Cap Entry Lane, veh/h	432	0.980	713	0.980	471	0.980	1098	0.980	
Entry HV Adj Factor	0.980	272	0.981	455	0.981	71	0.981	497	
Flow Entry, veh/h	361	1900	167	1900	395	1900	1065	1900	
Cap Entry, veh/h	424	0.143	699	0.239	462	0.037	1077	0.262	
V/C Ratio	0.851	0.0	0.239	0.0	0.856	0.0	0.989	0.0	
Control Delay, s/veh	45.4	A	8.0	A	43.3	A	44.5	A	
LOS	E	0	A	1	E	0	E	1	
95th %tile Queue, veh	8		1		9		19		

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	6	11	10	9	34	11	351	14	28	560	60
Future Vol, veh/h	49	6	11	10	9	34	11	351	14	28	560	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	175	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	6	11	10	9	35	11	366	15	29	583	63
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1091	1076	615	1077	1100	374	646	0	0	381	0	0
Stage 1	673	673	-	396	396	-	-	-	-	-	-	-
Stage 2	418	403	-	681	704	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	192	219	491	197	212	672	939	-	-	1177	-	-
Stage 1	445	454	-	629	604	-	-	-	-	-	-	-
Stage 2	612	600	-	440	440	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	171	211	491	183	204	672	939	-	-	1177	-	-
Mov Cap-2 Maneuver	171	211	-	183	204	-	-	-	-	-	-	-
Stage 1	440	443	-	621	597	-	-	-	-	-	-	-
Stage 2	564	593	-	413	429	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	33		17		0.3		0.4					
HCM LOS	D		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	939	-	-	196	355	1177	-	-				
HCM Lane V/C Ratio	0.012	-	-	0.351	0.156	0.025	-	-				
HCM Control Delay (s)	8.9	-	-	33	17	8.1	-	-				
HCM Lane LOS	A	-	-	D	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	1.5	0.5	0.1	-	-				

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	6	3	16	6	41	6	299	27	73	464	46
Future Vol, veh/h	35	6	3	16	6	41	6	299	27	73	464	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	85	-	-	325	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	6	3	17	6	43	6	315	28	77	488	48
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1032	1021	512	1012	1031	329	536	0	0	343	0	0
Stage 1	666	666	-	341	341	-	-	-	-	-	-	-
Stage 2	366	355	-	671	690	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	211	236	562	218	233	712	1032	-	-	1216	-	-
Stage 1	449	457	-	674	639	-	-	-	-	-	-	-
Stage 2	653	630	-	446	446	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	184	220	562	201	217	712	1032	-	-	1216	-	-
Mov Cap-2 Maneuver	184	220	-	201	217	-	-	-	-	-	-	-
Stage 1	446	428	-	670	635	-	-	-	-	-	-	-
Stage 2	604	626	-	409	418	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	28.8		16.4		0.2		1					
HCM LOS	D		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1032	-	-	197	382	1216	-	-				
HCM Lane V/C Ratio	0.006	-	-	0.235	0.174	0.063	-	-				
HCM Control Delay (s)	8.5	-	-	28.8	16.4	8.2	-	-				
HCM Lane LOS	A	-	-	D	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.9	0.6	0.2	-	-				

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	151	158	94	181	115	368
Future Vol, veh/h	151	158	94	181	115	368
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	185	-	-	185
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	166	174	103	199	126	404
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	531	126	530	0	-	0
Stage 1	126	-	-	-	-	-
Stage 2	405	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	509	924	1037	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	673	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	459	924	1037	-	-	-
Mov Cap-2 Maneuver	459	-	-	-	-	-
Stage 1	811	-	-	-	-	-
Stage 2	673	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	17.7	3		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1037	-	618	-	-	
HCM Lane V/C Ratio	0.1	-	0.549	-	-	
HCM Control Delay (s)	8.9	-	17.7	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.3	-	3.3	-	-	

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	386	56	2	201	17	56	7	5	15	1	12
Future Vol, veh/h	17	386	56	2	201	17	56	7	5	15	1	12
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	250	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	411	60	2	214	18	60	7	5	16	1	13
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	232	0	0	471	0	0	711	713	441	710	734	223
Stage 1	-	-	-	-	-	-	477	477	-	227	227	-
Stage 2	-	-	-	-	-	-	234	236	-	483	507	-
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	1336	-	-	1091	-	-	348	357	616	348	347	817
Stage 1	-	-	-	-	-	-	569	556	-	776	716	-
Stage 2	-	-	-	-	-	-	769	710	-	565	539	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1336	-	-	1091	-	-	338	352	616	335	342	817
Mov Cap-2 Maneuver	-	-	-	-	-	-	338	352	-	335	342	-
Stage 1	-	-	-	-	-	-	562	549	-	766	715	-
Stage 2	-	-	-	-	-	-	754	709	-	545	532	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.1			17.9			13.4		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	351	1336	-	-	1091	-	-	335	738			
HCM Lane V/C Ratio	0.206	0.014	-	-	0.002	-	-	0.048	0.019			
HCM Control Delay (s)	17.9	7.7	-	-	8.3	0	-	16.3	10			
HCM Lane LOS	C	A	-	-	A	A	-	C	B			
HCM 95th %tile Q(veh)	0.8	0	-	-	0	-	-	0.1	0.1			

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	
Traffic Vol, veh/h	320	86	20	170	50	12
Future Vol, veh/h	320	86	20	170	50	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	348	93	22	185	54	13
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	441	0	577	348
Stage 1	-	-	-	-	348	-
Stage 2	-	-	-	-	229	-
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	-	-	1119	-	478	695
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	809	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1119	-	468	695
Mov Cap-2 Maneuver	-	-	-	-	555	-
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	793	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.9		12		
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	578	-	-	1119	-	
HCM Lane V/C Ratio	0.117	-	-	0.019	-	
HCM Control Delay (s)	12	-	-	8.3	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-	

Appendix C-5: Long-Term AM

HCM 6th Roundabout
1: SR 828 /BR 80 & East Main St/US-50A

02/09/2022

Intersection									
Intersection Delay, s/veh	4.7								
Intersection LOS	A								
Approach	EB		WB		NB		SB		
Entry Lanes	1		1		1		1		
Conflicting Circle Lanes	1		1		1		1		
Adj Approach Flow, veh/h	330		441		350		440		
Demand Flow Rate, veh/h	337		449		357		449		
Vehicles Circulating, veh/h	331		510		493		197		
Vehicles Exiting, veh/h	180		304		132		444		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	5.9		1.8		8.1		4.1		
Approach LOS	A		A		A		A		
Lane	Left	Bypass	Left	Bypass	Left	Bypass	Left	Bypass	
Designated Moves	L	R	L	R	L	R	L	R	
Assumed Moves	L	R	L	R	L	R	L	R	
RT Channelized	Free		Free		Free		Free		
Lane Util	1.000		1.000		1.000		1.000		
Follow-Up Headway, s	2.609		2.609		2.609		2.609		
Critical Headway, s	4.976		4.976		4.976		4.976		
Entry Flow, veh/h	294		1938		321		1938		
Cap Entry Lane, veh/h	985		0.980		835		0.980		
Entry HV Adj Factor	0.979		42		0.981		35		
Flow Entry, veh/h	288		1900		315		1900		
Cap Entry, veh/h	964		0.022		819		0.018		
V/C Ratio	0.299		0.0		0.385		0.0		
Control Delay, s/veh	6.8		A		9.0		A		
LOS	A		0		A		0		
95th %tile Queue, veh	1		1		2		1		

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	4	13	14	6	29	13	280	14	16	125	8
Future Vol, veh/h	25	4	13	14	6	29	13	280	14	16	125	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	175	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	4	14	15	7	32	14	304	15	17	136	9
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	534	522	141	524	519	312	145	0	0	319	0	0
Stage 1	175	175	-	340	340	-	-	-	-	-	-	-
Stage 2	359	347	-	184	179	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	457	459	907	464	461	728	1437	-	-	1241	-	-
Stage 1	827	754	-	675	639	-	-	-	-	-	-	-
Stage 2	659	635	-	818	751	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	425	448	907	445	450	728	1437	-	-	1241	-	-
Mov Cap-2 Maneuver	425	448	-	445	450	-	-	-	-	-	-	-
Stage 1	819	743	-	668	633	-	-	-	-	-	-	-
Stage 2	618	629	-	790	740	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	12.7		11.8		0.3		0.9					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1437	-	-	512	579	1241	-	-				
HCM Lane V/C Ratio	0.01	-	-	0.089	0.092	0.014	-	-				
HCM Control Delay (s)	7.5	-	-	12.7	11.8	7.9	-	-				
HCM Lane LOS	A	-	-	B	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0	-	-				

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	58	4	19	25	6	74	8	422	16	19	244	10
Future Vol, veh/h	58	4	19	25	6	74	8	422	16	19	244	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	85	-	-	325	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	4	21	27	7	80	9	459	17	21	265	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	842	807	271	811	804	468	276	0	0	476	0	0
Stage 1	313	313	-	486	486	-	-	-	-	-	-	-
Stage 2	529	494	-	325	318	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	284	315	768	298	316	595	1287	-	-	1086	-	-
Stage 1	698	657	-	563	551	-	-	-	-	-	-	-
Stage 2	533	546	-	687	654	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	237	307	768	281	308	595	1287	-	-	1086	-	-
Mov Cap-2 Maneuver	237	307	-	281	308	-	-	-	-	-	-	-
Stage 1	693	645	-	559	547	-	-	-	-	-	-	-
Stage 2	452	542	-	651	642	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	23		15.7		0.1		0.6					
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1287	-	-	287	451	1086	-	-				
HCM Lane V/C Ratio	0.007	-	-	0.307	0.253	0.019	-	-				
HCM Control Delay (s)	7.8	-	-	23	15.7	8.4	-	-				
HCM Lane LOS	A	-	-	C	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	1.3	1	0.1	-	-				

Intersection						
Int Delay, s/veh	32.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	164	146	247	346	139	107
Future Vol, veh/h	164	146	247	346	139	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	185	-	-	185
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	178	159	268	376	151	116
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1063	151	267	0	-	0
Stage 1	151	-	-	-	-	-
Stage 2	912	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	247	895	1297	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	392	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	196	895	1297	-	-	-
Mov Cap-2 Maneuver	196	-	-	-	-	-
Stage 1	695	-	-	-	-	-
Stage 2	392	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	114		3.5		0	
HCM LOS	F					
Minor Lane/Major Mvmt	NBL		NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1297		-	310	-	-
HCM Lane V/C Ratio	0.207		-	1.087	-	-
HCM Control Delay (s)	8.5		-	114	-	-
HCM Lane LOS	A		-	F	-	-
HCM 95th %tile Q(veh)	0.8		-	13.1	-	-

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	251	18	3	373	21	69	1	11	15	1	18
Future Vol, veh/h	10	251	18	3	373	21	69	1	11	15	1	18
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	250	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	273	20	3	405	23	75	1	12	16	1	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	428	0	0	293	0	0	738	739	283	735	738	417
Stage 1	-	-	-	-	-	-	305	305	-	423	423	-
Stage 2	-	-	-	-	-	-	433	434	-	312	315	-
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	1131	-	-	1269	-	-	334	345	756	335	346	636
Stage 1	-	-	-	-	-	-	705	662	-	609	588	-
Stage 2	-	-	-	-	-	-	601	581	-	699	656	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1131	-	-	1269	-	-	320	341	756	326	342	636
Mov Cap-2 Maneuver	-	-	-	-	-	-	320	341	-	326	342	-
Stage 1	-	-	-	-	-	-	698	655	-	603	586	-
Stage 2	-	-	-	-	-	-	580	579	-	680	649	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.1			18.9			13.5		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	347	1131	-	-	1269	-	-	326	608			
HCM Lane V/C Ratio	0.254	0.01	-	-	0.003	-	-	0.05	0.034			
HCM Control Delay (s)	18.9	8.2	-	-	7.8	0	-	16.6	11.1			
HCM Lane LOS	C	A	-	-	A	A	-	C	B			
HCM 95th %tile Q(veh)	1	0	-	-	0	-	-	0.2	0.1			

Appendix C-6: Long-Term PM

HCM 6th Roundabout
1: SR 828 /BR 80 & East Main St/US-50A

02/09/2022

Intersection									
Intersection Delay, s/veh	7.1								
Intersection LOS	A								
Approach	EB		WB		NB		SB		
Entry Lanes	1		1		1		1		
Conflicting Circle Lanes	1		1		1		1		
Adj Approach Flow, veh/h	439		451		310		1136		
Demand Flow Rate, veh/h	448		461		316		1158		
Vehicles Circulating, veh/h	815		448		779		140		
Vehicles Exiting, veh/h	110		598		308		426		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	8.1		1.4		10.4		8.1		
Approach LOS	A		A		B		A		
Lane	Left	Bypass	Left	Bypass	Left	Bypass	Left	Bypass	
Designated Moves	L	R	L	R	L	R	L	R	
Assumed Moves	L	R	L	R	L	R	L	R	
RT Channelized	Free		Free		Free		Free		
Lane Util	1.000		1.000		1.000		1.000		
Follow-Up Headway, s	2.609		2.609		2.609		2.609		
Critical Headway, s	4.976		176		4.976		49		
Entry Flow, veh/h	272		1938		118		1938		
Cap Entry Lane, veh/h	601		0.980		874		0.980		
Entry HV Adj Factor	0.979		173		0.977		48		
Flow Entry, veh/h	266		1900		115		1900		
Cap Entry, veh/h	588		0.091		854		0.025		
V/C Ratio	0.453		0.0		0.135		0.0		
Control Delay, s/veh	13.3		A		5.6		A		
LOS	B		0		A		1		
95th %tile Queue, veh	2		0		2		5		

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	4	8	7	2	24	8	215	10	42	340	20
Future Vol, veh/h	34	4	8	7	2	24	8	215	10	42	340	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	175	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	4	9	8	2	26	9	234	11	46	370	22
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	745	736	381	738	742	240	392	0	0	245	0	0
Stage 1	473	473	-	258	258	-	-	-	-	-	-	-
Stage 2	272	263	-	480	484	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	330	346	666	334	344	799	1167	-	-	1321	-	-
Stage 1	572	558	-	747	694	-	-	-	-	-	-	-
Stage 2	734	691	-	567	552	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	307	331	666	316	329	799	1167	-	-	1321	-	-
Mov Cap-2 Maneuver	307	331	-	316	329	-	-	-	-	-	-	-
Stage 1	567	538	-	741	688	-	-	-	-	-	-	-
Stage 2	702	685	-	536	533	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	17.4		11.8		0.3		0.8					
HCM LOS	C		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1167	-	-	341	566	1321	-	-				
HCM Lane V/C Ratio	0.007	-	-	0.147	0.063	0.035	-	-				
HCM Control Delay (s)	8.1	-	-	17.4	11.8	7.8	-	-				
HCM Lane LOS	A	-	-	C	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.5	0.2	0.1	-	-				

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Vol, veh/h	44	8	4	20	8	52	8	321	34	92	490	58
Future Vol, veh/h	44	8	4	20	8	52	8	321	34	92	490	58
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	85	-	-	325	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	9	4	22	9	57	9	349	37	100	533	63

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1184	1169	565	1157	1182	368	596	0	0	386	0	0
Stage 1	765	765	-	386	386	-	-	-	-	-	-	-
Stage 2	419	404	-	771	796	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	166	193	524	173	190	677	980	-	-	1172	-	-
Stage 1	396	412	-	637	610	-	-	-	-	-	-	-
Stage 2	612	599	-	393	399	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	136	175	524	153	172	677	980	-	-	1172	-	-
Mov Cap-2 Maneuver	136	175	-	153	172	-	-	-	-	-	-	-
Stage 1	392	377	-	631	605	-	-	-	-	-	-	-
Stage 2	548	594	-	348	365	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	44.9		20.7		0.2		1.2	
HCM LOS	E		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	980	-	-	149	315	1172	-
HCM Lane V/C Ratio	0.009	-	-	0.409	0.276	0.085	-
HCM Control Delay (s)	8.7	-	-	44.9	20.7	8.4	-
HCM Lane LOS	A	-	-	E	C	A	-
HCM 95th %tile Q(veh)	0	-	-	1.8	1.1	0.3	-

Intersection						
Int Delay, s/veh	25.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	190	185	111	173	369	145
Future Vol, veh/h	190	185	111	173	369	145
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	185	-	-	185
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	207	201	121	188	401	158
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	831	401	559	0	-	0
Stage 1	401	-	-	-	-	-
Stage 2	430	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	340	649	1012	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	299	649	1012	-	-	-
Mov Cap-2 Maneuver	299	-	-	-	-	-
Stage 1	595	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	77.3	3.5		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1012	-	407	-	-	
HCM Lane V/C Ratio	0.119	-	1.001	-	-	
HCM Control Delay (s)	9	-	77.3	-	-	
HCM Lane LOS	A	-	F	-	-	
HCM 95th %tile Q(veh)	0.4	-	12.4	-	-	

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	378	71	3	190	21	42	9	6	19	1	15
Future Vol, veh/h	21	378	71	3	190	21	42	9	6	19	1	15
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	250	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	411	77	3	207	23	46	10	7	21	1	16
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	230	0	0	488	0	0	729	732	450	729	759	219
Stage 1	-	-	-	-	-	-	496	496	-	225	225	-
Stage 2	-	-	-	-	-	-	233	236	-	504	534	-
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	1338	-	-	1075	-	-	338	348	609	338	336	821
Stage 1	-	-	-	-	-	-	556	545	-	778	718	-
Stage 2	-	-	-	-	-	-	770	710	-	550	524	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1338	-	-	1075	-	-	325	341	609	322	329	821
Mov Cap-2 Maneuver	-	-	-	-	-	-	325	341	-	322	329	-
Stage 1	-	-	-	-	-	-	547	536	-	765	716	-
Stage 2	-	-	-	-	-	-	751	708	-	525	515	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.1			17.8			13.7		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	344	1338	-	-	1075	-	-	322	751			
HCM Lane V/C Ratio	0.18	0.017	-	-	0.003	-	-	0.064	0.023			
HCM Control Delay (s)	17.8	7.7	-	-	8.4	0	-	16.9	9.9			
HCM Lane LOS	C	A	-	-	A	A	-	C	A			
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	0.2	0.1			

Appendix C-7: Long-Term Plus Project AM

HCM 6th Roundabout
1: SR 828 /BR 80 & East Main St/US-50A

02/09/2022

Intersection									
Intersection Delay, s/veh	5.2								
Intersection LOS	A								
Approach	EB		WB		NB		SB		
Entry Lanes	1		1		1		1		
Conflicting Circle Lanes	1		1		1		1		
Adj Approach Flow, veh/h	339		445		406		447		
Demand Flow Rate, veh/h	346		453		414		456		
Vehicles Circulating, veh/h	342		557		493		227		
Vehicles Exiting, veh/h	206		304		143		465		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	5.9		1.9		8.9		4.4		
Approach LOS	A		A		A		A		
Lane	Left	Bypass	Left	Bypass	Left	Bypass	Left	Bypass	
Designated Moves	L	R	L	R	L	R	L	R	
Assumed Moves	L	R	L	R	L	R	L	R	
RT Channelized	Free		Free		Free		Free		
Lane Util	1.000		1.000		1.000		1.000		
Follow-Up Headway, s	2.609		2.609		2.609		2.609		
Critical Headway, s	4.976	52	4.976	318	4.976	46	4.976	135	
Entry Flow, veh/h	294	1938	135	1938	368	1938	321	1938	
Cap Entry Lane, veh/h	974	0.980	782	0.980	835	0.980	1095	0.980	
Entry HV Adj Factor	0.979	51	0.983	312	0.980	45	0.980	132	
Flow Entry, veh/h	288	1900	133	1900	361	1900	315	1900	
Cap Entry, veh/h	953	0.027	769	0.164	818	0.024	1073	0.069	
V/C Ratio	0.302	0.0	0.173	0.0	0.441	0.0	0.293	0.0	
Control Delay, s/veh	6.9	A	6.5	A	10.0	A	6.2	A	
LOS	A	0	A	1	B	0	A	0	
95th %tile Queue, veh	1		1		2		1		

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	4	13	14	6	29	13	331	14	16	142	8
Future Vol, veh/h	25	4	13	14	6	29	13	331	14	16	142	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	175	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	4	14	15	7	32	14	360	15	17	154	9
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	608	596	159	598	593	368	163	0	0	375	0	0
Stage 1	193	193	-	396	396	-	-	-	-	-	-	-
Stage 2	415	403	-	202	197	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	408	417	886	414	418	677	1416	-	-	1183	-	-
Stage 1	809	741	-	629	604	-	-	-	-	-	-	-
Stage 2	615	600	-	800	738	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	377	407	886	397	408	677	1416	-	-	1183	-	-
Mov Cap-2 Maneuver	377	407	-	397	408	-	-	-	-	-	-	-
Stage 1	801	731	-	623	598	-	-	-	-	-	-	-
Stage 2	574	594	-	771	728	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	13.6		12.6		0.3		0.8					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1416	-	-	462	528	1183	-	-				
HCM Lane V/C Ratio	0.01	-	-	0.099	0.101	0.015	-	-				
HCM Control Delay (s)	7.6	-	-	13.6	12.6	8.1	-	-				
HCM Lane LOS	A	-	-	B	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0	-	-				

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	58	4	19	25	6	74	8	473	16	19	261	10
Future Vol, veh/h	58	4	19	25	6	74	8	473	16	19	261	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	85	-	-	325	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	4	21	27	7	80	9	514	17	21	284	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	916	881	290	885	878	523	295	0	0	531	0	0
Stage 1	332	332	-	541	541	-	-	-	-	-	-	-
Stage 2	584	549	-	344	337	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	253	285	749	266	287	554	1266	-	-	1036	-	-
Stage 1	681	644	-	525	521	-	-	-	-	-	-	-
Stage 2	498	516	-	671	641	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	208	277	749	250	279	554	1266	-	-	1036	-	-
Mov Cap-2 Maneuver	208	277	-	250	279	-	-	-	-	-	-	-
Stage 1	676	631	-	521	517	-	-	-	-	-	-	-
Stage 2	417	512	-	635	628	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	26.5		17.1		0.1		0.6					
HCM LOS	D		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1266	-	-	254	412	1036	-	-				
HCM Lane V/C Ratio	0.007	-	-	0.347	0.277	0.02	-	-				
HCM Control Delay (s)	7.9	-	-	26.5	17.1	8.5	-	-				
HCM Lane LOS	A	-	-	D	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	1.5	1.1	0.1	-	-				

HCM 6th TWSC
4: SR 828 & Cottonwood Lane

02/09/2022

Intersection						
Int Delay, s/veh	47.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	164	151	261	392	156	107
Future Vol, veh/h	164	151	261	392	156	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	185	-	-	185
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	178	164	284	426	170	116
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1164	170	286	0	-	0
Stage 1	170	-	-	-	-	-
Stage 2	994	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	215	874	1276	-	-	-
Stage 1	860	-	-	-	-	-
Stage 2	358	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 167	874	1276	-	-	-
Mov Cap-2 Maneuver	~ 167	-	-	-	-	-
Stage 1	668	-	-	-	-	-
Stage 2	358	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	178.9		3.4		0	
HCM LOS	F					
Minor Lane/Major Mvmt	NBL		NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1276		-	273	-	-
HCM Lane V/C Ratio	0.222		-	1.254	-	-
HCM Control Delay (s)	8.6		-	178.9	-	-
HCM Lane LOS	A		-	F	-	-
HCM 95th %tile Q(veh)	0.9		-	16.5	-	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	273	18	3	438	21	69	1	11	15	1	18
Future Vol, veh/h	10	273	18	3	438	21	69	1	11	15	1	18
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	250	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	297	20	3	476	23	75	1	12	16	1	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	499	0	0	317	0	0	833	834	307	830	833	488
Stage 1	-	-	-	-	-	-	329	329	-	494	494	-
Stage 2	-	-	-	-	-	-	504	505	-	336	339	-
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	1065	-	-	1243	-	-	288	304	733	289	304	580
Stage 1	-	-	-	-	-	-	684	646	-	557	546	-
Stage 2	-	-	-	-	-	-	550	540	-	678	640	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1065	-	-	1243	-	-	275	300	733	281	300	580
Mov Cap-2 Maneuver	-	-	-	-	-	-	275	300	-	281	300	-
Stage 1	-	-	-	-	-	-	677	640	-	551	544	-
Stage 2	-	-	-	-	-	-	529	538	-	659	634	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.1			21.8			14.8		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	301	1065	-	-	1243	-	-	281	553
HCM Lane V/C Ratio	0.293	0.01	-	-	0.003	-	-	0.058	0.037
HCM Control Delay (s)	21.8	8.4	-	-	7.9	0	-	18.6	11.8
HCM Lane LOS	C	A	-	-	A	A	-	C	B
HCM 95th %tile Q(veh)	1.2	0	-	-	0	-	-	0.2	0.1

Intersection						
Int Delay, s/veh	1.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘↗	
Traffic Vol, veh/h	277	22	10	397	65	28
Future Vol, veh/h	277	22	10	397	65	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	301	24	11	432	71	30
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	325	0	755	301
Stage 1	-	-	-	-	301	-
Stage 2	-	-	-	-	454	-
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	-	-	1235	-	376	739
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	640	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1235	-	373	739
Mov Cap-2 Maneuver	-	-	-	-	481	-
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	634	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		13.3	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	537	-	-	1235	-	
HCM Lane V/C Ratio	0.188	-	-	0.009	-	
HCM Control Delay (s)	13.3	-	-	7.9	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0.7	-	-	0	-	

Appendix C-8: Long-Term Plus Project PM

HCM 6th Roundabout
1: SR 828 /BR 80 & East Main St/US-50A

02/09/2022

Intersection									
Intersection Delay, s/veh	7.9								
Intersection LOS	A								
Approach	EB		WB		NB		SB		
Entry Lanes	1		1		1		1		
Conflicting Circle Lanes	1		1		1		1		
Adj Approach Flow, veh/h	468		463		346		1159		
Demand Flow Rate, veh/h	478		473		353		1182		
Vehicles Circulating, veh/h	851		479		779		170		
Vehicles Exiting, veh/h	128		598		344		439		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	8.1		1.6		11.4		9.3		
Approach LOS	A		A		B		A		
Lane	Left	Bypass	Left	Bypass	Left	Bypass	Left	Bypass	
Designated Moves	L	R	L	R	L	R	L	R	
Assumed Moves	L	R	L	R	L	R	L	R	
RT Channelized	Free		Free		Free		Free		
Lane Util	1.000		1.000		1.000		1.000		
Follow-Up Headway, s	2.609		2.609		2.609		2.609		
Critical Headway, s	4.976	206	4.976	343	4.976	55	4.976	373	
Entry Flow, veh/h	272	1938	130	1938	298	1938	809	1938	
Cap Entry Lane, veh/h	579	0.980	847	0.980	623	0.980	1160	0.980	
Entry HV Adj Factor	0.979	202	0.979	336	0.980	54	0.980	366	
Flow Entry, veh/h	266	1900	127	1900	292	1900	793	1900	
Cap Entry, veh/h	567	0.106	829	0.177	611	0.028	1137	0.193	
V/C Ratio	0.470	0.0	0.154	0.0	0.478	0.0	0.697	0.0	
Control Delay, s/veh	14.2	A	5.9	A	13.6	A	13.6	A	
LOS	B	0	A	1	B	0	B	1	
95th %tile Queue, veh	2		1		3		6		

Approach

Approach Direction	NB
Median Present?	No
Approach Delay(s)	70.5
Level of Service	F

Crosswalk

Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed	648
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No

Critical Headway (s)	15.57
Prob of Delayed X-ing	0.94
Prob of Blocked Lane	0.75
Delay for adq Gap	75.04
Avg Ped Delay (s)	70.49

Approach

Approach Direction	SB
Median Present?	No
Approach Delay(s)	70.5
Level of Service	F

Crosswalk

Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed	648
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No

Critical Headway (s)	15.57
Prob of Delayed X-ing	0.94
Prob of Blocked Lane	0.75
Delay for adq Gap	75.04
Avg Ped Delay (s)	70.49

Approach

Approach Direction	NB
Median Present?	No
Approach Delay(s)	179.2
Level of Service	F

Crosswalk

Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed	904
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No

Critical Headway (s)	15.57
Prob of Delayed X-ing	0.98
Prob of Blocked Lane	0.86
Delay for adq Gap	182.85
Avg Ped Delay (s)	179.19

Approach

Approach Direction	SB
Median Present?	No
Approach Delay(s)	179.2
Level of Service	F

Crosswalk

Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed	904
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No

Critical Headway (s)	15.57
Prob of Delayed X-ing	0.98
Prob of Blocked Lane	0.86
Delay for adq Gap	182.85
Avg Ped Delay (s)	179.19

Approach

Approach Direction	NB
Median Present?	No
Approach Delay(s)	67.1
Level of Service	F

Crosswalk

Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed	635
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No

Critical Headway (s)	15.57
Prob of Delayed X-ing	0.94
Prob of Blocked Lane	0.75
Delay for adq Gap	71.75
Avg Ped Delay (s)	67.14

Approach

Approach Direction	SB
Median Present?	Yes
Approach Delay(s)	5.3
Level of Service	B

Crosswalk

Length (ft)	12	17
Lanes Crossed	1	1
Veh Vol Crossed	428	207
Ped Vol Crossed	0	0
Yield Rate(%)	0	0
Ped Platooning	No	No

Critical Headway (s)	6.43	7.86
Prob of Delayed X-ing	0.53	0.36
Prob of Blocked Lane	0.53	0.36
Delay for adq Gap	6.03	5.71
Avg Ped Delay (s)	3.22	2.08

Approach

Approach Direction	EB
Median Present?	No
Approach Delay(s)	81.2
Level of Service	F

Crosswalk

Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed	686
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No

Critical Headway (s)	15.57
Prob of Delayed X-ing	0.95
Prob of Blocked Lane	0.77
Delay for adq Gap	85.59
Avg Ped Delay (s)	81.19

Approach

Approach Direction	WB
Median Present?	No
Approach Delay(s)	81.2
Level of Service	F

Crosswalk

Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed	686
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No

Critical Headway (s)	15.57
Prob of Delayed X-ing	0.95
Prob of Blocked Lane	0.77
Delay for adq Gap	85.59
Avg Ped Delay (s)	81.19

Approach

Approach Direction	EB
Median Present?	No
Approach Delay(s)	126.6
Level of Service	F

Crosswalk

Length (ft)	56
Lanes Crossed	2
Veh Vol Crossed	617
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No

Critical Headway (s)	19.00
Prob of Delayed X-ing	0.96
Prob of Blocked Lane	0.80
Delay for adq Gap	131.68
Avg Ped Delay (s)	126.61

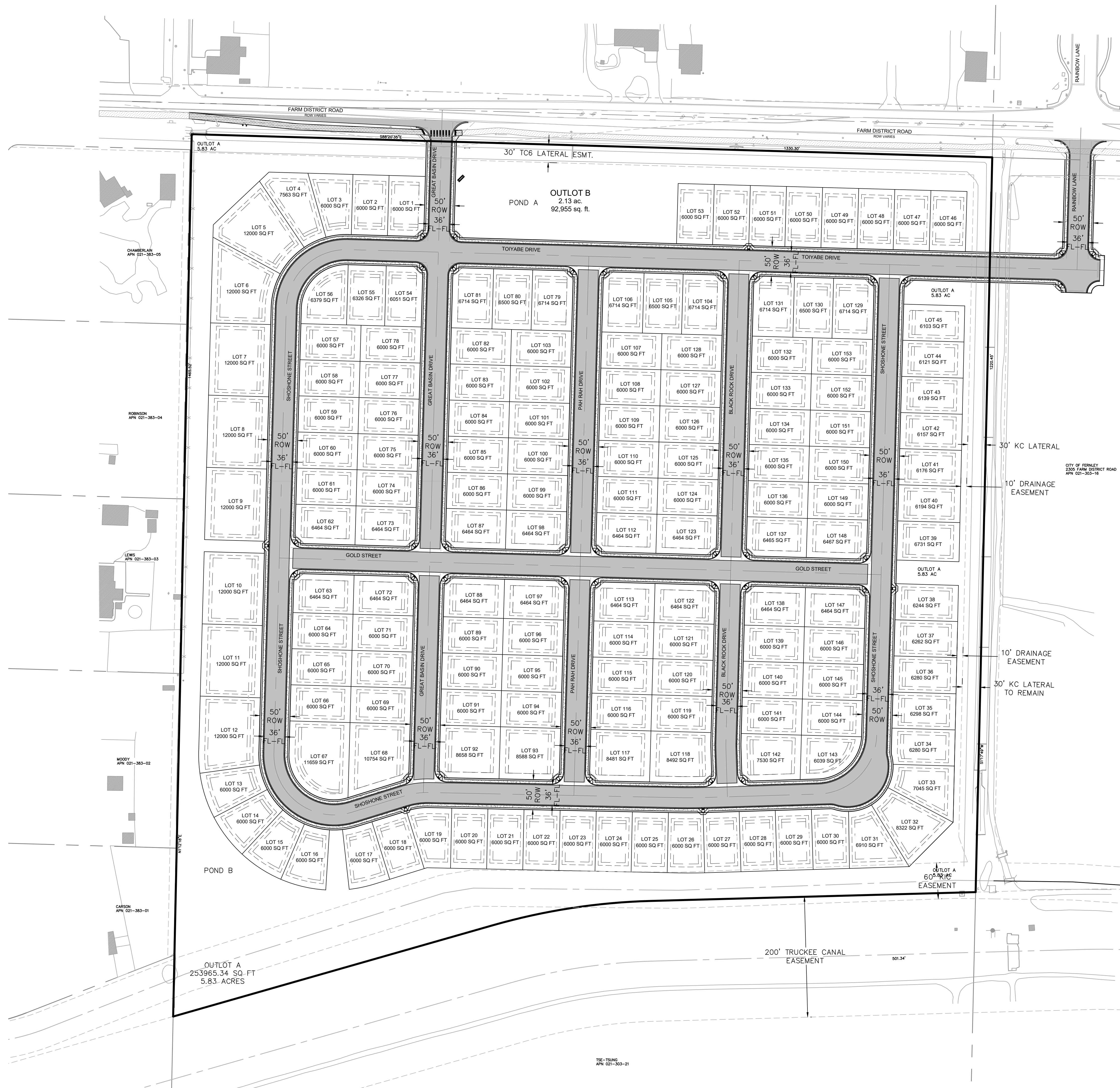
Approach

Approach Direction	WB
Median Present?	No
Approach Delay(s)	62.7
Level of Service	F

Crosswalk

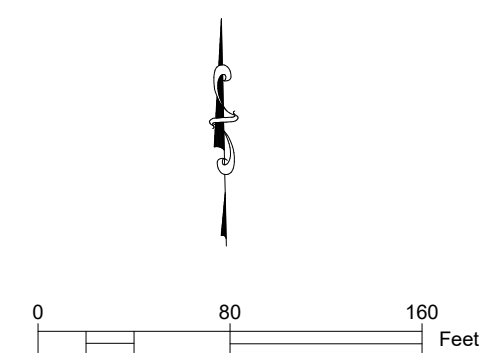
Length (ft)	44
Lanes Crossed	2
Veh Vol Crossed	617
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No

Critical Headway (s)	15.57
Prob of Delayed X-ing	0.93
Prob of Blocked Lane	0.74
Delay for adq Gap	67.42
Avg Ped Delay (s)	62.74



LEGEND:

- | | |
|--|-----------------------------|
| | EXISTING CONTOURS |
| | PROPOSED CONTOURS |
| | LOT LINE |
| | SETBACK LINE |
| | RIGHT-OF-WAY |
| | EXISTING RIGHT-OF-WAY |
| | PROPERTY LINE |
| | EXISTING BOUNDARY LINE |
| | EXISTING SECTION LINE |
| | TRACT |
| | EASEMENT LINE |
| | EXISTING EASEMENT LINE |
| | ALIGNMENT CENTER LINE |
| | EXISTING ROAD CENTER LINE |
| | EDGE OF PAVEMENT |
| | PROPOSED CURB & GUTTER |
| | STORM SEWER W/INLET AND FES |
| | DRAINAGE FLOWLINE |
| | 100-YR FLOOD PLAIN |
| | EXISTING 100-YR FLOOD PLAIN |
| | PROPOSED STREET LIGHT |

TABULAR DATA

RIGHT OF WAY.....	8.51 ACRES
OUTLOTS (COMMON AREAS).....	7.95 ACRES
RESIDENTIAL LOTS	
SINGLE FAMILY.....	23.21 ACRES

SITE TOTAL.....	39.67 ACRES

[illegible]

SCALE:	AS SHOWN
DESIGNED BY:	JJP
DRAWN BY:	ZJD
CHECKED BY:	LEP

OVERALL SITE PLAN

CREEKWOOD COMMONS
TENTATIVE SUBDIVISION MAP
FERNLEY, NV

DATE: 04/08/2024
PROJECT NO. 21203

C8



CITY OF FERNLEY

Planning Commission AGENDA REPORT

Meeting Date: January 8, 2025

REPORT TO: Fernley Planning Commission

REPORT FROM: Michele Rambo, Planning Director

FINANCIAL IMPACT:

Yes: No: X

CURRENTLY BUDGETED:

Yes: No: X

FUND/ACCOUNT:

N/A

ACTION REQUESTED: Motion
Resolution

AGENDA ITEM:

(For possible action) Discussion and possible action regarding Resolution #25-002 in association with a Master Plan Amendment (MPA 25001), submitted by the City of Fernley to remove the Level of Service requirements at the intersection of Highway 50A/Highway 95A/Main Street/Farm District Road ("the roundabout") from both the Comprehensive Master Plan and the Transportation Master Plan to maintain economic development opportunities within the City of Fernley until the roundabout is updated by the Nevada Department of Transportation.

AGENDA ITEM BRIEF:

Based on recent traffic studies submitted to the City of Fernley, the roundabout is dropping below the minimum Level of Service required in both the Comprehensive Master Plan and the Transportation Master Plan. Approval of any project that creates further impact to the roundabout is technically a violation of these two documents, which the Planning Department cannot recommend. The Nevada Department of Transportation is responsible for updating the roundabout, and has no plans to do so for several years. The proposed Resolution would exempt the roundabout from the Level of Service requirements and allow development to continue without violating any regulatory documents.

RECOMMENDED MOTION:

I move to approve, and recommend that the City Council certify, Resolution #25-002 as presented by staff.

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:

Pleasure of the Planning Commission

BACKGROUND:

The roundabout at the intersection of Highway 95A, Highway 50A, and Farm District Road, was the first roundabout in the State of Nevada. With a current population of around 25,000, the roundabout no longer functions efficiently, leading to long backups and failing levels of service. With Fernley being the 3rd fastest growing city in Nevada at 8.3%, the traffic impacts at and around the roundabout will continue to grow without some assistance from NDOT.

Fernley has two distinct parts of town: the residential and old downtown area south of the railroad tracks and the commercial/industrial area north of the railroad tracks. Unfortunately, there are only two ways to get back and forth from north to south: an old, undersized underpass at the west end of town and the inadequate roundabout in the center of town. This creates the need for most residents to go through the roundabout on a daily basis. In addition, traffic (including truck traffic) heading from I-80 to Fallon must go through the roundabout. This results in backups and delays for a significant portion of the day, but specifically at morning and evening commute times.

Despite there being four state highways within the city limits, the City of Fernley was excluded from the OneNevada Transportation Plan most recently adopted in November 2018 and revised in February 2020.

Therefore, there are no plans by NDOT to update or replace the roundabout for at least 15 years. This timeline does not conform to the Master Plan requirement for “timely improvements” by NDOT.

Traffic studies received from individual projects within the past year have indicated that the Level of Service (LOS) at the roundabout has reached an E or F, which is considered a “failure” level (see Exhibit A for an example). The City of Fernley Comprehensive Master Plan states “The minimum Level of Service on all city-maintained roadways shall be LOS D. The City will work with representatives from NDOT to ensure timely improvements are planned when NDOT roadways are forecast to fall below LOS D”. These traffic studies have also indicated that the LOS at the roundabout will not significantly increase with the planned future expansion of Nevada Pacific Parkway from I-80 to US 50A (see Exhibit B). The amount of industrial development anticipated in this area will cancel out any benefit seen to the roundabout in only a few years.

Intersection	Control	AM		PM	
		Delay ¹ (v/c Ratio ²)	LOS	Delay ¹ (v/c Ratio ²)	LOS
US 95A/I-80 WB Ramps	Side Street Stop				
Westbound Approach		15	B	16	C
Southbound Approach		20	C	18	C
US 95A/I-80 EB Ramps	Side Street Stop				
Eastbound Approach		17	C	17	C
Southbound Left		9	A	9	A
US 95A/E. Newlands Dr	Signal				
Overall		13	B	21	C
US 95A/Fremont St	Signal				
Overall		21	C	26	C
US 95A/US 50A/Main St	RAB				
Northbound Approach		47 (0.91)	E	93 (1.07)	F
Southbound Approach		5 (0.45)	A	83 (1.22)	F
Eastbound Approach		19 (0.74)	C	90 (1.15)	F
Westbound Approach		4 (0.40)	A	3 (0.36)	A
E. Newlands Dr/Stamley Dr	Signal				
Overall		11	B	18	B

Exhibit A
Traffic Impact Study for Victory Logistics, November 2023

Intersection	Control	Future Year				Future Year Plus Project			
		AM		PM		AM		PM	
		Delay ¹	LOS	Delay ¹	LOS	Delay ¹	LOS	Delay ¹	LOS
US 95A/I-80 WB Ramps	Side								
Westbound Approach	Street	19	C	25	C	19	C	29	D
Southbound Approach	Stop	36	E	33	D	37	E	34	D
US 95A/I-80 EB Ramps	Side								
Eastbound Approach	Street	22	C	24	C	22	C	25	C
Southbound Left	Stop	10	B	10	A	10	B	10	A
US 95A/E. Newlands Dr	Signal								
Overall	Signal	25	C	48	D	43	D	102	F
US 95A/Fremont St	Signal								
Overall	Signal	42	D	93	F	43	D	130	F
US 95A/US 50A/Main St									
Northbound Approach	RAB	LOS F (v/c > 1.0)		LOS F (v/c > 1.0)		LOS F (v/c > 1.0)		LOS F (v/c > 1.0)	
Southbound Approach									
Eastbound Approach									
Westbound Approach									
E. Newlands Dr/Stanley Dr	Signal								
Overall	Signal	11	B	20	C	12	B	31	C

Exhibit B
Traffic Impact Study for Victory Logistics, November 2023

The result of increased growth and limited access points through the City is the situation the City of Fernley is now faced with. Almost every new development will increase the amount of traffic through the roundabout, making the LOS fall even further below standards. Therefore, the City is in a position where we cannot approve any development without violating the City's Master Plan. The City Attorney has determined that this continued violation puts the City at risk of not only violating NRS Chapter 278, but it makes the City vulnerable to lawsuits.

The City has been looking at ways to address this issue. Some of the options include:

- Not allowing building permits until there is a plan and MOU in place to redesign the roundabout
- Not allowing the submittal of any development applications unless they can show that there will be no impact to the roundabout
- Implementing an impact fee or Special Assessment District
- Implementing a temporary zoning ordinance putting development on hold until NDOT addresses the roundabout issue
- Exempting the roundabout from the LOS standards in the Comprehensive Master Plan and the Transportation Master Plan

After exploring many of these options and attempting to engage with NDOT, the only viable option is to exempt the roundabout from LOS standards. While this is not the ideal solution, it has become clear that it is the only option the City of Fernley has to avoid consistently violating the Comprehensive Master Plan and Transportation Plan.

RELEVANT LAWS, STATUTES, AND REGULATIONS:

Nevada Revised Statutes Chapter 278

City of Fernley Comprehensive Master Plan (Chapter 4 - Transportation)

City of Fernley Transportation Plan (Chapter 2 - Existing Conditions and Data)

City of Fernley Transportation Plan (Chapter 3 - Complete Streets Evaluation)

FINANCIAL IMPLICATIONS:

Economic development activities generate revenue through property tax.

ATTACHMENTS:

1. Resolution 05-002

CITY OF FERNLEY
RESOLUTION # 25-002

A RESOLUTION OF THE CITY OF FERNLEY FOR A COMPREHENSIVE MASTER PLAN AMENDMENT ASSOCIATED WITH CASE NUMBER MPA25001, TO REMOVE THE LEVEL OF SERVICE REQUIREMENTS AT THE INTERSECTION OF HIGHWAY 50A/HIGHWAY 95A/MAIN STREET/FARM DISTRICT ROAD (“THE ROUNDABOUT”) FROM BOTH THE COMPREHENSIVE MASTER PLAN AND TRANSPORTATION MASTER PLAN TO MAINTAIN ECONOMIC DEVELOPMENT OPPORTUNITIES WITHIN THE CITY OF FERNLEY UNTIL THE ROUNDABOUT IS UPDATED BY THE NEVADA DEPARTMENT OF TRANSPORTATION.

WHEREAS, the 2018 Fernley Comprehensive Master Plan was adopted by Resolution of the Planning Commission on August 8, 2018, and by the City Council on August 15, 2018; and

WHEREAS, the 2020 Transportation Master Plan was adopted by Resolution of the City Council in July 2020; and

WHEREAS Nevada Revised Statutes chapter 278.210 specifies that master plans or any amendments, including zoning map and text amendments must be adopted by resolution of the Planning Commission and City Council; and

WHEREAS the Comprehensive Master Plan and the Transportation Master Plan both require a Level of Service D or above for all roads within the City of Fernley; and

WHEREAS traffic studies submitted as part of recent development applications indicate that the roundabout is falling below Level of Service D during both AM and PM peak hours; and

WHEREAS approving these developments is a violation of the Comprehensive Master Plan and the Transportation Master Plan; and

WHEREAS the roundabout falls under the jurisdiction of the Nevada Department of Transportation, who has no current plans to upgrade the roundabout; and

WHEREAS the Planning Commission held a public hearing on January 8th, 2025 and the City Council heard this item on January 15th, 2025; and

NOW, THEREFORE, BE IT RESOLVED, that the removal of the roundabout from Level of Service requirements in the Comprehensive Master Plan and Transportation Master

Plan be adopted until such time that the roundabout is updated by the Nevada Department of Transportation; and

BE IT FURTHER RESOLVED that the Fernley Planning Commission approves and recommends that the City Council certify this Resolution.

RESOLUTION PASSED, APPROVED, AND ADOPTED this 8th day of January 2025, by the following vote of the Fernley Planning Commission:

AYES: _____ NAYS: _____ ABSTENTIONS: _____ ABSENT: _____

By: _____ Date: _____
Jenni McCullar, Chairwoman

Attest By: _____ Date: _____
Brenda Gosser, Deputy City Clerk

RESOLUTION CERTIFIED this 15th day of January 2025, by the following vote of the Fernley City Council:

AYES: _____ NAYS: _____ ABSTENTIONS: _____ ABSENT: _____

FERNLEY CITY COUNCIL

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

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