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August 11, 2020

Richard Harriman  
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Chico, CA 95973-1031

### **City of Merced – Site Plan Review #455**

Ennis Consulting has been retained by your office to conduct a review of the subject property and to comment on issues regarding compliance with the California Environmental Quality Act (CEQA) and City of Merced approval and adoption of Site Plan Review #455. My comments are as follows:

#### **Traffic Study**

The project has applied and taken cumulative credits for trip reductions on both multi-family and student housing for Transit and Bicycle Reduction. Firstly, the UC Merced campus is nearly 3 miles away from the subject site and such trip reductions are typically valid when student housing is constructed at a closer distance. Secondly, the closest bus stop is a half mile away and the conditions of approval do not reflect that the local transit agency has agreed to placing a bus stop adjacent to the subject site. Unless the project site plan provides for the construction/placement of a bus stop on Yosemite Avenue, the trip reduction for mass transit also appears unwarranted. Given these factors, the 20% trip reduction appears high.

With regard to the shopping center, the Internal Capture of 13% is on the higher threshold as Caltrans limits such reductions to no more than 5%. Also, the 35% Pass By Reduction should only be applied after the Internal Capture is applied, not cumulatively.

**Table 4. Project Trip Generation**

Land Use	Unit	Quantity	AM Peak Hour			PM Peak Hour			Daily
			Rate	In	Out	Rate	In	Out	
Off-Campus Student Apartment (225)	Bedrooms	97	12	5	7	24	13	11	306
Multi-family Housing (Mid-Rise) (221)	Dwelling Unit	127	46	11	35	56	34	22	691
Transit & Bicycle Reduction (20%)			-12	-3	-8	-16	-9	-7	-199
Shopping Center (820)	1,000 SF	20,044	19	12	7	76	37	39	757
Pass-by Reduction (35%)			-7	-4	-2	-27	-13	-14	-265
Internal Capture Reduction (13%)			-10	-4	-6	-20	-11	-9	-228
Office (710)	1,000 SF	12,528	15	13	2	14	2	12	122
<b>NET Trip Generation</b>			<b>64</b>	<b>30</b>	<b>34</b>	<b>107</b>	<b>53</b>	<b>54</b>	<b>1,184</b>

Sewer Generation and Disposal

Traditionally, municipalities conduct sewer master plans with a regular consistency (typically every 7 to 10 years) in which to model the existing sewer collection system and then create a 'future' hydraulic model that consists of all land uses and sewer loadings for a city at full build-out of a city council approved General Plan. At the end of such master plan documents, is the establishment of a Capital Improvement Plan that outlines the size and location sewer mains to be constructed over the next 5, 10 and 25 years. Projected construction costs are then applied to each sewer main and, upon adoption of the master plan document by a city council, a sewer rate study is then performed – ensuring financial capture by both existing rate payers and by New Growth participants in the years ahead (i.e., connection and/or impact fees).

A 6-inch sewer force main line exists in Yosemite Avenue which flows to G Street, then continues out to the Waste Water Treatment Plant. There is no sewer line in McKee Road. Due to constrictions in the Yosemite Avenue line, the project site is limited to discharging a maximum of 8,000 gallons per day of wastewater during peak hours. Additional wastewater shall be contained onsite and discharged at off-peak hours (refer to Conditions #9 and #10 of Planning Commission Resolution #4035 - Attachment 10). Condition #10 of Planning Commission Resolution #4035 also requires a monitoring system to allow the City to monitor the flow and requires the developer to ensure the onsite storage tank doesn't emit objectionable odors.

At the Planning Commission meeting of January 22, 2020, the Public Works Director explained to the Planning Commission that although specific plans have not been approved for the proposed on-site storage, the concept is acceptable and would work. He further explained that the City would review and approve the final proposal prior to installation of the tank and construction of the project. While this is a new concept for the City, it is a creative way to address the issue of sewer capacity for this project and is similar in concept to a City pump station.

In instances where existing infrastructure is insufficient to accommodate a new development, municipalities will either condition the construction of the necessary improvement, or a Municipal Bond is created and sold to raise finances for such an improvement. At no time has this firm ever heard or witnessed a proposal to mitigate the lack of existing sewer infrastructure by constructing an 'on-site' sewer holding tank system. From a logistics standpoint, what happens if the tanks overflow? Will the tanks have emergency power backup? And what happens to the abandoned tanks when the sewer collection system is finally improved? Lastly, has the Public Works Director contacted the California Department of Public Health (CDPH) and the Regional Water Quality Control Board (RWQCB) to ensure that such a proposal can even be permitted by their respective agencies or confirmed that such a permit is not required?

According to your (Harriman) April 20, 2020 letter to the City of Merced Planning Department, the size of the sewer tank is expected to be approximately 43,000 gallons and is to be direct buried somewhere on the site. By my estimates, this tank will need to be approximately 10-feet in diameter and over 70-feet long. In order to build this facility, the developer will need to allocate some portion of the site plan to this tank and, not only will it be very expensive to build, it is doubtful that the previously aforementioned approval agencies will allow parking to occur on top of this buried tank. This reduction of the site and its impact on the already deficient parking plan for the site must be evaluated prior to project approval.

In conclusion, the City of Merced should be made aware that approving projects on top of a deficient sewer collection system without an updated and approved Sewer Master Plan is not legally sound or advised. It is important that the City Attorney's office and the City Risk Manager are made fully aware of the risks that lie ahead and how such approvals may reduce the insurance and bonding capacity of the City moving forward.

Storm Water Management

According to Item #18 of Conditions of Approval, Planning Commission Resolution #4035 - Conditional Use Permit #1238:

18. All storm water shall be contained on-site for a minimum of 48 hours, then released into the City's storm water system at a rate not to exceed the 2-year pre-development flow or as approved by the City Engineer.

Using typical storm drainage sizing calculations, the site is approximately 640-feet by 350-feet (5.14 acres). Applying the formula of  $\text{Volume} = 0.55 CA$  (where C is the run-off coefficient of 0.7 and A is the area for the site) the minimum required volume of such a facility would approximately 2 acre-feet. As one acre-foot is approximately 325,851 gallons, the total storage capacity of such a facility would need to be approximately 650,000 gallons. If the developer were to put this runoff into a buried tank, the tank would have to be 75-feet square by 15-feet high. If the developer were to put this into an on-site storage pond, the pond would need to be 8-feet deep by 105-feet square, resulting in a substantial reduction in parking, or building envelope.

In order to be fully and fairly evaluated, the site plan must reflect both the 43,000 gallon sanitary sewer collection holding tank and the location of the 48-hour storm water detention facility as designed by a licensed civil engineer. As stated previously, when consideration is given to these facilities, there exists little probability that the developer can satisfy the minimum parking requirements as specified by the City of Merced Planning Department.

Sincerely,



John T. Ennis, P.E.  
Civil Engineer



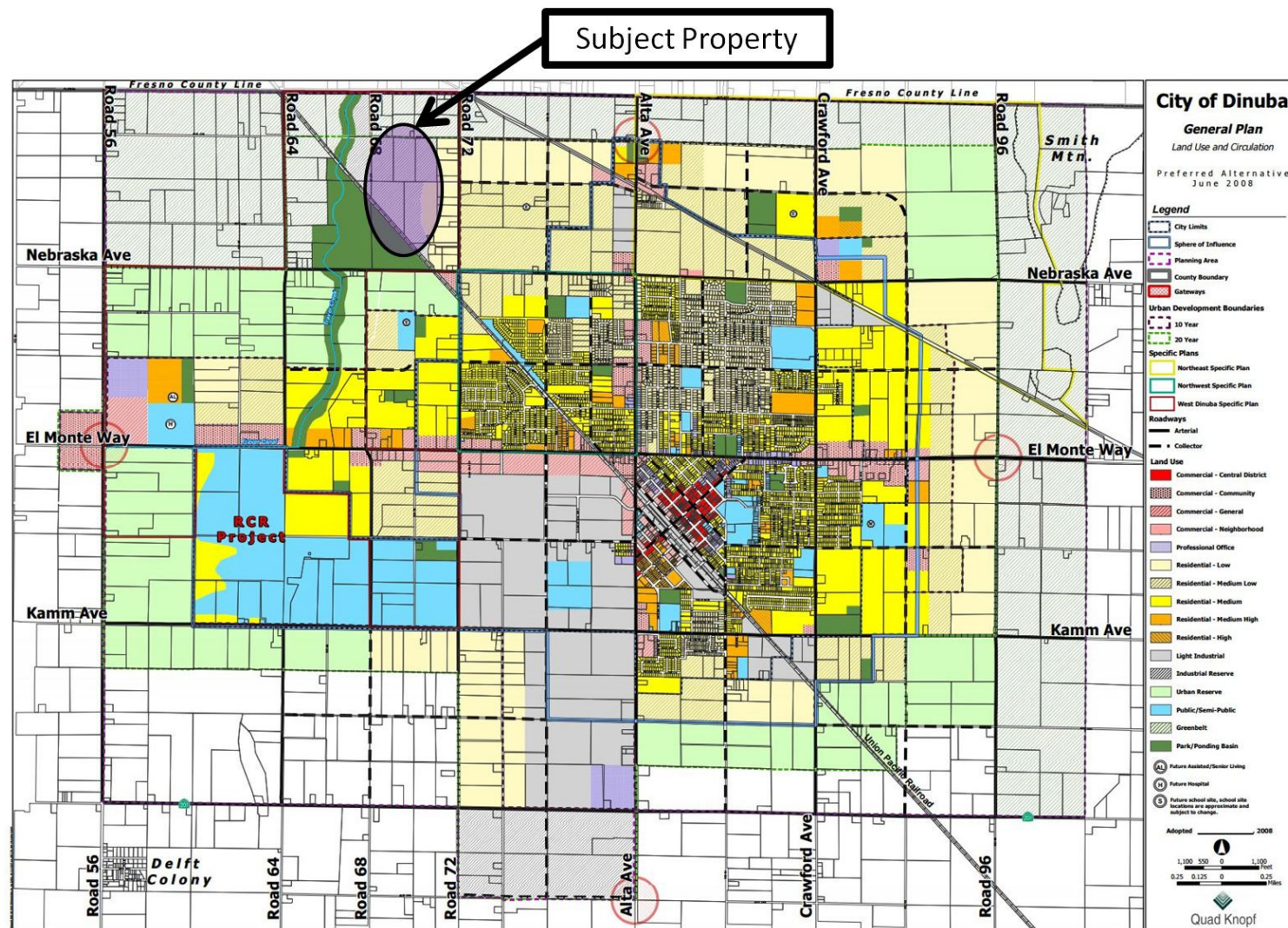


Exhibit A - City of Dinuba General Plan

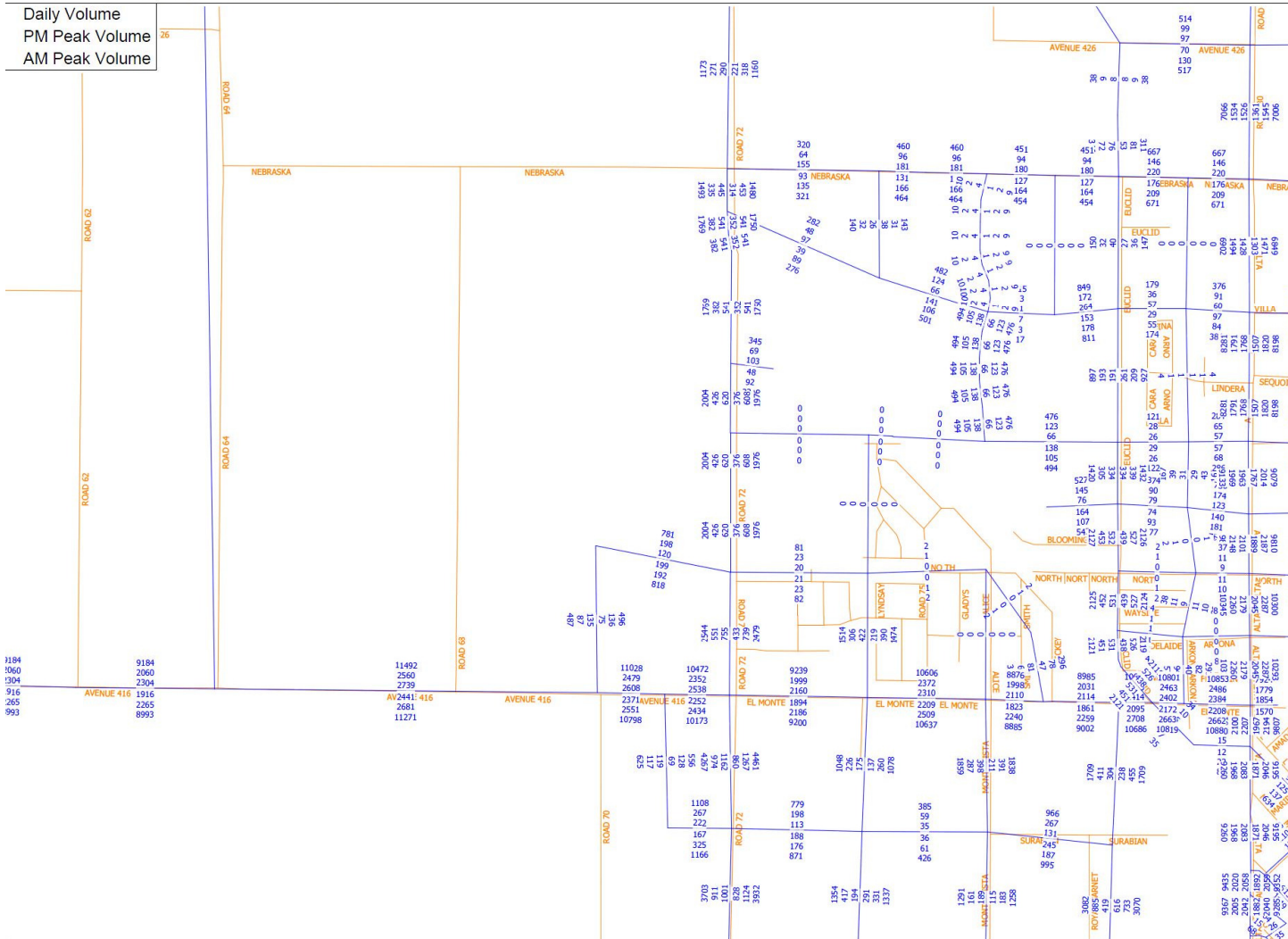


Daily Volume  
PM Peak Volume  
AM Peak Volume



Exhibit B - 2015 TCAG Travel Demand Model

# TCAG 2040 Travel Demand Model



cube  
Exhibit C - 2040 TCAG Travel Demand Model

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