

Appendices

Appendix TRA: Transportation
Memorandum

Appendix NOI: Noise Technical Information

Appendix AIR: Air Quality Technical
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Appendix TRA

Transportation Memorandum



Memorandum

To: Wade Wietgreffe, Ryan Shum, Alana Callagy – San Francisco Planning Department
Daniel Sheeter – SFMTA
Elliott Schwimmer, Eryn Brennan – Environmental Science Associates

From: José I. Farrán – Adavant Consulting

Date: September 16, 2020

Re: 901 16th Street Permanent Off-Site Flower Mart Project
Addendum to the Transportation Impact Study – Case No. 2011.1300ENV

INTRODUCTION

This memorandum documents the transportation and circulation assessment conducted for the proposed permanent relocation of the San Francisco Wholesale Flower Market from its current location at Sixth and Brannan streets, to a new site at 901 16th Street and 1200 17th Street. The 901 16th Street and 1200 17th Street site was the subject of an EIR certified on May 12, 2016, for a mixed-use residential project, referred to herein as the 2016 FEIR project.¹ On July 3, 2019, a Community Plan Evaluation and Addendum was certified for the Flower Mart Project at 610–698 Brannan Street, which included analysis of a temporary off-site location for the Wholesale Flower Market and contemplated the possibility that the Wholesale Flower Market might move off-site permanently.² On July 18, 2019, the Planning Commission approved the project. Following approval of the project, the Wholesale Flower Market elected to permanently move to a new location at 901 16th Street and 1200 17th Street (the proposed project).³

This memorandum presents existing transportation and circulation conditions in the study area and analyzes potential project-level, and cumulative impacts on transportation and circulation during construction and operation of the proposed project, serving as an

¹ San Francisco Planning Department, *901 16th Street and 1200 17th Street Final Environmental Impact Report*, Case No. 2011.1300E; Certified May 12, 2016.

² San Francisco Planning Department, Attachment A: Initial Study – Community Plan Evaluation Checklist and Addendum to Environmental Impact Report for the Flower Mart Project, <https://citypln-m-extnl.sfgov.org/SharedLinks.aspx?accesskey=d3b352a509732e881600006e833d06eed54904fae731f5ddfc4345efdea1da21&VaultGUID=A4A7DACD-B0DC-4322-BD29-F6F07103C6E0>, accessed September 8, 2020.

³ San Francisco Planning Department, *901 16th Street and 1200 17th Street Final Environmental Impact Report*, Case No. 2011.1300E; Certified May 12, 2016.

addendum to the transportation impact analysis presented in the 2016 FEIR. Transportation and circulation topics of analysis consist of walking, bicycling, driving hazards, transit, emergency access, vehicle miles traveled, and loading; supporting detailed technical information is included in the appendices.

PROPOSED PROJECT DESCRIPTION

PROJECT LOCATION AND SITE CHARACTERISTICS

The 152,000-square-foot project site is located at 901 16th Street on the block bounded by 16th Street to the north, Mississippi Street to the east, 17th Street to the south, and Missouri Street to the west (see [Figure 1](#)). The site is on Assessor's Block 3949, Lots 001, 001A and 002, and Assessor's Block 3950, Lot 001, within the Potrero Hill neighborhood and the Showplace Square/Potrero Hill Plan Area. The site is bordered to the north by 16th Street and several mixed-use residential buildings across the street; to the west by a mix of commercial and residential buildings; to the south by 17th Street, an empty lot, and a one-story commercial building; and to the east by Mississippi Street, the I-280 elevated freeway, and commercial buildings across the street.

As shown in [Figure 2](#), the project site contains four existing buildings:

- A modular office building at 901 16th Street;
- A brick office building at 1200 17th Street;
- A warehouse building at 1210 17th Street and 975 16th Street; and
- An integrated warehouse building at 1200/1100 17th Street.

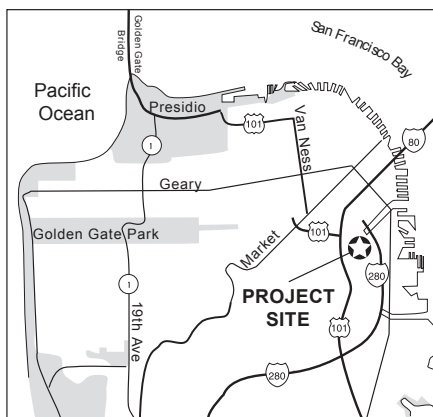
The four existing buildings on the project site total approximately 106,100 square feet. The remaining area on the project site is occupied by an approximately 44,200-square-foot surface parking lot, with approximately 83 parking spaces. As shown in [Figure 2](#), access to the existing parking lot is provided from two separate driveways on 16th and Mississippi streets, while access to the warehouse buildings is available from 16th and 17th streets. Two off-street loading docks are provided on 16th and Mississippi streets. In total, the current site contains 10 commercial vehicle loading spaces.

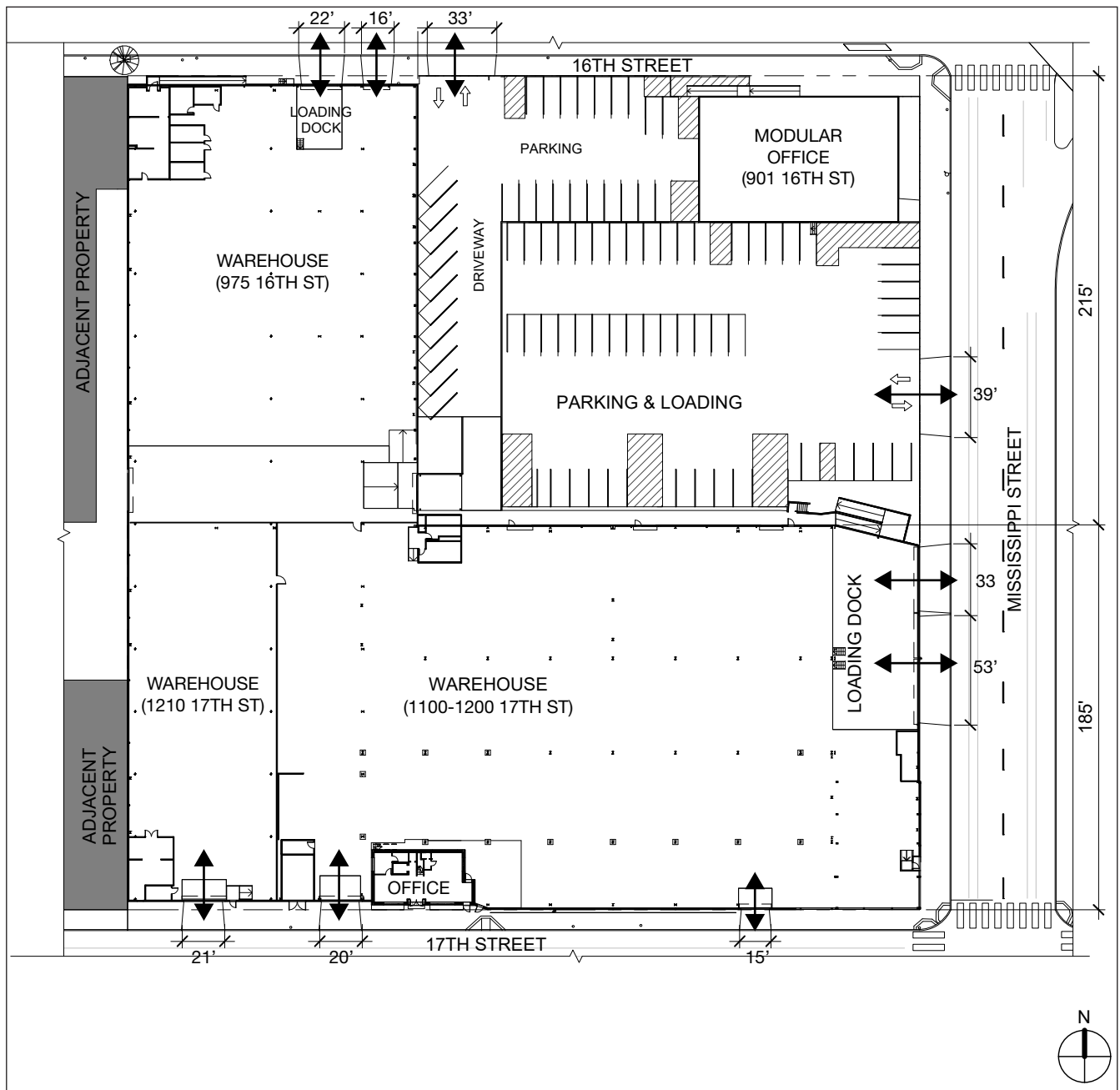
PROPOSED PROJECT

The proposed project would demolish the 5,800-square-foot modular office building, but would retain and reuse all other existing buildings on the project site, approximately 100,300 square feet, for use by the Wholesale Flower Market, which is comprised of approximately 60 vendors and 275 employees. The interior of one of the reused warehouse buildings (see [Appendix A](#)) would be expanded to include a mezzanine level that would provide views of the first level of the warehouse buildings below and would open to the second level of the parking structure, expanding the total floor area on the project site to 125,000 square feet.



SOURCE: Google, base, 2020; ESA, 2020





SOURCE: Jackson Liles Architecture

Legend

↔ VEHICLE ACCESS

The proposed project would also construct a two-level parking structure containing 175 parking spaces on the site of the existing modular office building and surface parking lot, increasing the space allotted for parking from the current 44,200-square feet to 90,900 square feet. The number, types, locations and dimensions of the spaces to be provided in the parking structure are summarized in **Table 1**. According to the project sponsor, the van and truck spaces located on the ground floor level of the parking structure could be used for either parking or active loading/unloading operations, while those on the upper level would be used exclusively for parking rather than loading/unloading.

Similar to the existing operations at the Sixth/Brannan site, parking at the proposed structure would be reserved for vendors and wholesale customers until 10 a.m., at which time the general public would also be allowed to park for a fee; the facility would generally close to the general public at the completion of the Market business hours, around 3 p.m. Motorists would access the garage from Mississippi Street using a badge (vendors, wholesale customers) or picking up a ticket (general public) to enter. Those paying to park would walk to designated payment stations, prior to exiting the garage.

The parking structure driveway would have an audible and/or visual warning system for people walking as autos, vans and trucks exit onto Mississippi Street. The project proposes to include sliding metal grating panels at the corner of 16th and Mississippi streets to allow for the occasional use of the garage for public programming, such as “pop-up” vendors.

Table 1
Proposed Project Supply at the Parking Structure ^[a]

Type of Space	Dimensions (ft.)		Number of Spaces		
	Length	Width	Level 1	Level 2	Total
ADA Accessible (std.)	18	9	3	2	5
ADA Accessible (van)	18	12	1	0	1
Standard	18	9	84	60	144
Van / Short truck	24	12	11 ^[b]	9 ^[c]	20
Single-unit truck (SU-30)	30	12	0	5 ^[c]	5
Total			99	76	175

Notes:

- a. Developed from proposed project drawings PRJ-1.1, PRJ-2.1, and PRJ-2.2, provided by Jackson Liles Architecture.
- b. The van and truck spaces in Level 1 can be used for either parking or active loading/unloading operations.
- c. The van and truck spaces in Level 2 would be used exclusively for parking, rather than loading/unloading.

Sources: Jackson Liles Architecture, Kilroy Realty Corporation – September 11, 2020.

As shown in **Table 1**, the proposed project would provide 20 parking/loading spaces for vans and short trucks (up to 24 feet long), plus five parking-only spaces for single-unit trucks⁴ up to 30 feet long (SU-30). In addition (see **Figure 3**), the proposed project would provide four 90-degree off-street back-in loading spaces (74 feet long by 12 feet wide) along Mississippi Street, able to accommodate loading/unloading operations of long haul tractor-trailer trucks (WB-50 and WB-67),⁵ and shorter commercial vehicles, such as SU-30 or SU-40 trucks. As the SU-30 trucks complete their active loading or unloading operations, they would move and park at the second level of the parking structure.

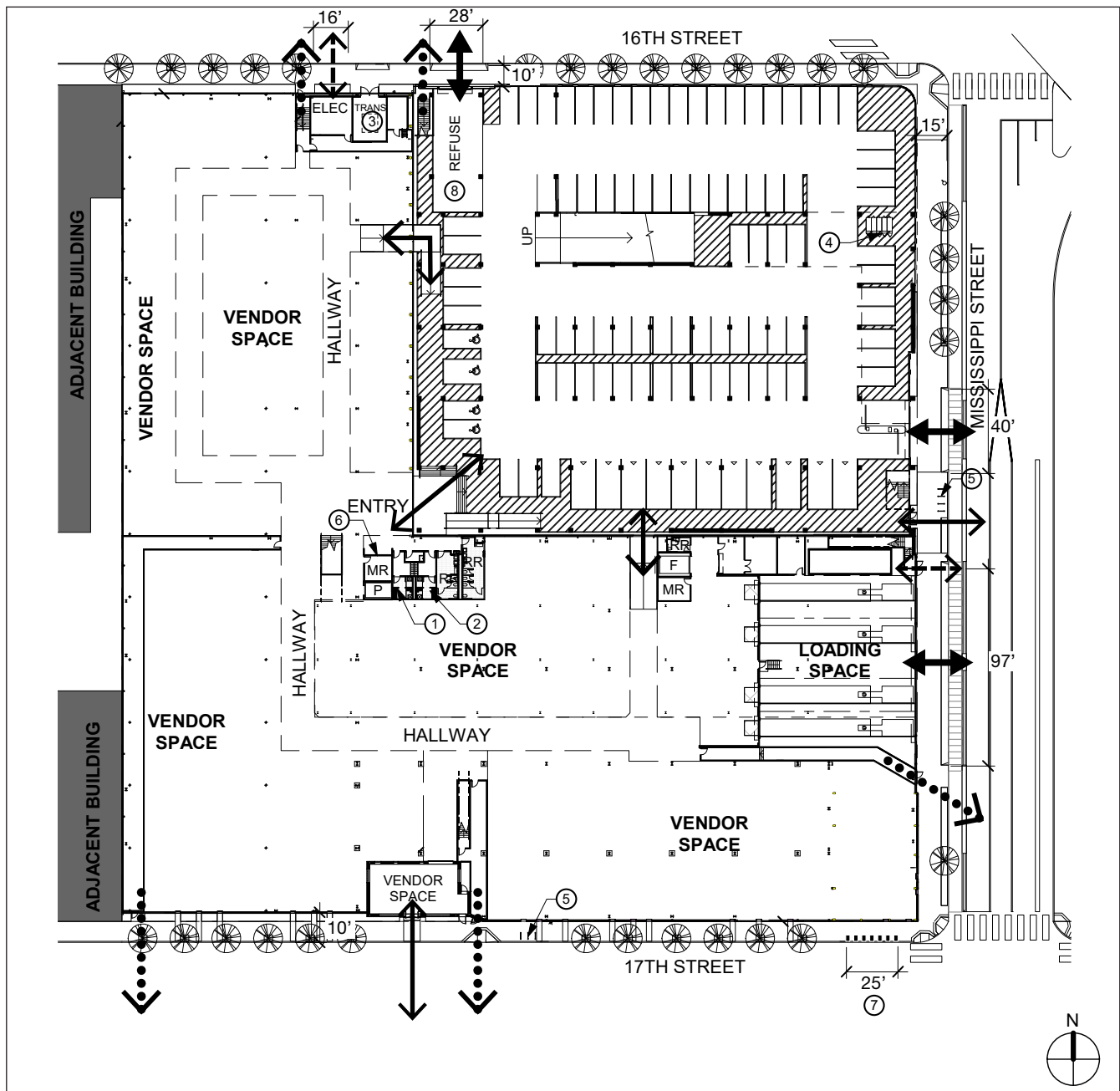
As shown in **Figure 3**, the proposed project would provide 10 class 1 bicycle lockers on level 1 of the proposed parking garage. Seven bicycle racks with a capacity to park up to 14 bicycles (class 2 bicycle parking spaces) would also be provided on the sidewalk adjacent to the project site (eight spaces on Mississippi Street and six spaces on 17th Street). In addition, the proposed project would provide men's and women's locker rooms, including 12 lockers and two showers in each, under the mezzanine level in southeasterly warehouse building.

As also shown in **Figure 3**, the main walk access to the Market would be through the proposed parking structure. People would walk from Mississippi Street and then access the vendor space through one of three possible entrances. The proposed walk entrance on 17th Street would provide access to a single adjacent vendor, physically separated from the rest of the Market. The project proposes to maintain the existing sidewalk widths adjacent to the project site; ten feet on 16th and 17th streets and 15 feet on Mississippi Street. The sidewalks would be reconstructed, and approximately 43 street trees would be planted on streets adjacent to the project site. The project sponsor is coordinating with the San Francisco Public Utilities Commission's Streetlight Services Division to develop a street lighting and signage plan.

The project sponsor will request SFMTA to provide a passenger loading zone (subject to further analysis and approval by SFMTA) on 17th Street, immediately to the west of the intersection with Mississippi Street, with capacity for at least one-vehicle (about 25 feet long), and available during Market business hours.

⁴ A single unit truck is a vehicle on a single motorized frame with more than two axles or more than four tires.

⁵ A tractor-trailer truck, also known as a semi-trailer truck, is an articulated vehicle consisting of a towing engine (tractor), and a semi-trailer that carries the freight. A semi-trailer does not trail completely behind the towing vehicle, but is attached at a point that is forward of the rearmost axle of the towing unit, so that some fraction of the weight of the trailer is carried by the rear axle(s) of the tractor.



SOURCE: Jackson Liles Architecture

Legend

- | | | |
|--|---------------------|---|
| | VEHICLE ACCESS | ① MENS LOCKER & SHOWER ROOM
(12 LOCKERS & 2 SHOWERS) |
| | WALK ACCESS | ② WOMENS LOCKER & SHOWER ROOM
(12 LOCKERS & 2 SHOWERS) |
| | SERVICE WALK ACCESS | ③ TRANSFORMER ROOM |
| | EMERGENCY EXIT | ④ CLASS I BICYCLE PARKING (10 SPACES) |
| | | ⑤ CLASS II BICYCLE PARKING (TOTAL 14 SPACES) |
| | | ⑥ NOT AN ENTRY TO THE MAIN MARKET |
| | | ⑦ PASSENGER LOADING (WHITE) ZONE |
| | | ⑧ REFUSE/RECYCLE/COMPOST AREA (24'W x 60'L x 23'H) |

The proposed project would eliminate several driveways and reduce the overall length of curb cuts to the property (see [Figure 3](#)). Some of the existing curb cuts have been unused for some time. Two of the three existing curb cuts on 16th Street would be repurposed and reconfigured in the same location to serve the new electrical transformer and the refuse/recycling areas. The two existing driveways on Mississippi Street would be widened in their current location to provide truck loading and parking access to the site, while all the existing driveways on 17th Street would be replaced with new curb and sidewalk. The project proposes to reduce the overall existing curb cut length by 71 feet; a summary of the existing and proposed curb cuts adjacent to the project site is provided in [Table 2](#).

Table 2
Existing and Proposed Sidewalk Curb Cuts

Existing Location	Existing Use	Existing Length (ft.)	Proposed Project Use	Proposed Project Length (ft.)	Change in length (ft.)
16th Street					
975 16 th St	Loading dock	22	Eliminated	0	-22
975 16 th St	Loading dock	16	Elect. transformer	16	0
901 16 th St	Parking lot access	33	Refuse/Recycling	28	-5
<i>Subtotal</i>		<i>71</i>		<i>44</i>	<i>-27</i>
Mississippi Street					
901 16 th Street	Parking lot access	39	Garage access	40	1
1100-1200 17 th St	Loading dock	86	Loading dock	97	11
<i>Subtotal</i>		<i>125</i>		<i>137</i>	<i>12</i>
17th Street					
1100-1200 17 th St	Warehouse access	15	Eliminated	0	-15
1100-1200 17 th St	Warehouse access	20	Eliminated	0	-20
1210 17 th St	Warehouse access	21	Eliminated	0	-21
<i>Subtotal</i>		<i>56</i>		<i>0</i>	<i>-56</i>
Total		252		181	-71

Source: Jackson Liles Architecture – July 2020.

The project would have a separate enclosed refuse area on the ground floor, immediately adjacent and accessible from Level 1 of the parking structure (see [Figure 3](#)). The area would be approximately 24 feet wide, 60 feet long, and with a minimum vertical clearance of 23 feet. According to the project sponsor, trash, recycling, and compost materials would be stored on separate 4-cubic yard front load bins on wheels. Front-loader garbage, recycling, and compost trucks would enter the refuse area driving forward from 16th Street, using the dedicated 28-foot wide driveway, where it would pick up, lift, and empty the bin into the vehicle; the truck would then reverse out onto the street.

Separate trucks would arrive at the project site between 4 a.m. and 6 a.m. to pick up the garbage (five days per week), recycling (three days per week), and compost (three days per week) bins. As a result, two to three trucks would be expected to access the project refuse area on a typical day.

The project would include the development and implementation of a driveway and loading operations plan (DLOP), which will be finalized and submitted along with the building permit; approval will occur prior to the issuance of the certificate of occupancy.

The project sponsor will work with the Planning Department to finalize a DLOP, which will include operational and physical measures related to a queue abatement operations plan, and provisions to manage loading activities and driveway operations, including on- and off-street loading activities, and provisions for management of large truck access and trash/recycling/ compost collection operations.

PROPOSED PROJECT VARIANT

A variant to the proposed project (see [Figure 4](#)) would expand the parking structure by 10,800 square feet to 101,700 square feet, in order to accommodate 205 parking spaces, a 30-space increase, compared to the proposed project. The variant is required due to the project sponsor's obligations under the Flower Mart Project development agreement, which was approved by the Board of Supervisors on January 7, 2020 (see Board of Supervisors File No. 190682). Implementation of the variant would be triggered by a request from the Wholesale Flower Market vendors. The development agreement does not provide a deadline by which that request must be made.

The number, types, locations and dimensions of the spaces to be provided by the variant in the parking structure are summarized in [Table 3](#). Compared to the proposed project, the variant would provide two fewer standard parking spaces, 32 new compact parking spaces, and the same number of parking/loading spaces for vans and short trucks (20 spaces) and parking spaces for SU-30 trucks (five spaces). The variant would also provide the same number of loading/unloading spaces (four spaces) for tractor-trailer trucks (WB-50 and WB-67), and shorter commercial vehicles, such as SU-30 or SU-40 trucks, and in the same locations, as the proposed project. The proposed parking structure utilization under the variant, including hours of operation, access, and payment methods would be the same as under the proposed project. Similar to the proposed project, as the SU-30 trucks complete their active loading or unloading operations, they would move and park at the second level of the parking structure.

Table 3
Project Variant Parking Supply ^[a]

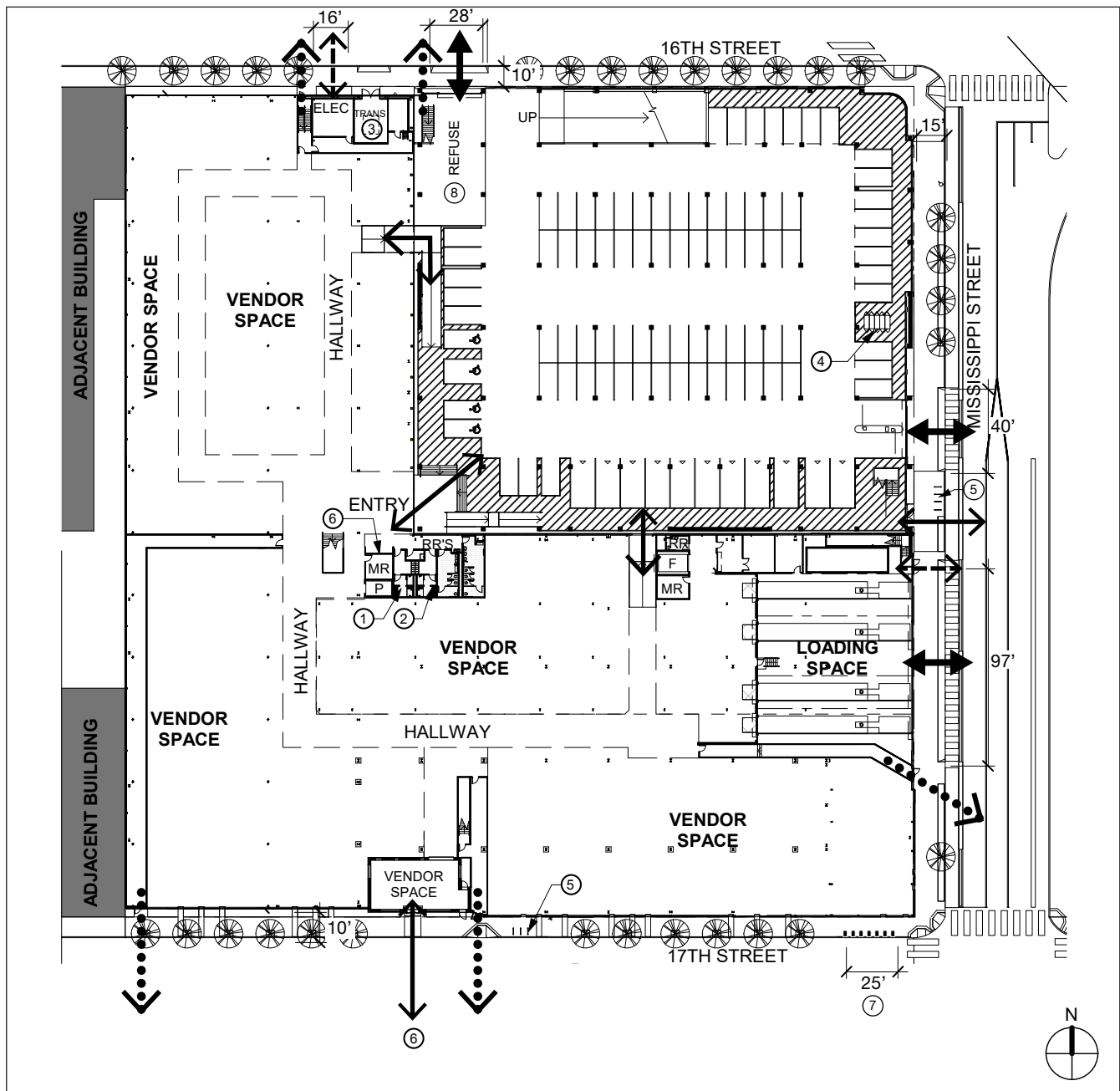
Type of Space	Dimensions (ft.)		Number of Spaces		
	Length	Width	Level 1	Level 2	Total
ADA Accessible (std.)	18	9	3	2	5
ADA Accessible (van)	18	12	1	0	1
Standard	18	9	82	60	142
Compact	18	8	0	32	32
Van / Short truck	24	12	11 ^[b]	9 ^[c]	20
Single-unit truck (SU-30)	30	12	0	5 ^[c]	5
Total			97	108	205

Notes:

- a. Developed from proposed project drawings PRJ-11.0, PRJ-12.1, and PRJ-12.2, provided by Jackson Liles Architecture.
- b. The van and truck spaces in Level 1 can be used for either parking or active loading/unloading operations.
- c. The van and truck spaces in Level 2 would be used exclusively for parking, rather than loading/unloading.

Sources: Jackson Liles Architecture, Kilroy Realty Corporation – September 11, 2020.

As shown in **Figure 4**, the variant would provide the same number of class 1 bicycle lockers and at the same location as the proposed project. The place and location of the class 2 bicycle parking spaces would also be the same as in the proposed project. There are no other access or operational differences between the project and the variant, including sidewalk widths and other streetscape characteristics; the number, locations and lengths of the proposed curb cuts would also be the same. The variant would also include the development and implementation of a DLOP, with the same measures as the proposed project.



SOURCE: Jackson Liles Architecture

Legend

- | | | |
|--|---------------------|---|
| | VEHICLE ACCESS | ① MENS LOCKER & SHOWER ROOM
(12 LOCKERS & 2 SHOWERS) |
| | WALK ACCESS | ② WOMENS LOCKER & SHOWER ROOM
(12 LOCKERS & 2 SHOWERS) |
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| | EMERGENCY EXIT | ④ CLASS I BICYCLE PARKING (10 SPACES) |
| | | ⑤ CLASS II BICYCLE PARKING (TOTAL 14 SPACES) |
| | | ⑥ NOT AN ENTRY TO THE MAIN MARKET |
| | | ⑦ PASSENGER LOADING (WHITE) ZONE |
| | | ⑧ REFUSE/RECYCLE/COMPOST AREA (24'W x 60'L x 23'H) |

FIGURE 4: PROPOSED PROJECT VARIANT SITE PLAN – GROUND FLOOR

PROPOSED CHANGES TO MISSISSIPPI STREET

Both the project and the variant propose changes to the existing configuration of Mississippi between 16th and 17th streets, adjacent to the project site. As shown in **Figure 5**, the existing on-street parking on both sides of the street would be eliminated (26 spaces, including three spaces that operate as a commuter shuttle loading zone on the east side of the street), and the existing northbound and southbound, striped (Class 2) bike lanes would be widened from 5 feet to 6.5 feet, and repositioned adjacent to the sidewalk. A raised (assumed as 2-foot wide) buffer would be placed between the bike lane and the parallel moving traffic. A two-way 11-foot wide turn lane would be located in the center of the street. The turn lane would allow turning maneuvers in and out of the four large truck loading spaces and northbound access to the parking structure.

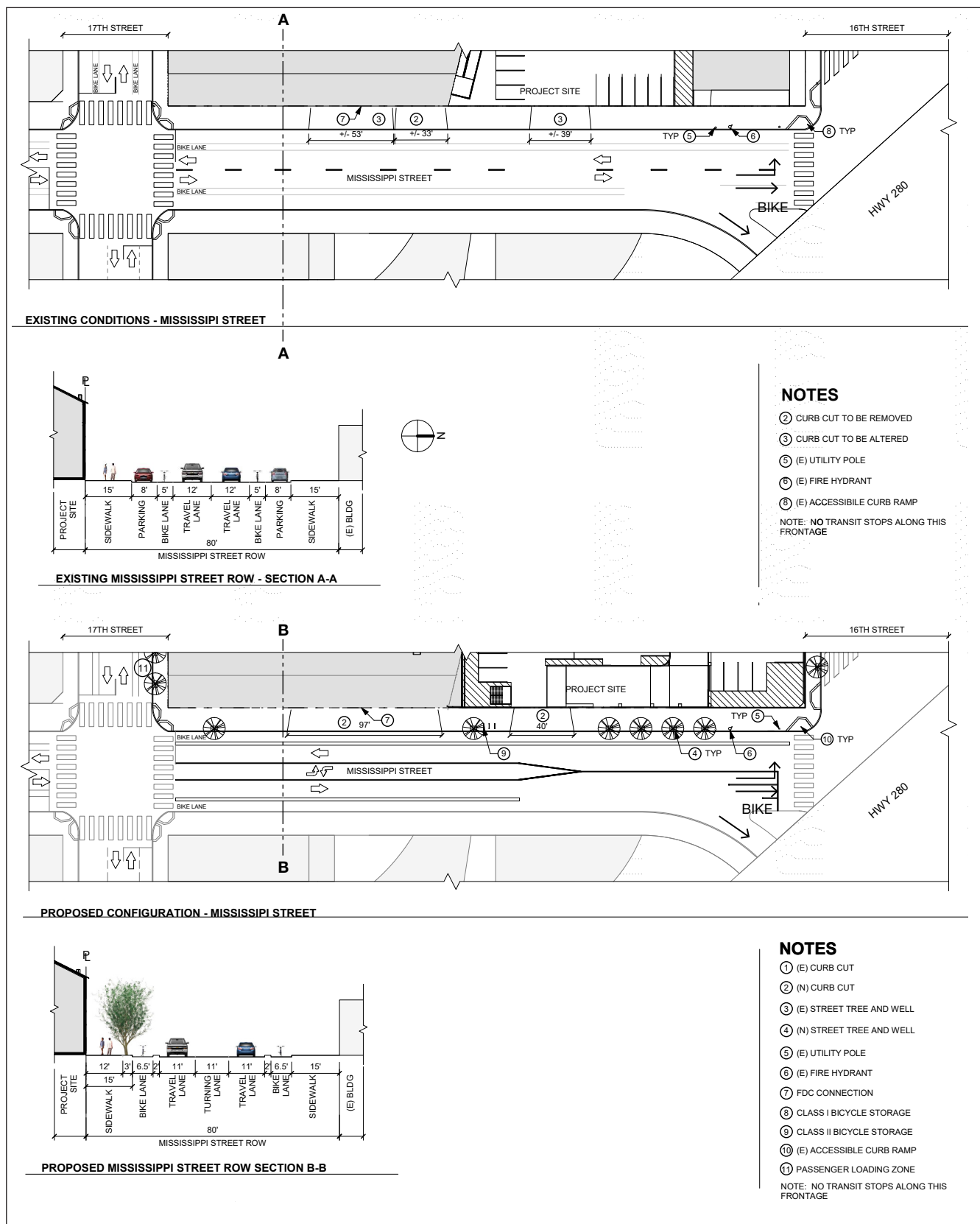
PROPOSED PROJECT AND VARIANT CONSTRUCTION

Both the proposed project and the variant would be constructed in five phases (demolition, foundation & below grade construction, base buildings, exterior & interior building finishing, and reconstruction and reconfiguration of Mississippi Street) over a two and a half year period (December 2020 – May 2022). Construction would generally occur on weekdays from 7 a.m. until 3:30 p.m.; if weekend construction is required it would also generally occur from 7 a.m. to 3:30 p.m.

During the construction period, the number of construction trucks traveling to and from the site would vary depending on the phase and the type of construction activity. The peak number of construction trucks would occur during the foundation and below grade construction phase (January through August 2021), with a daily peak demand of 67 trucks, and an average demand of six trucks per day. The maximum number of construction workers on site would also occur during the same phase with a daily peak demand of 125 workers, and an average demand of 74 workers per day.

Mariposa, Owens, Mississippi, 16th and 17th streets would be used to access the site, and access into the construction site would be from Mississippi Street. Construction staging and delivery activities would generally occur on-site but off-site staging would be utilized as needed to support parking garage construction; materials and equipment would not be staged on sidewalks. Loading and unloading of materials could occur on 16th, 17th, and Mississippi streets, outside of the bicycle lanes.

Temporary full closure of travel lanes, parking lanes, or sidewalks is not anticipated, except during the reconfiguration of Mississippi Street, which would call for some segments of the street to be closed during short periods. The raised bike lane buffers would be installed at the same time as the adjacent sidewalk reconstruction. Partial lane and sidewalk closures would be required for curb, gutter and sidewalk replacement and other planned off-site improvements; people walking would be directed to cross to the other side of the street.



SOURCE: Jackson Liles Architecture

**FIGURE 5: MISSISSIPPI STREET-
EXISTING CONDITIONS AND PROPOSED CONFIGURATION**

EXISTING CONDITIONS

The transportation study area encompasses those locations where the project could potentially significantly affect transportation and circulation and is generally bounded by 16th Street to the north, Owens Street to the east, Mariposa Street to the south, and Missouri Street to the west. **Figure 6** shows the location of the project site and the lane configuration and type of traffic control device at six intersections near the proposed project.

This section provides a description of the existing transportation and circulation conditions near the project site. It includes descriptions of the existing roadway network, transit service, conditions for people walking and bicycling, intersection operating conditions, on-street loading, and emergency access.

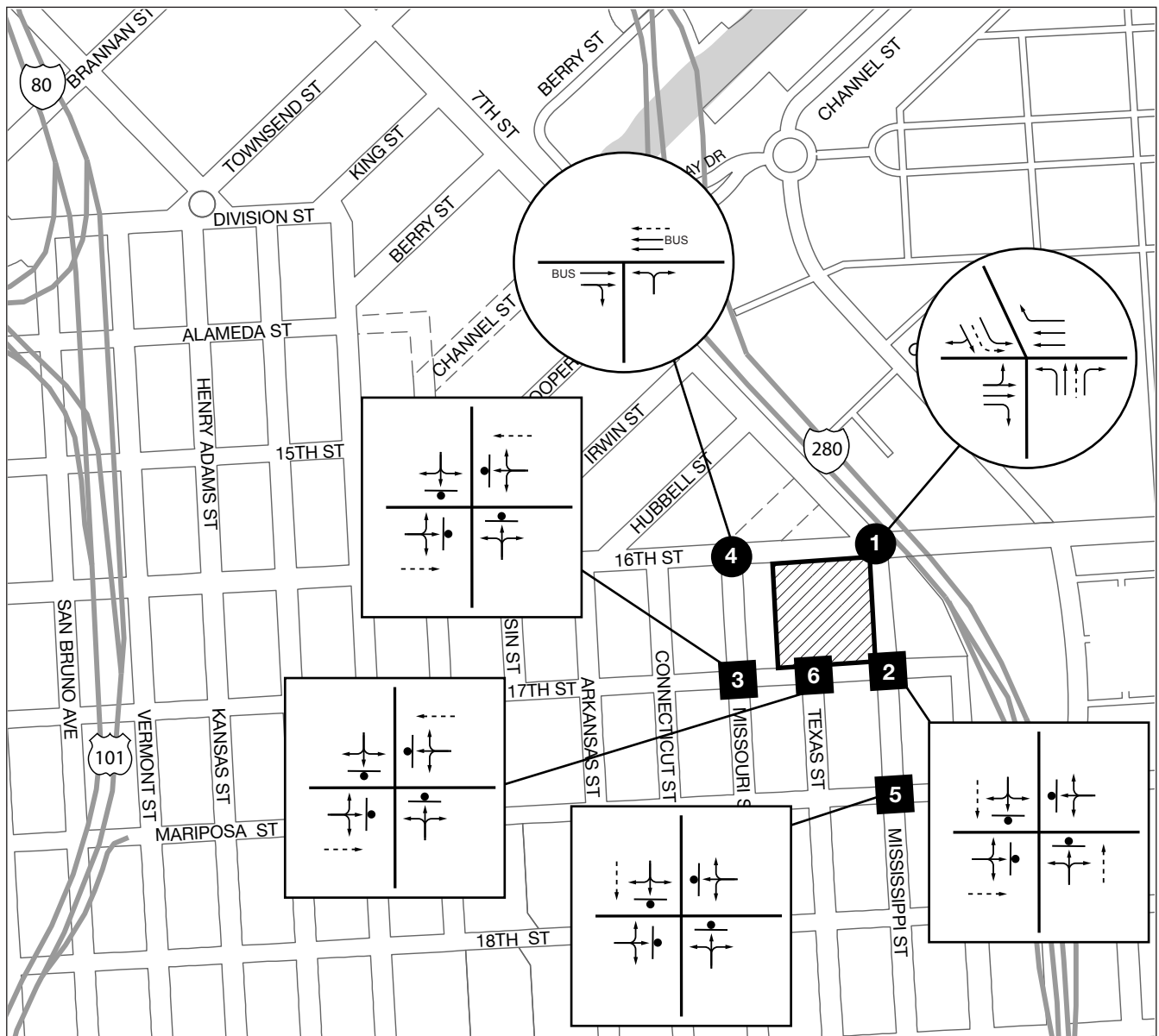
REGIONAL AND LOCAL ROADWAYS

The closest regional roadways to the project site, including on- and off-ramps, are described below. The existing local roadways in the transportation study area are also described, including their geographic extent and their San Francisco General Plan (general plan), Better Streets Plan, Key Walking Street, and High Injury Corridor designation.

Regional Roadways

U.S. Highway 101 (U.S. 101) is generally a north-south freeway, connecting San Francisco with the Peninsula, the South Bay, and locations further to the south, and with Marin County and beyond to the north. It connects with Interstate 80 (I-80) in the South of Market area of San Francisco, approximately 0.5 mile northwest of the project site. I-80 provides access to the East Bay and points farther east via the San Francisco-Oakland Bay Bridge.

Near the project site, U.S. 101 has eight lanes, with four lanes each way. Nearby eastbound/northbound access is provided with an on-ramp at Eighth Street / Bryant Street (to I-80; one mile north of the site) and an off-ramp at Mariposa Street / Vermont Street (from U.S. 101; half a mile west from the site). Nearby southbound access is provided at the I-80 on-ramp at Seventh Street / Harrison Street (less than one mile north from the site), and two off-ramps from I-80 at Eighth Street / Harrison Street and at Eighth Street / Vermont Street, both of which are located approximately one mile to the north of the project site. Trucks weighing more than three tons are prohibited from using the Vermont Street off-ramp.



Legend



PROJECT SITE



SIGNALIZED INTERSECTION



UNSIGNALIZED INTERSECTION

← --- BIKE LANE

← BUS BUS/TAXI ONLY LANE



STOP SIGN



Interstate 280 (I-280) is a generally north-south freeway that connects San Francisco with the peninsula and the South Bay. I-280 has an interchange with U.S. 101 approximately two and a quarter miles south from the project site. I-280 terminates in San Francisco at surface streets in the South of Market/Mission Bay areas. Near the project site, I-280 is a six- to eight-lane facility (total both ways). Nearby freeway access is located at Mariposa Street / Owens Street (northbound off-ramp and southbound on-ramp), and 18th Street (northbound on-ramp and southbound off-ramp), all of which are located less than a quarter mile southeast of the project site.

Local Roadways

This section describes the existing local roadway system in the vicinity of the project site, including the general plan roadway designation, the number of travel lanes, vehicular traffic flow direction, and bicycle facilities.

Sixteenth Street is a two-way east-west roadway that connects Terry A. Francois Boulevard to the east with Castro Street to the west; it is located adjacent to the project site to the south. In the vicinity of the project site, 16th Street has one mixed-traffic lane, one transit-only lane, and one-way bicycle lane in the westbound direction, and two mixed-traffic lanes and a right-turn only lane in the eastbound direction; westbound left-turns are prohibited. Striped bicycle lanes are provided both ways between Mississippi/Seventh streets and Terry A. Francois Boulevard in Mission Bay.

Parallel on-street parking is provided on the south side between Missouri Street and a point approximately 190 feet west of Mississippi/ Seventh streets, and on the north side between Missouri and Connecticut streets. No on-street parking is allowed east of Mississippi/ Seventh streets. The intersections of 16th Street with Owens, Seventh/ Mississippi, and Missouri streets are signalized. In the vicinity of the project site, 16th Street is designated in the general plan as a Secondary Arterial. Sixteenth Street is also designated as a Key Walking Street, and the Better Streets Plan identifies it as a Mixed-use Street. West of Rhode Island Street, 16th Street is identified by SFMTA as a High Injury Street in the Vision Zero Plan.

Seventeenth Street is a two-way east-west roadway that connects Pennsylvania Street to the east, with Stanyan Street to the west; it is located adjacent to the project site to the north. Bicycle lanes are provided both ways between Mississippi and Eureka streets, in the Castro. In the vicinity of the project site, 17th Street has one travel lane and one bicycle lane each way, with on-street parallel parking provided on both sides of the street. The intersections of 17th Street with Mississippi and Missouri street are controlled by four-way Stop signs; the intersection with Texas Street is controlled by a Stop sign on the minor approach (see **Figure 6**). The general plan designates 17th Street between Mississippi and De Haro streets as a Freight Traffic Route, while the San Francisco Better Streets Plan identifies 17th Street between Vermont Street and Pennsylvania Avenue as a Mixed-use Street. West of Rhode Island Street, 17th Street is identified by SFMTA as a High Injury Street in the Vision Zero Plan.

Mariposa Street is a two-way east-west roadway that serves as a connector between Illinois Street in the east and Harrison Street to the west, and is discontinuous for the one block segment between Sam Bruno Avenue and Vermont Street, due to the presence of U.S. 101. It generally has four lanes (two lanes each way) plus turn lanes between Third Street and the I-280 ramps, and two lanes (one lane each way) west of Pennsylvania Avenue. The intersections of Mariposa Street with the I-280 ramps and with Pennsylvania Avenue are signalized; the intersections with Mississippi, Texas, and Missouri streets are controlled by four-way Stop signs. On-street parallel parking is only allowed west of Pennsylvania Avenue. The general plan designates Mariposa Street between the I-280 ramps and Mississippi Street as a Freight Traffic Route, while, the San Francisco Better Streets Plan identifies Mariposa Street as a Mixed-use Street east of Texas Street, and as a Neighborhood Residential Street west of Texas Street.

Seventh Street is a one-way northbound roadway between Market and Brannan Streets, and a two-way north-south roadway between Brannan and 16th streets; it provides access to the I-80 ramps on Harrison and Bryant streets. Between Townsend and 16th streets, Seventh Street has one traffic lane and one bicycle lane each way, and parallel on-street parking is generally provided on the west side; the intersections of Seventh Street with Townsend, Street, Mission Bay Drive and 16th Street are signalized. In the vicinity of the project site, Seventh Street is designated in the general plan as a Secondary Arterial, and the Better Streets Plan identifies it as a Mixed-use Street. North of Hooper Street, Seventh Street is identified by SFMTA as a High Injury Street in the Vision Zero Plan.

Mississippi Street is a two-way north-south roadway that connects 16th Street with 22nd Street; it is located adjacent to the project site to the west. Mississippi Street has one lane each way, with on-street parking provided on both sides of the street. North of Mariposa Street parallel parking is provided on both sides of the street; south of Mariposa Street, 90-degree parking is generally provided on the east side and parallel parking on the west side. The intersections of Mississippi Street with 16th Street signalized, while others are generally controlled by four-way Stop signs. Bicycle lanes are provided both ways between 16th and Mariposa streets. The general plan designates Mississippi Street between 17th and Mariposa streets as a Freight Traffic Route, while, the San Francisco Better Streets Plan identifies Mississippi Street as a Mixed-use Street to the north of Mariposa Street, and as a Neighborhood Residential Street to the south.

Texas Street is a two-way north-south roadway that connects 17th Street with 22nd Street. Texas Street has one lane each way, with on-street parking provided on both sides of the street. North of 19th Street 90-degree parking is provided on both sides of the street; south of 19th Street, 90-degree parking is generally provided on the east side and parallel parking on the west side. The intersection of Texas Street with 17th Street is controlled by a Stop sign on the minor approach (see [Figure 6](#)), while others are generally controlled by four-way Stop signs. The San Francisco Better Streets Plan identifies Texas Street as a Mixed-use Street to the north of Mariposa Street, and as a Neighborhood Residential Street to the south.

Missouri Street is a two-way north-south roadway that connects 16th Street with 23rd Street. Missouri Street has one lane each way, with on-street parking provided on both sides of the street. North of Mariposa Street, parallel parking is provided on the east side and 90-degree parking on the west side; south of Mariposa Street, 90-degree parking is provided on both sides of the street. The intersection of Missouri Street with 16th Street is signalized, while others are generally controlled by four-way Stop signs. In the vicinity of the project site, Missouri Street is designated in the general plan as a Secondary Arterial, and the Better Streets Plan identifies it as a Mixed-use Street between 16th and 17th streets, and as a Neighborhood Residential Street south of 17th Street.

Vehicular Counts

Intersection turning movement counts were collected at the intersection of 16th Street and Mississippi/ Seventh streets on Thursday, February 13, 2020 during the a.m. (7 a.m. to 9 a.m.) and p.m. (4 p.m. to 6 p.m.) peak commute periods. Given the San Francisco Health Officer shelter-in-place C-19-07 order implemented in mid-March 2020, it was not possible to collect additional new vehicle counts to represent typical travel conditions for this study. Nonetheless, other sources were identified that provided meaningful information for the transportation impact analysis. These included the following:

- All-day traffic volume counts available from Quality Counts, a traffic data collection firm, at 16th, 17th, and Missouri streets, near the project site; they were collected in mid- to late 2019, and in February 2020.
- Nearby intersection turning movement counts collected in November 2017 during the a.m. and p.m. peak commute period were also available from the department. These include the four intersections on the same block as the project site (16th St/ Missouri St., 16th St/ Mississippi St, 17th St/ Missouri St., 17th St/ Mississippi St), as well as the intersection of Mariposa St/ Mississippi St.

Field observations of vehicle operations and other transportation-related conditions were conducted in mid-February, prior to the issuance of the shelter-in-place order, as well as in mid-May and early July after implementation of the shelter-in-place order.

The results of the traffic count data gathering, including dates, time periods and sources, are summarized in [Appendix B](#). Information on the total number of vehicles during the day, the a.m. peak hour, and the p.m. peak hour on roadway segments in the vicinity of the project site is presented in [Tables 4](#) and [5](#). The turning movement counts at the five study intersections near the project site are shown in [Figure 7](#).

Table 4
Daily, AM Peak Hour and PM Peak Hour Traffic Volumes ^[a]
North-South Street Segments

STREET SEGMENT ^[b]	DAILY	AM PEAK HOUR					PM PEAK HOUR				
	All Vehicles Total 2-way	NB	All Vehicles SB	Total	% daily	Heavy Veh. ^[c] Total 2-way	NB	All Vehicles SB	Total	% daily	Heavy Veh. ^[c] Total 2-way
Missouri Street											
16 th St to 17 th St	<u>3,760</u>	186	108	294	8%	7 2%	190	156	346	9%	5 1%
17 th St to Mariposa St		179	90	269		7 3%	191	135	326		5 2%
Mississippi Street											
16 th St to 17 th St		<u>368</u>	<u>125</u>	<u>493</u>		<i>33</i> 7%	<u>344</u>	<u>189</u>	<u>533</u>		<i>44</i> 8%
17 th St to Mariposa St		253	252	505		27 5%	281	366	647		20 3%
Mariposa St to 18 th St		137	119	256		3 1%	152	80	232		5 2%
Seventh Street											
North of Mission Bay Dr	<i>15,800</i>	<i>655</i>	<i>410</i>	<i>1,065</i>	7%	<i>73</i> 7%	<i>803</i>	<i>268</i>	<i>1,071</i>	7%	<i>44</i> 4%
Mission Bay Dr to 16 th St	<i>11,800</i>	<u>406</u>	<u>199</u>	<u>605</u>	5%	<u>66</u> 11%	<u>515</u>	<u>211</u>	<u>726</u>	6%	<i>43</i> 6%

Notes:

- Motor vehicle counts; underlined values represent January/February 2020 counts, values in italics represent year 2019 data, remaining values are from year 2017.
- Shaded segments are adjacent to the project site.
- Heavy vehicle counts include buses.

Source: Summarized by Advant Consulting from multiple sources; see [Appendix B](#)

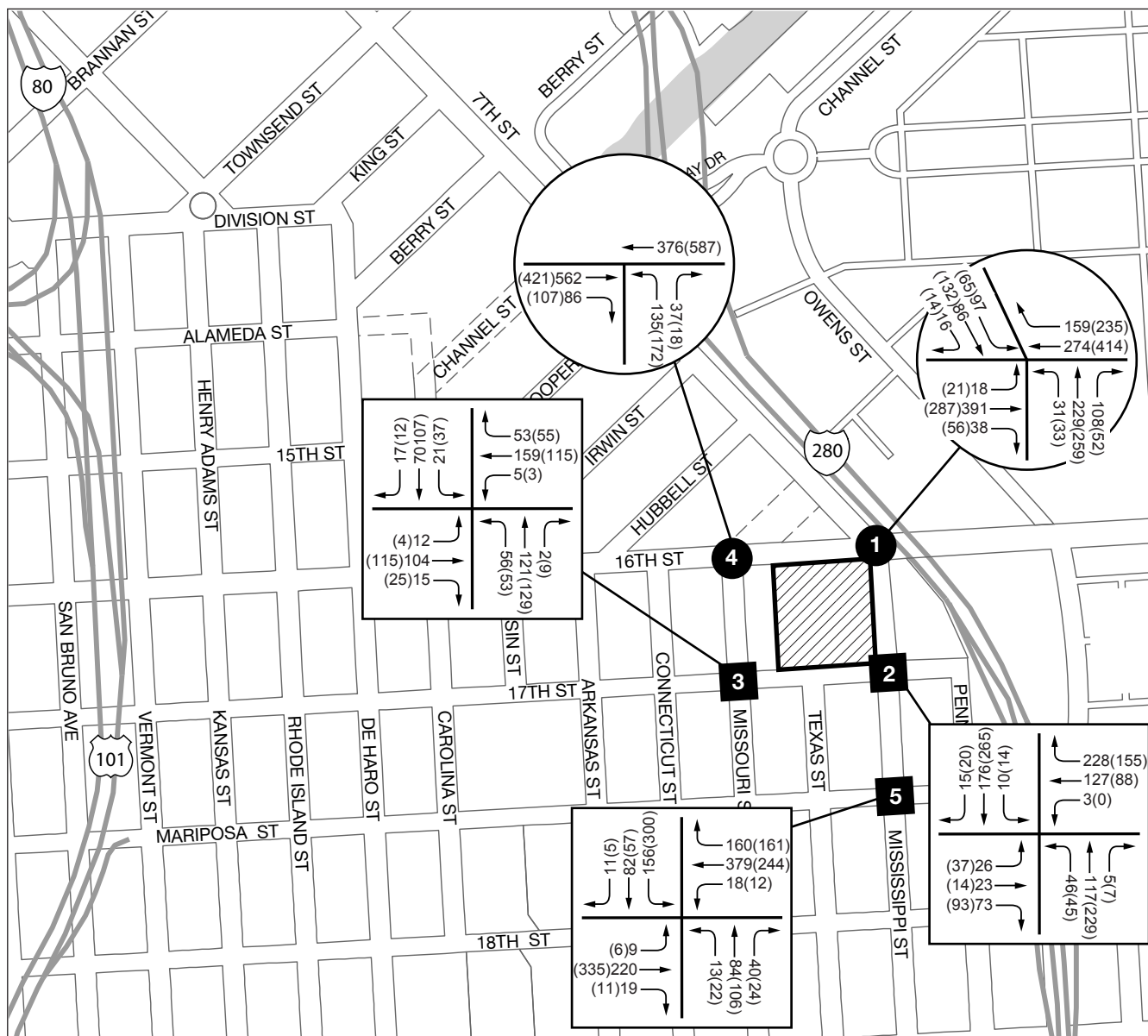
Table 5
Daily, AM Peak Hour and PM Peak Hour Traffic Volumes ^[a]
East-West Street Segments

STREET SEGMENT ^[b]	DAILY	AM PEAK HOUR						PM PEAK HOUR					
	All Vehicles Total 2-way	All Vehicles				Heavy Veh. ^[c]		All Vehicles				Heavy Veh. ^[c]	
		EB	WB	Total	% daily	Total 2-way		EB	WB	Total	% daily	Total 2-way	
16 th Street													
Connecticut to Missouri	<u>14,140</u>	648	511	1,159	8%	72	6%	528	759	1,287	9%	64	5%
Missouri to 7 th /Mississippi	<i>10,770</i>	<u>447</u>	<u>321</u>	<u>768</u>	7%	<i>68</i>	9%	<u>364</u>	<u>461</u>	<u>825</u>	8%	<i>74</i>	9%
7 th /Mississippi to Owens		<u>596</u>	<u>434</u>	<u>1,030</u>		<i>93</i>	9%	<u>404</u>	<u>650</u>	<u>1,054</u>		<i>97</i>	9%
17 th Street													
Connecticut to Missouri		131	232	363		18	5%	144	180	324		9	3%
Missouri to Texas		127	217	344		18	5%	161	173	334		9	3%
Texas to Mississippi	<u>5,210</u>	<u>183</u>	<u>209</u>	<u>392</u>	8%	19	5%	<u>179</u>	<u>209</u>	<u>388</u>	7%	12	3%
Mississippi to Pennsylvania		38	358	396		8	2%	35	251	286		4	1%

Notes:

- Motor vehicle counts; underlined values represent January/February 2020 counts, values in italics represent year 2019 data, remaining values are from year 2017.
- Shaded segments are adjacent to the project site.
- Heavy vehicle counts include buses.

Source: Summarized by Adavant Consulting from multiple sources; see [Appendix B](#)



Legend



PROJECT SITE



SIGNALIZED INTERSECTION



UNSIGNALIZED INTERSECTION

##

AM PEAK HOUR VOLUME

(##)

PM PEAK HOUR VOLUME

Note: Data at intersection #1 is from 2020;
all others are from 2017



As shown in **Table 4 and Table 5**, daily and peak hour traffic volumes are highest on 16th and Seventh streets, both of which are designated as arterial streets in the general plan. Mississippi Street has about half the peak hour traffic volumes than Seventh or 16th streets near the project site. Traffic volumes on Missouri Street are the lowest, reflecting its role as a local access street.

Heavy vehicle activity, which includes both trucks and buses, as a percentage of total traffic at roadway segments in the vicinity of the project site vary substantially by location, ranging from less than 2 percent at local access streets to 9 percent at arterials. Values are generally higher during the a.m. peak period, which correlates to the hours of higher truck activity. Most of the percentages shown in the tables are above 4 percent, indicating a heavy vehicle activity in the area. The highest values seen in the table, 11 percent on Seventh Street and 9 percent on 16th Street, include Muni buses, as well as large transit vehicles operated by UCSF.

WALKING/ACCESSIBILITY CONDITIONS

This subsection describes the absence, discontinuity, or presence of facilities for people walking within the transportation study area. It also identifies any potentially or observed existing hazardous conditions at locations where people walk and describes the number of people walking at adjacent study intersections.

A qualitative evaluation of existing conditions for people walking in the immediate vicinity of the project site was conducted during field visits in January and February 2020. Observed facilities for people walking include sidewalks, ADA curb ramps, intersection crossing treatments (e.g., crosswalks), and traffic control devices. As noted previously, there are no facilities less than a quarter mile from the project site that are included in the Vision Zero High Injury Network. The 16th Street Improvement Project – Phase 1 has been recently completed, which improved conditions for people walking. The Phase 1 included implementation of new signalized crosswalks with continental markings and countdown signal heads, and installation of ADA curb ramps.

Continental markings are also provided at all four crosswalks at the intersections of Mississippi Street with 17th Street and with Mariposa Street, both of which are controlled by four-way Stop signs. The Stop sign controlled intersections of 17th Street with Texas Street and with Mississippi Street do not have marked crosswalks. There are no ADA curb ramps provided on the on the unmarked west side north-south crosswalk at the intersection of 17th and Texas streets.

There are no incomplete facilities for people walking are in the block surrounding the project site, although some portions of the sidewalks are in some state of disrepair. Sixteenth and 17th streets have 10-foot wide sidewalks adjacent to the project site; while the effective width varies due to the presence of tree wells, street furniture, utility or streetlight poles, and traffic and parking signage, it meets ADA standards for accessibility. The sidewalk on Mississippi Street is 15 feet wide, although the temporary presence of obstructions (parked vehicles, trash containers, etc.) narrow its effective width.

Observations indicated that pedestrian volumes in the area are generally low. Counts provided by the department show about 100 total pedestrians during the a.m. peak hour at most of the intersections near the project site, with 200 pedestrians counted at the intersection of 16th St/ Seventh St-Mississippi St. Pedestrian volumes are about 20 percent higher during the p.m. peak hour, based on counts collected at the same location.

Existing driveways and curb cuts are shown on **Figure 2**. Sight lines are generally clear between people walking and motorists entering or exiting the existing parking lot, which is chain link fenced. No vehicle activity was observed at the loading docks during various field visits. With minimal pedestrian traffic and vehicle activity at the existing site, no conflicts were observed between people driving and people walking

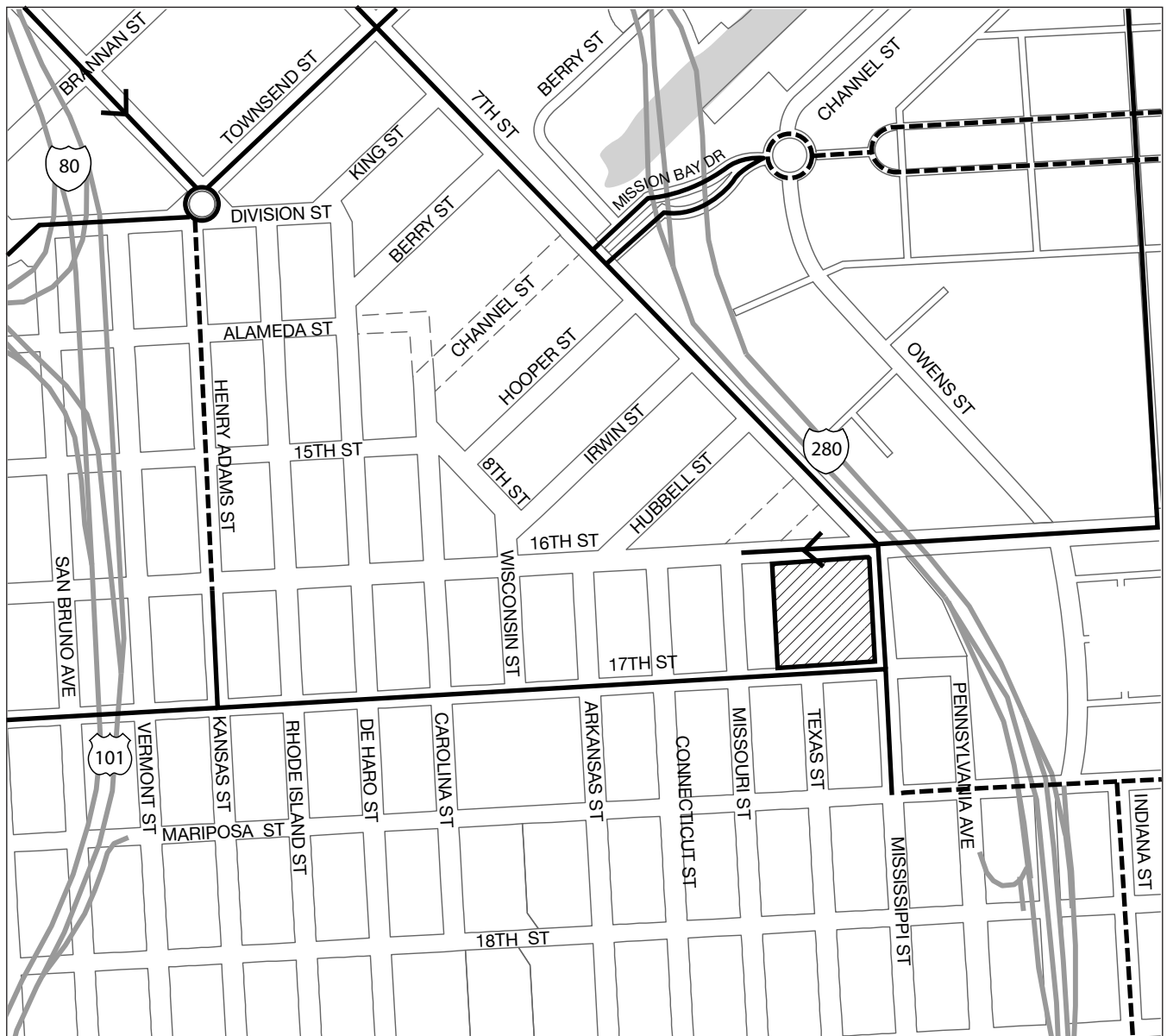
For people walking to transit, the primary Muni stops near the project site are located on 16th Street, west of Mississippi Street (about 400 feet to the west), which is served by the 55 16th Street, and on Connecticut Street, south of 17th Street (about 550 feet to the west), which is served by the 22 Fillmore. The Mission Bay TMA shuttle buses have stops at the California College for the Arts (CCA) main entrance on Eighth Street (about a quarter of a mile northwest). UCSF shuttle buses travel through the area, but have no stops near the project site. As previously described, people walking to nearby transit stops have sidewalks, ADA curb ramps, and crosswalks connecting between the project site and the nearby transit stops.

BICYCLING CONDITIONS




This subsection describes the absence, discontinuity, or presence of facilities for people bicycling within the transportation study area, and identifies any potentially or observed existing hazardous conditions at locations where people bicycle. In addition, it describes the number of people bicycling in the vicinity of the project site.

Bicycle facilities consist of bicycle roadway markings, bicycle lanes, and multi-use trails or paths. They are grouped into the following four categories. Existing bicycle facilities in the proposed project study area are shown on **Figure 8**.

- Class I facilities provide a completely separated right-of-way for the exclusive use for people walking and bicycling with cross-flow minimized. Class I facilities consist of off-street bicycle paths that are generally shared with people walking. Class I facilities may be adjacent to an existing roadway or may be entirely independent of existing vehicular facilities.
- Class II facilities provide a striped lane for one-way travel on a street or highway. Class II facilities consist of striped bicycle lanes on roadways. These facilities reserve a minimum of four to five feet of space for bicycle traffic.



Legend

-  PROJECT SITE
-  BICYCLE LANE
-  BICYCLE ROUTE



- Class III facilities provide for shared use with motor vehicle traffic. Class III facilities consist of designated and signed bicycle routes where bicyclists share the roadway with vehicles. They may or may not be marked with “sharrows,” and they are usually signed.
- Class IV facilities provide a separated bikeway for the exclusive use of bicycles and include a separation between the bikeway and through vehicular traffic. This separation may include grade separation, flexible posts, inflexible physical barriers, or on-street parking.

The area surrounding the project site has primarily flat terrain to the north, rising steadily and quickly south of 17th Street. As such, the established bicycle routes generally operate in an east-west direction, or from 17th Street to the north. The following streets provide bicycle facilities in the vicinity of the project site:

- **Seventh Street** has northbound and southbound Class IV bicycle lanes from Townsend Street to 16th Street, and a northbound Class IV bike lane from 16th Street to Market. As previously described, Seventh Street north of Hooper Street is part of SFMTA’s High Injury Network.
- **Mississippi Street** has northbound and southbound Class II bicycle lanes from 16th Street to Mariposa Street.
- **Henry Adams Street** is a designated north-south Class III bicycle route, with sharrow markings to indicate a shared facility.
- **Kansas Street** has northbound and southbound Class II bicycle lanes between 16th and 17th streets.
- **Sixteenth Street** has a westbound-only Class II green bicycle lane between Seventh/ Mississippi streets and Missouri Street; eastbound and westbound Class II bicycle lanes are also provided from Seventh/ Mississippi streets to Terry A Francois Boulevard.
- **Seventeenth Street** has eastbound and westbound Class II bicycle lanes between Mississippi and Sanchez streets.
- **Mariposa Street** is a designated east-west Class III bicycle route, with sharrow markings to indicate a shared facility.

Bicycle observations in the vicinity of the project site are summarized in **Table 6**.

Table 6
AM and PM Peak Hour Bicycle Volumes ^[a]

STREET SEGMENT ^[b]	Facility Class	AM PEAK HOUR			PM PEAK HOUR		
		NB/EB	SB/WB	Total	NB/EB	SB/WB	Total
Missouri Street							
16 th St to 17 th St	--	2	6	8	1	5	6
17 th St to Mariposa St	--	0	4	4	1	2	3
Mississippi Street							
16 th St to 17 th St	II	<u>134</u>	<u>19</u>	<u>153</u>	<u>36</u>	<u>58</u>	<u>94</u>
17 th St to Mariposa St	II	12	76	88	13	13	26
Mariposa St to 18 th St	--	3	2	5	3	1	4
Seventh Street							
North of Mission Bay Dr	IV	n/a	n/a	n/a	<i>151</i>	<i>75</i>	<i>226</i>
Mission Bay Dr to 16 th St	IV	<i>61</i>	<i>32</i>	<i>93</i>	<i>109</i>	<i>76</i>	<i>185</i>
16th Street							
Connecticut St to Missouri St	--	14	8	22	14	45	59
Missouri St to 7 th /Mississippi St	II ^[c]	<u>20</u>	<u>13</u>	<u>33</u>	<u>9</u>	<u>54</u>	<u>63</u>
7 th /Mississippi St to Owens St	II	<i>76</i>	<i>29</i>	<i>105</i>	<i>30</i>	<i>117</i>	<i>147</i>
17th Street							
Connecticut St to Missouri St	II	111	12	123	26	81	107
Missouri St to Texas St	II	112	11	123	26	78	104
Texas St to Mississippi St	II	<u>155</u>	<u>15</u>	<u>170</u>	<u>33</u>	<u>128</u>	<u>161</u>
Mississippi St to Pennsylvania Av	--	7	9	16	2	18	20

Notes:

- Underlined values represent January/February 2020 counts, values in italics represent year 2019 data, and remaining values are from year 2017.
- Shaded segments are adjacent to the project site.
- Westbound only.

Source: Summarized by Advant Consulting from multiple sources; see [Appendix B](#)

Bicycle activity is more prevalent along Mississippi and 17th streets, particularly during the a.m. peak hour, with volumes of over 150 bicyclists per hour. Substantial bicycle activity also occurs on Seventh Street during the p.m. peak hour, with volumes of approximately 100 (south of Mission Bay Dr) to 150 (north of Mission Bay Dr) bicyclists per hour. In general, bicycle directionality is reversed. No substantial conflicts with other modes were observed during field visits.

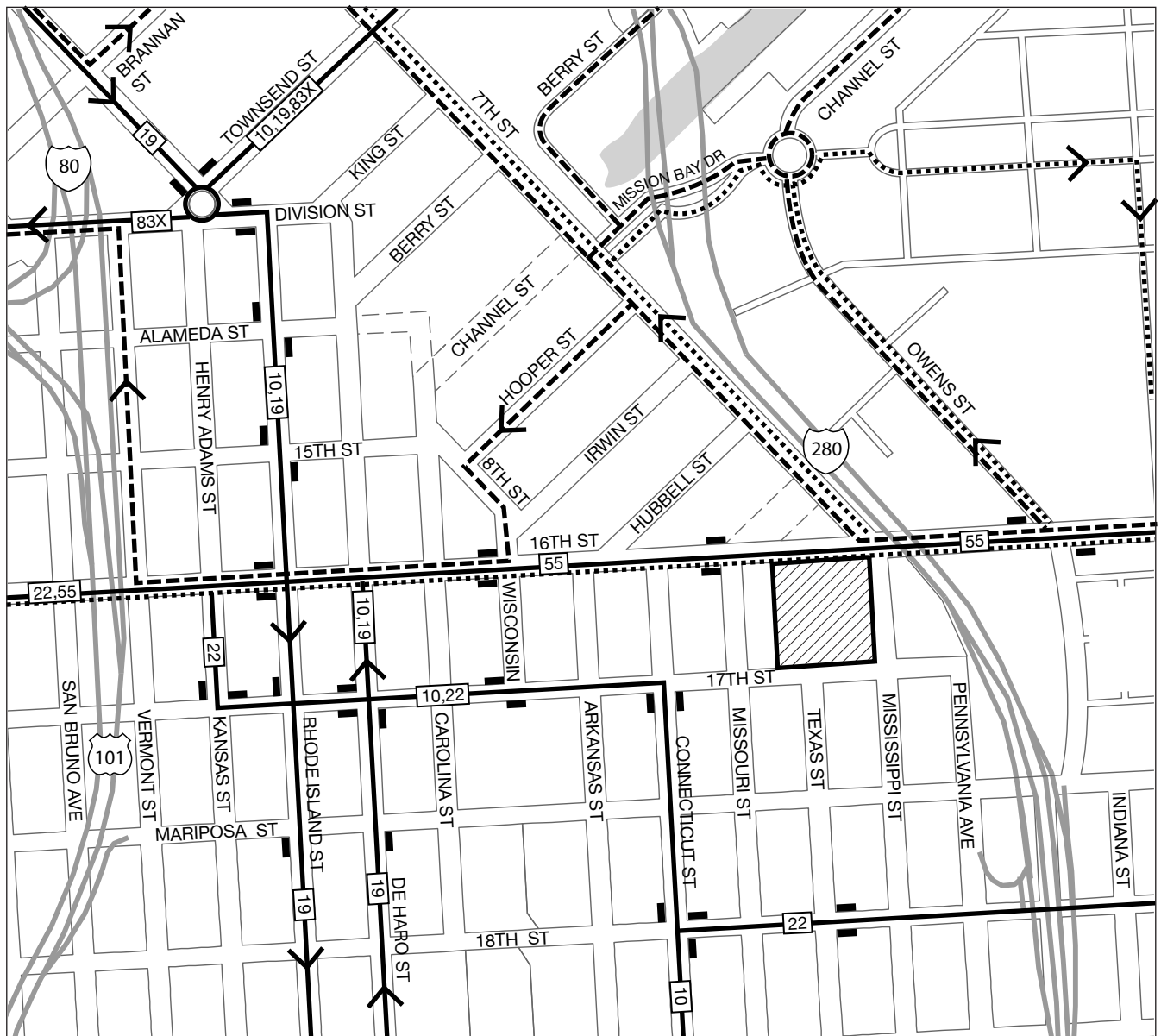
PUBLIC TRANSIT CONDITIONS

The project site is well served by public transit. Local service is provided by the San Francisco Municipal Transportation Agency (Muni) bus routes, which can be used to transfer to other bus lines, cable car lines, the F Market & Wharves historic streetcar line, and Muni Metro light rail lines. Service to and from the East Bay is provided by BART along Market and Mission Streets, AC Transit buses from the Transbay Transit Terminal (TTT), and Water Emergency Transportation Authority (WETA) ferries from the Ferry Building. Service to and from the North Bay is provided by Golden Gate Transit (GGT) at the TTT, as well as ferry service provided by GGT, Blue & Gold, and WETA to/from the Ferry Building. Service to and from the Peninsula and South Bay is provided by Caltrain at its terminal located at Fourth and Townsend Streets, by the San Mateo County Transit District (SamTrans) at the TTT, and by WETA ferries at the Ferry Building. Local transit facilities, including bus stops, in the vicinity of the proposed project are shown in **Figure 9**.






Muni bus routes stopping one block from the project site, several of which provide connection to Muni Metro and BART service lines. Three Muni bus routes, the 22 Fillmore, 55 16th Street, and 10 Townsend, have stops near the project site. Muni lines serving the proposed project area during pre-March 2020 conditions are described below.

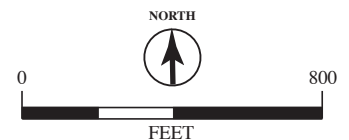
- **10 Townsend** – This bus route provides service between the Pacific Heights area and the Potrero Hill area. Buses operate between 6:00 a.m. 11:45 p.m. on 15-minute peak (a.m. and p.m. peak) to 20-minute headways.
- **22 Fillmore** – This bus route provides service between the Marina District and the Potrero Hill area. Buses operate all day on 4-minute (a.m. and p.m. peak) to 30-minute headways. This route provides an eastbound connection with Muni Metro service at the Third Street and 20th Street T line station (about 0.75 miles southwest of the project site), and a westbound connection with BART service at the 16th Street Mission BART station (about 1.5 miles west of the project site).
- **55 16th Street** – This bus route provides service between the Mission Bay area and the Mission District. The bus operates on 15-minute (a.m. and p.m. peak) to 20-minute headways. This bus route provides an eastbound connection with Muni Metro service at the UCSF/Mission Bay T line station (about half a mile northeast of the project site), and a westbound connection with BART service at the 16th Street Mission BART station (about 1.5 miles west of the project site).

The nearest Muni bus stop is located about 500 feet west of the project site on 16th Street, west of Missouri Street, with service for the 55 16th Street route. Another Muni bus stop is located on Connecticut Street south of 17th Street, about 700 feet west of the project site, with service for the 22 Fillmore and 10 Townsend lines.



Legend

-  PROJECT SITE
-  MUNI ROUTE
-  MUNI STOP
-  MISSION BAY SHUTTLE
-  UCSF SHUTTLE



Phase 1 of SFMTA's 16th Street Improvement Project has recently been completed. The project implemented transit-only lanes, transit bulbs, and new vehicle and pedestrian signals on 16th Street from Third Street to Potrero Avenue, adjacent to the project site. Phase 2, from Potrero Avenue to Church Street is scheduled to start before the end of the year and be completed in mid-2022. Combined, the two phases of the project will improve transit reliability and travel time for Muni's 22 Fillmore and 55 16th Street routes, also reducing conflicts between private vehicles and transit vehicles.

The Mission Bay Transportation Management Association (MBTMA) formed in conformance with mitigation measures identified in the Mission Bay's redevelopment project's SFEIR, currently operates four routes that run from the Civic Center BART/Muni Station and the TTT, via the Caltrain Terminal, to Mission Bay area destinations. In general, service is provided from 6 to 10:30 a.m. and from 3 to 8:30 p.m. on weekdays. The route serving the California Center for the Arts (CCA) Main Academic Building (1111 Eighth Street) operates on 16th Street, west of Wisconsin Street, and on Seventh Street.

UCSF provides shuttle bus services between primary campus sites and some secondary campus locations. The shuttle system is primarily designed to facilitate work-related travel between UCSF locations and reduce single-occupancy inter-campus trips during the day, but it also offers linkages to major transit service providers such as BART and Caltrain. Service includes four fixed-route lines operating on 16th Streets (Red, Blue, Gold, and Grey), whose headways are generally between 15 to 25 minutes, and generally operate between 6 a.m. and 9 p.m., Monday through Friday. UCSF's Red shuttle bus service connects the Mission Bay campus with the 16th Street BART Station, while the Blue, Gold and Grey lines connect the campus with Parnassus, Mt. Zion and ZSFG Hospital. There are no UCSF shuttle bus stops in the vicinity of the project site.

EMERGENCY ACCESS CONDITIONS

This subsection describes the closest emergency access facilities to the project site. In addition, this subsection identifies any observed delays to emergency access operators adjacent to the project site.

The project site is located within the SFFD Battalion 3 area. The nearest San Francisco Fire Department (SFFD) stations are Station 29 (Vermont Street at 16th Street, about 0.5 miles west of the project site), Station 4 (Mission Rock Street at Third Street, about 0.75 miles northeast of the project site), and Station 37 (798 Wisconsin Street at 22nd Street, about 0.75 miles southwest of the project site). The project site is also located within the SFPD Southern District boundaries, with its police station, and SFPD's headquarters, located at China Basin Street at Third Street, about 0.75 miles northeast of the project site.

Currently, emergency vehicle access to the project sites is provided along 16th, Mississippi and 17th streets. Sixteenth and Seventh streets have been identified by the San Francisco Department of Public Works as Primary Emergency Priority routes,⁶ while Mariposa Street between Kansas Street and Pennsylvania Avenue has been identified as a Parallel Emergency Priority route. During field surveys of the project site and vicinity conducted in February, May and July 2020, delays to emergency service providers were not observed

LOADING CONDITIONS

This subsection describes the location of commercial and passenger on-street loading spaces, hour restrictions, and usage. In addition, it identifies any potentially or observed hazardous conditions or delays to public transit due to loading activities.

Freight Loading

No on-street loading zones or commercial parking spaces are located along 16th Street, Mississippi Street, or 17th Street adjacent to the project site. Farther away from the project site, a yellow loading zone is located along the west side of Missouri Street between 16th and 17th streets, the east side of Mississippi Street between 17th and Mariposa streets, and along the east side of Missouri Street between 17th and Mariposa streets.

Passenger Loading

There is 75-foot long permitted commuter shuttle passenger loading zone on the east side of Mississippi Street, north of 17th Street. The passenger zone operates between 6 a.m. and 10 a.m., and between 4 p.m. and 8 p.m. General parking is allowed outside those two periods.

During field visits of the project site and vicinity conducted in February, May and July 2020, conflicts between commercial or passenger loading activities and people walking, bicycling or driving, or transit operations were not observed.

⁶ San Francisco Department of Public Works, Emergency Priority Routes, December 2005;
http://sfgov.org/orr/ftp/meetingarchive/Lifelines_Council_v3/modules/DPW%20Priority%20Route%20Program__1509.pdf?documentid=7880

PARKING CONDITIONS

California Senate Bill (SB) 743 amended CEQA by adding California Public Resources Code (PRC) section 21099 regarding the analysis of parking impacts for certain urban infill projects in transit priority areas.⁷ PRC section 21099(d), effective January 1, 2014, provides that "...parking impacts of a residential, mixed-use residential, or employment center project on an infill site located within a transit priority area shall not be considered significant impacts on the environment."⁸ Accordingly, parking is no longer to be considered in determining if a project has the potential to result in significant environmental effects for projects that meet all three criteria established in the statute.

The proposed project meets all of the criteria, and thus the transportation impact analysis does not consider the adequacy of parking in determining the significance of project impacts under CEQA.⁹ The following parking conditions description is provided for informational purposes only.

On-street parking in the vicinity of the project site partially falls within the San Francisco Residential Parking Permit Zone (RPP) X. RPP Zone X is generally bounded by Third Street to the east, Arkansas and Carolina streets to the west, 16th and 17th streets to the north, and by 24th Street to the south. On-street parking without a residential permit is allowed for up to two hours.

A parking survey conducted for the 1240-1250 Child Care Facility Project¹⁰ in December 2017, indicated that on-street parking demand in the vicinity of the project site is well utilized; these findings were confirmed during field visits in February and May 2020. The survey was conducted during the morning (7:00 a.m. to 9:00 a.m.) and afternoon/evening (3:00 p.m. to 6:00 p.m.) periods. The results indicated that over 80 percent of the on-street parking spaces were occupied during both survey periods.

There are no public, off-street parking facilities in the immediate vicinity of the project site. The nearest off-street public parking facility, the Owens Street Garage at UCSF Medical Center (1835 Owens Street), is located approximately a quarter of a mile east of the project site.

⁷ A "transit priority area" is defined as an area within 0.5 mile of an existing or planned major transit stop. A "major transit stop" is defined in California Public Resource Code section 21064.3 as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service intervals of 15 minutes or less during the morning and afternoon peak commute periods. A map of San Francisco's Transit Priority Areas is available online at: <https://sfmea.sfplanning.org/Map%20of%20San%20Francisco%20Transit%20Priority%20Areas.pdf>.

⁸ California Office of Planning and Research, Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA, Implementing State Senate Bill 742 (Steinberg, 2013), January 20, 2016.

⁹ Eligibility Checklist: CEQA Section 21099, Modernization of Transportation Analysis, 901 16th Street, 2011.1300EIA, San Francisco Planning Department, September 8, 2020; a copy is included in **Appendix F**.

¹⁰ 1240 & 1250 17th Street child care facility project; Case No. 2015-010660ENV (no longer a pursued project).

TRAVEL DEMAND METHODOLOGY AND RESULTS

Travel demand refers to the number, type, and common destinations of new trips that people would take to and from the project or the variant; detailed methodology and results for the project and variant travel demand are included in [Appendix D](#). This section presents the estimates of project-and variant-generated person trips by the various ways of travel, as well as the project-generated vehicle trips. In addition, this section presents the estimation of the demand for loading and parking spaces to accommodate project and variant-generated commercial vehicles, as well as passenger loading demand.

PROPOSED PROJECT AND VARIANT TRAVEL DEMAND

The travel demand methodology consists of four steps: trip generation, modes of travel, trip distribution, and assignment. The following summarizes each of these steps.

For purposes of this analysis, it is assumed that the travel demand for the proposed project and the variant would be similar to the demand at the existing Wholesale Flower Market site, at the corner of Sixth and Brannan streets, with one exception. The mode of travel and origin/ destination of the Market employees have been adjusted to represent the actual transit service and other transportation conditions (e.g., parking supply and utilization) available at the project site, which are different from the Sixth/ Brannan site. Mode of travel and trip distribution information for employees at the project site has been obtained from the *Transportation Impact Analysis Guidelines* published by the department in 2019 (2019 SF Guidelines). Detailed travel demand assumptions and results are provided in [Appendix D](#).

Trip Generation and Modes of Travel

Various aspects of the commercial and visitor operations, and associated travel demand at the existing Wholesale Flower Market site were identified in the transportation impact study report that was prepared as part of the environmental clearance for that project.¹¹ Additional information has also been gathered from a related technical memorandum, which had previously been prepared in support of the Transportation Impact Study.¹² A summary of the data is provided in [Appendix D](#).

Table 8 provides a summary of the travel demand generated by wholesale badge-holders and the general public¹³ at the existing Wholesale Flower Market, based on the information presented in these two documents.

¹¹ New Flower Mart Project Transportation Impact Study, Nelson\Nygaard, July 2018; Case No.2015-004256ENV.

¹² Existing Wholesale Flower Market Trip Generation, Nelson\Nygaard, October 31, 2017; Case No.2015-004256ENV.

¹³ The general public is allowed to shop and park at the Wholesale Flower Market site after 10 a.m.

Table 8
SF Wholesale Flower Market at Sixth/Brannan Streets
Visitor Travel Demand ^[a]

Visitor Travel Demand							
Population Group	Time Period	Daily		AM Peak Hour ^[b]		PM Peak Hour ^[c]	
		Person Trips ^[d]	Vehicle Trips ^[e]	Person Trips ^[d]	Vehicle Trips ^[e]	Person Trips ^[d]	Vehicle Trips ^[e]
Wholesale badge-holders							
Light vehicles parked on-site	Midnight to 10 a.m.	878	691	182	143		
	10 a.m. to 3 p.m. ^[f]	445	350				
	3 p.m. to midnight	58	46			15	12
Pickups and vans parked on-site	Midnight to 10 a.m.	233	233	37	37		
	10 a.m. to 3 p.m.	104	104				
	3 p.m. to midnight	27	27			5	5
Short trucks parked on-site	Midnight to 10 a.m.	28	28				
	10 a.m. to 3 p.m.	20	20				
	3 p.m. to midnight	7	7			1	1
Large box trucks on-street	All day ^[f]	8	8	1	1		
Trailer semi-trucks on-street	All day ^[f]	8	8	1	1		
Total badge-holders		1,816	1,522	221	182	21	18
General public							
Light vehicles (parking lot)	10 a.m. to 3 p.m. ^[g]	205	189				
Total badge-holders & public		2,021	1,711	221	182	21	18

Notes:

- Due to the nature of the Wholesale Flower Market, it is assumed that the vast majority of the visitors would drive to the site.
- Sixty-minute period between 7 a.m. and 9 a.m. with the highest traffic in the adjacent streets.
- Sixty-minute period between 4 p.m. and 6 p.m. with the highest traffic in the adjacent streets.
- Calculated by applying an average vehicle occupancy (AVO) factor to the number of vehicle trips. The estimated AVO are 1.27 passengers per vehicle for light vehicles, and 1.54 passengers per vehicle for public parking vehicles, based on surveys conducted at the existing Wholesale Flower Market site on Thursday, February 8, 2018. Similarly, the AVO for vans, trucks and trailers was estimated at one person per vehicle.
- On-site vehicle trips based on field counts conducted by Nelson\Nygaard at the existing Wholesale Flower Market site on August 16, 2017. On-street truck trips based on day of the week arrival estimates provide by the project sponsor.
- Based on day of the week truck arrival estimates provide by the project sponsor.
- Assumes that 65 percent of light vehicles entering the site between 10 a.m. and 3 p.m., when the existing Wholesale Flower Market parking lot is open to the general public, are wholesale badge-holders and 35 percent is general public, based on quarterly badge-holder entry data for the third quarters of 2017, as provided by the project sponsor. The third quarter badge holder data was factored down to daily and compared to the field counts, in order to estimate the split. Since 65 percent of total light vehicles (wholesale badge holders) entering the site equals to approximately 350 observed light vehicles, proportionally, 35 percent of total light vehicles (general public) entering the site equals to approximately 189 light vehicles.

Sources: Nelson\Nygaard (2017), Adavant Consulting (2018)

Table 9 provides an estimate of the daily, a.m. peak hour, and p.m. peak hour travel demand for the proposed project and variant employees on a typical weekday. Based on information provided by the project sponsor, there are up to 275 daily employees on site, who generally arrive at the site between midnight and 2 a.m. Most activities are completed by 10 a.m., with approximately 10 to 15 individual vendors staying open until noon and fewer staying open later into the afternoon. These conditions, including the expected number of employees would not change as part of the proposed project or the variant.

Table 9
SF Wholesale Flower Market at 901 16th Street
Employee Travel Demand ^[a]

Mode of Travel	Modal Split ^[b]	Daily		AM Peak Hour ^[c]		PM Peak Hour ^[d]	
		Person Trips ^[e]	Vehicle Trips ^[f]	Person Trips	Vehicle Trips ^[f]	Person Trips	Vehicle Trips ^[f]
Private Auto	37%	206	182	14	13	0	0
Taxi/TNC	11%	61	108	4	8	0	0
Transit	32%	173		12		0	
Walk/Other	20%	110		8		0	
Total	100%	550	290	38	21	0	0

Notes:

- a. Based on 275 daily employees.
- b. Based on 2019 SF Guidelines data for work trips to/from San Francisco's Mission/Potrero district.
- c. Sixty-minute period between 7 a.m. and 9 a.m. with the highest traffic in the adjacent streets. Assumes that 7 percent of the daily trips would occur during the morning peak hours, based on data previously collected for the SF Wholesale Produce Market (April 2010, see SF Planning Case No. 2009.1153E), which given its nature as a wholesale market, it is assumed to have a similar profile.
- d. Sixty-minute period between 4 p.m. and 6 p.m. with the highest traffic in the adjacent streets. No employee travel is assumed to occur during this time, since most activities would have ceased by noon.
- e. Assumes two daily person-trips per employee.
- f. Calculated by applying an average vehicle occupancy factor of 1.13 occupants per vehicle to the estimated number of person trips, in accordance to the 2019 SF Guidelines data for San Francisco's Mission/Potrero district.

Source: Advant Consulting – 2020

Table 10 provides a summary of the total vehicle travel demand (employee vendors, wholesale badge-holders, and general public parking) attributable to the proposed project and the variant, disaggregated by type of vehicle. The results presented in this table combine the information included in **Table 8** and **Table 9**; additional information is presented in **Appendix D**.

Table 10
SF Wholesale Flower Market at 901 16th Street
Total Travel Demand by Type of Vehicle ^[a]

Vehicle Classification	Daily		AM Peak Hour [c]		PM Peak Hour [d]	
	Percent	Vehicle Trips	Percent	Vehicle Trips	Percent	Vehicle Trips
Light vehicles	78.3%	1,556	80.8%	165	66.6%	12
Pickups, short trucks, vans	18.2%	364	18.2%	37	27.8%	5
Large box trucks (SU-30)	3.1%	63	0.5%	1	5.6%	1
Tractor-trailer trucks	0.4%	8	0.5%	1	0.0%	0
Total all vehicles	100.0%	2,001	100.0%	204	100.0%	18
<i>Percentage of daily</i>				<i>10.2%</i>		<i>0.9%</i>

Note:

- a. Includes the sum of badge-holders, general public and employees. Based on the information presented in **Table 8** and **Table 9**.

Source: Advant Consulting – 2020

As shown in **Table 10**, the proposed project or the variant would generate approximately 2,000 vehicle trips on a typical weekday, of which 204 occur during the a.m. peak hour (about 10 percent of the total daily trips), and 18 occur during the p.m. peak hour (less than 1 percent of the total daily trips).

Trip Distribution and Assignment

Trip distribution, refers to the estimated number of trips people would take to (inbound) and from (outbound) the project site and another place (e.g., another neighborhood).

Assignment refers to the location of assignment of project vehicle trips to adjacent streets, to loading zones, and driveways.

The exact trip distribution or assignment patterns for the Market are not known, as they were not surveyed as part of the New Flower Mart Project analysis conducted at the Sixth/Brannan site in 2018. The trips origins, destinations and routes would be dependent on the location of product sources, other vendors, and customers, which changes throughout the year. It is possible though, to identify major routes that would be followed by large single-unit trucks (SU-30 and above) and tractor-trailer trucks arriving to or departing from the project site, since those are used for long-haul supplies and deliveries and would use major transportation facilities.

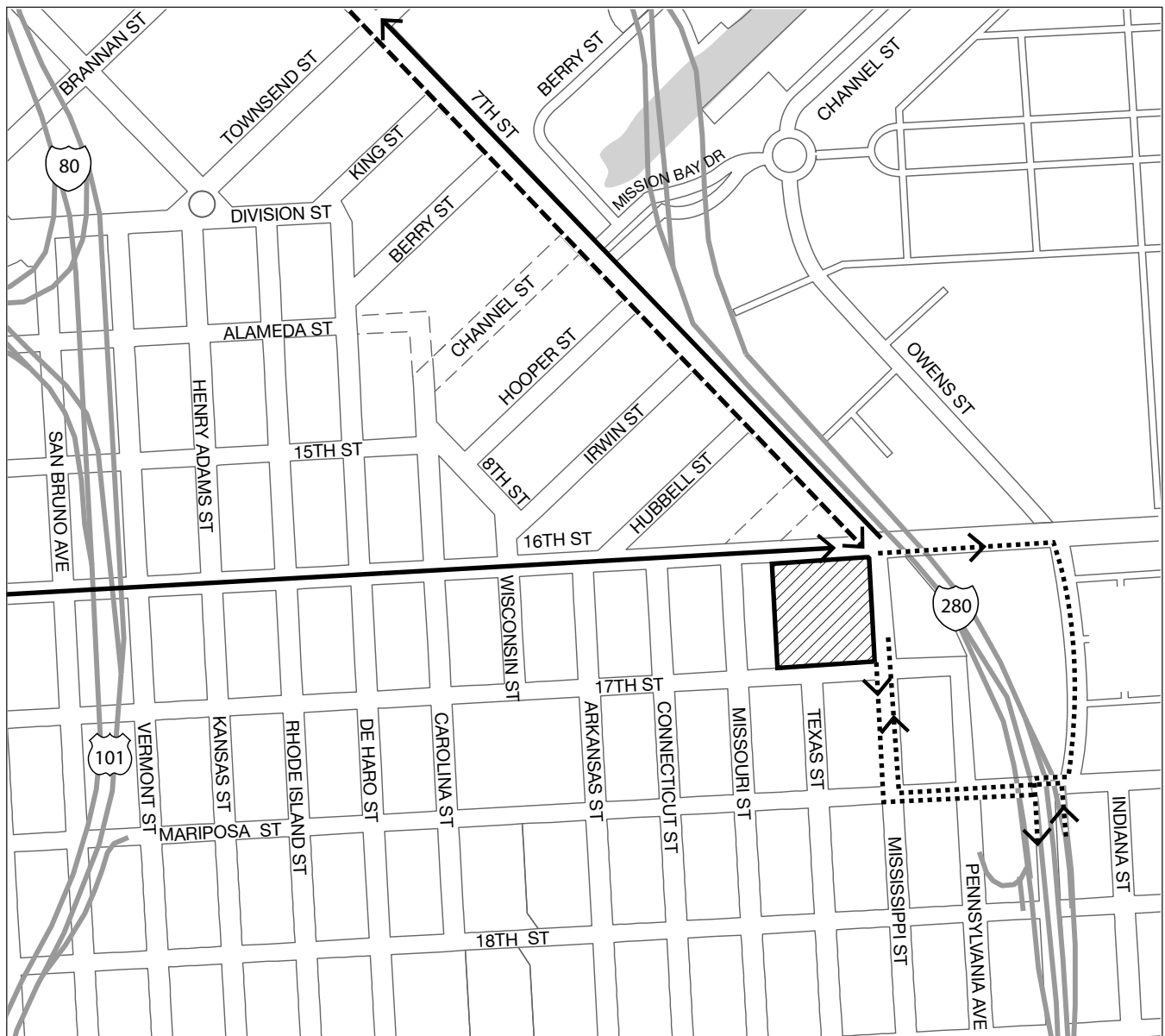
Figure 10 shows the preferred trucks routes to and from the Peninsula and South Bay (via I-280 and the Mariposa ramps), as well as the preferred truck routes to and from the East Bay (via I-80 and the Fifth St on-ramp/ Eighth St off-ramp). An alternative truck route from the East Bay is also shown (via I-80 and the Fifth St off-ramp), which may be used depending on time of day and traffic conditions in the SoMa area. Additional information about the preferred and alternative truck routes, as well as a truck turning movement analysis at all the intersections along the routes is included in [Appendix G](#).

Freight and Passenger Loading Demand

Freight Loading and Parking

Freight loading demand consists of the estimated number of project delivery, service, and passenger vehicle trips. **Table 11** provides a summary of peak parking and commercial vehicle loading utilization for the proposed project and the variant. Badge holder and general public parking and commercial vehicle loading data is based on data obtained at the existing Wholesale Flower Market site and on the immediate adjacent on-street spaces, which was collected as part of the environmental clearance for the SF Flower Mart project at Sixth/ Brannan site. The employee parking demand data is based on mode of travel and vehicle occupancy data for the project site, obtained from the 2019 SF Guidelines.

As shown in the table, the combined maximum peak of freight loading and parking demand would occur before 10 a.m., and would be 244 spaces (236 spaces for light vehicles, pickups, vans and short trucks, five spaces for SU-30 trucks, and three spaces for tractor-trailer trucks). **Table 12** provides a summary of the number and type of vehicles parking at the parking structure under the proposed project and the variant during the peak demand period. It should be noted that the proposed five large (SU-30) truck spaces are located in Level 2 of the parking structure and would be used exclusively for parking rather than loading/unloading operations, which would instead take place at the loading dock on Mississippi Street. The DLOP will include provisions to manage the loading activities and space utilization for three tractor-trailers and five SU-30 trucks at the four-space loading dock during peak demand periods.



Legend



PROJECT SITE



PREFERRED ROUTE TO/FROM I-280 (MARIPOSA RAMPS)



PREFERRED ROUTE TO/FROM I-80 (FIFTH ST ON-RAMP, EIGHTH ST OFF-RAMP)



ALTERNATIVE ROUTE FROM I-80 (FIFTH ST OFF-RAMP)



Table 11
SF Wholesale Flower Market at 901 16th Street
Freight Loading and Parking Demand by Time Period

Vehicle Classification	Time Period	Peak Freight Loading and Parking Utilization ^[a] (spaces)		
		Badge-holders & general public ^[b]	Employees ^[c]	Total
Light vehicles, plus pickups, short trucks and vans	Midnight to 10 a.m.	145	91	236
	10 a.m. to 3 p.m.	94	91	185
	3 p.m. to midnight	22		22
Large trucks (SU-30) ^[d]	Midnight to 10 a.m.	5		5
	10 a.m. to 3 p.m.	2		2
	3 p.m. to midnight	4		4
Tractor-trailer trucks ^[e]	Midnight to 10 a.m.	3		3
	10 a.m. to 3 p.m.	0		0
	3 p.m. to midnight	1		1
All Vehicles	Midnight to 10 a.m.	153	91	244
	10 a.m. to 3 p.m.	96	91	187
	3 p.m. to midnight	27		27

Notes:

- Represents the maximum number of spaces occupied during the period; it is related to but not the same as the peak hour traffic volumes presented in **Table 8**; parking utilization based on vehicle counts collected on August 16, 2017.
- Based on parking utilization data collected at the existing Wholesale Flower Market site in August 2017. The existing Wholesale Flower Market parking lot is reserved for badge-holders until 10 a.m., at which time the general public is also allowed to park for a fee. Unless there is a SF Giants home game, the lot closes to the general public at 3 p.m. Peak parking demand includes those vehicles parked on the adjacent streets and alleys within the project site. Delivery trucks and large/semi-trucks based on day of the week truck arrival estimates provided by the project sponsor; these vehicles were observed to park on-street.
- Peak employee parking demand from midnight to 3 p.m. assumed to be half of the total daily employee vehicle trip demand presented in **Table 9** (289 daily vehicle trips).
- These represent trucks currently parking on the street, outside of the existing Wholesale Flower Market site.
- Most of the tractor-trailer truck activities generally occur before 7 a.m.

Source: Nelson\Nygaard (2017), Advant Consulting (2020)

Table 12
SF Wholesale Flower Market at 901 16th Street
Peak Freight Loading and Parking Demand at Parking Structure ^[a]

Vehicle Classification	Proposed Project (spaces)	Variant (spaces)
DEMAND		
Light vehicles (autos, small vans)	126 ^[b]	156 ^[c]
Pickups, short trucks, and vans	19	19
Large trucks (SU-30) ^[d]	5	5
All Vehicles	150	180
SUPPLY		
Light vehicles (autos, small vans)	150	180
Pickups, short trucks, and vans	20	20
Large trucks (SU-30) ^[d]	5	5
All Vehicles	175	205
SURPLUS	25	25

Notes:

- a. Typically from 9 a.m. to 10 a.m.
- b. Similar to current conditions, no on-site employee parking is assumed to be provided at the project site under the proposed project.
- c. Approximately 30 Market employee vehicles (about one third of the total) are assumed to park onsite, at the parking structure, under the variant, which provides as many additional parking spaces.
- d. The five large (SU-30) truck spaces are located in Level 2 of the parking structure and would be used exclusively for parking rather than loading/unloading operations, which would instead take place at the loading dock on Mississippi Street. The DLOP will include provisions to manage the loading activities and space utilization for three tractor-trailers and five SU-30 trucks at the four-space loading dock during peak demand periods.

Source: Adavant Consulting – 2020

Passenger Loading/Unloading

As shown in **Table 9**, the proposed project and the variant would generate four passenger drop off / pick up trips (eight vehicle trips) by TNC vehicles and taxis during the a.m. peak hour, and there would not be any drop off / pick up trips occurring during the p.m. peak hour. In addition, according to the 2019 SF Guidelines,¹⁴ 2.4 percent of the person trips by private automobile would also represent passenger drop off and pick up trips. The results are summarized in **Table 13**. As shown in the table, no more than one space (0.4 spaces) would be required to accommodate the expected passenger loading or unloading demand during the peak minute of the peak 15-minute demand.

¹⁴ Transportation Impact Analysis Guidelines – Appendix F - Travel Demand, Table 4, page F-11; SF Planning Department, October 2019

Table 13
SF Wholesale Flower Market at 901 16th Street
Passenger Drop off and Pick up Demand ^[a]

Passengers Dropped off or Picked up by	Percentage ^[b]	AM Peak Hour			PM Peak Hour		
		Person Trips	Vehicle Trips ^[d]	Peak 15-min (spaces)	Person Trips	Vehicle Trips ^[d]	Peak 15-min (spaces)
Private Auto	2.4%	1	2	0.1	0	0	0
Taxi/TNC	11.1%	4	8	0.3	0	0	0
Total	13.5%	5	10	0.4	0	0	0

Notes:

- Percentage of total person trips; see [Table 9](#).
- Based on 2019 SF Guidelines; Table 4, page F-11.
- Assumes two daily person-trips per employee.
- Calculated by applying an average vehicle occupancy factor of 1.13 occupants per vehicle to the estimated number of person trips, in accordance to the 2019 SF Guidelines data for San Francisco's Mission/Potrero district.

Source: Advant Consulting – 2020

PROJECT SITE TRAVEL DEMAND

The transportation analysis for the 2016 FEIR assumed person and vehicle travel demand credits to account for existing land uses operating at the project site at that time.

Cor-o-van, a moving and storage company, used the existing warehouses and modular office building at the site, and employed approximately 50 people between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday. In addition, the University of California, San Francisco (UCSF) leased a section of the western warehouse building for storage. The surface parking lot was used by Cor-o-van trucks and vans, and to access the UCSF warehouse. Cor-o-van and UCSF employee vehicles and moving trucks accessed the project site from west side of Mississippi Street (access to the loading docks and parking lot), the south side of 16th Street (access to the parking lot), and the north side of 17th Street (access to the warehouse).

Consistent with the SF Guidelines, the travel demand credits were based on actual observations of arriving and departing individuals and vehicles collected at the existing project site on August 2, 2012. A summary of the counts is provided on [Table 14; Appendix E](#) provides the detailed count information. As shown in the table, the project site generated 152 total daily vehicle trips, 31 vehicle trips during the a.m. peak hour, and 20 vehicle trips during the p.m. peak hour.

Table 14
901 16th Street/1200 17th Street Project Site
Existing and Project/Variant Travel Demand

Vehicle Type	Number of Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Existing ^[a]							
Autos, pickups, vans	92	17	2	19	2	10	12
Box trucks and tractor-trailers	60	1	11	12	3	5	8
Total	152	18	13	31	5	15	20
Proposed Project/Variant							
Autos, pickups, vans	1,930	111	91	202	11	6	17
Box trucks and tractor-trailers	71	1	1	2	1	0	1
Total	2,001	112	92	204	12	6	18
Net Change in Travel Demand							
Autos, pickups, vans	1,838	94	89	183	9	-4	5
Box trucks and tractor-trailers	11	0	-10	-10	-2	-5	-7
Total	1,849	94	79	173	7	-9	-2

Note:

- a. Based on data collected for the *901 16th Street and 1200 17th Street Mixed-use Project FEIR*, Case No. 2011.1300E; Certified May 12, 2016; Data collected on August 2, 2012

Source: DKS Associates (2014), Advant Consulting (2020)

In addition, **Table 14** compares the vehicle trip demand generated by the proposed project or the variant with the existing travel demand at the project site in August 2012. As shown in the table, the number of net new vehicle trips generated by the proposed project or the variant would be 1,849 during a day and 173 during the a.m. peak hour. The proposed project or the variant would generate two fewer vehicle trips than the previous uses during the p.m. peak hour. **Table 13** also indicates that the proposed project or the variant would generate seven to ten fewer truck trips than the previously existing uses during both the a.m. and the p.m. peak hours.

2016 FEIR MIXED-USE PROJECT TRAVEL DEMAND

The transportation analysis for the 2016 FEIR estimated the number of person and vehicle trips for the proposed mixed-use project, which included retail and residential uses for the site. The vehicle trip generation estimates for both uses were based on the SF Guidelines, and included total daily person and vehicle trips made by employees, visitors, and residents, as well as an estimate of trips made during the p.m. peak hour. The results are summarized in **Table 14**.

Since the 2016 FEIR did not estimate the number of vehicle trips generated during a.m. peak hour, they were calculated specifically for this study, in order to more properly compare the number of trips generated by the proposed project or the variant and those generated by the 2016 FEIR project. The calculation of the a.m. peak hour trips followed the same assumptions and methodology as those used in the 2016 FEIR (i.e. SF Guidelines). A summary of the results is provided on **Table 15**; **Appendix C** provides the trip generation calculations.

Table 15
901 16th Street/1200 17th Street Project Site
2016 FEIR Mixed-use Project and Project/Variant Travel Demand

Vehicle Type	Number of Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
2016 FEIR Mixed-use Project ^[a]							
Autos, pickups, vans	4,342	118	133	251	291	242	533
Box trucks and tractor-trailers	40						
Total	4,382	118	133	251	291	242	533
Proposed Project/Variant							
Autos, pickups, vans	1,930	111	91	202	11	6	17
Box trucks and tractor-trailers	71	1	1	2	1	0	1
Total	2,001	112	92	204	12	6	18
Difference							
Autos, pickups, vans	-2,412	-7	-42	-49	-280	-236	-516
Box trucks and tractor-trailers	31	1	1	2	1	0	1
Total	-2,381	-6	-41	-47	-279	-236	-515

Note:

- a. Daily and p.m. peak hour volumes are from *901 16th Street and 1200 17th Street Mixed-use Project FEIR*, Case No. 2011.1300E; Tables IV.A-7, Tables IV.A-8, and Tables IV.A-9. Estimates of the a.m. peak hour trips were performed specifically for this study, and are included in **Appendix C**.

Source: Adavant Consulting – 2020

In addition, **Table 15** compares the vehicle travel demand generated by the proposed project or the variant with the demand generated by the 2016 FEIR Project. As shown in the table, the number of total vehicle trips generated by the proposed project or the variant would be substantially less than those estimated by the 2016 FEIR, particularly under daily and p.m. peak hour conditions, with an over 50 percent reduction. On the other hand, the number of truck trips generated by the proposed project or the variant would be about 80 percent higher than those generated by the 2016 FEIR Project on a daily basis (71 vs 40 truck trips).

APPROACH TO ANALYSIS

SIGNIFICANCE CRITERIA

San Francisco Administrative Code Chapter 31 directs the department to identify environmental effects of a project using as its base the environmental checklist form set forth in Appendix G of the CEQA Guidelines. As it relates to transportation and circulation, Appendix G asks whether the project would:

- Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), which pertains to VMT;
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses; or
- Result in inadequate emergency access.

The department uses significance criteria to facilitate the transportation analysis and address the Appendix G checklist. The department separates the significance criteria into construction and operation.

Construction

Construction of the project would have a significant effect on the environment if it would require a substantially extended duration or intense activity; and the effects would create potentially hazardous conditions for people walking, bicycling, or driving, or public transit operations; or interfere with accessibility for people walking or bicycling or substantially delay public transit.

Operation

The operational impact analysis addresses the following five significance criteria. A project would have a significant effect if it would:

- Create potentially hazardous conditions for people walking, bicycling, or driving or public transit operations
- Interfere with accessibility of people walking or bicycling to and from the project site, and adjoining areas, or result in inadequate emergency access
- Substantially delay public transit
- Cause substantial additional VMT or substantially induce additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow travel lanes) or by adding new roadways to the network
- Result in a loading deficit and the secondary effects would create potentially hazardous conditions for people walking, bicycling, or driving or substantially delay public transit

METHODOLOGY

Construction Impacts

The analysis for addressing project construction impacts uses preliminary project construction information. The evaluation addresses the staging and duration of construction activities, estimated daily worker and truck trips, truck routes, roadway and/or sidewalk closures, and evaluates the effects of construction activities on people walking, bicycling, or driving, and riding public transit and emergency vehicle operators.

Operational Impacts

The following describes the methodology for analysis of operational impacts, by significance criterion.

Potentially Hazardous Conditions

A “hazard” refers to a project generated vehicle potentially colliding with a person walking, bicycling, or driving or public transit vehicle that could cause serious or fatal physical injury, accounting for the aspects described below. Human error or non-compliance with laws, weather conditions, time-of-day, and other factors can affect whether a collision could occur. However, for purposes of CEQA, hazards refer to engineering aspects of a project (e.g., speed, turning movements, complex designs, substantial distance between street crossings, sight lines) that may cause a greater risk of collisions that result in serious or fatal physical injury than a typical project. This analysis focuses on hazards that could reasonably stem from the project itself, beyond collisions that may result from aforementioned non-engineering aspects or the transportation system as a whole.

Therefore, the methodology qualitatively addresses the potential for the project to exacerbate an existing or create a new potentially hazardous condition to people walking, bicycling, or driving, or public transit operations. The methodology accounts for the number, movement type, sightlines, and speed of project vehicle trips and project changes to the public right-of-way in relation to the presence of people walking, bicycling, or driving.

Accessibility

The methodology qualitatively addresses the potential for the project to interfere with the accessibility of people walking or bicycling or results in inadequate emergency access. The methodology accounts for the number, movement type, sightlines, and speed of project vehicle trips and project changes to the public right-of-way in relation to the presence of people walking and bicycling or emergency service operator facilities.

Public Transit Delay

The department uses a quantitative threshold of significance and qualitative criteria to determine whether the project would substantially delay public transit. For individual lines, if the project would result in transit delay greater than equal to four minutes, then it might result in a significant impact. For individual Muni routes with headways less than eight minutes, the department may use a threshold of significance less than four minutes. For individual surface lines operated by regional agencies, if the project would result in transit delay greater than one-half headway, then it might result in a significant impact. The department considers the following qualitative criteria for determining whether that

delay would result in significant impacts due to a substantial number of people riding transit switching to riding in private or for-hire vehicles; transit service headways and ridership, origins and destinations of trips, availability of other transit and modes, and competitiveness with private vehicles.

VMT Analysis

Land Use Components. The department uses the following quantitative thresholds of significance to determine whether the project would generate substantial additional VMT:

- For residential projects, if it exceeds the regional household VMT per capita minus 15 percent.
- For office projects, if it exceeds the regional VMT per employee minus 15 percent.
- For retail projects, if it exceeds the regional VMT per retail employee minus 15 percent.
- For mixed-use projects, evaluate each land use independently, per the thresholds of significance described above.

The department uses a map-based screening criterion to identify types and locations of land use projects that would not exceed these quantitative thresholds of significance. The San Francisco County Transportation Authority (SFCTA) uses a travel demand model to present VMT for residential, office, and retail in San Francisco and the region, as described and shown under existing conditions. The department uses that data and associated maps to determine whether a project site's location is below the VMT quantitative threshold of significance.

Further, the department presumes residential, retail, and office projects, and projects that are a mix of these uses, proposed within one-half mile of an existing major transit stop (as defined by CEQA section 21064.3) or an existing stop along a high-quality transit corridor (as defined by CEQA section 21155) would not exceed these quantitative thresholds of significance. However, this presumption would not apply if the project would: (1) have a floor area ratio of less than 0.75; (2) include more parking for use by residents, customers, or employees of the project than required or allowed, without a conditional use; or (3) is inconsistent with the applicable Sustainable Communities Strategy.

Transportation Components. The department uses the following quantitative threshold of significance and screening criteria to determine whether transportation projects may substantially induce additional automobile travel: 2,075,220 VMT per year. This threshold is based on the fair share VMT allocated to transportation projects required to achieve California's long-term greenhouse gas emissions reduction goal of 40 percent below 1990 levels by 2030.

The department uses a list of transportation components that would not exceed this quantitative threshold of significance. If a project fits within the general types of projects included on the list, then the department presumes that VMT impacts would be less than significant.

Loading

The methodology assesses the potential for convenient off- and on-street loading facilities to meet the project's loading demand during the average peak period. For the purposes of this section, convenient refers to facilities within 250 linear feet of the project site. If convenient loading facilities meet the estimated demand, the analysis is complete. If convenient loading facilities do not meet the demand, then the methodology qualitatively addresses the potential for the project to exacerbate an existing or create a new potentially hazardous condition to people walking, bicycling, or driving or substantially delay public transit.

IMPACT EVALUATION

CONSTRUCTION IMPACTS

Proposed Project and Project Variant

Both the proposed project and the variant would be constructed in five phases (demolition, foundation & below grade construction, base buildings, exterior & interior building finishing, and reconstruction and reconfiguration of Mississippi Street) over a two and a half year period (December 2020 – May 2022). Construction would generally occur on weekdays from 7 a.m. until 3:30 p.m.; if weekend construction is required it would also generally occur from 7 a.m. to 3:30 p.m.

During the construction period, the number of construction trucks traveling to and from the site would vary depending on the phase and the type of construction activity. The peak number of construction trucks would occur during the foundation and below grade construction phase (February through September 2021), with a daily peak demand of 67 trucks, and an average demand of six trucks per day. The maximum number of construction workers on site would also occur during the same phase with a daily peak demand of 125 workers, and an average demand of 74 workers per day.

Mariposa, Owens, Mississippi, 16th and 17th streets would be used to access the site, and access into the construction site would be from Mississippi Street. During project construction there would be additional construction trucks on Mississippi, 16th and 17th streets, all of which are designated bicycle routes; however, bicycle lanes are provided, and construction trucks would not substantially affect bicycle travel, except when entering the site.

Construction staging and delivery activities would generally occur on-site but off-site staging would be utilized as needed to support parking garage construction; materials and equipment would not be staged on sidewalks. Loading and unloading of materials could occur on 16th, 17th, and Mississippi streets, outside of the bicycle lanes.

Temporary full closure of travel lanes, parking lanes, or sidewalks are not anticipated, except during the reconfiguration of Mississippi Street, which would call for some segments of the street to be closed during short periods. The raised bike lane buffers would be installed at the same time as the adjacent sidewalk reconstruction. Partial lane and sidewalk closures would be required for curb, gutter and sidewalk replacement and other

planned off-site improvements. People walking would be directed to cross to the other side of the street. No bus stops are located adjacent to the project site. Any temporary traffic lane, bicycle lane, parking lane, or sidewalk closures that may be necessary would be required to be coordinated with City agencies to lessen the effects of the construction-related activities

The construction contractor would be required to meet the City of San Francisco's *Regulations for Working in San Francisco Streets*, (the Blue Book), including those regarding sidewalk and lane closures, and would meet with SFMTA staff to determine if any special traffic permits would be required. In addition to the regulations in the Blue Book, the contractor would be responsible for complying with all city, state and federal codes, rules and regulations.

Therefore, neither construction of the proposed project nor the variant would create potentially hazardous conditions for people walking, bicycling, driving or riding transit, interfere with emergency access, or interfere with accessibility for people walking, bicycling, or substantially delay transit.

Neither the proposed project nor the variant would result in potentially significant impacts related to the effects of construction activities on people walking, bicycling, or driving and public transit, and the proposed project's or variant's impacts related to potentially construction would be *less than significant*.

Comparison with the 901 16th St and 1200 17th St FEIR (2016 FEIR)

The 2016 FEIR did not identify any significant transportation and circulation impacts related to construction (**Impact TR-8**), and did not require any mitigation measures. The 2016 FEIR included **Improvement Measure I-TR-8 Construction Management** to develop and implement a construction management plan that minimizes overall construction-related disruptions and ensures that overall circulation in the project vicinity is maintained, to the extent possible.

The proposed project would result in less-than-significant impacts related to the effects of construction activities on people walking, bicycling, or driving and public transit, and no mitigation measures are required. Therefore, neither the proposed project nor the variant would have any new or substantially more severe effects than those identified in the 2016 FEIR related to construction transportation impacts. The proposed project would not include **Improvement Measure I-TR-8** from the 2016 FEIR, because the city has since clarified that the purpose of this type of measures are largely within the Blue Book regulations. Thus, this improvement measure is no longer necessary.

POTENTIALLY HAZARDOUS CONDITIONS IMPACTS

Proposed Project and Project Variant

Both the proposed project and the variant propose the following changes to the street network outside of the project site:

- Improvements to the sidewalk adjacent to the project site, including reconstructed sidewalks. Adjacent to the project site, 16th Street, Mississippi Street, and 17th Street sidewalk widths would retain their existing widths of 10, 15, and 10 feet, respectively.
- Reconfiguration and reusing of the existing curb cuts along Mississippi Street for access to the loading dock and the parking structure.
- Reconfiguration of an existing curb cut on 16th Street to allow access to the electrical transformer room, and narrowing an adjacent second existing curb cut to access to the garbage/recycling/compost area in the parking structure; elimination of a third existing curb cut.
- Elimination of three existing curb cuts on 17th Street, a designated bicycle route.
- New lane configuration on the portion of Mississippi Street adjacent to the project site in order to provide a two-way center turn lane to facilitate large truck access into and out of the loading dock.
- Safety upgrades to the existing bicycle lanes on Mississippi Street between 16th and 17th streets. The bicycle lanes would be widened to 6.5 feet and protected from the adjacent parallel traffic lane by a 2-foot wide raised buffer.
- Elimination of existing parallel parking on both sides of Mississippi Street between 16th and 17th streets (approximately 26 spaces).

The proposed project would include multiple vehicle access points to the site on Mississippi and 16th streets, however, the proposed project would reduce the total amount of curb dedicated to driveways and curb cuts. Overall, there would be a net reduction of 71 linear feet of curb cuts (27-ft reduction on 16th St., 12-ft increase on Mississippi St., and 56-ft reduction on 17th St.). Inbound and outbound turning maneuvers for large trucks (SU-40, WB-50 and WB-67) accessing the loading dock, and large box trucks (SU-30) accessing the parking structure are shown in [Appendix G](#).

The proposed project includes implementation of a DLOP, including a queue abatement operations plan, to properly accommodate and manage commercial freight loading/unloading activities at the dock. To this end, the DLOP will include measures to manage utilization of the four off-street loading spaces as well as driveway operations, vehicle queue abatement measures, measures to prevent commercial vehicles from double parking in front of the proposed project, and provisions for management of large truck access, trash/ recycling/ compost collection operations.

Walking and Bicycling

The street network changes would enhance the environment and safety for people walking adjacent to the project site on 16th, 17th, and Mississippi streets, and people bicycling along Mississippi Street.

The design of the street network changes would generally be consistent with *Better Streets Plan* guidelines, with the exception of the minimum sidewalk widths on 16th and 17th

streets. The proposed project and the variant would maintain all the existing buildings, except for the modular office structure, all of which are built to the property line, preventing any setbacks. Similarly, competing infrastructure needs on the travelway, including the provision of transit-only lanes and bicycle lanes precludes the existing sidewalks on 16th or 17th streets from being widened. The existing number of people walking in the area is relatively low (about 100 to 200 pedestrians during the peak hour), and the proposed project or the variant would represent a minimal number of additional pedestrians (about 20 person trips during the a.m. peak hour and none during the p.m. peak hour), which would not create potentially hazardous conditions due to maintaining the current sidewalk widths on 16th and 17th streets. Furthermore, all the street network changes to be implemented as part of the proposed project or the variant would be required to undergo review by SFMTA's TASC and the fire department, along with other City agencies.

The proposed elimination of some existing curb cuts and the reconstruction of the existing sidewalks, including the planting of approximately 43 trees, would enhance the walking network adjacent to the project site. In addition, the widening of the existing bike lanes on Mississippi Street to 6.5 feet and the provision of a raised 2-foot wide buffer from moving vehicles would provide for safer movement of people biking on Mississippi Street. Pedestrian access to the Market would be through the parking structure, with an entrance on Mississippi Street, between the parking structure driveway and the loading dock; an entrance to an adjacent vendor, physically separated from the rest of the Market, would be provided on 17th Street, west of Texas Street. A service/employee entrance would be located next to the loading dock. The parking structure driveway would have an audible and/or visual warning system for people walking as autos, vans and trucks exit onto Mississippi Street. The adjacent four-large truck space loading dock would be managed to facilitate inbound and outbound operations.

The site would be most active during the early morning hours, as vendors, badge holders, and customers arrive and depart the Market (typically between 4 a.m. and noon); most of the truck activities at the loading dock would generally occur before 7 a.m., with all large trucks generally departing by 9 a.m. based on data on the existing Wholesale Flower Market site. In general, there is minimal to no activity at the Market after 3 p.m. The expected number of truck trips generated by the proposed project during the peak hour of the morning (7 a.m. to 9 a.m.) or the evening (4 p.m. to 6 p.m.) commute periods would be less than the truck trips generated by the uses at the project site in August 2012.

Therefore, the truck maneuvering activities at the loading dock would not typically overlap with daytime walk activities on Mississippi Street. Peak activity at the Market using the parking structure driveway would partially overlap with the typical morning walk peak period (between 7 a.m. to 9 a.m.) but not with the evening peak period (between 4 p.m. to 6 p.m.). Furthermore, the proposed project would generate less truck activity than the existing uses during the morning and evening peak hours, and people walking in the vicinity of the project would be exposed to a fewer number of driveways and vehicles crossing the sidewalk adjacent to the project site.

Because most of the truck maneuvering activities would generally occur before 7 a.m., vans, trucks, and other commercial vehicles accessing the parking structure would enter and exit the facility driving forward, an audible and/or visual warning system would be installed at the parking structure driveway, and other measures that will be included in the DLOP, the Market operations would not create potentially hazardous conditions for people walking.

The proposed project and the variant would enhance cycling conditions on Mississippi Street. The conversion of the existing bicycle lanes into wider protected bikeways in both directions on the segment of Mississippi Street between 16th and 17th streets would improve bicycle safety due to providing greater separation from parallel moving vehicles compared to existing conditions. The two existing driveways on the west (project) side of Mississippi Street would be reconfigured and extended, in order to provide access to the loading dock and the parking structure. Under the proposed project loading dock activity would typically occur early in the day (generally before 7 a.m.) and the total number of trucks crossing the southbound bike lane during the morning or evening peak hour would decrease compared to existing conditions. As previously noted, the proposed project and variant would implement a DLOP which would include provisions to manage off-street loading spaces and driveway operations, and measures to prevent commercial vehicles from double parking in front of the proposed project, on 16th, Mississippi, and 17th streets.

Therefore, for the reasons described above, neither the proposed project nor the variant would create potentially hazardous conditions for people walking or bicycling.

Driving and Public Transit Operations

The proposed project's modification of Mississippi Street would accommodate various vehicle types, including trucks and buses, and the proposed conceptual plans have undergone initial review by the SFMTA. Final design would be subject to approval by the SFMTA, public works, and the fire department so that the streets are designed consistent with City policies and design standards, including the *Better Streets Plan*, and do not result in potentially hazardous conditions for people driving or public transit operators. The project and the variant would add additional vehicles onto adjacent streets during the morning peak hour (173 net-new vehicles) while decreasing the number of vehicle trips during the evening peak hour compared to the previously existing conditions; however, increases in vehicles using the roadway are not considered potentially hazardous conditions by themselves.

There are no local or regional bus routes traveling on Mississippi or 17th streets adjacent to the project site. Muni's 55 16th Street operates on 15-minute headways both ways on 16th Street, which includes a westbound exclusive bus/taxi only lane near the project site; UCSF and Mission Bay MTA shuttle buses also operate on this segment of 16th Street. No public transit stops are located adjacent to the project site.

An existing curb cut on 16th Street would be reconfigured to allow access to the electrical transformer room, while an adjacent second existing curb cut would be reduced and reused to access to the trash/ recycling/ compost area in the parking structure; a third existing curb cut would be eliminated. Vehicular access to the transformer room would be sporadic,

generally for its installation, occasional maintenance, and potential replacement. Access to the garbage, recycling and compost area would generally occur between 4 a.m. and 6 a.m., approximately two to three times per day. Trucks would drive forward into the refuse area to pick up the bins and then reverse out onto 16th Street. The project DLOP will include provisions for the management of garbage/ recycling/ compost collection operations, such as exiting trucks being actively guided by a driveway attendant, so that these activities do not interfere with vehicular or public transit operations, or create potentially hazardous conditions.

With the proposed lane reconfiguration on Mississippi Street, the existing on-street parking on both sides of Mississippi Street between 16th and 17th streets (26 spaces) would be removed to provide wider bicycle lanes and a raised concrete barrier and facilitate truck turning movements into and out of the loading dock (tractor-trailers, SU-40 and SU-30) and the parking structure (vans, short trucks, and SU-30). This reconfigured street would be designed to city and state standards and would not create potentially hazardous conditions for people driving on Mississippi Street. As previously noted, the proposed project DLOP would include measures to prevent commercial vehicles from double parking in front of the proposed project, on 16th, Mississippi, and 17th streets.

Therefore, for the reasons described above, neither the proposed project nor the variant would create potentially hazardous conditions for people driving or transit operations.

Overall, neither the proposed project nor the variant would create potentially hazardous conditions for people walking, bicycling or driving, or public transit operations, and the proposed project's or variant's impacts related to potentially hazardous conditions would be ***less than significant***.

Comparison with the 901 16th St and 1200 17th St FEIR (2016 FEIR)

The 2016 FEIR analyzed, but did not identify, impacts to people walking or bicycling. In addition, the 2016 FEIR concluded that the project design would not result in traffic hazards for people driving or transit operations. Therefore, no relevant mitigation measures were identified in the report. The 2016 FEIR included **Improvement Measure I-TR-5a On-site Bicycle Safety Strategies** and **I-TR-5b On-Street Bicycle Safety Strategies** to reduce potential conflicts between people bicycling and vehicles accessing the project site.

Proposed project and variant operation would result in less-than-significant impacts related to potentially hazardous conditions for people walking, bicycling, or driving and public transit, and no mitigation measures are required. Therefore, neither the proposed project nor the variant would have any new or substantially more severe effects than those identified in the 2016 FEIR related to potentially hazardous conditions.

The two improvement strategies identified in the 2016 FEIR (**I-TR-5a** and **I-TR-5b**) are no longer directly applicable given the different land uses, the proposed street network changes, including reconfiguration of Mississippi Street and the implementation of physically separated bicycle lanes, the installation of an audible and/or visual warning

system at the parking structure driveway, and the provision, as part of the DLOP, of measures to manage off-street loading spaces and driveway operations.

ACCESSIBILITY IMPACTS

Proposed Project and Project Variant

The proposed project does not involve any substantial changes to the street network that would interfere with walking or bicycling to and from the project site and adjoining areas, or result in inadequate emergency access. As listed above, proposed street network changes include elimination of existing curb cuts, reconstruction of existing sidewalks, removal of on-street parking, and upgrades to the existing bicycle lanes on Mississippi Street.

Walking and Bicycling

The proposed elimination of existing curb cuts and the reconstruction of existing sidewalks would enhance the walking network adjacent to the project site.

The existing striped bicycle lanes on Mississippi Street would be converted into Class IV protected widened bikeways in both directions on the segment of Mississippi Street between 16th and 17th streets, and on-street parking on both sides of the street would be removed, enhancing accessibility, compared to existing conditions.

The proposed project and the variant would include 10 class 1 bicycle parking spaces located within the parking structure at ground level, and 14 class 2 bicycle parking spaces located at two bicycle storage areas on the adjacent sidewalks at Mississippi (eight spaces) and 17th (six spaces) streets, near pedestrian entrances, for use by vendors, badge holders, employees, and customers.

Emergency Access

Neither the proposed project nor the variant would introduce any design features or street network changes that would change emergency vehicle travel adjacent to the project site. Emergency access routes to the project site would remain unchanged compared with existing conditions. The reconfiguration of the bicycle lanes, elimination of on-street parking, and provision of a two-way center turn lane on Mississippi Street between 16th and 17th streets would reduce the width of the two vehicle travel lanes from 12 feet to 11 feet (a recommended standard), without affecting the maneuverability for emergency vehicles. Therefore, neither the proposed project nor the variant would result in inadequate emergency access.

Therefore, for the reasons described above, neither the proposed project nor the variant would interfere with accessibility of people walking or bicycling, or result in inadequate emergency access, and the proposed project's impacts related to accessibility would be ***less than significant***.

Comparison with the 901 16th St and 1200 17th St FEIR (2016 FEIR)

Impacts on accessibility were not specifically addressed in the 2016 FEIR; however, the 2016 FEIR did not identify impacts on people walking and bicycling, or on emergency access.

Proposed project and variant operation would result in less-than-significant impacts related to accessibility of people walking or bicycling to and from the project site and adjoining areas, and emergency access, and no mitigation measures are required. Therefore, neither the proposed project nor the variant would have any new or substantially more severe effects than those identified in the 2016 FEIR related to walking and bicycling accessibility, and emergency access impacts.

TRANSIT IMPACTS

Proposed Project and Project Variant

During the weekday a.m. peak hour, the proposed project and the variant would generate a net-new increase of 94 inbound and 79 outbound vehicle trips (a total of 173 vehicle trips). During the weekday p.m. peak hour, the proposed project and the variant would generate a net-new increase of seven inbound vehicle trips and a net decrease of nine outbound vehicle trips (a total net decrease of two vehicle trips compared to the existing conditions).

The 173 net-new vehicle trips generated by the proposed project or the variant during the a.m. peak hour would be as follows:

- 183 net-new autos, pickups and vans (94 inbound and 89 outbound)
- No change in inbound truck trips (one truck) and 10 fewer outbound truck trips, compared to the existing conditions.

The 173 net-new a.m. peak hour vehicle trips generated by the project or the variant would be less than the 300 total peak-hour project vehicle trips identified by the department as the number of vehicle trips that could result in delays for transit and exceed the 4-minute threshold of significance. Therefore, neither the proposed project nor the variant would result in a significant impact related to transit delay.

The main access/egress driveways serving the Market would be on Mississippi Street, while access to the electrical transformer room and to the trash/recycling/compost area, which would be used *two to three times a day between 4 a.m. and 6 a.m.*, would be on 16th Street. There are no local or regional bus routes traveling on Mississippi Street adjacent to the project site, while Muni's 55 16th Street, UCSF shuttle buses, and Mission Bay TMA buses operate both ways on 16th Street.

The project was designed to accommodate truck turns into and out of the trash/ recycling/ compost area without interfering or substantially affecting transit operations on 16th Street. Trucks would drive forward into the refuse area to pick up the bins and then reverse out onto 16th Street. The proposed project DLOP will include provisions for properly managing trash/recycling/compost collection operations, such as exiting trucks being actively guided by a driveway attendant.

In addition, both the proposed project and the variant would include sufficient on-site vehicle parking to accommodate the expected demand for parking by vendors, badge

holders, and customers, as well as for vans and short trucks. The DLOP will include measures to manage loading/unloading operations and space occupancy by large box trucks (SU-30 and above), and tractor trailer trucks at the loading dock, and therefore the project or the variant would not result in double parking or substantially delay transit operations on 16th Street.

Similar to the existing Wholesale Flower Market facility, the proposed project does not include on-site vehicular parking for employees. Therefore, the majority of the employee vehicle trips generated by the proposed project (18 during the weekday a.m. peak hour, and none during the p.m. peak hour) would not travel to the site but instead would seek parking in off-street facilities and on-street. Given the additional parking supply (30 spaces) provided at the parking structure under the variant, about one third of the employees expected to drive to the Market are assumed to park at the site, resulting in a similar parking surplus as under the proposed project. As a result, fewer vehicles would seek parking at other off-street facilities or on the street under the variant.

For the reasons described above, the operation of the proposed project or the variant would not substantially delay transit, and the proposed project or variant's impacts related to transit would be *less than significant*.

Comparison with the 901 16th St and 1200 17th St FEIR (2016 FEIR)

The 2016 FEIR assessed impacts of the project on Muni transit capacity utilization, and whether the project would affect transit operations in terms of transit delay or operating costs within the project vicinity, and these impacts were determined to be less than significant. No mitigation measures were required.

The department no longer considers transit capacity utilization impacts to be consistent with CEQA guidance.¹⁵ As described above, the department's significance criteria for transit assesses whether implementation of the project would increase transit travel times and substantially delay transit or create potentially hazardous conditions for transit operations, and requires an impact assessment, related to those two criteria, as previously described.

Both proposed project and variant operation would result in less-than-significant impacts related to public transit, and no mitigation measures are required. Therefore, neither the proposed project nor the variant would have any new or substantially more severe effects related to transit than those identified in the 2016 FEIR.

¹⁵ *Transportation Impact Analysis Guidelines Update: Summary of Changes Memorandum*, San Francisco Planning Department, February 14, 2019.

VMT IMPACTS

Proposed Project and Project Variant

The existing average daily VMT per capita for the transportation analysis zone in which the project site is located (i.e., TAZ 651) is below the existing regional average daily VMT. Specifically, for the PDR (office) use, the average daily work-related VMT per employee is 12.4, which is about 35 percent below the existing regional average daily work-related VMT per employee of 19.1.

Thus, the project site is within an area of the city where the existing VMT per employee is more than 15 percent below the regional VMT thresholds, and would meet the City's map-based screening for PDR (office) projects. As such, neither the proposed project's nor the variant's land uses would generate a substantial increase in employee VMT. In addition, the project site meets the proximity to transit stations screening criterion, which also indicates that the proposed uses would not cause substantial additional VMT.

Furthermore, the proposed project and the variant represent a permanent relocation of an existing use of similar size from its current location at Sixth and Brannan streets, approximately two thirds of a mile away from the project site. As such, no substantial addition to the commercial vehicle VMT values generated by current Market operations would be expected from the proposed project or the variant.

The proposed project and the variant would also include features that would alter the transportation network. These features include reconstructed sidewalks, elimination of existing on-street vehicular parking, closures and/or relocation of driveways, and enhancement of existing bicycle lanes. These features fit within the general types of projects that would not substantially induce automobile travel.

Therefore, for the reasons described above, the proposed project or variant impacts related to VMT and induced automobile travel would be ***less than significant***.

Comparison with the 901 16th St and 1200 17th St FEIR (2016 FEIR)

The 2016 FEIR did not identify any significant transportation and circulation impacts related to causing additional VMT or substantially inducing automobile travel (**Impact TR-10**), and did not require any mitigation measures.

Both the project and the variant would result in less-than-significant impacts related to additional VMT and induced automobile travel, and no mitigation measures are required. Therefore, neither the proposed project nor the variant would have any new or substantially more severe effects than those identified in the 2016 FEIR related to VMT and induced automobile travel.

LOADING IMPACTS

Proposed Project and Project Variant

Commercial Vehicle Loading

The proposed project and the variant include four on-site large truck loading spaces 12 feet wide by 74 feet long with direct access to Mississippi Street. Inside the parking structure, the proposed project would also provide five SU-30 box truck loading spaces (12 feet wide by 30 feet long), 20 van or short truck loading or parking spaces (12 feet wide by 24 feet long), 144 standard automobile/pickup parking spaces (9 feet wide by 18 feet long), and six ADA parking spaces (five 9 feet wide by 18 feet long and one 12 feet wide by 18 feet long). The variant would provide two fewer standard and 32 additional compact automobile/pickup parking spaces inside the parking structure.

It should be noted that the proposed five large (SU-30) truck spaces located in Level 2 of the parking structure would be used exclusively for parking rather than loading/unloading operations, which would instead take place at the loading dock on Mississippi Street. The DLOP will include provisions to manage the loading activities and space utilization for three tractor-trailers and five SU-30 trucks at the four-space loading dock during peak demand periods.

Thus, with implementation of the proposed project's and variant's DLOP, the peak hour commercial loading demand of 145 light vehicles, pickups, vans and short trucks, plus five SU-30 box truck and three tractor-trailer truck spaces would be accommodated with the spaces provided within the parking structure and loading dock.

Passenger Loading

The project and the variant will request a passenger loading zone on 17th Street, immediately to the west of the intersection with Mississippi Street, with capacity for at least one vehicle (about 25 feet long) and available during Market business hours. The project and the variant will also include a DLOP with provisions for the accommodation and management of passenger loading/unloading activities at the passenger zone.

The passenger loading demand associated with the proposed land uses was estimated at no more than one space during the peak minute of the a.m. peak hour. This demand would be accommodated by the one passenger loading space to be provided on 17th Street, without the need for double-parking within travel lanes or bicycle facilities.

The proposed on-site commercial loading facilities and the passenger loading zone for the proposed project and the variant would accommodate the projected demand. Therefore, no secondary impact analysis is required. The impacts of the proposed project and the variant related to commercial vehicle and passenger loading would be *less than significant*.

Comparison with the 901 16th St and 1200 17th St FEIR (2016 FEIR)

The 2016 FEIR did not identify any significant impacts related to freight loading and did not require any mitigation measures. The 2016 FEIR did not assess impacts related to passenger loading activities. The 2016 FEIR included **Improvement Measure I-TR-6 Off-street Loading Management** to reduce potential conflicts between people walking or

bicycling and commercial vehicles accessing the project site; these included identifying a loading coordinator, coordination of residential move-in, move-out activities, scheduling of large vehicle loading deliveries, and discouraging double parking of commercial vehicles.

Proposed project and variant operations would result in less-than-significant impacts related to commercial vehicle and passenger loading activities, and no mitigation measures are required. Therefore, neither the proposed project nor the variant would have any new or substantially more severe effects than those identified in the 2016 FEIR related to commercial and passenger loading.

Most of the loading management strategies identified in the 2016 FEIR are no longer directly applicable given the different nature of the proposed project, however, similar measures to minimize conflicts between loading operations and adjacent vehicle, pedestrian and bicycle travel have been incorporated into the proposed project and variant DLOP (e.g., the provision of an on-site attendant to manage off-street loading spaces and driveway operations, and the prohibition for commercial vehicles to double park in front of the project site).

PARKING DEFICIT IMPACTS

Proposed Project and Project Variant

The vehicular parking assessment was conducted by applying the department's parking analysis screening criteria checklist to determine whether the proposed project would result in a substantial vehicular parking deficit. According to the parking analysis screening criteria checklist, if a land use project is located within the department's map-based screening area developed as part of the VMT analysis, and/or a transportation infrastructure project qualifies as an active transportation project or other minor transportation project, the project would not result in a vehicular parking deficit.

For projects that do not meet the criteria and have a vehicular parking deficit of more than 600 spaces, then a substantial vehicular parking deficit would occur, and a vehicular parking analysis would be required to assess whether the secondary impact of the vehicular parking deficit would create potentially hazardous conditions for people walking, bicycling, or driving; interfere with accessibility for people walking or bicycling; result in inadequate access for emergency vehicles; or substantially delay public transit.

The project site is within the department's map-based screening area and would not result in a substantial vehicular deficit based on the department's screening criteria, as described above, and both the proposed project and the variant would also be below the 600-space threshold of vehicular parking deficit. The proposed project would result in the removal of 26 on-street parking spaces and a potential new demand for 118 parking spaces for Market employees, resulting in a 144-space parking deficit. About 30 Market employees are assumed to park in the garage under the variant, resulting in a 114-space parking deficit. Both values would be below the 600-space threshold of vehicular parking deficit established by the department. Therefore, neither the proposed project nor the variant would result in a substantial vehicular parking deficit. As such, no secondary impact analysis is necessary.

Comparison with the 901 16th St and 1200 17th St FEIR (2016 FEIR)

The 2016 FEIR did not identify any significant impacts related to parking and did not require any mitigation measures. The 2016 FEIR included **Improvement Measure I-TR-9 Queue Abatement** to ensure that recurring vehicle queues do not occur on the public right-of-way fronting the project site.

Neither proposed project nor variant operations would result in a parking deficit, and there would be no impact related to parking. Therefore, the proposed project or variant would not have any new or substantially more severe effects than those identified in the 2016 FEIR related to parking. The proposed project includes DLOP that expands **Improvement Measure I-TR-9** from the 2016 FEIR.

INTERSECTION LOS ANALYSIS

Pursuant to Public Resources Code section 21099(b)(1), automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant environmental impact under CEQA (effective December 2018). As such, the following automobile delay (traffic impact) discussion is provided for informational purposes, and mitigation measures are not required.

Under existing plus project conditions, the 2016 FEIR found that 10 of the 14 study intersections would operate at LOS D or better (including considering signalization of I-280 Southbound off-ramp/Mariposa St) during the p.m. peak hour (**Impact TR-1**), while intersection operating conditions at the three intersections of Mississippi St/17th St, Mississippi St/ Mariposa St, and Pennsylvania Ave/ Mariposa St would operate at LOS F during the p.m. peak hour – which was considered a significant impact (**Impact TR-2**). Mitigation measures were identified for Mississippi St/ 17th St (**M-TR-2a**) and Pennsylvania Ave/ Mariposa St (**M-TR-2b**), which included signalization or other similar measures. The SFMTA had determined that no feasible mitigation measures existed for the intersection of Mississippi St/ Mariposa St. In addition to the intersection mitigation measures, implementation of a TDM Plan was also included as a mitigation measure (**M-TR-3c**).

As discussed above, the p.m. peak hour vehicle trips generated by the proposed project and the variant would be less than estimated for the 901 16th Street Mixed Use Project due to the differences in proposed Market land uses compared to the mixed uses (residential, retail, restaurant, and supermarket) uses that were analyzed in the 2016 FEIR. In addition, the proposed project would have a different peak hour of trip generation (i.e., a.m. peak hour) than the 901 16th Street Mixed Use Project (i.e., p.m. peak hour). The number of p.m. peak hour vehicles generated by the proposed project or the variant would be 510 less than assumed for the 901 16th Street Mixed Use Project within the 2016 FEIR, and therefore, about 95 percent fewer project-related vehicles would travel through nearby intersections during the p.m. peak hour.

The proposed project and the variant would be required to comply with the City's TDM Ordinance.

CUMULATIVE IMPACTS

The cumulative impact analysis assesses the long-term impacts of the project in combination with other reasonably foreseeable projects. The following summarizes future year modeling and reasonably foreseeable projects relevant to transportation topics.

The cumulative transportation impact analysis in the 2016 FEIR for the 901 16th Street mixed-use project was conducted for future year 2025 conditions, and included land use growth analyzed within the Eastern Neighborhoods Plans FEIR, the Mission Bay Area South Redevelopment Plan/UCSF Mission Bay Medical Center Campus Plan, 1000 16th Street project, and transportation projects including Muni Forward, Bicycle Plan, Muni Mission Bay Loop, street network changes associated with the Mission Bay, the Mission Bay Loop, and the Caltrain Electrification and High Speed Rail projects.

The current cumulative impact analysis for the proposed project assesses future year 2040 conditions. The 2040 cumulative conditions analysis incorporates data and forecasts from the City's SF-CHAMP travel demand model outputs in the analysis of VMT impacts. The model is an activity-based travel demand model that the transportation authority calibrates to represent future transportation conditions in San Francisco, accounting for assumptions regarding cumulative infrastructure projects and population growth. Inputs to the model include:

- Infrastructure projects listed in Plan Bay Area (2017);
- Infrastructure projects listed in San Francisco's Countywide Transportation Plan, Capital Plan, or a San Francisco agency's (e.g., SFMTA) Capital Improvement Program and anticipated for completion between 2020 and 2040;
- Infrastructure, private development, or area plan projects actively undergoing environmental review, recently completed environmental review, or the department anticipates undertaking environmental review in the near future because they have received sufficient project definition; or
- Land use growth assumptions derived from the Jobs-Housing-Connections projections developed by ABAG/MTC.

The cumulative conditions analysis for transportation topics other than VMT uses a list-based approach. The geographic context for the analysis of cumulative transportation impacts generally includes the sidewalks and roadways adjacent to the project site, and the local roadway and transit network within 0.5 mile of the project site. The discussion of cumulative transportation impacts assesses the degree to which the proposed project or the variant would affect the transportation network in conjunction with overall citywide growth and other cumulative projects. The following describes cumulative land development and transportation projects that the analysis uses to assess cumulative impacts.

2040 CUMULATIVE PROJECTS

Development Projects

A substantial portion of the development planned under the Mission Bay Redevelopment Plan/UCSF Mission Bay Medical Center Campus Plan has been completed; however, future projects within these areas include 1450 Owens Street, Golden State Warriors Hotel, UCSF Block 34 and SFUSD Block 14. A number of projects near the project site that were considered within the Eastern Neighborhoods Plans have been completed (e.g., 1000 16th Street), are currently under construction (1301 16th Street, 188 Hooper Street, 552 Berry Street/One De Haro Street), or planned such as the Blu Dot furniture store at 99 Mississippi Street (directly west and adjacent to the project site)¹⁶ and the 900 Seventh Street Mixed-Use Project,¹⁷ located approximately one third of a mile to the northwest of the project site (currently undergoing environmental review).

Transportation Projects

The cumulative conditions analysis also considers the effects of foreseeable changes to the transportation network. In the project site vicinity Phase 1 of the 16th Street Improvement Project (from Third Street to Potrero Avenue) has recently been completed, and construction for the second phase (from Potrero Avenue to Church Street) would start before the end of the year. The SFMTA Mission Bay Loop has been constructed. In addition to these projects, the cumulative conditions analysis also incorporates the effects of other major projects that are citywide or regional in scope, even though they would not directly affect the transportation network in the vicinity of the project site. Projects such as Muni Forward, the Caltrain Modernization Program, expanded ferry service from WETA, and as various upgrades to BART, would affect transit service and capacity, and have been accounted for in the latest SF-CHAMP model runs.

Two additional reasonably foreseeable projects within 0.5 mile of the project site include the California High-Speed Rail project, and the Rail Alignment and Benefits study, as described below.

California High Speed Rail – San Francisco to San Jose Project Section

The San Francisco to San Jose project section is part of the first phase of the California High-Speed Rail System connecting the communities from San Francisco and Silicon Valley to the rest of the state. The approximately 50-mile project section will travel between stations at the Salesforce Transit Center, near the San Francisco Airport (Millbrae), and in San Jose (Diridon). High-speed rail service between San Francisco and San Jose will be a blended service with Caltrain and high-speed rail service sharing electrified Caltrain tracks. High-Speed Rail service would increase the frequency of gate downtime at 16th Street and Mission Bay Drive from up to 12 instances per peak hour under baseline conditions to up to 20 times per peak hour under cumulative conditions with addition of eight trains per hour.

¹⁶ Blu Dot Design and Manufacturing, Inc. Conditional Use Authorization; 99 Missouri Street; Record No. 2019-015579CUA

¹⁷ 900 Seventh Street Mixed-Use Project; Case No. 2018-011976ENV

The San Francisco to San Jose Project Section of the California High-Speed Rail Draft Environmental Impact Report (SF-SJ HSR EIR)¹⁸ published on July 10, 2020 identified impacts on bus services in San Francisco. Impacts on the 22 Fillmore bus route due to increased gate downtime at the 16th Street at-grade crossing were determined to be significant and unavoidable.

Rail Alignment and Benefits Study

The RAB Study, conducted by the department in association with other City agencies, analyzed the best ways to bring Caltrain and High Speed Rail to the Salesforce Transit Center. The study identified a Pennsylvania Avenue Extension, which would extend the Caltrain tunnel currently ending at Pennsylvania Avenue further north to the Salesforce Transit Center. If implemented, this project would eliminate the existing Caltrain and future high-speed rail grade crossings at 16th Street and at Mission Bay Drive.

If a study to determine the environmental impacts of such a project is initiated, members of the public, city, state, and federal agencies, among others, would be given a period to provide comment on the scope of the analysis. Funding has not been secured to undertake or implement any aspect of this project, and thus the project is speculative and not reasonably foreseeable. Therefore, the transportation analysis of 2040 cumulative conditions does not include changes to the existing Caltrain alignments at Mission Bay, and the RAB study is described in this section for informational purposes only.

CONSTRUCTION IMPACTS

Proposed Project and Project Variant

Construction of the proposed project or the variant could be expected to overlap with construction two nearby projects, 1450 Owens Street in the Mission Bay Area and Phase 2 of the 16th Street Improvement Project. The timing of construction of the proposed Blu Dot furniture showroom and retail store at 99 Missouri Street adjacent to the project site is unknown.

The 1450 Owens Street project (at A Street) and the second phase of the 16th Street Improvement Project between Potrero Avenue and Church Street are not located in the immediate vicinity of the project site. Construction of only the Blu Dot furniture showroom and retail store, adjacent to the western boundary of the project site, could potentially overlap and construction vehicles could use the same roadways to access the project site (e.g., 16th Street, 17th Street, Mississippi Street, Mariposa Street).

Given the size and limited number of projects in the immediate vicinity of the project site that could potentially overlap with the proposed project or variant construction,

¹⁸ Draft Environmental Impact Report/Environmental Impact Statement for the San Francisco to San Jose Project Section of the California High-Speed Rail System; published on July 10, 2020 by the California High Speed Rail Authority; public comment period ended on September 9, 2020.

construction activities of cumulative projects would not result in significant cumulative construction-related transportation impacts.

Therefore, for the above reasons, the proposed project or the variant, in combination with past, present, and reasonably foreseeable development in San Francisco, would result in ***less-than-significant*** cumulative construction-related transportation impacts.

Comparison with the 901 16th St and 1200 17th St FEIR (2016 FEIR)

The 2016 FEIR did not identify any significant transportation impacts related to construction of cumulative projects. Therefore, neither the proposed project nor the variant would have any new or substantially more severe effects under cumulative conditions than those identified in the 2016 FEIR related to construction-related transportation impacts.

POTENTIALLY HAZARDOUS CONDITIONS IMPACTS

Proposed Project and Project Variant

Under cumulative conditions, trips by people walking, bicycling or driving on the surrounding street network would increase due to the proposed project or the variant as well as other development projects identified above, and growth elsewhere in the city and region. This would generally be expected to lead to an increase in the potential for conflicts between people driving and people walking, bicycling, and public transit operations. However, a general increase in cumulative travel by all modes, in and of itself would not be considered a potentially hazardous condition.

The SF-SJ HSR EIR found that increased gate downtime at 16th Street would result in increased roadway congestion in San Francisco but did not identify an increase in hazardous conditions. Cumulative projects, including the proposed project or the variant, would be designed consistent with City policies and design standards, including the Better Streets Plan, and therefore would not create potentially hazardous conditions. Thus, no significant cumulative impacts related to potentially hazardous conditions would occur.

Therefore, for the above reasons, the proposed project or the variant, in combination with past, present, and reasonably foreseeable development in San Francisco, would result in ***less-than-significant*** cumulative impacts related to potentially hazardous conditions for people walking, bicycling, or driving, or transit operations.

Comparison with the 901 16th St and 1200 17th St FEIR (2016 FEIR)

The 2016 FEIR did not identify any significant cumulative impacts related to people walking or bicycling or transit operations. Therefore, neither the proposed project nor the variant would have any new or substantially more severe effects under cumulative conditions than those identified in the 2016 FEIR related to potentially hazardous conditions for people walking, bicycling, or driving or transit operations.

ACCESSIBILITY IMPACTS

Proposed Project and Project Variant

Overall, cumulative development and transportation projects would enhance the transportation network for all modes and would promote accessibility for people walking and bicycling within and through the study area by conforming to the requirements of the Better Streets Plan, Transit First Policy, and Vision Zero, and by adhering to planning principles that emphasize providing convenient connections and safe routes for people walking and bicycling. None of the known cumulative projects would affect vehicular circulation in the project site vicinity and would not impede emergency access. As a result, most cumulative projects would not create impediments to accessibility or circulation for people walking or bicycling or create conditions inadequate for emergency access.

Implementation of the SF-SJ High Speed Rail project would result in increased gate downtime at both 16th Street and Mission Bay Drive crossings, which would be considered a significant cumulative accessibility impact. It would hinder travel for people walking or bicycling between the Mission Bay Area and the Potrero Hill neighborhood, and affect emergency vehicle travel on 16th Street, which provides access to the UCSF Medical Center and has been identified by the San Francisco Department of Public Works as a Primary Emergency Priority route.

Under cumulative conditions, there would be a projected increase in vehicles on study area streets, however, the increase would not impede or hinder travel for people walking or bicycling, or emergency vehicles. As described under the Existing plus Project impacts, the operation of the proposed project or the variant would not interfere with accessibility of people walking or bicycling, or result in inadequate emergency access, and the proposed project or variant's impacts related to accessibility would be less than significant. The proposed project or the variant would not change gate downtime at the 16th Street or Mission Bay Drive crossings, and would therefore not impede or hinder travel for people walking or bicycling, or emergency vehicles, or contribute considerably to the significant cumulative transit impacts resulting from implementation of the SF-SJ High Speed Rail project.

Therefore, for the above reasons, the proposed project or the variant, in combination with past, present, and reasonably foreseeable development in San Francisco, would result in ***less-than-significant*** cumulative impacts related to accessibility of people walking or bicycling to and from the site and adjoining areas, and emergency access.

Comparison with the 901 16th St and 1200 17th St FEIR (2016 FEIR)

The 2016 FEIR did not identify any significant cumulative impacts related to people walking or bicycling. The 2016 FEIR did not assess cumulative impacts related to emergency access.

Therefore, neither the proposed project nor the variant would have any new or substantially more severe effects under cumulative conditions than those identified in the

2016 FEIR related to accessibility of people walking or bicycling to and from the site and adjoining areas, and emergency access.

TRANSIT IMPACTS

Proposed Project and Project Variant

As described above, construction of the SFMTA's Phase 1 of the 16th Street Improvement Project has recently been completed. The project implemented transit-only lanes, transit bulbs, and new vehicle and pedestrian signals on 16th Street from Third Street to Potrero Avenue, adjacent to the project site. Phase 2, from Potrero Avenue to Church Street is scheduled to start before the end of the year and be completed in mid-2022. Combined, the two phases of the project will improve transit reliability and travel time for Muni's 22 Fillmore and 55 16th Street routes, also reducing conflicts between private vehicles and transit vehicles.

While none of the known cumulative development projects would substantially affect vehicular circulation or increase a.m. or p.m. peak hour vehicles trips in the project site vicinity as to result in substantial transit delay, the SF-SJ High Speed Rail project would result in impacts on the 22 Fillmore bus services along 16th Street due to the increased gate downtime, which would be considered a significant cumulative transit impact.

The RAB study's Pennsylvania Avenue Extension would extend the Caltrain and High Speed rail extension's tunnel south of 16th Street and thus remove the delay to public transit at the 16th Street and Mission Bay Drive at-grade crossings associated with to high-speed rail service. However, because this project is not reasonably foreseeable, cumulative transit impacts would remain significant.

As described under the Existing plus Project impacts, the operation of the proposed project or the variant would not substantially delay transit, and the proposed project or variant's impacts related to transit would be less than significant. The 173 net-new a.m. and 3 p.m. peak hour vehicle trips generated by the project or the variant would be less than the 300 total peak-hour project vehicle trips identified by the department as the number of vehicle trips that could result in project-level significant delays for transit. Furthermore, the proposed project or the variant would not change gate downtime at the 16th Street crossing, and would therefore not increase public transit delay for routes traveling on 16th Street, or contribute considerably to the significant cumulative transit impacts resulting from implementation of the SF-SJ High Speed Rail project.

Therefore, for the above reasons, the proposed project or the variant, in combination with past, present, and reasonably foreseeable development in San Francisco, would not contribute considerably to significant cumulative transit impacts; the proposed project or variant cumulative impacts related transit would be *less than significant*.

Comparison with the 901 16th St and 1200 17th St FEIR (2016 FEIR)

The 2016 FEIR did not identify any significant cumulative impacts related to transit. Therefore, neither the proposed project nor the variant would have any new or

substantially more severe effects under cumulative conditions than those identified in the 2016 FEIR related to transit.

VMT IMPACTS

Proposed Project and Project Variant

As stated in the approach to analysis, VMT by its very nature is largely a cumulative impact. As discussed in Existing plus Project VMT Impacts, the proposed project or the variant would not exceed the project-level quantitative thresholds of significance for VMT. Furthermore, projected 2040 average daily VMT per capita for the TAZ in which the project site is located (i.e., TAZ 651) is below the projected 2040 regional average daily VMT. Specifically, for the PDR (office) use, the projected 2040 average daily work-related VMT per employee is 9.3, which is about 36 percent below the 2040 projected regional average daily work-related VMT per employee of 14.5. Thus, no significant cumulative VMT impacts would occur.

Furthermore, as discussed in Existing plus Project VMT Impacts the proposed project and the variant represent a permanent relocation of an existing use of similar size from its current location. As such, no substantial addition to the commercial vehicle VMT values generated by current Market operations would be expected from the proposed project or the variant.

Therefore, for the above reasons, the proposed project or the variant, in combination with past, present, and reasonably foreseeable development in San Francisco, would result in ***less-than-significant*** cumulative impacts related to VMT and induced automobile travel.

Comparison with the 901 16th St and 1200 17th St FEIR (2016 FEIR)

The 2016 FEIR did not identify any significant transportation and circulation impacts related to causing additional VMT or substantially inducing automobile travel (**Impact C-TR-7**), and did not require any mitigation measures.

Both the project and the variant would result in less-than-significant cumulative impacts related to additional VMT and induced automobile travel, and no mitigation measures are required. Therefore, neither the proposed project nor the variant would have any new or substantially more severe effects than those identified in the 2016 FEIR related to cumulative VMT and induced automobile travel.

LOADING IMPACTS

Proposed Project and Project Variant

Cumulative development loading activities would be in the vicinity of their respective sites and would not combine with the proposed project or variant's loading demand.

The proposed project and variant's estimated loading demand would be accommodated within the proposed on-site commercial loading spaces and on-street passenger loading zone, and would not contribute to impacts from other development projects near the project

site. The proposed Blu Dot furniture showroom and retail store at 99 Missouri St, adjacent to the project site, would provide two off-street service vehicle spaces, to accommodate its expected service and delivery vehicle demand.

No other cumulative development projects have been identified that would contribute to either commercial vehicle or passenger loading demand on the project site block. Thus, no significant cumulative loading impacts would occur. Therefore, for the above reasons, the proposed project or variant, in combination with past, present, and reasonably foreseeable development in San Francisco, would result in *less-than-significant* cumulative loading impacts.

Comparison with the 901 16th St and 1200 17th St FEIR (2016 FEIR)

The 2016 FEIR did not assess cumulative loading impacts. Therefore, neither the proposed project nor the variant would have any new or substantially more severe effects under cumulative conditions than those identified in the 2016 FEIR.

INTERSECTION LOS ANALYSIS

Under cumulative conditions, the 2016 FEIR found that the 901 16th Street Mixed Use Project would contribute considerably to significant cumulative traffic impacts at four of the 14 study intersections analyzed as part of that EIR: Mississippi/17th, Mississippi/Mariposa, Pennsylvania/Mariposa, and Seventh/Mississippi/16th. The intersections of Mississippi/17th and Seventh/Mississippi/16th are adjacent to the proposed project site. Feasible mitigation measures were identified for the Mississippi/17th and Pennsylvania/Mariposa intersections (signalization or other similar mitigation measures). The SFMTA determined that no feasible mitigation measures existed for the intersections of Mississippi/Mariposa and Seventh/Mississippi/16th.

Appendix b

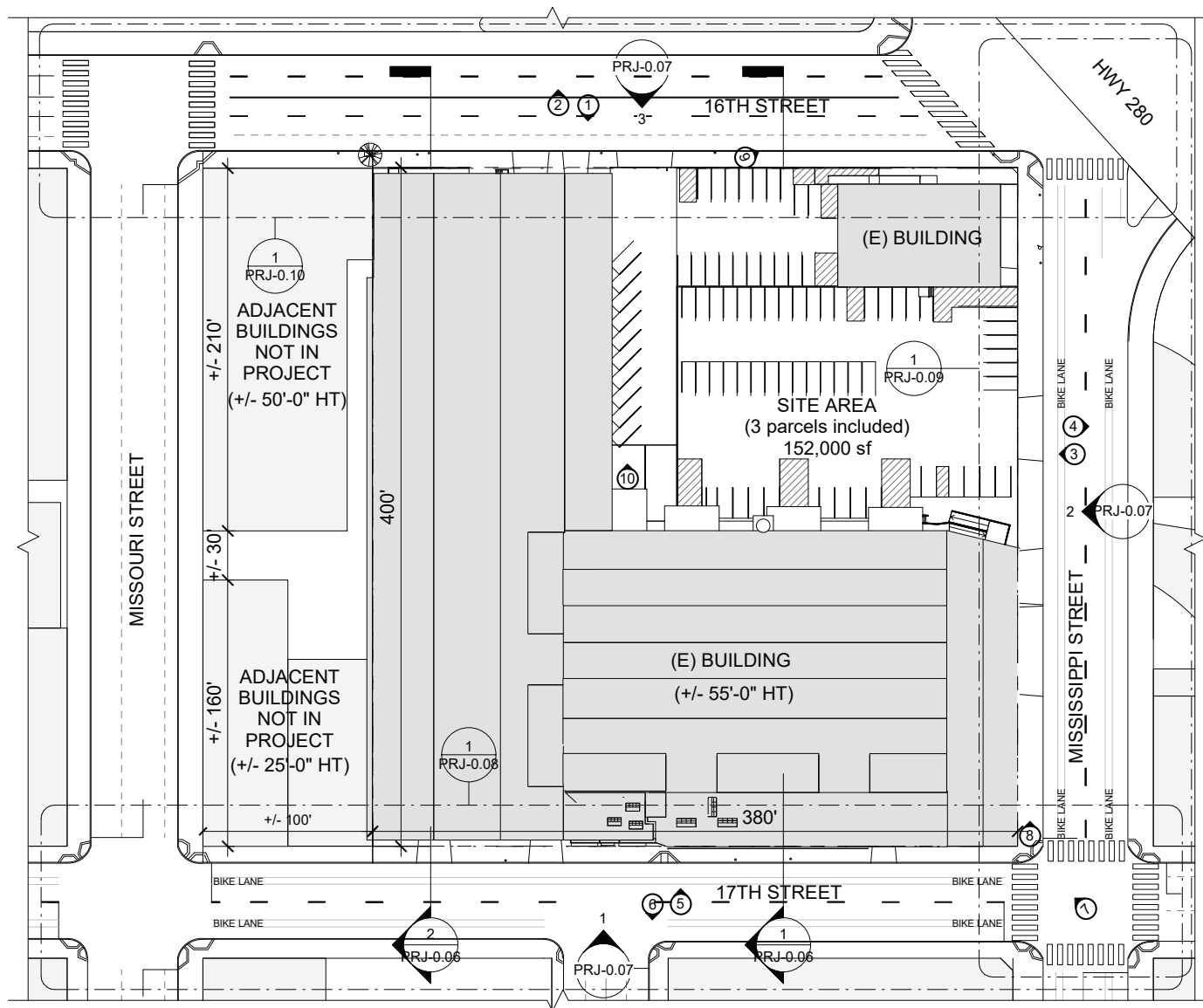
The SF-SJ HSR EIR identified that under 2040 conditions, the increased frequency of gate down time at the 16th Street and Mission Bay Drive crossings would also increase vehicle delay and congestion in the project vicinity.

Pursuant to Public Resources Code section 21099(b)(1), automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant environmental impact under CEQA. Consequently, mitigation measures are not required for the proposed project or variant.

APPENDIX A

PROPOSED PROJECT AND VARIANT

EXISTING SITE



KEY ZONING PROVISIONS

Zoning Designation :	UMU, Urban Mixed Use
Allowed Uses:	Wholesale Sales, Retail Sales (Permitted up to 25,000 gross square feet per lot)
Zoning Control Height and Bulk:	48-X (17th St) , 68-X (16th St)
FAR:	3:1 (17th St) , 5:1 (16th St)
Setbacks:	None
Accessory Uses:	1/3 of Principle Use
Parking Allowed:	Max 1 space for each 1,500 square feet of occupied floor area, plus 50 % increase

EXISTING OCCUPANCY

Building Area:	104,800 sf
Parcel Area:	152,000 sf
Existing Use:	Warehouse and Storage w/ Accessory Office
Existing Parking:	83
Existing Loading:	10

EXISTING CONDITIONS - SITE PLAN & ZONING SUMMARY

A-3



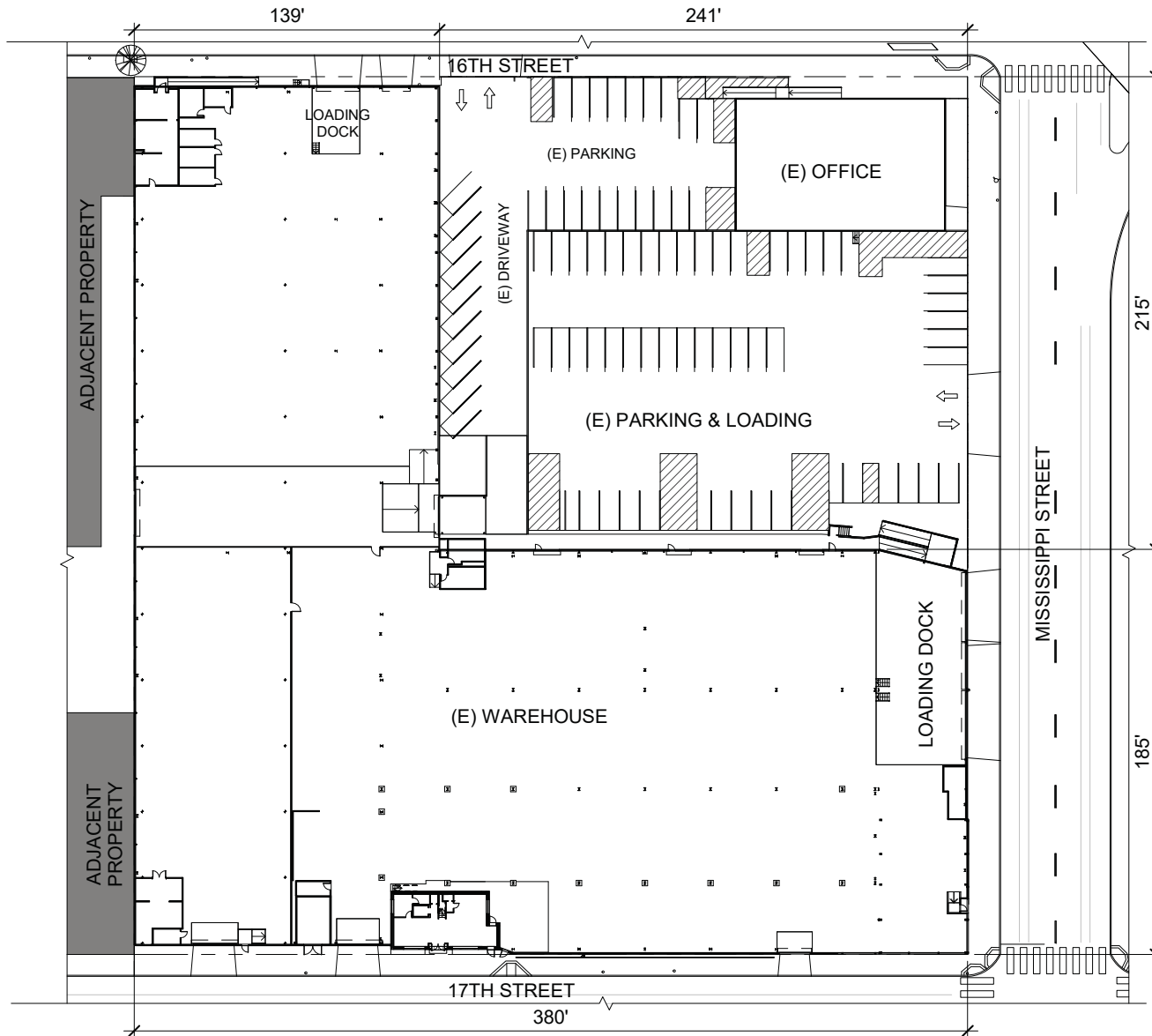
PRJ-0.01
REVISED : 06/19/2020
1/64" = 1'-0"
01/31/2020

SAN FRANCISCO
WHOLESALE
FLOWER MARKET



901 16th ST
MANAGER





901 16th ST
MANAGER



EXISTING CONDITIONS - LEVEL ONE FLOOR PLAN

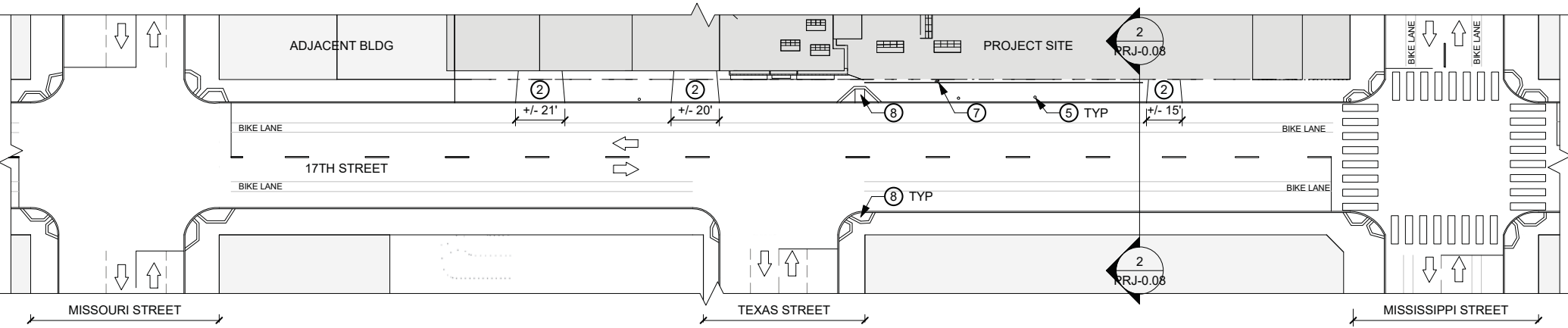
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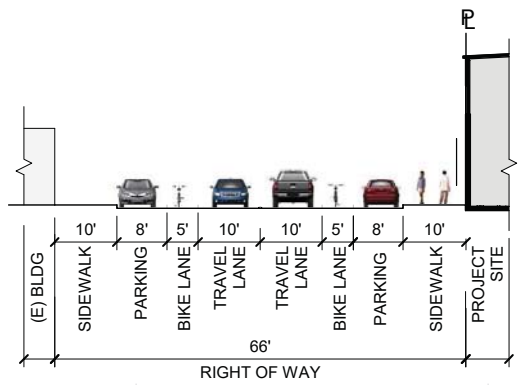
PRJ-0.05
REVISED : 06/19/2020
1" = 50'-0"
01/31/2020

SAN FRANCISCO
WHOLESALE
FLOWER MARKET





1 ENLARGED PLAN - 17TH STREET - EXISTING CONDITIONS
1" = 40'-0"



2 EXISTING 17TH STREET ROW SECTION
1" = 20'-0"

SHEET NOTES

- ① CURB CUT TO REMAIN
- ② CURB CUT TO BE REMOVED
- ③ CURB CUT TO BE ALTERED
- ④ (E) STREET TREE AND WELL
- ⑤ (E) UTILITY POLE
- ⑥ (E) FIRE HYDRANT
- ⑦ (E) FDC CONNECTION
- ⑧ (E) ACCESSIBLE CURB RAMP

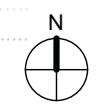
NOTE: NO TRANSIT STOPS ALONG THIS FRONTAGE

901 16th ST
MANAGER



EXISTING CONDITIONS - 17TH STREET ROW

A-5



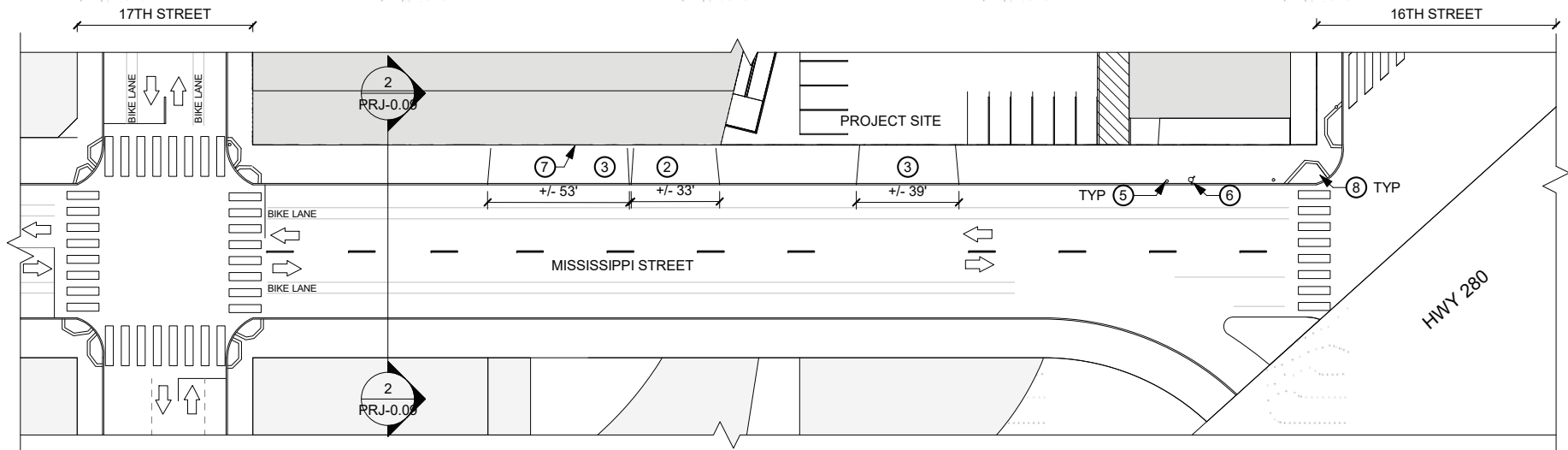
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As indicated
06/19/2020

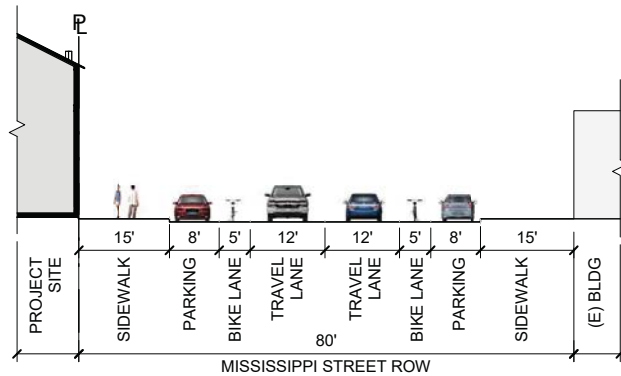
SAN FRANCISCO
WHOLESALE
FLOWER MARKET



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1 **ENLARGED PLAN - MISSISSIPPI STREET - EXISTING CONDITIONS (ROTATED FOR CLARITY)**
1" = 40'-0"



2 **EXISTING MISSISSIPPI STREET ROW SECTION**
1" = 20'-0"

SHEET NOTES

- ① CURB CUT TO REMAIN
- ② CURB CUT TO BE REMOVED
- ③ CURB CUT TO BE ALTERED
- ④ (E) STREET TREE AND WELL
- ⑤ (E) UTILITY POLE
- ⑥ (E) FIRE HYDRANT
- ⑦ (E) FDC CONNECTION
- ⑧ (E) ACCESSIBLE CURB RAMP

NOTE: NO TRANSIT STOPS ALONG THIS FRONTAGE

EXISTING CONDITIONS - MISSISSIPPI STREET ROW

A-6



PRJ-0.09

As indicated
06/19/2020

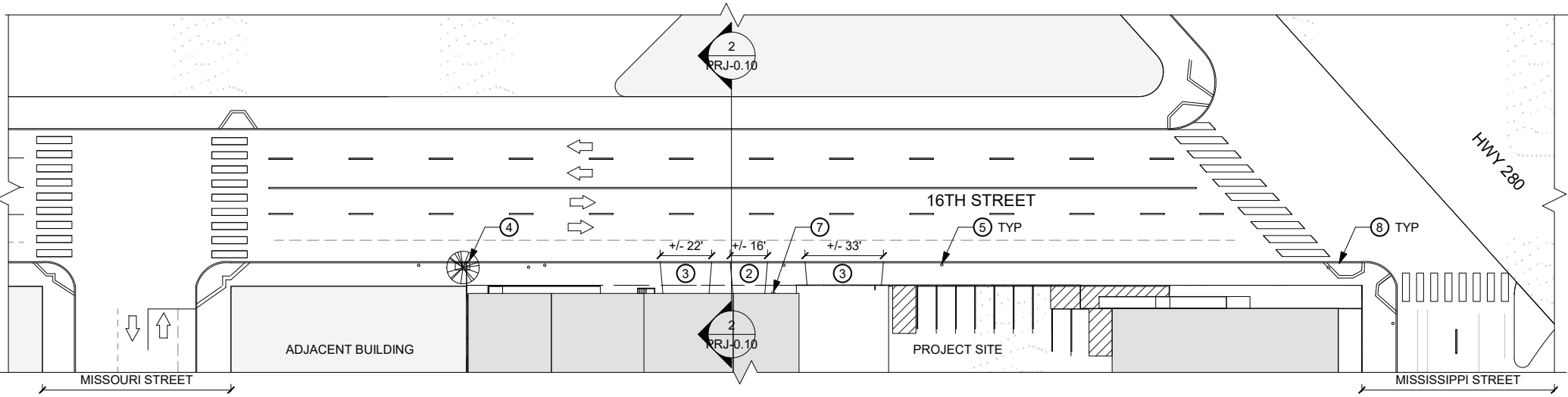
SAN FRANCISCO
WHOLESALE
FLOWER MARKET



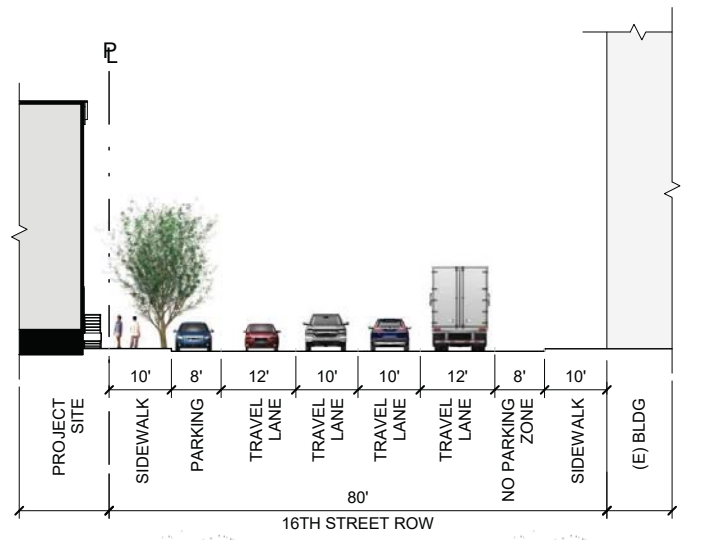
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1 ENLARGED PLAN - 16TH STREET - EXISTING CONDITIONS
 1" = 40'-0"



2 EXISTING 16TH STREET ROW SECTION
 1" = 20'-0"

SHEET NOTES

- ① CURB CUT TO REMAIN
- ② CURB CUT TO BE REMOVED
- ③ CURB CUT TO BE ALTERED
- ④ (E) STREET TREE AND WELL
- ⑤ (E) UTILITY POLE
- ⑥ (E) FIRE HYDRANT
- ⑦ (E) FDC CONNECTION
- ⑧ (E) ACCESSIBLE CURB RAMP

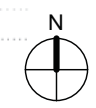
NOTE: NO TRANSIT STOPS ALONG THIS FRONTAGE

901 16th ST
MANAGER



EXISTING CONDITIONS - 16TH STREET ROW

A-7



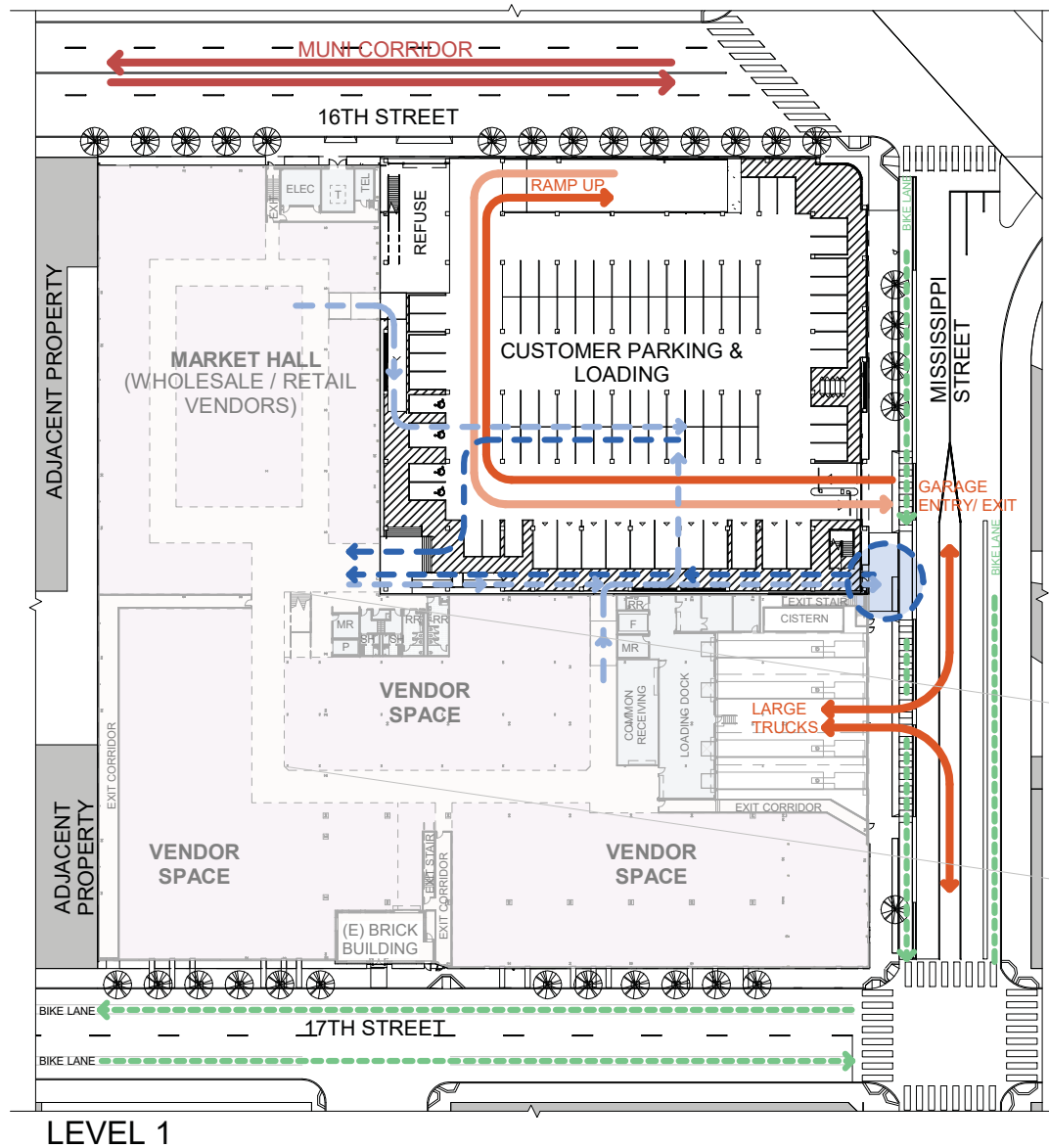
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As indicated
06/19/2020

SAN FRANCISCO
WHOLESALE
FLOWER MARKET

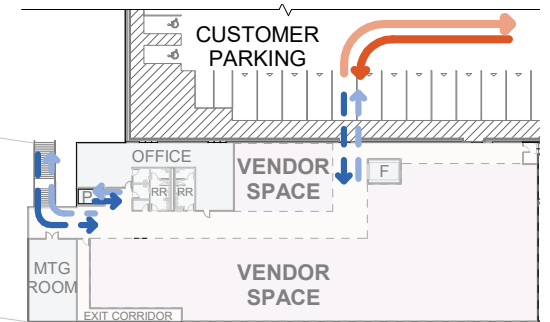


PROJECT CIRCULATION AND PUBLIC REALM



LEGEND

- VENDOR AREA
- COMMON AREA
- MART AISLE
- PEDESTRIAN IN
- PEDESTRIAN OUT
- VEHICLE IN
- VEHICLE OUT
- BIKE ROUTE
- MUNI CORRIDOR
- MAIN ENTRY



LEVEL 2

901 16th ST
MANAGER



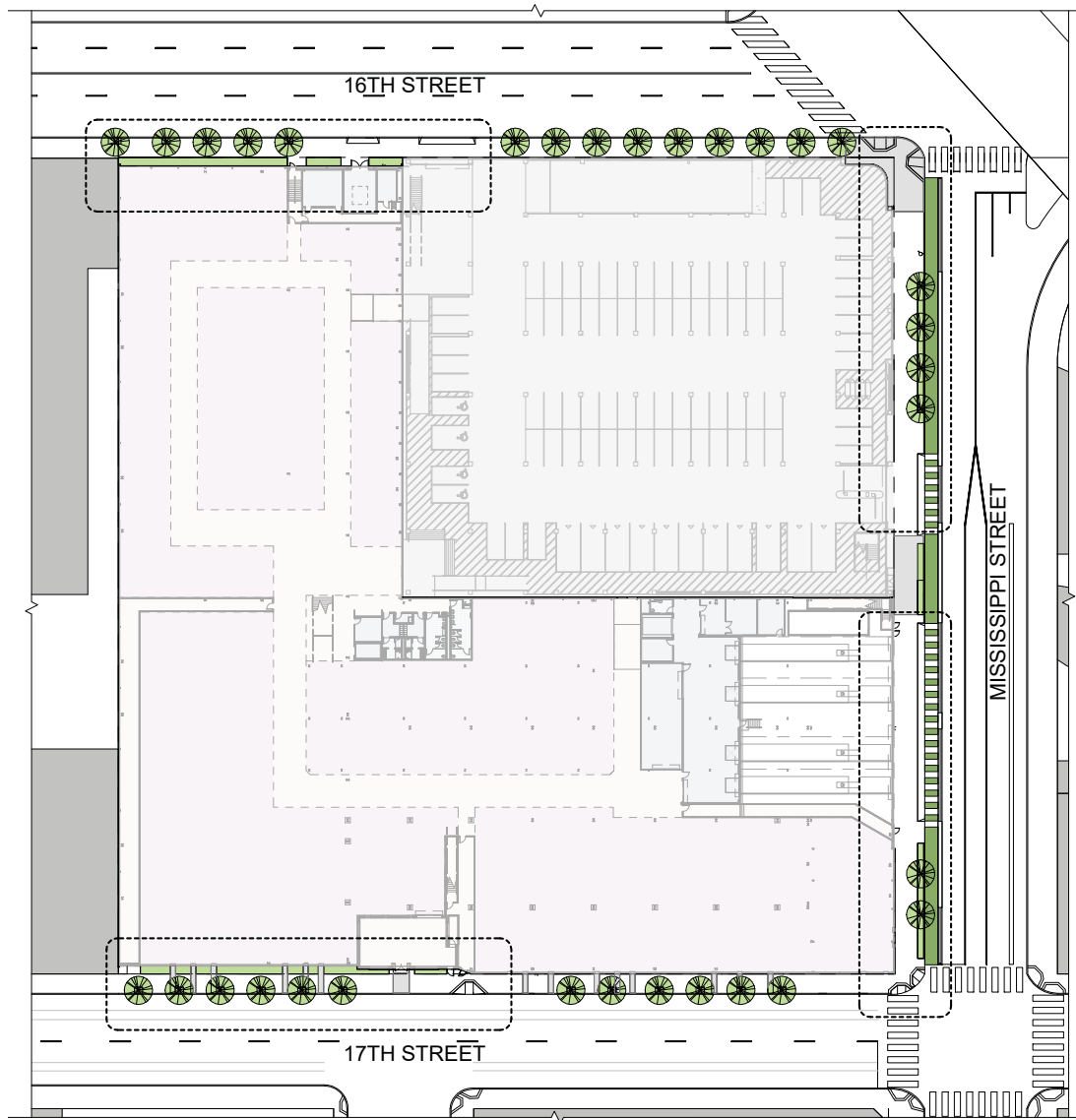
FLOW DIAGRAM - WHOLESALE MARKET

PRJ-20.0

SAN FRANCISCO
WHOLESALE
FLOWER MARKET



1" = 60'-0"
09/11/2020



901 16th ST
MANAGER



PUBLIC REALM PLAN

PRJ-20.1

1" = 60'-0"
09/11/2020

SAN FRANCISCO
WHOLESALE
FLOWER MARKET



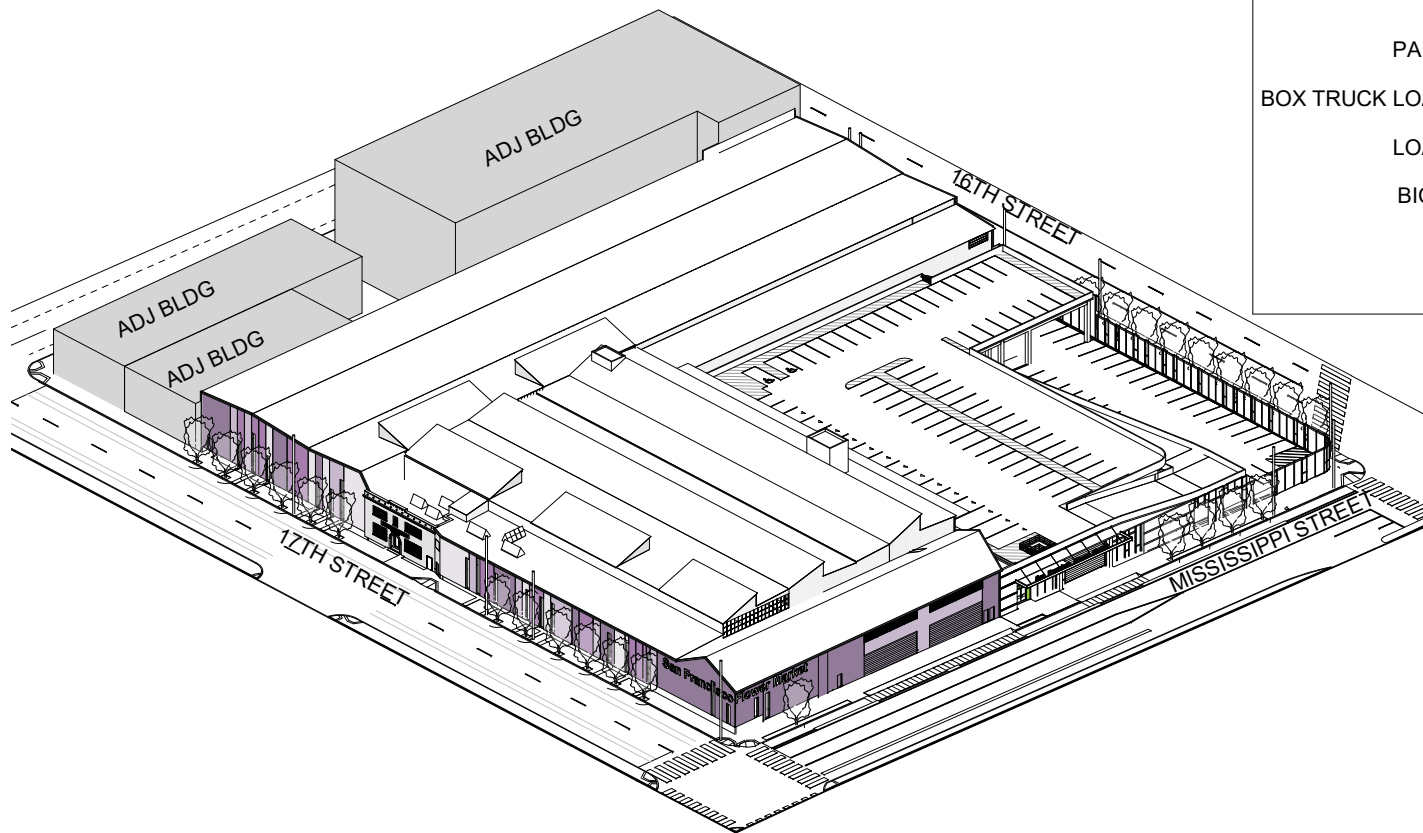
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PROPOSED PROJECT

PROJECT SUMMARY TABLE

	EXISTING	PROPOSED
PARKING GSF	44,200 SF	90,900 SF
OFFICE GSF	5,800 SF	0 SF
INDUSTRIAL-PDR GSF	100,300 SF	125,000 SF
# OF BUILDINGS	1	1
# OF STORIES	2	2
PARKING SPACES	83	150
BOX TRUCK LOADING SPACES	0	25
LOADING SPACES	10	4 (MIN 14' VERTICAL CLEAR)
BICYCLE SPACES	0	23 CLASS I (10) CLASS II (13)
LOCKERS	0	24 *
SHOWERS	0	4 *

* EQUALLY DIVIDED BETWEEN MEN & WOMEN



PROPOSED PROJECT - AXONOMETRIC VIEW

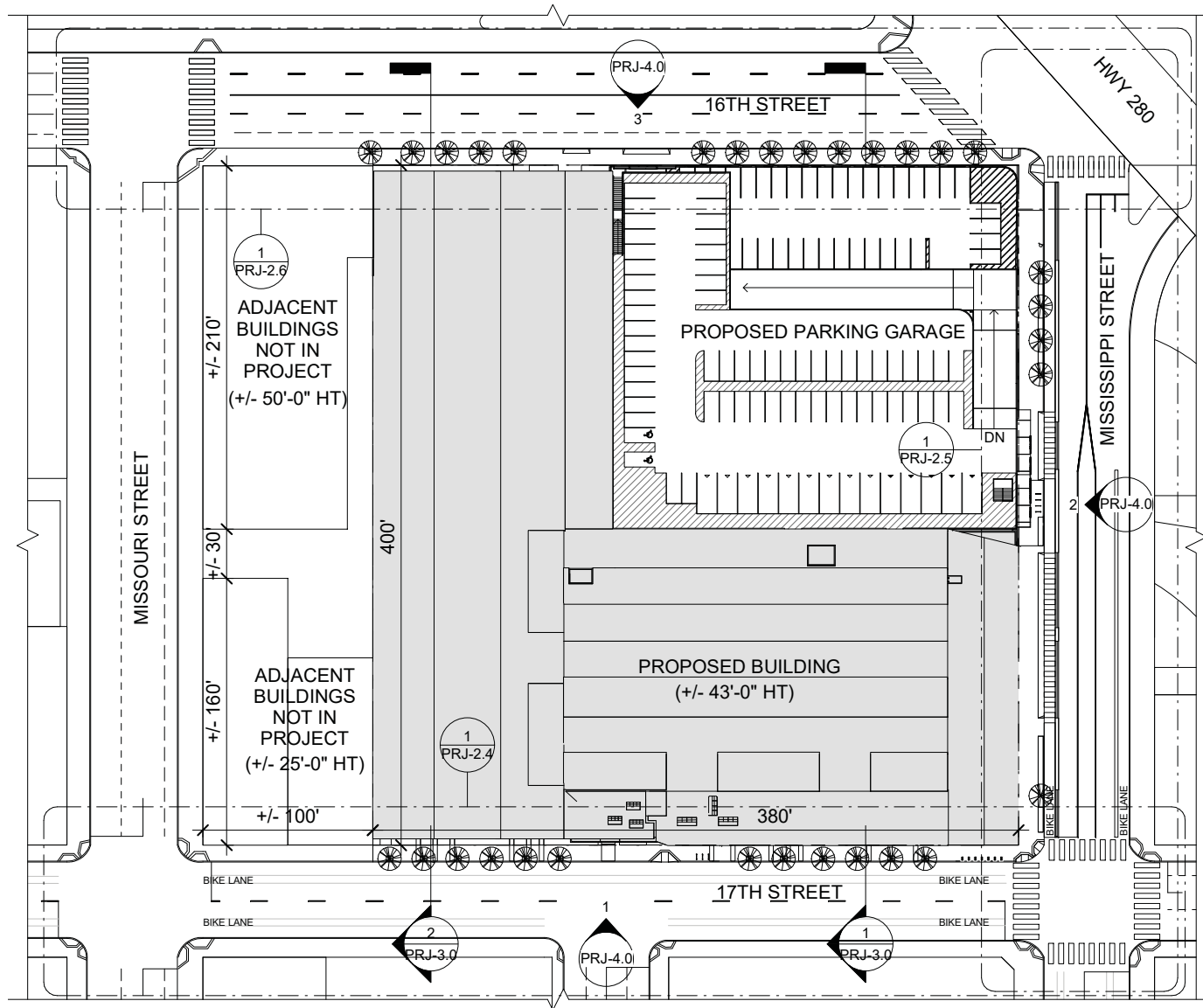
901 16th ST
MANAGER



PRJ-1.1
REVISED : 09/11/2020
1" = 60'-0"
01/31/2020

SAN FRANCISCO
WHOLESALE
FLOWER MARKET





PROPOSED PROJECT TOTALS

Zoning Designation :	UMU, Urban Mixed Use
Proposed Use:	Wholesale Sales, Retail Sales
Zoning Control Proposed Height:	Unchanged (+/- 43'-0")
Proposed FAR:	0.75 : 1
Setbacks:	None
Accessory Office:	Approx 3,000 sf
Parking Allowed:	119

PROPOSED OCCUPANCY

Proposed Building Area:	125,000 sf
Parcel Area:	152,000 sf
Proposed Use:	Wholesale Flower Market w/ Accessory Office
Proposed Parking:	150
Proposed Loading:	4 Tractor Trailer, 25 Box Truck

LEGEND

- ACCESSIBLE PARKING STALL
- BOX TRUCK LOADING
- BOX TRUCK LOADING - SU-30
- STREET TREE
- BIKE LOCKER
- BIKE RACK
- PASSENGER LOADING ZONE

901 16th ST
MANAGER



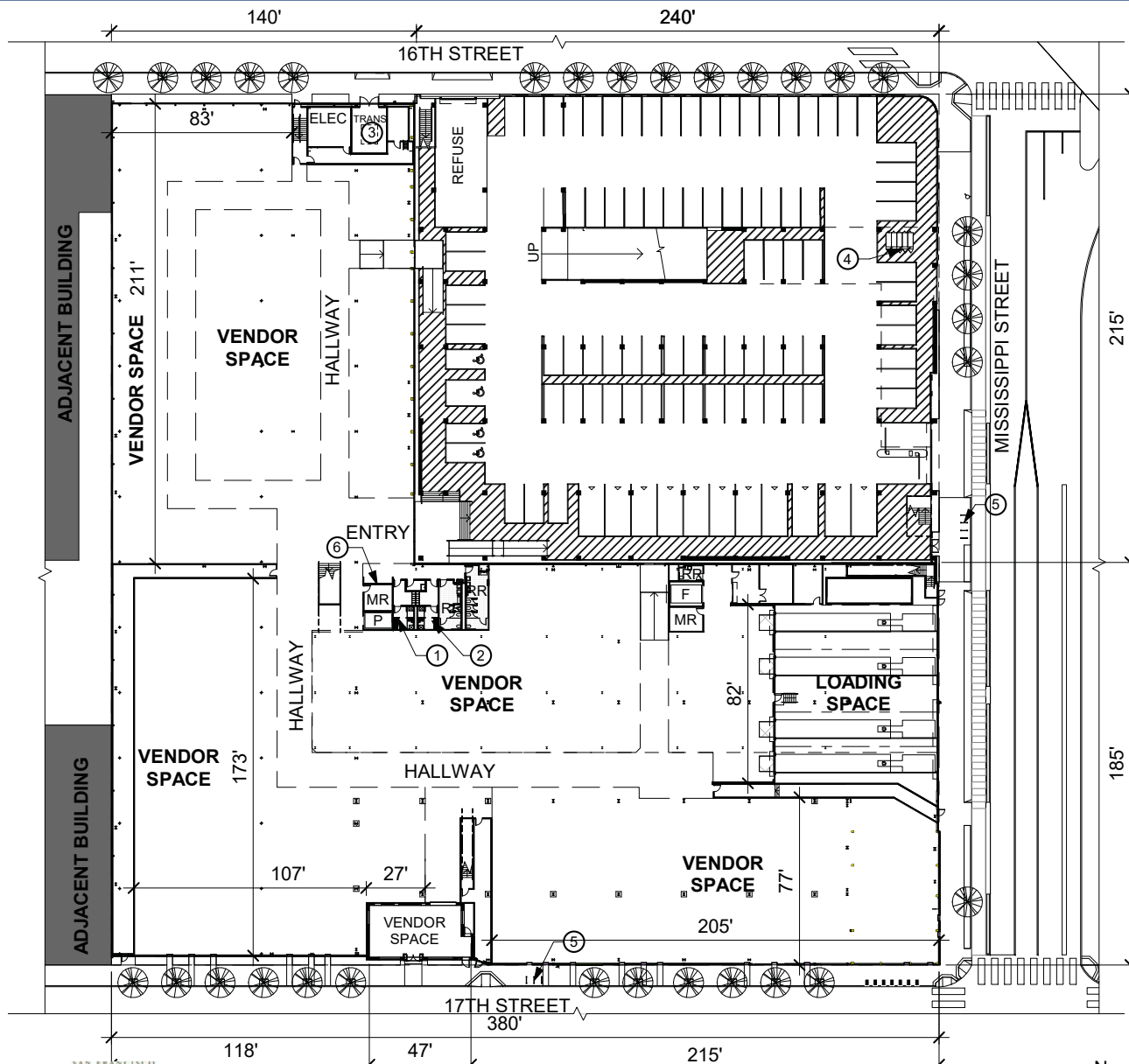
PROPOSED PROJECT - SITE PLAN



PRJ-2.0
REVISED : 09/11/2020
1/64" = 1'-0"
01/31/2020

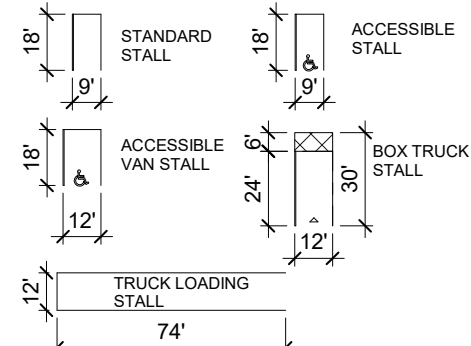
SAN FRANCISCO
WHOLESALE
FLOWER MARKET





PROPOSED PROJECT - LEVEL ONE FLOOR PLAN

PARKING



PARKING COUNT

LEVEL	ACCESSIBLE	STANDARD	COMPACT	
LVL 1	3 + 1 VAN	84	0	
LVL 2	2	60	0	
TOTAL	6	144	0	150

SHEET NOTES

- ① MENS LOCKER & SHOWER ROOM (12 LOCKERS & 2 SHOWERS)
- ② WOMENS LOCKER & SHOWER ROOM (12 LOCKERS & 2 SHOWERS)
- ③ TRANSFORMER ROOM
- ④ CLASS I BICYCLE STORAGE. SEE PROJECT SUMMARY TABLE FOR QUANTITY
- ⑤ CLASS II BICYCLE STORAGE. SEE PROJECT SUMMARY TABLE FOR QUANTITY
- ⑥ LOCATION OF MULTIMODAL SIGNAGE

LEGEND

- ♿ ACCESSIBLE PARKING STALL
- △ BOX TRUCK LOADING
- ▲ BOX TRUCK LOADING - SU-30
- ⊗ STREET TREE
- ⬡ BIKE LOCKER
- BIKE RACK
- PASSENGER LOADING ZONE

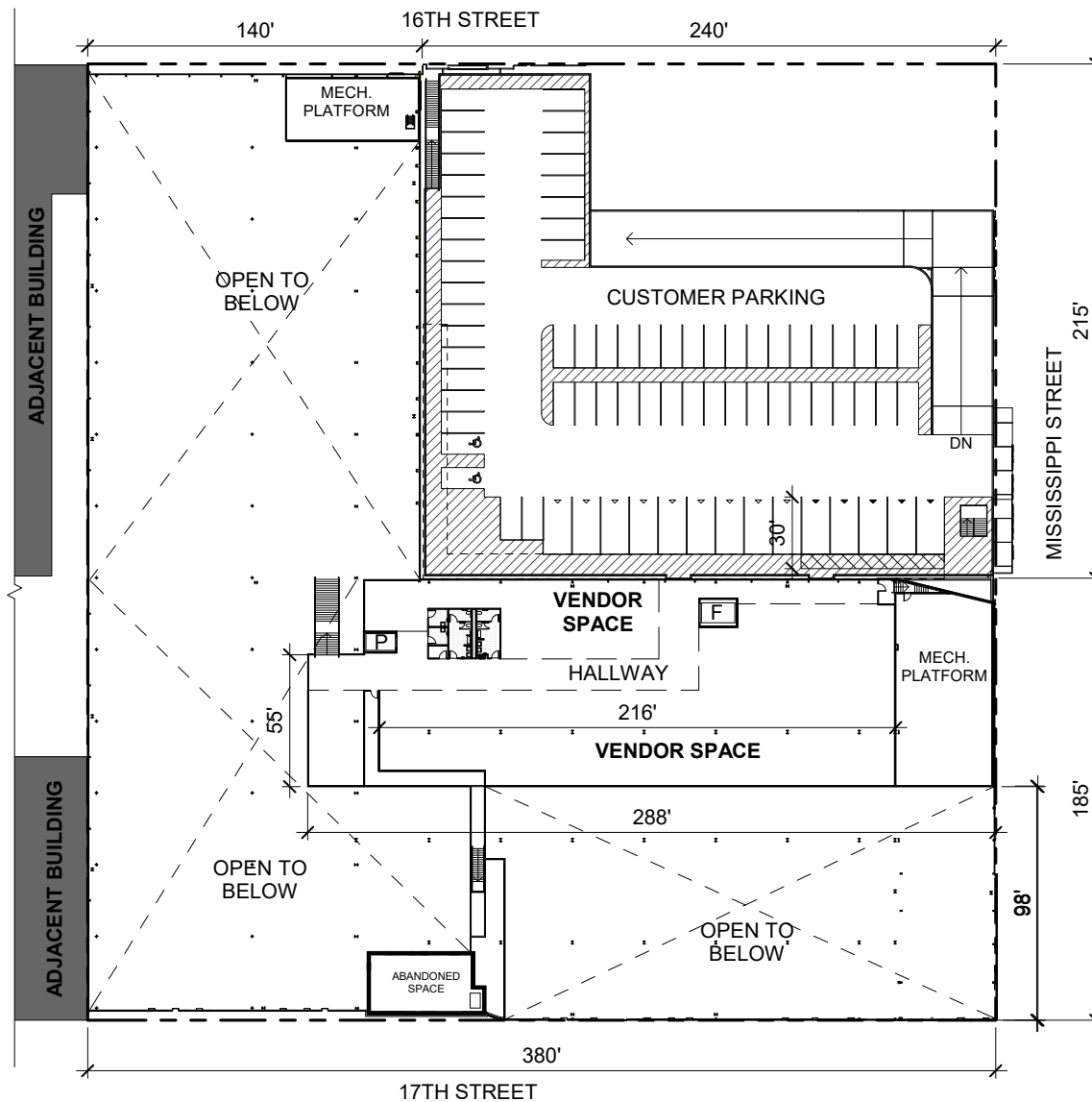
901 16th ST
MANAGER



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01/31/2020

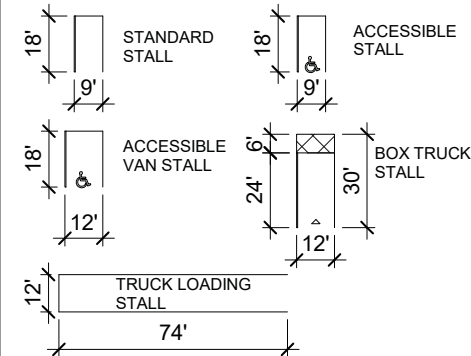
SAN FRANCISCO
WHOLESALE
FLOWER MARKET





PROPOSED PROJECT - LEVEL TWO FLOOR PLAN

PARKING



PARKING COUNT

LEVEL	ACCESSIBLE	STANDARD	COMPACT	
LVL 1	3 + 1 VAN	84	0	
LVL 2	2	60	0	
TOTAL	6	144	0	150

LEGEND

- ACCESSIBLE PARKING STALL
- BOX TRUCK LOADING
- BOX TRUCK LOADING - SU-30
- STREET TREE
- BIKE LOCKER
- BIKE RACK
- PASSENGER LOADING ZONE

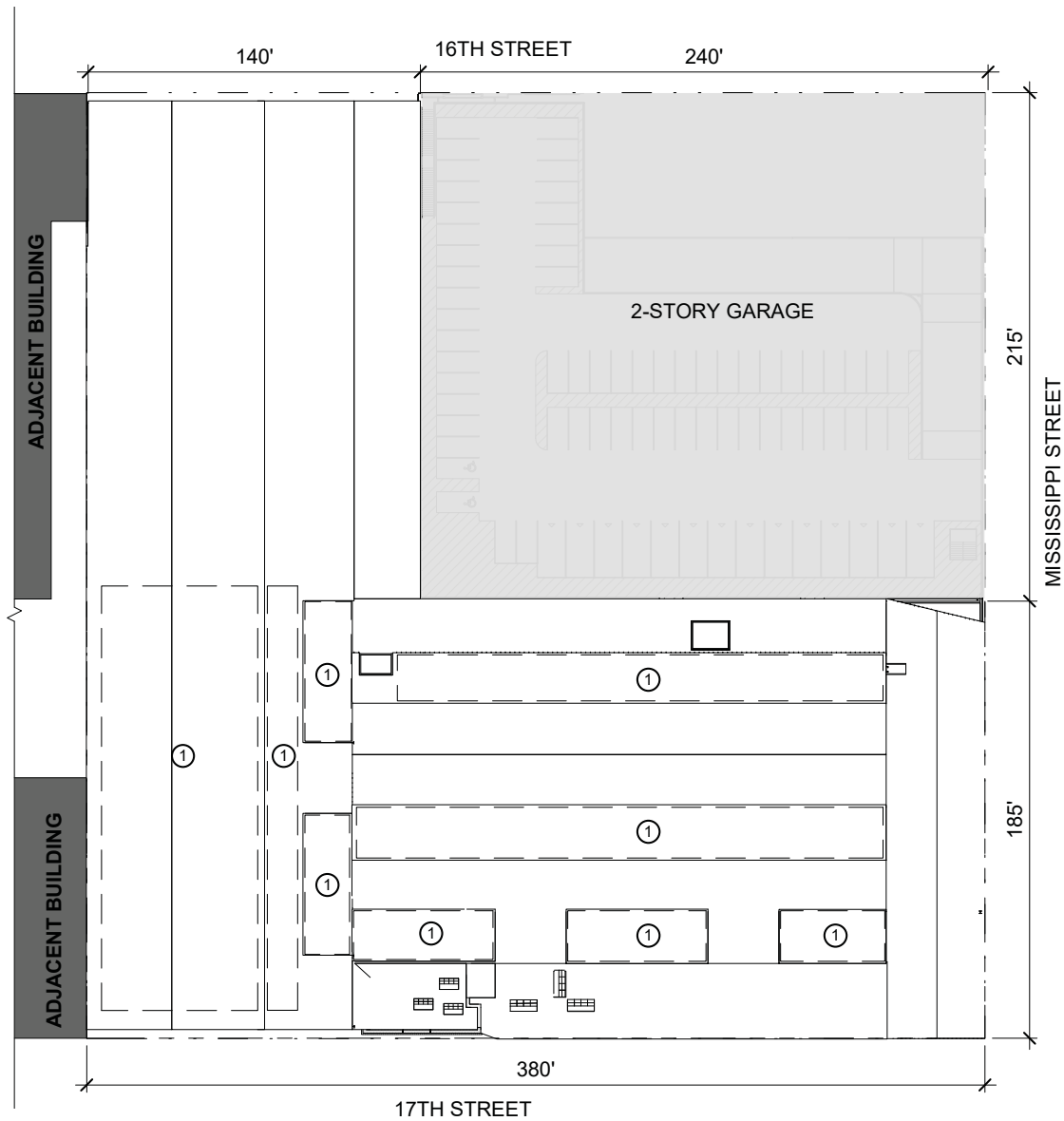
901 16th ST
MANAGER



PRJ-2.2
REVISED : 09/11/2020
As indicated
01/31/2020

SAN FRANCISCO
WHOLESALE
FLOWER MARKET





PROPOSED PROJECT - ROOF PLAN

SHEET NOTES

① AREA OF PROPOSED SOLAR INSTALLATION

LEGEND

- ACCESSIBLE PARKING STALL
- BOX TRUCK LOADING
- BOX TRUCK LOADING - SU-30
- STREET TREE
- BIKE LOCKER
- BIKE RACK
- PASSENGER LOADING ZONE

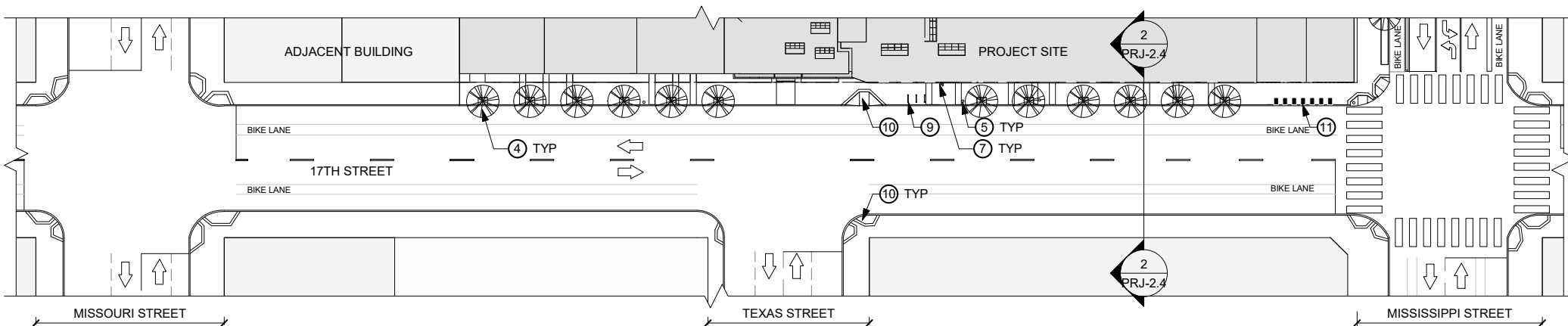
901 16th ST
MANAGER



PRJ-2.3
REVISED : 09/11/2020
As indicated
06/19/2020

SAN FRANCISCO
WHOLESALE
FLOWER MARKET

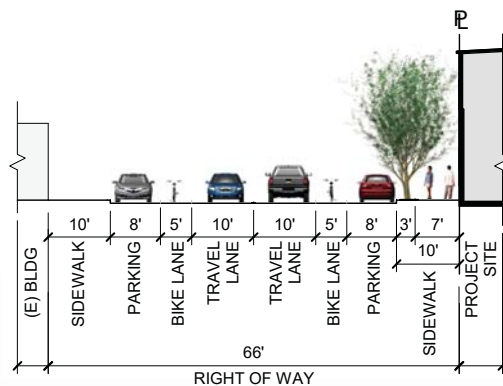




1

ENLARGED PLAN - 17TH STREET - PROPOSED

1" = 40'-0"



2

PROPOSED 17TH STREET ROW SECTION

1" = 20'-0"

SHEET NOTES

- ① (E) CURB CUT
- ② (N) CURB CUT
- ③ (E) STREET TREE AND WELL
- ④ (N) STREET TREE AND WELL
- ⑤ (E) UTILITY POLE
- ⑥ (E) FIRE HYDRANT
- ⑦ FDC CONNECTION
- ⑧ CLASS I BICYCLE STORAGE
- ⑨ CLASS II BICYCLE STORAGE
- ⑩ (E) ACCESSIBLE CURB RAMP
- ⑪ PASSENGER LOADING ZONE

NOTE: NO TRANSIT STOPS ALONG THIS FRONTAGE

901 16th ST
MANAGER



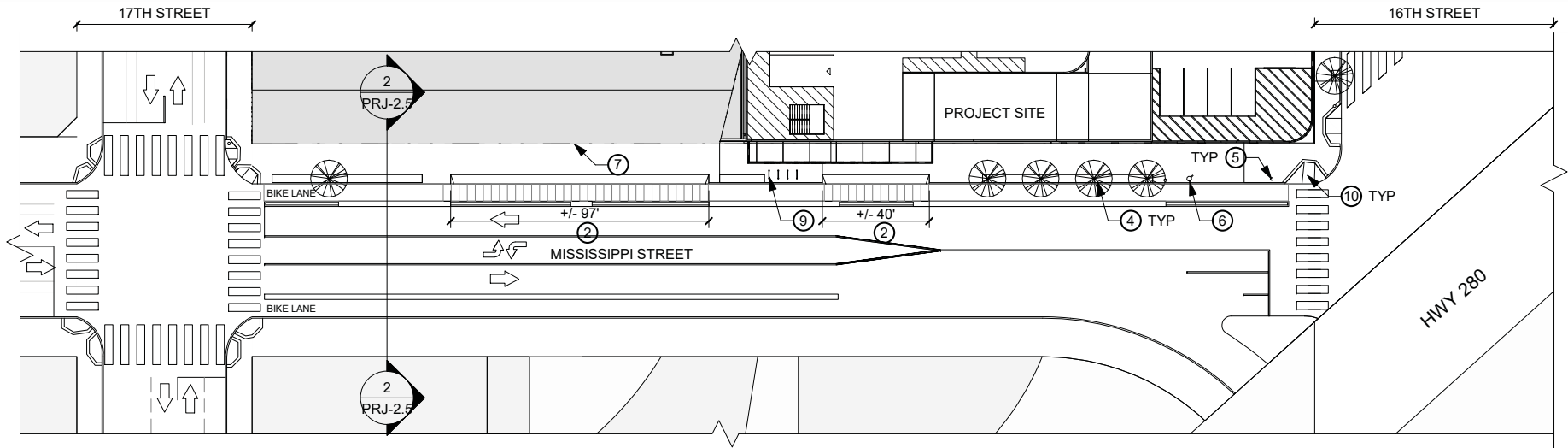
PROPOSED PROJECT - 17TH STREET ROW



PRJ-2.4
REVISED : 09/11/2020
As indicated
06/19/2020

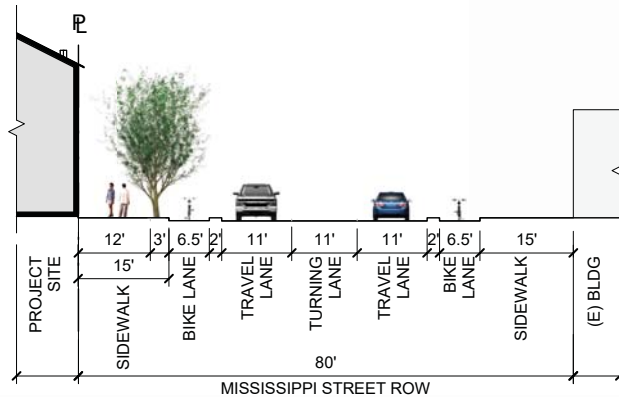
SAN FRANCISCO
WHOLESALE
FLOWER MARKET





1 ENLARGED PLAN - MISSISSIPPI STREET - PROPOSED (ROTATED FOR CLARITY)

1" = 40'-0"



2 PROPOSED MISSISSIPPI STREET ROW SECTION

1" = 20'-0"

SHEET NOTES

- ① (E) CURB CUT
- ② (N) CURB CUT
- ③ (E) STREET TREE AND WELL
- ④ (N) STREET TREE AND WELL
- ⑤ (E) UTILITY POLE
- ⑥ (E) FIRE HYDRANT
- ⑦ FDC CONNECTION
- ⑧ CLASS I BICYCLE STORAGE
- ⑨ CLASS II BICYCLE STORAGE
- ⑩ (E) ACCESSIBLE CURB RAMP
- ⑪ PASSENGER LOADING ZONE

NOTE: NO TRANSIT STOPS ALONG THIS FRONTAGE

901 16th ST
MANAGER



PROPOSED PROJECT - MISSISSIPPI STREET ROW

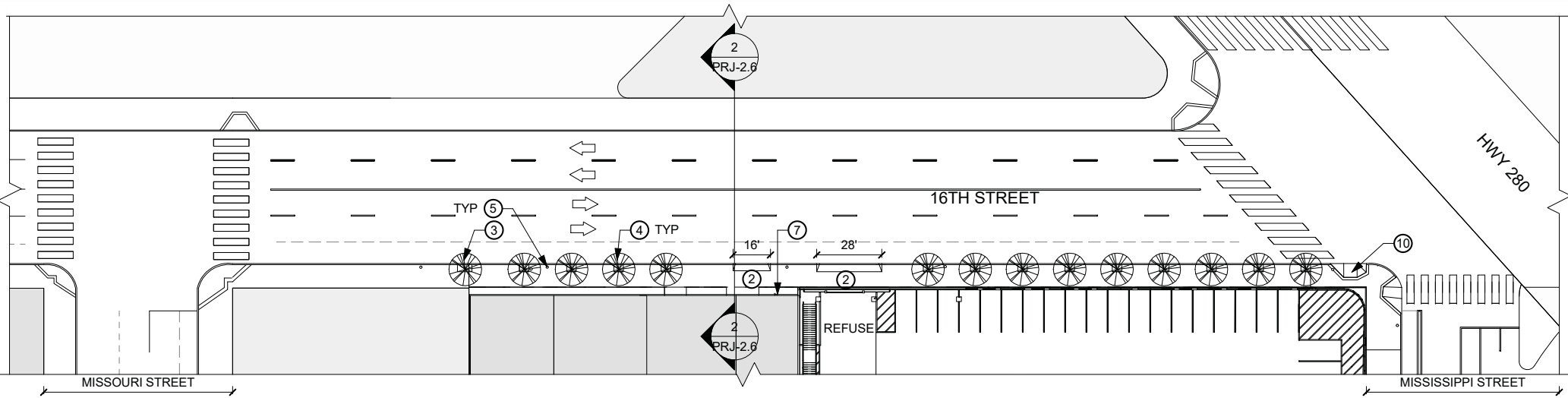


PRJ-2.5
REVISED : 09/11/2020
As indicated
06/19/2020

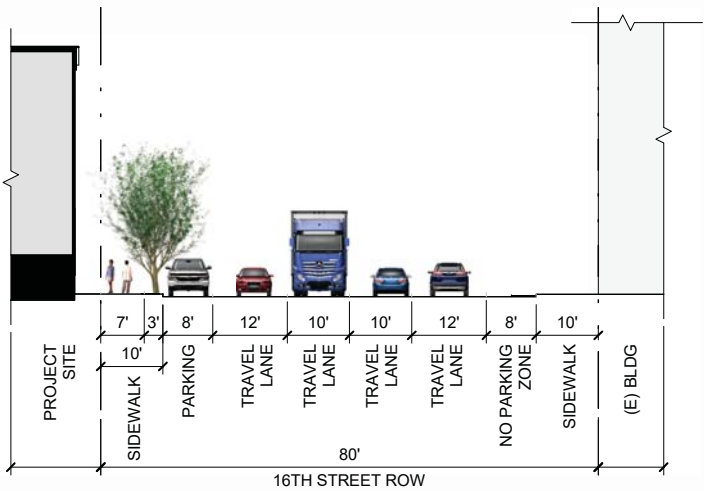
SAN FRANCISCO
WHOLESALE
FLOWER MARKET



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1 ENLARGED PLAN - 16TH STREET - PROPOSED
1" = 40'-0"



2 PROPOSED - 16TH STREET ROW SECTION
1" = 20'-0"

SHEET NOTES

- ① (E) CURB CUT
 - ② (N) CURB CUT
 - ③ (E) STREET TREE AND WELL
 - ④ (N) STREET TREE AND WELL
 - ⑤ (E) UTILITY POLE
 - ⑥ (E) FIRE HYDRANT
 - ⑦ FDC CONNECTION
 - ⑧ CLASS I BICYCLE STORAGE
 - ⑨ CLASS II BICYCLE STORAGE
 - ⑩ (E) ACCESSIBLE CURB RAMP
 - ⑪ PASSENGER LOADING ZONE
- NOTE: NO TRANSIT STOPS ALONG THIS FRONTAGE

901 16th ST
MANAGER



PROPOSED PROJECT - 16TH STREET ROW



PRJ-2.6
REVISED : 09/11/2020
As indicated
06/19/2020

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WHOLESALE
FLOWER MARKET

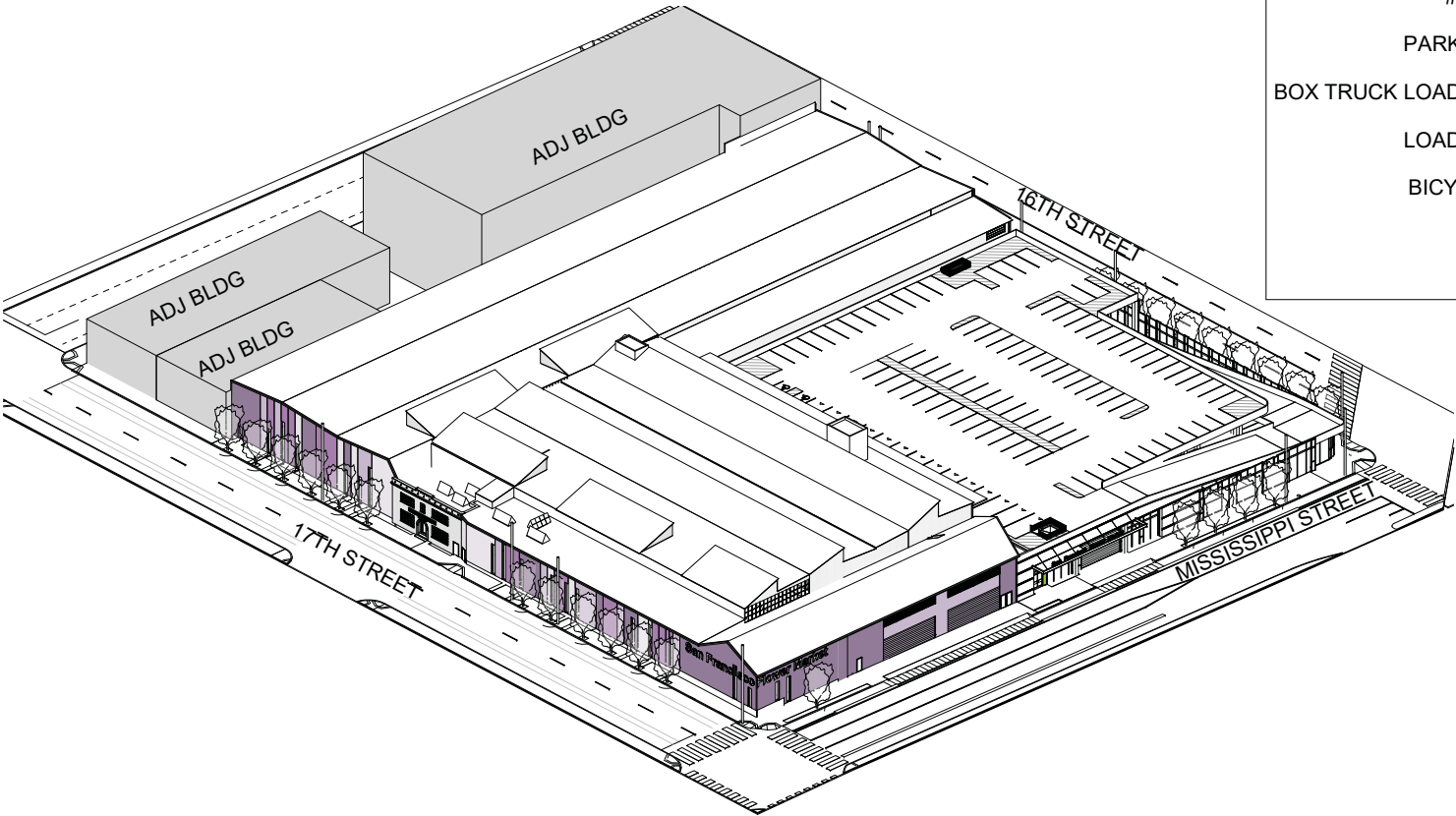


PROJECT VARIANT

PROJECT SUMMARY TABLE

	EXISTING	PROPOSED
PARKING GSF	44,200 SF	101,700 SF
OFFICE GSF	5,800 SF	0 SF
INDUSTRIAL-PDR GSF	100,300 SF	125,000 SF
# OF BUILDINGS	1	1
# OF STORIES	2	2
PARKING SPACES	83	180
BOX TRUCK LOADING SPACES	0	25
LOADING SPACES	10	4 (MIN 14' VERTICAL CLEAR)
BICYCLE SPACES	0	24 CLASS I (10) CLASS II (14)
LOCKERS	0	24 *
SHOWERS	0	4 *

* EQUALLY DIVIDED BETWEEN MEN & WOMEN



VARIANT - AXONOMETRIC VIEW

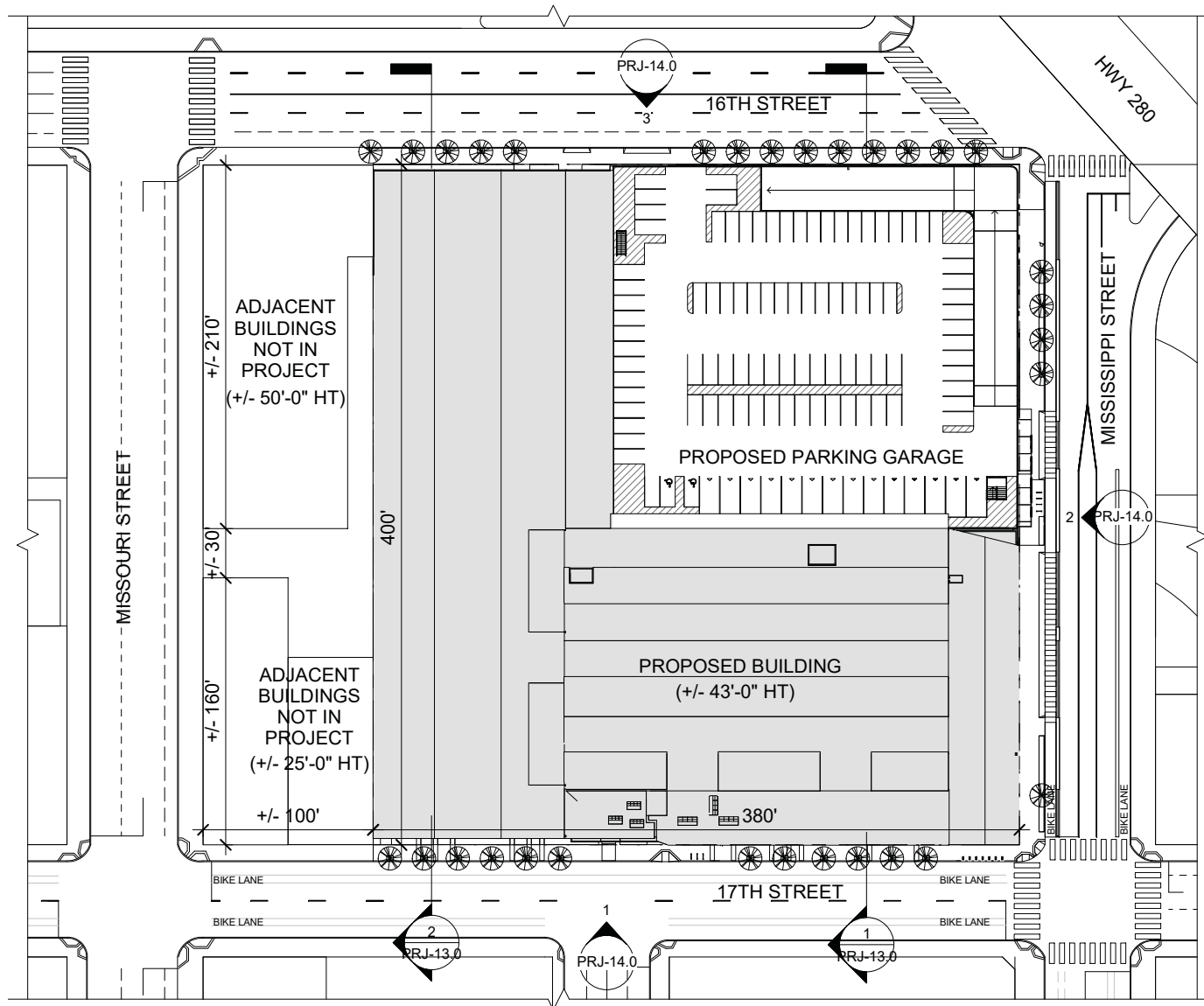
901 16th ST
MANAGER



PRJ-11.0
REVISED : 09/11/2020
1" = 60'-0"
01/31/2020

SAN FRANCISCO
WHOLESALE
FLOWER MARKET





VARIANT - SITE PLAN

PROPOSED PROJECT TOTALS

Zoning Designation :	UMU, Urban Mixed Use
Proposed Use:	Wholesale Sales, Retail Sales
Zoning Control Proposed Height:	Unchanged (+/- 43'-0")
Proposed FAR:	0.75 : 1
Setbacks:	None
Accessory Office:	Approx 3,000 sf
Parking Allowed:	119

PROPOSED OCCUPANCY

Proposed Building Area:	125,000 sf
Parcel Area:	152,000 sf
Proposed Use:	Wholesale Flower Market w/ Accessory Office
Proposed Parking:	169
Proposed Loading:	4 Tractor Trailer, 25 Box Truck

LEGEND

- ACCESSIBLE PARKING STALL
- BOX TRUCK LOADING
- BOX TRUCK LOADING - SU-30
- STREET TREE
- BIKE LOCKER
- BIKE RACK
- PASSENGER LOADING ZONE

901 16th ST
MANAGER

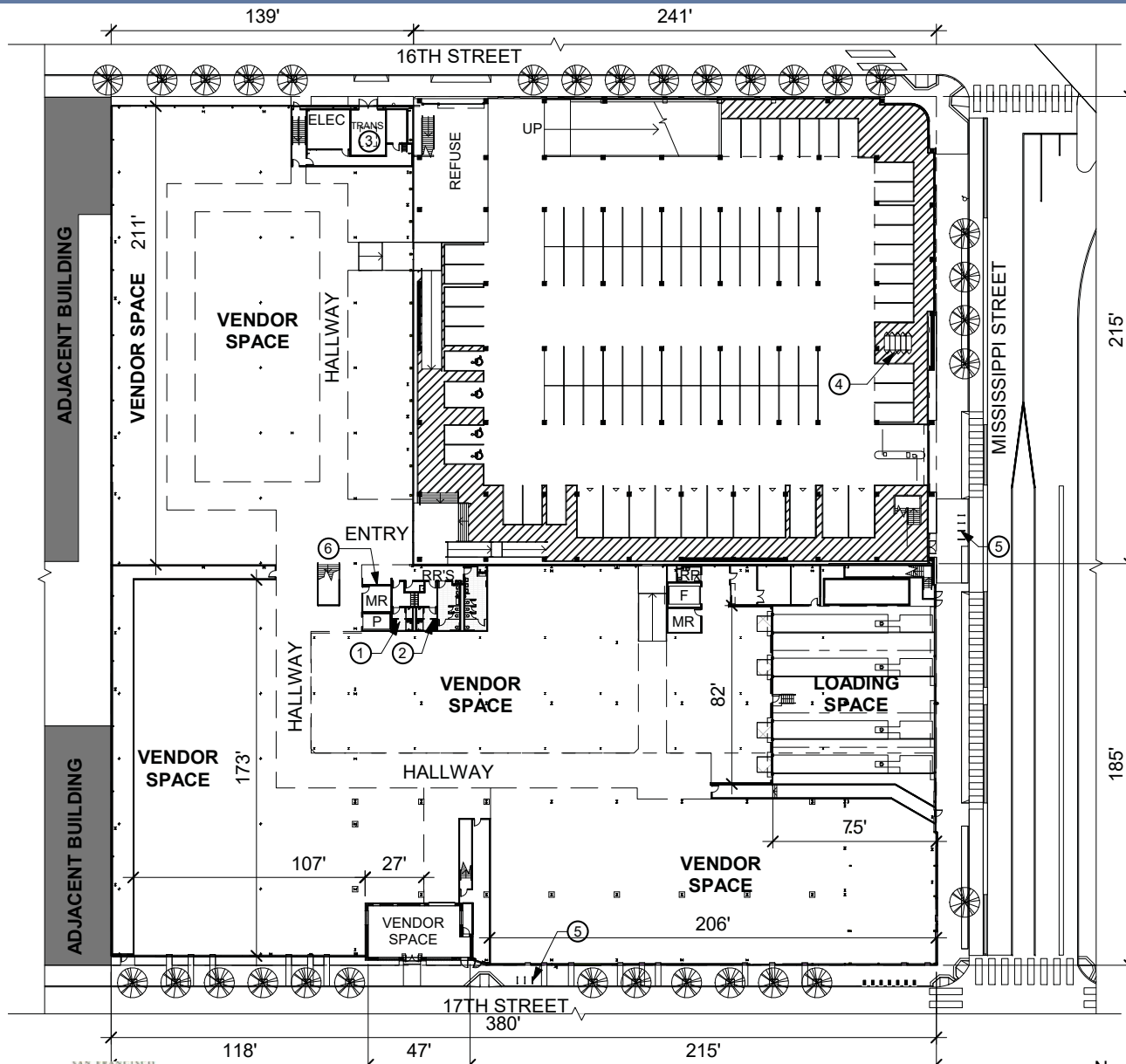


PRJ-12.0

REVISED : 09/11/2020
1/64" = 1'-0"
01/31/2020

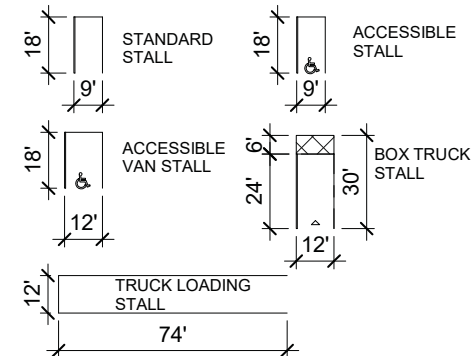
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WHOLESALE
FLOWER MARKET





VARIANT - LEVEL ONE FLOOR PLAN

PARKING



PARKING COUNT

LEVEL	ACCESSIBLE	STANDARD	COMPACT	
LVL 1	3 + 1 VAN	82	0	
LVL 2	2	60	32	
TOTAL	6	142	32	180

SHEET NOTES

- ① MENS LOCKER & SHOWER ROOM (12 LOCKERS & 2 SHOWERS)
- ② WOMENS LOCKER & SHOWER ROOM (12 LOCKERS & 2 SHOWERS)
- ③ TRANSFORMER ROOM
- ④ CLASS I BICYCLE STORAGE. SEE PROJECT SUMMARY TABLE FOR QUANTITY
- ⑤ CLASS II BICYCLE STORAGE. SEE PROJECT SUMMARY TABLE FOR QUANTITY
- ⑥ LOCATION OF MULTIMODAL SIGNAGE

LEGEND

- ACCESSIBLE PARKING STALL
- BOX TRUCK LOADING
- BOX TRUCK LOADING - SU-30
- STREET TREE
- BIKE LOCKER
- BIKE RACK

..... PASSENGER LOADING ZONE

901 16th ST
MANAGER

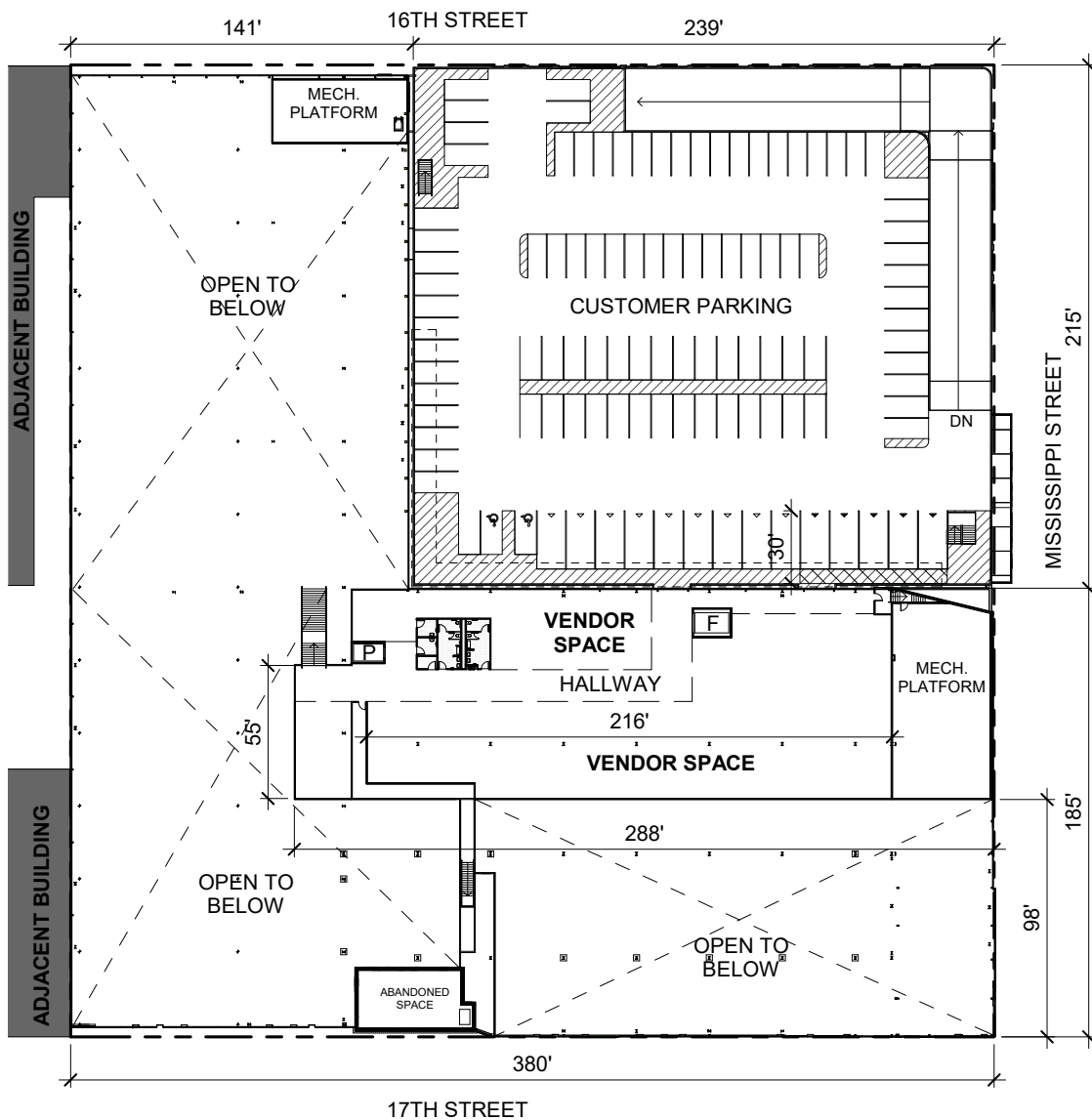


PRJ-12.1

REVISED : 09/11/2020
As indicated
01/31/2020

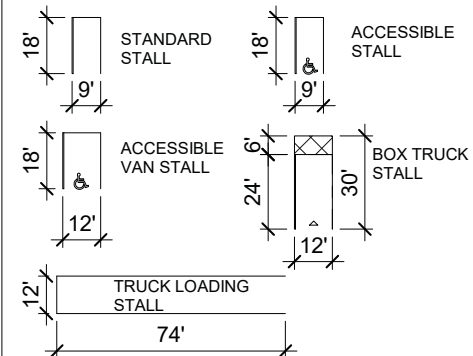
SAN FRANCISCO
WHOLESALE
FLOWER MARKET





VARIANT - LEVEL TWO FLOOR PLAN

PARKING



PARKING COUNT

LEVEL	ACCESSIBLE	STANDARD	COMPACT	
LVL 1	3 + 1 VAN	82	0	
LVL 2	2	60	32	
TOTAL	6	142	32	180

LEGEND

- ACCESSIBLE PARKING STALL
- BOX TRUCK LOADING
- BOX TRUCK LOADING - SU-30
- STREET TREE
- BIKE LOCKER
- BIKE RACK
- PASSENGER LOADING ZONE

901 16th ST
MANAGER

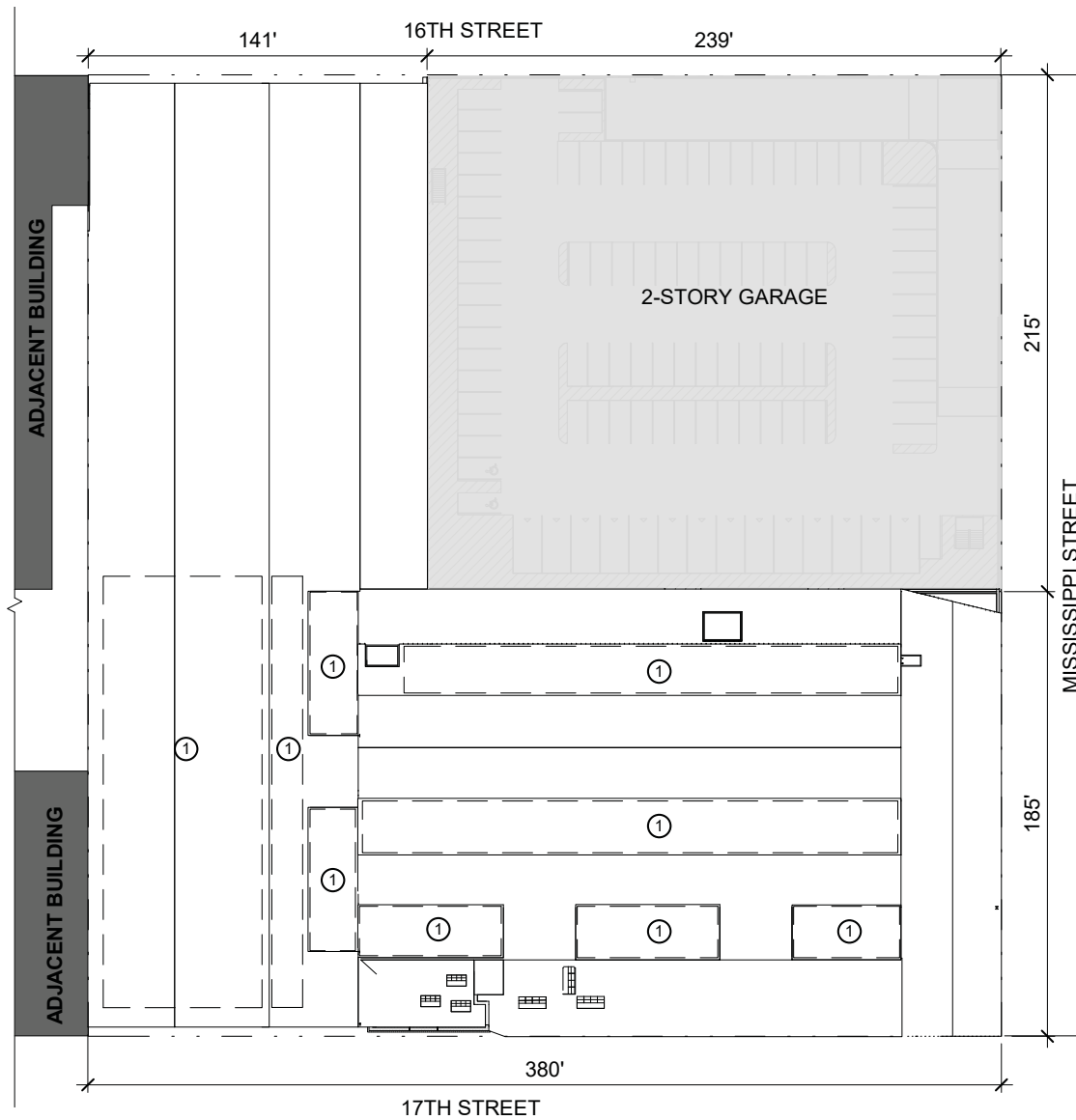


PRJ-12.2

REVISED : 09/11/2020
As indicated
01/31/2020

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FLOWER MARKET





VARIANT - ROOF PLAN

SHEET NOTES

① AREA OF PROPOSED SOLAR INSTALLATION

LEGEND

- ACCESSIBLE PARKING STALL
- BOX TRUCK LOADING
- BOX TRUCK LOADING - SU-30
- STREET TREE
- BIKE LOCKER
- BIKE RACK
- PASSENGER LOADING ZONE

901 16th ST
MANAGER



PRJ-12.3
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As indicated
06/19/2020

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FLOWER MARKET



APPENDIX B

DATA COLLECTION

AUTOS, TRUCKS, AND BIKES COUNT SUMMARY

901 16th St San Francisco Flower Market Project
Weekday AM Peak Hour (7 AM to 9 AM period)

NORTH-SOUTH STREET SEGMENT	ALL VEHICLES											
	Year 2020			Year 2019			Year 2017			Year 2015		
	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
Missouri St												
16th St to 17th St	-	-	-	-	-	-	186	108	294	179	65	244
17th St to Mariposa St	-	-	-	-	-	-	179	90	269	179	83	262
Texas St												
17th St to Mariposa St	-	-	-	-	-	-	-	-	-	-	-	-
Mississippi St												
16th St to 17th St	368	125	493	333	139	472	431	201	632	465	129	594
17th St to Mariposa St	-	-	-	-	-	-	253	252	505	279	244	523
Mariposa St to 18th St	-	-	-	-	-	-	137	119	256	144	77	221
Seventh St												
North of Mission Bay Dr	-	-	-	655	410	1,065	-	-	-	-	-	-
Mission Bay Dr to 16th St	406	199	605	564	267	831	434	286	720	-	-	-

EAST-WEST STREET SEGMENT	ALL VEHICLES											
	Year 2020			Year 2019			Year 2017			Year 2015		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
16th St												
Connecticut St to Missouri St	-	-	-	-	-	-	648	511	1,159	-	-	-
Missouri St to Mississippi St	447	321	768	404	321	725	599	395	994	-	-	-
Mississippi St to Owens St	596	434	1,030	522	387	909	856	561	1,417	-	-	-
17th St												
Connecticut St to Missouri St	-	-	-	-	-	-	131	232	363	206	218	424
Missouri St to Texas St	-	-	-	-	-	-	127	217	344	180	210	390
Texas St to Mississippi St	183	209	392	-	-	-	122	188	310	119	210	329
Mississippi St to Pennsylvania	-	-	-	-	-	-	38	358	396	23	354	377

Values selected for summary table

901 16th St San Francisco Flower Market Project
Weekday AM Peak Hour (7 AM to 9 AM period)

NORTH-SOUTH STREET SEGMENT	HEAVY VEHICLES								
	Year 2019			Year 2017			Year 2015		
	NB	SB	Total	NB	SB	Total	NB	SB	Total
Missouri St									
16th St to 17th St	0	0	0	3 1.6%	4 3.7%	7 2.4%	8 4.5%	1 1.5%	9 3.7%
17th St to Mariposa St	0	0	0	4 2.2%	3 3.3%	7 2.6%	7 3.9%	3 3.6%	10 3.8%
Texas St									
17th St to Mariposa St	0	0	0	0	0	0	0	0	0
Mississippi St									
16th St to 17th St	28 8.4%	5 3.6%	33 7.0%	13 3.0%	8 4.0%	21 3.3%	19 4.1%	15 11.6%	34 5.7%
17th St to Mariposa St	0	0	0	18 7.1%	9 3.6%	27 5.3%	18 6.5%	25 10.2%	43 8.2%
Mariposa St to 18th St	0	0	0	1 0.7%	2 1.7%	3 1.2%	4 2.8%	3 3.9%	7 3.2%
Seventh St									
North of Mission Bay Dr	42 6.4%	31 7.6%	73 6.9%	0	0	0	0	0	0
Mission Bay Dr to 16th St	37 6.6%	29 10.9%	66 7.9%	42 9.7%	13 4.5%	55 7.6%	0	0	0

EAST-WEST STREET SEGMENT	HEAVY VEHICLES								
	Year 2019			Year 2017			Year 2015		
	EB	WB	Total	EB	WB	Total	EB	WB	Total
16th St									
Connecticut St to Missouri St	0	0	0	37 5.7%	35 6.8%	72 6.2%	0	0	0
Missouri St to Mississippi St	30 7.4%	38 11.8%	68 9.4%	36 6.0%	36 9.1%	72 7.2%	0	0	0
Mississippi St to Owens St	43 8.2%	50 12.9%	93 10.2%	42 4.9%	68 12.1%	110 7.8%	0	0	0
17th St									
Connecticut St to Missouri St	0	0	0	4 3.1%	14 6.0%	18 5.0%	11 5.3%	6 2.8%	17 4.0%
Missouri St to Texas St	0	0	0	5 3.9%	13 6.0%	18 5.2%	9 5.0%	7 3.3%	16 4.1%
Texas St to Mississippi St	0	0	0	6 4.9%	13 6.9%	19 6.1%	14 11.8%	15 7.1%	29 8.8%
Mississippi St to Pennsylvania	0	0	0	1 2.6%	7 2.0%	8 2.0%	0 0.0%	11 3.1%	11 2.9%

Values selected for summary table

901 16th St San Francisco Flower Market Project
Weekday AM Peak Hour (7 AM to 9 AM period)

NORTH-SOUTH STREET SEGMENT	BIKES											
	Year 2020			Year 2019			Year 2017			Year 2015		
	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
Missouri St												
16th St to 17th St				-	-	-	2	6	8	2	1	3
17th St to Mariposa St				-	-	-	-	4	4	2	-	2
Texas St												
17th St to Mariposa St				-	-	-	-	-	-	-	-	-
Mississippi St												
16th St to 17th St	134	19	153	106	21	127	66	24	90	28	11	39
17th St to Mariposa St				-	-	-	12	76	88	10	56	66
Mariposa St to 18th St				-	-	-	3	2	5	8	3	11
Seventh St												
North of Mission Bay Dr				-	-	-	-	-	-	-	-	-
Mission Bay Dr to 16th St				61	32	93	21	33	54	-	-	-

EAST-WEST STREET SEGMENT	BIKES											
	Year 2020			Year 2019			Year 2017			Year 2015		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
16th St												
Connecticut St to Missouri St				-	-	-	14	8	22	-	-	-
Missouri St to Mississippi St	20	13	33	13	22	35	15	7	22	-	-	-
Mississippi St to Owens St				76	29	105	71	17	88	-	-	-
17th St												
Connecticut St to Missouri St				-	-	-	111	12	123	97	6	103
Missouri St to Texas St				-	-	-	112	11	123	98	6	104
Texas St to Mississippi St	155	15	170	-	-	-	114	10	124	53	5	58
Mississippi St to Pennsylvania				-	-	-	7	9	16	6	3	9

Values selected for summary t.

901 16th St San Francisco Flower Market Project
Weekday PM Peak Hour (4 PM to 6 PM period)

NORTH-SOUTH STREET SEGMENT	ALL VEHICLES																				
	Year 2020 (TPC)			Year 2020 (QC)			Year 2019 (GSW)			Year 2019			Year 2017			Year 2015			Year 2012		
	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
Missouri St																					
16th St to 17th St	-	-	-	-	-	-	-	-	-	-	-	-	190	156	346	-	-	-	86	104	190
17th St to Mariposa St	-	-	-	-	-	-	-	-	-	-	-	-	191	135	326	-	-	-	74	82	156
Texas St																					
17th St to Mariposa St	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	35	80
Mississippi St																					
16th St to 17th St	344	189	533	283	192	475	338	182	520	331	257	588	448	299	747	455	239	694	501	282	783
17th St to Mariposa St	-	-	-	-	-	-	-	-	-	-	-	-	281	366	647	299	272	571	326	365	691
Mariposa St to 18th St	-	-	-	-	-	-	-	-	-	-	-	-	152	80	232	135	53	188	151	83	234
Seventh St																					
North of Mission Bay Dr	-	-	-	-	-	-	816	384	1,200	803	268	1,071	765	378	1,143	-	-	-	-	-	-
Mission Bay Dr to 16th St	515	211	726	447	198	645	638	260	898	571	212	783	606	299	905	601	250	851	705	283	988

EAST-WEST STREET SEGMENT	ALL VEHICLES																				
	Year 2020 (TPC)			Year 2020 (QC)			Year 2019 (GSW)			Year 2019			Year 2017			Year 2015			Year 2012		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
16th St																					
Connecticut St to Missouri St	-	-	-	-	-	-	-	-	-	-	-	-	528	759	1,287	-	-	-	487	491	978
Missouri St to Mississippi St	364	461	825	328	482	810	465	560	1,025	408	613	1,021	440	631	1,071	478	578	1,056	435	465	900
Mississippi St to Owens St	404	650	1,054	359	671	1,030	508	710	1,218	396	753	1,149	509	842	1,351	550	793	1,343	394	682	1,076
17th St																					
Connecticut St to Missouri St	-	-	-	-	-	-	-	-	-	-	-	-	144	180	324	-	-	-	156	208	364
Missouri St to Texas St	-	-	-	-	-	-	-	-	-	-	-	-	161	173	334	-	-	-	164	207	371
Texas St to Mississippi St	-	-	-	179	209	388	-	-	-	-	-	-	144	153	297	121	196	317	158	185	343
Mississippi St to Pennsylvania	-	-	-	-	-	-	-	-	-	-	-	-	35	251	286	54	318	372	44	322	366

Values selected for summary table

901 16th St San Francisco Flower Market Project
Weekday PM Peak Hour (4 PM to 6 PM period)

NORTH-SOUTH STREET SEGMENT	HEAVY VEHICLES														
	Year 2020 (QC)			Year 2019 (GSW)			Year 2019			Year 2017			Year 2015		
	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
Missouri St															
16th St to 17th St	0	0	0	0	0	0	0	0	0	2 1.1%	3 1.9%	5 1.4%	0	0	0
17th St to Mariposa St	0	0	0	0	0	0	0	0	0	3 1.6%	2 1.5%	5 1.5%	0	0	0
Texas St															
17th St to Mariposa St	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mississippi St															
16th St to 17th St	12 4.2%	11 5.7%	23 4.8%	13 3.8%	3 1.6%	16 3.1%	10 3.0%	34 13.2%	44 7.5%	12 2.7%	7 2.3%	19 2.5%	8 1.8%	12 5.0%	20 2.9%
17th St to Mariposa St	0	0	0	0	0	0	0	0	0	8 2.8%	12 3.3%	20 3.1%	13 4.3%	13 4.8%	26 4.6%
Mariposa St to 18th St	0	0	0	0	0	0	0	0	0	3 2.0%	2 2.5%	5 2.2%	2 1.5%	2 3.8%	4 2.1%
Seventh St															
North of Mission Bay Dr	0	0	0	29 3.6%	20 5.2%	49 4.1%	21 2.6%	23 8.6%	44 4.1%	0 0.0%	0 0.0%	0 0.0%	0	0	0
Mission Bay Dr to 16th St	23 5.1%	16 8.1%	39 6.0%	24 3.8%	19 7.3%	43 4.8%	23 4.0%	20 9.4%	43 5.5%	23 3.8%	18 6.0%	41 4.5%	21 3.5%	21 8.4%	42 4.9%

EAST-WEST STREET SEGMENT	HEAVY VEHICLES														
	Year 2020 (QC)			Year 2019 (GSW)			Year 2019			Year 2017			Year 2015		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
16th St															
Connecticut St to Missouri St	0	0	0	0	0	0	0	0	0	31 5.9%	33 4.3%	64 5.0%	0	0	0
Missouri St to Mississippi St	36 11.0%	35 7.3%	71 8.8%	37 8.0%	37 6.6%	74 7.2%	29 7.1%	30 4.9%	59 5.8%	36 8.2%	32 5.1%	68 6.3%	27 5.6%	20 3.5%	47 4.5%
Mississippi St to Owens St	40 11.1%	45 6.7%	85 8.3%	47 9.3%	50 7.0%	97 8.0%	6 1.5%	45 6.0%	51 4.4%	48 9.4%	39 4.6%	87 6.4%	38 6.9%	33 4.2%	71 5.3%
17th St															
Connecticut St to Missouri St	0	0	0	0	0	0	0	0	0	5 3.5%	4 2.2%	9 2.8%	0	0	0
Missouri St to Texas St	0	0	0	0	0	0	0	0	0	6 3.7%	3 1.7%	9 2.7%	0	0	0
Texas St to Mississippi St	0 0.0%	0 0.0%	0 0.0%	0	0	0	0	0	0	8 5.6%	4 2.6%	12 4.0%	3 2.5%	7 3.6%	10 3.2%
Mississippi St to Pennsylvania	0	0	0	0	0	0	0	0	0	0 0.0%	4 1.6%	4 1.4%	3 5.6%	2 0.6%	5 1.3%

Values selected for summary table

901 16th St San Francisco Flower Market Project
Weekday PM Peak Hour (4 PM to 6 PM period)

NORTH-SOUTH STREET SEGMENT	BIKES																	
	Year 2020 (TPC)			Year 2020 (QC)			Year 2019 (GSW)			Year 2019			Year 2017			Year 2012		
	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
Missouri St																		
16th St to 17th St				-	-	-	-	-	-	-	-	-	1	5	6	4	5	9
17th St to Mariposa St				-	-	-	-	-	-	-	-	-	1	2	3	1	1	2
Texas St																		
17th St to Mariposa St				-	-	-	-	-	-	-	-	-	-	-	-	1	2	3
Mississippi St																		
16th St to 17th St	29	57	86	36	58	94	37	52	89	36	46	82	20	17	37	10	15	25
17th St to Mariposa St				-	-	-	-	-	-	-	-	-	13	13	26	11	15	26
Mariposa St to 18th St				-	-	-	-	-	-	-	-	-	3	1	4	2	7	9
Seventh St																		
North of Mission Bay Dr				-	-	-	151	75	226	-	-	-	-	-	-	-	-	-
Mission Bay Dr to 16th St				61	46	107	109	76	185	69	51	120	37	15	52	20	13	33

EAST-WEST STREET SEGMENT	BIKES																	
	Year 2020 (TPC)			Year 2020 (QC)			Year 2019 (GSW)			Year 2019			Year 2017			Year 2012		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
16th St																		
Connecticut St to Missouri St				-	-	-	-	-	-	-	-	-	14	45	59	10	65	75
Missouri St to Mississippi St	9	54	63	14	44	58	12	53	65	10	52	62	10	46	56	10	67	77
Mississippi St to Owens St				29	96	125	30	117	147	24	94	118	16	63	79	8	56	64
17th St																		
Connecticut St to Missouri St				-	-	-	-	-	-	-	-	-	26	81	107	7	49	56
Missouri St to Texas St				-	-	-	-	-	-	-	-	-	26	78	104	11	48	59
Texas St to Mississippi St	33	128	161	-	-	-	-	-	-	-	-	-	12	31	43	11	40	51
Mississippi St to Pennsylvania				-	-	-	-	-	-	-	-	-	2	18	20	2	29	31

Values selected for summary table

TURNING MOVEMENT COUNTS – AM PEAK HOUR

901 16th St San Francisco Flower Market Project
Weekday AM Peak Hour (7 AM to 9 AM period)

#	Intersection Name	Count Date	Peak Hour	TABLE 1A - INTERSECTION TURNING MOVEMENTS																
				Northbound				Southbound				Eastbound				Westbound				Total All Approaches
				Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
				Year 2020 All Vehicle Counts (901 16th St)																
1	16th St / Seventh St - Mississippi St	Thu, Feb 13, 2020	8:00 AM - 9:00 AM	31	229	108	368	97	86	16	199	18	391	38	447	1	274	159	434	1,448
2	17th St / Mississippi St						0				0				0				0	0
3	17th St / Missouri St						0				0				0				0	0
4	16th St / Missouri St						0				0				0				0	0
5	Mariposa St / Mississippi St						0				0				0				0	0
6	17th St / Texas St						0				0				0				0	0
7	16th St / Carolina St						0				0				0				0	0
8	Mission Bay Drive / Seventh St						0				0				0				0	0
				Year 2019 All Vehicle Counts (Quality Counts and TCP)																
1	16th St / Seventh St - Mississippi St	Tue, Jun 25, 2019	7:55 AM - 8:55 AM	48	226	59	333	105	102	21	228	10	358	36	404	1	252	134	387	1,352
2	17th St / Mississippi St	Blank					0				0				0				0	0
3	17th St / Missouri St	Blank					0				0				0				0	0
4	16th St / Missouri St	Blank					0				0				0				0	0
5	Mariposa St / Mississippi St	Blank					0				0				0				0	0
6	17th St / Texas St	Blank					0				0				0				0	0
7	16th St / Carolina St	Blank					0				0				0				0	0
8	Mission Bay Drive / Seventh St	Thu, Apr 04, 2019	8:00 AM - 9:00 AM		466	98	564	168	242		410				0	25		189	214	1,188
				Year 2019 Heavy Vehicle Counts (Quality Counts and TCP)																
1	16th St / Seventh St - Mississippi St	Tue, Jun 25, 2019	7:55 AM - 8:55 AM	8	16	4	28	10	4	1	15	0	29	1	30	0	29	21	50	123
2	17th St / Mississippi St	Blank					0				0				0				0	0
3	17th St / Missouri St	Blank					0				0				0				0	0
4	16th St / Missouri St	Blank					0				0				0				0	0
5	Mariposa St / Mississippi St	Blank					0				0				0				0	0
6	17th St / Texas St	Blank					0				0				0				0	0
7	16th St / Carolina St	Blank					0				0				0				0	0
8	Mission Bay Drive / Seventh St	Thu, Apr 04, 2019	8:00 AM - 9:00 AM		32	1	33	8	23		31				0	6		10	16	80
				Year 2019 Bicycle Counts (Quality Counts)																
1	16th St / Seventh St - Mississippi St	Tue, Jun 25, 2019	7:55 AM - 8:55 AM	1	53	52	106	12	20	0	32	0	12	1	13	0	21	8	29	180
2	17th St / Mississippi St	Blank					0				0				0				0	0
3	17th St / Missouri St	Blank					0				0				0				0	0
4	16th St / Missouri St	Blank					0				0				0				0	0
5	Mariposa St / Mississippi St	Blank					0				0				0				0	0
6	17th St / Texas St	Blank					0				0				0				0	0
7	16th St / Carolina St	Blank					0				0				0				0	0
8	Mission Bay Drive / Seventh St	Thu, Apr 04, 2019					0				0				0				0	0
				Year 2017 All Vehicle Counts (1240-1250 17th St)																
1	16th St / Seventh St - Mississippi St	Tue, Nov 14, 2017	7:45 AM - 8:45 AM	42	205	178	425	170	100	16	286	22	508	63	593	30	324	207	561	1,865
2	17th St / Mississippi St	Tue, Nov 14, 2017	8:00 AM - 9:00 AM	46	177	5	228	10	176	15	201	26	23	73	122	3	127	228	358	909
3	17th St / Missouri St	Tue, Nov 14, 2017	8:00 AM - 9:00 AM	56	121	2	179	21	70	17	108	12	104	15	131	5	159	53	217	635
4	16th St / Missouri St	Tue, Nov 14, 2017	7:45 AM - 8:45 AM	135		37	172				0	1	562	86	649	19	376		395	1,216
5	Mariposa St / Mississippi St	Tue, Nov 14, 2017	8:00 AM - 9:00 AM	13	84	40	137	156	82	11	249	9	220	19	248	18	379	160	557	1,191
6	17th St / Texas St	Blank					0				0				0				0	0
7	16th St / Carolina St	Blank					0				0				0				0	0
8	Mission Bay Drive / Seventh St	Blank					0				0				0				0	0

901 16th St San Francisco Flower Market Project
Weekday AM Peak Hour (7 AM to 9 AM period)

#	Intersection Name	Count Date	Peak Hour	TABLE 1A - INTERSECTION TURNING MOVEMENTS																
				Northbound				Southbound				Eastbound				Westbound				Total All Approaches
				Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
				Year 2017 Heavy Vehicle Counts (1240-1250 17th St)																
1	16th St / Seventh St - Mississippi S	Tue, Nov 14, 2017	7:45 AM - 8:45 AM	3	7	3	13	11	2	0	13	0	28	6	34	0	33	35	68	128
2	17th St / Mississippi St	Tue, Nov 14, 2017	8:00 AM - 9:00 AM	8	9	0	17	1	3	1	5	0	0	6	6	0	4	3	7	35
3	17th St / Missouri St	Tue, Nov 14, 2017	8:00 AM - 9:00 AM	2	2	0	4	1	3	0	4	0	4	0	4	0	12	1	13	25
4	16th St / Missouri St	Tue, Nov 14, 2017	7:45 AM - 8:45 AM	0		2	2				0		34	3	37	1	35		36	75
5	Mariposa St / Mississippi St	Tue, Nov 14, 2017	8:00 AM - 9:00 AM	0	1	0	1	7	2	0	9	0	6	0	6	0	8	17	25	41
6	17th St / Texas St	Blank					0				0				0				0	0
7	16th St / Carolina St	Blank					0				0				0				0	0
8	Mission Bay Drive / Seventh St	Blank					0				0				0				0	0
				Year 2017 Bicycle Counts (1240-1250 17th St)																
1	16th St / Seventh St - Mississippi S	Tue, Nov 14, 2017	7:45 AM - 8:45 AM	0	12	43	55	14	18	1	33	0	14	0	14	2	6	9	17	119
2	17th St / Mississippi St	Tue, Nov 14, 2017	8:00 AM - 9:00 AM	3	9	0	12	0	22	2	24	53	7	54	114	0	5	4	9	159
3	17th St / Missouri St	Tue, Nov 14, 2017	8:00 AM - 9:00 AM	0	0	0	0	2	3	1	6	0	110	1	111	0	11	0	11	128
4	16th St / Missouri St	Tue, Nov 14, 2017	7:45 AM - 8:45 AM	1		1	2				0		14	0	14	0	7		7	23
5	Mariposa St / Mississippi St	Tue, Nov 14, 2017	8:00 AM - 9:00 AM	0	2	1	3	67	2	0	69	3	5	0	8	0	0	6	6	86
6	17th St / Texas St	Blank					0				0				0				0	0
7	16th St / Carolina St	Blank					0				0				0				0	0
8	Mission Bay Drive / Seventh St	Blank					0				0				0				0	0
				Year 2015 All Vehicle Counts (1240-1250 17th St)																
1	16th St / Seventh St - Mississippi S	Blank					0				0				0				0	0
2	17th St / Mississippi St	Thu, Oct 08, 2015	7:15 AM - 8:15 AM	45	233	1	279	4	110	15	129	30	18	71	119	2	150	202	354	881
3	17th St / Missouri St	Thu, Oct 08, 2015	8:00 AM - 9:00 AM	65	109	5	179	18	44	3	65	16	157	33	206	6	150	54	210	660
4	16th St / Missouri St	Blank					0				0				0				0	0
5	Mariposa St / Mississippi St	Thu, Oct 08, 2015	8:00 AM - 9:00 AM	47	74	23	144	171	52	21	244	6	273	14	293	11	366	138	515	1,196
6	17th St / Texas St	Blank					0				0				0				0	0
7	16th St / Carolina St	Blank					0				0				0				0	0
8	Mission Bay Drive / Seventh St	Blank					0				0				0				0	0
				Year 2015 Heavy Vehicle Counts (1240-1250 17th St)																
1	16th St / Seventh St - Mississippi S	Blank					0				0				0				0	0
2	17th St / Mississippi St	Thu, Oct 08, 2015	7:15 AM - 8:15 AM	8	10	0	18	0	11	4	15	1	0	13	14	0	3	8	11	58
3	17th St / Missouri St	Thu, Oct 08, 2015	8:00 AM - 9:00 AM	2	5	0	7	0	1	0	1	0	9	2	11	0	4	3	7	26
4	16th St / Missouri St	Blank					0				0				0				0	0
5	Mariposa St / Mississippi St	Thu, Oct 08, 2015	8:00 AM - 9:00 AM	0	2	2	4	23	2	0	25	0	5	0	5	1	12	14	27	61
6	17th St / Texas St	Blank					0				0				0				0	0
7	16th St / Carolina St	Blank					0				0				0				0	0
8	Mission Bay Drive / Seventh St	Blank					0				0				0				0	0
				Year 2015 Bicycle Counts (1240-1250 17th St)																
1	16th St / Seventh St - Mississippi S	Blank					0				0				0				0	0
2	17th St / Mississippi St	Thu, Oct 08, 2015	7:15 AM - 8:15 AM	2	7	0	9	2	8	1	11	20	4	29	53	0	2	1	3	76
3	17th St / Missouri St	Thu, Oct 08, 2015	8:00 AM - 9:00 AM	0	1	1	2	1	0	0	1	1	96	0	97	0	6	0	6	106
4	16th St / Missouri St	Blank					0				0				0				0	0
5	Mariposa St / Mississippi St	Thu, Oct 08, 2015	8:00 AM - 9:00 AM	0	8	0	8	53	3	0	56	0	3	0	3	0	1	2	3	70
6	17th St / Texas St	Blank					0				0				0				0	0
7	16th St / Carolina St	Blank					0				0				0				0	0
8	Mission Bay Drive / Seventh St	Blank					0				0				0				0	0

TURNING MOVEMENT COUNTS – PM PEAK HOUR

901 16th St San Francisco Flower Market Project
Weekday PM Peak Hour (4 PM to 6 PM period)

#	Intersection Name	Count Date	Peak Hour	TABLE 1A - INTERSECTION TURNING MOVEMENTS																
				Northbound				Southbound				Eastbound				Westbound				Total All Approaches
				Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
				Year 2020 All Vehicle Counts (901 16th St)																
1	16th St / Seventh St - Mississippi St	Thu, Feb 13, 2020	4:15 PM - 5:15 PM	33	259	52	344	65	132	14	211	21	287	56	364	1	414	235	650	1,569
2	17th St / Mississippi St			0				0				0				0				0
3	17th St / Missouri St			0				0				0				0				0
4	16th St / Missouri St			0				0				0				0				0
5	Mariposa St / Mississippi St			0				0				0				0				0
6	17th St / Texas St			0				0				0				0				0
7	16th St / Carolina St			0				0				0				0				0
8	Mission Bay Drive / Seventh St			0				0				0				0				0
				Year 2020 All Vehicle Counts (Quality Counts)																
1	16th St / Seventh St - Mississippi St	Tue, Feb 18, 2020	4:55 PM - 5:55 PM	37	194	52	283	49	131	18	198	10	258	60	328	1	427	243	671	1,480
2	17th St / Mississippi St	Blank		0				0				0				0				0
3	17th St / Missouri St	Blank		0				0				0				0				0
4	16th St / Missouri St	Blank		0				0				0				0				0
5	Mariposa St / Mississippi St	Blank		0				0				0				0				0
6	17th St / Texas St	Blank		0				0				0				0				0
7	16th St / Carolina St	Blank		0				0				0				0				0
8	Mission Bay Drive / Seventh St	Blank		0				0				0				0				0
				Year 2020 Heavy Vehicle Counts (Quality Counts)																
1	16th St / Seventh St - Mississippi St	Tue, Feb 18, 2020	4:55 PM - 5:55 PM	2	10	0	12	8	7	1	16	0	32	4	36	0	32	13	45	109
2	17th St / Mississippi St	Blank		0				0				0				0				0
3	17th St / Missouri St	Blank		0				0				0				0				0
4	16th St / Missouri St	Blank		0				0				0				0				0
5	Mariposa St / Mississippi St	Blank		0				0				0				0				0
6	17th St / Texas St	Blank		0				0				0				0				0
7	16th St / Carolina St	Blank		0				0				0				0				0
8	Mission Bay Drive / Seventh St	Blank		0				0				0				0				0
				Year 2020 Bicycle Counts (Quality Counts)																
1	16th St / Seventh St - Mississippi St	Tue, Feb 18, 2020	4:55 PM - 5:55 PM	1	28	7	36	10	34	2	46	0	12	2	14	22	41	33	96	192
2	17th St / Mississippi St	Blank		0				0				0				0				0
3	17th St / Missouri St	Blank		0				0				0				0				0
4	16th St / Missouri St	Blank		0				0				0				0				0
5	Mariposa St / Mississippi St	Blank		0				0				0				0				0
6	17th St / Texas St	Blank		0				0				0				0				0
7	16th St / Carolina St	Blank		0				0				0				0				0
8	Mission Bay Drive / Seventh St	Blank		0				0				0				0				0
				Year 2019 All Vehicle Counts (900 Seventh St - GSW Game)																
1	16th St / Seventh St - Mississippi St	Thu, Oct 10, 2019	5:00 PM - 6:00 PM	43	219	76	338	70	103	29	202	25	362	78	465	1	488	221	710	1,715
2	17th St / Mississippi St	Blank		0				0				0				0				0
3	17th St / Missouri St	Blank		0				0				0				0				0
4	16th St / Missouri St	Blank		0				0				0				0				0
5	Mariposa St / Mississippi St	Blank		0				0				0				0				0
6	17th St / Texas St	Blank		0				0				0				0				0
7	16th St / Carolina St	Thu, Oct 10, 2019	5:00 PM - 6:00 PM	9	16	13	38	10	9	10	29	6	583	8	597	10	597	35	642	1,306
8	Mission Bay Drive / Seventh St	Thu, Oct 10, 2019	5:00 PM - 6:00 PM	1	515	123	639	214	170		384				0	90		301	391	1,414

901 16th St San Francisco Flower Market Project
Weekday PM Peak Hour (4 PM to 6 PM period)

#	Intersection Name	Count Date	Peak Hour	TABLE 1A - INTERSECTION TURNING MOVEMENTS																
				Northbound				Southbound				Eastbound				Westbound				Total All Approaches
				Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
				Year 2019 Heavy Vehicle Counts (900 Seventh St - GSW Game)																
1	16th St / Seventh St - Mississippi St	Thu, Oct 10, 2019	5:00 PM - 6:00 PM	2	8	3	13	8	2	1	11	0	36	1	37		34	16	50	111
2	17th St / Mississippi St	Blank					0				0				0				0	0
3	17th St / Missouri St	Blank					0				0				0				0	0
4	16th St / Missouri St	Blank					0				0				0				0	0
5	Mariposa St / Mississippi St	Blank					0				0				0				0	0
6	17th St / Texas St	Blank					0				0				0				0	0
7	16th St / Carolina St	Thu, Oct 10, 2019	5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	36	0	36	0	30	0	30	66
8	Mission Bay Drive / Seventh St	Thu, Oct 10, 2019	5:00 PM - 6:00 PM		22	1	23	6	14		20				0	5		7	12	55
				Year 2019 Bicycle Counts (900 Seventh St - GSW Game)																
1	16th St / Seventh St - Mississippi St	Thu, Oct 10, 2019	5:00 PM - 6:00 PM	0	30	7	37	12	26	1	39	1	11	0	12	26	52	39	117	205
2	17th St / Mississippi St	Blank					0				0				0				0	0
3	17th St / Missouri St	Blank					0				0				0				0	0
4	16th St / Missouri St	Blank					0				0				0				0	0
5	Mariposa St / Mississippi St	Blank					0				0				0				0	0
6	17th St / Texas St	Blank					0				0				0				0	0
7	16th St / Carolina St	Thu, Oct 10, 2019	5:00 PM - 6:00 PM	0	0	0	0	0	1	2	3	1	7	0	8	0	29	0	29	40
8	Mission Bay Drive / Seventh St	Thu, Oct 10, 2019	5:00 PM - 6:00 PM		90	19	109	16	59		75				0	17		61	78	262
				Year 2019 All Vehicle Counts (900 Seventh St and TCP)																
1	16th St / Seventh St - Mississippi St	Tue, Oct 15, 2019	4:55 PM - 5:55 PM	55	207	69	331	44	148	20	212	17	283	108	408	1	538	214	753	1,704
2	17th St / Mississippi St	Blank					0				0				0				0	0
3	17th St / Missouri St	Blank					0				0				0				0	0
4	16th St / Missouri St	Blank					0				0				0				0	0
5	Mariposa St / Mississippi St	Blank					0				0				0				0	0
6	17th St / Texas St	Blank					0				0				0				0	0
7	16th St / Carolina St	Blank					0				0				0				0	0
8	Mission Bay Drive / Seventh St	Thu, Apr 04, 2019	4:15 PM - 5:15 PM		538	33	571	119	149		268				0	62		265	327	1,166
				Year 2019 Heavy Vehicle Counts (900 Seventh St and TCP)																
1	16th St / Seventh St - Mississippi St	Tue, Oct 15, 2019	4:55 PM - 5:55 PM	2	4	4	10	2	7	0	9	2	0	27	29		28	17	45	93
2	17th St / Mississippi St	Blank					0				0				0				0	0
3	17th St / Missouri St	Blank					0				0				0				0	0
4	16th St / Missouri St	Blank					0				0				0				0	0
5	Mariposa St / Mississippi St	Blank					0				0				0				0	0
6	17th St / Texas St	Blank					0				0				0				0	0
7	16th St / Carolina St	Blank					0				0				0				0	0
8	Mission Bay Drive / Seventh St	Thu, Apr 04, 2019	4:15 PM - 5:15 PM		14	0	14	9	14		23				0	6		7	13	50
				Year 2019 Bicycle Counts (900 Seventh St)																
1	16th St / Seventh St - Mississippi St	Tue, Oct 15, 2019	4:55 PM - 5:55 PM	0	31	5	36	11	36	4	51	0	8	2	10	8	48	38	94	191
2	17th St / Mississippi St	Blank					0				0				0				0	0
3	17th St / Missouri St	Blank					0				0				0				0	0
4	16th St / Missouri St	Blank					0				0				0				0	0
5	Mariposa St / Mississippi St	Blank					0				0				0				0	0
6	17th St / Texas St	Blank					0				0				0				0	0
7	16th St / Carolina St	Blank					0				0				0				0	0
8	Mission Bay Drive / Seventh St	Thu, Apr 04, 2019					0				0				0				0	0

901 16th St San Francisco Flower Market Project
Weekday PM Peak Hour (4 PM to 6 PM period)

#	Intersection Name	Count Date	Peak Hour	TABLE 1A - INTERSECTION TURNING MOVEMENTS																			
				Northbound				Southbound				Eastbound				Westbound				Total All Approaches			
				Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total				
				Year 2017 All Vehicle Counts (1240-1250 17th St)																			
1	16th St / Seventh St - Mississippi St	Tue, Nov 14, 2017	4:15 PM - 5:15 PM	57	310	81	448	86	136	31	253	17	342	81	440	63	506	273	842	1,983			
2	17th St / Mississippi St	Tue, Nov 14, 2017	4:00 PM - 5:00 PM	45	229	7	281	14	265	20	299	37	14	93	144	8	88	155	251	975			
3	17th St / Missouri St	Tue, Nov 14, 2017	5:00 PM - 6:00 PM	53	129	9	191	37	107	12	156	4	115	25	144	3	115	55	173	664			
4	16th St / Missouri St	Tue, Nov 14, 2017	5:00 PM - 6:00 PM	172			18	190				0	1	421	107	529	44	587		631	1,350		
5	Mariposa St / Mississippi St	Tue, Nov 14, 2017	4:00 PM - 5:00 PM	22	106	24	152	300	57	5	362	6	335	11	352	12	244	161	417	1,283			
6	17th St / Texas St	Blank					0				0				0				0	0			
7	16th St / Carolina St	Blank					0				0				0				0	0			
8	Mission Bay Drive / Seventh St	Wed, Apr 26, 2017	5:00 PM - 6:00 PM		567	39	606	143	235		378				0	64		198	262	1,246			
				Year 2017 Heavy Vehicle Counts (1240-1250 17th St)																			
1	16th St / Seventh St - Mississippi St	Tue, Nov 14, 2017	4:15 PM - 5:15 PM	5	7	0	12	12	5	1	18	0	36	0	36	0	23	16	39	105			
2	17th St / Mississippi St	Tue, Nov 14, 2017	4:00 PM - 5:00 PM	2	6	0	8	0	5	2	7	2	0	6	8	1	0	3	4	27			
3	17th St / Missouri St	Tue, Nov 14, 2017	5:00 PM - 6:00 PM	0	2	1	3	0	2	1	3	0	5	0	5	0	3	0	3	14			
4	16th St / Missouri St	Tue, Nov 14, 2017	5:00 PM - 6:00 PM	2			0	2			0		29	2	31	1	31		32	65			
5	Mariposa St / Mississippi St	Tue, Nov 14, 2017	4:00 PM - 5:00 PM	1	2	0	3	10	1	1	12	0	4	1	5	0	9	5	14	34			
6	17th St / Texas St	Blank					0				0				0				0	0			
7	16th St / Carolina St	Blank					0				0				0				0	0			
8	Mission Bay Drive / Seventh St	Wed, Apr 26, 2017					0				0				0				0	0			
				Year 2017 Bicycle Counts (1240-1250 17th St)																			
1	16th St / Seventh St - Mississippi St	Tue, Nov 14, 2017	4:15 PM - 5:15 PM	0	13	7	20	4	11	0	15	1	5	3	9	3	37	23	63	107			
2	17th St / Mississippi St	Tue, Nov 14, 2017	4:00 PM - 5:00 PM	6	7	0	13	1	6	7	14	4	1	7	12	0	18	0	18	57			
3	17th St / Missouri St	Tue, Nov 14, 2017	5:00 PM - 6:00 PM	1	0	0	1	0	2	3	5	0	26	0	26	0	77	1	78	110			
4	16th St / Missouri St	Tue, Nov 14, 2017	5:00 PM - 6:00 PM	0			0	0			0		10	4	14	1	45		46	60			
5	Mariposa St / Mississippi St	Tue, Nov 14, 2017	4:00 PM - 5:00 PM	0	3	0	3	9	0	0	9	0	0	1	1	0	3	10	13	26			
6	17th St / Texas St	Blank					0				0				0				0	0			
7	16th St / Carolina St	Blank					0				0				0				0	0			
8	Mission Bay Drive / Seventh St	Wed, Apr 26, 2017					0				0				0				0	0			
				Year 2015 All Vehicle Counts (901 16th St RtC Memo)																			
1	16th St / Seventh St - Mississippi St	Tue, Nov 03, 2015	4:15 PM - 5:15 PM	67	306	59	432	109	111	30	250	30	382	66	478	47	481	265	793	1,953			
2	17th St / Mississippi St	Tue, Nov 03, 2015	4:00 PM - 5:00 PM	56	237	6	299	30	190	19	239	26	18	77	121	5	121	192	318	977			
3	17th St / Missouri St	Blank					0				0				0				0	0			
4	16th St / Missouri St	Blank					0				0				0				0	0			
5	Mariposa St / Mississippi St	Tue, Nov 03, 2015	4:00 PM - 5:00 PM	13	104	18	135	218	39	5	262	7	266	6	279	8	275	160	443	1,119			
6	17th St / Texas St	Blank					0				0				0				0	0			
7	16th St / Carolina St	Blank					0				0				0				0	0			
8	Mission Bay Drive / Seventh St	Blank					0				0				0				0	0			
				Year 2015 Heavy Vehicle Counts (901 16th St RtC Memo)																			
1	16th St / Seventh St - Mississippi St	Tue, Nov 03, 2015	4:15 PM - 5:15 PM	0	6	2	8	10	10	1	21	1	26	0	27	0	19	14	33	89			
2	17th St / Mississippi St	Tue, Nov 03, 2015	4:00 PM - 5:00 PM	4	7	2	13	1	9	2	12	0	0	3	3	0	1	1	2	30			
3	17th St / Missouri St	Blank					0				0				0				0	0			
4	16th St / Missouri St	Blank					0				0				0				0	0			
5	Mariposa St / Mississippi St	Tue, Nov 03, 2015	4:00 PM - 5:00 PM	0	1	1	2	11	2	0	13	0	6	0	6	0	6	10	16	37			
6	17th St / Texas St	Blank					0				0				0				0	0			
7	16th St / Carolina St	Blank					0				0				0				0	0			
8	Mission Bay Drive / Seventh St	Blank					0				0				0				0	0			

901 16th St San Francisco Flower Market Project
Weekday PM Peak Hour (4 PM to 6 PM period)

#	Intersection Name	Count Date	Peak Hour	TABLE 1A - INTERSECTION TURNING MOVEMENTS																
				Northbound				Southbound				Eastbound				Westbound				Total All Approaches
				Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
				Year 2012 All Vehicle Counts (901 16th St)																
1	16th St / Seventh St - Mississippi St	Wed, Jul 18, 2012	5:00 PM - 6:00 PM	78	387	28	493	93	158	32	283	36	273	77	386	45	355	282	682	1,844
2	17th St / Mississippi St	Wed, Jul 18, 2012	4:15 PM - 5:15 PM	72	245	6	323	22	243	17	282	37	16	105	158	13	90	219	322	1,085
3	17th St / Missouri St	Thu, Aug 30, 2012	4:45 PM - 5:45 PM	24	47	3	74	22	67	15	104	7	137	12	156	3	169	26	198	532
4	16th St / Missouri St	Thu, Aug 30, 2012	4:45 PM - 5:45 PM	60		26	86				0		409	78	487	25	431		456	1,029
5	Mariposa St / Mississippi St	Wed, Jul 18, 2012	5:00 PM - 6:00 PM	16	111	24	151	297	56	12	365	5	258	15	278	12	291	210	513	1,307
6	17th St / Texas St	Wed, Jul 18, 2012	4:30 PM - 5:30 PM	30		15	45				0		137	27	164	8	177		185	394
7	16th St / Carolina St	Blank					0				0				0				0	0
8	Mission Bay Drive / Seventh St	Blank					0				0				0				0	0
				Year 2012 Bicycle Counts (901 16th St)																
1	16th St / Seventh St - Mississippi St	Wed, Jul 18, 2012	5:00 PM - 6:00 PM	1	9	0	10	1	9	3	13	2	7	0	9	1	46	9	56	88
2	17th St / Mississippi St	Wed, Jul 18, 2012	4:15 PM - 5:15 PM	8	3	0	11	0	9	6	15	3	2	5	10	0	26	3	29	65
3	17th St / Missouri St	Thu, Aug 30, 2012	4:45 PM - 5:45 PM	1	0	0	1	0	1	4	5	0	7	0	7	0	44	4	48	61
4	16th St / Missouri St	Thu, Aug 30, 2012	4:45 PM - 5:45 PM	3		0	3				0		10	0	10	5	62		67	80
5	Mariposa St / Mississippi St	Wed, Jul 18, 2012	5:00 PM - 6:00 PM	0	2	0	2	8	6	1	15	1	1	1	3	0	2	7	9	29
6	17th St / Texas St	Wed, Jul 18, 2012	4:30 PM - 5:30 PM	0		1	1				0		10	1	11	1	38		39	51
7	16th St / Carolina St	Blank					0				0				0				0	0
8	Mission Bay Drive / Seventh St	Blank					0				0				0				0	0

APPENDIX C

TRAVEL DEMAND – 901 16TH ST MIXED-USE

901 16th St Mixed-Use Project

TRIP GENERATION - WEEKDAY

LAND USE: RESIDENTIAL Studio/1-Bedroom (WORK TRIPS)

Proposed Size:		235 units					
DAILY		AM PEAK HOUR		PM PEAK HOUR			
Person-trip Generation Rate [1]:	7.5 trips/unit	Person-trip Gen Rate:	14.2% [5]	1.1	17.3% [1]	1.3	
Total Person Trips:	1,763 person-trips	Total Person-trips:		251		305	
Work Trips [2]:	33%	582 person-trips	Work Person-trips:	50% [6]	125	50% [2]	152

Percent of Origin Distribution [3]	Mode of Travel	Percent Distribution [4]	Average Vehicle Occupancy [4]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 60.0%	Auto	38.2%	1.08	133	124	29	27	35	32
	Transit	30.2%		106		23		28	
	Walk	16.7%		58		13		15	
	Other	14.9%		52		11		14	
	All Modes	100.0%		349	124	75	27	91	32
SF Superdistrict 2 5.0%	Auto	38.2%	1.08	11	10	2	2	3	3
	Transit	30.2%		9		2		2	
	Walk	16.7%		5		1		1	
	Other	14.9%		4		1		1	
	All Modes	100.0%		29	10	6	2	8	3
SF Superdistrict 3 10.0%	Auto	38.2%	1.08	22	21	5	4	6	5
	Transit	30.2%		18		4		5	
	Walk	16.7%		10		2		3	
	Other	14.9%		9		2		2	
	All Modes	100.0%		58	21	13	4	15	5
SF Superdistrict 4 5.0%	Auto	38.2%	1.08	11	10	2	2	3	3
	Transit	30.2%		9		2		2	
	Walk	16.7%		5		1		1	
	Other	14.9%		4		1		1	
	All Modes	100.0%		29	10	6	2	8	3
East Bay 6.0%	Auto	38.2%	1.08	13	12	3	3	3	3
	Transit	30.2%		11		2		3	
	Walk	16.7%		6		1		2	
	Other	14.9%		5		1		1	
	All Modes	100.0%		35	12	8	3	9	3
North Bay 2.0%	Auto	38.2%	1.08	4	4	1	1	1	1
	Transit	30.2%		4		1		1	
	Walk	16.7%		2		0		1	
	Other	14.9%		2		0		0	
	All Modes	100.0%		12	4	3	1	3	1
South Bay 12.0%	Auto	38.2%	1.08	27	25	6	5	7	6
	Transit	30.2%		21		5		6	
	Walk	16.7%		12		3		3	
	Other	14.9%		10		2		3	
	All Modes	100.0%		70	25	15	5	18	6
Out of Region 0.0%	Auto	38.2%	1.08	0	0	0	0	0	0
	Transit	30.2%		0		0		0	
	Walk	16.7%		0		0		0	
	Other	14.9%		0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
All Origins 100.0%	Auto	38.2%	1.08	222	206	48	44	58	54
	Transit	30.2%		176		38		46	
	Walk	16.7%		97		21		25	
	Other	14.9%		87		19		23	
	All Modes	100.0%		582	206	125	44	152	54

901 16th St Mixed-Use Project

TRIP GENERATION - WEEKDAY

LAND USE: RESIDENTIAL Studio/1-Bedroom (NON-WORK TRIPS)

Proposed Size:		235 units					
DAILY		AM PEAK HOUR		PM PEAK HOUR			
Person-trip Generation Rate [1]:	7.5 trips/unit	Person-trip Gen Rate:	14.2% [5]	1.1	17.3% [1]	1.3	
Total Person Trips:	1,763 person-trips	Total Person-trips:		251		305	
Non-Work Trips [2]:	67%	1,181 person-trips	Non-Work Person-trips:	50% [6]	125	50% [2]	152

Percent of Origin Distribution [3]	Mode of Travel	Percent Distribution [4]	Average Vehicle Occupancy [4]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 60.0%	Auto	38.2%	1.08	271	251	29	27	35	32
	Transit	30.2%		214		23		28	
	Walk	16.7%		118		13		15	
	Other	14.9%		106		11		14	
	All Modes	100.0%		709	251	75	27	91	32
SF Superdistrict 2 5.0%	Auto	38.2%	1.08	23	21	2	2	3	3
	Transit	30.2%		18		2		2	
	Walk	16.7%		10		1		1	
	Other	14.9%		9		1		1	
	All Modes	100.0%		59	21	6	2	8	3
SF Superdistrict 3 10.0%	Auto	38.2%	1.08	45	42	5	4	6	5
	Transit	30.2%		36		4		5	
	Walk	16.7%		20		2		3	
	Other	14.9%		18		2		2	
	All Modes	100.0%		118	42	13	4	15	5
SF Superdistrict 4 5.0%	Auto	38.2%	1.08	23	21	2	2	3	3
	Transit	30.2%		18		2		2	
	Walk	16.7%		10		1		1	
	Other	14.9%		9		1		1	
	All Modes	100.0%		59	21	6	2	8	3
East Bay 6.0%	Auto	38.2%	1.08	27	25	3	3	3	3
	Transit	30.2%		21		2		3	
	Walk	16.7%		12		1		2	
	Other	14.9%		11		1		1	
	All Modes	100.0%		71	25	8	3	9	3
North Bay 2.0%	Auto	38.2%	1.08	9	8	1	1	1	1
	Transit	30.2%		7		1		1	
	Walk	16.7%		4		0		1	
	Other	14.9%		4		0		0	
	All Modes	100.0%		24	8	3	1	3	1
South Bay 12.0%	Auto	38.2%	1.08	54	50	6	5	7	6
	Transit	30.2%		43		5		6	
	Walk	16.7%		24		3		3	
	Other	14.9%		21		2		3	
	All Modes	100.0%		142	50	15	5	18	6
Out of Region 0.0%	Auto	38.2%	1.08	0	0	0	0	0	0
	Transit	30.2%		0		0		0	
	Walk	16.7%		0		0		0	
	Other	14.9%		0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
All Origins 100.0%	Auto	38.2%	1.08	451	419	48	44	58	54
	Transit	30.2%		357		38		46	
	Walk	16.7%		197		21		25	
	Other	14.9%		176		19		23	
	All Modes	100.0%		1,181	419	125	44	152	54

901 16th St Mixed-Use Project

TRIP GENERATION - WEEKDAY

LAND USE: RESIDENTIAL 2 or more bedrooms (WORK TRIPS)

Proposed Size: 160 units							
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	10.0 trips/unit	Person-trip Gen Rate:	14.2% [5]	1.4	17.3% [1]	1.7	
Total Person Trips:	1,600 person-trips	Total Person-trips:		228		277	
Work Trips [2]:	33%	528 person-trips	Work Person-trips:	50% [6]	114	50% [2]	138

Percent of Origin Distribution [3]	Mode of Travel	Percent Distribution [4]	Average Vehicle Occupancy [4]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 60.0%	Auto	38.2%	1.08	121	112	26	24	32	29
	Transit	30.2%		96		21		25	
	Walk	16.7%		53		11		14	
	Other	14.9%		47		10		12	
	All Modes	100.0%		317	112	68	24	83	29
SF Superdistrict 2 5.0%	Auto	38.2%	1.08	10	9	2	2	3	2
	Transit	30.2%		8		2		2	
	Walk	16.7%		4		1		1	
	Other	14.9%		4		1		1	
	All Modes	100.0%		26	9	6	2	7	2
SF Superdistrict 3 10.0%	Auto	38.2%	1.08	20	19	4	4	5	5
	Transit	30.2%		16		3		4	
	Walk	16.7%		9		2		2	
	Other	14.9%		8		2		2	
	All Modes	100.0%		53	19	11	4	14	5
SF Superdistrict 4 5.0%	Auto	38.2%	1.08	10	9	2	2	3	2
	Transit	30.2%		8		2		2	
	Walk	16.7%		4		1		1	
	Other	14.9%		4		1		1	
	All Modes	100.0%		26	9	6	2	7	2
East Bay 6.0%	Auto	38.2%	1.08	12	11	3	2	3	3
	Transit	30.2%		10		2		3	
	Walk	16.7%		5		1		1	
	Other	14.9%		5		1		1	
	All Modes	100.0%		32	11	7	2	8	3
North Bay 2.0%	Auto	38.2%	1.08	4	4	1	1	1	1
	Transit	30.2%		3		1		1	
	Walk	16.7%		2		0		0	
	Other	14.9%		2		0		0	
	All Modes	100.0%		11	4	2	1	3	1
South Bay 12.0%	Auto	38.2%	1.08	24	22	5	5	6	6
	Transit	30.2%		19		4		5	
	Walk	16.7%		11		2		3	
	Other	14.9%		9		2		2	
	All Modes	100.0%		63	22	14	5	17	6
Out of Region 0.0%	Auto	38.2%	1.08	0	0	0	0	0	0
	Transit	30.2%		0		0		0	
	Walk	16.7%		0		0		0	
	Other	14.9%		0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
All Origins 100.0%	Auto	38.2%	1.08	202	187	43	40	53	49
	Transit	30.2%		160		34		42	
	Walk	16.7%		88		19		23	
	Other	14.9%		79		17		21	
	All Modes	100.0%		528	187	114	40	138	49

901 16th St Mixed-Use Project

TRIP GENERATION - WEEKDAY

LAND USE: RESIDENTIAL 2 or more bedrooms (NON-WORK TRIPS)

Proposed Size: 160 units							
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	10.0 trips/unit	Person-trip Gen Rate:	14.2% [5]	1.4	17.3% [1]	1.7	
Total Person Trips:	1,600 person-trips	Total Person-trips:		228		277	
Non-Work Trips [2]:	67%	1,072 person-trips	Non-Work Person-trips:	50% [6]	114	50% [2]	138

Percent of Origin Distribution [3]	Mode of Travel	Percent Distribution [4]	Average Vehicle Occupancy [4]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 60.0%	Auto	38.2%	1.08	246	228	26	24	32	29
	Transit	30.2%		195		21		25	
	Walk	16.7%		107		11		14	
	Other	14.9%		96		10		12	
	All Modes	100.0%		643	228	68	24	83	29
SF Superdistrict 2 5.0%	Auto	38.2%	1.08	20	19	2	2	3	2
	Transit	30.2%		16		2		2	
	Walk	16.7%		9		1		1	
	Other	14.9%		8		1		1	
	All Modes	100.0%		54	19	6	2	7	2
SF Superdistrict 3 10.0%	Auto	38.2%	1.08	41	38	4	4	5	5
	Transit	30.2%		32		3		4	
	Walk	16.7%		18		2		2	
	Other	14.9%		16		2		2	
	All Modes	100.0%		107	38	11	4	14	5
SF Superdistrict 4 5.0%	Auto	38.2%	1.08	20	19	2	2	3	2
	Transit	30.2%		16		2		2	
	Walk	16.7%		9		1		1	
	Other	14.9%		8		1		1	
	All Modes	100.0%		54	19	6	2	7	2
East Bay 6.0%	Auto	38.2%	1.08	25	23	3	2	3	3
	Transit	30.2%		19		2		3	
	Walk	16.7%		11		1		1	
	Other	14.9%		10		1		1	
	All Modes	100.0%		64	23	7	2	8	3
North Bay 2.0%	Auto	38.2%	1.08	8	8	1	1	1	1
	Transit	30.2%		6		1		1	
	Walk	16.7%		4		0		0	
	Other	14.9%		3		0		0	
	All Modes	100.0%		21	8	2	1	3	1
South Bay 12.0%	Auto	38.2%	1.08	49	46	5	5	6	6
	Transit	30.2%		39		4		5	
	Walk	16.7%		21		2		3	
	Other	14.9%		19		2		2	
	All Modes	100.0%		129	46	14	5	17	6
Out of Region 0.0%	Auto	38.2%	1.08	0	0	0	0	0	0
	Transit	30.2%		0		0		0	
	Walk	16.7%		0		0		0	
	Other	14.9%		0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
All Origins 100.0%	Auto	38.2%	1.08	409	380	43	40	53	49
	Transit	30.2%		324		34		42	
	Walk	16.7%		179		19		23	
	Other	14.9%		160		17		21	
	All Modes	100.0%		1,072	380	114	40	138	49

901 16th St Mixed-Use Project

TRIP GENERATION - WEEKDAY

LAND USE: SIT-DOWN RESTAURANT (WORK TRIPS)

Proposed Size:		7,150 sq.ft. (includes 60% occupancy factor for Assembly Use)					
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	600.0 trips/1000 sq.ft.	Person-trip Gen Rate:	1.5% [4]	8.8	13.5% [6]	81.0	
Total Person Trips:	4,290 person-trips	Total Person-trips:		63		579	
Work Trips [2]:	4%	172 person-trips	Work Person-trips:	100% [5]	63	4% [2]	23

Percent of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 8.3%	Auto	46.9%	1.30	7	5	2	2	1	1
	Transit	32.7%		5		2		1	
	Walk	17.7%		3		1		0	
	Other	2.7%		0		0		0	
	All Modes	100.0%		14	5	5	2	2	1
SF Superdistrict 2 10.6%	Auto	64.6%	1.26	12	9	4	3	2	1
	Transit	26.4%		5		2		1	
	Walk	6.9%		1		0		0	
	Other	2.1%		0		0		0	
	All Modes	100.0%		18	9	7	3	2	1
SF Superdistrict 3 23.9%	Auto	59.7%	1.25	24	20	9	7	3	3
	Transit	20.6%		8		3		1	
	Walk	15.1%		6		2		1	
	Other	4.6%		2		1		0	
	All Modes	100.0%		41	20	15	7	6	3
SF Superdistrict 4 7.9%	Auto	75.7%	1.48	10	7	4	3	1	1
	Transit	21.5%		3		1		0	
	Walk	0.0%		0		0		0	
	Other	2.8%		0		0		0	
	All Modes	100.0%		14	7	5	3	2	1
East Bay 14.3%	Auto	68.8%	1.61	17	10	6	4	2	1
	Transit	29.7%		7		3		1	
	Walk	0.0%		0		0		0	
	Other	1.5%		0		0		0	
	All Modes	100.0%		25	10	9	4	3	1
North Bay 5.6%	Auto	86.9%	1.44	8	6	3	2	1	1
	Transit	10.5%		1		0		0	
	Walk	0.0%		0		0		0	
	Other	2.6%		0		0		0	
	All Modes	100.0%		10	6	4	2	1	1
South Bay 26.9%	Auto	88.5%	1.13	41	36	15	13	6	5
	Transit	8.8%		4		1		1	
	Walk	0.0%		0		0		0	
	Other	2.7%		1		0		0	
	All Modes	100.0%		46	36	17	13	6	5
Out of Region 2.5%	Auto	61.8%	1.56	3	2	1	1	0	0
	Transit	35.3%		2		1		0	
	Walk	0.0%		0		0		0	
	Other	2.9%		0		0		0	
	All Modes	100.0%		4	2	2	1	1	0
All Origins 100.0%	Auto	71.0%	1.28	122	95	44	35	16	13
	Transit	20.2%		35		13		5	
	Walk	5.8%		10		4		1	
	Other	2.9%		5		2		1	
	All Modes	100.0%		172	95	63	35	23	13

901 16th St Mixed-Use Project

TRIP GENERATION - WEEKDAY

LAND USE: SIT-DOWN RESTAURANT (NON-WORK TRIPS)

Proposed Size:		7,150 sq.ft. (includes 60% occupancy factor for Assembly Use)					
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	600.0 trips/1000 sq.ft.	Person-trip Gen Rate:	1.5% [4]	8.8	13.5% [6]	81.0	
Total Person Trips:	4,290 person-trips	Total Person-trips:		63		579	
Non-Work Trips [2]:	96%	4,118 person-trips	Non-Work Person-trips:	0% [5]	0	96% [2]	556

Percent of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 6.0%	Auto	45.0%	1.76	111	63	0	0	15	9
	Transit	29.0%		72		0		10	
	Walk	22.0%		54		0		7	
	Other	4.0%		10		0		1	
	All Modes	100.0%		247	63	0	0	33	9
SF Superdistrict 2 9.0%	Auto	61.8%	1.52	229	151	0	0	31	20
	Transit	15.3%		57		0		8	
	Walk	19.8%		73		0		10	
	Other	3.1%		11		0		2	
	All Modes	100.0%		371	151	0	0	50	20
SF Superdistrict 3 61.0%	Auto	60.4%	2.04	1,517	744	0	0	205	100
	Transit	9.5%		239		0		32	
	Walk	28.7%		721		0		97	
	Other	1.4%		35		0		5	
	All Modes	100.0%		2,512	744	0	0	339	100
SF Superdistrict 4 5.0%	Auto	84.7%	1.78	174	98	0	0	24	13
	Transit	9.7%		20		0		3	
	Walk	2.8%		6		0		1	
	Other	2.8%		6		0		1	
	All Modes	100.0%		206	98	0	0	28	13
East Bay 3.0%	Auto	75.0%	1.77	93	52	0	0	13	7
	Transit	12.5%		15		0		2	
	Walk	12.5%		15		0		2	
	Other	0.0%		0		0		0	
	All Modes	100.0%		124	52	0	0	17	7
North Bay 2.0%	Auto	87.5%	1.44	72	50	0	0	10	7
	Transit	12.5%		10		0		1	
	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		82	50	0	0	11	7
South Bay 9.0%	Auto	86.4%	1.98	320	162	0	0	43	22
	Transit	9.1%		34		0		5	
	Walk	3.2%		12		0		2	
	Other	1.3%		5		0		1	
	All Modes	100.0%		371	162	0	0	50	22
Out of Region 5.0%	Auto	59.2%	1.69	122	72	0	0	16	10
	Transit	16.9%		35		0		5	
	Walk	19.7%		41		0		5	
	Other	4.2%		9		0		1	
	All Modes	100.0%		206	72	0	0	28	10
All Origins 100.0%	Auto	64.1%	1.90	2,639	1,392	0	0	356	188
	Transit	11.7%		481		0		65	
	Walk	22.4%		922		0		125	
	Other	1.8%		76		0		10	
	All Modes	100.0%		4,118	1,392	0	0	556	188

901 16th St Mixed-Use Project

TRIP GENERATION - WEEKDAY

LAND USE: GENERAL RETAIL (WORK TRIPS)

Proposed Size:		2,600 sq.ft.			
DAILY				AM PEAK HOUR	PM PEAK HOUR
Person-trip Generation Rate [1]:	150.0 trips/1000 sq.ft.	Person-trip Gen Rate:	2.3% [4]	3.5	9.0% [1] 13.5
Total Person Trips:	390 person-trips	Total Person-trips:		9	35
Work Trips [2]:	4% 16 person-trips	Work Person-trips:	85% [5]	8	4% [2] 1

Percent of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 8.3%	Auto	46.9%	1.30	1	0	0	0	0	0
	Transit	32.7%		0		0		0	
	Walk	17.7%		0		0		0	
	Other	2.7%		0		0		0	
	All Modes	100.0%		1	0	1	0	0	0
SF Superdistrict 2 10.6%	Auto	64.6%	1.26	1	1	1	0	0	0
	Transit	26.4%		0		0		0	
	Walk	6.9%		0		0		0	
	Other	2.1%		0		0		0	
	All Modes	100.0%		2	1	1	0	0	0
SF Superdistrict 3 23.9%	Auto	59.7%	1.25	2	2	1	1	0	0
	Transit	20.6%		1		0		0	
	Walk	15.1%		1		0		0	
	Other	4.6%		0		0		0	
	All Modes	100.0%		4	2	2	1	0	0
SF Superdistrict 4 7.9%	Auto	75.7%	1.48	1	1	0	0	0	0
	Transit	21.5%		0		0		0	
	Walk	0.0%		0		0		0	
	Other	2.8%		0		0		0	
	All Modes	100.0%		1	1	1	0	0	0
East Bay 14.3%	Auto	68.8%	1.61	2	1	1	0	0	0
	Transit	29.7%		1		0		0	
	Walk	0.0%		0		0		0	
	Other	1.5%		0		0		0	
	All Modes	100.0%		2	1	1	0	0	0
North Bay 5.6%	Auto	86.9%	1.44	1	1	0	0	0	0
	Transit	10.5%		0		0		0	
	Walk	0.0%		0		0		0	
	Other	2.6%		0		0		0	
	All Modes	100.0%		1	1	0	0	0	0
South Bay 26.9%	Auto	88.5%	1.13	4	3	2	2	0	0
	Transit	8.8%		0		0		0	
	Walk	0.0%		0		0		0	
	Other	2.7%		0		0		0	
	All Modes	100.0%		4	3	2	2	0	0
Out of Region 2.5%	Auto	61.8%	1.56	0	0	0	0	0	0
	Transit	35.3%		0		0		0	
	Walk	0.0%		0		0		0	
	Other	2.9%		0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
All Origins 100.0%	Auto	71.0%	1.28	11	9	5	4	1	1
	Transit	20.2%		3		2		0	
	Walk	5.8%		1		0		0	
	Other	2.9%		0		0		0	
	All Modes	100.0%		16	9	8	4	1	1

901 16th St Mixed-Use Project

TRIP GENERATION - WEEKDAY

LAND USE: GENERAL RETAIL (NON-WORK TRIPS)

Proposed Size:		2,600 sq.ft.					
DAILY		AM PEAK HOUR		PM PEAK HOUR			
Person-trip Generation Rate [1]:	150.0 trips/1000 sq.ft.	Person-trip Gen Rate:	2.3% [4]	3.5	9.0% [1]	13.5	
Total Person Trips:	390 person-trips	Total Person-trips:		9		35	
Non-Work Trips [2]:	96%	374 person-trips	Non-Work Person-trips:	15% [5]	1	96% [2]	34

Percent of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 6.0%	Auto	45.0%	1.76	10	6	0	0	1	1
	Transit	29.0%		7		0		1	
	Walk	22.0%		5		0		0	
	Other	4.0%		1		0		0	
	All Modes	100.0%		22	6	0	0	2	1
SF Superdistrict 2 9.0%	Auto	61.8%	1.52	21	14	0	0	2	1
	Transit	15.3%		5		0		0	
	Walk	19.8%		7		0		1	
	Other	3.1%		1		0		0	
	All Modes	100.0%		34	14	0	0	3	1
SF Superdistrict 3 61.0%	Auto	60.4%	2.04	138	68	1	0	12	6
	Transit	9.5%		22		0		2	
	Walk	28.7%		66		0		6	
	Other	1.4%		3		0		0	
	All Modes	100.0%		228	68	1	0	21	6
SF Superdistrict 4 5.0%	Auto	84.7%	1.78	16	9	0	0	1	1
	Transit	9.7%		2		0		0	
	Walk	2.8%		1		0		0	
	Other	2.8%		1		0		0	
	All Modes	100.0%		19	9	0	0	2	1
East Bay 3.0%	Auto	75.0%	1.77	8	5	0	0	1	0
	Transit	12.5%		1		0		0	
	Walk	12.5%		1		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		11	5	0	0	1	0
North Bay 2.0%	Auto	87.5%	1.44	7	5	0	0	1	0
	Transit	12.5%		1		0		0	
	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		7	5	0	0	1	0
South Bay 9.0%	Auto	86.4%	1.98	29	15	0	0	3	1
	Transit	9.1%		3		0		0	
	Walk	3.2%		1		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		34	15	0	0	3	1
Out of Region 5.0%	Auto	59.2%	1.69	11	7	0	0	1	1
	Transit	16.9%		3		0		0	
	Walk	19.7%		4		0		0	
	Other	4.2%		1		0		0	
	All Modes	100.0%		19	7	0	0	2	1
All Origins 100.0%	Auto	64.1%	1.90	240	127	1	0	22	11
	Transit	11.7%		44		0		4	
	Walk	22.4%		84		0		8	
	Other	1.8%		7		0		1	
	All Modes	100.0%		374	127	1	0	34	11

901 16th St Mixed-Use Project

TRIP GENERATION - WEEKDAY

LAND USE: SUPERMARKET (WORK TRIPS)

Proposed Size:		15,220 sq.ft.			
DAILY				AM PEAK HOUR	PM PEAK HOUR
Person-trip Generation Rate [1]:	297.0 trips/1000 sq.ft.	Person-trip Gen Rate:	2.6% [4]	7.8	7.3% [1] 21.7
Total Person Trips:	4,520 person-trips	Total Person-trips:		118	330
Work Trips [2]:	4% 181 person-trips	Work Person-trips:	4% [5]	5	4% [2] 13

Percent of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 8.3%	Auto	46.9%	1.30	7	5	0	0	1	0
	Transit	32.7%		5		0		0	
	Walk	17.7%		3		0		0	
	Other	2.7%		0		0		0	
	All Modes	100.0%		15	5	0	0	1	0
SF Superdistrict 2 10.6%	Auto	64.6%	1.26	12	10	0	0	1	1
	Transit	26.4%		5		0		0	
	Walk	6.9%		1		0		0	
	Other	2.1%		0		0		0	
	All Modes	100.0%		19	10	1	0	1	1
SF Superdistrict 3 23.9%	Auto	59.7%	1.25	26	21	1	1	2	2
	Transit	20.6%		9		0		1	
	Walk	15.1%		7		0		0	
	Other	4.6%		2		0		0	
	All Modes	100.0%		43	21	1	1	3	2
SF Superdistrict 4 7.9%	Auto	75.7%	1.48	11	7	0	0	1	1
	Transit	21.5%		3		0		0	
	Walk	0.0%		0		0		0	
	Other	2.8%		0		0		0	
	All Modes	100.0%		14	7	0	0	1	1
East Bay 14.3%	Auto	68.8%	1.61	18	11	0	0	1	1
	Transit	29.7%		8		0		1	
	Walk	0.0%		0		0		0	
	Other	1.5%		0		0		0	
	All Modes	100.0%		26	11	1	0	2	1
North Bay 5.6%	Auto	86.9%	1.44	9	6	0	0	1	0
	Transit	10.5%		1		0		0	
	Walk	0.0%		0		0		0	
	Other	2.6%		0		0		0	
	All Modes	100.0%		10	6	0	0	1	0
South Bay 26.9%	Auto	88.5%	1.13	43	38	1	1	3	3
	Transit	8.8%		4		0		0	
	Walk	0.0%		0		0		0	
	Other	2.7%		1		0		0	
	All Modes	100.0%		49	38	1	1	4	3
Out of Region 2.5%	Auto	61.8%	1.56	3	2	0	0	0	0
	Transit	35.3%		2		0		0	
	Walk	0.0%		0		0		0	
	Other	2.9%		0		0		0	
	All Modes	100.0%		5	2	0	0	0	0
All Origins 100.0%	Auto	71.0%	1.28	128	100	3	3	9	7
	Transit	20.2%		37		1		3	
	Walk	5.8%		11		0		1	
	Other	2.9%		5		0		0	
	All Modes	100.0%		181	100	5	3	13	7

901 16th St Mixed-Use Project

TRIP GENERATION - WEEKDAY

LAND USE: SUPERMARKET (NON-WORK TRIPS)

Proposed Size:		15,220 sq.ft.			
DAILY				AM PEAK HOUR	PM PEAK HOUR
Person-trip Generation Rate [1]:	297.0 trips/1000 sq.ft.	Person-trip Gen Rate:	2.6% [4]	7.8	7.3% [1] 21.7
Total Person Trips:	4,520 person-trips	Total Person-trips:		118	330
Non-Work Trips [2]:	96%	4,340 person-trips	Non-Work Person-trips:	96% [5] 114	96% [2] 317

Percent of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 6.0%	Auto	45.0%	1.76	117	67	3	2	9	5
	Transit	29.0%		76		2		6	
	Walk	22.0%		57		1		4	
	Other	4.0%		10		0		1	
	All Modes	100.0%		260	67	7	2	19	5
SF Superdistrict 2 9.0%	Auto	61.8%	1.52	241	159	6	4	18	12
	Transit	15.3%		60		2		4	
	Walk	19.8%		77		2		6	
	Other	3.1%		12		0		1	
	All Modes	100.0%		391	159	10	4	29	12
SF Superdistrict 3 61.0%	Auto	60.4%	2.04	1,599	784	42	21	117	57
	Transit	9.5%		251		7		18	
	Walk	28.7%		760		20		55	
	Other	1.4%		37		1		3	
	All Modes	100.0%		2,647	784	69	21	193	57
SF Superdistrict 4 5.0%	Auto	84.7%	1.78	184	103	5	3	13	8
	Transit	9.7%		21		1		2	
	Walk	2.8%		6		0		0	
	Other	2.8%		6		0		0	
	All Modes	100.0%		217	103	6	3	16	8
East Bay 3.0%	Auto	75.0%	1.77	98	55	3	1	7	4
	Transit	12.5%		16		0		1	
	Walk	12.5%		16		0		1	
	Other	0.0%		0		0		0	
	All Modes	100.0%		130	55	3	1	10	4
North Bay 2.0%	Auto	87.5%	1.44	76	53	2	1	6	4
	Transit	12.5%		11		0		1	
	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		87	53	2	1	6	4
South Bay 9.0%	Auto	86.4%	1.98	337	170	9	4	25	12
	Transit	9.1%		36		1		3	
	Walk	3.2%		12		0		1	
	Other	1.3%		5		0		0	
	All Modes	100.0%		391	170	10	4	29	12
Out of Region 5.0%	Auto	59.2%	1.69	128	76	3	2	9	6
	Transit	16.9%		37		1		3	
	Walk	19.7%		43		1		3	
	Other	4.2%		9		0		1	
	All Modes	100.0%		217	76	6	2	16	6
All Origins 100.0%	Auto	64.1%	1.90	2,781	1,467	73	38	203	107
	Transit	11.7%		507		13		37	
	Walk	22.4%		972		25		71	
	Other	1.8%		80		2		6	
	All Modes	100.0%		4,340	1,467	114	38	317	107

APPENDIX D

TRAVEL DEMAND – SF FLOWER MARKET

901 16th St Permanent Flower Market Transportation Analysis

Vehicle Trip Generation Estimates

Permanent Flower Market Site	Daily	AM Peak Hour [a]			PM Peak Hour [b]		
		Inbound	Outbound	Total	Inbound	Outbound	Total
Flower Mart Operations [c]							
Autos	981	95	70	165	9	3	12
Pick ups and vans	233	16	21	37	2	3	5
Box trucks	36	1	0	1	1	0	1
Tractor-trailers	8	0	1	1	0	0	0
Subtotal	1,258	112	92	204	12	6	18
General Public/Other Customers [d]							
Autos	585	0	0	0	0	0	0
Pick ups and vans	131						
Box trucks	27						
Subtotal	743	0	0	0	0	0	0
Total Flower Market	2,001	112	92	204	12	6	18

[a] Highest 60-minute period between 7 a.m. and 9 a.m.

[b] Highest 60-minute period between 4 p.m. and 6 p.m.

[c] Vehicles arriving between midnight and 10 a.m., and departing throughout the day; includes employees.

[d] Vehicles arriving after 10 a.m. and departing throughout the day; includes customers parking onsite

Existing 901 16th St Site [e]	Daily	AM Peak Hour [a]			PM Peak Hour [b]		
		Inbound	Outbound	Total	Inbound	Outbound	Total
Autos, pick ups and vans	92	17	2	19	2	10	12
Box trucks and tractor-trailers	60	1	11	12	3	5	8
Total All Vehicles	152	18	13	31	5	15	20
NET PROJECT (Flowe Market minus Existing)							
Autos, pick ups and vans	1,838	94	89	183	9	-4	5
Box trucks and tractor-trailers	11	0	-10	-10	-2	-5	-7
Total Net Project	1,849	94	79	173	7	-9	-2

[e] Counts conducted in August 2012 (Cor-O-Van)

901 16th St / 1200 17th St (2014 Project) [f]	Daily	AM Peak Hour [a] [g]			PM Peak Hour [b]		
		Inbound	Outbound	Total	Inbound	Outbound	Total
Autos, pick ups and vans	4,342	118	133	251	291	242	533
Box trucks and tractor-trailers	40						
Total All Vehicles	4,382	118	133	251	291	242	533
DIFFERENCE (Flower Market minus 2014 Project)							
Autos, pick ups and vans	-2,412	-7	-42	-49	-280	-236	-516
Box trucks and tractor-trailers	31	1	1	2	1	0	1
Total Difference with 2014 Project	-2,381	-6	-41	-47	-279	-236	-515

[f] Transportation Impact Study Case No. 2011.1300, September 2014

24,968 gsf of general retail, supermarket, and restaurant uses and 395 residential units.

[g] The AM peak hour was not evaluated as part of the transportation analysis conducted for the 2014 Project; the AM peak hour values presented here have been calculated for this analysis, using a similar methodology.

TRAVEL DEMAND

San Francisco Flower Market

Trip Generation Estimates	Notes	DAILY			AM Peak Hour		PM Peak Hour	
		Person-trips	Avg. Veh. Occ.	Vehicle-trips	Person-trips	Veh-trips	Person-trips	Veh-trips
Wholesale Badge-holders								
Light Vehicles	Midnight to 10 AM (all)	878	1.27 pax/auto	691	183	144	0	0
	10 AM to 3PM (65% of total)	445	1.27 pax/auto	350	0	0	0	0
	3PM to Midnight (6th/Brann)	58	1.27 pax/auto	46	0	0	15	12
Small Pickup Trucks/Vans	Midnight to 10 AM (all)	233	1.00 pax/auto	233	37	37		
	10 AM to 3PM (all)	104	1.00 pax/auto	104				
	3PM to Midnight (all)	27	1.00 pax/auto	27			5	5
Box Delivery Trucks	Midnight to 10 AM (all)	28	1.00 pax/auto	28	0	0		
	10 AM to 3PM (all)	20	1.00 pax/auto	20				
	3PM to Midnight (all)	7	1.00 pax/auto	7			1	1
Large Trailer Semi Trucks	All day (all)	0	1.00 pax/auto	0	0	0	0	0
External Box trucks	(Tuesday)	8	1.00 pax/auto	8	1	1	0	0
External Trailer Semi trucks	(Tuesday)	8	1.00 pax/auto	8	1	1	0	0
Total badge-holders		1,816		1,522	222	183	21	18
						12.0%		1.2%
Employees (275)	<i>2019 SF Guidelines data</i>				<i>7.0%</i>		<i>0.0%</i>	
Private Auto	37.4%	206	1.13 pax/auto	182	14	13	0	0
Taxi/TNC	11.1%	61	1.13 pax/auto	108	4	8	0	0
Transit	31.5%	173			12		0	
Walk/Other	19.9%	110			8		0	
Total employees	100.0%	550		290	38	21	0	0
General Public								
Public parking	10 AM to 3PM (35% of total)	205	1.08 pax/auto	189	0	0	0	0
GRAND TOTAL								
Auto	89.0%	2,288		2,001	240	204	21	18
Transit	6.7%	173			12		0	
Walk/Other	4.3%	110			8		0	
Total	100.0%	2,571		2,001	260	204	21	18
						10.2%		0.9%

San Francisco Flower Market

Trip Generation Estimates	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
	In	Out	Total	In	Out	Total
Wholesale Badge-holders						
Light Vehicles	78	66	144			
				9	3	12
Small Pickup Trucks/Vans	16	21	37			
				2	3	5
Box Delivery Trucks	0	0	0			
				1	0	1
Large Trailer Semi Trucks	0	0	0	0	0	0
External Box trucks	1		1			
External Trailer Semi trucks		1	1			
Total badge-holders	95	88	183	12	6	18
Employees						
Autos	17	4	21			0
Total employees	17	4	21	0	0	0
GRAND TOTAL	112	92	204	12	6	18

Quarterly Badge-holder Entry, Q1 – Q3 2017

No. of M-F No. of Sat Weekday Hol.	Q1 2017						Q2 2017						Q3 2017						QUARTERLY AVERAGE Q1-Q3 2017						DAILY AVERAGE Q3 2017 Adjutment K-Factor (visits per day) 1.80						6th St Gate Count (Inbound) August 16, 2017				
	65						65						65																						
	12						13						14																						
0						1						2																							
Arrival Time	Parking Duration						Parking Duration						Parking Duration						Parking Duration						Parking Duration										
	0-1 hour		1-2 hours		2-3 hours		Total		0-1 hour		1-2 hours		2-3 hours		Total		0-1 hour		1-2 hours		2-3 hours		Total		0-1 hour		1-2 hours		2-3 hours		Total				
12:00 AM	74	8	12	94	0%		41	5	6	52	0%		54	1	3	58	0%		56	5	7	68	0%		1	0	0	1	0%		0	0%			
1:00 AM	62	29	64	155	1%		63	29	73	165	1%		53	24	74	151	1%		59	27	70	157	1%		1	1	2	3	1%		8	43%			
2:00 AM	149	138	61	348	1%		151	189	85	425	1%		134	173	72	379	1%		145	167	73	384	1%		3	4	2	9	1%		21	41%			
3:00 AM	226	212	156	594	2%		179	298	225	702	2%		163	242	185	590	2%		189	251	189	629	2%		4	5	4	13	2%		31	43%			
4:00 AM	462	590	401	1,453	6%		560	731	509	1,800	6%		538	688	388	1,614	6%		520	670	433	1,622	6%		12	16	9	37	6%		50	73%			
5:00 AM	1,067	925	526	2,518	10%		1,255	1,175	673	3,103	11%		972	1,039	583	2,594	10%		1,098	1,046	594	2,738	10%		22	24	13	59	10%		57	103%			
6:00 AM	1,538	1,096	427	3,061	12%		1,849	1,354	620	3,823	13%		1,606	1,201	540	3,347	13%		1,664	1,217	529	3,410	13%		36	27	12	76	13%		66	115%			
7:00 AM	1,855	1,062	359	3,276	13%		2,005	1,310	453	3,768	13%		1,964	1,249	451	3,664	14%		1,941	1,207	421	3,569	13%		45	28	10	83	14%		62	134%			
8:00 AM	2,278	1,194	323	3,795	15%		2,440	1,410	373	4,223	15%		2,382	1,215	387	3,984	15%		2,367	1,273	361	4,001	15%		54	28	9	91	15%		78	116%			
9:00 AM	2,499	1,137	256	3,892	15%		2,457	1,334	264	4,055	14%		2,392	1,200	283	3,875	14%		2,449	1,224	268	3,941	15%		54	27	6	88	14%		87	101%			
Avg. Length of Stay: Seasonality	10,210	6,391	2,585	19,186	75%		11,000	7,835	3,281	22,116	77%		10,258	7,032	2,966	20,256	76%		10,489	7,086	2,944	20,519	76%		233	160	67	460	76%		460	100%			
	1 hour		21 min.			1 hour		24 min.		1 hour		23 min.		1 hour		23 min.		1 hour		23 min.		1 hour		23 min.		1 hour		23 min.							
	97%	90%	88%	94%		105%	111%	111%	108%		98%	99%	101%	99%		98%	99%	101%	99%		98%	99%	101%	99%											
10:00 AM	2,007	551	128	2,686	10%		1,888	679	139	2,706	9%		1,850	653	146	2,649	10%		1,915	628	138	2,680	10%		42	15	3	60	10%		73	82%			
11:00 AM	1,138	240	73	1,451	6%		1,118	247	81	1,446	5%		1,130	260	64	1,454	5%		1,129	249	73	1,450	5%		26	6	1	33	5%		53	62%			
12:00 PM	692	126	50	868	3%		700	120	41	861	3%		680	99	33	812	3%		691	115	41	847	3%		15	2	1	18	3%		37	50%			
1:00 PM	497	75	20	592	2%		496	89	32	617	2%		514	71	37	622	2%		502	78	30	610	2%		12	2	1	14	2%		27	52%			
2:00 PM	376	41	12	429	2%		324	54	13	391	1%		295	49	26	370	1%		332	48	17	397	1%		7	1	1	8	1%		18	47%			
Avg. Length of Stay: Seasonality	4,710	1,033	283	6,026	23%		4,526	1,189	306	6,021	21%		4,469	1,132	306	5,907	22%		4,568	1,118	298	5,985	22%		102	26	7	134	22%		208	65%			
	1 hour		1 min.			1 hour		3 min.		1 hour		3 min.		1 hour		3 min.		1 hour		2 min.		1 hour		2 min.		1 hour		3 min.							
	103%	92%	95%	101%		99%	106%	103%	101%		98%	101%	103%	99%		98%	101%	103%	99%																
3:00 PM	145	15	7	167	1%		159	22	9	190	1%		126	28	9	163	1%		143	22	8	173	1%		3	1	0	4	1%		7	53%			
4:00 PM	121	12	2	135	1%		109	21	5	135	0%		95	6	4	105	0%		108	13	4	125	0%		2	0	0	2	0%		4	60%			
5:00 PM	67	3	2	72	0%		92	6	3	101	0%		67	5	3	75	0%		75	5	3	83	0%		2	0	0	2	0%		9	19%			
6:00 PM	27	1	0	28	0%		59	3	5	67	0%		91	2	6	99	0%		59	2	4	65	0%		2	0	0	2	0%		3	75%			
7:00 PM	28	3	7	38	0%		28	3	11	42	0%		27	0	5	32	0%		28	2	8	37	0%		1	0	0	1	0%		0	0%			
8:00 PM	33	6	0	39	0%		36	17	1	54	0%		38	5	0	43	0%		36	9	0	45	0%		1	0	0	1	0%		0	0%			
9:00 PM	10	1	0	11	0%		17	2	0	19	0%		11	5	0	16	0%		13	3	0	15	0%		0	0	0	0	0%		0	0%			
10:00 PM	4	3	0	7	0%		27	3	2	32	0%		11	0	2	13	0%		14	2	1	17	0%		0	0	0	0	0%		0	0%			
11:00 PM	11	8	11	30	0%		12	13	17	42	0%		5	15	9	29	0%		9	12	12	34	0%		0	0	0	1	0%		0	0%			
Avg. Length of Stay: Seasonality	446	52	29	527	2%		539	90	53	682	2%		471	66	38	575	2%		485	69	40	595	2%		11	1	1	13	2%		23	57%			
	0 hour		58 min.			1 hour		2 min.		0 hour		60 min.		1 hour		0 min.		1 hour		0 min.		0 hour		60 min.		0 hour		60 min.							
	92%	75%	73%	89%		111%	130%	133%	115%		97%	95%	95%	97%																					
Grand Total	15,366	7,476	2,897	25,739	100%		16,065	9,114	3,640	28,819	100%		15,198	8,230	3,310	26,738	100%		15,543	8,273	3,282	27,099	100%		345	187	75	608	100%		691	88%			
Avg. Length of Stay: Seasonality	1 hour		16 min.			1 hour		19 min.		1 hour		18 min.		1 hour		18 min.		1 hour		18 min.		1 hour		18 min.		1 hour		18 min.							
	99%	90%	88%	95%		103%	110%	111%	106%		98%	99%	101%	99%																					

Source: SF Flower Mart, 2017

TRUCK DEMAND

Larger Trucking Lines (Semi)

Name	Frequency	When	Time	Stay (hours)
Jessup	Daily	Mon-Fri	2AM - 6AM	2
Growers Logistics	Daily	Mon-Sat	4AM - 7AM	2-3
CB Logistics	3 times/week	Mon/Tue/Fri	1AM - 6AM	2-3
Armellini	once/week	Sunday	6PM - 1AM	2
Floriday Beauty	2 times/week	Sun/Tue	Noon - 12AM	1
Prime Floral - OR/WA	2 times/week	Mon/Thu	Noon - 12AM	2

Smaller Trucks (Box Trucks)

Name	Frequency	When	Time	Stay (hours)
Smaller Wholesalers	2 times/week	Tue/Fri	3AM - 1AM	2-6
Smaller Wholesalers	Daily		4AM - 7AM	2-3
Smaller Wholesalers	3 times/week		1AM - 6AM	2-3
Smaller Wholesalers	once/week		6PM - 1AM	2
Smaller Wholesalers	2 times/week		Noon - 12AM	3

Larger Trucking Lines (Semi)

Name	M	Tu	W	Th	F	Sat	Sun	Avg Stay Tue
Jessup	5	1	1	1	1			2
Growers Logistics	6	1	1	1	1	1		2.5
CB Logistics	3	1	1		1			2.5
Armellini	1						1	
Floriday Beauty	2		1				1	
Prime Floral - OR/WA	2	1		1				2
Total	4	4	2	3	3	1	2	2.25

Smaller Trucks (Box Trucks)

Name	M	Tu	W	Th	F	Sat	Sun	Avg Stay Tue
Smaller Wholesalers	2	1			1			3
Smaller Wholesalers	7	1	1	1	1	1	1	2.5
Smaller Wholesalers	3	1	1		1			
Smaller Wholesalers	1	1						1
Smaller Wholesalers	2	1		1				1.5
Total	2	4	2	2	3	1	1	2.00

Yellow = AM peak hour

Source: SF Flower Mart, 2017

PARKING LOT UTILIZATION

City of San Francisco
 Flower Market Parking Lot - Sixth/Brannan
 Thursday, 2-9-2018

Note: 7:30 am - 57 vehicles in lot

Start time	Cars				SUV's				Minivans				Full size vans			
	1 person	2 people	3 people	4 people	1 person	2 people	3 people	4 people	1 person	2 people	3 people	4 people	1 person	2 people	3 people	4 people
7:30	3	1			4	3			1				1			
7:45	3				1				1							
8:00	4				4	3			1	1						
8:15	1				4	1				1			1			
Total	11	1	0	0	13	7	0	0	3	2	0	0	2	0	0	0

11 2 0 0
 Avg Occup 1.06

Start time	Cars+SUV's+Minivans				Full size vans+Small pickups+large pickups			
	1 person	2 people	3 people	4 people	1 person	2 people	3 people	4 people
7:30	8	4	0	0	1	0	0	0
7:45	5	0	0	0	0	0	0	0
8:00	9	4	0	0	0	0	0	0
8:15	5	2	0	0	1	0	0	0
Total	27	10	0	0	2	0	0	0

27 20 0 0 2 0 0 0
 Avg Occup 1.27 1.00

Flower Market Parking Lot Utilization

Date: 8/16/2017 Wednesday

	Light Vehicles			Small Pickup Trucks/Vans			Small Box Delivery Trucks			Large Trailer Semi Trucks			All Vehicles		
Start Time	In	Out	Utilization	In	Out	Utilization	In	Out	Utilization	In	Out	Utilization	In	Out	Utilization
All day	537	522	1059 77%	137	153	290 21%	17	17	34 2%	0	0	0 0%	691	692	1383 100%
Max Peak Hour	75 11:00 PM	83 11:00 PM	145 11:00 PM 76%	19 11:00 PM	25 11:00 PM	40 11:00 PM 21%	4 11:00 PM	3 11:00 PM	6 11:00 PM 3%	0 11:00 PM	0 11:00 PM	0 11:00 PM 0%	93 11:00 PM	109 11:00 PM	182 11:00 PM 100%
AM Peak Hour	66 7:45 AM	58 8:00 AM	121 8:00 AM 78%	15 8:00 AM	20 8:00 AM	35 8:00 AM 22%	0 8:00 AM	0 8:00 AM	0 8:00 AM 0%	0 8:00 AM	0 8:00 AM	0 8:00 AM 0%	79 7:45 AM	78 8:00 AM	156 8:00 AM 100%
PM Peak Hour	9 5:00 PM	3 5:00 PM	12 5:00 PM 75%	2 4:45 PM	1 5:00 PM	3 5:00 PM 19%	1 4:30 PM	0 5:00 PM	1 4:30 PM 6%	0 5:00 PM	0 5:00 PM	0 5:00 PM 0%	9 5:00 PM	3 5:00 PM	12 5:00 PM 100%

Source: Nelson\Nygaard (2017)

APPENDIX E

EXISTING COUNTS AT 901 16TH STREET

901 16th Street, Cor-O-Van																		
08/02/12	Pedestrians			East Driveway - Passenger Cars			East Driveway - Trucks			Loading Dock - Trucks			Total Trucks			All Vehicles		
Start Time	Total	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound
Total	50	25	25	92	46	46	40	20	20	20	10	10	60	30	30	152	76	76
AM Peak Hour	14	7	7	19	17	2	9	0	9	3	1	2	12	1	11	31	18	13
PM Peak Hour	4	2	2	12	2	10	5	2	3	3	1	2	8	3	5	20	5	15
8:00 AM	3	1	2	6	5	1	1	0	1	0	0	0	1	0	1	7	5	2
8:15 AM	4	2	2	4	4	0	3	0	3	0	0	0	3	0	3	7	4	3
8:30 AM	3	2	1	5	5	0	3	0	3	2	1	1	5	1	4	10	6	4
8:45 AM	4	2	2	4	3	1	2	0	2	1	0	1	3	0	3	7	3	4
9:00 AM	0	0	0	2	2	0	0	0	0	2	1	1	2	1	1	4	3	1
9:15 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0
9:30 AM	0	0	0	1	1	0	1	0	1	0	0	0	1	0	1	2	1	1
9:45 AM	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	2	1	1
10:00 AM	0	0	0	1	1	0	0	0	0	1	1	0	1	1	0	2	2	0
10:15 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1
10:30 AM	0	0	0	1	1	0	2	2	0	2	1	1	4	3	1	5	4	1
10:45 AM	0	0	0	0	0	0	1	0	1	2	1	1	3	1	2	3	1	2
11:00 AM	4	2	2	0	0	0	1	1	0	0	0	0	1	1	0	1	1	0
11:15 AM	0	0	0	0	0	0	0	0	0	2	1	1	2	1	1	2	1	1
11:30 AM	1	1	0	3	2	1	1	0	1	1	1	0	2	1	1	5	3	2
11:45 AM	0	0	0	1	0	1	2	1	1	0	0	0	2	1	1	3	1	2
12:00 PM	3	2	1	3	2	1	1	0	1	0	0	0	1	0	1	4	2	2
12:15 PM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	2	1	1	4	2	2	0	0	0	0	0	0	0	0	0	4	2	2
12:45 PM	4	2	2	2	1	1	0	0	0	0	0	0	0	0	0	2	1	1
1:00 PM	0	0	0	2	2	0	1	1	0	2	1	1	3	2	1	5	4	1
1:15 PM	1	0	1	2	1	1	1	1	0	0	0	0	1	1	0	3	2	1
1:30 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1
1:45 PM	4	2	2	3	1	2	1	1	0	0	0	0	1	1	0	4	2	2
2:00 PM	4	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	4	2	2	2	1	1	2	2	0	0	0	0	2	2	0	4	3	1
2:30 PM	1	1	0	3	1	2	2	1	1	0	0	0	2	1	1	5	2	3
2:45 PM	2	0	2	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0
3:00 PM	0	0	0	3	1	2	3	2	1	0	0	0	3	2	1	6	3	3
3:15 PM	0	0	0	6	1	5	3	2	1	1	0	1	4	2	2	10	3	7
3:30 PM	0	0	0	3	0	3	2	2	0	1	1	0	3	3	0	6	3	3
3:45 PM	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	2	1	1
4:00 PM	1	0	1	6	2	4	2	2	0	2	1	1	4	3	1	10	5	5
4:15 PM	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1
4:30 PM	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	2	0	2
4:45 PM	2	1	1	2	1	1	0	0	0	1	0	1	1	0	1	3	1	2
5:00 PM	0	0	0	4	0	4	1	0	1	0	0	0	1	0	1	5	0	5
5:15 PM	0	0	0	0	0	0	2	1	1	0	0	0	2	1	1	2	1	1
5:30 PM	0	0	0	5	1	4	0	0	0	0	0	0	0	0	0	5	1	4
5:45 PM	1	0	1	3	1	2	2	1	1	0	0	0	2	1	1	5	2	3

APPENDIX F

ELIGIBILITY CHECKLIST CEQA § 21099



SAN FRANCISCO PLANNING DEPARTMENT

Eligibility Checklist: CEQA Section 21099 Modernization of Transportation Analysis

Date of Preparation: September 8, 2020
Record No.: 901 16th Street, 2011.1300EIA
Zoning: UMU – Urban Mixed Use District
 68-X Height and Bulk District
Block/Lot: 3949/001
Lot Size: 47,962 square feet (1.10 acres)
Project Sponsor: Alexandra Stoelzle, (415) 243-8803, astoelzle@kilroyrealty.com
Staff Contact: Ryan Shum, ryan.shum@sfgov.org

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Planning
 Information:
415.558.6377

This checklist is in response to California Environmental Quality Act (CEQA) section 21099 – Modernization of Transportation Analysis for Transit-Oriented Infill Projects and Planning Commission Resolution 19579. CEQA Section 21099 allows for a determination that aesthetic and vehicular parking effects of a project need not be considered significant environmental effects. Planning Commission Resolution 19579 replaces automobile delay with vehicle miles traveled (VMT) analysis. This checklist provides screening criteria for determining if aesthetics, detailed VMT, and/or vehicular parking analysis is required for a project.

Aesthetics and Vehicular Parking

In accordance with CEQA section 21099, aesthetics and vehicular parking shall not be considered in determining if a project has the potential to result in significant environmental effects, if the project meets the three criteria within Table 1. The proposed project satisfies the criteria and therefore qualifies as a transit-oriented infill project subject to CEQA section 21099.

In accordance with the *San Francisco Transportation Impact Analysis Guidelines for Environmental Review*, the department evaluates if a project requires a secondary vehicular parking analysis. If a project does not result in a substantial vehicular parking deficit, then the department does not require a secondary vehicular parking analysis. Projects within a location criterion (Table 2a) or that contain characteristic criteria (2c and 2d) do not require secondary vehicular parking analysis. The proposed project satisfies these criteria and therefore does not require a secondary parking analysis.

Vehicle Miles Traveled

In addition, CEQA section 21099(b)(1) requires that the State Office of Planning and Research develop revisions to the CEQA Guidelines establishing criteria for determining the significance of transportation impacts of projects that “promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” In January 2016, the Office of Planning and Research published for public review and comment a Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA recommending that transportation impacts for projects be measured using a vehicle miles traveled (VMT) metric. On March 3, 2016, based on compelling evidence in that document and on the department’s independent review of the literature on VMT and its own public process, the San Francisco Planning Commission adopted the Office of Planning and Research’s recommendation to use the VMT metric to evaluate the transportation impacts of projects. Since that

Eligibility Checklist: CEQA Section 21099 Modernization of Transportation Analysis

Record No. 2011.1300EIA
 901 16th Street

resolution, the California Natural Resources Agency and the Office of Administrative Law went through a formal rulemaking process that finalized amendments to the CEQA Guidelines in December 2018.

In accordance with CEQA section 21099 and Planning Commission resolution 19579, the *San Francisco Transportation Impact Analysis Guidelines for Environmental Review* identify screening criteria to identify types, characteristics, and locations of projects and a list of transportation project types that would not result in significant transportation impacts under the VMT metric. As demonstrated by Tables 2a, 2b, and 2c the proposed project described below meets one or more of the VMT screening criteria.

Project Description:

The 152,000-square-foot project site is located at 901 16th Street on the block bounded by 16th, Mississippi, 17th, and Missouri streets on Assessor’s Block 3949, Lots 001, 001A, and 002, and Assessor’s Block 3950, Lot 001. The project site is located within the Potrero Hill neighborhood and the Showplace Square/Potrero Hill Plan Area. The project site contains four existing buildings totaling approximately 105,000 square feet. The remaining area on the project site is occupied by an approximately 44,200-square-foot surface parking lot. The site is bordered to the north by mixed-use residential buildings, to the west by a mix of commercial and residential buildings, to the south by an empty lot and a one-story commercial building, and to the east by the I-280 and commercial buildings. The project site is approximately 500 feet east of the Connecticut Street and 17th Street stop of the 22 Muni line, approximately 1.3 miles east of the 16th Street Mission BART station, and approximately 0.2 mile north of the I-280 off-ramp.

The Permanent Off-Site Flower Mart Project (“proposed project”) would demolish the 5,800-square-foot modular office building, but would retain and reuse all other existing buildings on the project site for use by the Wholesale Flower Market, which is comprised of approximately 60 vendors and 275 employees. The interior of one of the reused warehouse buildings would be expanded to include a mezzanine level and would open to the second level of the parking structure, expanding the total floor area on the project site from approximately 100,300 square feet to approximately 125,000 square feet. The proposed project would also construct an approximately 84,900-square-foot parking structure containing 150 parking spaces on the site of the existing modular office building and surface parking lot. A project variant would expand the parking structure to approximately 102,000 square feet to accommodate up to 200 parking spaces.

The proposed project would eliminate several driveways and reduce the overall length of curb cuts to the property (see Figure 3). Two of the three existing curb cuts on 16th Street would be repurposed and reconfigured in the same location to serve the new electrical transformer and the refuse/recycling areas. The two existing driveways on Mississippi Street would be modified in their current location to provide tractor-trailer loading and parking access to the site, while all the existing driveways on 17th Street would be replaced with new curb and sidewalk. The project proposes to reduce the overall existing curb cut length by 69 feet. In addition, the proposed project would add a passenger loading zone on 17th Street near the Mississippi Street intersection.

Table 1: Transit-Oriented Infill Project Eligibility Checklist	
The project must meet all three criteria for aesthetics and vehicular parking to be excluded from CEQA review. See Attachment A for definitions of terms.	
<input checked="" type="checkbox"/>	Criterion 1-1. Does the project meet the definition of a residential, mixed-use residential, or "employment center" and Yes. The proposed project is a employment center that would have a floor-area-ratio greater than 0.75 and is in a transit priority area.
<input checked="" type="checkbox"/>	Criterion 1-2. Is the proposed project located on an "infill site" and Yes. The project site is currently developed an industrial production, development and research (PDR) building and is located in the Showplace Square/Potrero Hill neighborhood within the Eastern Neighborhoods planning area of San Francisco.
<input checked="" type="checkbox"/>	Criterion 1-3. Is the proposed project site located within a "transit priority area?" Map: See Attachment B. Yes. The project site is located within a half-mile of Muni transit routes, including: the 14X-Mission Express, 22-Fillmore, 55-16 th Street, 8BX-Bayshore Express, and the T-Third.

Table 2a: Secondary Parking Analysis & Vehicle Miles Traveled Analysis for Land Use Project – Screening Criterion

If a project meets this screening criterion, then a secondary parking and detailed VMT analysis is not required.¹ If a project does not meet this screening criterion, then refer to Tables 2b and 2d for additional screening criteria related to VMT and secondary parking analysis, respectively. See Attachment A for definitions of terms.

☒

Criterion 2a. Is the proposed project site located within the “map-based screening” area?

Yes. The project site is located in TAZ 651, which exhibits VMT that is 18 and 16 percent below the respective existing and cumulative (2040) screening thresholds (Bay Area regional average minus 15 percent) for retail uses (see table below).

Daily Vehicle Miles Traveled

Land Use	Existing			Cumulative 2040		
	Bay Area Regional Average minus 15%	TAZ 651	Percent +/- Threshold	Bay Area Regional Average minus 15%	TAZ 651	Percent +/- Threshold
Retail	12.6	10.7	-18%	12.4	10.7	-16%

¹ For projects that propose multiple land use types (e.g., residential, office, retail, etc.), each land use type must qualify under the three screening criteria in Table 2a.

Table 2b: Vehicle Miles Traveled Analysis – Additional Screening Criteria	
Identify whether a projects meets any of the additional screening criteria. See Attachment A for definitions of terms.	
<input type="checkbox"/>	Criterion 2b-1. Does the proposed project qualify as a "small project"? or No. The project would generate more than 100 daily vehicle trips.
<input checked="" type="checkbox"/>	Criterion 2b-2. Proximity to Transit Stations (must meet all four sub-criteria) Is the proposed project site located within one-half mile of an existing major transit stop or an existing stop along a high-quality transit corridor; and Yes. The project site is located within a half-mile of Muni transit routes which operate with a 15-minute headway or less, including: the 14X-Mission Express, 22-Fillmore, 55-16 th Street, 8BX-Bayshore Express, and the T-Third.
	Would the proposed project result in a "floor area ratio" of greater than or equal to 0.75, and <input checked="" type="checkbox"/> Yes. The proposed project would have a FAR of 2.73: 130,800 (gross floor area) divided by 47,962 (net parcel area).
	Would the project result in an amount of vehicular parking that is less than or equal to the amount allowed by the Planning Code without a conditional use authorization, and Yes. The proposed project would contain less vehicle parking than the maximum amount allowed on-site and is not proposing to obtain a conditional use authorization for more parking.
	Is the proposed project consistent with the Sustainable Communities Strategy? ² Yes. The project site is in the Eastern Neighborhoods priority development area.

Table 2c: Induce Automobile Travel Analysis	
If a project contains transportation elements and fits within the general types of projects described below, then a secondary parking and detailed VMT analysis is not required. If a project does not meet this screening criterion, then refer to Table 2d for additional screening criteria as it relates to secondary parking analysis. See Attachment A for definitions and other terms.	
<input type="checkbox"/>	Criterion 2c-1. Does the proposed project qualify as an "active transportation, rightsizing (aka Road Diet) and Transit Project"? or Not applicable. The proposed project is not a transportation project.
<input checked="" type="checkbox"/>	Criterion 2c-2. Does the proposed project qualify as an "other minor transportation project"? The proposed project includes minor transportation features such as the removal of curb cuts and removal of on-street parking

² The department considers a project inconsistent with the Sustainable Communities Strategy if it is located outside of an area contemplated for development in the Sustainable Communities Strategy.

Table 2d: Secondary Parking Analysis – Additional Screening Criterion	
If a project does not meet the criteria within Tables 2a and 2c, then complete this box. A transportation consultant may need to provide information to complete this table.	
<input type="checkbox"/>	<p>Criterion 2d. Would the project result in a vehicular parking demand deficit (land use project or area plan project) or net parking loss (infrastructure project) of less than 600 spaces?</p> <p>No. The proposed project would not result in a vehicle parking demand deficit or net parking loss.</p>

ATTACHMENT A DEFINITIONS

Active transportation, rightsizing (a.k.a. road diet) and transit project means any of the following:

- Reduction in number of through lanes
- Infrastructure projects, including safety and accessibility improvements, for people walking or bicycling
- Installation or reconfiguration of traffic-calming devices
- Creation of new, or expansion of existing, transit service
- Creation of new, or conversion of existing, general purpose lanes (including vehicle ramps) to transit lanes
- Creation of new, or addition of roadway capacity on, local or collector streets, if the project also substantially improves conditions for people walking, bicycling, and, if applicable, riding transit (e.g., by improving neighborhood connectivity or improving safety)

Employment center project means a project located on property zoned for commercial use that results in a floor area ratio of no less than 0.75 and that is located within a transit priority area. If the underlying zoning for the project site allows for commercial use and the project meets the rest of the criteria in this definition, then the project may be considered an employment center.

Floor area ratio means the ratio of gross floor area that results from the project, excluding structured vehicular parking areas (per Planning Code section [102](#) definition of gross floor area), proposed as a result of the project divided by the net lot area.

Gross floor area is defined in Planning Code section [102](#).

High quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

Infill site means a lot located within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from parcels that are developed with qualified urban uses.

Lot means all parcels utilized by the project.

Major transit stop is defined in CEQA Section 21064.3 as a site containing a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

Map-based screening means the proposed project site is located within a transportation analysis zone that exhibits levels of VMT below the department's threshold of significance for land use projects.

Net lot area means the area of a lot, excluding publicly dedicated land and private streets that meet local standards, and other public use areas as determined by the local land use authority.

Other land use project means a land use other than residential, retail, and office. OPR has not provided proposed screening criteria or thresholds of significance for other types of land uses, other than those that meet the definition of a small project.

- Hotel, motel, student housing, single room occupancy unit, and group housing land uses should be treated as residential for screening and analysis.
- Child care facilities, K-12 schools, post-secondary institutional (non-student housing), medical, and production, distribution, and repair (PDR) land uses should be treated as office for screening and analysis.
- Grocery store, local-serving entertainment venue, religious institution, park, and athletic club land uses should be treated as retail for screening and analysis.
- Public service (e.g., police and fire station, public utilities) and do not generally generate VMT. Instead, these land uses are often built in response to development from other land uses (e.g., office and residential). Therefore, these land uses can be presumed to have less-than-significant impacts on VMT. However, this presumption would not apply if the project is sited in a location that would require employees or visitors to travel substantial distances and the project is not located within one-half mile of a major transit stop or does not meet the small project screening criterion.
- Event centers and regional-serving entertainment venues would most likely require a detailed VMT analysis. Therefore, no screening criterion is applicable.

Other minor transportation project means any of the following:

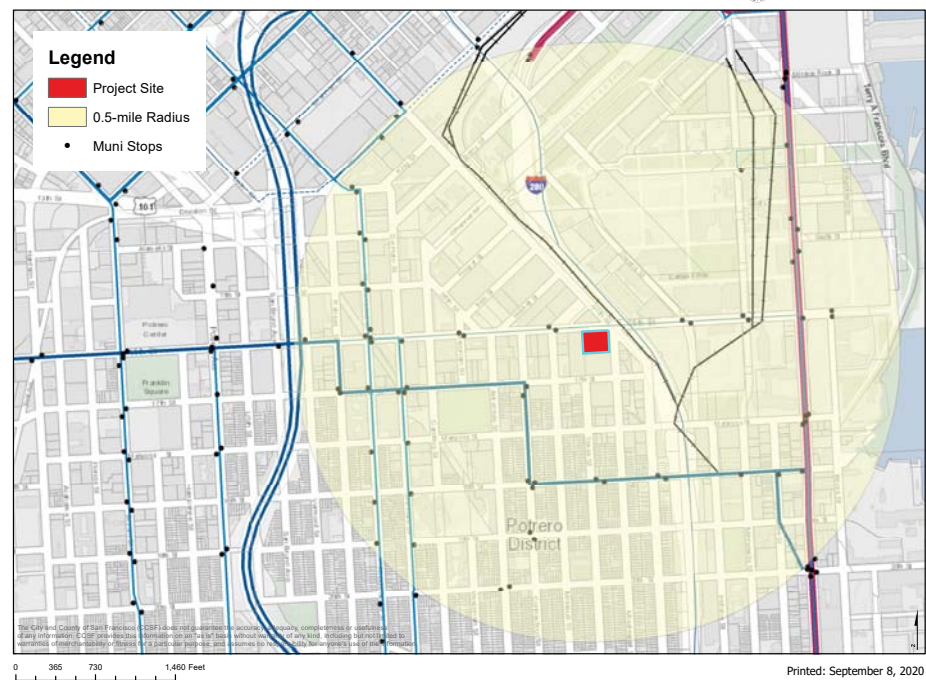
- Rehabilitation, maintenance, replacement, and repair projects designed to improve the condition of existing transportation assets (e.g., highways, roadways, bridges, culverts, tunnels, transit systems, and facilities for people bicycling or walking) and that do not add additional motor vehicle capacity
- Installation, removal, or reconfiguration of traffic lanes that are not for through-traffic, such as left, right, and U-turn pockets, or emergency breakdown lanes that are not used as through-lanes
- Conversion of existing general purpose lanes (including vehicle ramps) to managed lanes (e.g., high occupancy vehicle (HOV), high occupancy toll (HOT), or trucks) or transit lanes
- Grade separation to separate vehicles from rail, transit, people walking or bicycling, or to replace a lane to separate preferential vehicles (e.g., HOV, HOT, or trucks) from general vehicles
- Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority (TSP) features
- Traffic metering systems
- Timing of signals to optimize flow of people walking, bicycling, and/or driving on local or collector streets
- Installation of a modern roundabout or traffic calming circle
- Adoption of or increase in tolls
- Conversion of streets from one-way to two-way operation with no net increase in number of traffic lanes
- Addition of transportation wayfinding signs
- Removal of off- or on-street vehicular parking space(s)
- Adoption, removal, or modification of on-street vehicular parking or loading restrictions (including meters, time limits, accessible spaces, and preferential/reserved parking permit programs)

Small project means that the project would not result in more than 100 vehicle trips per day.

Transit priority area means an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 or 450.322 of Title 23 of the Code of Federal Regulations.

Vehicle miles traveled measures the amount and distance that a project might cause people to drive and accounts for the number of passengers per vehicle.

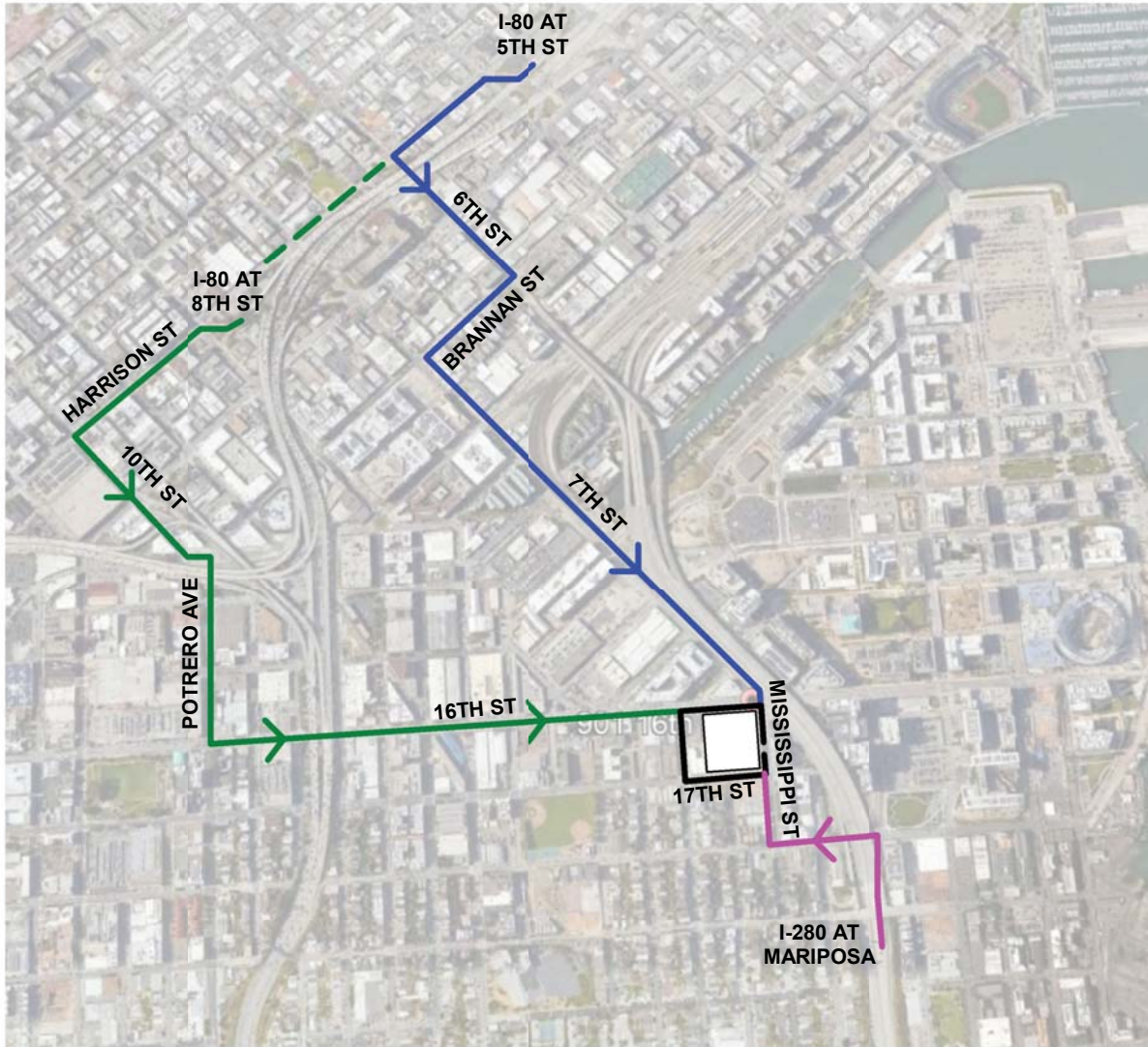
Attachment B: Nearby Transit Stops - 901 16th St Street



APPENDIX G

TRUCK ROUTES AND TURNING MOVEMENTS

TRUCK ROUTES



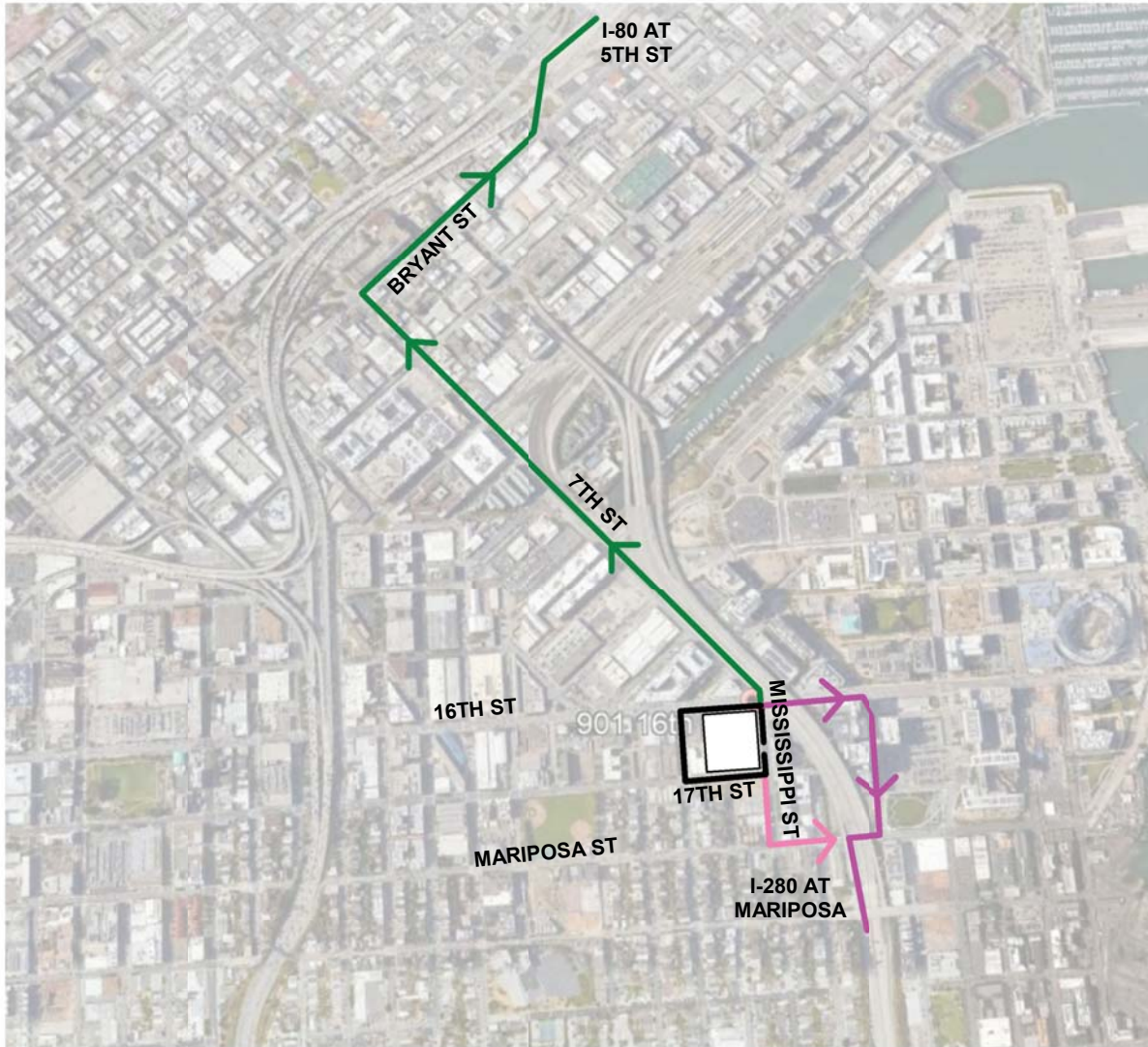
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INBOUND ROUTES FROM NORTH

- PREFERRED ROUTE
- ALTERNATIVE ROUTE

INBOUND ROUTES FROM SOUTH

- PREFERRED ROUTE



LEGEND

OUTBOUND ROUTES TO NORTH

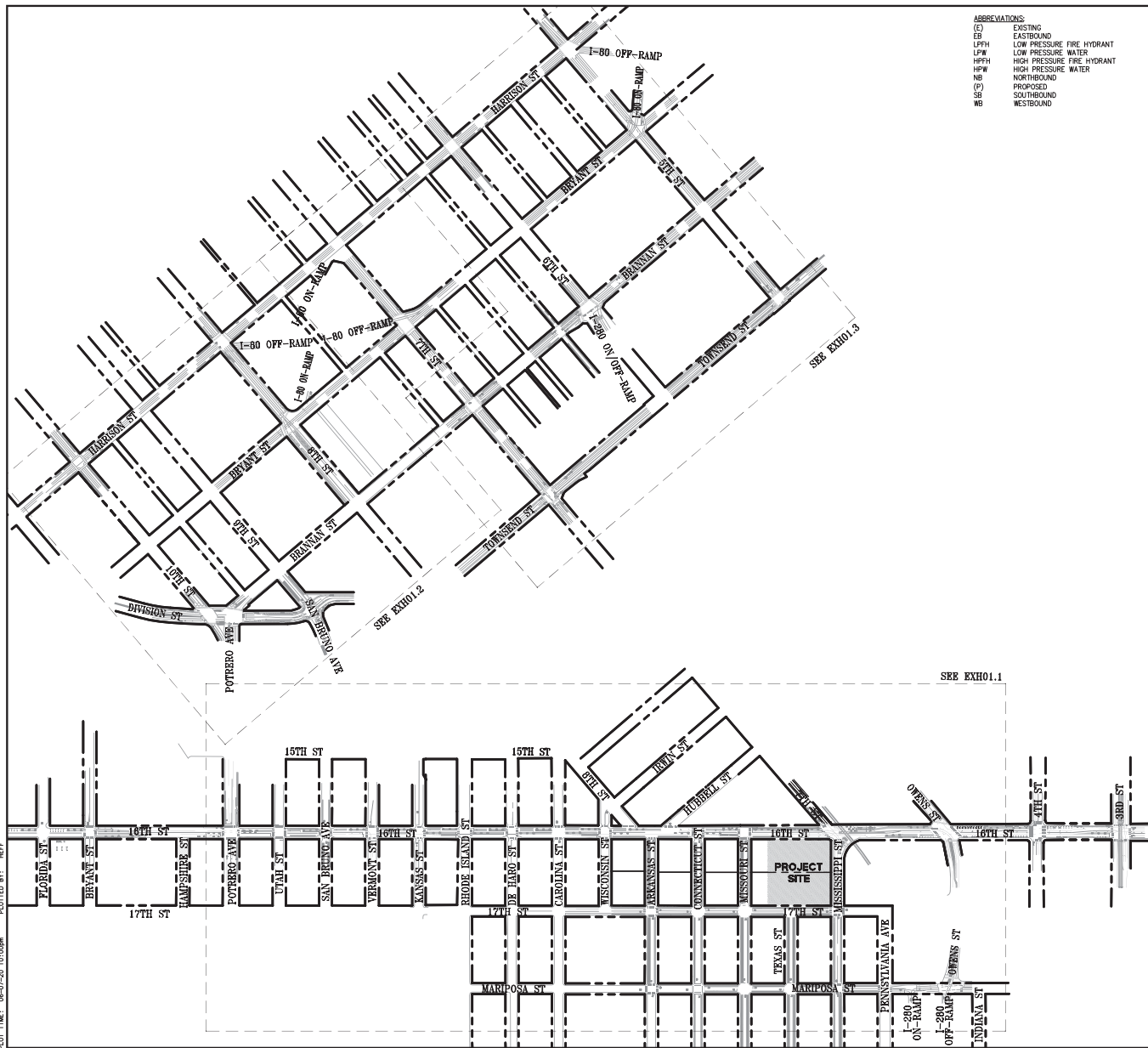
— PREFERRED ROUTE

OUTBOUND ROUTES TO SOUTH

— PREFERRED ROUTE

TRUCK TURNING MOVEMENTS FROM I-80 AND I-280

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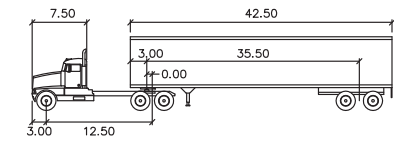
ABBREVIATIONS:
(E) EXISTING
EB EASTBOUND
LPFH LOW PRESSURE FIRE HYDRANT
LPW LOW PRESSURE WATER
HPFH HIGH PRESSURE FIRE HYDRANT
HPW HIGH PRESSURE WATER
NB NORTHBOUND
(P) PROPOSED
SB SOUTHBOUND
WB WESTBOUND

NOTES:

- ANALYSIS OF THE INTERSECTION TURNING RADIUS FOR THE SAN FRANCISCO FLOWER MARKET PROJECT SHOWN ON THIS PLAN WAS DEVELOPED BY BKF ENGINEERS USING AUTOTURN V10.1 SOFTWARE.
- THE ANALYSIS WAS BASED ON THE DESIGN VEHICLES SHOWN IN THE DETAILS ON THIS SHEET.
- CURB LINES ARE BASED ON RECORD INFORMATION AND DESIGN DRAWINGS PREPARED BY SPMTA FOR 16TH STREET BRIT PROJECT. THE VEHICLES IDENTIFIED BELOW CAN MANEUVER THROUGH THE STREET INTERSECTIONS WITH THE CONDITIONS NOTED BELOW:
A. PARKED VEHICLES ARE COMPLETELY WITHIN THE LIMITS OF THE PARKING STALLS.
B. THE VEHICLE MAY BEGIN AND/OR END TURNING MOVEMENTS BY OCCUPYING THE ONCOMING LANE OF TRAFFIC FOR A SHORT DISTANCE NEAR INTERSECTIONS.
- TRAVEL WAY DIMENSIONS BASED ON PARALLEL PARKING LANES OF 8' WIDE. CLEAR WIDTH DIMENSIONS BASED ON THE 2015 SUBDIVISION REGULATIONS SECTION XI. B.3.1.1. (*THAT PORTION OF ANY CURBSIDE PARKING HAVING A WIDTH GREATER THAN 7' X) PARALLEL PARKING LANE WIDTH OF 7').

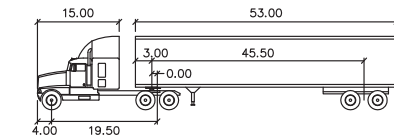
SHEET INDEX:

EXH01.0 COVER SHEET
EXH01.1 ROUTE MAP
EXH01.2 ROUTE MAP
EXH01.3 ROUTE MAP
EXH02 INTERSECTION 1 MOVEMENTS
EXH03 INTERSECTION 2 MOVEMENTS
EXH04 INTERSECTION 3 MOVEMENTS
EXH05 INTERSECTION 4 MOVEMENTS
EXH06 INTERSECTION 5 MOVEMENTS
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EXH16 INTERSECTION 15 MOVEMENTS
EXH17 INTERSECTION 16 MOVEMENTS
EXH18 INTERSECTION 17 MOVEMENTS
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EXH21 DRIVEWAY MOVEMENTS - MISSISSIPPI ST



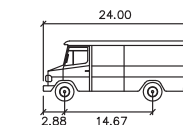
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Trailer Track	: 8.50		



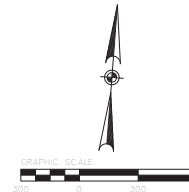
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Trailer Track	: 8.50		

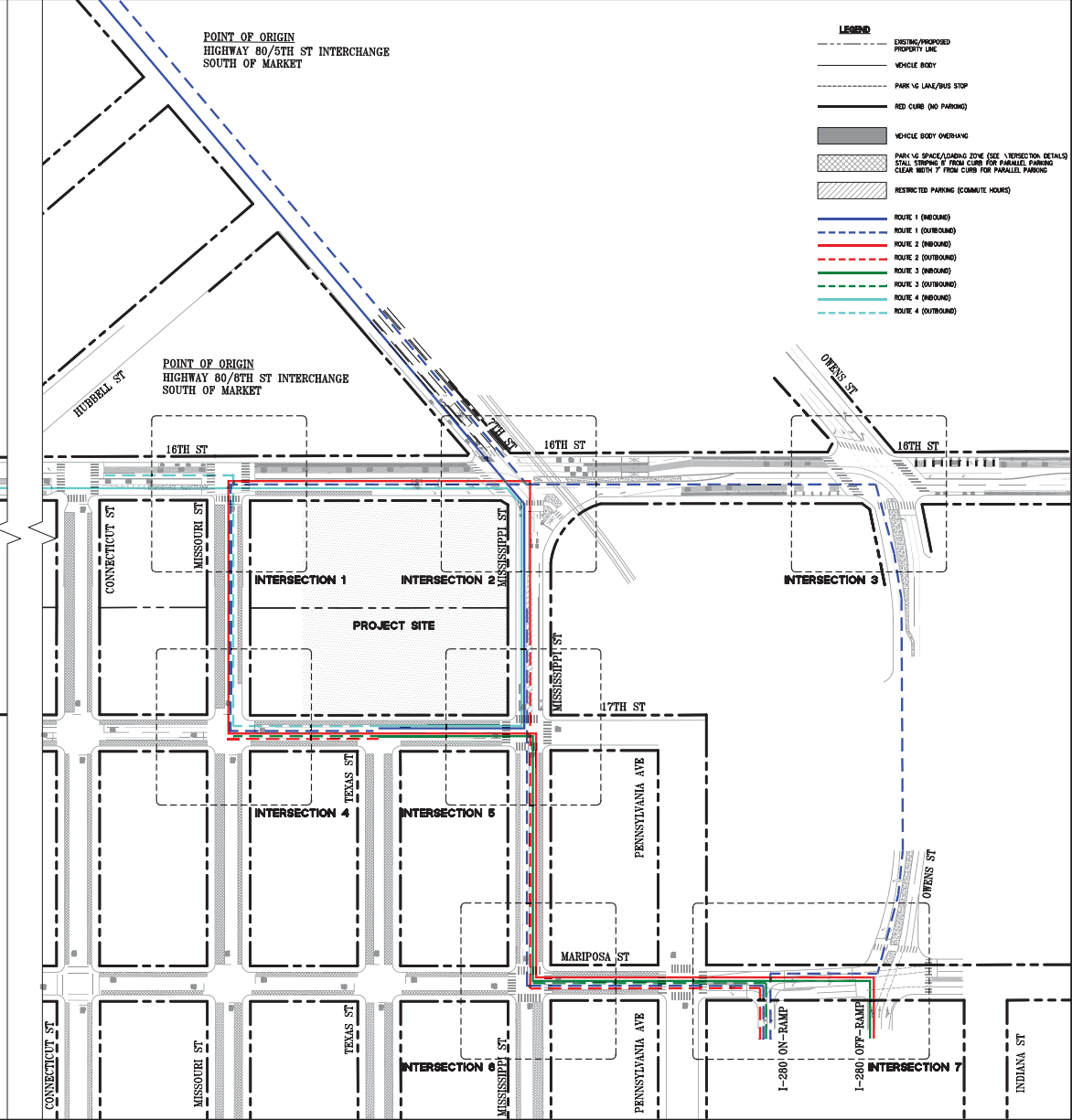
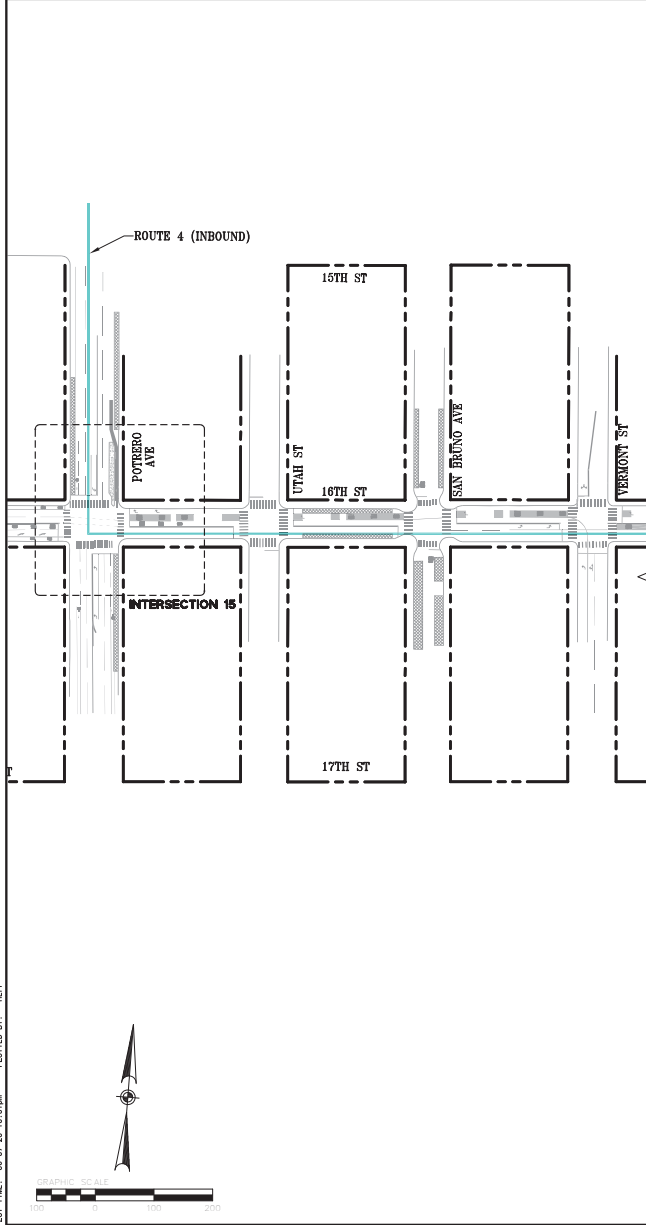
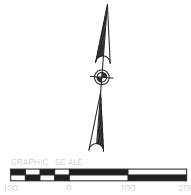


SU-24

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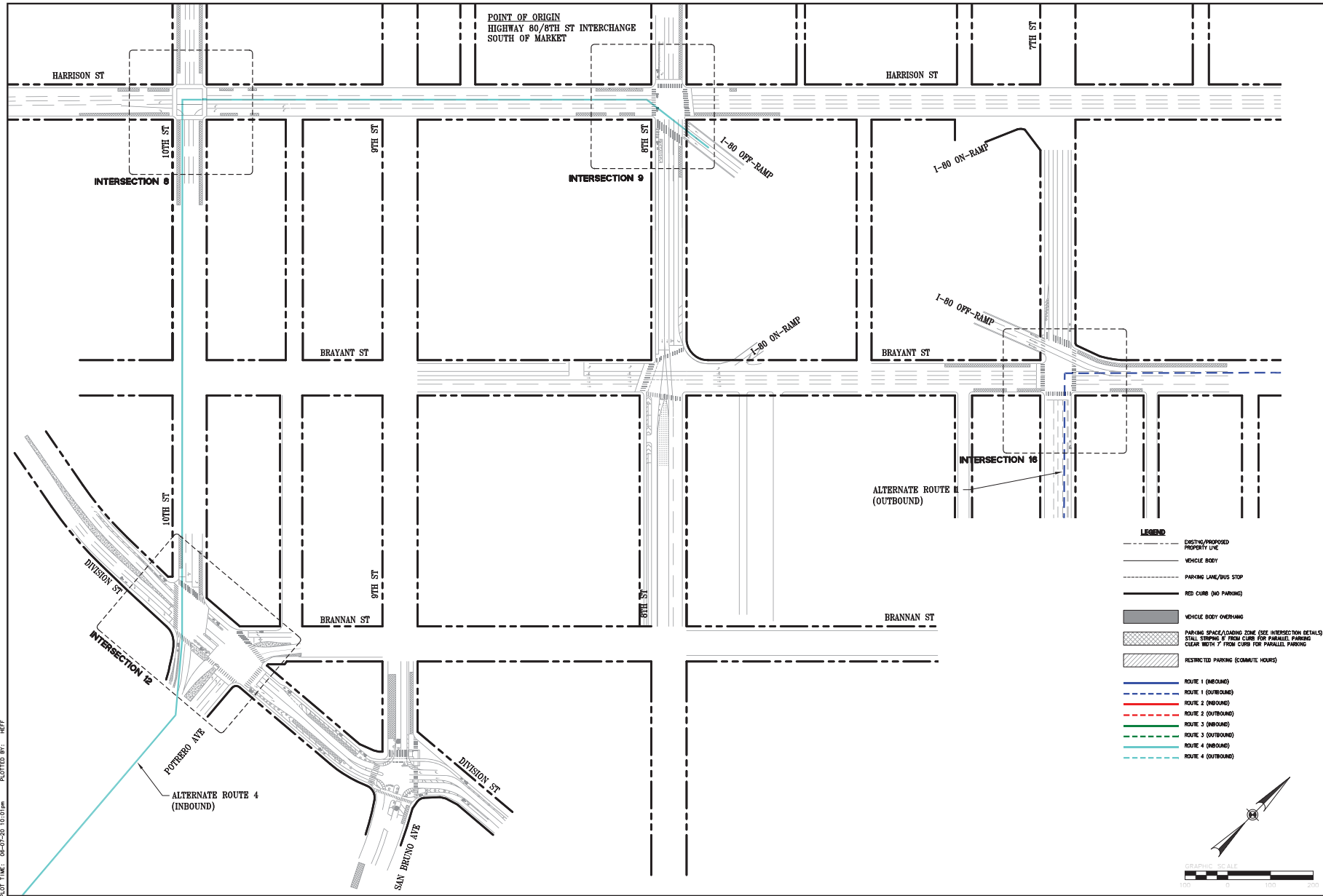
SAN FRANCISCO FLOWER MARKET
TRUCK TURNING EXHIBIT
ROUTE MAP

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 SAN FRANCISCO COUNTY
 CALIFORNIA

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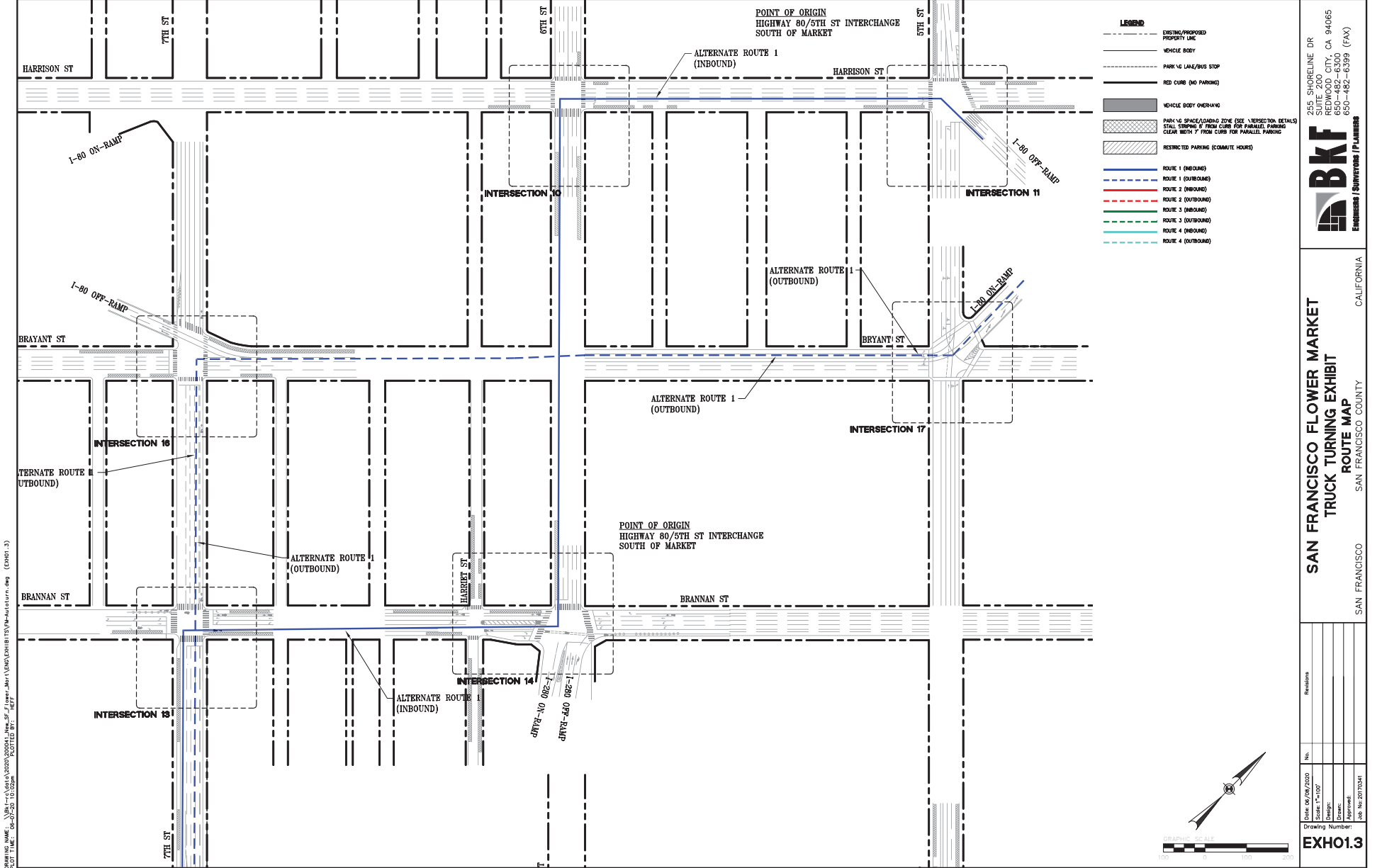


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**SAN FRANCISCO FLOWER MARKET
 TRUCK TURNING EXHIBIT
 ROUTE MAP**
 SAN FRANCISCO COUNTY
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SAN FRANCISCO FLOWER MARKET
TRUCK TURNING EXHIBIT
ROUTE MAP

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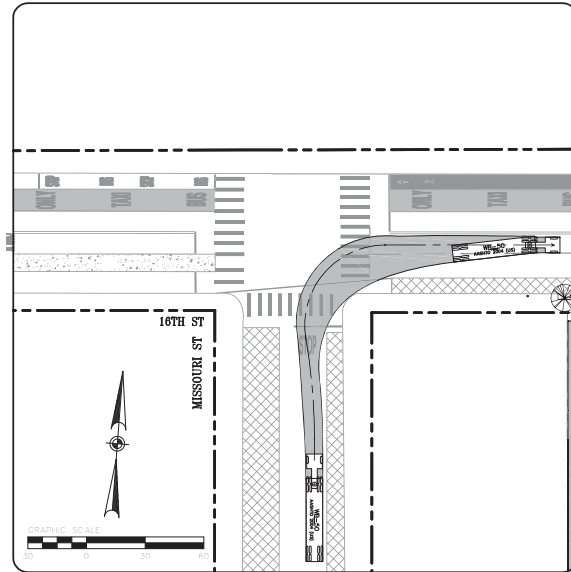
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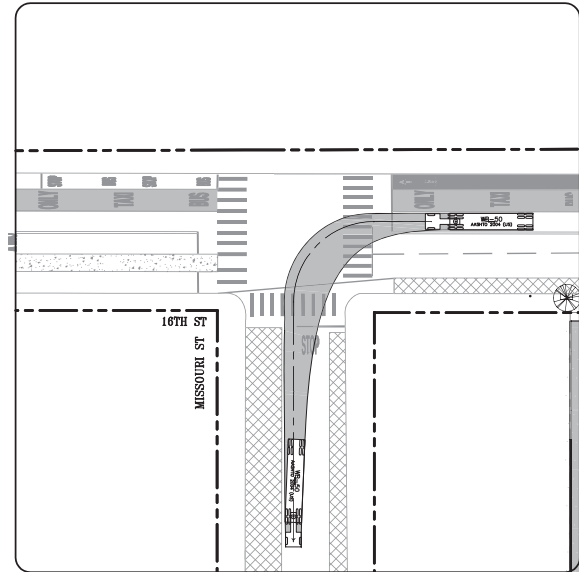
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 CALIFORNIA

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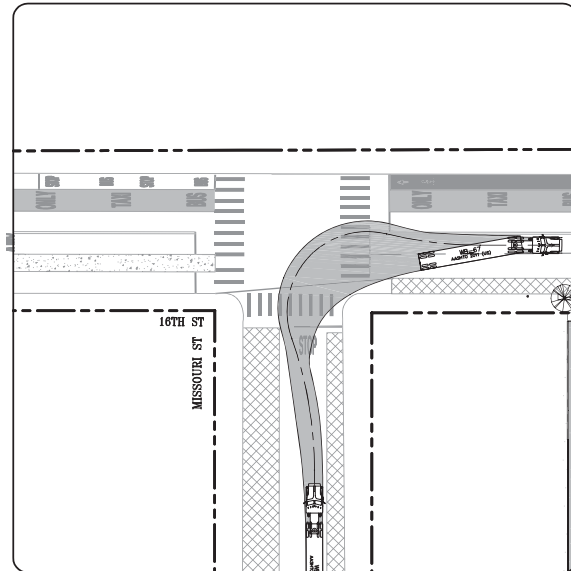
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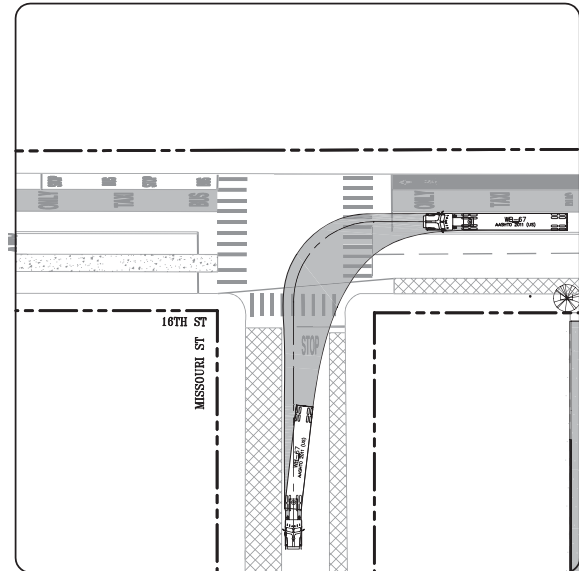
DETAIL 1 PROPOSED NORTHBOUND MOVEMENT (WB-50)



DETAIL 2 PROPOSED WESTBOUND MOVEMENT (WB-50)

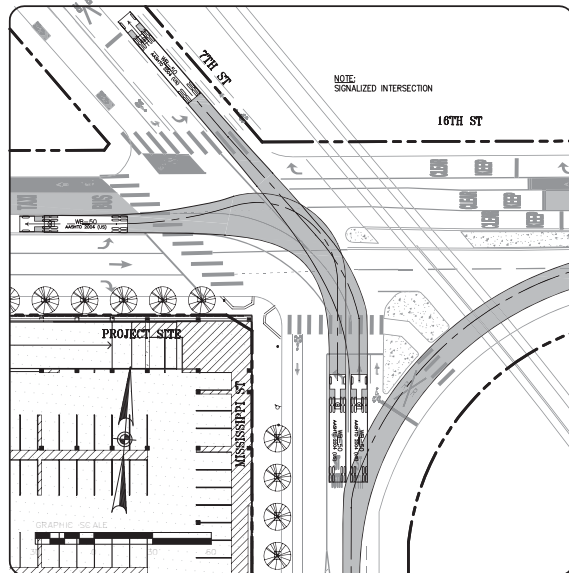


DETAIL 3 PROPOSED NORTHBOUND MOVEMENT (WB-67)

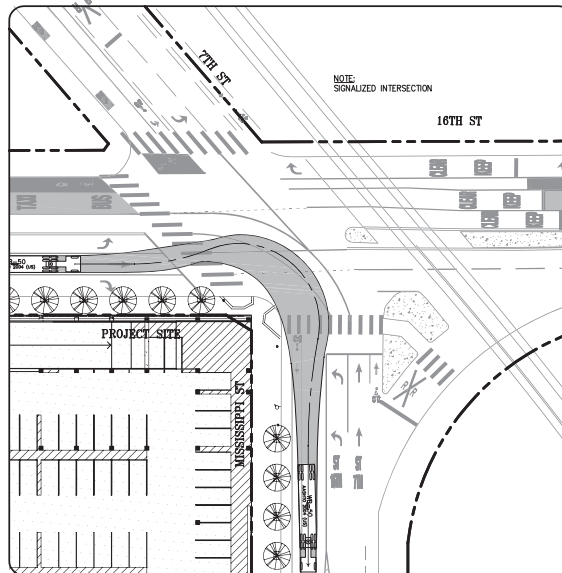


DETAIL 4 PROPOSED WESTBOUND MOVEMENT (WB-67)

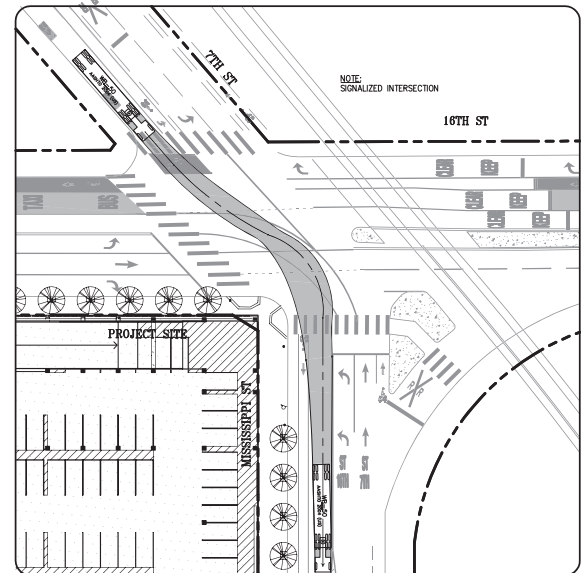
EXH03



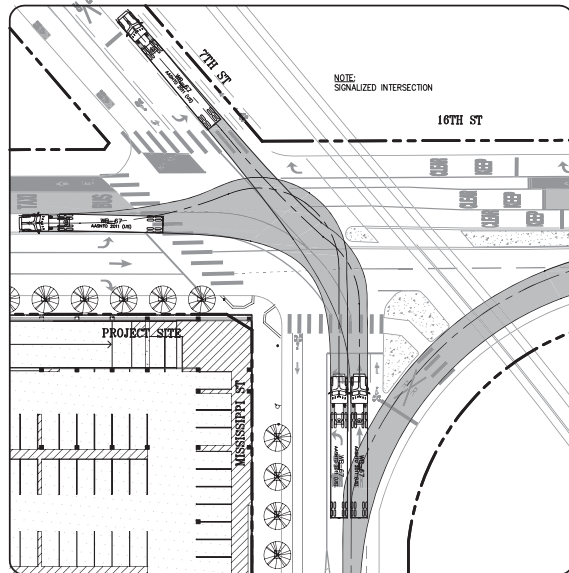
DETAIL 1 PROPOSED NORTHBOUND MOVEMENT (WB-50)



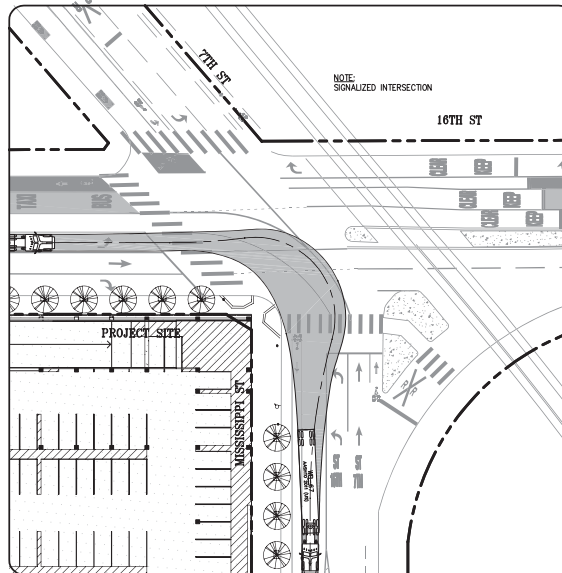
DETAIL 2 PROPOSED EASTBOUND AND WESTBOUND MOVEMENT (WB-50)



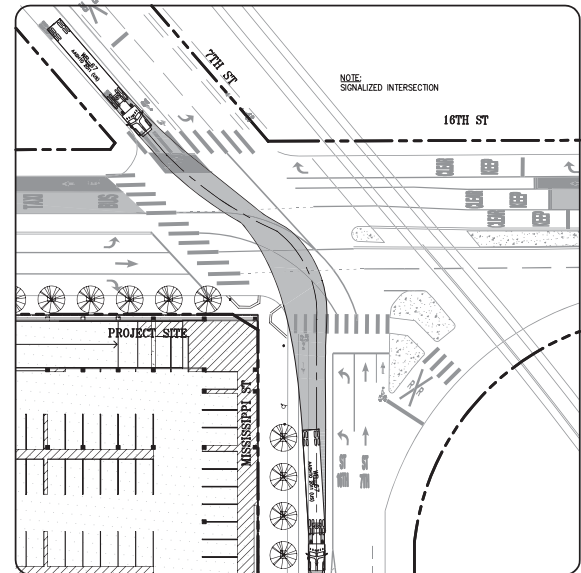
DETAIL 3 PROPOSED SOUTHBOUND MOVEMENT (WB-50)



DETAIL 4 PROPOSED NORTHBOUND MOVEMENT (WB-67)

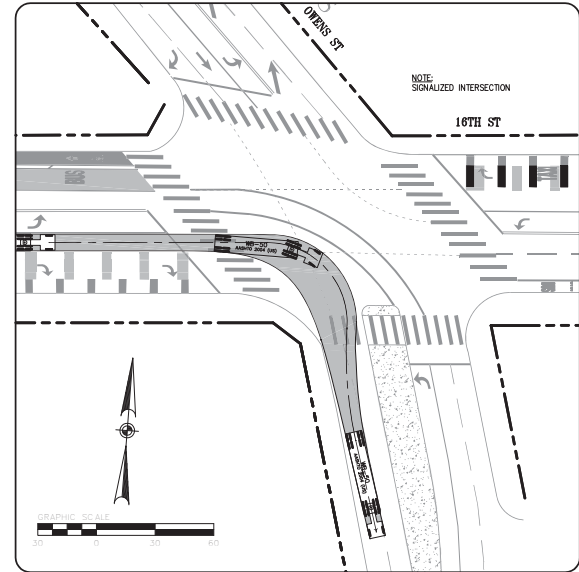


DETAIL 5 PROPOSED EASTBOUND AND WESTBOUND MOVEMENT (WB-67)

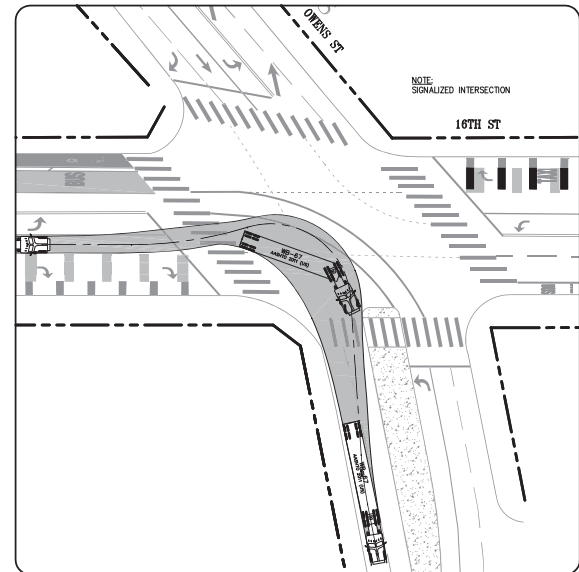


DETAIL 6 PROPOSED SOUTHBOUND MOVEMENT (WB-67)

DRAWING NAME: \\BKF-IT\data\2020\20041_10th_SF\10th_SF.dwg (300K)
 PLOT TIME: 06-27-20 10:05pm PLOTTED BY: BKF



DETAIL 1 PROPOSED EASTBOUND MOVEMENT (WB-50)



DETAIL 2 PROPOSED EASTBOUND MOVEMENT (WB-67)

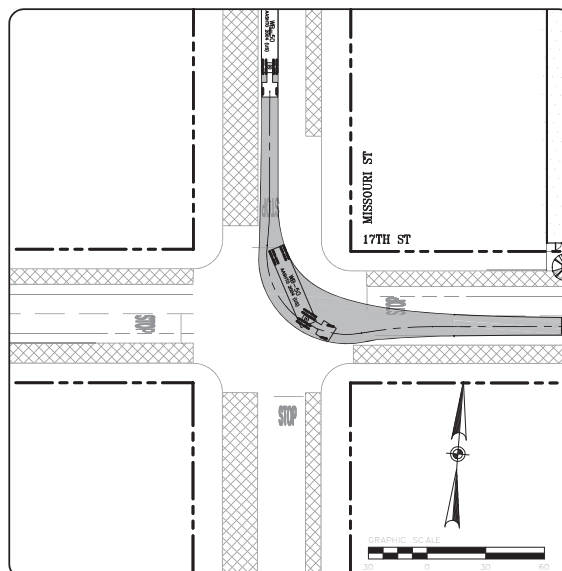
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 650-482-6399 (FAX)

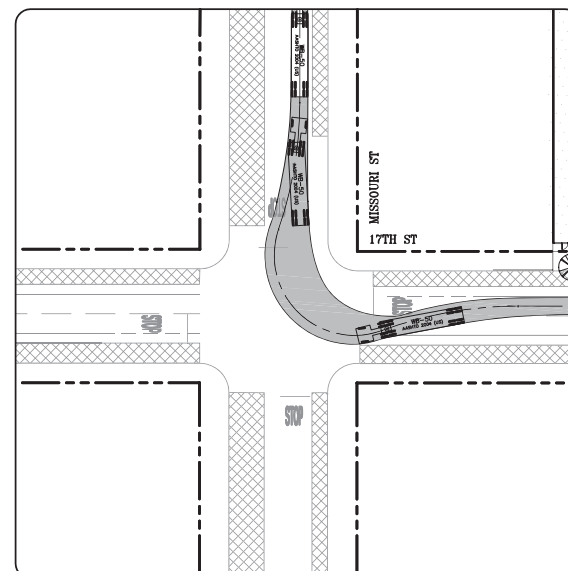
**SAN FRANCISCO FLOWER MARKET
 TRUCK TURNING EXHIBIT
 INTERSECTION 3**
 SAN FRANCISCO COUNTY
 CALIFORNIA

Revisions	
No.	

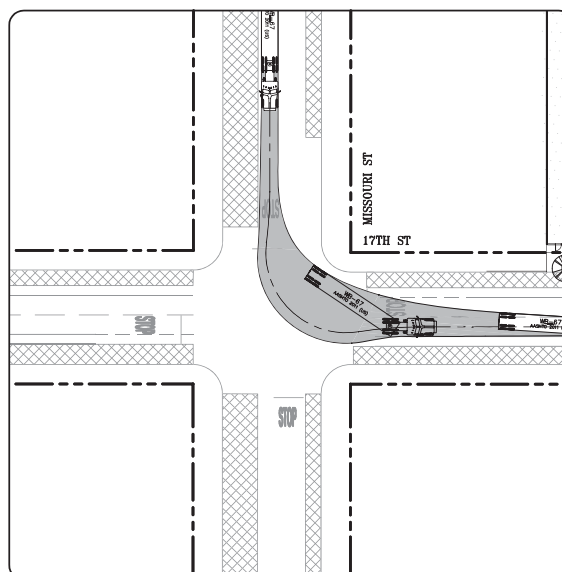
EXH04



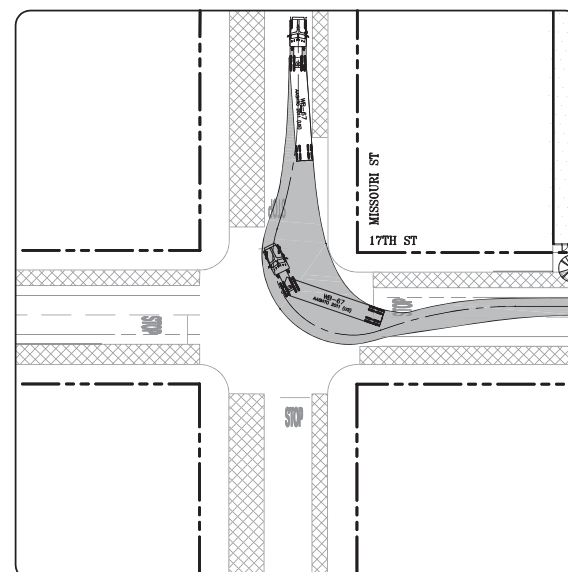
DETAIL 1 PROPOSED SOUTHBOUND MOVEMENT (WB-50)



DETAIL 2 PROPOSED WESTBOUND MOVEMENT (WB-60)



DETAIL 3 PROPOSED SOUTHBOUND MOVEMENT (WB-67)



DETAIL 4 PROPOSED WESTBOUND MOVEMENT (WB-87)

Revisions	No.	Date: 06/08/2020
		Scale: 1"=30'
		Design:
		Drawn:
		Approved:

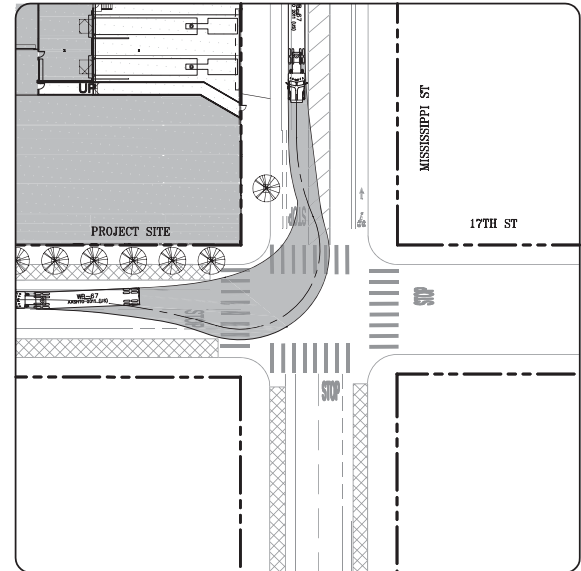
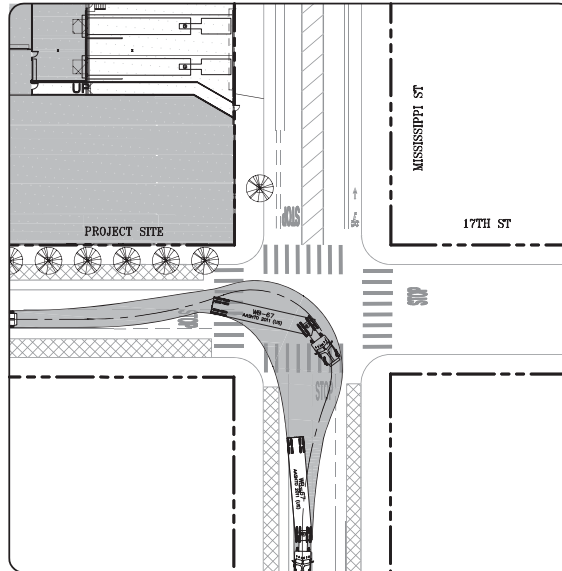
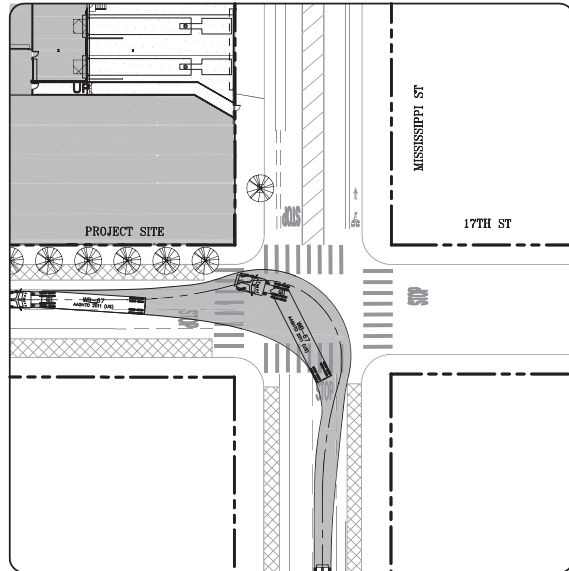
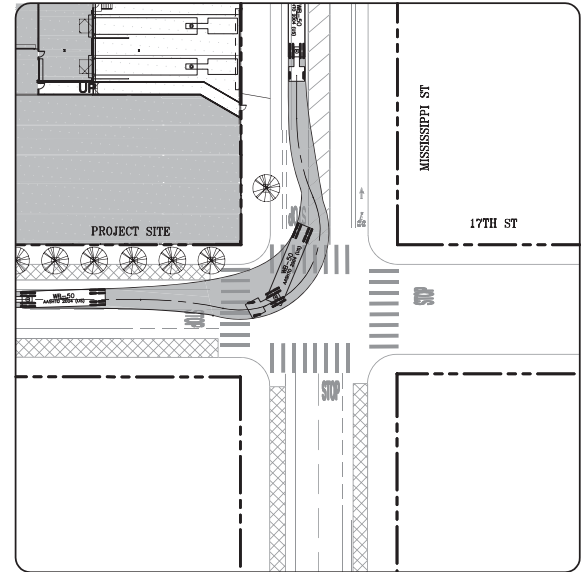
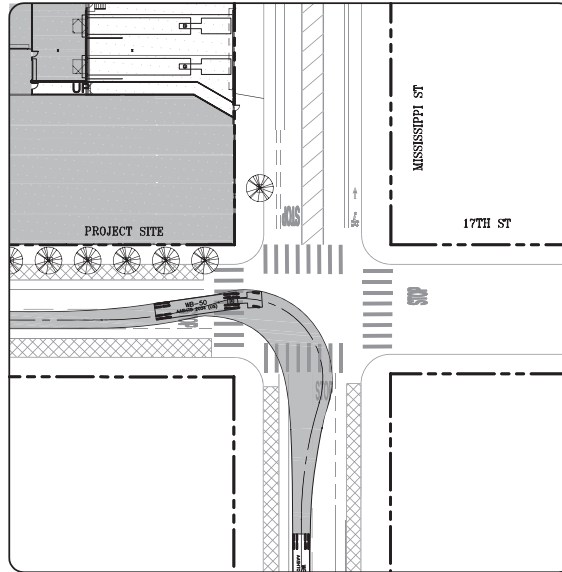
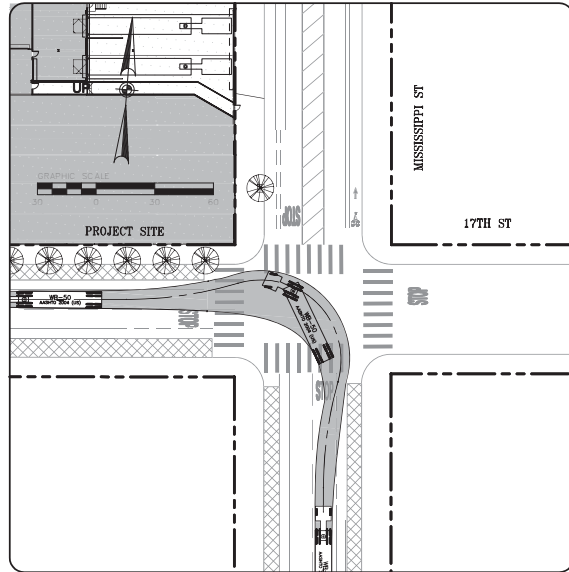
**SAN FRANCISCO FLOWER MARKET
TRUCK TURNING EXHIBIT
INTERSECTION 4
SAN FRANCISCO COUNTY**

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Business Services (Planners)
255 SHORELINE DR
SUITE 200
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650-482-6300
650-482-6399 (FAX)

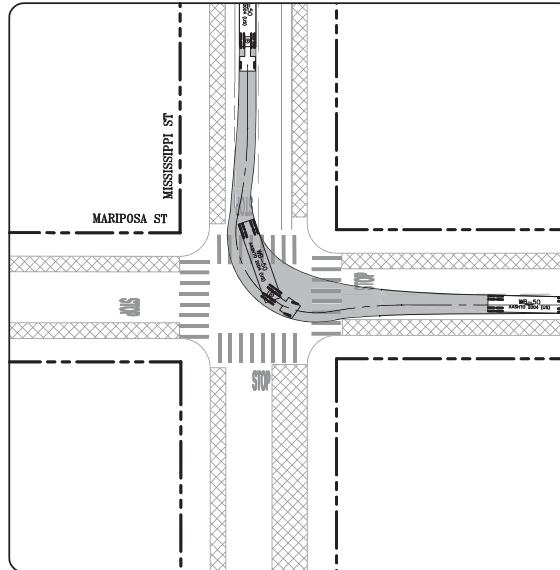
SAN FRANCISCO FLOWER MARKET
TRUCK TURNING EXHIBIT
INTERSECTION 5
SAN FRANCISCO COUNTY
SAN FRANCISCO CALIFORNIA

Drawing Number:		
Date: 06/09/2020	No.	
Scale: 1"=30'		
Design:		
Drawn:		
Approved:		
Job No: 20170341		

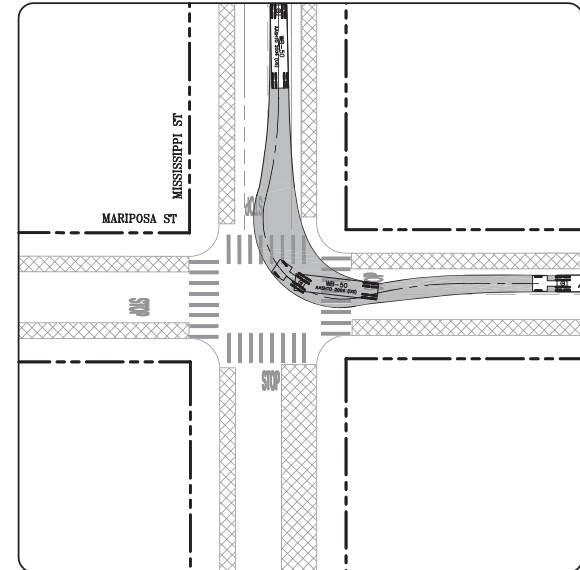
EXH06



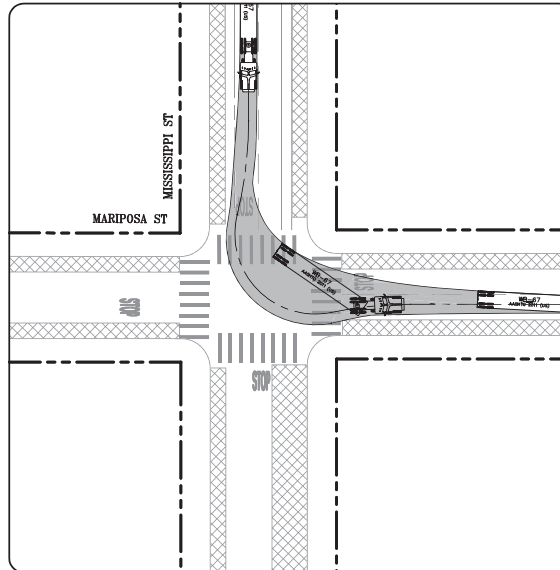
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 PLOT TIME: 06-27-20 10:08am PLOTTED BY: BKF



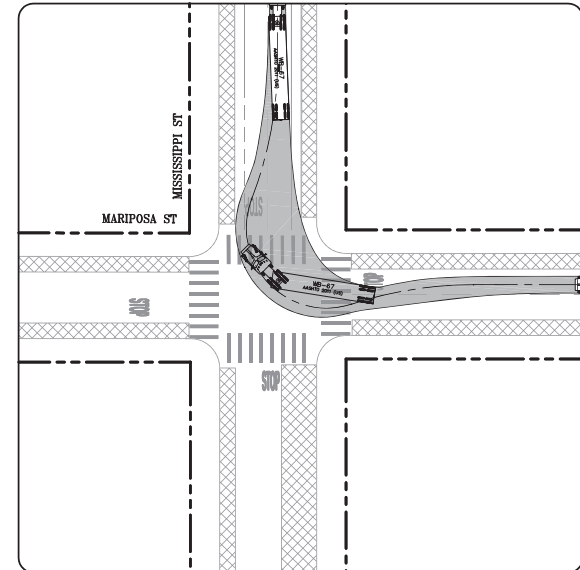
DETAIL 2 PROPOSED SOUTHBOUND MOVEMENT (WB-60)



DETAIL 3 PROPOSED WESTBOUND MOVEMENT (WB-60)



DETAIL 5 PROPOSED SOUTHBOUND MOVEMENT (WB-67)



DETAIL 6 PROPOSED WESTBOUND MOVEMENT (WB-67)

Revisions	
No.	Revisions

Drawing Number: **EXH07**



SAN FRANCISCO FLOWER MARKET TRUCK TURNING EXHIBIT
INTERSECTION 7
SAN FRANCISCO COUNTY
SAN FRANCISCO CALIFORNIA

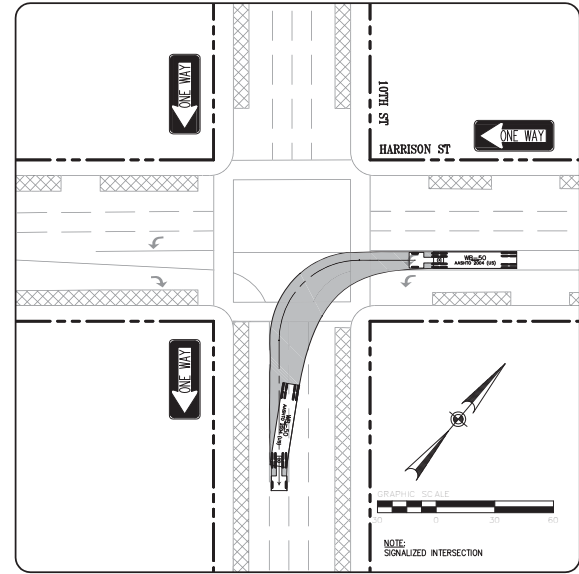
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Approved:		
Job No: 20170341		

EXH08

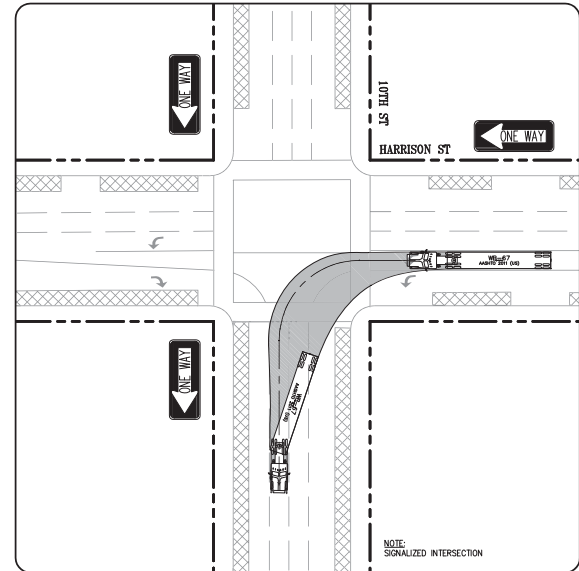
**SAN FRANCISCO FLOWER MARKET
TRUCK TURNING EXHIBIT
INTERSECTION 8
SAN FRANCISCO COUNTY**

Date: 06/08/2020	No.	Revisions
Scale: 1"=30'		
Design:		
Drawn:		
Approved:		
Job No: 20170341		

EXH09

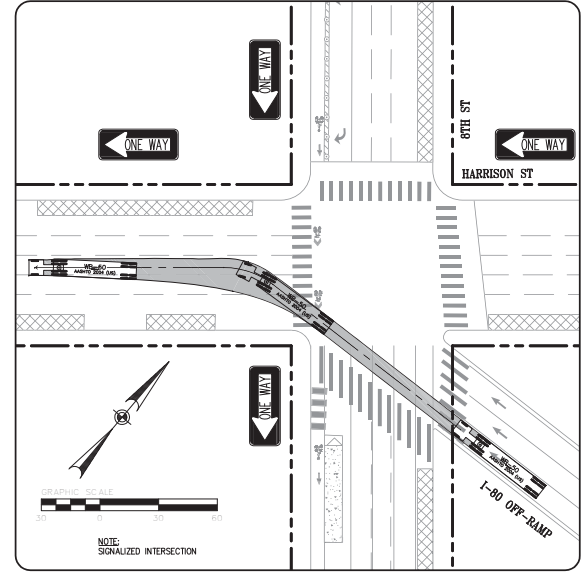


DETAIL 1 PROPOSED WESTBOUND MOVEMENT (WB-50)

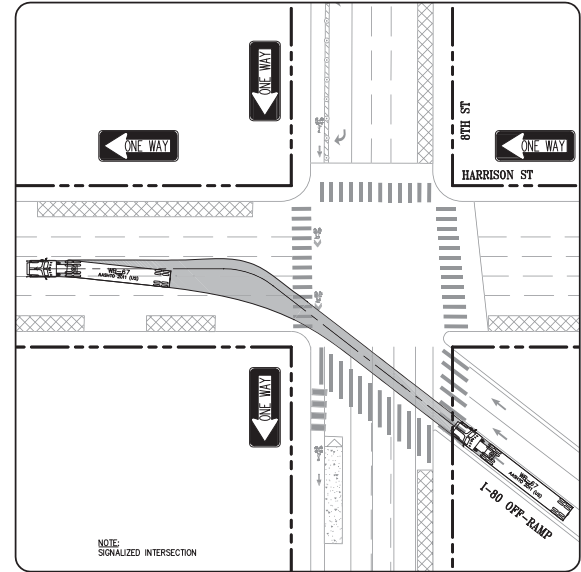


DETAIL 2 PROPOSED WESTBOUND MOVEMENT (WB-67)

DRAWING NAME: \\net1-c\data\2020\20041_10w_2p\10w_2p\10w_2p\10w_2p.dwg (EXH10)
 PLOT TIME: 06-27-20 10:10pm
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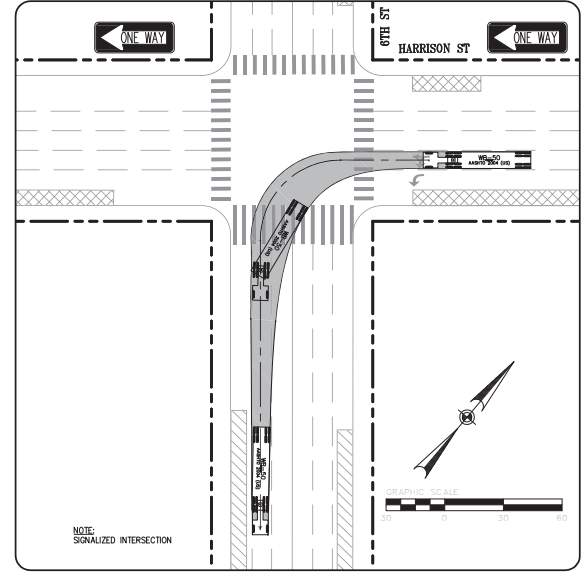


DETAIL 1 PROPOSED WESTBOUND MOVEMENT (WB-60)

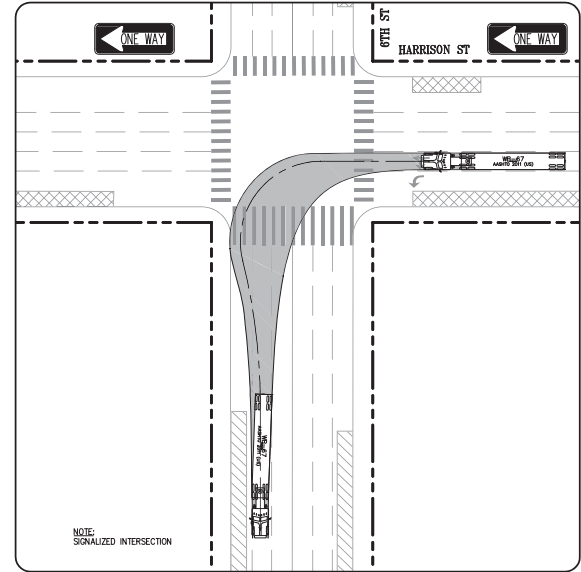


DETAIL 2 PROPOSED WESTBOUND MOVEMENT (WB-67)

BKF ENGINEERS / SURVEYORS / PLANNERS 255 SHORELINE DR SUITE 200 REDWOOD CITY, CA 94065 650-482-6300 650-482-6399 (FAX)		SAN FRANCISCO FLOWER MARKET TRUCK TURNING EXHIBIT INTERSECTION 9 SAN FRANCISCO COUNTY CALIFORNIA		© BKF ENGINEERS
Date: 06/09/2020 Scale: 1"=50' Design: Drawn: Approved: Job No: 2017041		Revisions No. Description		Drawing Number: EXH10



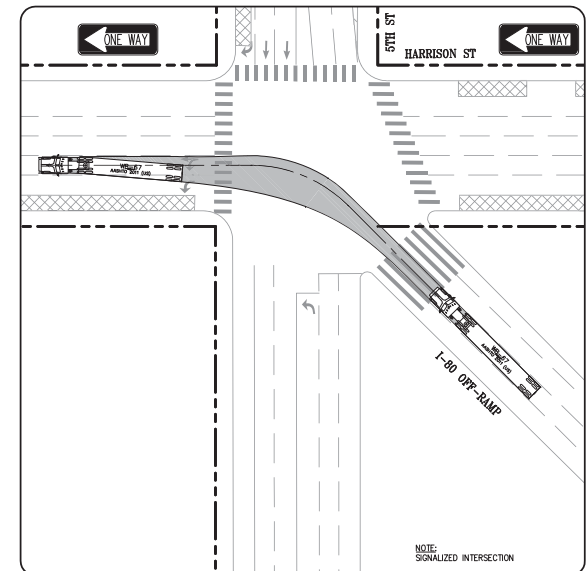
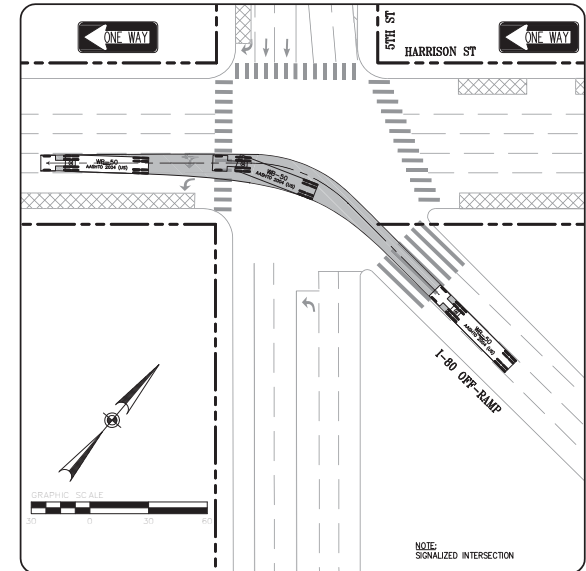
DETAIL 1 PROPOSED WESTBOUND MOVEMENT (WB-60)



DETAIL 2 PROPOSED WESTBOUND MOVEMENT (WB-67)

BKF ENGINEERS / SURVEYORS / PLANNERS 255 SHORELINE DR SUITE 200 REDWOOD CITY, CA 94065 650-482-5300 650-482-6399 (FAX)		SAN FRANCISCO SAN FRANCISCO COUNTY CALIFORNIA	
SAN FRANCISCO FLOWER MARKET TRUCK TURNING EXHIBIT INTERSECTION 10		Drawing Number:	
Date: 06/19/2020	No.	Revisions	
Scale: 1"=30'			
Design:			
Drawn:			
Approved:			
Job No: 2017041			
EXH11			

DRAWING NAME: \\BKF\Users\jason\2020\202041_Intersection\Drawings\Intersection.dwg (EXH12)
 PLOT TIME: 06-27-20 10:10pm PLOTTED BY: JEFF



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**SAN FRANCISCO FLOWER MARKET
 TRUCK TURNING EXHIBIT**

INTERSECTION 11

SAN FRANCISCO SAN FRANCISCO COUNTY CALIFORNIA

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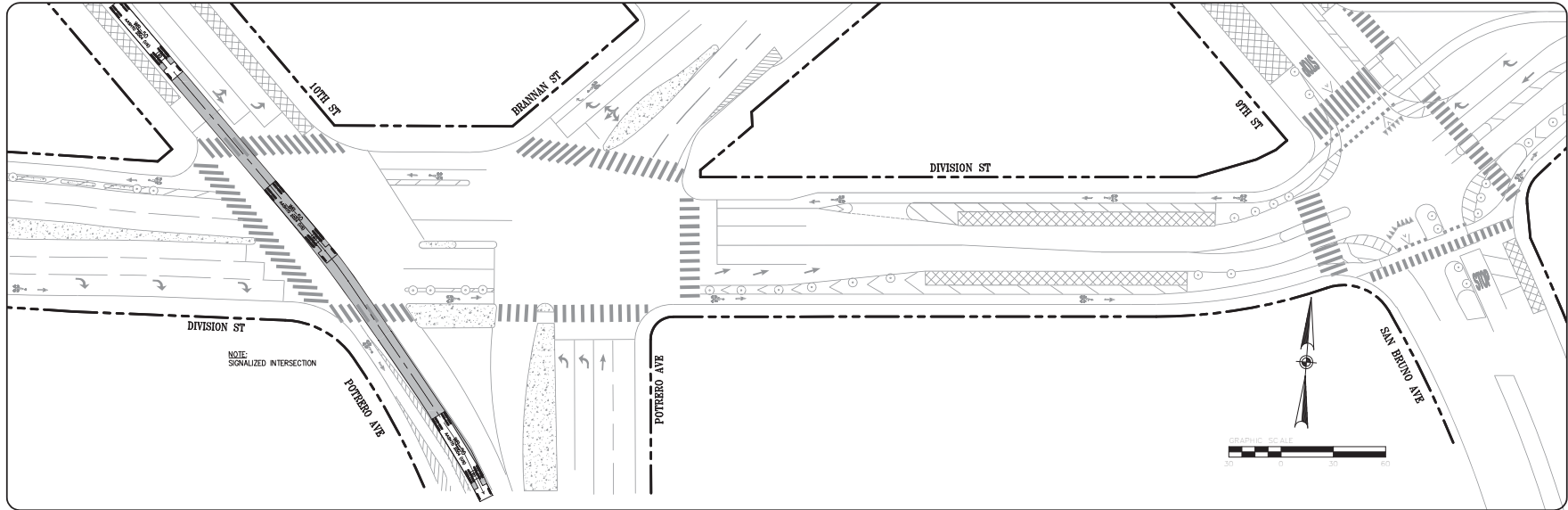
Revisions	
No.	Description

Date: 06/09/2020
 Scale: 1"=30'

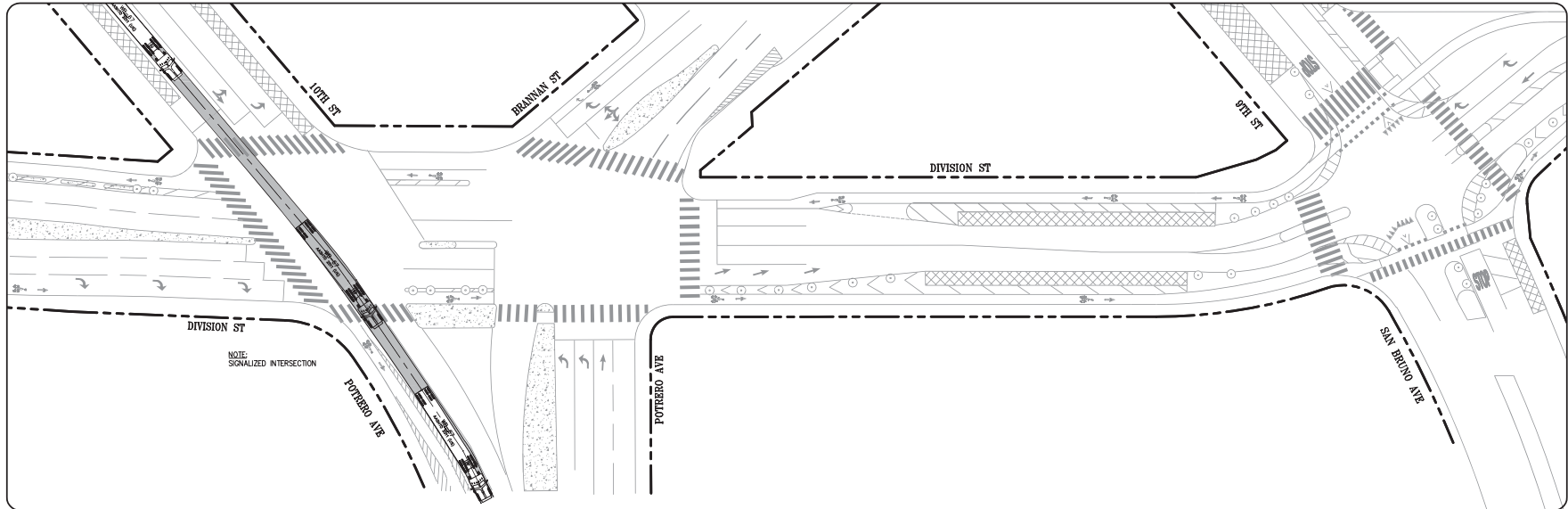
Design: _____
 Drawn: _____
 Approved: _____
 Job No: 20170441

Drawing Number:
EXH12

DRAWING NAME: \\BKF-IT\Users\2020\20041_New_SF_Jerry_Jerry\San Francisco\BKF\San Francisco.dwg (EXH13)
 PLOT TIME: 06-27-20 10:28am PLOTTED BY: JERRY



DETAIL 1 PROPOSED SOUTHBOUND MOVEMENT (WB-60)



DETAIL 2 PROPOSED SOUTHBOUND MOVEMENT (WB-67)

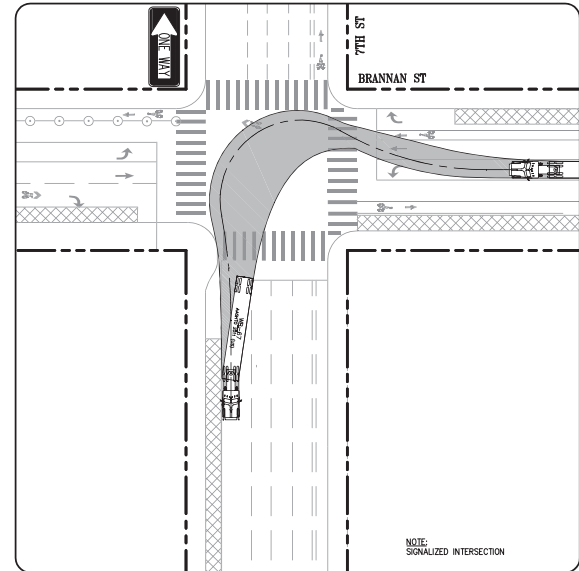
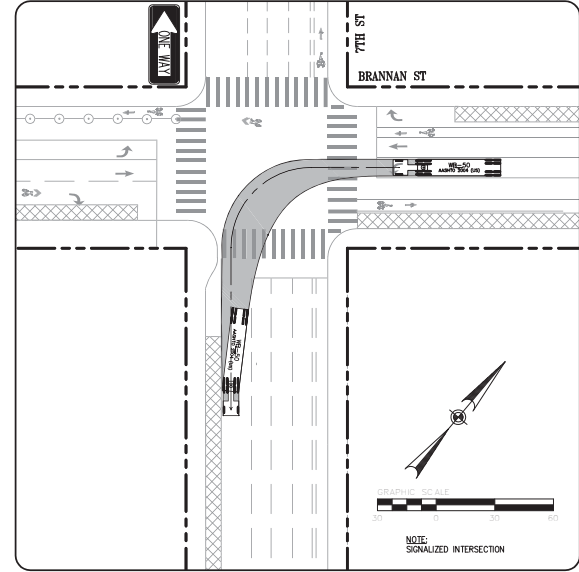
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**SAN FRANCISCO FLOWER MARKET
 TRUCK TURNING EXHIBIT
 INTERSECTION 12**
 SAN FRANCISCO COUNTY
 CALIFORNIA

Revisions	No.	Date	By	Appr.
		06/19/2020	Jerry	

Drawing Number:
EXH13



Date	No.	Revisions
06/09/2020		
Scale: 1"=30'		
Design:		
Drawn:		
Approved:		
Job No: 2017041		

Drawing Number: **EXH14**



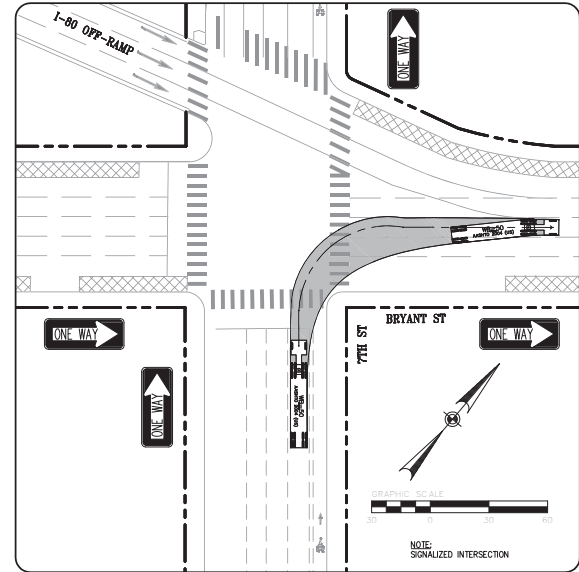
**SAN FRANCISCO FLOWER MARKET
TRUCK TURNING EXHIBIT
INTERSECTION 14**

SAN FRANCISCO FLOWER
CLOCK TURNING EXHIBIT
INTERSECTION 14

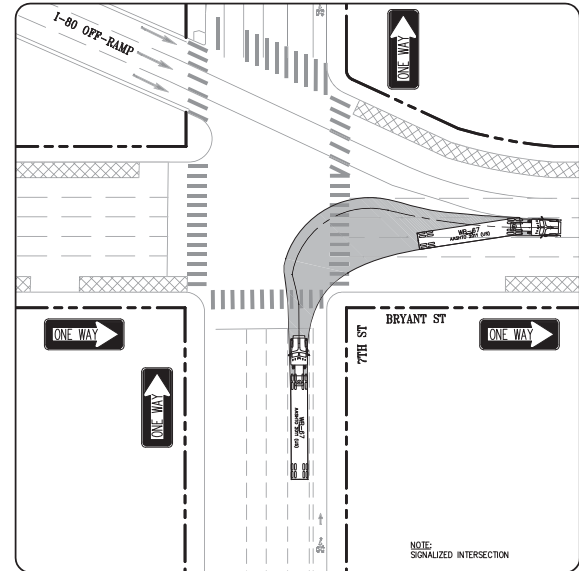
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Date: 06/06/2020	No.	Revisions
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Design:		
Drawn:		
Approved:		

EXH15



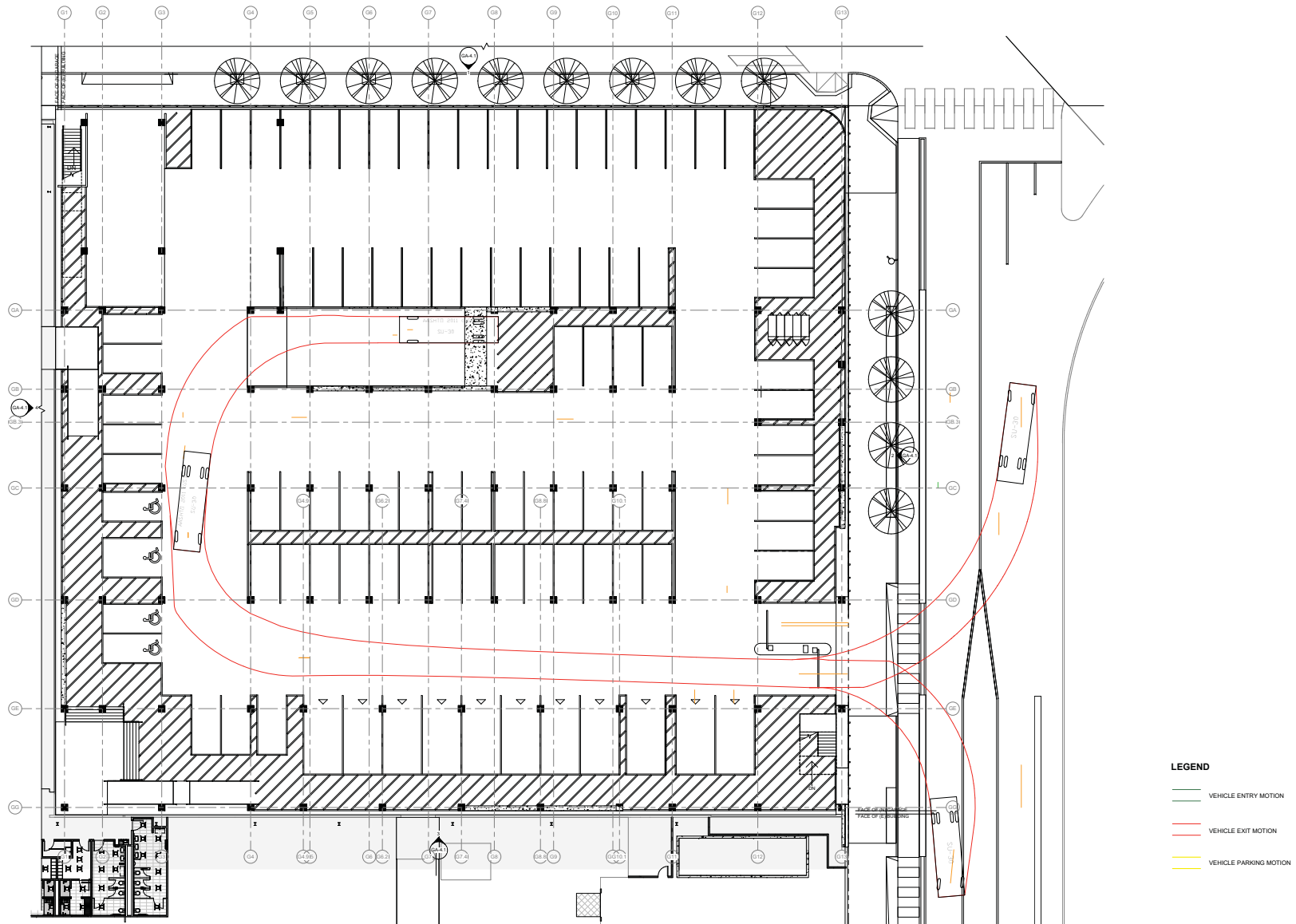
DETAIL 1 PROPOSED NORTHBOUND MOVEMENT (WB-80)

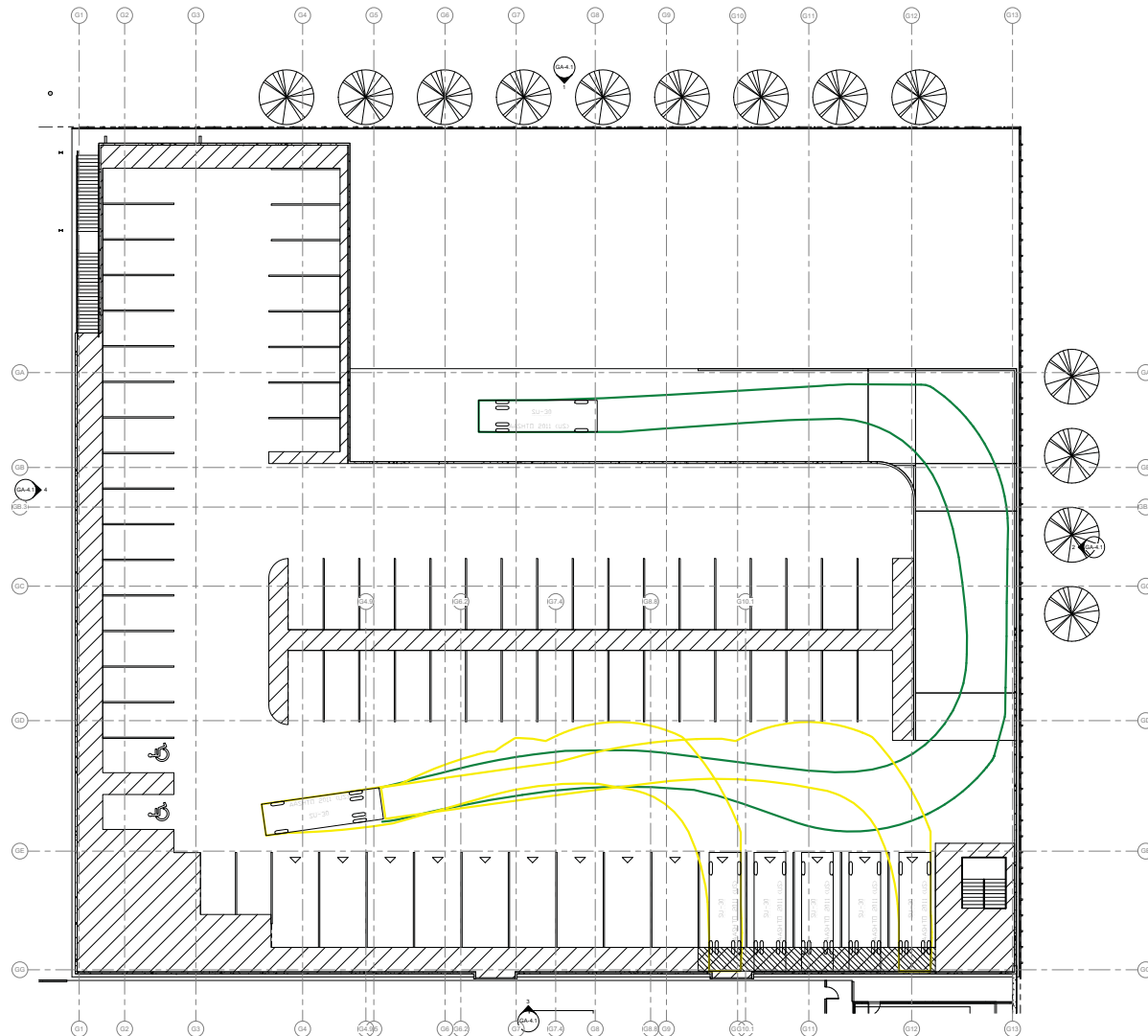


DETAIL 2 PROPOSED NORTHBOUND MOVEMENT (WB-87)

EXH17 Drawing Number:		Date: 06/09/2020 Scale: 1"=30' Design: Drawn: Approved: Job No: 2017041		Revisions No.	
SAN FRANCISCO INTERSECTION 16		SAN FRANCISCO SAN FRANCISCO COUNTY		CALIFORNIA	
SAN FRANCISCO FLOWER MARKET TRUCK TURNING EXHIBIT		© BKF ENGINEERS 255 SHORELINE DR SUITE 200 REDWOOD CITY, CA 94065 650-482-6300 650-482-6399 (FAX)			

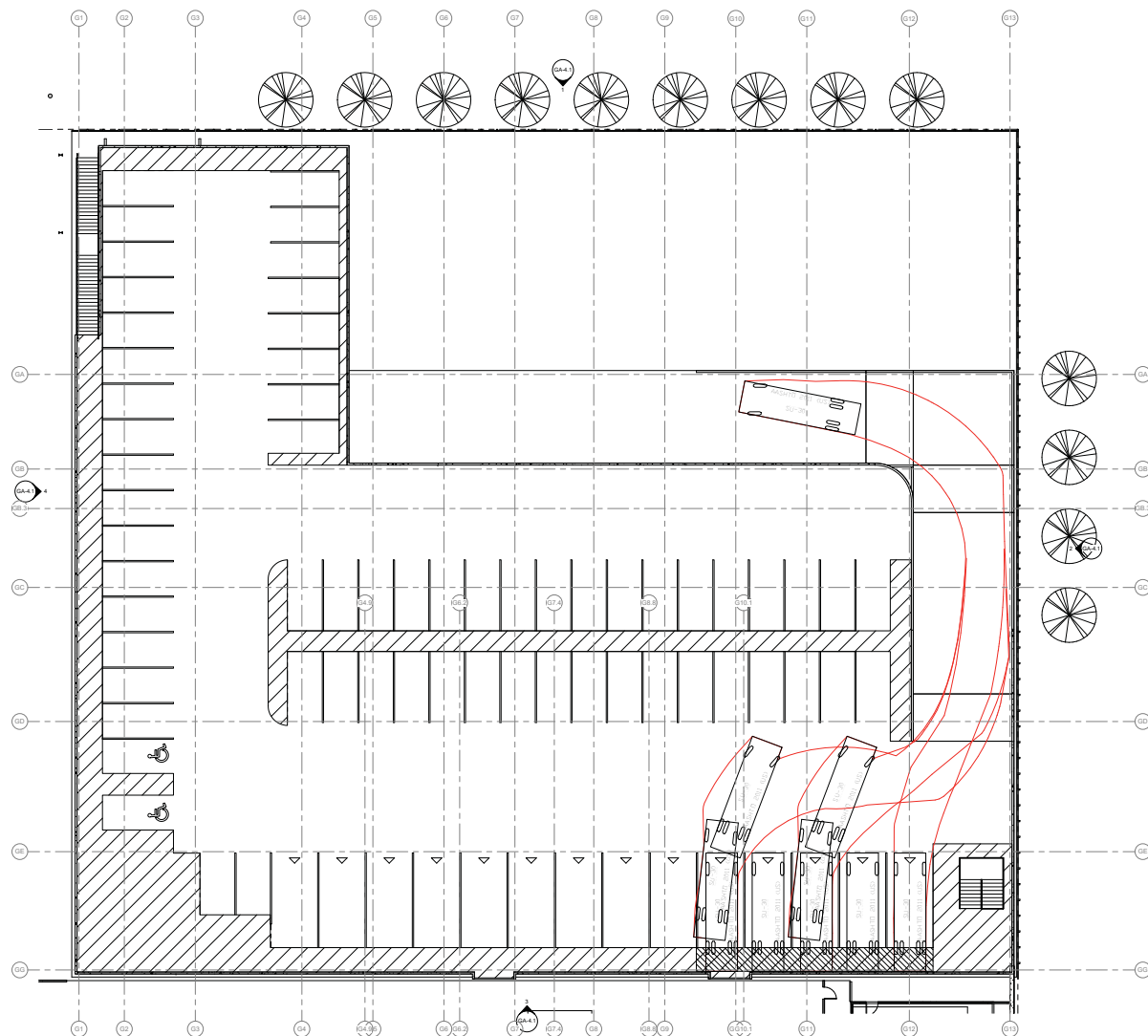
TRUCK TURNS AT PROJECT SITE





LEGEND

- VEHICLE ENTRY MOTION
- VEHICLE EXIT MOTION
- VEHICLE PARKING MOTION



LEGEND

- VEHICLE ENTRY MOTION
- VEHICLE EXIT MOTION
- VEHICLE PARKING MOTION



**901 16th ST
MANAGER**

901 16th St Manager, LLC

901 16th Street
San Francisco, CA 94107

**SAN FRANCISCO
WHOLESALE FLOWER
MARKET**

**Jackson Liles
ARCHITECTURE**

2325 Third Street #206
San Francisco, CA 94107
Tel: 415.621.1798
Fax: 415.621.1798

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Date & Issue
05.04.2020 BASE BUILDING
07.09.2020 SCHEMATIC DESIGN PRICING
07.09.2020 BASE BUILDING SCHEMATIC
07.09.2020 DESIGN PRICING REVISION

SAN FRANCISCO WHOLESALE
FLOWER MARKET
Date: 05.08.2020
Scale: As indicated
Job #: 2002
Revit File: Y:\jbl\2002\Revit
Assembled By: Author

**S-LEVEL 2 - TT
EXIT**

A-1.10d



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901 16th Street
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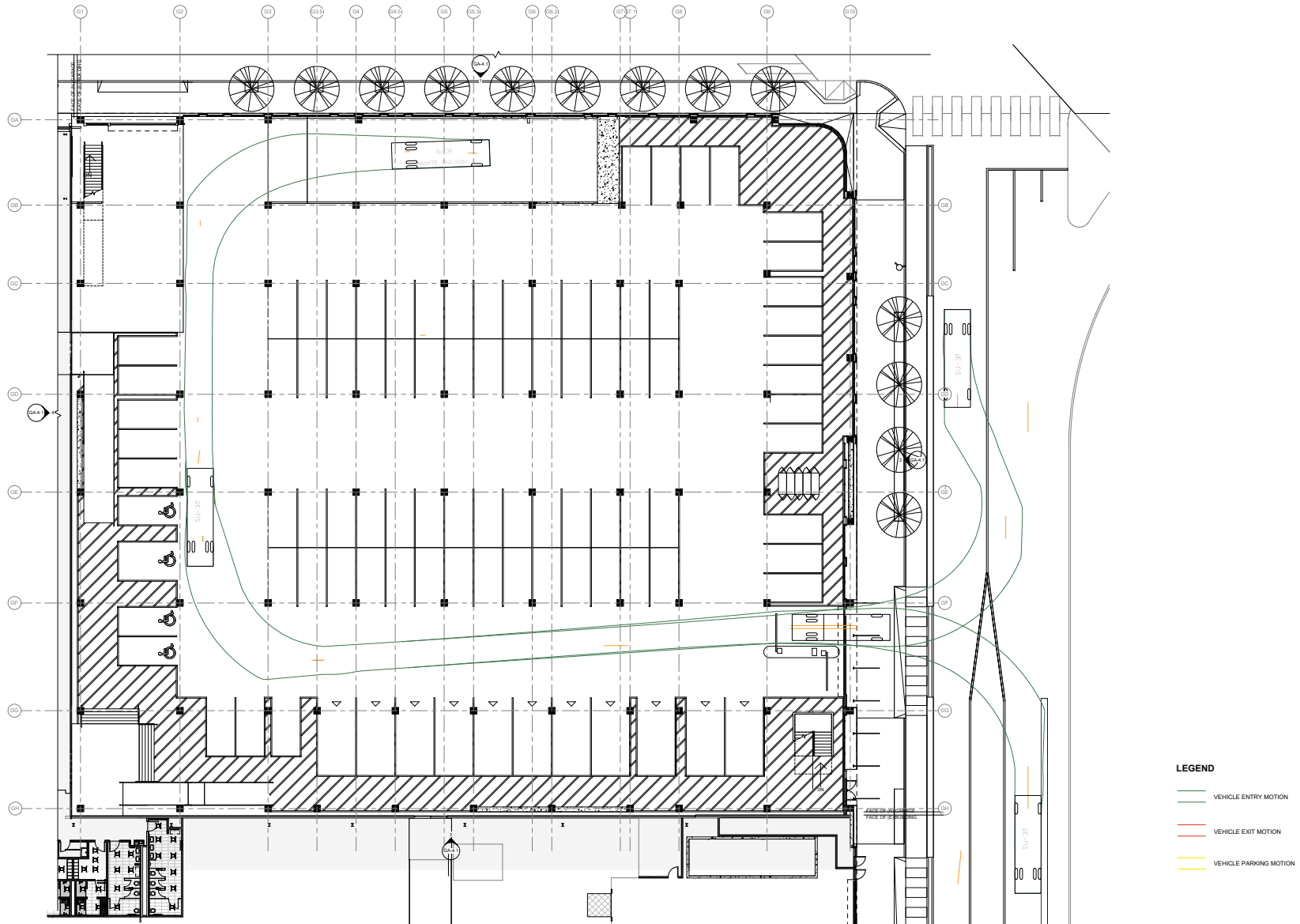
Date & Issue
05.04.2020 BASE BUILDING
07.09.2020 SCHEMATIC DESIGN PRICING
07.09.2020 BASE BUILDING SCHEMATIC
07.09.2020 DESIGN PRICING REVISION

SAN FRANCISCO WHOLESALE
FLOWER MARKET

Date: 05.08.2020
Scale: As indicated
Job #: 2002
Revt File: Y:\jlm\2002\Revit
Assembled By: Author

L-LEVEL 1 - TT
ENTRY

A-1.11a





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MANAGER

901 16th St Manager, LLC

901 16th Street
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San Francisco, CA 94107
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Fax: 415.621.1798

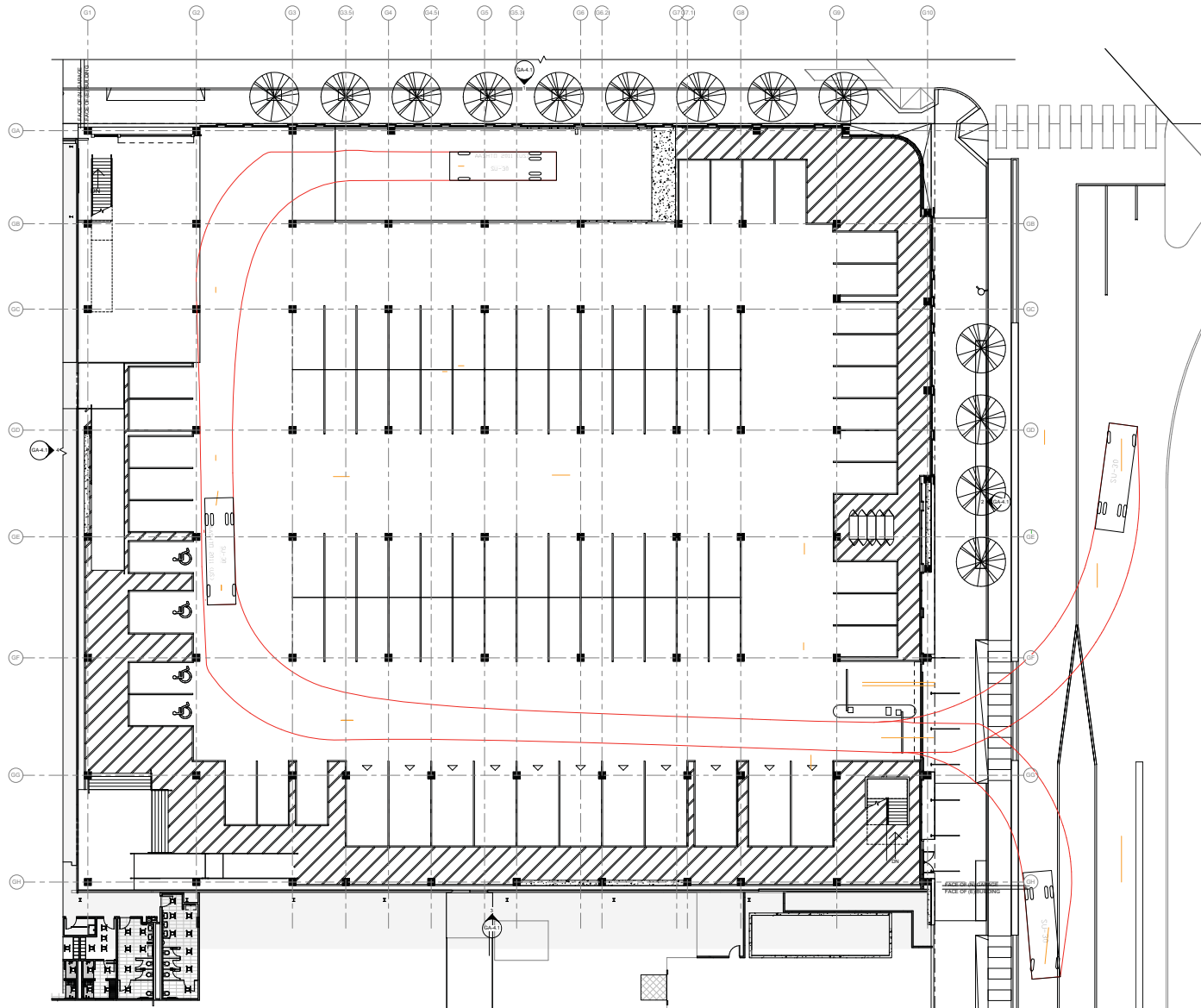
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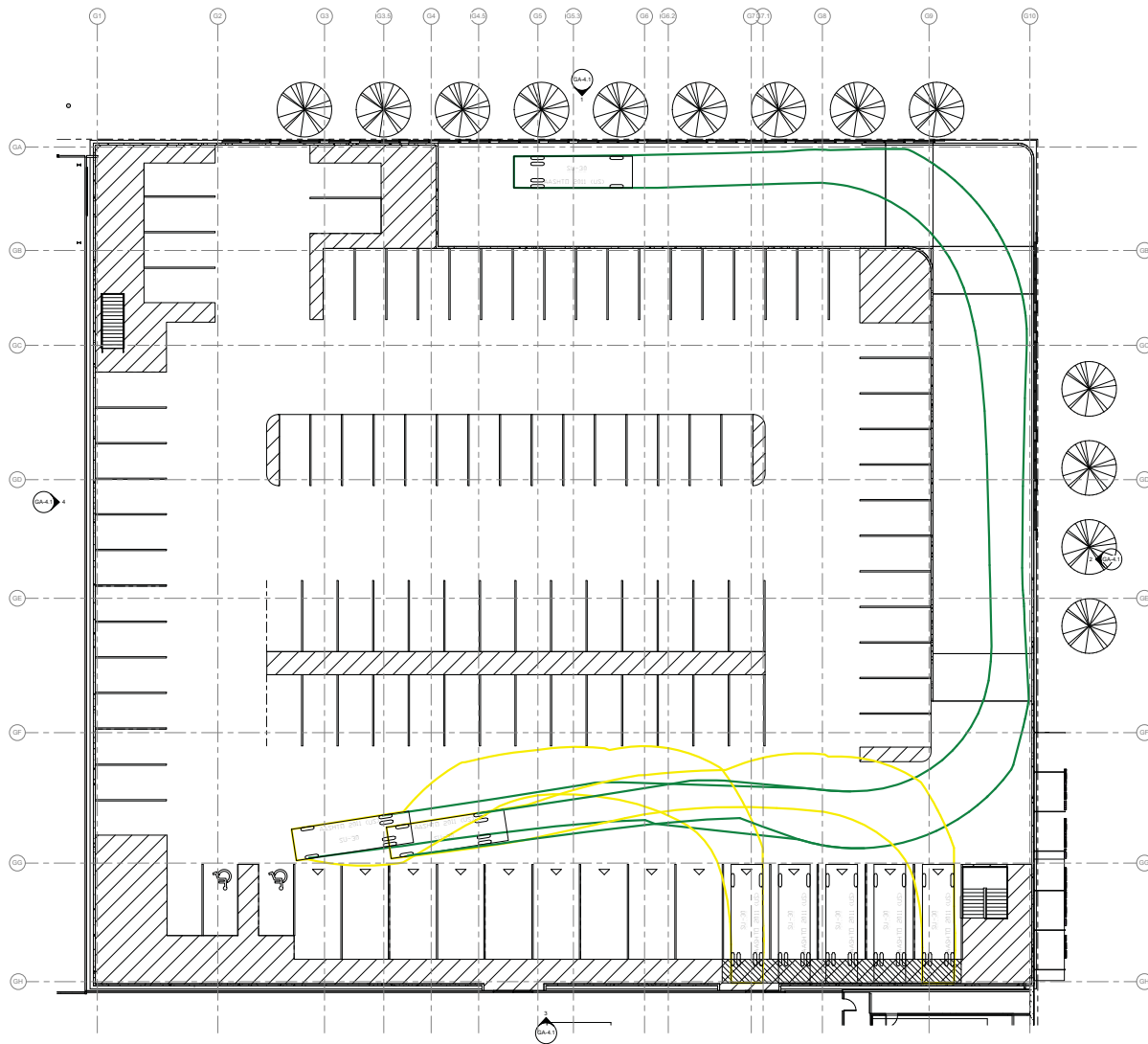
Date & Issue
05.04.2020 BASE BUILDING SCHEMATIC DESIGN PRICING
07.09.2020 BASE BUILDING SCHEMATIC DESIGN PRICING REVISION

SAN FRANCISCO WHOLESALE
FLOWER MARKET
Date: 05.08.2020
Scale: As indicated
Job #: 2002
Revit File: Y:\jlm\2002\Revit
Assembled By: Author

L-LEVEL 1 - TT
EXIT

A-1.11b





- LEGEND**
- VEHICLE ENTRY MOTION
 - VEHICLE EXIT MOTION
 - VEHICLE PARKING MOTION



**901 16th ST
MANAGER**

901 16th St Manager, LLC

901 16th Street
San Francisco, CA 94107

**SAN FRANCISCO
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MARKET**

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San Francisco, CA 94107
Tel: 415.621.1798
Fax: 415.621.1798

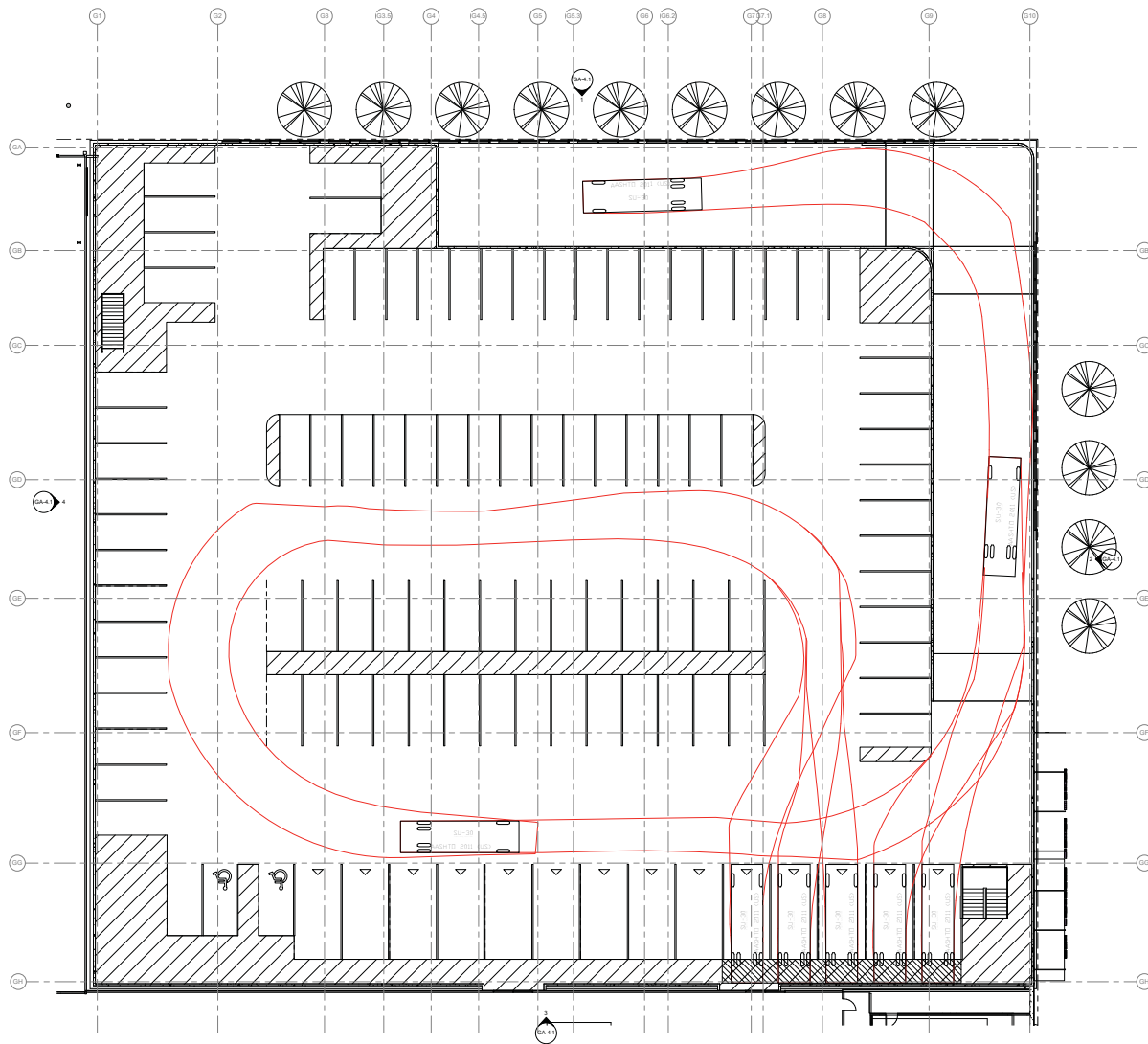
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07.09.2020 BASE BUILDING SCHEMATIC
07.09.2020 DESIGN PRICING REVISION

**SAN FRANCISCO WHOLESALE
FLOWER MARKET**
Date: 05.08.2020
Scale: As indicated
Job #: 2002
Revit File: Y:\jlb\2002\Revit
Assembled By: Author

**L-LEVEL 2 - TT
ENTRY**

A-1.11c



LEGEND

- VEHICLE ENTRY MOTION
- VEHICLE EXIT MOTION
- VEHICLE PARKING MOTION



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901 16th St Manager, LLC

901 16th Street
San Francisco, CA 94107

**SAN FRANCISCO
WHOLESALE FLOWER
MARKET**

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San Francisco, CA 94107
Tel: 415.621.1798
Fax: 415.621.1798

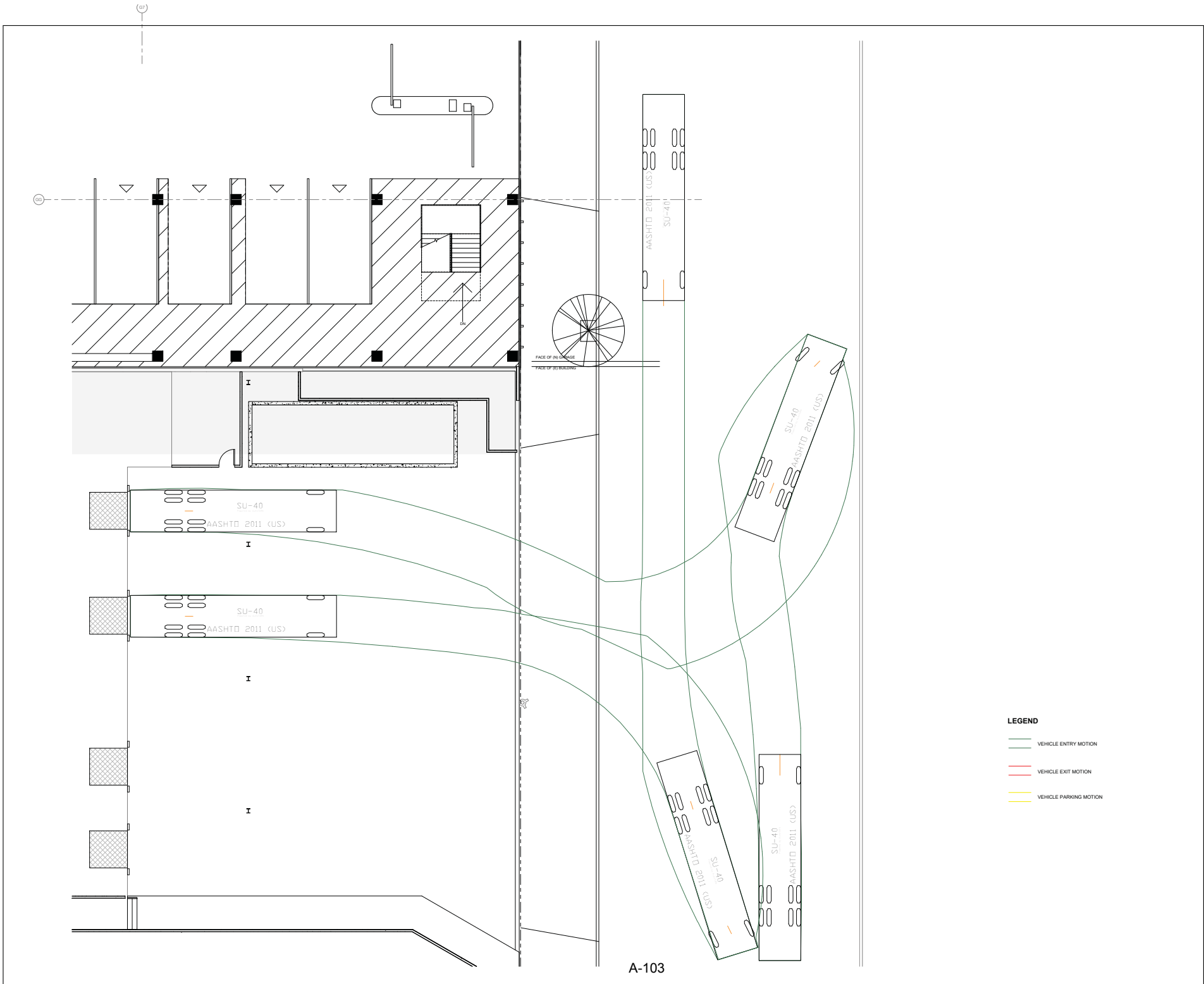
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05.04.2020 BASE BUILDING SCHEMATIC DESIGN PRICING
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SAN FRANCISCO WHOLESALE
FLOWER MARKET
Date: 05.08.2020
Scale: As indicated
Job #: 2002
Revit File: Y:\jshw\2002\Revit
Assembled By: Author

**L-LEVEL 2 - TT
EXIT**

A-1.11d



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MANAGER

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San Francisco, CA 94107

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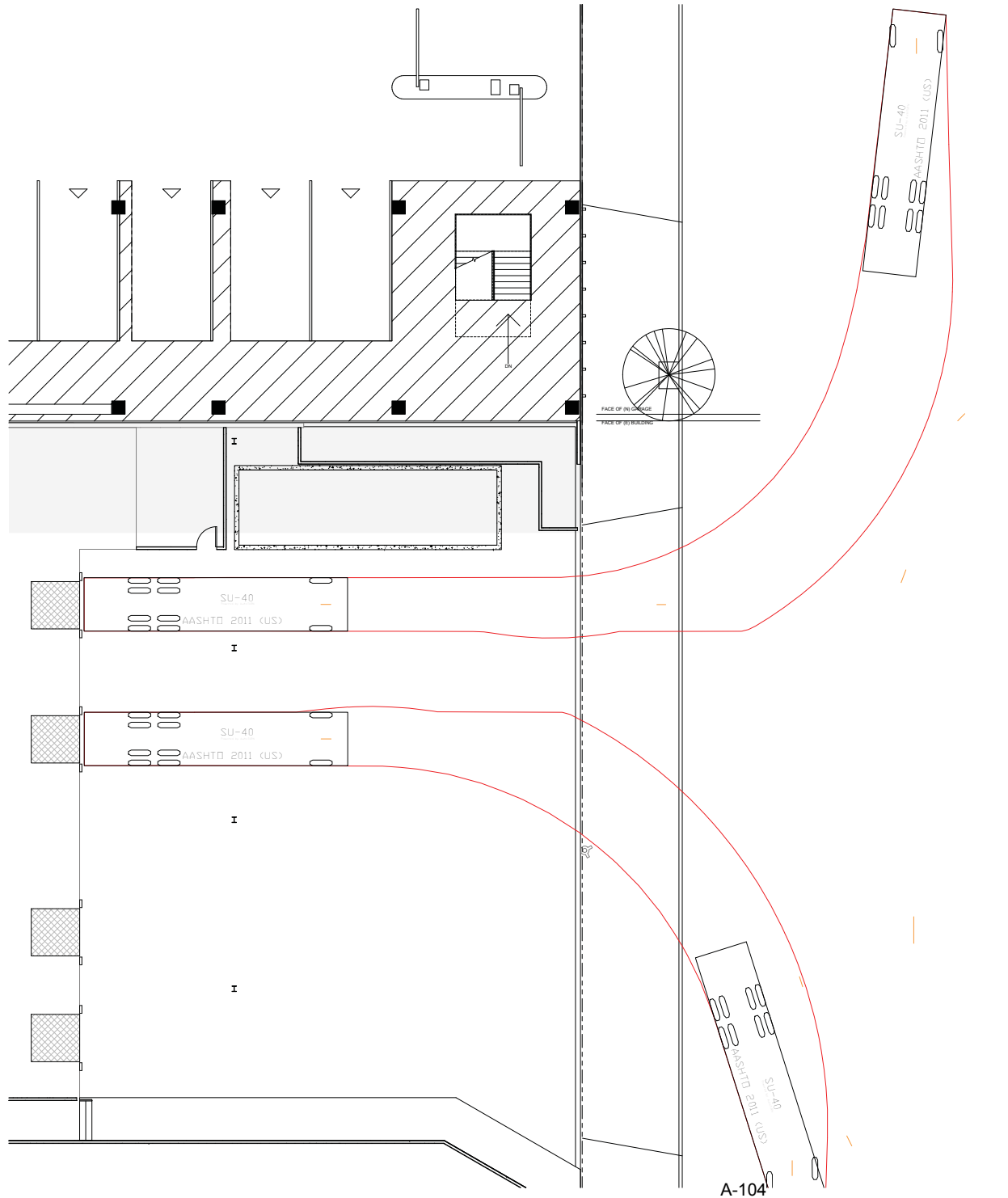
Date & Issue
05.04.2020 BASE BUILDING
07.09.2020 SCHEMATIC DESIGN PRICING
07.09.2020 BASE BUILDING SCHEMATIC
07.09.2020 DESIGN PRICING REVISION

SAN FRANCISCO WHOLESALE
FLOWER MARKET

Date: As indicated
Scale: 2002
Revit File: Y:\jshw\G002\Revit
Assembled By: Author

L-LEVEL 1 - TT
SU-40

A-1.7a



LEGEND

- VEHICLE ENTRY MOTION
- VEHICLE EXIT MOTION
- VEHICLE PARKING MOTION



901 16th ST
MANAGER

901 16th St Manager, LLC

901 16th Street
San Francisco, CA 94107

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Date & Issue
05.04.2020 BASE BUILDING
07.09.2020 SCHEMATIC DESIGN PRICING
07.09.2020 BASE BUILDING SCHEMATIC
07.09.2020 DESIGN PRICING REVISION

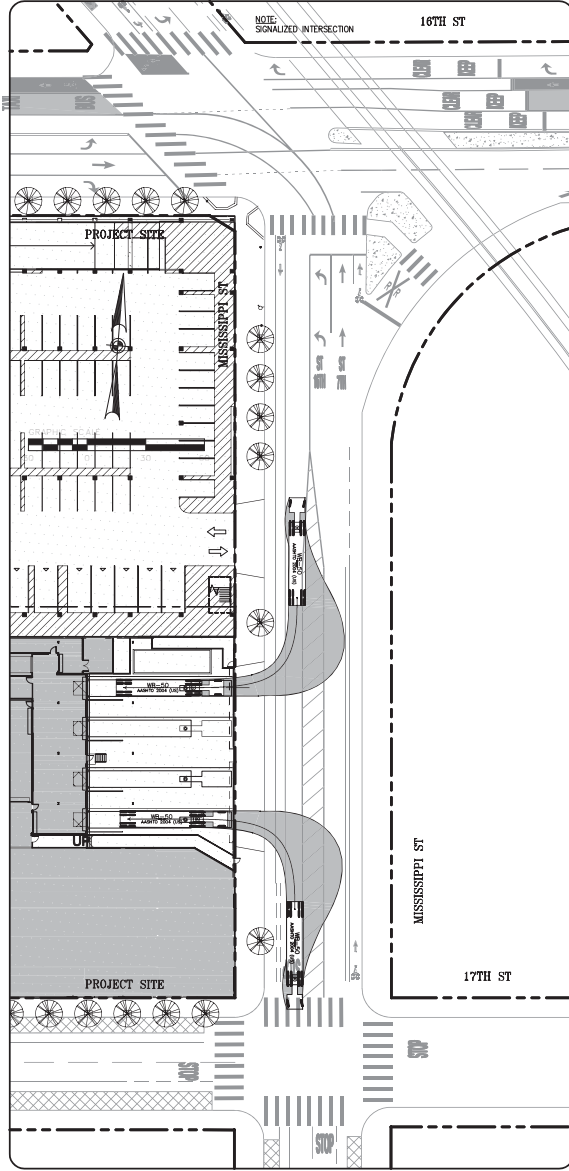
SAN FRANCISCO WHOLESALE
FLOWER MARKET

Date: As indicated
Scale: 1/8" = 1'-0"
Job #: 2002
Revit File: Y:\jlb\2002\Revit
Assembled By: Author

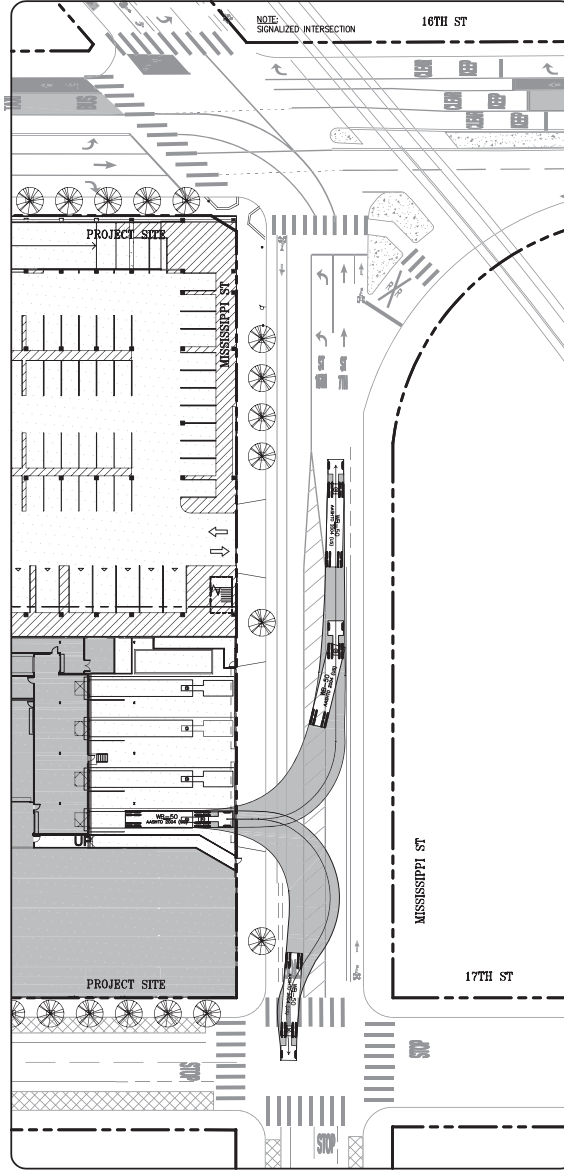
L-LEVEL 1 - TT
SU-40

A-1.7b

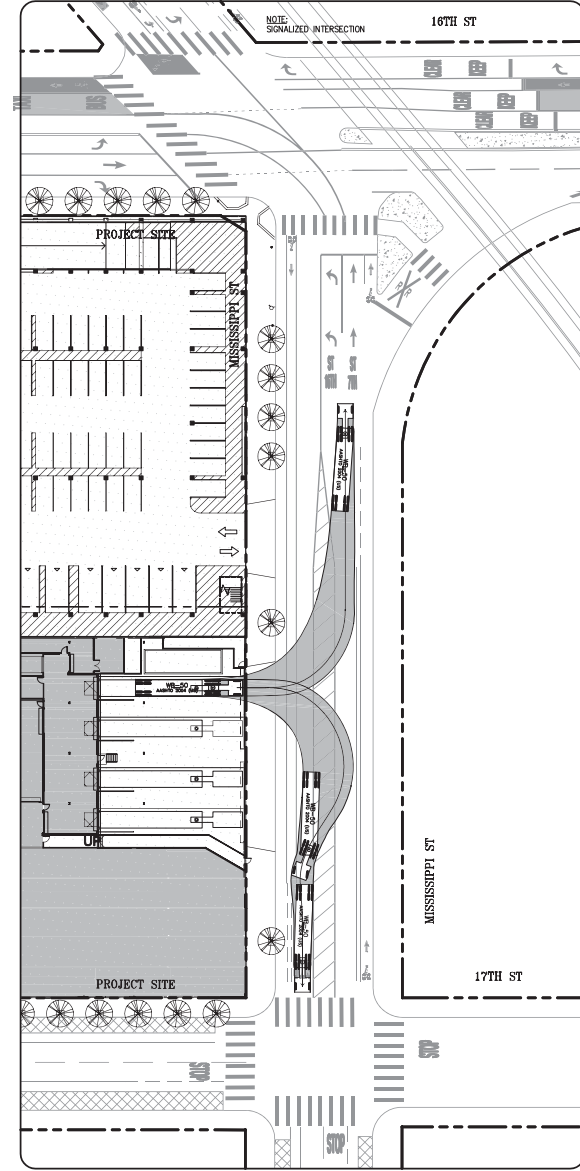
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 PLOT TIME: 06-07-2015 10:26am
 PLOTTED BY: jason



DETAIL 1 PROPOSED REVERSING MOVEMENT (WB-50)



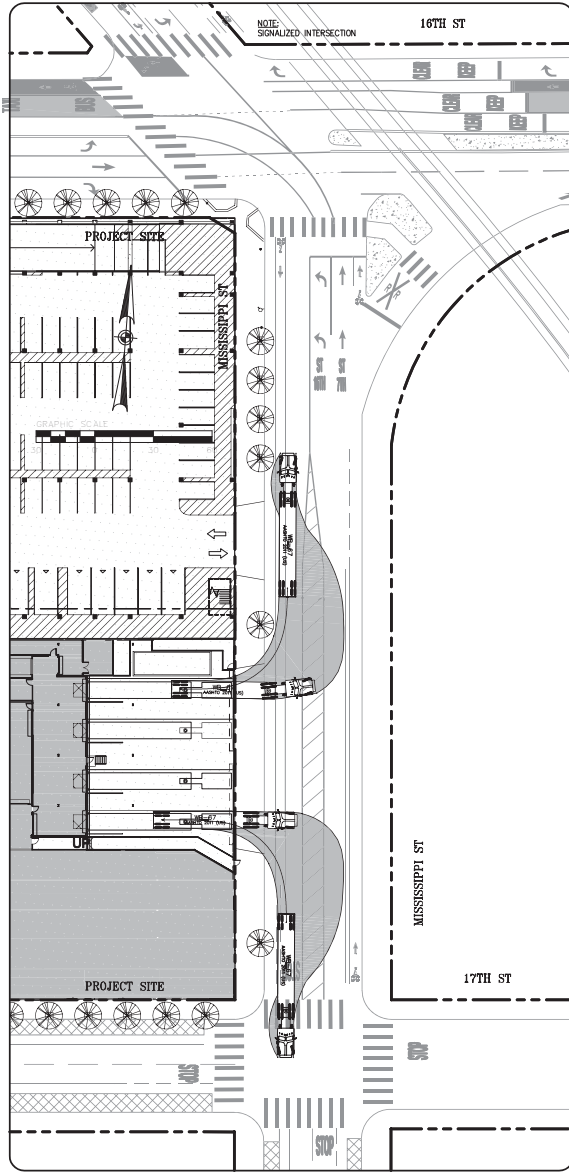
DETAIL 2 PROPOSED FORWARD MOVEMENT (WB-50)



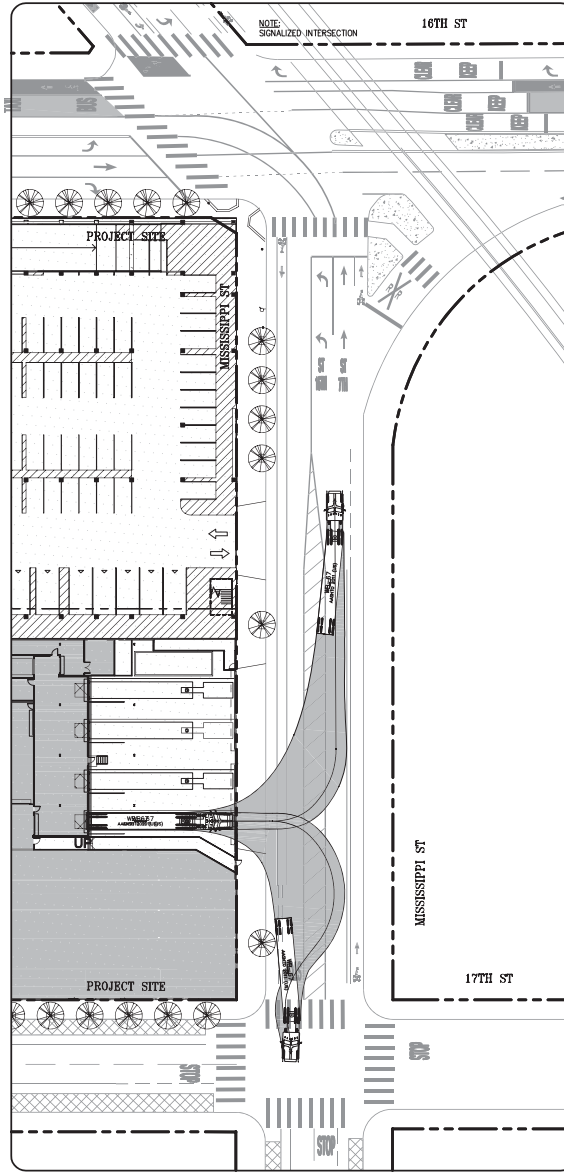
DETAIL 3 PROPOSED FORWARD MOVEMENT (WB-50)

Revisions	No.
Date: 06/09/2020	
Scale: 1"=30'	
Drawn:	
Approved:	
Job No: 2017041	

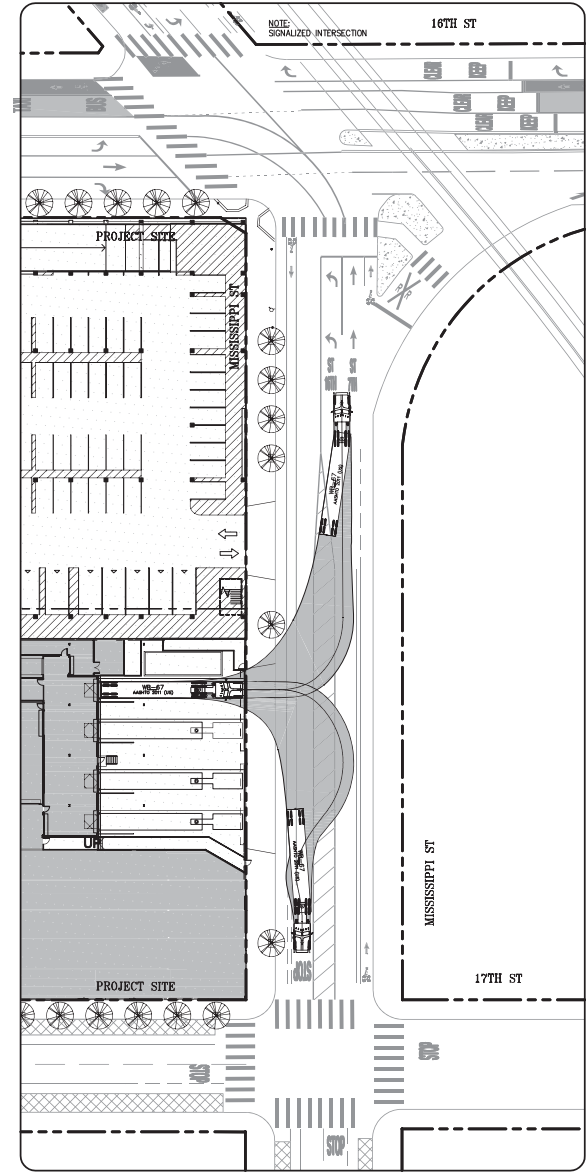
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 PLOT TIME: 06-27-20 10:26am
 PLOTTED BY: JEF



DETAIL 1 PROPOSED REVERSING MOVEMENT (WB-67)



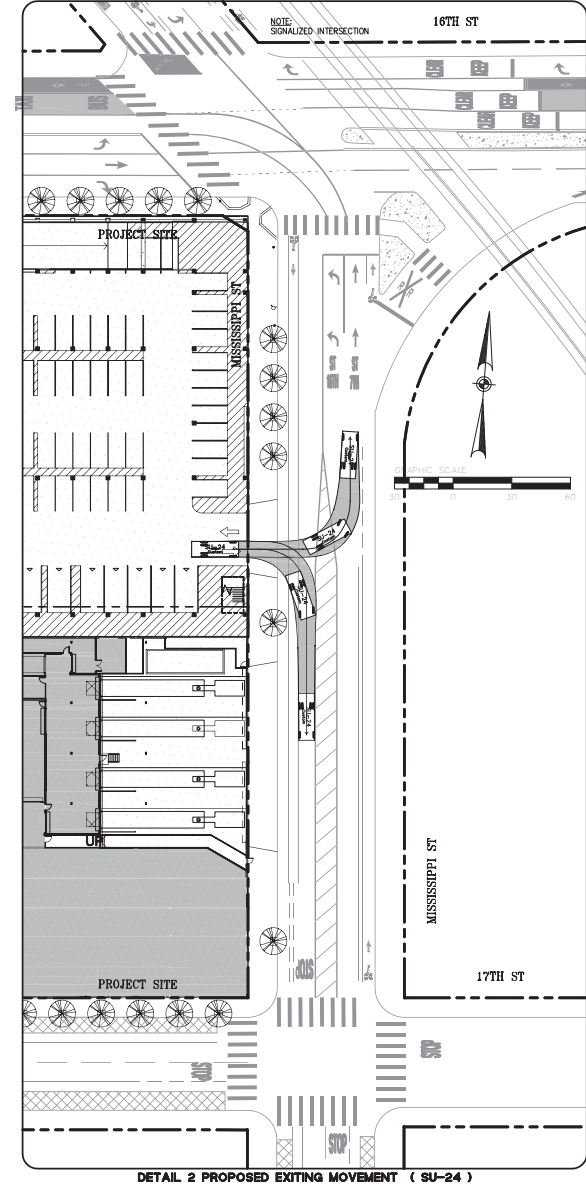
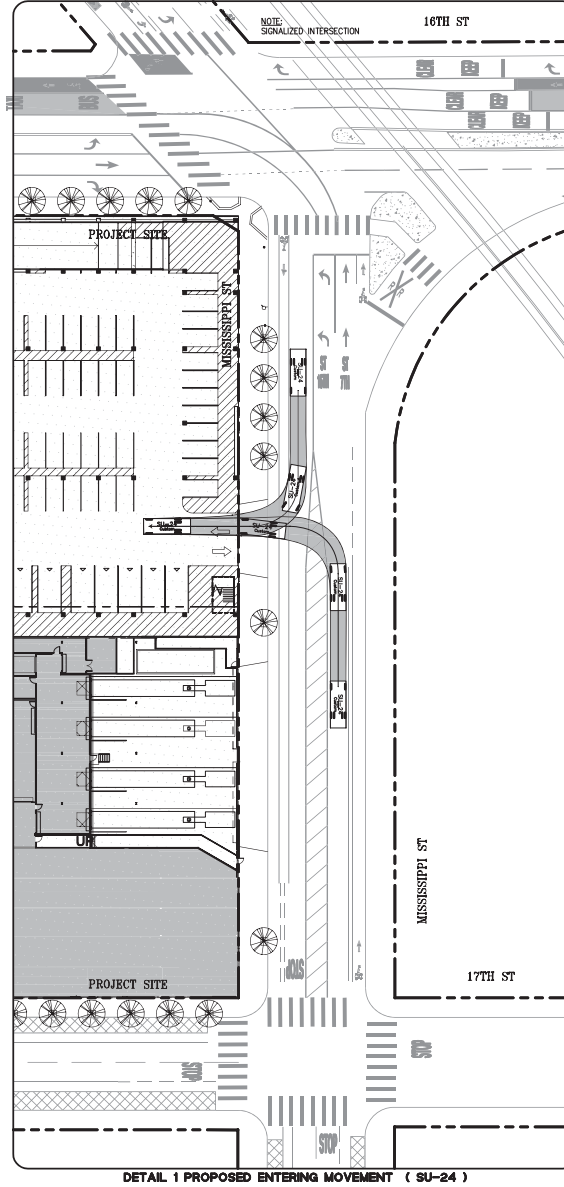
DETAIL 2 PROPOSED FORWARD MOVEMENT (WB-67)



DETAIL 3 PROPOSED FORWARD MOVEMENT (WB-67)

<p>255 SHORELINE DR SUITE 200 REDWOOD CITY, CA 94065 650-482-5300 650-482-6399 (FAX)</p> <p>BKF Engineers / Surveyors / Planners</p>		<p>SAN FRANCISCO FLOWER MARKET TRUCK TURNING EXHIBIT REVERSING MOVEMENTS - MISSISSIPPI ST</p> <p>SAN FRANCISCO SAN FRANCISCO COUNTY CALIFORNIA</p>									
<p>Date: 06/09/2020 Scale: 1"=30' Design: Drawn: Approved: Job No: 2017041</p>		<p>Revisions</p> <table border="1"> <tr> <th>No.</th> <th>Description</th> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>		No.	Description						
No.	Description										
<p>Drawing Number:</p>		<p>EXH20</p>									

DRAWING NAME: \\BKF\Projects\2020\20041_Hwy_24_Joiner_Mat\Drawings\Submittals\Submittals.dwg (3/18/21)
 PLOT TIME: 06:27:25 10/26/2020 PLOTTED BY: BKF



Date	By	Check	Scale	Notes
06/09/2020			1"=30'	
Design				
Drawn				
Approved				
Job No.	2017041			

Appendix NOI

Noise Technical Information



memorandum

date September 15, 2020

to Alana Callagy, San Francisco Planning Department
Joy Navarrete, San Francisco Planning Department

cc Elliott Schwimmer, Project Manager, ESA

from Chris Sanchez, Noise Analyst, ESA

subject Permanent Off-Site Flower Mart Project – Noise Measurement Results

This memorandum presents the results from noise measurements collected in the vicinity of the Permanent Off-Site Flower Mart Project site at 901 16th Street. To characterize the ambient noise levels in the vicinity of sensitive uses, ESA collected one long-term (LT) 24-hour noise measurement (see **Figure 1**). The measurement was conducted using a laboratory certified Larson Davis LxT Type 2 sound level meter calibrated immediately prior to initiation of the monitoring period. The long-term measurement included the hourly Leq and Lmax metric and the L₉₀ metric for the duration of the monitoring period.¹ Additionally, hourly Leq metrics of the long-term monitoring data were used to calculate the DNL metric at this location.

Noise measurement location LT-1 was identified to characterize ambient daytime conditions in the vicinity of residential uses along 16th Street where the nearest residences (1010 16th Street) are located. These residences are most likely to be affected by proposed on-site operational noise generated by internal truck loading and mechanical equipment on the project site. This monitoring location was selected because it is representative of the quietest (furthest from Interstate 280 and the Caltrain tracks) position of the nearest residential unit, across the street. The quieter receptors would have the greatest potential for experiencing a substantial increase in noise.

The monitoring effort was conducted on June 17, 2020. The noise monitoring occurred during a statewide shelter-in-place order associated with the COVID-19 pandemic, which resulted in limited business activities. Therefore, the baseline for comparison of noise impacts from the proposed project is the project site and surrounding activity on June 17, 2020, when the project site was vacant. As a result, noise monitoring likely underestimates the contribution to ambient noise levels from historic project site activity, vehicle traffic, and Caltrain operations on the adjacent rail line. Underestimating existing ambient noise level is conservative because a higher applicable noise standard would be anticipated under historic, or “normal” conditions without business restrictions. There

¹ Leq is the steady state equivalent noise level over the monitoring period. L_{max} is the maximum noise level recorded during the monitoring period. L₉₀ is the noise level exceeded 90 percent of the monitoring period. DNL is the day-night noise level recorded over a 24-hour period with a 10 dBA “penalty” added to the hourly Leq recorded between 10:00 p.m. and 7:00 a.m.



SOURCE: Google, base, 2020; ESA, 2020

Case No. 2011.1300EIA: Permanent Off-Site Flower Market Project

Figure 1
Long-term Noise Monitoring Location

was no precipitation during the monitoring event. The measured sound levels and the sources of sound monitored are shown in **Table 1, Existing Noise Environment in the Project Site Vicinity**.

TABLE 1
EXISTING NOISE ENVIRONMENT IN THE PROJECT SITE VICINITY

Location	Date and Time Period	Daytime^a L_{eq} dB	Nighttime^b L_{eq} dB	Daytime^a L₉₀	Nighttime^b L₉₀	L_{dn}	Noise Sources
LT-1 south side of 16 th Street, approximately 290 feet west of Mississippi Street	6/17/20 Wednesday 24-hour measurement	68	64	59	53	71	Vehicle Traffic on 16 th Street and I-280. Caltrain operations with signal bell.
Notes:							
a. Daytime hours are 7 a.m. to 10 p.m.							
b. Nighttime hours are 10 p.m. to 7 a.m.							

Noise Monitoring Project Site

Summary		
File Name on Meter	831_Data.030	
File Name on PC	SLM_0002783_831_Data_030.00.ldbin	
Serial Number	0002783	
Model	Model 831	
Firmware Version	2.402	
User	C. Sanchez	
Location	901 16th Street	
Job Description	901 16th Street	
Note		

Measurement		
Description		
Start	2020-06-16 11:00:00	
Stop	2020-06-18 10:47:25	
Duration	47:47:25.594	
Run Time	47:47:25.594	
Pause	00:00:00.0	
Pre Calibration	2020-06-16 09:23:33	
Post Calibration	None	
Calibration Deviation	---	

Overall Settings		
RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamp	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
OBA Range	Low	
OBA Bandwidth	1/1 and 1/3	
OBA Freq. Weighting	A Weighting	
OBA Max Spectrum	Bin Max	
Gain	20.0 dB	
Overload	124.4 dB	
	A	C
Under Range Peak	57.0	54.0
Under Range Limit	24.7	25.4
Noise Floor	15.6	16.2

Results		
LAeq	67.0	
LAE	119.4	
EA	96.534 mPa²h	
LZpeak (max)	2020-06-16 14:14:07	124.9
LASmax	2020-06-16 21:27:40	96.3

Record #	Record Type	Date	Time	LAeq	LApeak	LZpeak	LA5.00	LA10.00	LA33.30	LA50.00	LA66.60	LA90.00
1	Run	2020-06-16	11:00:00									
2		2020-06-16	11:00:00	64.4	92.3	118.3	69.0	67.5	63.8	62.4	61.2	58.3
3		2020-06-16	11:15:00	65.3	97.5	118.6	69.3	67.8	64.8	63.3	61.9	59.3
4		2020-06-16	11:30:00	66.6	99.1	114.0	69.3	67.7	64.8	63.3	62.1	59.5
5		2020-06-16	11:45:00	65.5	92.2	121.1	70.0	68.4	65.3	63.7	62.1	59.3
6		2020-06-16	12:00:00	65.7	92.4	122.7	70.3	68.8	65.2	63.6	62.2	59.6
7		2020-06-16	12:15:00	66.8	96.5	124.6	71.4	69.5	65.9	64.5	63.0	60.3
8		2020-06-16	12:30:00	68.1	99.3	122.3	71.9	69.7	67.0	65.6	64.3	61.9
9		2020-06-16	12:45:00	66.3	94.8	121.7	70.3	68.7	65.3	63.9	62.4	59.8
10		2020-06-16	13:00:00	65.5	90.3	121.1	69.6	68.3	65.5	64.2	63.2	60.8
11		2020-06-16	13:15:00	70.3	103.0	121.9	73.2	70.2	66.0	64.5	63.1	60.3
12		2020-06-16	13:30:00	70.0	102.9	120.9	73.6	71.9	68.8	67.0	65.6	62.7
13		2020-06-16	13:45:00	67.5	93.6	124.4	70.8	70.1	68.3	67.2	64.5	61.4
14		2020-06-16	14:00:00	66.4	94.3	124.9	70.9	69.4	66.4	64.8	63.2	61.2
15		2020-06-16	14:15:00	66.7	95.6	122.4	70.3	69.1	66.4	65.0	63.9	61.5
16		2020-06-16	14:30:00	70.1	107.8	123.0	71.0	69.4	66.6	65.0	63.9	62.0
17		2020-06-16	14:45:00	66.2	91.8	121.4	70.1	69.0	66.0	64.4	63.3	61.6
18		2020-06-16	15:00:00	65.3	93.5	114.6	69.0	67.8	65.0	63.9	62.8	60.5
19		2020-06-16	15:15:00	69.6	103.2	119.3	71.1	69.3	66.3	65.1	63.9	61.4
20		2020-06-16	15:30:00	66.9	92.6	121.7	70.7	69.6	67.1	65.8	64.3	62.4
21		2020-06-16	15:45:00	70.8	107.2	119.8	71.1	69.3	66.0	64.8	63.3	61.3
22		2020-06-16	16:00:00	65.6	96.2	114.0	69.7	67.8	64.7	63.4	62.4	60.3
23		2020-06-16	16:15:00	72.4	110.0	117.9	74.5	70.5	65.7	64.2	62.9	60.8
24		2020-06-16	16:30:00	67.3	101.5	117.8	69.9	68.4	65.2	64.2	63.3	61.6
25		2020-06-16	16:45:00	65.3	95.0	114.5	69.2	68.2	65.3	64.2	62.9	60.1
26		2020-06-16	17:00:00	71.4	105.3	113.2	73.1	69.7	65.7	64.2	62.8	60.5
27		2020-06-16	17:15:00	70.2	105.2	121.2	72.0	70.6	67.0	65.6	64.4	61.4
28		2020-06-16	17:30:00	69.6	103.7	117.6	71.3	69.7	66.0	64.3	62.9	60.3
29		2020-06-16	17:45:00	64.5	93.1	114.8	69.1	67.7	64.0	62.6	61.7	59.9
30		2020-06-16	18:00:00	71.1	107.6	116.1	74.0	70.7	66.0	64.1	62.4	59.8
31		2020-06-16	18:15:00	65.8	99.1	109.1	69.9	67.7	64.3	63.1	61.3	58.8
32		2020-06-16	18:30:00	68.5	102.8	107.4	70.8	69.1	65.6	63.6	61.6	58.9
33		2020-06-16	18:45:00	62.9	97.2	108.0	67.9	66.3	62.6	61.0	59.0	56.1
34		2020-06-16	19:00:00	70.1	105.1	109.1	72.2	68.9	63.7	61.9	59.3	56.2
35		2020-06-16	19:15:00	71.0	103.9	107.1	71.2	68.2	63.8	61.8	59.8	56.0
36		2020-06-16	19:30:00	65.9	99.8	105.4	68.3	66.4	62.2	60.1	58.6	56.2
37		2020-06-16	19:45:00	64.5	104.6	105.6	66.4	64.5	61.0	58.6	57.0	54.6
38		2020-06-16	20:00:00	69.9	105.6	108.0	70.3	67.4	61.2	59.0	57.6	55.4
39		2020-06-16	20:15:00	65.3	98.8	104.2	68.7	66.1	62.0	59.7	57.2	53.5
40		2020-06-16	20:30:00	67.7	104.5	106.9	67.7	65.7	61.0	58.8	56.8	52.7
41		2020-06-16	20:45:00	65.1	99.6	107.1	68.4	66.1	60.0	58.1	56.0	52.4
42		2020-06-16	21:00:00	60.4	93.7	104.0	65.1	63.6	60.5	59.0	57.0	53.4
43		2020-06-16	21:15:00	71.4	108.8	111.1	66.7	64.5	61.3	59.1	56.7	52.7
44		2020-06-16	21:30:00	65.3	101.7	104.0	66.6	64.6	61.5	59.6	57.5	53.6
45		2020-06-16	21:45:00	60.5	88.8	95.4	65.4	64.0	60.2	58.4	56.5	53.0
46		2020-06-16	22:00:00	61.6	89.9	93.7	66.7	64.6	60.8	59.0	57.4	52.5
47		2020-06-16	22:15:00	65.4	100.6	103.7	66.2	64.1	60.4	58.1	55.4	51.3
48		2020-06-16	22:30:00	66.6	102.0	104.2	66.0	64.5	60.8	59.4	57.7	54.3
49		2020-06-16	22:45:00	59.0	90.6	94.4	63.4	62.3	58.9	57.4	55.5	52.0
50		2020-06-16	23:00:00	59.8	88.6	99.6	64.5	63.0	59.5	57.6	56.1	52.5
51		2020-06-16	23:15:00	60.1	89.3	91.9	65.3	63.3	59.3	57.2	55.4	52.3
52		2020-06-16	23:30:00	69.8	108.8	109.1	65.6	63.1	57.7	55.7	53.6	50.2
53		2020-06-16	23:45:00	57.2	90.1	94.2	62.0	59.9	55.9	54.0	51.9	48.5
54		2020-06-17	0:00:00	68.2	103.8	106.6	69.3	65.0	60.0	57.7	54.7	47.5
55		2020-06-17	0:15:00	55.7	90.8	91.8	60.6	58.9	54.7	52.8	50.8	47.3

56	2020-06-17	0:30:00	56.2	85.4	88.2	62.0	60.2	55.0	51.7	50.1	46.6
57	2020-06-17	0:45:00	59.0	94.8	99.1	63.0	60.9	55.4	52.5	50.3	46.3
58	2020-06-17	1:00:00	54.8	83.6	93.0	59.2	57.7	54.2	51.9	50.0	46.3
59	2020-06-17	1:15:00	56.3	88.1	89.1	63.2	60.1	53.7	51.5	48.9	46.0
60	2020-06-17	1:30:00	56.1	90.3	93.4	61.5	58.9	54.6	52.2	50.2	47.5
61	2020-06-17	1:45:00	56.8	88.5	90.6	62.2	59.8	55.1	53.3	51.4	48.2
62	2020-06-17	2:00:00	56.9	86.9	92.3	62.1	60.0	55.4	52.5	49.3	46.5
63	2020-06-17	2:15:00	56.0	84.9	93.7	61.1	59.6	54.4	51.7	48.8	45.7
64	2020-06-17	2:30:00	59.6	94.4	98.7	63.6	61.3	56.0	53.7	50.6	47.5
65	2020-06-17	2:45:00	58.6	88.9	91.2	63.5	61.4	55.4	53.3	50.1	46.1
66	2020-06-17	3:00:00	57.9	86.7	92.9	62.9	60.2	53.2	50.5	48.2	45.8
67	2020-06-17	3:15:00	59.3	92.3	94.4	63.2	60.3	55.0	51.1	47.6	44.9
68	2020-06-17	3:30:00	55.2	79.1	89.9	60.8	59.2	55.2	52.7	49.4	45.5
69	2020-06-17	3:45:00	58.0	87.5	95.1	62.1	60.9	57.3	54.8	52.2	48.3
70	2020-06-17	4:00:00	56.6	90.2	93.9	61.8	60.3	56.2	53.5	50.7	47.2
71	2020-06-17	4:15:00	59.7	99.4	103.3	63.7	61.9	57.8	55.3	53.1	48.0
72	2020-06-17	4:30:00	59.9	93.0	92.4	64.7	63.3	59.4	57.4	54.7	50.3
73	2020-06-17	4:45:00	66.8	106.4	108.2	65.5	64.0	60.1	57.7	55.9	51.9
74	2020-06-17	5:00:00	61.4	90.8	94.6	65.2	64.0	60.5	58.5	56.8	52.6
75	2020-06-17	5:15:00	68.3	105.7	107.9	67.5	65.4	61.7	59.8	58.0	55.1
76	2020-06-17	5:30:00	62.0	88.6	98.0	66.2	65.1	62.4	60.5	58.7	56.0
77	2020-06-17	5:45:00	63.1	91.2	95.4	67.4	66.3	63.3	61.7	59.9	56.8
78	2020-06-17	6:00:00	69.8	105.2	108.1	70.3	67.5	64.6	63.5	62.2	59.3
79	2020-06-17	6:15:00	68.8	105.8	107.0	71.0	68.9	64.6	62.9	61.4	59.2
80	2020-06-17	6:30:00	69.3	110.9	110.0	73.4	70.3	66.0	64.6	63.4	60.2
81	2020-06-17	6:45:00	66.1	95.4	98.9	69.8	68.2	65.6	64.4	63.3	61.1
82	2020-06-17	7:00:00	71.3	105.7	107.1	72.4	69.4	65.7	64.1	62.3	59.7
83	2020-06-17	7:15:00	67.8	100.3	103.4	70.4	69.0	65.7	64.3	63.1	60.6
84	2020-06-17	7:30:00	69.8	105.4	107.8	70.3	68.8	66.0	64.7	63.3	61.5
85	2020-06-17	7:45:00	66.9	96.7	99.0	70.8	69.2	66.2	64.8	63.6	61.2
86	2020-06-17	8:00:00	72.2	108.7	110.6	71.6	69.6	67.2	65.6	64.5	61.9
87	2020-06-17	8:15:00	69.4	103.7	106.2	72.5	70.0	66.7	65.4	63.9	61.2
88	2020-06-17	8:30:00	69.2	100.4	103.8	72.6	70.1	66.7	65.2	64.2	61.4
89	2020-06-17	8:45:00	67.6	100.4	109.8	71.3	69.7	66.1	64.8	63.8	61.5
90	2020-06-17	9:00:00	70.7	106.9	108.7	72.6	69.6	66.3	64.8	63.1	60.5
91	2020-06-17	9:15:00	71.3	105.0	106.4	71.5	69.1	65.9	64.2	62.9	60.5
92	2020-06-17	9:30:00	69.5	102.5	105.2	74.0	70.1	66.4	64.9	63.3	60.1
93	2020-06-17	9:45:00	66.5	98.3	109.4	69.7	68.0	65.0	63.6	62.5	59.9
94	2020-06-17	10:00:00	66.9	100.0	107.8	72.2	69.2	65.3	63.8	61.9	58.0
95	2020-06-17	10:15:00	67.2	95.5	103.5	72.2	70.5	66.5	65.0	63.6	60.8
96	2020-06-17	10:30:00	69.5	105.3	108.5	73.7	69.8	65.8	63.9	62.4	60.0
97	2020-06-17	10:45:00	68.0	99.3	109.4	73.1	70.5	66.0	64.5	63.3	60.0
98	2020-06-17	11:00:00	66.0	95.2	107.4	70.7	68.7	64.9	63.1	61.4	59.1
99	2020-06-17	11:15:00	68.4	96.2	109.1	74.7	71.2	66.1	64.2	62.7	59.9
100	2020-06-17	11:30:00	68.1	96.8	105.5	73.2	69.8	66.0	64.5	62.8	60.3
101	2020-06-17	11:45:00	64.0	94.5	105.7	68.5	67.0	63.6	62.0	60.7	58.1
102	2020-06-17	12:00:00	67.9	95.8	109.6	73.5	70.0	65.3	63.7	62.4	59.9
103	2020-06-17	12:15:00	66.7	99.2	108.3	70.9	68.9	64.6	63.1	61.5	58.2
104	2020-06-17	12:30:00	67.6	107.0	111.1	71.3	67.9	64.1	62.6	61.1	58.6
105	2020-06-17	12:45:00	65.2	98.1	107.3	70.1	68.3	64.5	62.7	60.9	58.8
106	2020-06-17	13:00:00	66.3	94.7	112.7	69.9	68.1	64.8	63.2	61.7	59.0
107	2020-06-17	13:15:00	65.8	95.9	115.9	69.9	67.7	64.3	62.6	60.7	58.1
108	2020-06-17	13:30:00	66.7	101.4	117.5	68.9	67.6	64.7	63.1	61.6	58.5
109	2020-06-17	13:45:00	64.3	95.3	119.0	69.2	67.4	63.8	62.1	60.9	59.2
110	2020-06-17	14:00:00	65.1	96.9	116.7	69.5	68.1	64.6	63.3	61.8	59.3
111	2020-06-17	14:15:00	66.0	95.6	123.1	70.2	68.7	64.8	63.3	61.6	59.7

112	2020-06-17	14:30:00	66.8	99.6	119.9	69.6	68.0	65.3	64.1	62.7	60.5
113	2020-06-17	14:45:00	64.9	93.1	115.2	69.0	67.7	64.9	63.6	62.4	60.3
114	2020-06-17	15:00:00	65.4	102.1	111.8	69.6	68.4	64.8	63.6	62.5	60.4
115	2020-06-17	15:15:00	69.4	101.8	115.8	72.2	70.3	65.7	64.0	62.6	60.5
116	2020-06-17	15:30:00	64.9	98.0	117.0	69.4	67.6	64.7	63.3	61.9	59.8
117	2020-06-17	15:45:00	68.6	103.0	115.4	69.1	67.4	64.8	63.3	62.1	60.0
118	2020-06-17	16:00:00	64.5	93.7	116.7	68.3	67.1	64.3	62.9	61.8	59.9
119	2020-06-17	16:15:00	70.2	105.2	121.5	71.1	69.2	66.7	65.8	64.3	60.9
120	2020-06-17	16:30:00	68.5	102.8	121.5	70.9	69.3	65.5	64.0	62.9	60.8
121	2020-06-17	16:45:00	65.5	97.1	115.9	69.7	67.9	65.1	63.8	62.9	61.2
122	2020-06-17	17:00:00	72.3	105.2	120.1	74.2	70.9	66.3	64.9	63.8	61.4
123	2020-06-17	17:15:00	66.3	100.5	114.5	69.8	67.6	64.5	63.3	62.3	60.0
124	2020-06-17	17:30:00	67.4	101.1	115.6	71.4	68.7	65.4	63.7	62.4	60.2
125	2020-06-17	17:45:00	64.6	96.3	113.4	69.3	67.7	64.5	62.9	61.4	58.5
126	2020-06-17	18:00:00	69.8	105.7	114.0	71.9	68.9	64.7	63.1	61.8	59.3
127	2020-06-17	18:15:00	67.3	102.6	112.8	70.0	67.8	64.0	62.4	61.0	58.5
128	2020-06-17	18:30:00	68.0	102.5	109.8	69.1	67.2	63.6	62.5	61.0	58.0
129	2020-06-17	18:45:00	66.3	101.2	111.6	68.7	66.6	63.2	61.5	59.6	57.2
130	2020-06-17	19:00:00	69.7	102.9	107.7	71.9	69.1	64.2	62.5	60.4	57.9
131	2020-06-17	19:15:00	66.8	100.6	107.7	68.8	66.7	63.3	61.7	60.2	57.3
132	2020-06-17	19:30:00	71.7	108.0	110.1	70.5	67.4	62.8	61.2	59.6	56.7
133	2020-06-17	19:45:00	63.2	95.4	100.3	68.8	66.9	62.3	60.5	58.5	54.9
134	2020-06-17	20:00:00	69.4	105.0	107.5	69.4	66.2	61.6	60.0	58.3	55.4
135	2020-06-17	20:15:00	63.8	96.9	100.3	67.3	65.4	62.1	60.3	58.5	55.4
136	2020-06-17	20:30:00	66.8	102.4	110.3	69.5	66.6	61.7	60.1	58.7	55.8
137	2020-06-17	20:45:00	62.0	93.9	98.2	66.5	65.2	61.7	60.0	58.3	55.4
138	2020-06-17	21:00:00	62.6	96.5	100.8	67.4	64.9	61.5	59.9	58.4	55.3
139	2020-06-17	21:15:00	66.7	102.3	104.1	67.7	65.5	62.5	60.7	58.7	55.3
140	2020-06-17	21:30:00	67.9	103.8	104.9	68.8	65.7	62.1	60.4	58.8	56.1
141	2020-06-17	21:45:00	61.0	93.9	94.1	65.7	64.2	60.5	59.0	57.6	55.1
142	2020-06-17	22:00:00	60.8	90.5	94.7	64.9	63.7	60.9	59.2	57.5	54.4
143	2020-06-17	22:15:00	67.8	103.2	105.9	66.8	64.9	61.9	60.0	57.9	52.5
144	2020-06-17	22:30:00	69.3	106.3	109.0	67.0	65.5	61.6	59.5	57.7	53.9
145	2020-06-17	22:45:00	60.1	91.8	95.6	64.2	63.0	59.4	57.6	56.2	53.5
146	2020-06-17	23:00:00	59.9	92.4	97.4	64.3	62.9	59.5	57.6	56.1	53.1
147	2020-06-17	23:15:00	64.5	100.6	108.1	66.6	63.5	60.0	57.2	54.8	51.0
148	2020-06-17	23:30:00	58.2	92.3	93.7	63.4	61.5	57.4	55.3	53.2	50.0
149	2020-06-17	23:45:00	56.7	84.9	91.6	61.4	59.9	56.4	54.7	53.0	50.4
150	2020-06-18	0:00:00	72.2	107.8	111.5	68.9	63.3	59.1	56.6	54.4	50.9
151	2020-06-18	0:15:00	58.6	88.9	93.3	63.4	60.0	55.5	53.4	51.6	48.7
152	2020-06-18	0:30:00	58.9	90.2	94.7	63.2	60.2	56.3	54.4	52.5	49.1
153	2020-06-18	0:45:00	55.0	79.8	87.5	60.2	58.4	54.4	52.3	50.3	47.5
154	2020-06-18	1:00:00	55.1	91.4	92.5	60.8	58.8	54.4	51.3	48.9	46.2
155	2020-06-18	1:15:00	56.5	98.1	101.2	61.7	58.9	54.1	51.7	49.9	47.1
156	2020-06-18	1:30:00	55.3	93.8	94.2	60.9	58.5	53.8	51.0	48.5	46.5
157	2020-06-18	1:45:00	57.5	92.2	94.0	63.0	60.5	55.2	52.7	50.3	47.5
158	2020-06-18	2:00:00	57.0	89.7	95.0	62.5	58.8	53.6	50.2	47.7	46.0
159	2020-06-18	2:15:00	54.6	84.0	91.6	59.1	57.0	51.5	49.6	47.9	46.4
160	2020-06-18	2:30:00	64.1	102.3	107.7	66.0	63.0	56.2	53.0	50.5	47.3
161	2020-06-18	2:45:00	55.5	82.3	91.1	61.9	59.1	53.6	51.3	48.7	46.6
162	2020-06-18	3:00:00	54.0	79.6	92.8	59.9	57.3	52.4	49.4	47.7	46.5
163	2020-06-18	3:15:00	54.7	86.7	93.8	60.9	58.4	53.5	50.0	48.0	46.7
164	2020-06-18	3:30:00	54.2	83.9	91.6	59.4	57.3	53.2	50.5	48.5	46.9
165	2020-06-18	3:45:00	57.2	94.1	93.4	62.3	60.8	55.8	53.3	51.6	48.7
166	2020-06-18	4:00:00	62.9	99.9	102.3	63.6	60.9	55.8	53.1	51.3	49.0
167	2020-06-18	4:15:00	59.0	97.2	102.6	62.8	61.1	56.8	54.7	52.7	49.4

Calculated Average L90 from long-term noise monitoring data

L90					
TIME dBA Remove LOG					
6/17/2020	Midnight	0 / 24	47.0	49576	L90 Morning Peak Hour 7:00-10:00 a.m.
	am	1:00	100	47.1	51193 61 dBA
		2:00	200	46.5	44699
		3:00	300	46.3	43003 L90 Evening Peak Hour 4:00-8:00 p.m.
		4:00	400	49.7	94403 59 dBA
		5:00	500	55.4	345575
		6:00	600	60.0	1004570 L90 Nighttime 10:00 pm-7:00 a.m.
		7:00	700	60.8	1203051 53 dBA
		8:00	800	61.5	1414999
		9:00	900	60.3	1061142 L90 Daytime 7:00 am-10:00 p.m.
		10:00	1000	59.8	958305 59 dBA
		11:00	1100	59.4	876810
		12:00	1200	58.9	780236 L90 24-Hour
	pm	1:00	1300	58.7	744923 58 dBA
		2:00	1400	60.0	994483
		3:00	1500	60.2	1043372
		4:00	1600	60.7	1182007
		5:00	1700	60.1	1033865
		6:00	1800	58.3	678712
		7:00	1900	56.8	482598
		8:00	2000	55.5	355100
		9:00	2100	55.5	352166
		10:00	2200	53.6	230648
	pm	11:00	2300	51.3	134929

Noise Monitoring Existing Flower Mart Box Truck Loading Area

Calculated Ldn from long-term noise monitoring data 128 Morris Street

		TIME	dBA	Remove LOG	10 dBA Penalized Values	5 dBA Penalized Values
9/25/2017	Midnight	0 / 24	64.9	3090295	30902954	9772372
	am	1:00	100	65.7	3715352	37153523
		2:00	200	66.6	4570882	45708819
		3:00	300	64.4	2754229	27542287
		4:00	400	57.5	562341	5623413
		5:00	500	58.5	707946	7079458
		6:00	600	62.1	1621810	16218101
		7:00	700	60.7	1174898	11748976
		8:00	800	64.8	3019952	30199517
		9:00	900	60.8	1202264	12022644
		10:00	1000	60.1	1023293	10232930
		11:00	1100	62.2	1659587	16595869
		12:00	1200	59.9	977237	9772372
	pm	1:00	1300	58.8	758578	7585776
		2:00	1400	59.1	812831	8128305
		3:00	1500	60.0	1000000	10000000
		4:00	1600	63.0	1995262	19952623
		5:00	1700	64.4	2754229	27542287
		6:00	1800	63.0	1995262	19952623
		7:00	1900	58.8	758578	7585776
		8:00	2000	60.8	1202264	12022644
		9:00	2100	58.6	724436	7244360
		10:00	2200	62.0	1584893	15848932
	pm	11:00	2300	71.8	15135612	151356125

Leq Morning Peak Hour 7:00-10:00 a.m.

63 dBA

Leq Evening Peak Hour 4:00-8:00 p.m.

63 dBA

Leq Nighttime 10:00 pm-7:00 a.m. (not penalized)

66 dBA

Leq Daytime 7:00 am-10:00 p.m.

61 dBA

Leq 24-Hour

64 dBA

Ldn: 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.

72 dBA

**CNEL: 5 dBA penalty for noise between 7:00p.m. and 10:00 p.m.,
and 10 dBA penalty for noise between
10:00 p.m. and 7:00 a.m.**

72 dBA

CNEL - Ldn 0.0697769

Calculated Ldn from long-term noise monitoring data 128 Morris Street

		TIME	dBA	Remove LOG	10 dBA Penalized Values	5 dBA Penalized Values
9/26/2017	Midnight	0 / 24	64.8	3019952	30199517	9549926
	am	1:00	100	54.7	295121	2951209
		2:00	200	58.6	724436	7244360
		3:00	300	60.6	1148154	11481536
		4:00	400	62.0	1584893	15848932
		5:00	500	80.5	112201845	1122018454
		6:00	600	71.4	13803843	138038426
		7:00	700	62.0	1584893	15848932
		8:00	800	61.5	1412538	14125375
		9:00	900	59.5	891251	8912509
		10:00	1000	59.5	891251	8912509
		11:00	1100	61.0	1258925	12589254
		12:00	1200	62.2	1659587	16595869
	pm	1:00	1300	58.6	724436	7244360
		2:00	1400	58.4	691831	6918310
		3:00	1500	58.0	630957	6309573
		4:00	1600	58.7	741310	7413102
		5:00	1700	58.1	645654	6456542
		6:00	1800	57.3	537032	5370318
		7:00	1900	57.3	537032	5370318
		8:00	2000	57.3	537032	5370318
		9:00	2100	58.2	660693	6606934
		10:00	2200	58.1	645654	6456542
	pm	11:00	2300	57.8	602560	6025596

Leq Morning Peak Hour 7:00-10:00 a.m.

61 dBA

Leq Evening Peak Hour 4:00-8:00 p.m.

58 dBA

Leq Nighttime 10:00 pm-7:00 a.m. (not penalized)

72 dBA

Leq Daytime 7:00 am-10:00 p.m.

60 dBA

Leq 24-Hour

68 dBA

Ldn: 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.

78 dBA

**CNEL: 5 dBA penalty for noise between 7:00p.m. and 10:00 p.m.,
and 10 dBA penalty for noise between
10:00 p.m. and 7:00 a.m.**

78 dBA

CNEL - Ldn 0.01201769

METROSONICS db-308 SN 2677 V2.3 3/87

CURRENT DATE: 9/28/17

CURRENT TIME: 9:14:32

CALIBRATED: 9/22/17 @ 11:06:01

DISPLAY RANGE: 43.4dB TO 139.4dB

DOUBLING RATE: 3 dB

FILTER: A WGHT

RESPONSE: SLOW

SCHEDULED RUN: OFF

START DATE: 9/25/17

START TIME: 0:00:00

LENGTH: 48:00:00

** OVERALL REPORT **

TEST STARTING DATE: 9/25/17

TEST STARTING TIME: 0:00:19

TEST LENGTH: 2DAYS 0:00:00

Lav = 66.3dB

Lav 80= 64.6dB

Lav 90= 58.4dB

SEL =118.4dB

Lmax =104.6dB ON 9/26/17 @ 5:48:14

Lpk = 125dB ON 9/26/17 @ 5:48:14

TIME OVER 115dB 0D 0:00:00.00

DOSE CRITERION: 90dB

8 HR DOSE (80dB CUTOFF)= 1.70%
 8 HR DOSE (90dB CUTOFF)= 0.40%

** TIME HISTORY REPORT **

MODE: CONTINUOUS

PERIOD LENGTH: 1:00:00

TIME HISTORY CUTOFF: NONE

Ln(1): 90.0% Ln(2): 50.0%

INT#	START	Lav	Lmax	Lpk			
TAG#	TIME	ET	L1	L2			
1	9/25/17	64.9	75.7	<118	*	+	
0	0:00:19	1:00:00	64	64			
2	9/25/17	65.7	88.7	<118	*		+
0	1:00:19	1:00:00	53	61			
3	9/25/17	66.6	92.6	<118	*		+
0	2:00:19	1:00:00	52	56			
4	9/25/17	64.4	76.6	<118	*	+	
0	3:00:19	1:00:00	52	55			
5	9/25/17	57.5	78.9	<118	*		+
0	4:00:19	1:00:00	53	55			
6	9/25/17	58.5	72.9	<118	*	+	
0	5:00:19	1:00:00	56	57			
7	9/25/17	62.1	79.2	<118	*		+
0	6:00:19	1:00:00	57	59			
8	9/25/17	60.7	76.2	<118	*	+	
0	7:00:19	1:00:00	57	58			
9	9/25/17	64.8	88.0	<118	*		+
0	8:00:19	1:00:00	56	58			
10	9/25/17	60.8	85.1	<118	*		+
0	9:00:19	1:00:00	56	57			
11	9/25/17	60.1	80.6	<118	*		+
0	10:00:19	1:00:00	55	56			
12	9/25/17	62.2	83.4	<118	*		+
0	11:00:19	1:00:00	55	57			

13	9/25/17	59.9	85.1	<118	*		+
0	12:00:19	1:00:00	53	56			

14	9/25/17	58.8	77.3	<118	*		+
0	13:00:19	1:00:00	53	56			

15	9/25/17	59.1	74.9	<118	*		+
0	14:00:19	1:00:00	55	57			

INT#	START	Lav	Lmax	Lpk			
TAG#	TIME	ET	L1	L2			

16	9/25/17	60.0	87.7	<118	*		+
0	15:00:19	1:00:00	54	56			

17	9/25/17	63.0	81.3	<118	*		+
0	16:00:19	1:00:00	54	57			

18	9/25/17	64.4	79.3	<118	*		+
0	17:00:19	1:00:00	57	63			

19	9/25/17	63.0	87.5	<118	*		+
0	18:00:19	1:00:00	55	58			

20	9/25/17	58.8	80.8	<118	*		+
0	19:00:19	1:00:00	55	57			

21	9/25/17	60.8	84.2	<118	*		+
0	20:00:19	1:00:00	55	56			

22	9/25/17	58.6	75.6	<118	*		+
0	21:00:19	1:00:00	56	57			

23	9/25/17	62.0	87.9	<118	*		+
0	22:00:19	1:00:00	55	57			

24	9/25/17	71.8	98.7	<118		*		+
0	23:00:19	1:00:00	55	56				

25	9/26/17	64.8	86.1	<118		*		+
0	0:00:19	1:00:00	53	55				

26	9/26/17	54.7	70.8	<118	*		+
0	1:00:19	1:00:00	52	53			

27	9/26/17	58.6	81.6	<118	*		+
0	2:00:19	1:00:00	52	53			

28	9/26/17	60.6	76.5	<118	*	+		
0	3:00:19	1:00:00	54	60				
29	9/26/17	62.0	84.1	<118	*		+	
0	4:00:19	1:00:00	54	57				
30	9/26/17	80.5	104.6	125			*	+
0	5:00:19	1:00:00	59	76				
31	9/26/17	71.4	86.0	<118		*	+	
0	6:00:19	1:00:00	57	58				
32	9/26/17	62.0	92.9	120	*			+
0	7:00:19	1:00:00	57	58				
33	9/26/17	61.5	85.9	<118	*		+	
0	8:00:19	1:00:00	56	57				

INT#	START	Lav	Lmax	Lpk
TAG#	TIME	ET	L1	L2

34	9/26/17	59.5	72.1	<118	*	+		
0	9:00:19	1:00:00	56	57				
35	9/26/17	59.5	76.8	<118	*		+	
0	10:00:19	1:00:00	55	57				
36	9/26/17	61.0	79.2	<118	*		+	
0	11:00:19	1:00:00	56	59				
37	9/26/17	62.2	92.3	119	*			+
0	12:00:19	1:00:00	55	58				
38	9/26/17	58.6	81.5	<118	*		+	
0	13:00:19	1:00:00	54	56				
39	9/26/17	58.4	73.6	<118	*		+	
0	14:00:19	1:00:00	53	55				
40	9/26/17	58.0	71.5	<118	*		+	
0	15:00:19	1:00:00	54	56				
41	9/26/17	58.7	83.5	<118	*			+
0	16:00:19	1:00:00	54	56				
42	9/26/17	58.1	76.6	<118	*		+	
0	17:00:19	1:00:00	54	55				

43	9/26/17	57.3	83.4	<118	*		+
0	18:00:19	1:00:00	54	55			
44	9/26/17	57.3	75.7	<118	*		+
0	19:00:19	1:00:00	55	56			
45	9/26/17	57.3	75.6	<118	*		+
0	20:00:19	1:00:00	55	56			
46	9/26/17	58.2	71.5	<118	*		+
0	21:00:19	1:00:00	55	57			
47	9/26/17	58.1	69.3	<118	*		+
0	22:00:19	1:00:00	56	57			
48	9/26/17	57.8	73.3	<118	*		+
0	23:00:19	PARTIAL	55	56			

** AMPLITUDE DISTRIBUTION REPORT **

TOTAL SAMPLES = 1382400

dB	SAMPLES	% OF TOTAL
50	733 .	.05
51	6561 +	.47
52	23635 **	1.70
53	52403 ****	3.79
54	112160 *****	8.11
55	186097 *****	13.46
56	219991 *****	15.91
57	219708 *****	15.89
58	149769 *****	10.83
59	99389 *****	7.18
60	64636 *****	4.67
61	46778 ***	3.38
62	30382 **	2.19
63	34951 ***	2.52
64	53083 ****	3.83
65	17229 *	1.24
66	9598 *	.69
67	5481 +	.39
68	5424 +	.39
69	3876 +	.28
70	4934 +	.35
71	3516 +	.25
72	1857 +	.13
73	1916 +	.13

74	3460 +	.25
75	4047 +	.29
76	3762 +	.27
77	659 .	.04
78	483 .	.03
79	497 .	.03
80	451 .	.03
81	369 .	.02
82	10561 *	.76
83	2846 +	.20
84	285 .	.02
85	198 .	.01
86	130	.00
87	105	.00
88	90	.00
89	89	.00
90	69	.00
91	55	.00
92	46	.00
93	19	.00
94	17	.00
95	6	.00
96	6	.00
97	10	.00
98	8	.00
99	3	.00
100	4	.00
101	3	.00

dB	SAMPLES	% OF TOTAL
<hr/>		
102	5	.00
103	4	.00
104	6	.00

Ln(0.0) = 104dB
Ln(10.0) = 63dB
Ln(84.4) = 104dB
Ln(99.9) = 51dB

	NO	80.0dB	90.0dB
	CUTOFF	CUTOFF	CUTOFF
Ldod	62.5dB	57.1dB	45.0dB
Losha	61.0dB	50.5dB	44.4dB
Leq(6)	60.1dB	43.8dB	43.6dB

Appendix AIR

Air Quality Supporting Information

CalEEMod Inputs

901 16th Street Construction Inputs for CalEEMod

Project Information

	Size		Site Area	
Proposed Land Use - Retail	125000	sqft	2.5	acre
Parking Garage	84900	sqft	1.0	acre
Area to be demolished	5800	sqft		
Area of ground disturbance			1	acre

Project Schedule

Construction Phase	Start Date	End Date	No. of Workdays	Workdays by year	
PARKING STRUCTURE				2020	2021
Demo/ Ground Improvements	8/1/2020	12/31/2020	109	109	0
Foundations/ Utilities	1/1/2021	3/31/2021	64	0	64
Columns/ Deck/ Ramp	4/1/2021	9/15/2021	120	0	120
BUILDINGS					
Demo/ Abatement	6/16/2020	9/15/2020	66	66	0
Structural/ Envelope	10/1/2020	4/30/2021	152	66	86
Tenant Improvement	5/1/2021	10/31/2021	130	0	130
Total workdays			641		
Total Construction Workdays	6/16/2020	10/31/2021	359	accounting for overlapping construction	
Total Calendar days	6/16/2020	10/31/2021	502		
			1.4	days	years
	6/16/2020	12/31/2020	143		
	1/1/2021	10/31/2021	216		

Construction Equipment by Phase

PARKING STRUCTURE

3/4 - 1 ton pickups and tractor trailer/end dumps were included in the on-road trips and excluded from the CalEEMod run. A total of 10 crane mobilizations were used, each lasting 4 days and split evenly between the Structural/Envelope and Tenant Improvement phases of the Buildings construction. This count was assumed to include both cranes and small cranes/stingers. Entries in red show refinements to the original equipment list.

Equipment Type	CalEEMod Equipment	Number	hp	days used in phase	hrs/day	Adjusted hrs/day
Demo/ Ground Improvements						
Drill Rig	Bore/Drill Rigs	1	717	25	10	2.3
Concrete Pump	Pumps	1	84	25	5	1.1
Bobcat	Tractors/Loaders/Backhoes	1	50	109	8	8
Extending Reach Lift (Grade-All)	Forklifts	1	140	109	8	8
Foundations/ Utilities						
Excavator	Excavators	1	158	30	8	3.75
Loader	Tractors/Loaders/Backhoes	1	97	64	8	8
Backhoe	Tractors/Loaders/Backhoes	1	97	64	8	8
Compactor	Crushing/Proc. Equipment	1	250	20	8	2.5
Concrete Pump	Pumps	1	84	23	8	2.9
Bobcat	Tractors/Loaders/Backhoes	2	50	64	8	8
Mini Excavator	Excavators	1	50	64	8	8
Extending Reach Lift (Grade-All)	Forklifts	1	140	64	8	8

Columns/ Deck/ Ramp						
Concrete Pump	Pumps	1	84	10	8	0.7
Bobcat	Tractors/Loaders/Backhoes	1	50	120	8	8
Extending Reach Lift (Grade-All)	Forklifts	2	140	120	8	8

BUILDINGS

Equipment Type	CalEEMod Equipment	Number	hp	days used in phase	hrs/day	
Demo/ Abatement						
Backhoe	Tractors/Loaders/Backhoes	1	97	66	8	8
Bobcat	Tractors/Loaders/Backhoes	4	50	66	8	8
Telescoping Boom Lifts	Forklifts	3	50	66	8	8
Extending Reach Lift (Grade-All)	Forklifts	2	140	66	8	8
Structural/ Envelope						
Crane	Cranes	1	231	20	8	1.1
Backhoe	Tractors/Loaders/Backhoes	2	97	152	8	8
Concrete Pump	Pumps	1	84	54	8	2.8
Bobcat	Tractors/Loaders/Backhoes	2	50	152	8	8
Telescoping Boom Lifts	Forklifts	6	50	152	8	8
Tow-behind Generator	Generator Sets	1	140	25	8	1.3
Extending Reach Lift (Grade-All)	Forklifts	4	140	152	8	8
Tenant Improvement						
Crane	Cranes	1	231	20	8	1.2
Concrete Pump	Pumps	1	84	44	8	2.7
Bobcat	Tractors/Loaders/Backhoes	1	50	130	8	8
Telescoping Boom Lifts	Forklifts	1	50	130	8	8
Extending Reach Lift (Grade-All)	Forklifts	2	140	130	8	8

Construction Vehicle Trips by Component and Phase

Construction truck trips by phase were not provided. Material/equipment delivery trips were considered as vendor trips and divided equally between the 6 construction phases. All other truck trips were assumed as hauling trips. Soil haul trips were assumed to occur during Foundation/Utilities phase of the Parking Structure construction. Demo trips associated with the demolition of the existing 5,800 sqft structure were assumed to take place during the Demo/Ground Improvements phase of Parking Structure construction. Concrete deliver trips were divided equally between the 5 phases that include a concrete mixer and pump in their equipment list.

	No. of workers/day	Worker trips/day	Material/equipment trips/day	Haul trips/phase	Haul Trip length based on VMT in phase (miles/one-way trip)
PARKING STRUCTURE					
Demo/ Ground Improvements	113	226	2	673	4.1
Foundations/ Utilities	113	226	2	1424	121.6
Columns/ Deck/ Ramp	113	226	2	606	2.3
BUILDINGS					
Demo/ Abatement	113	226	2		
Structural/ Envelope	113	226	2	606	2.3
Tenant Improvement	113	226	2	606	2.3

Construction Worker Trips and Trip Lengths

	Average No. of workers	miles/one-way trip	VMT
--	------------------------	--------------------	-----

Workers trips	113	40
---------------	-----	----

9040

Email from Alexandra Stoelze dated 6/26/20

Construction Truck Trips and Trip Lengths

	# of round trips	# of one-way trips	miles/one-way trip	VMT
Concrete truck trips	1514	3028	2.3	6964.4
Soil offhaul trips	409	818	210	171780
Material/equipment delivery trips	702	1404	30	42120
Demo waste haul trips	34	67	20	1342.59125
TOTAL	2625	5317		222207

Email from Alexandra Stoelze dated 6/26/20

Email from Alexandra Stoelze dated 6/26/20

Total trips minus (concrete + soil off haul) assumed to be material/equipment delivery trips

Not provided. Calculated based on CalEEMod defaults for 5,800 sqft demolition area. Default hauling trip length used.

Construction Emissions

Construction Emissions

Updated: 7/27/2020

Construction Schedule

Component	Phase	Start Date	End Date	Work Days	Days/week
PARKING STRUCTURE	Demo/ Ground Improvements	8/1/2020	12/31/2020	109	5
	Foundations/ Utilities	1/1/2021	3/31/2021	64	5
	Columns/ Deck/ Ramp	4/1/2021	9/15/2021	120	5
BUILDINGS	Demo/ Abatement	6/16/2020	9/15/2020	66	5
	Structural/ Envelope	10/1/2020	4/30/2021	152	5
	Tenant Improvement	5/1/2021	10/31/2021	130	5
	Total Construction Workdays			641	5
Total Construction Workdays (accounting for overlapping construction)		6/16/2020	10/31/2021	359	5
				502	calendar days
				1.4	years

Construction Emissions Summary - Criteria Air Pollutants

Project Component	Phase	Workdays	Total Tons - Unmitigated				Daily Average (pounds per day)			
			ROG	NOx	PM10 Exh	PM2.5 Ex	ROG	NOx	PM10 Exh	PM2.5 Ex
PARKING STRUCTURE	Demo/ Ground Improvements	109	0.1530	0.4838	0.0185	0.0171	2.8	8.9	0.3	0.3
	Foundations/ Utilities	64	0.1466	1.5429	0.0279	0.0262	4.6	48.2	0.9	0.8
	Columns/ Deck/ Ramp	120	0.1540	0.4254	0.0183	0.0168	2.6	7.1	0.3	0.3
BUILDINGS	Demo/ Abatement	66	0.1425	0.5201	0.0306	0.0282	4.3	15.8	0.9	0.9
	Structural/ Envelope	152	0.3775	1.7328	0.0971	0.0901	5.0	22.8	1.3	1.2
	Tenant Improvement	130	0.1885	0.6091	0.0282	0.0262	2.9	9.4	0.4	0.4
	ALL CONSTRUCTION	359	1.1621	5.3141	0.2207	0.2045	6.5	29.6	1.2	1.1
	2020	143	0.4675	1.7940	0.0945	0.0874	6.5	25.1	1.3	1.2
	2021	216	0.6946	3.5200	0.1261	0.1172	6.4	32.6	1.2	1.1
Project Component	Phase	Workdays	Total Tons - Mitigated (Tier 4 Final)				Daily Average (pounds per day)			
			ROG	NOx	PM10 Exh	PM2.5 Ex	ROG	NOx	PM10 Exh	PM2.5 Ex
PARKING STRUCTURE	Demo/ Ground Improvements	109	0.1254	0.2515	0.0041	0.0039	2.3	4.6	0.1	0.1
	Foundations/ Utilities	64	0.1016	1.2325	0.0065	0.0062	3.2	38.5	0.2	0.2
	Columns/ Deck/ Ramp	120	0.1252	0.2233	0.0036	0.0034	2.1	3.7	0.1	0.1
BUILDINGS	Demo/ Abatement	66	0.0797	0.2510	0.0026	0.0025	2.4	7.6	0.1	0.1
	Structural/ Envelope	152	0.1889	0.6287	0.0074	0.0071	2.5	8.3	0.1	0.1
	Tenant Improvement	130	0.1387	0.2779	0.0043	0.0040	2.1	4.3	0.1	0.1
	ALL CONSTRUCTION	359	0.7595	2.8649	0.0285	0.0270	4.2	16.0	0.2	0.2
	2020	50	0.2894	0.7801	0.0100	0.0095	11.6	31.2	0.4	0.4
	2021	402	0.4700	2.0846	0.0184	0.0175	2.3	10.4	0.1	0.1

Source: CalEEMod Output Construction_901_16thSt_FlowerMart_annual

Construction Emissions - DPM and PM2.5

Total Tons - Unmitigated					
Project Component	Phase	Off-Road PM10 Exh	Off-Road PM2.5 Fugitive	Off-Road PM2.5 Ex	Off-Road PM2.5 Total
PARKING STRUCTURE	Demo/ Ground Improvements	0.0156	0.0005	0.0144	0.0149
	Foundations/ Utilities	0.0227	0.0000	0.0212	0.0212
	Columns/ Deck/ Ramp	0.0153	0.0000	0.0141	0.0141
	Demo/ Abatement	0.0289	0.0000	0.0266	0.0266

BUILDINGS	Structural/ Envelope	0.0933	0.0000	0.0865	0.0865
	Tenant Improvement	0.0250	0.0000	0.0233	0.0233
	ALL CONSTRUCTION	0.2008	0.0005	0.1861	0.1866

Source: CalEEMod Output Construction_901_16thSt_FlowerMart_annual401.6

Total Tons - Mitigated (Tier 4 Final for equipment > 25 hp)					
Project Component	Phase	Off-Road PM10 Exh	Off-Road PM2.5 Fugitive	Off-Road PM2.5 Ex	Off-Road PM2.5 Total
PARKING STRUCTURE	Demo/ Ground Improvements	0.0012	0.0005	0.0012	0.0017
	Foundations/ Utilities	0.0012	0.0000	0.0012	0.0012
	Columns/ Deck/ Ramp	0.0007	0.0000	0.0007	0.0007
BUILDINGS	Demo/ Abatement	0.0009	0.0000	0.0009	0.0009
	Structural/ Envelope	0.0035	0.0000	0.0035	0.0035
	Tenant Improvement	0.0011	0.0000	0.0011	0.0011
	ALL CONSTRUCTION	0.0086	0.0005	0.0086	0.0091

Source: CalEEMod Output Construction_901_16thSt_FlowerMart_annual17.2

Onsite Truck Idling

Idle time per Roundtrip (min)	15	Assumption, based on FM AQTR SOW - 5 min check in, 5 min loading/unloading, 5 min check out
Annual truck trips (roundtrips) - HHDT	2,274	From CalEEMod Inputs tab - all concrete, soil haul and demo haul trips assumed to be HHDT, material/equipment delivery trips assumed to be HHDT & MHDT (50% each) based on CalEEMod defaults
Annual truck trips (roundtrips) - MHDT	351	From CalEEMod Inputs tab - all concrete, soil haul and demo haul trips assumed to be HHDT, material/equipment delivery trips assumed to be HHDT & MHDT (50% each) based on CalEEMod defaults
Annual Hours Idling - HHDT	568.5	
Annual Hours Idling - MHDT	87.75	

EMFAC2017 Emission Factors for year 2020 (g/veh-hr)

	ROG	NOX	DPM	PM2.5 Exhaust
HHDT	2.110368346	45.05428619	0.062742711	0.060028489
MHDT	1.511869853	61.67327066	0.166049149	0.158865936

PL_SanFrancisco_Idling

Emissions

Emissions (tons/year)	ROG	NOX	DPM	PM2.5 Exhaust
Idling - HHDT	1.32E-03	2.82E-02	3.93E-05	3.76E-05
Idling - MHDT	1.46E-04	5.97E-03	1.61E-05	1.54E-05
Idling - Total	1.47E-03	3.42E-02	5.54E-05	5.30E-05

Offsite Truck Travel - vendor and hauling

Total Truck miles - HHDT	201,147	From CalEEMod Inputs tab - all concrete, soil haul and demo haul trips assumed to be HHDT, material/equipment delivery trips assumed to be HHDT & MHDT (50% each) based on CalEEMod defaults
Total Truck Miles - MHDT	21,060	From CalEEMod Inputs tab - all concrete, soil haul and demo haul trips assumed to be HHDT, material/equipment delivery trips assumed to be HHDT & MHDT (50% each) based on CalEEMod defaults

EMFAC2017 Emission Factors for year 2020 (g/mi)

	ROG	NOX	DPM	PM2.5 Exhaust	PM2.5 TW + BW
HHDT	0.171051293	6.251003238	0.069876114	0.066853304	0.03425756
MHDT	0.211677678	3.237834234	0.087868001	0.08406687	0.058860017

EMFAC2017 Emission Rates for year 2020 for San Francisco

Emissions						
Emissions (tons/year)	ROG	NOX	DPM	PM2.5 Exhaust	PM2.5 TW + BW	PM2.5 Total
Construction Trucks Travel - HHDT	3.79E-02	1.39E+00	1.55E-02	1.48E-02	7.60E-03	2.24E-02
Construction Trucks Travel - MHDT	4.69E-02	7.18E-01	1.95E-02	1.86E-02	1.31E-02	3.17E-02
Construction Trucks Travel - Total	8.49E-02	2.10E+00	3.50E-02	3.35E-02	2.06E-02	5.41E-02

CalEEMod Output

901 16th St Flower Mart-rev - no boom lifts - San Francisco County, Annual

901 16th St Flower Mart
San Francisco County, Annual

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unenclosed Parking Structure	84.90	1000sqft	1.00	84,900.00	0
Regional Shopping Center	125.00	1000sqft	2.50	125,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	4.6	Precipitation Freq (Days)	64
Climate Zone	5			Operational Year	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	210	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default DataProject Characteristics - CO2 intensity factor adjusted based on http://www.pgecorp.com/corp_responsibility/reports/2019/assets/PGE_CRSR_2019.pdf

Land Use - Project data

Construction Phase - Project Schedule

Off-road Equipment - Phase not included

Off-road Equipment - Project data

Off-road Equipment - Project data

Off-road Equipment - Project data

Off-road Equipment - Project data

Off-road Equipment - Project data

Off-road Equipment - Project data

Off-road Equipment - Phase not included

Off-road Equipment - Phase not used

Trips and VMT - See Appendix

Demolition -

Grading - Project data

Vehicle Trips - Operational emissions not estimated

Energy Use -

Construction Off-road Equipment Mitigation - Tier 4 Final engines for all off-road construction equipment > 25 hp used for mitigated case

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	22.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstructionPhase	NumDays	20.00	109.00
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tblConstructionPhase	NumDays	230.00	152.00
tblConstructionPhase	NumDays	8.00	64.00
tblConstructionPhase	NumDays	230.00	120.00
tblConstructionPhase	NumDays	230.00	130.00
tblConstructionPhase	NumDays	18.00	0.00
tblConstructionPhase	NumDays	18.00	0.00
tblGrading	AcresOfGrading	0.00	1.00
tblLandUse	LotAcreage	1.95	1.00
tblLandUse	LotAcreage	2.87	2.50
tblOffRoadEquipment	HorsePower	158.00	50.00
tblOffRoadEquipment	HorsePower	89.00	50.00
tblOffRoadEquipment	HorsePower	89.00	140.00
tblOffRoadEquipment	HorsePower	89.00	140.00
tblOffRoadEquipment	HorsePower	89.00	50.00
tblOffRoadEquipment	HorsePower	89.00	140.00
tblOffRoadEquipment	HorsePower	84.00	140.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
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tblOffRoadEquipment	UsageHours	6.00	0.00
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tblOffRoadEquipment	UsageHours	8.00	0.00
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tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
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tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
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tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	2.30
tblTripsAndVMT	HaulingTripLength	20.00	121.60
tblTripsAndVMT	HaulingTripLength	20.00	2.30
tblTripsAndVMT	HaulingTripLength	20.00	2.30
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	0.00

tblTripsAndVMT	HaulingTripNumber	26.00	673.00
tblTripsAndVMT	HaulingTripNumber	0.00	606.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,424.00
tblTripsAndVMT	HaulingTripNumber	0.00	606.00
tblTripsAndVMT	HaulingTripNumber	0.00	606.00
tblTripsAndVMT	VendorTripLength	6.60	30.00
tblTripsAndVMT	VendorTripLength	6.60	30.00
tblTripsAndVMT	VendorTripLength	6.60	0.00
tblTripsAndVMT	VendorTripLength	6.60	30.00
tblTripsAndVMT	VendorTripLength	6.60	30.00
tblTripsAndVMT	VendorTripLength	6.60	30.00
tblTripsAndVMT	VendorTripLength	6.60	0.00
tblTripsAndVMT	VendorTripLength	6.60	0.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	34.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	34.00	2.00
tblTripsAndVMT	VendorTripNumber	34.00	2.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	0.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	0.00
tblTripsAndVMT	WorkerTripLength	10.80	0.00
tblTripsAndVMT	WorkerTripNumber	25.00	226.00
tblTripsAndVMT	WorkerTripNumber	10.00	226.00
tblTripsAndVMT	WorkerTripNumber	76.00	226.00
tblTripsAndVMT	WorkerTripNumber	23.00	226.00
tblTripsAndVMT	WorkerTripNumber	76.00	226.00
tblTripsAndVMT	WorkerTripNumber	76.00	226.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblVehicleTrips	CC_TL	6.60	7.30
tblVehicleTrips	CC_TL	6.60	7.30
tblVehicleTrips	CNW_TL	6.60	7.30
tblVehicleTrips	CNW_TL	6.60	7.30
tblVehicleTrips	CW_TL	14.70	9.50
tblVehicleTrips	CW_TL	14.70	9.50
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	WD_TR	42.70	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Year	tons/yr										MT/yr					
2020	0.4675	1.794	3.5407	0.0109	0.8075	0.0945	0.902	0.2145	0.0874	0.3019	0	981.5725	981.5725	0.082	0	983.6235
2021	0.6946	3.52	5.694	0.0201	1.4071	0.1261	1.5332	0.375	0.1172	0.4921	0	1,875.76	1,875.76	0.1691	0	1,879.99
2023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	0.6946	3.52	5.694	0.0201	1.4071	0.1261	1.5332	0.375	0.1172	0.4921	0	1,875.76	1,875.76	0.1691	0	1,879.99

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.2894	0.7801	3.5248	0.0109	0.8075	9.98E-03	0.8175	0.2145	9.51E-03	0.224	0	981.5723	981.5723	0.082	0	983.6233
2021	0.47	2.0846	5.6744	0.0201	1.4071	0.0184	1.4255	0.375	0.0175	0.3925	0	1,875.76	1,875.76	0.1691	0	1,879.99
2023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	0.47	2.0846	5.6744	0.0201	1.4071	0.0184	1.4255	0.375	0.0175	0.3925	0	1,875.76	1,875.76	0.1691	0	1,879.99

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	34.66	46.09	0.38	0.00	0.00	87.12	7.89	0.00	86.79	22.36	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-16-2020	9-15-2020	0.8368	0.4279
2	9-16-2020	12-15-2020	1.1933	0.5446
3	12-16-2020	3-15-2021	2.3725	1.5220
4	3-16-2021	6-15-2021	1.1963	0.6675
5	6-16-2021	9-15-2021	0.7025	0.3834
6	9-16-2021	12-15-2021	0.2046	0.1083
		Highest	2.3725	1.5220

2.2 Overall Operational

Unmitigated Operational

Operational Emissions not estimated.

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5608	2.0000e-005	1.9300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.7500e-003	3.7500e-003	1.0000e-005	0.0000	4.0000e-003
Energy	3.1000e-003	0.0282	0.0237	1.7000e-004		2.1400e-003	2.1400e-003		2.1400e-003	2.1400e-003	0.0000	169.6199	169.6199	0.0198	4.5300e-003	171.4648
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	26.6426	0.0000	26.6426	1.5745	0.0000	66.0058
Water						0.0000	0.0000		0.0000	0.0000	2.9375	6.6643	9.6018	0.3026	7.3100e-003	19.3471
Total	0.5639	0.0282	0.0256	1.7000e-004	0.0000	2.1500e-003	2.1500e-003	0.0000	2.1500e-003	2.1500e-003	29.5800	176.2879	205.8679	1.8969	0.0118	256.8217

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Area	0.5608	2.0000e-005	1.9300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.7500e-003	3.7500e-003	1.0000e-005	0.0000	4.0000e-003
Energy	3.1000e-003	0.0282	0.0237	1.7000e-004		2.1400e-003	2.1400e-003		2.1400e-003	2.1400e-003	0.0000	169.6199	169.6199	0.0198	4.5300e-003	171.4648
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	26.6426	0.0000	26.6426	1.5745	0.0000	66.0058
Water						0.0000	0.0000		0.0000	0.0000	2.9375	6.6643	9.6018	0.3026	7.3100e-003	19.3471
Total	0.5639	0.0282	0.0256	1.7000e-004	0.0000	2.1500e-003	2.1500e-003	0.0000	2.1500e-003	2.1500e-003	29.5800	176.2879	205.8679	1.8969	0.0118	256.8217

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Buildings - Demo/Abatement	Demolition	6/16/2020	9/15/2020	5	66	
2	Parking Structure - Demo/Ground	Demolition	8/1/2020	12/31/2020	5	109	
3	Improvements - Site Preparation	Site Preparation	8/11/2020	8/10/2020	5	0	
4	Buildings - Structural/Envelope	Building Construction	10/1/2020	4/30/2021	5	152	
5	Parking Structure - Foundation/Utilities	Grading	1/1/2021	3/31/2021	5	64	
6	Parking Structure - Columns/Deck/Ramp	Building Construction	4/1/2021	9/15/2021	5	120	
7	Buildings - Tenant Improvement	Building Construction	5/1/2021	10/31/2021	5	130	
8	Paving	Paving	4/21/2023	4/20/2023	5	0	
9	Architectural Coating	Architectural Coating	5/17/2023	5/16/2023	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 187,500; Non-Residential Outdoor: 62,500; Striped Parking Area: 5,094

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Buildings - Demo/Abatement	Concrete/Industrial Saws	0	0.00	81	0.73
Buildings - Demo/Abatement	Excavators	0	0.00	156	0.38
Buildings - Demo/Abatement	Forklifts	3	8.00	50	0.20
Buildings - Demo/Abatement	Forklifts	2	8.00	140	0.20
Buildings - Demo/Abatement	Rubber Tired Dozers	0	0.00	247	0.40
Buildings - Demo/Abatement	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Buildings - Demo/Abatement	Tractors/Loaders/Backhoes	4	8.00	50	0.37
Parking Structure - Demo/Ground	Bore/Drill Rigs	1	2.30	717	0.50
Improvements - Parking Structure - Demo/Ground	Concrete/Industrial Saws	0	0.00	81	0.73
Improvements - Parking Structure - Demo/Ground	Excavators	0	0.00	156	0.38
Improvements - Parking Structure - Demo/Ground	Forklifts	1	8.00	140	0.20
Improvements - Parking Structure - Demo/Ground	Pumps	1	1.10	84	0.74
Improvements - Parking Structure - Demo/Ground	Rubber Tired Dozers	0	0.00	247	0.40
Improvements - Parking Structure - Demo/Ground	Tractors/Loaders/Backhoes	1	8.00	50	0.37
Improvements - Site Preparation	Rubber Tired Dozers	0	0.00	247	0.40
Improvements - Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Buildings - Structural/Envelope	Cranes	1	1.10	231	0.29
Buildings - Structural/Envelope	Forklifts	6	8.00	50	0.20
Buildings - Structural/Envelope	Forklifts	4	8.00	140	0.20
Buildings - Structural/Envelope	Generator Sets	1	1.30	140	0.74

Buildings - Structural/Envelope	Pumps	1	2.80	84	0.74
Buildings - Structural/Envelope	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Buildings - Structural/Envelope	Tractors/Loaders/Backhoes	2	8.00	50	0.37
Buildings - Structural/Envelope	Welders	0	0.00	46	0.45
Parking Structure - Foundation/Utilities	Crushing/Proc. Equipment	1	2.50	250	0.78
Parking Structure - Foundation/Utilities	Excavators	1	3.80	158	0.38
Parking Structure - Foundation/Utilities	Excavators	1	8.00	50	0.38
Parking Structure - Foundation/Utilities	Forklifts	1	8.00	140	0.20
Parking Structure - Foundation/Utilities	Graders	0	0.00	187	0.41
Parking Structure - Foundation/Utilities	Pumps	1	2.90	84	0.74
Parking Structure - Foundation/Utilities	Rubber Tired Dozers	0	0.00	247	0.40
Parking Structure - Foundation/Utilities	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Parking Structure - Foundation/Utilities	Tractors/Loaders/Backhoes	2	8.00	50	0.37
Parking Structure - Columns/Deck/Ramp	Cranes	0	0.00	231	0.29
Parking Structure - Columns/Deck/Ramp	Forklifts	2	8.00	140	0.20
Parking Structure - Columns/Deck/Ramp	Generator Sets	0	0.00	84	0.74
Parking Structure - Columns/Deck/Ramp	Off-Highway Trucks	0	0.00	402	0.38
Parking Structure - Columns/Deck/Ramp	Other Construction Equipment	0	0.00	172	0.42
Parking Structure - Columns/Deck/Ramp	Pumps	1	0.70	84	0.74
Parking Structure - Columns/Deck/Ramp	Tractors/Loaders/Backhoes	1	8.00	50	0.37
Parking Structure - Columns/Deck/Ramp	Welders	0	0.00	46	0.45
Buildings - Tenant Improvement	Cranes	1	1.20	231	0.29
Buildings - Tenant Improvement	Forklifts	1	8.00	50	0.20
Buildings - Tenant Improvement	Forklifts	2	8.00	140	0.20
Buildings - Tenant Improvement	Generator Sets	0	0.00	84	0.74
Buildings - Tenant Improvement	Off-Highway Trucks	0	0.00	402	0.38
Buildings - Tenant Improvement	Other Construction Equipment	0	0.00	172	0.42
Buildings - Tenant Improvement	Pumps	1	2.70	84	0.74
Buildings - Tenant Improvement	Tractors/Loaders/Backhoes	1	8.00	50	0.37
Buildings - Tenant Improvement	Welders	0	0.00	46	0.45
Paving	Cement and Mortar Mixers	0	0.00	9	0.56
Paving	Pavers	0	0.00	130	0.42
Paving	Paving Equipment	0	0.00	132	0.36
Paving	Rollers	0	0.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Architectural Coating	Air Compressors	0	0.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Buildings -	10	226.00	2.00	0.00	40.00	30.00	20.00	LD_Mix	HDT_Mix	HHDT
Demo/Abatement										
Parking Structure -	4	226.00	2.00	673.00	40.00	30.00	4.10	LD_Mix	HDT_Mix	HHDT
Demo/Ground										
Site Preparation	0	0.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT
Buildings -	17	226.00	2.00	606.00	40.00	30.00	2.30	LD_Mix	HDT_Mix	HHDT
Structural/Envelope										
Parking Structure -	9	226.00	2.00	1,424.00	40.00	30.00	121.60	LD_Mix	HDT_Mix	HHDT
Foundation/Utilities										
Parking Structure -	4	226.00	2.00	606.00	40.00	30.00	2.30	LD_Mix	HDT_Mix	HHDT
Columns/Deck/Ramp										
Buildings - Tenant	6	226.00	2.00	606.00	40.00	30.00	2.30	LD_Mix	HDT_Mix	HHDT
Improvement										
Paving	0	0.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Buildings - Demo/Abatement - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0733	0.4489	0.4976	5.80E-04		0.0289	0.0289		0.0266	0.0266	0	51.4433	51.4433	0.0166	0	51.8592
Total	0.0733	0.4489	0.4976	5.80E-04		0.0289	0.0289		0.0266	0.0266	0	51.4433	51.4433	0.0166	0	51.8592

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor	7.10E-04	0.0211	6.71E-03	7.00E-05	1.77E-03	1.40E-04	1.91E-03	5.10E-04	1.30E-04	6.40E-04	0	6.7122	6.7122	7.80E-04	0	6.7317
Worker	0.0685	0.0501	0.5342	2.24E-03	0.2181	1.56E-03	0.2196	0.058	1.44E-03	0.0594	0	203.2554	203.2554	4.15E-03	0	203.3592
Total	0.0692	0.0712	0.5409	2.31E-03	0.2198	1.70E-03	0.2215	0.0585	1.57E-03	0.0601	0	209.9676	209.9676	4.93E-03	0	210.0909

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0105	0.1798	0.4218	5.80E-04		9.10E-04	9.10E-04		9.10E-04	9.10E-04	0	51.4432	51.4432	0.0166	0	51.8591
Total	0.0105	0.1798	0.4218	5.80E-04		9.10E-04	9.10E-04		9.10E-04	9.10E-04	0	51.4432	51.4432	0.0166	0	51.8591

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor	7.10E-04	0.0211	6.71E-03	7.00E-05	1.77E-03	1.40E-04	1.91E-03	5.10E-04	1.30E-04	6.40E-04	0	6.7122	6.7122	7.80E-04	0	6.7317
Worker	0.0685	0.0501	0.5342	2.24E-03	0.2181	1.56E-03	0.2196	0.058	1.44E-03	0.0594	0	203.2554	203.2554	4.15E-03	0	203.3592
Total	0.0692	0.0712	0.5409	2.31E-03	0.2198	1.70E-03	0.2215	0.0585	1.57E-03	0.0601	0	209.9676	209.9676	4.93E-03	0	210.0909

3.3 Parking Structure - Demo/Ground Improvements - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.09E-03	0	3.09E-03	4.70E-04	0	4.70E-04	0	0	0	0	0	0
Off-Road	0.0378	0.3159	0.3017	7.60E-04		0.0156	0.0156		0.0144	0.0144	0	66.6559	66.6559	0.0204	0	67.1669
Total	0.0378	0.3159	0.3017	7.60E-04	3.09E-03	0.0156	0.0187	4.70E-04	0.0144	0.0149	0	66.6559	66.6559	0.0204	0	67.1669

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.70E-04	0.0504	0.0112	8.00E-05	1.16E-03	1.00E-04	1.26E-03	3.20E-04	9.00E-05	4.10E-04	0	8.0628	8.0628	1.63E-03	0	8.1036
Vendor	1.18E-03	0.0349	0.0111	1.10E-04	2.92E-03	2.30E-04	3.15E-03	8.40E-04	2.20E-04	1.06E-03	0	11.0852	11.0852	1.29E-03	0	11.1176

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.5 Buildings - Structural/Envelope - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1025	0.7022	0.7517	9.90E-04		0.0437	0.0437		0.0405	0.0405	0	86.532	86.532	0.0249	0	87.1532
Total	0.1025	0.7022	0.7517	9.90E-04		0.0437	0.0437		0.0405	0.0405	0	86.532	86.532	0.0249	0	87.1532

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.00E-04	0.0168	3.35E-03	2.00E-05	5.10E-04	3.00E-05	5.30E-04	1.30E-04	3.00E-05	1.60E-04	0	2.1787	2.1787	4.70E-04	0	2.1905
Vendor	7.10E-04	0.0211	6.71E-03	7.00E-05	1.77E-03	1.40E-04	1.91E-03	5.10E-04	1.30E-04	6.40E-04	0	6.7122	6.7122	7.80E-04	0	6.7317
Worker	0.0685	0.0501	0.5342	2.24E-03	0.2181	1.56E-03	0.2196	0.058	1.44E-03	0.0594	0	203.2554	203.2554	4.15E-03	0	203.3592
Total	0.0695	0.0879	0.5443	2.33E-03	0.2204	1.73E-03	0.2221	0.0586	1.60E-03	0.0602	0	212.1463	212.1463	5.40E-03	0	212.2814

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0149	0.1897	0.6996	9.90E-04		1.53E-03	1.53E-03		1.53E-03	1.53E-03	0	86.5319	86.5319	0.0248	0	87.1531
Total	0.0149	0.1897	0.6996	9.90E-04		1.53E-03	1.53E-03		1.53E-03	1.53E-03	0	86.5319	86.5319	0.0248	0	87.1531

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.00E-04	0.0168	3.35E-03	2.00E-05	5.10E-04	3.00E-05	5.30E-04	1.30E-04	3.00E-05	1.60E-04	0	2.1787	2.1787	4.70E-04	0	2.1905
Vendor	7.10E-04	0.0211	6.71E-03	7.00E-05	1.77E-03	1.40E-04	1.91E-03	5.10E-04	1.30E-04	6.40E-04	0	6.7122	6.7122	7.80E-04	0	6.7317
Worker	0.0685	0.0501	0.5342	2.24E-03	0.2181	1.56E-03	0.2196	0.058	1.44E-03	0.0594	0	203.2554	203.2554	4.15E-03	0	203.3592
Total	0.0695	0.0879	0.5443	2.33E-03	0.2204	1.73E-03	0.2221	0.0586	1.60E-03	0.0602	0	212.1463	212.1463	5.40E-03	0	212.2814

3.5 Buildings - Structural/Envelope - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.1204	0.8388	0.9636	1.29E-03		0.0496	0.0496		0.046	0.046	0	112.7447	112.7447	0.0323	0	113.552
Total	0.1204	0.8388	0.9636	1.29E-03		0.0496	0.0496		0.046	0.046	0	112.7447	112.7447	0.0323	0	113.552

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.70E-04	0.0208	4.35E-03	3.00E-05	5.30E-04	3.00E-05	5.60E-04	1.40E-04	3.00E-05	1.70E-04	0	2.7964	2.7964	5.90E-04	0	2.8112
Vendor	7.40E-04	0.0242	8.33E-03	8.00E-05	2.30E-03	8.00E-05	2.38E-03	6.60E-04	8.00E-05	7.40E-04	0	8.632	8.632	1.02E-03	0	8.6575
Worker	0.084	0.0588	0.6467	2.82E-03	0.2842	2.00E-03	0.2861	0.0756	1.84E-03	0.0774	0	255.3674	255.3674	4.89E-03	0	255.4896
Total	0.0851	0.1039	0.6594	2.93E-03	0.287	2.11E-03	0.2891	0.0764	1.95E-03	0.0783	0	266.7957	266.7957	6.50E-03	0	266.9582

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0194	0.2472	0.9115	1.29E-03		1.99E-03	1.99E-03		1.99E-03	1.99E-03	0	112.7446	112.7446	0.0323	0	113.5519
Total	0.0194	0.2472	0.9115	1.29E-03		1.99E-03	1.99E-03		1.99E-03	1.99E-03	0	112.7446	112.7446	0.0323	0	113.5519

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.70E-04	0.0208	4.35E-03	3.00E-05	5.30E-04	3.00E-05	5.60E-04	1.40E-04	3.00E-05	1.70E-04	0	2.7964	2.7964	5.90E-04	0	2.8112
Vendor	7.40E-04	0.0242	8.33E-03	8.00E-05	2.30E-03	8.00E-05	2.38E-03	6.60E-04	8.00E-05	7.40E-04	0	8.632	8.632	1.02E-03	0	8.6575
Worker	0.084	0.0588	0.6467	2.82E-03	0.2842	2.00E-03	0.2861	0.0756	1.84E-03	0.0774	0	255.3674	255.3674	4.89E-03	0	255.4896
Total	0.0851	0.1039	0.6594	2.93E-03	0.287	2.11E-03	0.2891	0.0764	1.95E-03	0.0783	0	266.7957	266.7957	6.50E-03	0	266.9582

3.6 Parking Structure - Foundation/Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.30E-04	0	5.30E-04	6.00E-05	0	6.00E-05	0	0	0	0	0	0
Off-Road	0.056	0.4281	0.4775	8.10E-04		0.0227	0.0227		0.0212	0.0212	0	70.2923	70.2923	0.016	0	70.6919
Total	0.056	0.4281	0.4775	8.10E-04	5.30E-04	0.0227	0.0233	6.00E-05	0.0212	0.0213	0	70.2923	70.2923	0.016	0	70.6919

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0275	1.053	0.4031	3.30E-03	0.0725	3.69E-03	0.0762	0.0199	3.53E-03	0.0234	0	354.4317	354.4317	0.0632	0	356.011
Vendor	5.50E-04	0.018	6.20E-03	6.00E-05	1.71E-03	6.00E-05	1.77E-03	4.90E-04	6.00E-05	5.50E-04	0	6.4238	6.4238	7.60E-04	0	6.4428
Worker	0.0625	0.0438	0.4813	2.10E-03	0.2115	1.49E-03	0.2129	0.0582	1.37E-03	0.0576	0	190.0408	190.0408	3.64E-03	0	190.1318
Total	0.0906	1.1148	0.8906	5.46E-03	0.2857	5.24E-03	0.2909	0.0766	4.96E-03	0.0816	0	550.8963	550.8963	0.0676	0	552.5856

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.30E-04	0	5.30E-04	6.00E-05	0	6.00E-05	0	0	0	0	0	0
Off-Road	0.011	0.1177	0.5076	8.10E-04		1.21E-03	1.21E-03		1.21E-03	1.21E-03	0	70.2922	70.2922	0.016	0	70.6918
Total	0.011	0.1177	0.5076	8.10E-04	5.30E-04	1.21E-03	1.74E-03	6.00E-05	1.21E-03	1.27E-03	0	70.2922	70.2922	0.016	0	70.6918

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0275	1.053	0.4031	3.30E-03	0.0725	3.69E-03	0.0762	0.0199	3.53E-03	0.0234	0	354.4317	354.4317	0.0632	0	356.011
Vendor	5.50E-04	0.018	6.20E-03	6.00E-05	1.71E-03	6.00E-05	1.77E-03	4.90E-04	6.00E-05	5.50E-04	0	6.4238	6.4238	7.60E-04	0	6.4428
Worker	0.0625	0.0438	0.4813	2.10E-03	0.2115	1.49E-03	0.2129	0.0562	1.37E-03	0.0576	0	190.0408	190.0408	3.64E-03	0	190.1318
Total	0.0906	1.1148	0.8906	5.46E-03	0.2857	5.24E-03	0.2909	0.0766	4.96E-03	0.0816	0	550.8963	550.8963	0.0676	0	552.5856

3.7 Parking Structure - Columns/Deck/Ramp - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0351	0.2727	0.3071	4.30E-04		0.0153	0.0153		0.0141	0.0141	0	37.4963	37.4963	0.0113	0	37.7796
Total	0.0351	0.2727	0.3071	4.30E-04		0.0153	0.0153		0.0141	0.0141	0	37.4963	37.4963	0.0113	0	37.7796

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.60E-04	0.0368	7.69E-03	5.00E-05	5.90E-04	6.00E-05	6.50E-04	1.60E-04	5.00E-05	2.20E-04	0	4.9425	4.9425	1.04E-03	0	4.9685
Vendor	1.03E-03	0.0338	0.0116	1.20E-04	3.21E-03	1.10E-04	3.32E-03	9.30E-04	1.00E-04	1.03E-03	0	12.0446	12.0446	1.42E-03	0	12.0802
Worker	0.1173	0.0821	0.9024	3.93E-03	0.3965	2.79E-03	0.3993	0.1054	2.57E-03	0.108	0	356.3266	356.3266	6.82E-03	0	356.4971
Total	0.1189	0.1527	0.9217	4.10E-03	0.4003	2.96E-03	0.4032	0.1065	2.72E-03	0.1093	0	373.3136	373.3136	9.28E-03	0	373.5459

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.25E-03	0.0706	0.313	4.30E-04		6.80E-04	6.80E-04		6.80E-04	6.80E-04	0	37.4963	37.4963	0.0113	0	37.7795
Total	6.25E-03	0.0706	0.313	4.30E-04		6.80E-04	6.80E-04		6.80E-04	6.80E-04	0	37.4963	37.4963	0.0113	0	37.7795

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	6.60E-04	0.0368	7.69E-03	5.00E-05	5.90E-04	6.00E-05	6.50E-04	1.60E-04	5.00E-05	2.20E-04	0	4.9425	4.9425	1.04E-03	0	4.9685
Vendor	1.03E-03	0.0338	0.0116	1.20E-04	3.21E-03	1.10E-04	3.32E-03	9.30E-04	1.00E-04	1.03E-03	0	12.0446	12.0446	1.42E-03	0	12.0802
Worker	0.1173	0.0821	0.9024	3.93E-03	0.3965	2.79E-03	0.3993	0.1054	2.57E-03	0.108	0	356.3266	356.3266	6.82E-03	0	356.4971
Total	0.1189	0.1527	0.9217	4.10E-03	0.4003	2.96E-03	0.4032	0.1065	2.72E-03	0.1093	0	373.3136	373.3136	9.28E-03	0	373.5459

3.8 Buildings - Tenant Improvement - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0597	0.4467	0.4763	6.90E-04		0.025	0.025		0.0233	0.0233	0	60.2128	60.2128	0.0161	0	60.6163
Total	0.0597	0.4467	0.4763	6.90E-04		0.025	0.025		0.0233	0.0233	0	60.2128	60.2128	0.0161	0	60.6163

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.60E-04	0.0368	7.69E-03	5.00E-05	5.90E-04	6.00E-05	6.50E-04	1.60E-04	5.00E-05	2.20E-04	0	4.9425	4.9425	1.04E-03	0	4.9685
Vendor	1.12E-03	0.0367	0.0126	1.30E-04	3.48E-03	1.20E-04	3.60E-03	1.01E-03	1.10E-04	1.12E-03	0	13.0483	13.0483	1.54E-03	0	13.0869
Worker	0.127	0.0889	0.9776	4.26E-03	0.4295	3.02E-03	0.4325	0.1142	2.78E-03	0.117	0	386.0204	386.0204	7.39E-03	0	386.2052
Total	0.1288	0.1624	0.9978	4.44E-03	0.4336	3.20E-03	0.4368	0.1154	2.94E-03	0.1183	0	404.0112	404.0112	9.97E-03	0	404.2606

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.91E-03	0.1155	0.4728	6.90E-04		1.06E-03	1.06E-03		1.06E-03	1.06E-03	0	60.2127	60.2127	0.0161	0	60.6162
Total	9.91E-03	0.1155	0.4728	6.90E-04		1.06E-03	1.06E-03		1.06E-03	1.06E-03	0	60.2127	60.2127	0.0161	0	60.6162

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.60E-04	0.0368	7.69E-03	5.00E-05	5.90E-04	6.00E-05	6.50E-04	1.60E-04	5.00E-05	2.20E-04	0	4.9425	4.9425	1.04E-03	0	4.9685
Vendor	1.12E-03	0.0367	0.0126	1.30E-04	3.48E-03	1.20E-04	3.60E-03	1.01E-03	1.10E-04	1.12E-03	0	13.0483	13.0483	1.54E-03	0	13.0869
Worker	0.127	0.0889	0.9776	4.26E-03	0.4295	3.02E-03	0.4325	0.1142	2.78E-03	0.117	0	386.0204	386.0204	7.39E-03	0	386.2052
Total	0.1288	0.1624	0.9978	4.44E-03	0.4336	3.20E-03	0.4368	0.1154	2.94E-03	0.1183	0	404.0112	404.0112	9.97E-03	0	404.2606

Operational Emissions

Operational Info + Emissions

Updated: 7/12/2020

Emissions Source	Total Annual Tons - Unmitigated		
	DPM	PM2.5 Ex	PM2.5 Fug
Delivery Vehicle Idling	0.0006	0.0006	
TRU operation	0.0046	0.0042	
Delivery Vehicle Travel	0.0116	0.0111	0.0231
ALL OPERATION	0.0168	0.0159	0.0231

TRU Operation

Box Truck / Smaller Trucks

Daily one-way trips	63	Advant Consulting, Vehicle Trip Generation Estimates for the 901 16th St/Flower Mart Project, 2020
Daily Trucks	31.5	
Percent box trucks with TRUs	50%	Assume same as semis
TRU operation/trip (hrs)	0.5	Assume same as semis
Annual hours of TRU operation	2,874	15.75

Semi Trucks

Daily one-way trips	8	Advant Consulting, Vehicle Trip Generation Estimates for the 901 16th St/Flower Mart Project, 2020
Daily Trucks	4	
Percent semi trucks with TRUs	50%	Response to 6-17 Supplemental Data Request
TRU operation/trip (hrs)	0.5	Response to 6-17 Supplemental Data Request
Annual hours of TRU operation	365	

Emission Factors

	PM ₁₀ (g/hr)	PM _{2.5} (g/hr)	
Instate Truck TRU	1.33368421	1.226989473	from OFFROAD (see below)

OFFROAD2017 (v1.0.1) Emissions Inventory

Region Type: County

Region: San Francisco

Calendar Year: 2022

Scenario: All Adopted Rules - Exhaust

Vehicle Classification: OFFROAD2017 Equipment Types

Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	PM10_tpd	PM2_5_tpd	PM_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepowe_hhpd	PM10 g/hp-hr	PM10 g/hr	PM2.5 g/hr	
San Francisco	2022	TRU - Instate Genset TRU	Aggregated	Aggregated	Diesel	4.07E-05	3.74711E-05	4.07E-05	158.7595	95641.4054	122.5040009	3012704	8253.984	0.004477	0.14101	0.12973
San Francisco	2022	TRU - Instate Trailer TRU	Aggregated	Aggregated	Diesel	0.001945	0.001789295	0.001945	1838.783	736248.4375	555.7082793	25032447	68582.05	0.025726	0.874698	0.804723
San Francisco	2022	TRU - Instate Truck TRU	Aggregated	Aggregated	Diesel	0.000798	0.000734148	0.000798	249.8089	198121.4319	145.5704863	2793512	7653.458	0.094588	1.333684	1.226989
San Francisco	2022	TRU - Instate Van TRU	Aggregated	Aggregated	Diesel	1.85E-05	1.6996E-05	1.85E-05	5.78325	7185.751416	5.279758572	64671.76	177.1829	0.094588	0.851288	0.783185

Emissions

Emissions (tons/year)	DPM	PM2.5 Exhaust
Box Truck / Smaller Trucks	0.004	0.004
Semi Trucks	0.001	0.000
Total	0.005	0.004

Delivery Vehicle Idling

Box Truck / Smaller Trucks

Daily one-way trips	63	Advant Consulting, Vehicle Trip Generation Estimates for the 901 16th St/Flower Mart Project, 2020
Daily round trips	31.5	
Hours idling per round trip	0.083	5 min max
Total hours idling per day	2.625	

Total hours idling per year	958
EMFAC vehicle type	LHDT2 Light-Heavy-Duty Trucks (10001-14000 lbs)
<u>Semi Trucks</u>	
Daily one-way trips	8 Advant Consulting, Vehicle Trip Generation Estimates for the 901 16th St/Flower Mart Project, 2020
Daily round trips	4
Hours idling per round trip	0.083 5 min max
Total hours idling per day	0.333
Total hours idling per year	122
EMFAC vehicle type	HHDT

EMFAC2017 Emission Factors for year 2022 (g/veh-hr)

	DPM	PM2.5 Exhaust
LHDT2	0.573904705	0.549077842
HHDT	0.045064001	0.043114552

Source: PL_SanFrancisco_Idling

Emissions

Emissions (tons/year)	DPM	PM2.5 Exhaust
Box Truck / Smaller Trucks	6.06E-04	5.80E-04
Semi Trucks	6.04E-06	5.78E-06
Total	6.12E-04	5.86E-04

Delivery Vehicle Onroad Travel

Box Truck / Smaller Trucks

Daily one-way trips	63 Advant Consulting, Vehicle Trip Generation Estimates for the 901 16th St/Flower Mart Project, 2020
Miles per one-way trip	20 CalEEMod Default
total daily miles	1,260
Total annual miles	459,900

Semi Trucks

Daily one-way trips	8 Advant Consulting, Vehicle Trip Generation Estimates for the 901 16th St/Flower Mart Project, 2020
Miles per one-way trip	20 CalEEMod Default
total daily miles	160
Total annual miles	58,400

EMFAC2017 Emission Factors for 2022 (g/mi)

	DPM	PM2.5 Exhaust	PM2.5 Fugitive	PM2.5 Total
LHDT2	0.018589207	0.017785046	0.041220012	0.059005058
HHDT	0.033583814	0.032130994	0.03424933	0.066380323

Source: EMFAC2017-ER-TravelEmissions_2022

Emissions (tons/year)

	DPM	PM2.5 Exhaust	PM2.5 Fugitive	PM2.5 Total
Box Truck / Smaller Trucks	0.0094	0.0090	0.0209	0.0299
Semi Trucks	0.0022	0.0021	0.0022	0.0043
Total	0.0116	0.0111	0.0231	0.0342

AERSCREEN Inputs & Outputs

Nearest Residential - In APEZ	1280.7	2,666.0	297.1	535.6	2,666.0
Nearest Residential - Outside APEZ	910.8	1080.8	209.8	182.3	1,080.8
Hospital	350.8	2,666.0	117.8	125.1	2,666.0
Daycare					
School	178.8	352.2	69.4	53.4	352.2
<u>Concentrations - Average Annual (ug/m3)</u>					
Nearest Residential - In APEZ	128.1	266.6	29.7	53.6	266.6
Nearest Residential - Outside APEZ	91.1	108.1	21.0	18.2	108.1
Hospital	35.1	266.6	11.8	12.5	266.6
Daycare					
School	17.9	35.2	6.9	5.3	35.2

Health Risk Assessment Emission Rates

DPM and PM2.5 Emission Rates

Updated:

7/12/2020

HRA Notes:

BAAQMD recommends short-term projects "use of actual emission rates over a minimum 3-year duration for cancer risk assessments involving projects lasting 3 years or less." This was not done to be conservative.

Since AERSCREEN calculates maximum 1-hr concentration based on continuous emissions (which is then converted to annual), the 1-hr emission rate should be based on the emission rate during the entire construction period (24 hrs/day, 7 days per week).

To estimate annual average PM2.5 concentrations, divided PM2.5 exhaust emissions by the full 24hrs/day and 7 days/week when construction is occurring. This is still conservative because emissions would not occur for 2-4 months of the year (depending on the year). Could divide by the full 365 days/year for the entire year to be less conservative, but did not do this.

DPM Emission Rates - Annual

	Construction Off-Road Equip + truck idling onsite	Construction On-Road Trucks	Operation Delivery Idling + TRU - Box Trucks	Operation Delivery Idling + TRU - Semis	Operation On-Road Trucks	NOTES
DPM Emissions (lbs)						
Unmitigated	401.7	70.0	8.2	0.01	23.2	
Mitigated	17.3	70.0	8.2	0.01	23.2	Tier 4 Final of off-road construction equipment
Scaling Factors for onroad sources						
Truck trips		0.003			0.006	operational delivery trip = 20 miles one-way trip (20 miles each way, default); assume 200 meter onsite segment
Percent Truck Trips occurring near receptor						
Hauling		100%				
Delivery Trucks					100%	Assume 100% pass by residents
Time Values for Emission Rates						
Total Days	502	502	365	365	365	Construction: total calendar days (7 days/week); see note above. Operation: 365
Hours per day	24	24	24	24	24	24 hrs/day; see note above
Emission Rates - Scaling Factors (g/s)						
Unmitigated	4.20E-03	2.18E-06	1.19E-04	1.81E-07	2.07E-06	Scaled on-road emissions by the scaling factors
Mitigated	1.81E-04	2.18E-06	1.19E-04	1.81E-07	2.07E-06	

PM2.5 Exhaust + Fugitive Dust Emission Rates - Annual

	Construction Off-Road Equip	Construction On-Road Trucks	Operation Delivery Idling + TRU - Box Trucks	Operation Delivery Idling + TRU - Semis	Operation On-Road Trucks	NOTES
PM2.5 Exhaust + Fugitive Dust Emissions (lbs)						
Unmitigated	373.2	108.2	7.5	0.01	68.4	off-road includes equip + onsite trucks
Mitigated	18.2	108.2	7.5	0.01	68.4	
Emission Rates - Scaling Factors (g/s)						
Unmitigated	3.90E-03	3.37E-06	1.08E-04	1.73E-07	6.11E-06	
Mitigated	1.91E-04	3.37E-06	1.08E-04	1.73E-07	6.11E-06	

Health Risk Assessment Risk Factors

HRA Risk Factors

Updated: 7/12/2020

Notes

Normally, we use a worker adjustment factor to estimate risk for school and daycare receptors, but this is used if AERMOD models sources using a non-continuous emissions schedule (e.g. work hours). However, because we use AERSCREEN, which assumes a continuous emission rate based on the actual construction schedule of 5 days per week and 8 hrs/day (and estimates maximum 1-hr concentrations), concentrations are based on continuous emissions, and we don't need the adjustment factor.

Dose Calculation

NOT USED = grey

Dose Factors

Daily Breathing Rate (DBR) [L/kg-day or L/kg-8hrs]

	3rd Trimester	Age 0<2 Years	Age 2<9 Years	Age 2<16 Years	Age 16<30 Years	Age 16<70 Years	Notes / Source
Residential	361	1090	631	572	261		95th percentile 24-hour breathing rates (OEHH Table 5.6) for 3rd trimester and age 0<2 years and 80th percentile 24-hour breathing rates (OEHH Table 5.7) for age 2<9 years, age 2<16 years, and age 16<30 years
Hospital	361	1090	631	572	261		Same as residential
Daycare		1200	640	520	240		
School			640	520	240	230	95th percentile 8-hour moderate intensity breathing rates (OEHH Table 5.8) for age 2<16 years. Rise Institute is K-12 so assume start at age 5 till 18 (13 years)
Inhalation Absorption Factor (A)	1	1	1	1	1	1	
Exposure Frequency (FF) [days/365 days]							
Residential	0.96	0.96	0.96	0.96	0.96	0.96	
Hospital	1.00	1.00	1.00	1.00	1.00	1.00	assume 100% in hospital
Daycare	0.68	0.68	0.68	0.68	0.68	0.68	250 days/yr
School	0.49	0.49	0.49	0.49	0.49	0.49	180 days/yr
Conversion	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	

Dose Factor (no concentration)

	3rd Trimester	Age 0<2 Years	Age 2<9 Years	Age 2<16 Years	Age 16<30 Years	Age 16<70 Years
Residential	0.000346164	0.001045205	0.000605068	0.000548493	0.000250274	0
Hospital	0.000361	0.00109	0.000631	0.000572	0.000261	0
Daycare	0	0.000821918	0.000438356	0.000356164	0.000164384	0
School	0	0	0.000315616	0.000256438	0.000118356	0.000113425

Risk Calculation

Risk Factors

Inhalation Cancer Potency Factor (CPF)

Age Sensitivity Factor (ASF) [unitless]

Exposure Duration (ED) [years]

Construction

Residential

Hospital

Daycare

School

Operation

Residential

Hospital

Daycare

School

Operations for Construction + Operation

Residential

Hospital

Daycare

School

Averaging Time (AT) [years]

Fraction of Time at Home (FAH) [unitless]

Chances per Million

Risk Factor (no concentration)

Construction

Residential

Hospital

Daycare

School

Operation

3rd Trimester Age 0<2 Years Age 2<9 Years Age 2<16 Years Age 16<30 Years Age 16<70 Years

1.1 1.1 1.1 1.1 1.1 1.1

10 10 3 3 1 1

0.25 1.13

0.25 1.13

0.25 2

0.25 2

70 70 70 70 70 70

1 1 1 1 0.73 0.73

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

3rd Trimester Age 0<2 Years Age 2<9 Years Age 2<16 Years Age 16<30 Years Age 16<70 Years

13.60 184.83 0.00 0.00 0.00 0.00

14.18 192.76 0.00 0.00 0.00 0.00

0.00 0.00 0.00 0.00 0.00 0.00

0.00 0.00 20.46 0.00 0.00 0.00

Total yrs exposure

1.38

1.38

0.00

1.38

30.25

30.25

0.00

9.00

28.87

28.87

0.00

9.00

Fraction of time at home are set to 1.0 for all age groups less than 16 years, since there are potentially schools within cancer risk isopleths of one in a million or greater, per BAAQMD guidance (2016). For age groups greater than 16 years, values from OEHH (2015) Table 8.4 were used

Residential	13.60	328.49	0.00	362.01	40.19	0.00
Hospital	14.18	342.57	0.00	377.52	41.92	0.00
Daycare	0.00	0.00	0.00	0.00	0.00	0.00
School	0.00	0.00	0.00	108.80	0.00	0.00
<i>Operations for Construction + Operation</i>						
Residential	0.00	143.66	0.00	362.01	40.19	0.00
Hospital	0.00	149.82	0.00	377.52	41.92	0.00
Daycare	0.00	0.00	0.00	0.00	0.00	0.00
School	0.00	0.00	0.00	108.80	0.00	0.00

Health Risk Assessment Calculations

HRA - Screening

Updated:

7/27/2020

Green = use in section

Emission Rates / Scaling Factors

	Construction Off-Road Equip + truck idling onsite	Construction On-Road Trucks	Operation Delivery Idling + TRU - Box Trucks	Operation Delivery Idling + TRU - Semis	Operation On-Road Trucks	NOTES
DPM g/s						
Unmitigated	4.20E-03	2.18E-06	1.19E-04	1.81E-07	2.07E-06	
Mitigated	1.81E-04	2.18E-06	1.19E-04	1.81E-07	2.07E-06	
PM2.5 g/s						
Unmitigated	3.90E-03	3.37E-06	1.08E-04	1.73E-07	6.11E-06	
Mitigated	1.91E-04	3.37E-06	1.08E-04	1.73E-07	6.11E-06	

Cancer Risk Calculations

	Construction Off-Road Equip + truck idling onsite	Construction On-Road Trucks	Operation Delivery Idling + TRU - Box Trucks	Operation Delivery Idling + TRU - Semis	Operation On-Road Trucks	NOTES
Average Annual Scaler Concentrations (ug/m3)						
Nearest Residential - In APEZ 1	128.07	266.60	29.71	53.56	266.60	
Nearest Residential - In APEZ 2	91.08	108.08	20.98	18.23	108.08	
Hospital	35.08	266.60	11.78	12.51	266.60	
Daycare						
School	17.88	35.22	6.94	5.34	35.22	
Average Annual SCALED Concentrations (ug/m3)						
Unmitigated						
Nearest Residential - In APEZ 1	0.538027801	0.000579975	0.003524919	9.71548E-06	0.000552111	
Nearest Residential - In APEZ 2	0.382629985	0.000235119	0.002488768	3.30596E-06	0.000223823	
Hospital	0.147386519	0.000579975	0.001398175	2.269E-06	0.000552111	
Daycare						
School	0.075124923	7.6616E-05	0.00082315	9.6818E-07	7.29351E-05	
Mitigated						
Nearest Residential - In APEZ 1	2.32E-02	0.000579975	0.003524919	9.71548E-06	0.000552111	
Nearest Residential - In APEZ 2	0.01648852	0.000235119	0.002488768	3.30596E-06	0.000223823	
Hospital	0.006351268	0.000579975	0.001398175	2.269E-06	0.000552111	
Daycare						
School	0.003237328	7.6616E-05	0.00082315	9.6818E-07	7.29351E-05	

Risk Factors

Construction & Operational Individual Exposure

Nearest Residential - In APEZ 1	198.43	198.43	744.29	744.29	744.29	Sum of all age groups; same for all scenarios
Nearest Residential - In APEZ 2	198.43	198.43	744.29	744.29	744.29	
Hospital	206.94	206.94	776.19	776.19	776.19	""
Daycare	0.00	0.00	0.00	0.00	0.00	""
School	20.46	20.46	108.80	108.80	108.80	""

Operational Exposure for Construction + Operation

Nearest Residential - In APEZ 1			545.86	545.86	545.86	Sum of all age groups; same for all scenarios
Nearest Residential - In APEZ 2			545.86	545.86	545.86	
Hospital			569.25	569.25	569.25	""
Daycare			0.00	0.00	0.00	""
School			108.80	108.80	108.80	""

	Construction Off-Road Equip + truck idling onsite	Construction On-Road Trucks	Construction TOTAL	Operation Delivery Idling + TRU - Box Trucks	Operation Delivery Idling + TRU - Semis	Operation On-Road Trucks	Operation TOTAL
Cancer Risk - Construction & Operational Individual - Unmitigated							
Nearest Residential - In APEZ 1	106.76	0.12	106.88	2.62	0.007	0.41	3.04
Nearest Residential - In APEZ 2	75.93	0.05	75.97	1.85	0.002	0.17	2.02
Hospital	30.50	0.12	30.62	1.09	0.002	0.43	1.52
Daycare	0.00	0.00	0.00	0.00	0.000	0.00	0.00
School	1.54	0.00	1.54	0.09	0.000	0.01	0.10

Cancer Risk - Operational Exposure for Construction + Operation - Unmitigated

Nearest Residential - In APEZ 1				1.92	0.005	0.30	109.11
Nearest Residential - In APEZ 2				1.36	0.002	0.12	77.46
Hospital				0.80	0.001	0.31	31.73
Daycare				0.00	0.000	0.00	0.00
School				0.09	0.000	0.01	1.64

Cancer Risk - Construction & Operational Individual - Mitigated

Nearest Residential - In APEZ 1	4.60	0.12	4.72	2.62	0.007	0.41	3.04
Nearest Residential - In APEZ 2	3.27	0.05	3.32	1.85	0.002	0.17	2.02
Hospital	1.31	0.12	1.43	1.09	0.002	0.43	1.52
Daycare	0.00	0.00	0.00	0.00	0.000	0.00	0.00
School	0.07	0.00	0.07	0.09	0.000	0.01	0.10

Cancer Risk - Operational Exposure for Construction + Operation - Mitigated

Nearest Residential - In APEZ 1				1.92	0.005	0.30	6.95
Nearest Residential - In APEZ 2				1.36	0.002	0.12	4.80
Hospital				0.80	0.001	0.31	2.55
Daycare				0.00	0.000	0.00	0.00
School				0.09	0.000	0.01	0.17

ESTIMATED PM2.5 Concentrations - Average Annual ($\mu\text{g}/\text{m}^3$)

	Construction Off-Road Equip + truck idling onsite	Construction On-Road Trucks	Construction TOTAL	Operation Delivery Idling + TRU - Box Trucks	Operation Delivery Idling + TRU - Semis	Operation On-Road Trucks	Operation TOTAL
<u>Average Annual Scaler Concentration ($\mu\text{g}/\text{m}^3$)</u>							
Nearest Residential - In APEZ 1	128.07	266.60		29.71	53.56	266.60	
Nearest Residential - In APEZ 2	91.08	108.08		20.98	18.23	108.08	
Hospital	35.08	266.60		11.78	12.51	266.60	
Daycare							
School	17.88	35.22		6.94	5.34	35.22	
<u>Average Annual SCALED Concentrations ($\mu\text{g}/\text{m}^3$)</u>							
<u>Unmitigated</u>							
Nearest Residential - In APEZ 1	0.4999	0.0009	0.50	3.21E-03	9.28E-06	1.63E-03	0.005
Nearest Residential - In APEZ 2	0.3555	0.0004	0.36	2.27E-03	3.16E-06	6.60E-04	0.003
Hospital	0.1369	0.0009	0.14	1.27E-03	2.17E-06	1.63E-03	0.003
Daycare	0.0000	0.0000	0.00	0.00E+00	0.00E+00	0.00E+00	0.000
School	0.0698	0.0001	0.07	7.50E-04	9.24E-07	2.15E-04	0.001
<u>Mitigated</u>							
Nearest Residential - In APEZ 1	0.0244	0.0009	0.03	3.21E-03	9.28E-06	1.63E-03	0.005
Nearest Residential - In APEZ 2	0.017379307	0.0004	0.02	2.27E-03	3.16E-06	6.60E-04	0.003
Hospital	0.006694393	0.00089725	0.01	1.27E-03	2.17E-06	1.63E-03	0.003
Daycare	0.0000	0.0000	0.00	0.00E+00	0.00E+00	0.00E+00	0.000
School	0.0034	0.0001	0.00	7.50E-04	9.24E-07	2.15E-04	0.001

Summary Tables

Tables for Section

Updated:

7/27/2020

Green = use in section

Summary Tables - To be used in section

Table AQ-1

Source	Average Daily Emissions (lbs/day)			
	ROG	NO _x	PM ₁₀ Exhaust	PM _{2.5} Exhaust
2020	6.5	25.1	1.3	1.2
2021	6.4	32.6	1.2	1.1
Total Construction Emissions	6.5	29.6	1.2	1.1
BAAQMD Threshold	54.0	54.0	82.0	54.0
Exceeds Threshold?	No	No	No	No

Construction Health Risk

Table AQ-2

Scenario / Receptor Type / Threshold	Cancer Risk	Maximum Annual PM2.5 Concentration
Unmitigated		
Nearest Residential - In APEZ 1	106.9	0.50
Nearest Residential - In APEZ 2	76.0	0.36
Hospital	30.6	0.14
School	1.5	0.07
Mitigated		
Nearest Residential - In APEZ 1	4.7	0.03
Nearest Residential - In APEZ 2	3.3	0.02
Hospital	1.4	0.01
School	0.1	0.004
Thresholds		
Receptors in APEZ	7.0	0.20
Receptors not in APEZ	10.0	0.30
Exceeds Threshold?		
Unmitigated	Yes	Yes
Mitigated	No	No

Operation & Combined Health Risk

Table AQ-3

Scenario / Receptor Type / Threshold	Cancer Risk		Maximum Annual PM2.5 Concentration	
	Operation	Construction + Operation	Operation	Construction + Operation
Unmitigated				
Nearest Residential - In APEZ 1	3.0	109.1	0.005	0.50
Nearest Residential - In APEZ 2	2.0	77.5	0.003	0.36
Hospital	1.5	31.7	0.003	0.14
School	0.1	1.6	0.001	0.07
Mitigated				
Nearest Residential - In APEZ 1	3.0	6.9	0.005	0.03
Nearest Residential - In APEZ 2	2.0	4.8	0.003	0.02
Hospital	1.5	2.5	0.003	0.01
School	0.1	0.2	0.001	0.004
Thresholds				
Receptors in APEZ	7.0	7.0	0.20	0.20
Receptors not in APEZ	10.0	10.0	0.30	0.30
Exceeds Threshold?				
Unmitigated	No	Yes	No	Yes
Mitigated	No	No	No	No