



June 9, 2020

Mr. Doyle Heaton
Falcon Point Associates, LLC
c/o DRG Builders
3496 Buskirk Avenue, Suite 104
Pleasant Hill, CA 94523

Focused Traffic Study for Casa Grande I

Dear Mr. Heaton;

As requested, W-Trans has prepared a focused traffic study for the proposed Casa Grande I housing project to be located at 240/250 Casa Grande Road in the City of Petaluma. The purpose of this letter is to address the potential traffic impacts associated with the proposed single-family residential development.

Project Description

The proposed project would include construction of 36 single family homes, including three moderate income units and two low-income units, as well as four accessory studio units on the currently vacant site at 240/250 Casa Grande Road in the City of Petaluma. The project site would be accessible via a driveway off Casa Grande Road with full ingress and egress, as well as a connection to Del Rancho Way, on the south side of the proposed project site, which provides access to Del Oro Circle. The project's site plan is enclosed for reference.

Circulation Setting

Vehicular Circulation

The study area consists of Casa Grande Road, which runs along the frontage of the project site. Casa Grande Road, which is generally oriented east-west, is classified as a major arterial. Along the project frontage the road has two 12-foot travel lanes in each direction, with a two-way left-turn lane dividing the two directions, and a posted speed limit of 35 mph.

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. In general, a network of sidewalks, crosswalks, pedestrian signals, and curb ramps provide access for pedestrians in the vicinity of the proposed project site. There are continuous sidewalks along both sides of Casa Grande Road fronting the project. The site would also connect to Del Rancho Way, which feeds into Del Oro Circle. Both Del Rancho Way and Del Oro Circle have continuous sidewalks along both sides of the street.

Bicycle Facilities

There is an existing trail adjacent to the site along the Adobe Creek between South Ely Boulevard and the Schollenberger Hiking Path. There are bicycle lanes in both directions along Casa Grande Road between South Ely Boulevard and South McDowell Boulevard. According to the *SCTA Countywide Bicycle and Pedestrian Master Plan, 2014*, existing bicycle lanes on Casa Grande Road are planned to be extended from South Ely Boulevard to Old Adobe Road. It should be noted that while the City has their own plan, the SCTA plan is more current and includes planned projects in the City.

Transit Facilities

Petaluma Transit Provides fixed route bus service in Petaluma. Route 33 provides loop service to destinations throughout the east side of the city and stops at Casa Grande Road. At Ely Boulevard South Route 33 operates

Monday through Friday with approximately one-hour headways between 7:04 a.m. and 8:04 p.m. Saturday service has approximately one-hour headways between 8:04 a.m. and 8:04 p.m. and Sunday service has about one-hour headways between 9:04 a.m. and 5:04 p.m.

Route 11 provides service to the Copland Transit Mall and the Petaluma Downtown SMART train station for regional connections in Sonoma and Marin Counties. Route 11 operates Monday through Friday with one-half hour headways between 6:30 a.m. and 8:00 p.m. Saturday service operates with one-half hour headways between 7:30 a.m. and 8:00 p.m. and Sunday service operates between 8:30 a.m. and 5:00 p.m.

Two bicycles can be carried on most Petaluma Transit buses. Bike rack space is a first come first served basis. Additional bicycles are allowed on Petaluma Transit buses as the discretion of the driver.

Dial-a-ride, also known as paratransit, or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. Petaluma Paratransit is designed to serve the needs of individuals with disabilities within Petaluma area and includes area within a three-quarters of a mile from an active Petaluma Transit route.

Safe Routes to School - Casa Grande High School

As part of the Safe Routes to School program (SRTS) for Casa Grande High School, the segment of Casa Grande Road fronting the project site was designated as a recommended walking and bicycling route to campus. In the SRTS Engineering Evaluation for the campus, speeding along the school frontage on Casa Grande Road was identified as an issue affecting safe access to the campus. It was recommended that the City conduct speed surveys and implement traffic calming measures along Casa Grande Road between South Ely Boulevard and McDowell Boulevard. A measure identified to improve access was installation of a crosswalk on Casa Grande Road near the frontage of the Casa Grande High School to connect students with the bus stop on the south side of the road. As part of the improvements to increase access to existing transit stops on Casa Grande Road near the school site, it was recommended that bus shelters be installed at existing stops that only have benches and no all-weather shelter. It was also recommended that bicycle lanes along both directions of this segment be repainted for higher visibility.

Trip Generation

The anticipated trip generation for the proposed project was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 10th Edition, 2017 for "Single Family Dwellings" (ITE LU #210) and Multi-Family Housing (Low-Rise) (ITE LU #220). While there is an existing single-family dwelling on the site, it was not deducted as part of the analysis to be conservative.

As indicated in Table 1 the proposed project is expected to generate an average of 369 trips per day, including 29 trips during the a.m. peak hour and 38 during the p.m. peak hour.

Table 1 – Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Single Family Dwellings	36 du	9.44	340	0.74	27	7	20	0.99	36	22	14
Multi-Family (Low-Rise)	4 du	7.32	29	0.46	2	0	2	0.56	2	1	1
Total			369		29	7	22		38	23	15

Note: du = dwelling unit

Vehicle Miles Traveled

Senate Bill (SB) 743 established a change in the metric to be applied for determining traffic impacts associated with development projects. Rather than the delay-based criteria associated with a Level of Service analysis, the increase in Vehicle Miles Traveled (VMT) as a result of a project will be the basis for determining impacts once this new metric is fully vetted and adopted. Because the City of Petaluma has not yet adopted a standard of significance for evaluating VMT, guidance provided by the California Governor's Office of Planning and Research (OPR) in the publication *Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory*, 2018, was used. This document indicates that a residential project generating vehicle travel that is 15 or more percent below the existing citywide residential VMT per capita may be a reasonable VMT threshold for a residential project.

Based on data from the recently updated Sonoma County Transportation Authority (SCTA) travel demand model, the City of Petaluma has a baseline average residential VMT of 16.62 miles per capita. Applying OPR's guidance, a residential project generating a VMT that is 15 percent or more below this value, or 14.13 miles per capita, would have a less-than-significant VMT impact. The SCTA model includes traffic analysis zones (TAZ) covering geographic areas throughout Sonoma County. The Casa Grande I project site is located within TAZ 341, which has a baseline VMT per capita of 16.81 miles.

In order for the Casa Grande I project to achieve the VMT significance threshold of 14.13 miles per capita, its VMT would need to be 16.0 percent lower than the current average for the TAZ in which the site is located. Based on guidance regarding VMT reduction strategies in *Quantifying Greenhouse Gas Mitigation Measures*, California Air Pollution Control Officers Association (CAPCOA), 2010, the maximum VMT reduction that a project in a suburban land use context can reasonably be expected to achieve is 15.0 percent. As a result, it is theoretically impossible for the Casa Grande I project to achieve the applied VMT threshold. The project should still be required to reduce VMT to the degree feasible; however, as outlined below.

The VMT associated with a development project is influenced by factors including density and the provision of onsite affordable housing. The CAPCOA publication cited above includes a methodology to determine the VMT reductions associated with increases in residential density using conventional large-lot single-family home development as a baseline. For the proposed Casa Grande I project, which has a residential density of 14.75 units per acre, a 6.6 percent reduction in VMT is projected. A methodology published in *Income, Location Efficiency, and VMT: Affordable Housing as a Climate Strategy*, The California Housing Partnership, 2015, was used to determine the VMT reductions associated with provision of onsite affordable housing (this method is also currently used by the City of San Jose). The Casa Grande I project would include three moderate income units, two low-income units, and four small accessory dwelling units (ADU). The corresponding reduction in the project's VMT is projected to be 1.5 percent.

A project's VMT may be effectively reduced by making on-site and off-site improvements to the pedestrian network, particularly where gaps in the pedestrian network are filled in a manner that will have a meaningful effect on whether residents walk or drive. The applicant has proposed constructing an enhanced pedestrian crossing on Casa Grande Road near the project site including a raised median with pedestrian refuge and rapid rectangular flashing beacon (RRFB) warning lights system. This segment of Casa Grande Road currently lacks any marked pedestrian crossings, with no marked crosswalks existing on a nearly 2,000-foot segment between Ely Road and Crinella Drive despite being near one of the primary access points to Casa Grande High School. Establishing an enhanced pedestrian crossing near the project site would benefit not only residents of the project but also pedestrians in the surrounding neighborhoods (particularly high school students). Based on methodologies contained in the San Jose VMT Evaluation Tool, the estimated VMT reduction associated with pedestrian network improvements is 2.0 percent.

Similar to pedestrian improvements, if a project makes improvements to transit facilities that make riding transit more convenient, VMT would be reduced since there would be a modest shift in driving trips to bus trips. The nearest bus stops to the Casa Grande I site are on Casa Grande Boulevard near Ely Road at the Casa Grande Senior

Apartments and on Ely Road in front of Casa Grande High School. Each of these stops currently has a two-person bench but no shelter. The project applicant is proposing to install bus shelters at both stops. Adding shelters will improve the appeal of taking transit for both the project's residents as well as current bus users (including seniors and high school students), particularly on hot or rainy days. Based on data contained in the ITE *Trip Generation Handbook*, 2017, as well as methodologies in the San Jose VMT Evaluation Tool, these improvements to transit access are projected to reduce VMT by approximately 2.5 percent.

Combined, the project's proposed density, provision of on-site affordable housing, and improvements to pedestrian circulation and transit access would reduce its per capita VMT by 12.6 percent, thereby resulting in a project-specific rate of 14.69 VMT per capita. This would nearly meet the applied VMT threshold of 14.13 VMT per capita and reflect a substantial reduction in VMT compared to what would be generated by a conventional large-lot single-family home development with no multimodal improvements. The VMT findings are shown in Table 2, and information relative to the development of the VMT reduction factors, including a summary of the input variables and adjustments, is enclosed.

Table 2 – Vehicle Miles Traveled Analysis Summary

VMT Metric	Baseline VMT Rate (Citywide Ave)	Threshold (15% Below Citywide Ave)	Project VMT Rate	
			Base Unadjusted (TAZ 341)	With Adjustments and Mitigation
Residential VMT per Capita (Citywide Baseline)	16.62	14.13	16.81	14.69 -12.6 percent

Note: VMT Rate is measured in VMT per Capita, or the number of daily miles driven per resident; TAZ=Traffic Analysis Zone

Finding – The project's density, provision of onsite affordable housing, and proposed multimodal improvements would be expected to reduce its VMT per capita by 12.6 percent compared to conventional large-lot single-family home development.

Sight Distance

Sight distances along Casa Grande Road at the proposed new driveway were evaluated based on sight distance criteria contained in the *Highway Design Manual, 6th Edition* published by Caltrans. The recommended sight distances along the Casa Grande Road at the private project driveway are based on stopping sight distance.

Sight distance at the proposed driveway was field measured. Based on a design speed of 35 mph, the minimum stopping sight distance needed is 250 feet. Based on field observations, sight distance at Casa Grande Road is adequate in both directions, with more than 400 feet to the north and approximately 800 feet to the south. It should be noted that there is a utility pole approximately 90 feet south of the driveway which slightly hinders sight lines. However, it does not completely block vision of oncoming traffic and drivers can see around the pole as they pull up to the driveway. Drivers also have the available space to pull out of the driveway for improved sight lines. It is recommended that any signage or landscaping planned at either driveway be outside of the driver's vision triangle to maintain adequate sight lines.

As shown on the enclosed site plan, there is a driveway serving three units off the project street. Sight distance would be adequate exiting the driveway since it is located on the outside of a curve, allowing for optimal visibility. To ensure adequate visibility for vehicles exiting the driveway, it is recommended that signage and landscaping be designed outside the driver's vision triangle.

Finding – Sight distance based on the posted speed limit is adequate in both directions at the driveway locations on Casa Grande Road.

Recommendation – The project should be designed to keep any project signage or landscaping outside of the driver’s vision triangle to maintain adequate sight lines.

Non-Auto Modes

Pedestrian Facilities

Given the proximity of Casa Grande High School and bus stops within one-quarter mile surrounding the site, it is reasonable to assume that some project residents will want to walk, bicycle, and/or use transit to reach the project site. Based on the identified issue of speeding on the segment of Casa Grande Road fronting the project site, radar speed feedback signs are recommended on both sides of the street on either approach to the school frontage. Since the project site is located across the western end of the school site, it is recommended that the radar speed feedback sign for eastbound traffic be installed on the project frontage.

Project Site – Sidewalks exist along the project frontage on Casa Grande Road, and along Del Rancho Way and Del Oro Circle. There are proposed sidewalks throughout the site connecting the residences to each other and the surrounding street system. A pedestrian crossing on Casa Grande Road, with an RRFB warning lights system and a raised median, is proposed as a VMT mitigation and as part of the SRTS recommended improvements near Casa Grande High School. It is recommended that this crossing be placed just west of the high school campus and the project site.

Finding – Planned sidewalks within the project site, along with existing facilities, are adequate for anticipated demand.

Recommendation – It is recommended that a radar speed feedback sign be installed on the project frontage on Casa Grande Road to implement a speed-reduction measure contained in the Casa Grande High School SRTS evaluation.

Recommendation – The project should construct the planned crosswalk on Casa Grande Road on the western side of the Casa Grande High School campus.

Bicycle Facilities

Existing bicycle facilities, including bike lanes Casa Grande Road and the multi-use path along the Adobe Creek, together with shared use of minor streets, provide adequate access for bicyclists. The SRTS evaluation recommended that the existing bicycle lanes on Casa Grande Road should be remarked for improved visibility. Due to the limited width of the project frontage on Casa Grande Road, implementation of this recommendation would not be appropriate as part of the project as it would result in inconsistent markings for the segment; however, the applicant should work with City staff to establish a proportional share to these planned improvements.

Finding – Bicycle facilities serving the project are adequate.

Recommendation – The applicant should work with City staff to determine a proportional share of the cost of planned improvements to bicycle lanes along Casa Grande Road.

Transit

Existing transit routes are acceptable to accommodate project-generated transit trips. Existing bus stops are within an acceptable walking distance of the site, and accessible via sidewalks. It is understood that City staff are requiring that a portion of the project frontage be allocated for a future Petaluma Transit bus stop on Casa Grande Road. As part of the VMT mitigations, the applicant is proposing improvements to the existing bus stops on Casa Grande Road near the Senior Center and in front of the high school to provide bus shelters.

Finding – Transit facilities serving the project site, together with planned improvements to existing stops on Casa Grande Road near the project site, are adequate.

Conclusions and Recommendations


- The project as proposed includes construction of 36 single family dwelling units and four accessory studio units. Based on standard rates, the project is expected to generate 369 daily trips, including 29 trips during the a.m. peak hour and 38 trips during the p.m. peak hour.
- The project’s density, provision of on-site affordable housing, and proposed multimodal improvements would be expected to reduce its VMT per capita by 12.6 percent compared to a conventional large-lot single-family home development.
- Sight distances at the project driveways on Casa Grande Road are adequate in both directions. It is recommended that any planned signage or landscaping near the project driveways be designed to be outside of the driver’s vision triangle.
- The existing bicycle and transit facilities serving the project site, together with planned contributions towards improvements on Casa Grande Road, are adequate for the anticipated demand. The existing pedestrian facilities, combined with planned sidewalks throughout the site and the crossing on Casa Grande Road, would be adequate. It is recommended that a radar speed feedback sign be installed on the project frontage on Casa Grande Road, based on the SRTS recommendation for traffic calming measures.

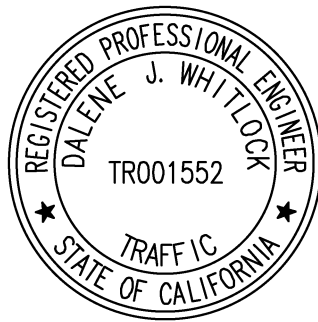
Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

Sincerely,


 Julia Walker
 Assistant Planner


 Zack Matley, AICP
 Principal


 Dalene J. Whitlock, PE, PTOE
 Senior Principal



DJW/jaw/zm/PET224.L1

Enclosures: Site Plan; VMT Summary Sheet

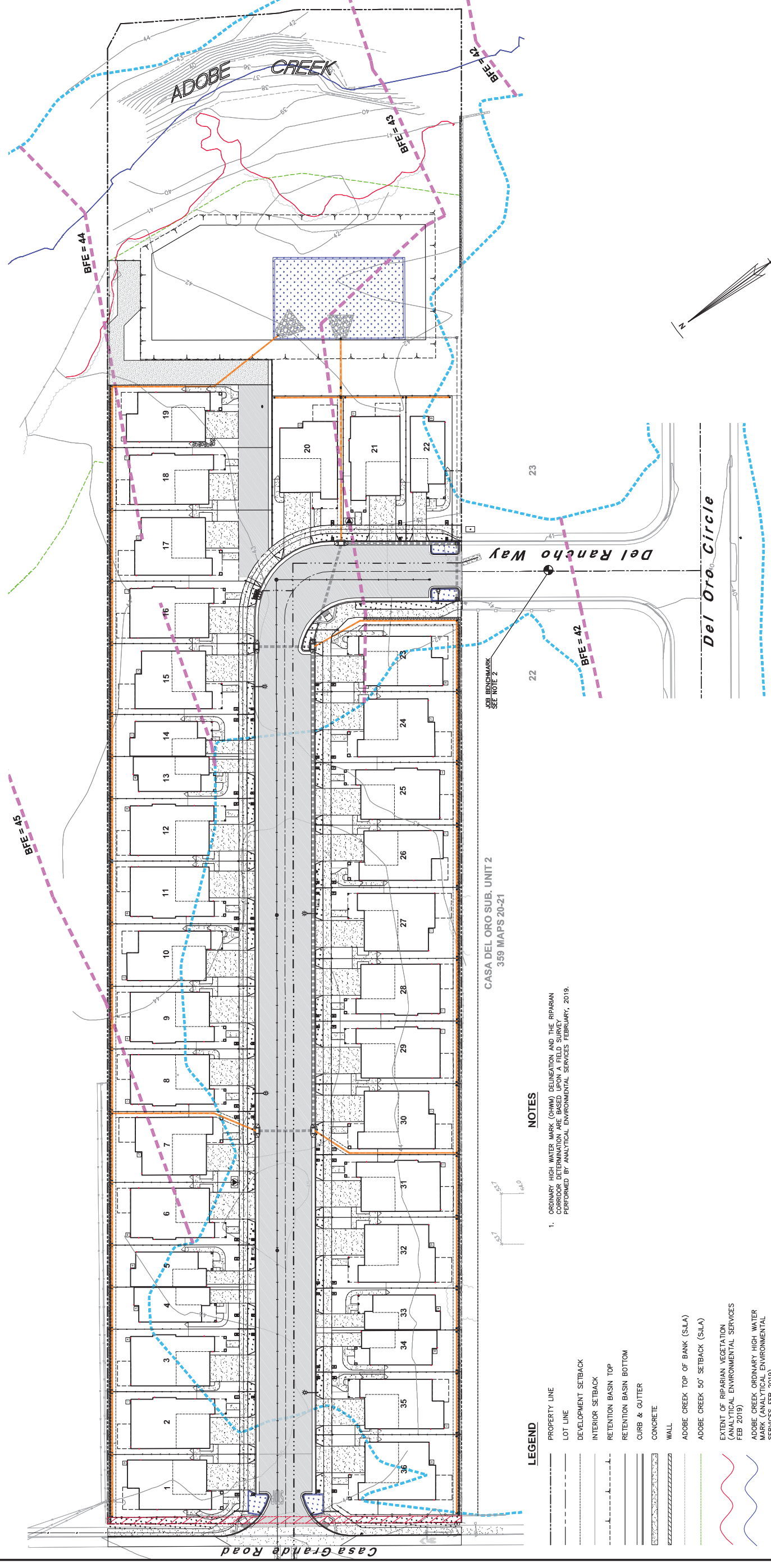
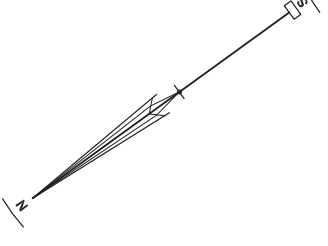
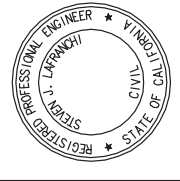
REVISIONS	BY

LANDS OF CARSTENSEN
240 & 250 CASA GRANDE ROAD APN 017-040-020 & 059
PETALUMA CALIFORNIA

STEVEN J. LAFRANCHI & ASSOCIATES, INC.
 CIVIL ENGINEERS - LAND SURVEYORS
 LANDSCAPE ARCHITECTURE - LAND PLANNERS
 PETALUMA THEATRE SQUARE
 140 SECOND STREET, SUITE 312
 PETALUMA, CA 94952
 (707) 762-3122 FAX (707) 762-2239

DATE: 2019.04.12
 SCALE: 1" = 30'
 DESIGN: CRK
 DRAWN: CRK
 CHECK: SLL
 JOB: DRG CasaGrande
 JOB No.: 192029
 SHEET

EX-1
 OF 1 SHEETS



LEGEND

- PROPERTY LINE
- LOT LINE
- DEVELOPMENT SETBACK
- INTERIOR SETBACK
- RETENTION BASIN TOP
- RETENTION BASIN BOTTOM
- CURB & CUTTER
- CONCRETE
- WALL
- ADOBE CREEK TOP OF BANK (S/LA)
- ADOBE CREEK 50' SETBACK (S/LA)
- EXTENT OF RIPARIAN VEGETATION (ANALYTICAL ENVIRONMENTAL SERVICES FEB 2019)
- ADOBE CREEK ORDINARY HIGH WATER MARK (ANALYTICAL ENVIRONMENTAL SERVICES FEB 2019)

NOTES

1. ORDINARY HIGH WATER MARK (OHWM) DELINEATION AND THE RIPARIAN CORRIDOR DETERMINATION ARE BASED UPON A FIELD SURVEY PERFORMED BY ANALYTICAL ENVIRONMENTAL SERVICES FEBRUARY, 2019.

Casa Grande Road

CASA DEL ORO SUB. UNIT 2
 359 MAPS 20-21

JOB BENCHMARK
 SEE NOTE 2

Del Oro Circle

Del Rancho Way

ADOBE CREEK

BFE = 45

BFE = 44

BFE = 43

BFE = 42

BFE = 42

1:48.0
 1:48.0

240-250 Casa Grande Road VMT Assessment

W-Trans 6/8/2020 Update

Significance Threshold

- 16.62 VMT/Capita Citywide Average - City of Petaluma
- 14.13 Significance Threshold = 15% below Citywide Average

Base Unadjusted Project VMT

16.81 Base VMT/Capita from SCTA Model - Project in TAZ 341		
36 Project Units	2.34 Occupancy/Unit	84 Residents
4 Accessory Dwelling Units (ADU)	1.50 Occupancy/ADU	6 Residents
1517 Base Unadjusted Project VMT (mi)		90 Residents ("capita")

VMT Adjustments and Potential Mitigation Measures

- 16.81 Base VMT/Capita from SCTA Model - Project in TAZ 341
- 14.13 Significance Threshold = 15% below Citywide Average
- 16.0% Project VMT Reduction Required to meet Significance Threshold

A. Density Adjustment

36 Project Units	2.44 Project Acres	14.75 Project Density
-6.6% VMT Reduction (compared to ITE Single Family)	Density calculation consistent with City methodology	
-1.11 Adjustment to Base Project VMT/Capita	<i>Source: CAPCOA</i>	

B. Integrate Affordable Housing

- 9 units: 3 moderate income, 2 low income, 4 ADU (included in low income category for VMT purposes)
- 1.5% VMT Reduction
- 0.25 Adjustment to Base Project VMT/Capita *Source: California Housing Partnership*

C. Pedestrian Network Improvements

- Install enhanced pedestrian crossing on Casa Grande at project street including raised median ped refuge, rapid rectangular flashing beacon (RRFB), and curb extensions if possible
- 2.0% VMT Reduction
- 0.34 Adjustment to Base Project VMT/Capita *Source: San Jose VMT Evaluation Tool Methodology*

D. Transit Access

- Add bus shelters to existing stops on Casa Grande near PEP and stop on Ely at high school
- 2.5% VMT Reduction
- 0.42 Adjustment to Base Project VMT/Capita *Source: San Jose VMT Evaluation Tool, ITE Trip Generation Handbook*

Combined VMT Adjustments and Mitigation Measures (A through D)

- 12.6% Combined Measures VMT Reduction
- 2.12 Adjustment to Base Project VMT/Capita

VMT Significance After Adjustments and Mitigation

16.81 Base VMT/Capita from SCTA Model	1517 Unadjusted Base Residential VMT (mi)
-2.12 Adjustment to Base Project VMT/Capita	-191 VMT Reduction with Adjustments and Mitigation
14.69 Project VMT/Capita with Adjustments and Mitigation	1326 Project VMT (mi) with Adjustments and Mitigation
14.13 Significance Threshold	
NO Threshold met with mitigation	