

April 19, 2019

Mr. Martin Wood
SCO Planning & Engineering, Inc.
140 Litton Drive, Suite 240
Grass Valley, CA 95945



**RE: TRIP GENERATION QUALITATIVE ASSESSMENT- RINCON DEL RIO,
NEVADA COUNTY, CA**

Dear Mr. Wood:

KD Anderson & Associates, Inc. (KDA) has completed our qualitative trip generation comparison of the Rincon Del Rio site along State Route 49 (SR 49) in Nevada County.

Background. The Rincon Del Rio site is a 345 unit Continuing Care Retirement Community (CCRC) on about 215 acres. The original traffic impact analysis (TIA) was prepared in 2011 as part of the DEIR which was completed in 2012.

The Project is designed to serve a senior population of 415 people within 345 living units consisting of the following:

- Independent Living (Attached and Detached) Cottages and Condominium Units
- Independent Living Condominiums in the Village Center
- Support Service Village Center
- Lodge buildings
- Memory/Assisted Living accommodations

The applicant proposes to maintain the same basic campus layout but according to the November 2018 Project Amendment allows for relocation of some uses with a change in the residential unit type as follows:

- Rearrange the Village Center area by relocating the Five Buildings in the Support Service Village Center to the main access road at the Projects entrance. Reduce the support use area from 43,800 S.F. to 30,000 S.F. and allow for 20 condominium second story residential independent living lofts.
- Relocate the Memory/Assisted Care Facility from south of the Village Center to north of Support Service/independent living lofts near the project's entry.
- Relocate the tennis/pickleball courts from the project's entrance to the farm area east of the orchard.
- Reduce the size of each of the five apartment buildings, adjust their orientation on the site and reduce the 98 independent living apartment units to allow for 56 attached condominium

independent living units in four 14-unit buildings and 150 condominium units in 30 5-unit buildings.

- Change the type of residential independent living units from the permitted 216 consisting of Cottages, Duplex's, 4-Plexes, Cohousing and Lodges to 78 Cottage Units and 24 Bungalow Units for a total of 102 units.
- Allow for individual ownership of each of the 102 residential independent living units on separate parcels and 201 attached units and 20 loft units for a total of 226 units to be in airspace condominium units for a total of 323

The proposed amendment to the Rincon Del Rio Comprehensive Master Plan will convert the duplex and 4-Plex units of the approved Master Plan to 150 units in thirty 5-unit condominium buildings and replaces the 98 apartment units of the approved Master Plan with 56 condominium units and 26 condominium loft units in the Village Service Center.

The November 2018 Project Amendment notes that the project is anticipated to be constructed in up to 10 phases with phases possibly combined or modified based on market conditions. Phase 1 will consist primarily of construction of the project infrastructure, 15 Cottage units and four 5-unit condominium buildings. Phase 2 includes 24 Bungalow units while Phases 3 and 4 include the attached Condominium units. Phase 5 would construct the remaining Cottage units and 5-unit condominium buildings. The Village Service Center and accompanying condominium units would be constructed thereafter. The Project Amendment does not identify during which phase the Group Health Memory Care facility would be constructed. It is assumed this would be developed sometime after Phase 5.

While the combination of housing options will be modified, once the project is completed the site will continue to function as a CCRC.

Trip Generation. Nevada County has requested that a qualitative assessment be conducted to compare and confirm that the project will not generate more trips than were identified in the 2011 TIA.

Similar to the 2011 TIA the ITE publication *Trip Generation* was used to project the anticipated traffic on the site. The ITE *Trip Generation* publication is an industry-standard reference document that estimates the number of vehicle trips generated by a project based on historical data for those uses. The 2011 study used the 8th Edition of *Trip Generation*; however, the most current version is the 10th Edition which was published in December 2017.

ITE *Trip Generation* defines a continuing care retirement community (CCRC) as “a land use that provides multiple elements of senior adult living. CCRCs combine aspects of independent living with increased care, as lifestyle needs change with time. Housing options may include various combinations of senior adult (detached), senior adult (attached), congregate care, assisted living, and skilled nursing care—aimed at allowing the residents to live in one community as their medical needs change. The communities may also contain special services such as medical, dining, recreational, and some limited, supporting retail facilities. CCRCs are usually self-contained villages.”

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However, it does not contain information for all types of land uses, and for many types of land uses, the rates are based on limited survey data and may not be statistically valid. At the time the 8th Edition was published limited data was available for CCRC's; thus, the average rates for daily, a.m. and p.m. peak hours were used. Additional data has been collected and is provided in the 10th Edition. The additional data, while still limited, has created fitted curve equations with high correlation coefficients in addition to the average rates.

The variable considered to establish trip generation for the project was trip ends per unit. The project will provide 345 attached and detached housing units on the 210-acre site. Table 1 presents a comparison of trips generated between the 2011 parameters and current parameters. The 2019 analysis provides calculations for both average rate as well as fitted equations.

TABLE 1 TRIP GENERATION COMPARISON									
Land Use / Source	Unit	Size	Daily	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
2011 Traffic Impact Analysis – 8th Edition ITE Trip Generation									
Continuing Care Retirement Community (LU 255)	Unit	345	2.81	0.18	64%	36%	0.29	48%	52%
Total Trips			969	62	40	22	100	48	52
November 2018 Complete Project Amendment – 10th Edition ITE Trip Generation									
Continuing Care Retirement Community (LU 255)	Unit	345	2.40	0.14	65%	35%	0.16	39%	61%
Total Trips (Average Rate)			828	48	31	17	55	22	34
2019 Traffic Impact Analysis – 10th Edition ITE Trip Generation									
Continuing Care Retirement Community (LU 255)	Unit	345	4.08†	0.18‡	65%	35%	0.19◇	39%	61%
Total Trips (Fitted Curve Equation)			1,409	63	41	22	67	26	41
Source: ITE Trip Generation † $T = 2.01(X) + 715.56$ ($R^2 = 0.99$) ‡ $\ln(T) = 0.85 \ln(X) - 0.82$ ($R^2 = 0.98$) ◇ $\ln(T) = 0.89 \ln(X) - 0.99$ ($R^2 = 0.98$) Numbers may not equal due to rounding									

Evaluation / Findings

The 2011 traffic impact analysis for the Rincon Del Rio Continuing Care Retirement Community project estimated 969 daily trips, 62 a.m. peak hour trips and 100 p.m. peak hour trips would be generated by the project. The project is proposed to be revised with a change in the combination of housing options; the project will maintain 345 units on the site. Two methods were

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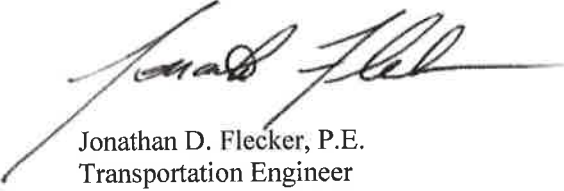
considered in analyzing the revised site, one using the average trip rate and the other using the fitted curve equation. Comparing the 2011 trips to the 2018 average rate the revised project is expected to generate 828 daily trips, 49 a.m. peak hour trips and 55 p.m. peak hour trips. This is a net decline of 141 daily trips, 14 a.m. peak hour trips and 45 p.m. peak hour trips. Using the fitted curve equations, the revised project is expected to generate 1,409 daily trips, 63 a.m. peak hour trips and 67 p.m. peak hour trips. This would result in a net increase of 440 daily trips, a net increase of one a.m. peak hour trip and a net decrease of 33 p.m. peak hour trips. The net increase of one a.m. peak hour trip is not considered significant. Daily trips are shown to provide information on the projected trips to and from the site; however, this is informational only as the Circulation Element of the County's General Plan considers peak hour when determining level of service.

To expedite the Planning review process, I would suggest that the County receive a copy of this analysis.

Should you have any questions please free to contact me at (916) 660-1555 or you may reach me via e-mail at jflecker@kdanderson.com.

Sincerely,

KD Anderson & Associates, Inc.



Jonathan D. Flecker, P.E.
Transportation Engineer

Attachment

Land Use: 255

Continuing Care Retirement Community

Description

A continuing care retirement community (CCRC) is a land use that provides multiple elements of senior adult living. CCRCs combine aspects of independent living with increased care, as lifestyle needs change with time. Housing options may include various combinations of senior adult (detached), senior adult (attached), congregate care, assisted living, and skilled nursing care—aimed at allowing the residents to live in one community as their medical needs change. The communities may also contain special services such as medical, dining, recreational, and some limited, supporting retail facilities. CCRCs are usually self-contained villages. Senior adult housing—detached (Land Use 251), senior adult housing—attached (Land Use 252), congregate care facility (Land Use 253), assisted living (Land Use 254), and nursing home (Land Use 620) are related uses.

Additional Data

Caution should be used when applying these data. CCRCs are relatively new and unique land uses. These developments consist of various housing components (dwelling units, rooms, and beds¹) that often exist in varying proportions. Therefore, the use of a single housing component does not fully describe the trip generation characteristics of these communities. Based upon the limited data submitted for this land use, it was determined that a comprehensive independent variable, units, was the most appropriate descriptor of the characteristics. This variable is defined as an aggregate of all living accommodations common to these communities. The independent variable, occupied units, provides data on the number of units that were occupied at the study sites at the time of the survey.

To illustrate the varying proportions of housing options that exist, the following table is provided for nine of the CCRCs included in this land use as an example. Users are strongly cautioned to exercise proper professional judgment in applying these data.

Living Accommodations at CCRCs		
Occupied Dwelling Units/Rooms ²	Occupied Beds	Total Occupied Units
215	46	261
220	151	371
620	100	720
312	166	478
210	37	247
323	120 ³	443
233	121 ³	354
209	33	242
234	94	328

The sites were surveyed in the 1980s, the 1990s, and the 2000s in Connecticut, Illinois, Maryland, Massachusetts, Pennsylvania, and Virginia.

A complete study of CCRCs requires future analysis of their various components. Therefore, it is important to collect as much information as possible. At the very least, the total number of dwelling units, rooms, and beds should be obtained; if possible, the number of corresponding occupied units should be recorded as well.

Source Numbers

244, 253, 388, 501, 576, 713, 715

¹ Dwelling units, rooms, and beds are the independent variables typically used to represent independent housing (detached/attached/congregate care), assisted living facilities, and nursing homes, respectively. Occupied dwelling units/rooms may be private or shared accommodations.

² Total number of combined dwelling units and rooms available within a community.

³ For analysis purposes, an assumption was made that the total number of beds equaled the total number of occupied beds.