

October 30, 2020

Phillip Brennan, Associate Planner  
Planning Division, Community Development Department  
City of San Mateo  
339 West 20th Avenue  
San Mateo, CA 94403

### **DTSM Opportunity Sites Parking Garage – SPAR Modification Request**

Dear Mr. Brennan,

The Downtown San Mateo Opportunity Sites parking garage to be developed at 400 East 5<sup>th</sup> Avenue is designed to accommodate 164 parked vehicles belonging to residents of the neighboring housing community and 529 parked vehicles belonging to members of the public (total stalls: 693). The post-entitlement effort by International Parking Design, the architect of record for the parking garage, and Jessen-Wright, the structural engineer for the parking garage, identified opportunities to enhance the parking experience of future garage patrons. In consultation with City staff, MidPen and the design team request the following improvements to the as-entitled design:

#### **Stall Standards:**

City code allows for a mix of **Compact and Full-Size Spaces**. Compact Spaces are 8'-0" wide and 17'-0" long with a 22'-9" longitudinal drive aisle. Full-Size Spaces are 8'-6" wide and 18'-0" long with a 24' longitudinal drive aisle. The as-entitled design provides for two double loaded bays per floor with the following dimensions:

- One double loaded parking bay with all Compact Spaces and a 22'-9" drive aisle
- One double loaded parking bay with a mix of Compact and Full-Size Spaces with a 25' drive aisle

*Percentage of Compact stalls: 66%*

MidPen and the design team collaborated with City staff to develop an alternative stall geometry that uses a **Universal Stall Size**. A Universal Stall Size is not currently contemplated in City of San Mateo code but is common in other jurisdictions including San Bruno and San Carlos. The Universal Stall Size approach balances the garage building module by providing symmetrical parking bays on each floor, which contributes to a more equitable and uniform parking experience for those that are circulating up and down the building. The uniform structural module has the added benefit of ensuring the northern CMU fire separation wall of the garage can be constructed as a continuous wall, a superior design to an infill fire wall in terms of aesthetics and long-term maintenance (described below under "Continuous Plane Wall"). Importantly, the Universal Stall Size approach also eliminates the inefficiencies that occur when patrons bypass Compact Stalls and/or park oversize

vehicles in Compact Stalls, thereby precluding the use of adjacent stalls. The proposed revised design provides for two symmetrical bays per floor with the following dimensions:

- Two double loaded parking bays with the code-required Full-Size Stall width of 8'-6" and code-required Full-Size Stall longitudinal drive aisle and back up of 24'. The stall depth will follow the Compact standard of 17'-0.  
*Percentage of Compact stalls: 0%*

#### **Continuous Plane Wall:**

Implementation of the Universal Stall Size approach and associated drive aisle widths allowed space for a continuous plane CMU wall instead of a non-continuous CMU wall on the north elevation, adjacent to the PG&E substation. The proposed continuous plane wall is built proud of the structural columns instead of between the structural columns.

The as entitled non-continuous wall was designed as individual segments that could move with the columns in the event of an earthquake. This necessitates fire caulking at each individual segment and head wall clips at the slabs. The fire caulking and head wall clips would require maintenance approximately every 5 years to maintain the appropriate rating (caulking) and prevent corrosion (head wall clips). Eliminating these elements improves the aesthetic, maintenance, and longevity of the City-owned garage.

#### **Sight Triangle:**

In order to comply with the City prescribed sight triangle requirements at the vehicular entry/exit, the building will shift east by approximately 6'-0". Proposed setback from the East 5<sup>th</sup> Avenue property line is 8'-10". The as entitled setback was 1'-6".

The proposed shift eastward does not reduce the open area on the east end of the site, where two heritage Oak trees will be protected and preserved, or the as-entitled tree protection measures. This is achieved primarily as a result of the switch to a moment frame system (described below under "Structural Framing"), which allowed the design team to reduce the overall length of the building by approximately 7'-10".

#### **ADA Distribution:**

The as-entitled design provides ADA (American with Disabilities Act) parking spaces on each level. This requires providing back-up or emergency power to operate the elevator in the event of a power failure in that the elevator is part of the accessible path of travel. The proposed revised design locates all public ADA spaces at the ground floor near the building entry, eliminating dependency on the elevator for emergency egress in the event of a power failure. The proposed revised design maintains all residential ADA spaces on the fifth floor, near the pedestrian bridge to the residential housing community. The residential housing community is served by two elevators. ADA clearances will still be provided on every floor so that residential vehicles can circulate up the building and gain access to the accessible parking spaces on fifth floor.

### **Structural Framing:**

The as-entitled design utilizes a **shear wall system** design for its lateral seismic resisting system. The shear wall system necessitates internal transverse shear walls. The internal transverse shear walls within the belly of the garage create hazardous conditions when they obstruct views of oncoming traffic. San Mateo residents may experience these conditions in the underground parking garage at the City's Main Library.

The proposed revised design utilizes a **moment frame system** for its lateral seismic resisting system. The moment frame system is comprised of reinforced concrete beams and columns. The moment frame system accomplishes the same structural objectives of the shear wall system. The substantial difference is that the moment frame system eliminates the internal transverse shear walls by placing all the moment frames at the building perimeter. This greatly improves visibility within the structure. The moment frame system does affect the exterior aesthetic of the building by requiring the pedestrian stairwell at the southwest corner to be partially enclosed by a structural framework. The moment frame system relies on the structural framework at the stairwell to capture the entire length of the short ends of the building.

The vertical fin layout on the south elevation has been adjusted to simplify the constructability of the precast columns supporting the building. The intent of the shift is to also ensure the visibility of the vertical fins as well as avoid the potential coordination conflicts with embedment of mounting points to the structural precast members and the mounting of the fin system. The total number of fins is unchanged.

### **Interior Rated Exit Passageway:**

The as entitled design provides an interior rated exit passageway on the ground floor for the northeast emergency exit stair. Inclusion of an interior rated exit passageway is a response to site constraints, namely a 12'-4" Union Pacific Railroad easement on the south side of the property that precludes any improvements – including outdoor exit for emergency only – within its area.

The proposed revised design solution modifies the as-entitled passageway position on the ground floor *through* a concrete ramp to the second floor, instead positioning the corridor *along* the ramp from the second floor to the first floor. This does not impact pedestrians exiting from floors 2-5. It will require that, in the event of an emergency only, the limited number of occupants in the eastern end of the garage on the ground floor enter the stairwell and travel up one flight to the second floor to gain access to the egress corridor. This is commonly done when there are basement conditions where stairs converge at grade and then exit to the public right of way. Provisions will be made per required Conditions of Approval to avoid any confusion and misuse. Gating will also be provided at the second level of the northeast emergency exit stair to prevent those coming down from above from continuing past the corridor at the second level and vice versa.

### **Exterior Back Flow Prevention:**

The as-entitled design includes an *interior* back flow preventor for the fire, domestic and irrigation water services. This design was a result of having insufficient front yard dimension to locate these devices outside of the building. As previously stated, primarily as a result of the switch to a moment frame system, the design team has been able to reduce the overall length of the building by approximately 7'-10". This allows for sufficient setback from East 5<sup>th</sup> Avenue to locate the back

flow prevention devices outside the building. CalWater has expressed that an exterior condition is their preference. Screening will be provided per the project Conditions of Approval.

### **Solar Carports:**

Configuration of the solar carport array on the fifth level was slightly adjusted to expand stall coverage, adjust for the location of the artistic façade facing 5<sup>th</sup> Avenue, and maximize sun exposure for renewable energy generation. The total square footage of the solar carport array is unchanged.

### **Floor Area Ratio (FAR) and Total Plot:**

The length of the garage became shorter with the adoption of the moment frame structural system. This allowed for the garage to move to the East and provide adequate space for the sight triangles without intruding on the heritage oaks trees.

	<u><b>Original</b></u>	<u><b>Proposed</b></u>
<b>Total Project FAR (includes Residential)</b>	<b>4.24</b>	<b>4.15</b>
<b>5<sup>th</sup> Ave SQ FT (only Garage)</b>	<b>210,509 SQ FT</b>	<b>201,431 SQ FT</b>
<b>5<sup>th</sup> Ave FAR (only Garage)</b>	<b>3.86</b>	<b>3.70</b>

The FAR calculations exclude uncovered parking and the railroad easement in both the Original and Proposed scenarios, as well as stairwells and elevator shafts above the ground floor and uncovered drive aisles.

The as-entitled stall count of 696 is reduced by 3 stalls in order to ensure an efficient, user-friendly parking experience in all stalls. This reduction is acceptable under Condition of Approval 25. The building height has been reduced by approximately 8” from 46’-0” to 45’-4” and the building length has been reduced by approximately 7’-10” from 391’-6” to 383’-8”.

I hope these changes are well received. We believe the building design is much improved and we are very excited to move forward with the project.

Sincerely,



Mollie Naber, Associate Director, MidPen Housing Corporation

Cc: Raju Nandwana, International Parking Design  
Jim Wright, Jessen-Wright Structural Engineers  
Lane McCallion, Devcon Construction, Inc.  
Alex Rogala, MidPen Housing Corporation