## COUNTY OF MENDOCINO

### DEPARTMENT OF PLANNING AND BUILDING SERVICES

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IGNACIO GONZALEZ, INTERIM DIRECTOR

#### **MEMORANDUM**

DATE: JUNE 21, 2018

TO: PLANNING COMMISSION

FROM: PLANNING AND BUILDING SERVICES

SUBJECT: U 2017-19 REVISED OFF-STREET PARKING PLAN

This week the applicant discussed with Staff their originally proposed nine off-street parking spaces. The applicant needs to satisfy both Mendocino Coastal Zoning Code requirements and Mendocino Department of Transportation encroachment standards.

On Wednesday, June 20, 2018, applicant's agent submitted the attached revised off-street parking plan in support of providing six vehicle parking spaces and twelve bicycle parking spaces (in lieu of three vehicle spaces). The proposed vehicle spaces would satisfy dimensional requirements an off-street parking space.

703 North Main Street, Fort Bragg CA 95437 ph: 707-964-2537 fx: 707-964-2622 www.WCPlan.com

June 20, 2018

Juliana Cherry, Planner III Mendocino County Planning and Building Services 120 West Fir Street Fort Bragg, CA 95437

RE: Ice House Use Permit #2017-0019

Owner: John Schnaubelt

Site: Ice House

32425 North Harbor Drive Fort Bragg CA 95437 APN 018-140-48-00

To Juliana Cherry, Planner III:

I am writing to request a reduction of required automobile parking spaces for the Use Permit application noted above.

The reasons we feel this is an appropriate request is due to the following data:

- 1. On July 14, 2011 Los Angeles adopted an ordinance (exhibit 1) allowing automobile parking area to be replaced with bicycle parking at a ratio of 1 automobile spot to 4 bicycle spots. The Los Angeles Planning Commission concluded that the encouragement of bicycles as a viable means of transportation would reduce congestion, improve air quality, reduce greenhouse gas emissions and improve public health. We have included parking for 12 bicycles in our proposed parking plan.
- 2. In 2011, Brigham Young University (BYU) Institute of Transportation of Engineers (ITE) completed a study (exhibit 2) comparing the data presented by the Western District ITE that is used to create parking standards in the Western US, to the traffic data collected at a mini storage facility in Provo, Utah over the course of a year. The conclusion at the end of this study was the trip rates are substantially lower than the average trip rates provided in the ITE. What is of particular notes is the that the storage units are long term storage, which results in a lower number of trips for these units (4-13 visitors per day). The proposed storage for the Ice House is all deemed as long-term storage due to the need to age whisky a minimum of 5-10 years, etc. The storage facility was a much larger operation that occupied a building 58, 098 sf vs the 6783 sf occupied by The Ice House.
- 3. The City of Fort Bragg Parking Requirements by Land Use (exhibit 3) identifies that 1 space is required for each 500 sf of indoor display area for Warehouse Retail. The Charter Ticket window and the Tasting Room of the distillery are both recognized as Warehouse Retail Uses. Both of these uses occupy 935 sf, necessitating 2 parking spots.
- 4. After the review of many parking studies in the western US, there is a consistency in many, if not most, that identify the need for 1 parking spot per 1000 sf of floor area devoted to storage of goods for warehousing, storage or handling of bulk goods. We have provided the parking study from Bozeman, Montana (exhibit 4). The Ice House will have storage for barrels (1033 sf), Storage for Sea Pal Fish fertilizer (1106 sf) and the

Encl: Revised parking plan (site plan)
CC: John Schnaubelt, applicant; File

Schnaubelt – Ice House; RFI #1 October 27, 2017 Page 2 of 2

- Distillery space (1490). Using the Bozeman study, this would result in the need for 4 parking spaces if we were to include the distillery area.
- 5. The revised site plan **(exhibit 5)** has been reviewed and approved by Amber Munoz, Mendocino County Deputy Director, Department of Transportation.

For all the reasons cited above, coupled with concerns from the Department of Transportation for safe installation of encroachments, as well as the physical limitations of the historical site, we feel it appropriate and reasonable to request a lower parking ratio for this project. If parking were approved per Mendocino County LCP, there would be the need for 9 parking spaces.

After careful computation and consideration, we propose the following:

5 regular sized parking spaces (9 x 20)

1 ADA parking space.

12 Bicycle parking spaces (in lieu of 3 automobile spaces)

Please let me know if you have any questions or comments.

Sincerely,

Blair Foster





#### DEPARTMENT OF CITY PLANNING SUPPLEMENTAL RECOMMENDATION REPORT



CITY PLANNING COMMISSION

DATE: TIME:

July 14, 2011 after 8:30 a.m.\*

PLACE:

Los Angeles City Hall

200 North Spring Street

Room 350

Los Angeles, CA 90012

CASE NO:

CEQA:

CPC-2011-309-CA

**COUNCIL FILES:** 

09-2896

LOCATION:

ENV-2011-310-ND

COUNCIL DISTRICT:

Citywide

**PLAN AREAS:** 

All All

#### PUBLIC HEARING REQUIRED

#### MATTER CONTINUED FROM MEETING OF MAY 12, 2011

SUMMARY: A proposed ordinance (Appendix B) amending the Los Angeles Municipal Code (LAMC) to: expand bicycle parking requirements to include some multi-family residential development; increase the amount of bicycle parking required for new development and additions to commercial, institutional, and industrial uses; require bicycle parking for commercial, industrial, and manufacturing uses of less than 10,000 sq. ft.; refine siting and design requirements for bicycle parking; require that both short-term and long-term bicycle parking be provided; amend the amount of bicycle parking that may be substituted for automobile parking, and to provide rules for the installation of bicycle parking within the public right-of-way by private businesses.

#### RECOMMENDED ACTIONS:

- 1. Adopt the initial and supplemental staff reports (dated May 12, 2011 and July 14, 2011) as its reports on the subject.
- Adopt the findings in Attachment 1.
- 3. Adopt the Negative Declaration as the CEQA clearance on the subject.

Approve the proposed ordinance (Appendix B) and recommend its adoption by the City Council.

MICHAEL LOGRANDE

Director of Planning

LINN K. WYATA

Chief-Zoning Administrator

THOMAS ROTHMANN

City Planner Code Studies

Telephone: (213) 978-1891

ALAN BELL, AICP

Deputy Director

CHARLES J. RAUSCH, JR.

Senior City Planner, Office of Zoning Administration

D. BAÉRG

Project Manager

ADVICE TO PUBLIC: \*The exact time this report will be considered during the meeting is uncertain since there may be several other items on the agenda. Written communication may be mailed to the Commission Secretariat, 200 North Main Street, Room 272, Los Angeles, CA 90012 (Phone No. 213/978-1300). While all written communications are given to the Commission for consideration, the initial packets are sent a week prior to the Commission's meeting date. If you challenge these agenda items in court, you may be limited to raising only those issues you or someone else raised at the public hearing agendized herein, or in written correspondence on these matters delivered to this agency at or prior to the public hearing. As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability, and upon request, will provide reasonable accommodation to ensure equal access to these programs, services, and activities. Sign language interpreters, assistive listening devices, or other auxiliary aids and/or other services may be provided upon request. To ensure availability of services, please make your request no later than three working days (72 hours) prior to the meeting by calling the Commission Secretariat at 213/978-1300.

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**ATTACHMENT 1 – FINDINGS** 

#### **SUMMARY**

The proposed ordinance (Appendix B) amends the Los Angeles Municipal Code (LAMC) to expand bicycle parking requirements for most new developments and additions that increase a building's floor area. The proposed changes support the current efforts of the City of Los Angeles to encourage bicycling and implement ten separate policies within the Bicycle Master Plan.

On January 19, 2011, the City Council adopted Motion 09-2896 directing the Department of City Planning, in conjunction with the Department of Transportation, to report back with recommendations to update the City's bicycle parking requirements. On March 30, 2011, the Planning Department staff held a hearing on the proposed ordinance which outlined recommended changes. On May 12, 2011, the CPC held a public hearing on the Proposed Ordinance (Appendix A). Many questions and concerns were raised at both hearings. At the May 12<sup>th</sup> hearing the CPC continued the hearing on the Proposed Ordinance and asked staff to report back on several outstanding issues.

The revised proposed ordinance (Appendix B) is substantially the same as the previously proposed ordinance however several changes have been made. Additional requirements for a bicycle repair/workspace were added, incentives allowing the replacement of automobile parking with bicycle parking were revised to better fit with the City's density bonus incentives, and the number of bicycle racks located within the public right of way that can be counted towards meeting a building's bicycle parking requirements was limited. In addition, staff examined the possibilities of creating a bicycle parking fund and found that while such a fund is desirable, it should be implemented separately and in conjunction with the creation of a broader Bicycle Trust Fund as recommended in Bicycle Master Plan Policy 3.1.3.

#### STAFF REPORT

The City Planning Commission asked Code Studies staff on May 12, 2011 to examine and respond to the following concerns.

• Requested Action: The commission asked staff to incorporate a provision that would require additional floor area be set aside in new developments to be used as a repair/maintenance area for bicyclists.

**Response:** Staff has added additional language to the proposed ordinance requiring buildings containing more than 20 long-term bicycle parking spaces to set aside 100 square feet for repairs and maintenance facilities. In addition to the space required, amenities including, but not limited to, a bicycle repair stand, a work bench, and an air pump shall be provided.

 Requested Action: The commission asked staff to address the possible conflict between provisions in the proposed ordinance and the density bonus regarding the replacement of automobile parking with bicycle parking. Response: Staff has determined that the proposed reduction in automobile parking for multifamily residential units (Appendix A) may constitute a competing incentive with the density bonus in a limited number of cases. However, staff estimates that approximately 85% of the affordable housing units built in Los Angeles from 2005-2009 were built as affordable housing projects. In other words, 100% of the units provided in these projects were affordable housing units. While the number of units provided may have been fewer if the parking reduction allowed by the density bonus had not been available, due to increased construction costs, the vast majority of these units would most likely have been built regardless of a competing incentive. To ensure that the incentives granted by the bicycle parking ordinance do not conflict with those in the density bonus, staff has amended the incentives in the bicycle parking ordinance (Appendix B).

The proposed requirements for bicycle parking would require an area be set aside for bicycle parking that would account for approximately 7-15 percent of the area necessary for automobile parking. This is in contrast with the density bonus which simply allows the automobile parking to be reduced without additional space being provided for vehicle parking. In addition, there will be added costs related to the provision of bicycle racks, lockers, and other infrastructure. Thus, the implementation of this ordinance will further increase the cost of development and make housing less affordable unless developers have the option to replace a limited amount of automobile parking with bicycle parking. Therefore staff recommends that all residential buildings be allowed to replace a maximum of 10 percent of the automobile parking required by LAMC 12.21 A.4 to offset these costs. A replacement of 10 percent of the automobile parking will result in approximately the same amount of land being dedicated to vehicle parking on a given site and therefore this incentive will not compete with the density bonus.

Allowing for the replacement of automobile parking spaces with bicycle parking spaces is of particular importance in transit oriented development. The removal of this incentive would limit the ability of new transit oriented development to cater to households with one or fewer automobiles. The 2008 American Community Survey reports that 36% of Los Angeles households have access to one or fewer cars for the journey to work. Thus, the 15 percent replacement of automobile parking spaces proposed by the ordinance for transit oriented developments would be a conservative reduction. Furthermore, staff found that even with a reduction of up to 15 percent, in two thirds of the scenarios examined, the density bonus allows for a greater reduction of parking than that allowed by the proposed ordinance. In the remaining third of developments the space required for bicycle parking in transit oriented developments is approximately equal to the amount of automobile parking replaced. Therefore, staff believes the incentive transit oriented development projects is not likely to reduce the number of affordable housing units provided.

The proposed ordinance (Appendix B) creates additional incentives for the creation of affordable housing by allowing 30 percent of the automobile parking in such developments to be replaced by bicycle parking. Furthermore, the allowed replacement of automobile parking spaces can be used in addition to the reduction in parking granted by the density bonus. Staff therefore does not consider the proposed incentives to be a threat to the

provision of affordable housing in Los Angeles and instead sees an opportunity for the proposed automobile parking replacements to further reduce the cost of providing affordable housing.

• **Requested Action:** The Commission asked staff to examine the creation of a bicycle parking fund that could be paid into in lieu of providing bicycle parking.

**Response:** The establishment of such a fund would require additional study and staff time to determine the appropriate nexus for such fees and the rates to be charged. The Bicycle Parking Fund can be easily situated within the more expansive Bicycle Trust Fund (Bicycle Master Plan 3.1.3) and can reference the proposed ordinance (Appendix B). Staff does recommend that if such a fund is created in the future, buildings undergoing a change of use no longer be exempted from providing bicycle parking at that time since the creation of such a fund would allow them an alternative in cases where adequate square footage for bicycle parking is not available.

 Requested Action: The Commission was concerned that blocks with multiple store fronts might become cluttered with bicycle racks due to the incentives provided in the proposed ordinance.

Response: Staff conducted research into similar provisions for street furniture and newspaper racks and staff has amended the ordinance to limit the amount of bicycle parking located within the right-of-way that can be counted towards the proposed requirements. The amendments to the proposed ordinance would restrict each building from counting more than a single bicycle rack (two short-term bicycle parking spaces) located within the public right-of-way per 50 feet of frontage area towards their requirements. This will remove the incentive for businesses to locate multiple bicycle racks within the public right-of-way while still allowing existing buildings that may not have adequate space elsewhere to take advantage of this small provision. Businesses that wish to install additional bicycle parking within the right-of-way will still have the option of installing bicycle corals as outlined by the proposed ordinance (Appendix B). The minimum fee for a permit that allows for the installation of racks within the right of way is \$265.

#### **CONCLUSION**

The proposed ordinance (Appendix B) will ensure that adequate, secure, and safe bicycle parking is provided in most new developments and additions to buildings that increase floor area. Furthermore, it will ensure that all bicycle parking installed is done so in a manner that maximizes its use through specific design requirements. Through these measures the proposed ordinance will encourage the use of bicycles as a viable means of transportation within Los Angeles by providing quality end-of-trip facilities. Encouraging bicycling will reduce congestion, improve air quality, reduce greenhouse gas emissions, and improve public health.

#### APPENDIX B: PROPOSED ORDINANCE FOR DISCCUSSION

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A proposed ordinance amending Sections 12.03, 12.21, and 12.21.1 of the Los Angeles Municipal Code (LAMC) to expand bicycle parking requirements to cover some multi-family residential developments; to increase the levels of bicycle parking required under the current code for new developments and additions to commercial, institutional, and industrial uses; to expand bicycle parking requirements to commercial, industrial, and manufacturing uses of less than 10,000 sq. ft.; to define acceptable locations for bicycle parking; to require that both short-term and long-term bicycle parking be provided; to improve design standards; to amend the amount of bicycle parking that may be substituted for automobile parking, and to provide rules for the installation of bicycle parking within the public right-of-way by private businesses.

# THE PEOPLE OF THE CITY OF LOS ANGELES DO ORDAIN AS FOLLOWS:

**Section 1.** Section 12.03 of the Los Angeles Municipal Code is amended to add the following terms alphabetically.

BICYCLE CORRAL. Any on-street public parking space in which multiple short-term bicycle parking racks have been installed.

**FLOOR AREA.** The area in square feet confined within the exterior walls of a building, but not including the area of the following: exterior walls, stairways, shafts, rooms housing building-operating equipment or machinery, parking areas with associated driveways and ramps, <u>space dedicated to bicycle parking and bicycle workspace</u>, space for the landing and storage of helicopters, and basement storage areas. Except that buildings on properties zoned RA, RE, RS, and R1, and not located in a Hillside Area or Coastal Zone are subject to the definition of Residential Floor Area.

- **Sec. 2.** Subdivision 4 of Subsection A of Section 12.21 of the Los Angeles Municipal Code is amended to read:
  - 4. Off-Street Automobile Parking Requirements. A garage or an off-street automobile parking area shall be provided in connection with and at the time of the erection of each of the buildings or structures hereinafter specified, or at the time such buildings or structures are altered, enlarged, converted or increased in capacity by the addition of dwelling units, guest rooms, beds for institutions, floor area or seating capacity. The parking space capacity required in said garage or parking area shall be

#### FOR DISCUSSION

B-2

determined by the amount of dwelling units, guest rooms, beds for institutions, floor area or seats so provided, and said garage or parking area shall be maintained thereafter in connection with such buildings or structures.

New or existing automobile parking spaces required by code for all nonresidential uses may be replaced by bicycle parking at a ratio of one automobile parking space for every four bicycle parking spaces provided. No more than 20 percent of the required automobile parking spaces in nonresidential uses shall be replaced for a site. Nonresidential projects or buildings located within 1,500 feet of a major bus center, major bus route, or mass transit station as defined by Section 13.09 B.3 may replace up to 30 percent of the required automobile parking spaces with bicycle parking. For nonresidential buildings with less than 20 required automobile parking spaces up to 4 parking spaces may be replaced.

New or existing automobile parking spaces required by code for residential buildings as defined by Section 12.21 A.16(a)(1) may be replaced by bicycle parking at a ratio of one automobile parking space for every four bicycle parking spaces provided. No more than 10 percent of the required automobile parking spaces for residential buildings shall be replaced for a site. Residential projects or buildings located within 1,500 feet of a major bus center, major bus route, or mass transit station as defined by Section 13.09 B.3 may replace up to 15 percent of the required automobile parking spaces with bicycle parking. If a residential building has applied for and received a density bonus under Section 12.22 A.25, 30 percent of the required automobile parking may be replaced with bicycle parking.

Bicycle parking installed in this manner may be installed in existing automobile parking spaces and shall not be considered to violate the maintenance of existing parking as defined by Section 12.21 A.4(m). The ratio of short to long-term bicycle parking provided for in this manner shall be provided in accordance with the requirements set forth for each use as defined by Section 12.21 A.16(a). If additional bicycle parking is provided beyond what is required by Section 12.21 A16, the ratio of short-term to long-term bicycle parking provided may be determined by the business or property owner.

**Sec. 3.** Paragraph (c) of Subdivision 4 of Subsection A of Section 12.21 of the Los Angeles Municipal Code is amended to read:



# TRIP AND PARKING GENERATION STUDY OF A MINI-WAREHOUSE

#### Introduction

The Brigham Young University (BYU) Institute of Transportation Engineers (ITE) student chapter recently completed the 2011 Data Collection Project as proposed to the ITE Western District. The data for this project were collected at a local mini-warehouse facility, which corresponds to Land Use Code 151. This project was a great learning experience for our student chapter; the funds we receive will help student chapter members attend the Western District ITE meeting in Anchorage, Alaska.

Ryan Hales, P.E., PTOE, AICP, of Hales Engineering, provided mentoring support and project review for this data collection effort. Craig Wagner, from Econolite, provided our student members with training on the use of our traffic data collection trailer on January 19 and February 23, 2011 (see Figure 1). Dr. Mitsuru Saito Ph.D., P.E. and Dr. Grant Schultz Ph.D., P.E., PTOE, both of BYU, have provided invaluable help and support and data collection equipment for the project.



Figure 1: Data Collection training with Craig Wagner.

#### **Site Information**

Data were collected on three different days at the mini-warehouse facility, shown in Figure 2. The facility is Hillside Storage, located at 2067 Ironton Blvd. in Provo, UT. The approximate square footage of the office building, number of employees, number of parking stalls, number of units, percent of units occupied, net rentable area, gross floor area, and total property area can be seen in Table 1. There are two parking areas at the site, one of which includes the entrance to the area that contains the storage units.

Characteristic	Value		
Number of Employees	4 (2 FT, 2 PT)		
Number of Units	420		
Occupied Units	60%		
Net Rentable Area	56,476 ft <sup>2</sup>		
Office Floor Space	$1,700 \text{ ft}^2$		
Gross Floor Area	58,098 ft <sup>2</sup>		
Property Area	3.44 acres		
Number of Parking Stalls	6 (1 handicap)		

**Table 1: Site Characteristics** 

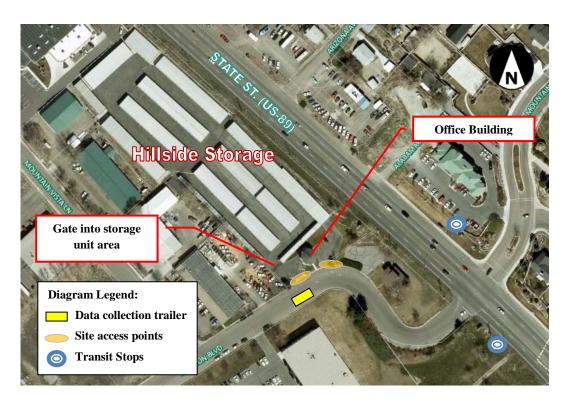


Figure 2: Site layout.

#### Methodology

Data were collected on Saturday, February 26, 2011; Sunday, February 27, 2011; and Tuesday, March 1, 2011. As stated in the proposal, trip generation was counted between the hours of 7am and 7pm on each day. The BYU Traffic Data Collection Trailer, shown in Figure 3, was used to collect data at the site.

The trailer is equipped with two video cameras that recorded each entrance to the site during the specified hours. These videos were then used to manually count vehicles entering and exiting the site through each access. The counts for the two driveways were totaled for each hour. The results of the trip generation are summarized in the attached Trip Generation Data Forms. Parking demand data were also collected every hour, on the hour, from 7am to 7pm. The parking data are attached in the Parking Demand Survey Forms.



Figure 3: BYU traffic data collection trailer at the site.

#### **Results**

The trip data for the morning peak period, the afternoon peak period, and the peak hour of generator are shown in Table 2, Table 3, and Table 4, respectively. Data about vehicle occupancy was not collected during this study. Furthermore, no pedestrian, bicycle, or transit trips were observed during the study. The trip rates shown are rates per occupied unit and per 1000 square feet of gross floor area (GFA). Table 5 shows a summary of trips counted for each day of the study.

	Saturday	Sunday	Tuesday
Variable	2/26/11	2/27/11	3/1/11
Peak Hour	8:00-9:00 AM	8:00-9:00 AM	8:00-9:00 AM
All Vehicles	1	1	0
Trucks	0	0	0
Total Trips	1	1	0
Trip Rate (Occ. Units)	0.004	0.004	0.00
Trip Rate (GFA)	0.017	0.017	0.00
% Entering	100.0%	0.0%	0.0%
% Exiting	0.0%	100.0%	0.0%

Table 2: Morning Peak Period Trip Data for the Mini-Warehouse

Table 3: Afternoon Peak Period Trip Data for the Mini-Warehouse

Variable	Saturday 2/26/11	Sunday 2/27/11	Tuesday 3/1/11
Peak Hour	5:00-6:00 PM	5:00-6:00 PM	5:00-6:00 PM
All Vehicles	3	0	4
Trucks	0	0	2
Total Trips	3	0	4
Trip Rate (Occ. Units)	0.012	0.00	0.016
Trip Rate (GFA)	0.052	0.00	0.069
% Entering	66.7%	0.0%	50.0%
% Exiting	33.3%	0.0%	50.0%

Table 4: Peak Hour of Generator Trip Data for the Mini-Warehouse

Variable	Saturday 2/26/11	Sunday 2/27/11	Tuesday 3/1/11
Peak Hour	11:00-12:00 PM	9:00-10:00 AM	5:00-6:00 PM
All Vehicles	4	2	4
Trucks	0	0	2
Total Trips	4	2	4
Trip Rate (Occ. Units)	0.016	0.008	0.016
Trip Rate (GFA)	0.069	0.034	0.069
% Entering	50.0%	100.0%	50.0%
% Exiting	50.0%	0.0%	50.0%

**Table 5. Summary of Daily Trip Data** 

Saturday (2/26/11)			Sund	ay (2/27/1	1)	Tuesday (3/1/11)			
Entering	Exiting	Total	Entering Exiting Total			Entering	Exiting	Total	
13	12	25	4	4	8	11	8	19	

Trip rates generated from this study have been calculated and are shown in Table 6 alongside average trip rates from *ITE Trip Generation*,  $7^{th}$  *Edition*. The actual number of trips for each analysis period is shown alongside the number of trips predicted from ITE trip rates in Table 7.

Independent Analysis		Saturda 2/26/1	•	Sunda 2/27/1	•	Tuesday 3/1/11	
Variable	Period	Calculated ITI		Calculated	ITE	Calculated	ITE
Occupied Units	Full Day	0.099	0.250	0.032	0.180	0.075	0.280
	Peak Hour of Generator	0.016	0.040	0.008	0.030	0.016	0.030
Gross Floor Area	Full Day	0.430	2.330	0.138	1.780	0.327	2.500
	Peak Hour of Generator	0.069	0.400	0.034	0.300	0.069	0.290

Table 6. Comparison of Calculated and ITE Trip Generation Rates

**Table 7. Comparison of Actual and Predicted Trips** 

Independent	Analysis	Saturday 2/26/11			ınday 27/11	<b>Tuesday</b> 3/1/11	
Variable	Period	Actual	Predicted	Actual	Predicted	Actual	Predicted
Occupied	Full Day	25	63	8	45	19	71
Occupied Units	Peak Hour of Generator	4	10	2	8	4	8
Grass Floor	Full Day	25	135	8	103	19	145
Gross Floor Area	Peak Hour of Generator	4	23	2	17	4	17

The trip rates calculated from this data collection study are substantially lower than the average trip rates provided by ITE. The difference between the trip rates is much larger when using gross floor area as the independent variable. This is due to gross floor area including both the space of the occupied units and unoccupied units. At the time of collection about 40% of the units were unoccupied. One reason the calculated rates are lower than the average rates provided by ITE may be that the storage units are usually used for long term storage rather than short term storage. Some of the storage units are being occupied by Brigham Young University for long term storage, which results in a lower number of trips being made for these units. Sunday trip rates may further be impacted by the demographics of the area as a large proportion of the nearby population believes that work and business activities should be avoided on Sunday. Finally, some of the difference in trip rates could be due to the timing of the study. Temperatures in Utah during February and March are often cool and accompanied by precipitation in the form of rain and snow. Cooler weather affects the behavior of mini-warehouse clients, resulting in less trips being made.

Figure 4, Figure 5, and Figure 6 show the hourly counts of vehicles entering and exiting the site, as well as the parking demand for the specified hour, for the Saturday, Sunday, and Tuesday dates, respectively.

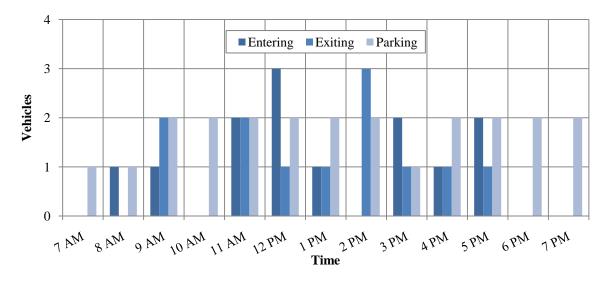


Figure 4: Counts for Saturday, February 26, 2011.

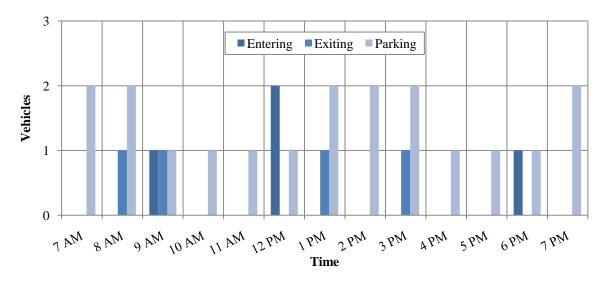


Figure 5: Counts for Sunday, February 27, 2011.

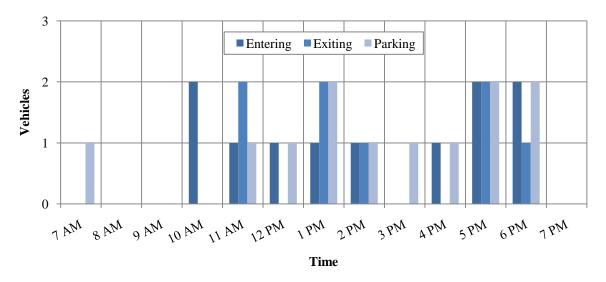


Figure 6: Counts for Tuesday, March 1, 2011.

#### **Level of Effort**

Many different BYU ITE student members were involved in this project. BYU ITE student chapter officers especially spent a lot of time organizing and carrying out the data collection efforts. A summary of hours spent on the project by student members is shown in Table 8.

**Table 8: Level of Effort** 

Task	Number of Students	Hours per Student	Total Hours
Training	6	5	30
Data Collection	4	4	16
Data Reduction and Analysis	6	5	30
Writing and Revision	4	3	12
		Total:	88

#### Institute of Transportation Engineers

## **Trip Generation Data Form** (Part 1)

Land Use/Building Type: Mini Warehouse (Storage faci	ity	ITE Land Use Code:  5	
Source:	9)	Source No. (ITE use only):	
Name of Development: Hillside Storage		Day of the Week: Sorturday	
City: Provo State/Province: Utal	Zip/Postal Code: 84606	Day: Month:	February Year: 2011
Country: U.S.A.	7	Metropolitan Area: Provo, UT	-
1. For fast-food land use, please specify if hamburger- or nonhamburger-ba	sed.		
Location Within Area:			Detailed Description of Development:3
☐ (1) CBD <b>X</b> (3) Suburban (Non-CBD)	☐ (5) Rural		Hillside Storage is
☐ (2) Urban (Non-CBD) ☐ (4) Suburban CBD	☐ (6) Freeway Interchange Area (Rural)		a self storage
	☐ (7) Not Given	Actual Estimated	,
mapping it is the state of the	Estimated (Co. 10) Particle (10)	A BOARD COMMENT OF THE PROPERTY OF THE PROPERT	business located in
	(9) Parking Spaces (% occupied		Provo, Utah. There
(2) Persons (#) rentable	(10) Beds (% occupied:		are a variety of
420 (3) Total Units (#) (indicate unit: Units	(11) Seats (#)		
252 (4) Occupied Units (#) (indicate unit: rentable units)	(12) Servicing Positions/Vehicl	e Fueling 🗆 🗆	units available for
(5) Gross Floor Area (gross sq. ft.)	□ Positions		rent and are open
(% of development occupied)	(13) Shopping Center % Out-p		365 days each year.
56,476 (6) Net Rentable Area (sq. ft.)	(14) A.M. Peak Hour Volume of		The sample of th
(7) Gross Leasable Area (sq. ft.)	☐ (15) P.M. Peak Hour Volume of		The primary employees
(% of development occupied)	1,700 (16) Other sq. ft. Total (	office Space	live on site.
3.44 (8) Total Acres (% developed:)	X (17) Other		
Definitions for several independent variables can be found in the <i>Trip Generation</i>	Second Edition. User's Guide Glossary.		
3. Please provide all pertinent information to describe the subject project, including		e/pedestrian volumes, please refer to Part	4 of this data form.
Other Data:	Transportation Demand Management (TDM) Informate At the time of this study, was there a TDM program (t		on characteristics of this site) underway?
Vehicle Occupancy (#):  A M PM 24-hour %		nat may have impacted the trip generation	on characteristics of this site, underway:
A.M P.M 24-hour %  Percent by Transit:	<ul><li>X No</li><li>☐ Yes (If yes, please check appropriate box/boxes, d</li></ul>	energing the nature of the TDM program(	s) and provide a source for any studies that
A.M. % P.M. % 24-hour %	may help quantify this impact. Attach additional she		s) and provide a source for any studies that
Percent by Carpool/Vanpool:	may help quantity the impact. Attach additional on	octo ii ricococary)	
A.M. % P.M. % 24-hour %	(4) Transit Consider (5) Employer	Support Magguros (9) To	lls and Congestion Pricing
Employees by Shift:	.,		riable Work Hours/Compressed Work Weeks
Start         End           First Shift:         Time         Time         Employees (#)	(-)	( )	lecommuting
Start End	☐ (3) Varipool Programs ☐ (7) Transit and ☐ (8) Parking St		her
Second Shift: Time Time Employees (#)	Facilities and Site Manageme	-	
Start         End           Third Shift:         Time         Employees (#)	Improvements		
Parking Cost on Site: Hourly Daily			

#### Institute of Transportation Engineers

## **Trip Generation Data Form** (Part 2)

#### Summary of Driveway Volumes

(All = All Vehicles Counted, Including Trucks; Trucks = Heavy Duty Trucks and Buses)

	Average	Weekday	(M-F)				Saturda	у				1	Sunday					
	Enter		Exit		Total		Enter		Exit		Total		Enter		Exit		Total	
	All	Trucks	All	Trucks	All	Trucks	All	Trucks	AII	Trucks	All	Trucks	All	Trucks	All	Trucks	All	Trucks
24-Hour Volume	11		8		19		13		12		25		4		4		8	
A.M. Peak Hour of Adjacent <sup>1</sup> Street Traffic (7 – 9) Time (ex.: 7:15 - 8:15):															144			
P.M. Peak Hour of Adjacent <sup>1</sup> Street Traffic (4 – 6) Time:																		
A.M. Peak Hour Generator <sup>2</sup> Time: //:00 am - 1 200am	/		2		3										3.47	******		
P.M. Peak Hour Generator Time: 5:00 -6:00 pm	2		2		4													
Peak Hour Generator <sup>3</sup> Time (Weekend): 12:60							3	-	1		4		2		$\circ$		2	

<sup>&</sup>lt;sup>1</sup> Highest hourly volume between 7 a.m. and 9 a.m. (4 p.m. and 6 p.m.). Please specify the peak hour.

Please refer to the Trip Generation User's Guide for full definition of terms.

Hourly Driveway Volumes- Average Weekday (M-F)

A.M. Period	Enter		Exit		Total		Mid-Day Period	Enter		Exit		Total		P.M. Period	Enter		Exit		Total	
	All	Trucks	All	Trucks	All	Trucks		All	Trucks	All	Trucks	All	Trucks		All	Trucks	All	Trucks	All	Trucks
6:00-7:00	0	0	O.	CI	C	(2)	11:00-12:00	L	U	2	0	3	0	3:00-4:00	0	0	0	0	0	0
6:15-7:15	Ť	1	0	-			11:15-12:15							3:15-4:15						
6:30-7:30		1					11:30-12:30							3:30-4:30						
6:45-7:45							11:45-12:45							3:45-4:45						
7:00-8:00	Λ	Ô	0	Λ	0	0	12:00-1:00	1	0	0	()	1	0	4:00-5:00	1	0)	0	0	1	0
7:15-8:15	V	<b>-</b>		1		U -	12:15-1:15				· ·			4:15-5:15						
7:30-8:30							12:30-1:30							4:30-5:30						
7:45-8:45							12:45-1:45							4:45-5:45						
8:00-9:00	Λ	0	()	Λ	Ω	CI	1:00-2:00	1	0	2	0	3	0	5:00-6:00	3	1	2	1	4	2

Doneck in Fait 5, 4 and/or additional information is attached	□Check if Part 3, 4 and/or additional infor	mation is attached
---	---	--------------------

Survey conducted by:	Name: Steven	Dudley				Institute of Transportation Engineers
	Organization: Brighe	m Young Univers	ity ITE Student	Chapter		Technical Projects Division 1627 Eye Street, NW, Suite 600
	Address: 368 U	yde Building				Washington, DC 20006 USA
	City/State/Zip: Provo	UT 84602				Telephone: +1 202-785-0060
	Telephone #: 801-422	-2811 Fax #:	801-422-0159	E-mail: byuite@gmail.com	n	Fax: +1 202-785-0609
	reiephone ir.					ITE on the Web: www.ite.org

<sup>&</sup>lt;sup>2</sup> Highest hourly volume during the a.m. or p.m. period. Please specify the peak hour.

<sup>&</sup>lt;sup>3</sup> Highest hourly volume during the entire day. Please specify the peak hour.

			Parking D	emand S	urvey Fo	rm	
	T	<b>6</b>	Institute of		•		
	_ •		(fill in all highligh	•	_		
			(iii ii ai iigiiigi	nou como aro	oquii ou data)		
			Land Use Cod	le*	151		
			Name of Site	-			
			<b>Brief Descript</b>		-		
Transit*	Yes		Mini-warehous		art of Provo	UT	
Area*	SUB		City	Provo		<del>-</del>	
TMP*	NO		State	UT	Country	USA	
Parking P	rice*	\$ -	Daily Rate	\$	Hourly Rate		J
					•		
Site Size*	420	Units*	Storage units	Occupancy*	60%	Land	Use
Site Size	4		Employees	Occupancy			
Site Size	56,476	Units	Net rentable ar	Occupancy			
Site Size	10,700	Units	Office floor are	Occupancy			
Site Size	58,098	Units	Gross floor are				
Site Size	3	Units	Acres	Occupancy			
		1		. ,			
Number of	f Parking Spaces	Provided at	Site	6			
	<b>.</b>						
Highest O	bserved Parking I	Demand for	the following h	ours of the da	<b>ıy</b> (hour begi	nning)*	
Date	2/26/2011	2/27/2011	3/1/2011				
Day	Saturday	Sunday	Tuesday				
12 Mid	·						
1:00 AM							
2:00 AM							
3:00 AM							
4:00 AM							
5:00 AM							
6:00 AM							
7:00 AM	1	2	1				
8:00 AM	1	2	0				
9:00 AM	2	1					
10:00 AM	2	1					
11:00 AM	2	1					
12 Noon		1					
1:00 PM	2	2	2				
2:00 PM	2	2	1				
3:00 PM	1	2	1				
4:00 PM	2	1					
5:00 PM	2	1					
6:00 PM	2	1					
7:00 PM	2	2					
8:00 PM			Ŭ				
9:00 PM							
10:00 PM							
11:00 PM							
11.0011							
Person	Steven Dudley		Ī	Organization	BYU ITF		
Phone	801-636-8821		t	J. 34			
Fax	551 555 5521		t				
Email			l				
Notes	Includes only vehic	cles parked a	t the office park	ing lot not thos	se parked at t	he storage ur	nits.
			tale office park	-			
	the web at www.ite.org				Comments to: it	e_stan @ite.org	
	d on web site, please ma		4 NIM Out - 000 M	Vachinata: DO 00	000		
institute of Tra	ansportation Engineers	, ro∠r Eye Stree	et, 1977 Suite 600; V	vasnington, DC 20	UUb		

# TABLE 3-7 - PARKING REQUIREMENTS BY LAND USE (Continued)

Land Use Type: Retail Trade	Vehicle Spaces Required (1)
All "Retail Trade" and general retail uses listed in Section 17.22.020, Table 2-6, except for the following:	1 space for each 300 sf of floor area, plus 1 space for each 300 sf of outdoor sales area.
Auto and vehicle sales and rental	1 space for each 400 sf of floor area for the showroom and offices, plus 1 space for each 2,000 sf of outdoor display area, plus spaces as required by this Section for parts sales ("retail trade," above), and vehicle services.
Bar, cocktail lounge, night club, tavern	1 space for each 4 seats; or 1 space for each 200 sf of floor area, whichever would yield more spaces
Building and landscape materials and furniture stores	1 space for each 500 sf of indoor display area for the first 10,000 sf, 1 space for each 1,000 sf of indoor display area over 10,000; 1 space for each 1,000 sf of outdoor display area.
Convenience store	1 space for each 250 sf of floor area.
Marine-related use (hardware, supplies, rentals, and sales)	1 space for each 500 sf of floor area for the showroom and offices, plus 1 space for each 5,000 sf of outdoor display area, plus spaces as required by this Section for parts sales ("retail trade," above), and services.
Restaurant, cafe, coffee shop	1 space for each 60 sf of dining area.
Service station	1 space for each 300 sf of floor area, plus 3 spaces for each service bay.
Shopping center	1 space for each 300 sf of floor area
Warehouse retail center	1 space for each 500 sf of indoor display area for the first 10,000 sf, 1 space for each 1,000 sf of indoor display area over 10,000; 1 space for each 1,000 sf of outdoor display area.

#### Notes:

(1) Recreational vehicle parking spaces may also be required. See Section 17.36.040.D (Recreational vehicle (RV) parking spaces).

# Downtown Bozeman Parking Study

# A Project Completed for the City of Bozeman Parking Commission and Downtown Bozeman Partnership

Prepared by

Ahmed Al-Kaisy Ph.D. P.E. Program Manager – Safety and Operations

and

David Veneziano, Ph.D. Research Scientist

Western Transportation Institute Montana State University PO Box 174250 Bozeman, MT 59717-4250







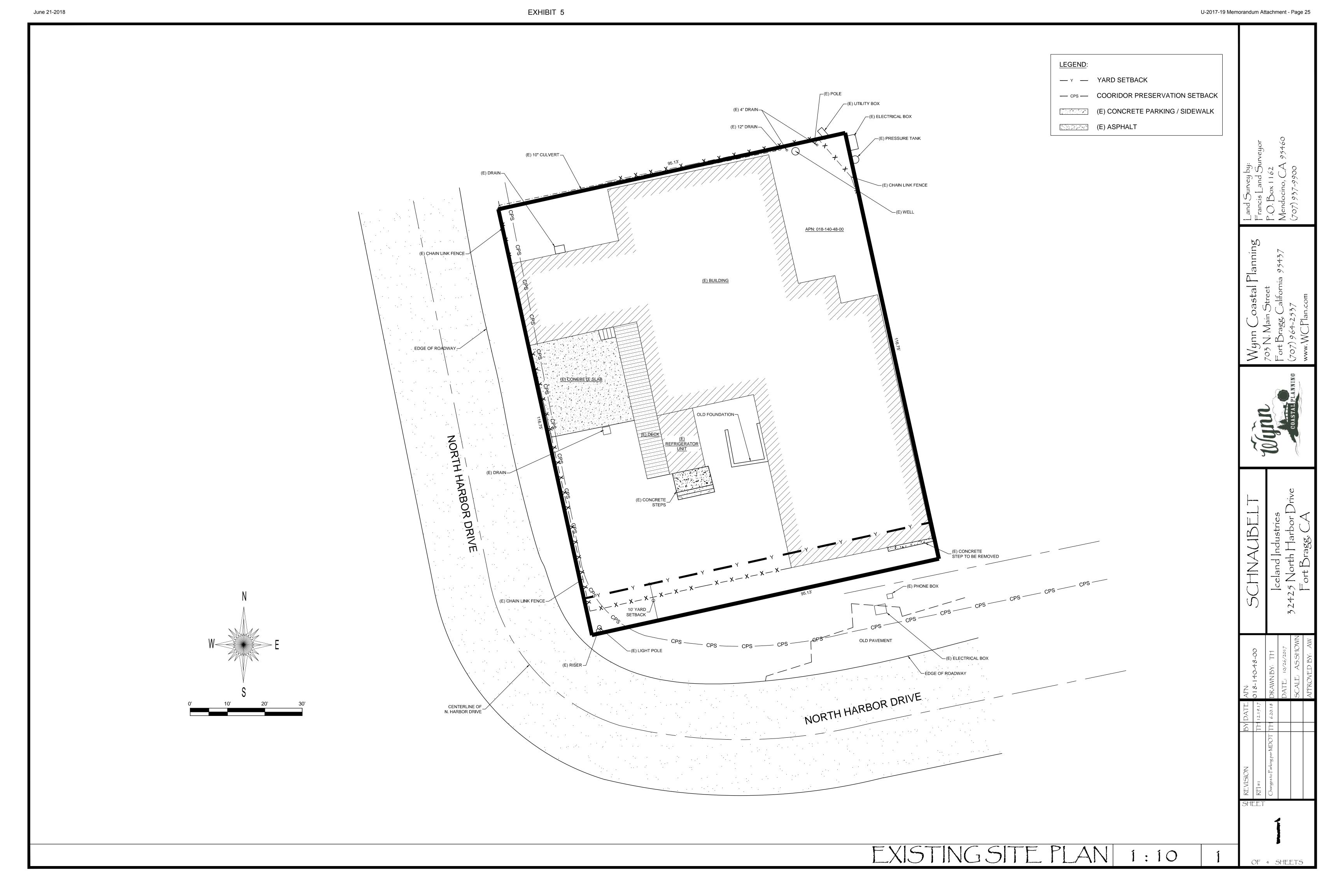
Table 2-1: Current Bozeman parking space requirements (1)

Use Type	Off-Street or Off-Road Parking Spaces Required
Automobile sales	1 space per 200 square feet of indoor floor area; plus 1 space per 20 outdoor vehicle display spaces
Automobile service and/or	
repair station	2 spaces per service stall, but no less than 4 spaces
Bank, financial institutions	1 space per 300 square feet of floor area
Bowling alley	2 spaces per alley; plus 2 spaces per billiard table
Church	1 space per six persons of maximum occupancy load (as identified in the International Building Code) for main assembly hall, public assembly areas and classrooms
Community or recreation center	1 space per 200 square feet of floor area
Health and Exercise Establishment	1 space per 200 square feet of floor area; plus 3 spaces per court
Day care centers	1 space per staff member plus 1 space per 15 children permitted
Furniture stores over 20,000 square feet	3 spaces per 1,000 square feet of floor area
Medical and dental offices	4 spaces for each full time equivalent doctor or dentist; plus 1 space for each full time equivalent employee
Offices (except medical and dental)	1 space per 250 square feet of floor area
Restaurants, cafes, bars and similar uses	1 space per 50 square feet of indoor public serving area; plus 1 space per 100 square feet of outdoor (patio) area
Retail store and service establishments	1 space per 300 square feet of floor area
Schools Elementary and/or Junior High	1.5 spaces for each classroom, library, lecture hall and cafeteria; plus 1 space for each 3 fixed seats in the area of public assembly, or 1 space for each 25 square feet of area available for public assembly if fixed seats are not provided
Theater, Auditorium or similar	1 space per 4 seats based upon place of assembly design capacity
	1 space per 1,000 square feet of floor area devoted to storage
Warahayaina storaga ar	of goods; plus appropriate spaces to support accessory office
Warehousing, storage or handling of bulk goods	or retail sales facilities at 1 space per 350 square feet of floor area

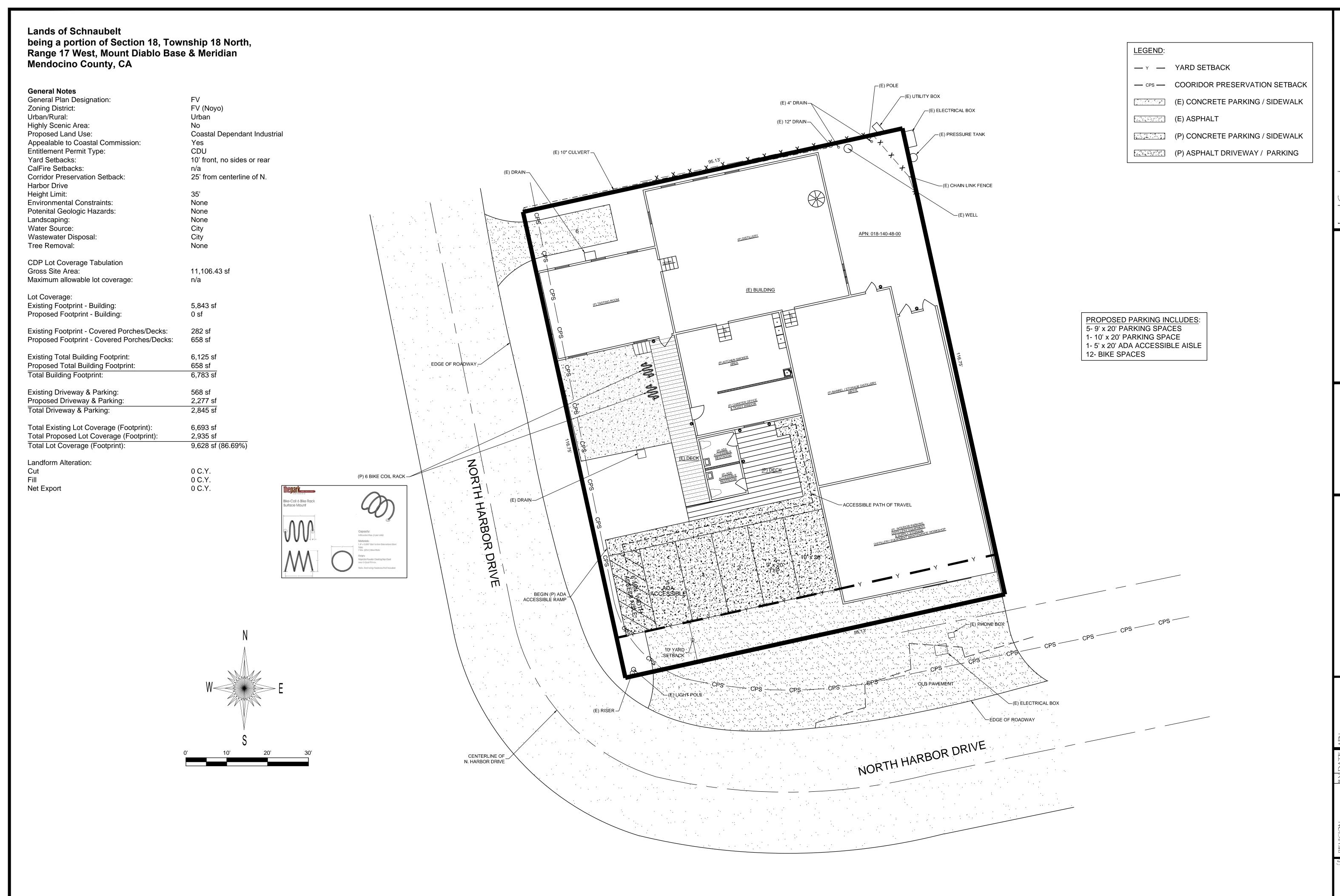
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PROPOSED SITE PLAN 1:10

OF 4 SHEET