

# Appendix TRA

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Transportation Analysis and Parking Study



January 15, 2021

Ms. Darcy Kremin, AICP  
Rincon Consultants, Inc.  
449 15<sup>th</sup> Street, Suite 303  
Oakland, CA 94612

## **Transportation Analysis for the Mini-Storage Development at 2600 Moraga Road**

Dear Ms. Kremin;

As requested, W-Trans has prepared a Transportation Analysis for the proposed mini-storage development at 2600 Moraga Road in San Pablo, CA. The purpose of this letter is to document the trip generation potential and preliminary Vehicle Miles Traveled Assessment for the development.

### **Project Description**

The proposed project would build a new 125,159 square foot self-storage facility comprised of approximately 959 storage units and a rental office within three single-story structures and one three-story structure located at 2600 Moraga Road in San Pablo. The self-storage facility would be served by 17 off-street parking spaces. The project site is located at the El Portal Soccer Fields adjacent to the former El Portal Elementary School (closed in 1990).

### **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*, 10<sup>th</sup> Edition, 2017. A review of available land use descriptions contained in the ITE manual identified the rates most closely aligned with the proposed uses would be "Mini-Warehouse" (ITE LU 151). The standard rates for "Mini-Warehouse" includes all vehicle trips related to the operation the self-storage facility such as for the maintenance, office operations and other services. Because the site is currently occupied by a sports field, the trip generation for "Public Park" (ITE LU 411) was used to estimate the existing trips at the site. The project is not anticipated to generate any internal capture trip, pass-by trip credits or trip reductions resulting from nearby land use or transportation options.

The expected trip generation potential for the proposed project is indicated in Table 1. The proposed project is expected to generate an average of 187 trips per day, including 13 trips during the a.m. peak hour and 21 during the p.m. peak hour; these new trips represent the increase in traffic associated with the project.

**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
<b>Existing</b>											
Public Park	-3.000 acres	0.78	-2	0.02	0	0	0	0.11	0	0	0
<b>Proposed</b>											
Mini-Warehouse	125.159 ksf	1.51	189	0.10	13	8	5	0.17	21	10	11
<b>Total</b>			<b>187</b>		<b>13</b>	<b>8</b>	<b>5</b>		<b>21</b>	<b>10</b>	<b>11</b>

Note: ksf = 1,000 square feet

## Vehicle Miles Traveled

Consideration was given to the project's potential generation of Vehicle Miles Traveled (VMT). Because the City of San Pablo 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 *Technical Advisory on Evaluating Transportation Impacts in CEQA*, 2018, as well as recommendations provided by the Costa County Transportation Authority (CCTA) in the Technical Memorandum titled "*VMT Analysis Methodology for Land Use Projects in Contra Costa, GMTF Review Draft*", dated July 9, 2020 was used. Guidance provided in this document suggests that this land use may be considered local serving as the demand for self-storage services in the area are constant and the addition of a new self-storage site would redistribute existing self-storage-based trips within the City instead of creating new trips. For the purpose of this study, a quantitative approach was developed to evaluate the potential change in project-related VMT. This method is summarized in these following steps:

1. Determine the average self-storage trip length in the immediate area by measuring the distance between existing self-storage facilities and a common point in near the geographic center of San Pablo (in this case City Hall was used as the common point and geographic center of the City).
2. Measure the trip length from the project site to common point (San Pablo City Hall).
3. If the project trip length is less than the average self-storage trip length for existing self-storage facilities, then the project may be presumed to reduce the average distance traveled for this type of use and is considered to have a less than significant VMT impact.

There are currently nine similar self-storage facilities in the study area vicinity within a three-mile radius of San Pablo City Hall. The average distance between these facilities and the San Pablo City Hall is 1.9 miles. The distance between the project site and City Hall is 1.3 miles. Therefore, the project is presumed to have a less-than-significant VMT impact because the length of travel from City Hall to the project site is less than the average distance to other existing similar self-storage facilities. A list of existing self-storage facilities in San Pablo along with the corresponding distance between each location and the San Pablo City Hall is provided in Table 2. A map illustrating the locations of each facility relative to the project site and the geographic common point (San Pablo City Hall) is included in the enclosure.

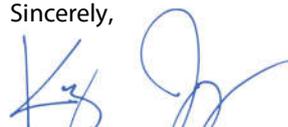
<b>Table 2 – Vehicle Miles Traveled (VMT) Estimate</b>			
<b>Line No.</b>	<b>Name</b>	<b>Address, City</b>	<b>Distance to City Hall (Miles)</b>
1.	Public Storage	398 Carlson Blvd, Richmond	2.9
2.	Budget Self Storage	3445 Collins Ave, Richmond	2.1
3.	Security Public Storage	801 Madeline Rd, Richmond	2.9
4.	Extra Space Storage	4031 Lakeside Dr, Richmond	2.7
5.	Public Storage	3255 San Pablo Dam Rd, San Pablo	1.4
6.	Security Public Storage	3415 San Pablo Dam Rd, San Pablo	1.7
7.	Public Storage	14820 San Pablo Ave, San Pablo	1.1
8.	San Pablo Mini Storage	5310 Riverside Ave, San Pablo	0.9
9.	Extra Space Storage	3500 San Pablo Dam Rd, El Sobrante	1.6
<b>Average (All sites within 3 miles of City Hall)</b>			<b>1.9</b>
	Project	2600 Moraga Rd, San Pablo	1.3

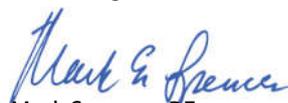
**Conclusions and Recommendations**

- The proposed project is expected to generate an average of 187 trips per day, including 13 trips during the weekday a.m. peak hour and 21 during the p.m. peak hour.
- The proposed project would be presumed to have a less-than-significant transportation impact on vehicle miles traveled.

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

Sincerely,

  
 Kenneth Jeong, PE  
 Traffic Engineer

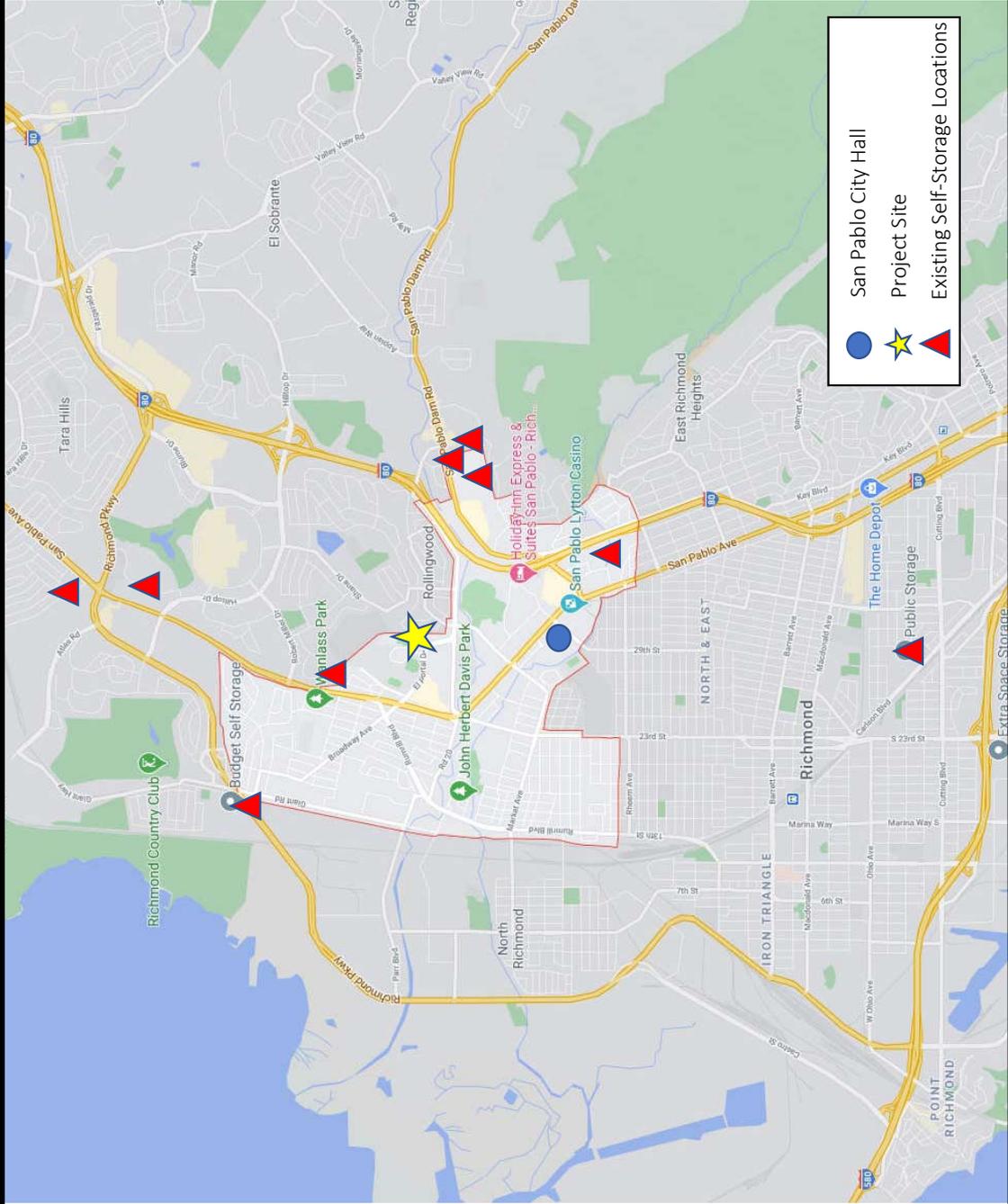
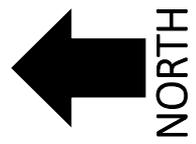
  
 Mark Spencer, PE  
 Senior Principal



MES/kbj/SPA013.L1

Enclosures: Map of Existing Self-Storage Facilities

Self-Storage  
Locations within 3  
miles of the San  
Pablo City Hall



## TECHNICAL MEMORANDUM

### Moraga Road Storage

Parking Study for Self-Storage Located at 2600 Moraga Road in San Pablo, CA

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Date: August 25, 2020 Project #: 25569  
To: Larry Thom (American Recess, LLC)  
From: Aaron Elias, P.E. (Kittelison & Associates, Inc.)  
cc:

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American Recess, LLC is proposing to construct a self-storage facility located at 2600 Moraga Road in San Pablo, CA (Project). Kittelison & Associates, Inc. (Kittelison) has created this memorandum to provide a parking study for the proposed Project. This assessment includes:

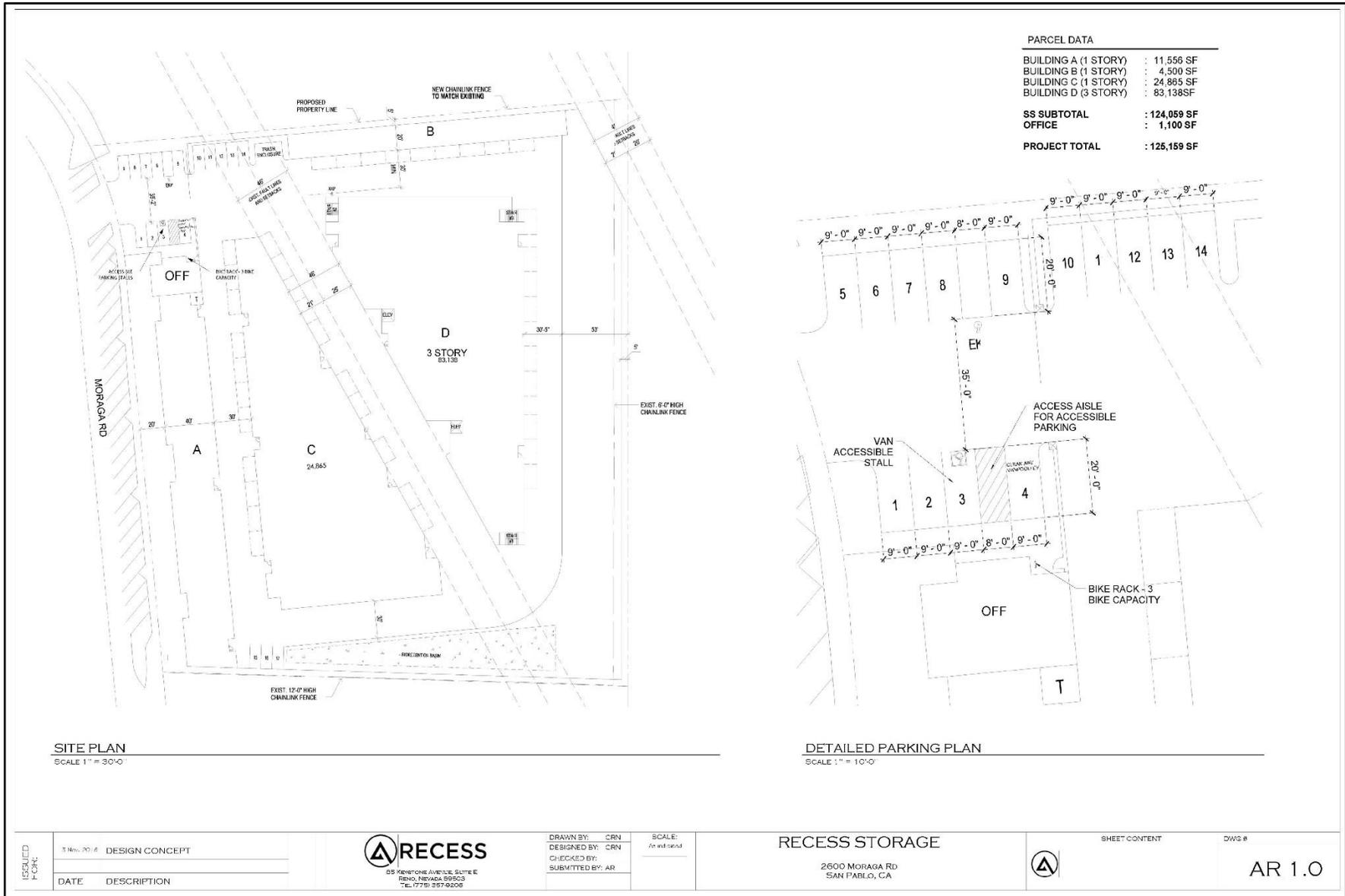
- Project Overview
- Municipal Code Requirements
- Parking Demand Analysis

Finally, this assessment includes a summary of the findings and whether reductions to the Municipal Code parking standards are warranted per section 17.54.050.I.1.

### PROJECT OVERVIEW

The Project would contain four storage buildings and an office resulting in a Project of 125,159 square feet. Exhibit 1 shows the proposed site plan for the Project which includes a total of 17 striped parking spaces with one being an ADA accessible parking space and another space designated for clean air vehicles. In addition to the 17 striped parking spaces, customers with self-storage units would be able to park along the drive aisles of the facility to access their units in one of the four buildings. While these drive aisles would not have marked parking stalls, Exhibit 1 includes markings to illustrate how an additional 40 parked vehicles could be accommodated within the drive aisles. All parking within the site would be short-term parking since the Project is not proposing to allow long-term parking for recreational vehicles, trucks, or fleet vehicles as some self-storage facilities allow. The Project also provide two bicycle parking spaces within 50 feet of the entrance.

**Exhibit 1: Site Plan for the Project**



ISSUED FOR:	3 Nov. 2016	DESIGN CONCEPT
	DATE	DESCRIPTION



DRAWN BY: CRN  
DESIGNED BY: CRN  
CHECKED BY:  
SUBMITTED BY: AR

SCALE:  
As indicated

**RECESS STORAGE**

2600 MORAGA RD  
SAN PABLO, CA



SHEET CONTENT

DWG #

AR 1.0

## MUNICIPAL CODE REQUIREMENTS

The Municipal Code requirements for the City of San Pablo governing off-street parking are contained in Chapter 17.54 (Parking and Loading). This chapter states personal storage is required to provide one parking space per 1,000 square feet plus one parking space per employee (17.54.030). Based on the Project having a square footage of approximately 125,000 square feet and two employees, the total required parking would be 127 parking spaces. Based on 127 parking spaces, the Municipal Code would require five of these spaces be ADA accessible (17.54.100) and 11 be designated for clean air vehicles (17.54.110). The Project would also be required to provide seven short-term bicycle parking spaces (17.54.130) but would not be required to provide long-term bicycle parking because it does not have more than ten tenant-occupants. A summary of these requirements is shown in Exhibit 2.

### Exhibit 2: Summary of Municipal Code Parking Requirements

Type of Parking	Required Number of Spaces	Note
Accessible	5	Table 17.54-C
Clean Air Vehicle	11	Table 17.54-D
Standard	111	
Total - Vehicle	127	Table 17.54-A
Short-Term Bicycle	7	17.54.120 B
Long-Term Bicycle	0	17.54.120 C
Total - Bicycle	7	
Source: Kittelson & Associates, Inc. Municipal Code Use Class: Storage, Personal		

## PARKING DEMAND ANALYSIS

The Institute of Transportation Engineers' Parking Generation Manual 5<sup>th</sup> Edition (Parking Manual) is a standard industry reference manual for developing estimates of parking demand for various land use types. The Parking Manual does contain parking demand data on self-storage facilities like the Project under ITE Land Use Code 151, Mini-Warehouse. This land use code has a total of 14 studies conducted during the weekday PM peak period around the United States and Canada including British Columbia, California, Massachusetts, Minnesota, and Texas. There were also studies conducted for the Saturday peak period, but the parking demand was found to be less than the weekday PM peak period. Therefore, this parking demand analysis reports the demand for only the weekday PM peak period to present a conservative analysis.

Based on the 14 studies contained in the Parking Manual, the 33<sup>rd</sup>, average, and 85<sup>th</sup> percentile parking demand rates are shown in Exhibit 3. As shown in this exhibit, the parking demand rate over the 14

studies ranges from a 33<sup>rd</sup> percentile of 0.08 parking spaces per thousand square feet up to an 85<sup>th</sup> percentile demand rate of 0.25 parking spaces per thousand square feet. Based the Project square footage of about 125,000 square feet, Exhibit 4 shows the estimated parking demand

**Exhibit 3: ITE Parking Generation Manual Parking Demand Rate**

ITE Land Use Code	151, Mini-Warehouse
# of Studies	14
33 <sup>rd</sup> Percentile	0.08 spaces/KSF
Average	0.10 spaces/KSF
85 <sup>th</sup> Percentile	0.25 spaces/KSF
Source: ITE Parking Generation Manual 5 <sup>th</sup> Edition KSF: thousand square feet Rates based on weekday PM peak period	

**Exhibit 4: Estimated Parking Demand for Project based on Parking Manual Demand Rates**

	Estimated Parking Demand
33 <sup>rd</sup> Percentile	10 spaces
Average	13 spaces
85 <sup>th</sup> Percentile	32 spaces
Source: Kittelson & Associates, Inc. 2020	

The 14 self-storage sites used to develop the data in the Parking Manual ranged in size from about 7,600 square feet up to 172,000 square feet. Reviewing data from the three sites in the Parking Manual closest in size to the Project shows an average parking demand rate of about 0.10 parking spaces per thousand square feet as shown in Exhibit 5.

**Exhibit 5: Parking Demand for Three Parking Manual Sites Most Similar in Size to the Project**

	Size (KSF)	# of Parked Cars	Rate
Study 1	86	10	0.12
Study 2	89	10	0.11
Study 3	172	15	0.09
3-Study Average	116	12	0.10
Source: Kittelson & Associates, Inc. 2020 based on data from ITE Parking Manual			

Based on our analysis of the parking demand data contained within the Parking Manual, Kittelson recommends a parking demand rate of 0.12 parking spaces per thousand square feet be used for the Project. This matches the highest parking demand rate observed from the three self-storage facility sites of similar size to the Project and exceeds the average parking demand rate from the 14-site dataset contained within the Parking Manual. Based on the Project’s size of about 125,000 square feet and a parking demand rate of 0.12 parking spaces per thousand square feet, the Project should provide at least 15 parking spaces to meet the anticipated demand.

## SUMMARY

This technical memorandum analyzed the parking requirements, demand, and proposed supply for a proposed self-storage facility located in San Pablo, CA. Kittelson found the Project does not provide sufficient parking to meet the Municipal Code requirements for off-street parking. However, an assessment of parking demand based on an industry standard parking demand reference manual indicated that the likely demand for parking at the Project would be easily met by the parking supply provided in the site plan (Exhibit 1). A summary of the Municipal Code requirement, demand, and supply is shown in Exhibit 6.

### Exhibit 6: Summary of Municipal Code Requirements, Demand, and Supply

Type of Parking	Number of Spaces Required		
	Municipal Code	Parking Demand	Site Plan Supply
Accessible	5	1	1
Clean Air Vehicle	11	1	1
Standard	111	13	16
Total Vehicle	127	15*	17**
Short-Term Bicycle	7	2	2
Long-Term Bicycle	0	0	0
Total Bicycle	7	2	2

Source: Kittelson & Associates, Inc. 2020  
 \*Total demand estimated using 0.12 parking spaces per thousand square feet  
 \*\*Site plan supply only includes marked parking stalls but at least 40 more vehicles can park to access individual self-storage units.

Based on our parking analysis, Kittelson recommends the following:

- The City of San Pablo reduce the parking requirements for the Project from 127 parking spaces to 15 striped parking spaces to match the anticipated parking demand for the Project. This technical memorandum provides the analysis and justification of this reduction to fulfill the requirements of section 17.54.050.I.1 of the City of San Pablo Municipal Code. The facility

would also provide additional parking near the individual self-storage units that can conservatively accommodate at least 40 additional vehicles should the parking demand ever exceed the number of striped parking spaces.

As shown in Exhibit 6, the site plan supply for both vehicles and bicycles<sup>1</sup> is sufficient to meet the estimated parking demand if the parking requirements are lowered per Kittelson's recommendation.

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<sup>1</sup> The amount of short-term bicycle parking would be reduced from seven spaces to two as a result of the parking reduction from 127 to 15 since short-term bicycle parking is 5% of the vehicle parking or two spaces, whichever is greater.