

Construction Consulting, Management, Safety & Engineering

March 15, 2019

Sent via Electronic Mail

Ian J. Calvello, RPA, FMA
Senior Property Director
BRE # 01713240
Bayside Realty Partners
1761 Laurel Street San Carlos, CA 94070

RE: 2400 WESTBOROUGH BOULEVARD

COMMERCIAL CONDO CONVERSION

**Property Condition Assessment Report** 

Mr. Calvello:

Per your request we have prepared this Property Condition Assessment regarding the subject medical/office building complex and associated grounds known as 2400 Westborough ("subject property") that is located at 2400 Westborough Blvd. South San Francisco, California 94080. The property consists of: one (1) multi-story building, that have multiple tenants / establishments / spaces; a large at grade parking lot (91 stalls) and a subterranean garage with 32 stalls that serves the complex; driveways; walkways; landscaping; masonry walls, and lighting. The parking lot has accessible parking spaces. The property is approximately 1.70 acres or 77,000 SF. The building square footage (SF) is approximately 28,000 SF. All units were inspected by WEXCO on February 14, 2019, and all units were occupied on this date except: Suite 104.

According to the records provided: the subject building year built is recorded as 1976; the property type is "Office," subtype is "Medical" and it is zoned for "Commercial" use.

### **INTRODUCTION OF THE CONSULTANTS**

Jeff Hughes, GC is a licensed General Contractor in the State of California, and Certified California Building Inspector, and a Certified Professional Construction Estimator. He is the Senior Construction Manager at WEXCO International Corporation. Jeff Hughes possesses a Bachelor of Arts degree from the California State University Northridge. Jeff Hughes has extensive technical and practical experience in conducting safety investigations and analysis of premises and has conducted investigations and analyzed thousands of properties since 1987. Jeff Hughes has

Property Condition Assessment March 15, 2019 Page -2-

personally qualified as a construction expert on numerous occasions in Courts within California and throughout the United States.

Zachary Moore, PE is a licensed Mechanical Engineer. Mr. Moore possesses a Bachelor of Science degree in Mechanical Engineering from Loyola Marymount University. He is a Senior Forensic Engineer at WEXCO International Corporation. He is a member of the American Society of Mechanical Engineers (ASME) and the Human Factors and Ergonomics Society (Safety Technical Group). Mr. Moore has extensive technical and practical experience in conducting safety investigations and analysis of premises. Mr. Moore has conducted investigations and analyzed more than 2,500 premises in the past twelve years. Mr. Moore has qualified as an expert in safety engineering on numerous occasions in Courts within California.

Joe Hoffmayer, PE is a licensed Structural Engineer. Mr. Hoffmayer provides structural engineering services for architects, developers and contractors. Mr. Hoffmayer is an expert in 3D building structure modeling and analysis. He has extensive analysis and design of unique structural shapes for specialty architectural and themed entertainment projects. Beach and hillside foundation specialist. Engineer of record for residential and commercial projects ranging from houses and apartments to tilt-up warehouses and low-rise concrete, masonry and steel office buildings. Mr. Hoffmayer provides custom engineering calculations and structural plans and details for construction projects of all sizes.

**Brad Avrit, PE** is a licensed Civil Engineer. Mr. Avrit's duties include site investigation and analysis, safety inspections of property for compliance with Building Codes and Safety Regulations, and drafting of technical reports. Mr. Avrit is a senior consultant who provides technical expertise for work in Construction, Construction Management, Engineering, Estimating, Scheduling, and Project Control Systems. Mr. Avrit has experience on a wide variety of Construction properties, including residential, commercial, and industrial facilities. Mr. Avrit has conducted safety inspections and/or investigated more than 9,000 properties in the State of California. Mr. Avrit has worked on a daily basis with a licensed Civil Engineer, Safety Engineer, Architect, and General Contractor. Mr. Avrit also works directly with licensed Geotechnical and Structural Engineers, Materials Science Engineers, Mechanical and Electrical Engineers, and Building Inspectors. A copy of his curriculum vitae is attached hereto as Exhibit '2'.

Property Condition Assessment March 15, 2019 Page -3-

#### **ASSIGNMENT**

Per your request, WEXCO evaluated the subject property relative to an overall Property Condition Assessment. In this assignment, WEXCO reviewed the following materials:

- Building Plans by MARKLING YAMASAKI ARCHITECTS, INC. and CHARLES & BRAUN Engineering (dated 1974);
- 2) HVAC Equipment List;
- South San Francisco Municipal Code Title 19, Chapter 80 Section 160
   Information to accompany tentative map re: Structural Condition of Building Evaluation;
- 4) Floor Plan diagram;
- 5) Notification of Incomplete Application, and attachments, dated 11/1/18;
- 6) Google Aerial and Street View Imagery;
- 7) Inspection of the subject property on February 14, 2019.

# 1 DESCRIPTION OF THE SUBJECT PROPERTY

The building is located on the north side of Westborough Boulevard, on is a gently sloping lot that descends to the east. The building is used for medical offices and is comprised of two floors of timber framed construction over masonry a basement. The main floor of the building is divided into an east wing and a west wing, with automobile drive through access to parking between the two wings. Nearly the entire east side of the building is exposed above grade, with the exception of the south-east corner where the basement retaining wall terminates.

Parking is located on the north side of the building and is comprised of three separate areas. The majority of the parking is on grade at the building first floor elevation. An extension of this main level parking extends eastward onto a concrete deck built over lower level parking which takes advantage of the descending site. The third parking area is on grade and under the eastern parking. The lower parking is accessed by a driveway ramp that follows the descending slope. The driveway ramp is located along the north edge of the property. The lower parking is also accessible from a lower private street which connects to Gellert Boulevard to the east of the building. The west boundary of the parking lot is up against an ascending slope and is separated from the slope by a masonry retaining wall which varies in height from an 8" curb near the building, to approximately 8'-8" above the finished grade at the north-west corner of the parking lot. The east side parking deck is a post-tensioned concrete deck.

Property Condition Assessment March 15, 2019 Page -4-

Masonry walls covered in stucco provide the guardrail along the east and north edges of the elevated concrete parking deck.

The west side of the subterranean parking area is bounded by a masonry retaining wall.

The lower parking level is a concrete slab-on-grade in good condition.

The roof of the building is flat, covered with roll roofing and has gentle slopes to drain outlets. Roof access is provided by stairs from the east wing, to a small stair tower. The perimeter of the roof is primarily a low curb with a few zones where a small parapet occurs. Most of the roof perimeter overhangs the exterior walls of the building by approximately three (3) feet. The roof framing is primarily open-web timber joists spanning between timber stud bearing walls and/or timber headers. Mechanical units on the roof are resting on timber sleepers.

The 2nd floor ceiling system is typically T-bar hanging from the roof framing. However, the offices at the east end currently have an exposed framing system, allowing for easy observation of the open-web roof joists. Second floor framing is also primarily open-web timber joists spanning between timber glu-lam girders on a grid of columns from the west side of the building to the east side of the drive-through. On the east side of the drive-through, the open-web joist framing bears on stud walls. The ceiling of the 1st floor is typically T-bar, hanging from the 2nd floor framing. The main floor of the east wing is primarily 2x14 floor joists spanning between masonry and timber bearing walls. The ceiling of the basement is primarily T-bar hanging from the floor framing above.

The foundation, as shown on structural plans from Markling & Yamasaki, dated circa 1974, show continuous concrete footings 24" into soil and typically 18" wide. At the west end of the main floor, there is a low retaining wall foundation. The east wing basement is supported on two sides with retaining wall foundations and masonry walls on continuous footings at least 18" wide. Along the drive-through, there are exposed concrete columns that support the second-floor girders and roof above. According to the structural plans, these columns are supported by pad footings.

The building has two sets of interior stairs and one elevator.

# 2 <u>DISCUSSION RELATIVE TO BUILDING ALTERATIONS</u>

The building had very few signs of modifications or alterations.

The parking deck had some cracks that appeared to be repaired with some form of epoxy material. The crack repairs are not considered alterations or modifications to the deck, and do not change the original design demand load or capacity of the deck.

The retaining walls of the lower parking area had several small patches on the surface of the masonry walls. The patches occur on the wall surface and are not considered alterations or modifications to the masonry retaining wall.

Property Condition Assessment March 15, 2019 Page -5-

It is reported that the glu-lam beam and steel column repair - under the main floor in the east wing - was a response to damage that occurred during the 1989 Loma Prieta earthquake. The modification is nearly thirty years old and is in good condition.

The exterior walls and corridor walls of the building show no signs of alteration nor repair. The exterior wall configuration of placement and lengths match the original 1974 structural plans, therefor no modifications to the shear wall capacity of the building can be assumed.

All exposed portions of the building masonry walls appear to be in original condition.

No structural modifications or alterations were apparent to the floor and roof framing with the exception of the earthquake repair to the floor framing mentioned above.

# 3 SUMMARY OF THE INSPECTION OF THE SUBJECT PROPERTY

The inspection task was conducted by Mr. Jeff Hughes, GC and Mr. Zac Moore, PE ME and Mr. Joe Hoffmayer PE SE on February 14, 2019. The consultants recorded and noted and photographed the following overall observations. Please refer to **WEXCO's Site Inspection Photographs** as an accompanying document, attached hereto as **Exhibit '2'**. Please refer to Richmond Hoffmayer Structural Engineering letter dated 2/24/19 as **Exhibit '3'**.

### 4 STATEMENTS OF OBSERVATIONS PURSUANT TO 18.60.160

Pursuant to complying with the requirements for the City of South San Francisco Municipal Code, section 18.60.160, the following is a statement relative to the items listed in 18.60.160 and with regard to Title 15 of the Code. The building is determined to be structurally safe as required by the City of South San Francisco Municipal Code for the purposes of change of occupancy. The overall building structural system appears complete and un-altered from the original plans and is in good condition. Continued maintenance is required to keep the building in good functioning condition.

- 1. Type and age of construction The building is a timber framed structure approximately forty-five years old. The construction would be considered type V. The 1974 structural plan design details show that the lateral force-resisting system is a combination of plywood shear walls and masonry shear walls. (See also Sections 1-2 herein)
- 2. Walls, interior and exterior The building exterior walls are stucco over plywood on timber studs, with gypsum wall board interior finishes. There are some reinforced masonry walls that act as retaining walls or basement walls. Some of the masonry walls have an architectural pattern on the exposed faces. Interior walls are masonry or stud walls in the basement level, and timber stud walls for both the main floor and second floor. Along the

Property Condition Assessment March 15, 2019 Page -6-

drive-through, the exterior wall is covered in stone veneer. This appeared to be in good condition at the time of the observation. (See also Sections 1-2 herein)

# 3. Plumbing -

a. Each unit shall have separate water and gas meters where practical – There is only one water meter and one gas meter for the building. It would be impractical and expensive to add separate water and gas meters for each unit.

#### 4. Electrical. -

- a. Each unit shall have separate electric meters where practical There is one main panel with subpanels distributed throughout the building. It would be impractical and expensive to add separate electrical meters for each unit.
- 5. Roof The roof and roof framing system, as discussed previously, is roll roofing over plywood on open web timber joists. The open web joists have steel tubes as the webbing. It was noted that there is some ponding on the roof where drainage slopes are shallow, and at cantilevers where long term deflection has likely reduced the original drainage gradient. The roof is low sloped to drain outlets. The perimeter of the roof is has a low curb with a few zones where a low parapet wall occurs. At the time of the site observation, some debris from the trees was on the roof which have the potential to clog the roof drains. Most of the roof perimeter overhangs the exterior walls of the building by approximately 3'. Over time, the roof overhang has settled such that rain water can collect along the curb and cannot adequately make its way to the drains. Mechanical units on the roof are resting on timber sleepers. There are some units where the direction of the sleepers appears to be blocking the drainage slope on the roof. Even with the observed ponding and slow drainage of the recent rain water, there were no observed roof leaks into the units below. The ponding areas of the roof Need Attention. Regular maintenance of the roof material is recommended to ensure future leaks do not occur. (See also Sections 1-2 herein)
- 6. Walks The walkways and pedestrian areas are in Serviceable condition.
- 7. Garaging The lower garage parking lot is Serviceable. As mentioned in Section 1 and
- 2, the Retaining Wall serving the lower garage is in need of attention as to waterproofing. The Lower Garage Retaining Wall appears to be structurally sound. Aside from retaining wall maintenance being noted for the lower parking garage, there are no reservations with respect to the condition of the existing building.
- 8. Insulation and soundproofing The insulation and soundproofing was not accessible for visual inspection. However, there are no reported problems with these systems and no problems were noted at the time of our inspection.

Property Condition Assessment March 15, 2019 Page -7-

- 9. Fire detection system The fire detection system appears to be sufficient and serviceable and no problems were noted at the time of our inspection.
- 10. Trash disposal The Trash disposal system (Trash Enclosure at the base of the parking area entrance ramp) appears to be sufficient and serviceable and no problems were noted at the time of our inspection.
- 11. Tiling The flooring materials (carpet, tile, and other walking surfaces) within the building are serviceable. No problems were noted at the time of our inspection.
- 12. Fixtures and appliances The general / common area Plumbing, Electrical and Mechanical systems appear to be sufficient and serviceable and no problems were noted at the time of our inspection.
- 13. Drainage The site drainage system appears to be sufficient and serviceable and no problems were noted at the time of our inspection. Some maintenance of the rear swale is suggested as leaves and soil were found in the drain swale that might slow the velocity of the site drainage at the rear section of the property. There is some slight ponding issues at the walkway at the rear south of the building. Dirt was observed close to the main floor windows on the west side of the building. It is recommended to lower the grade away from these windows on the west side to prevent any possible water penetration through the window frames.
- 14. Landscaping The landscaping and irrigation system appears to be serviceable and no problems were noted at the time of our inspection.
- 15. Swimming pools, saunas, fountains Not Applicable
- 16. Driveways The front and rear driveway, ramp and parking lot surfaces appear to be sufficient and serviceable and no problems were noted at the time of our inspection.
- 17. Walls and fences There are masonry guardrail walls along the edge of the parking area that are covered in stucco. The walls are in good shape with the exception of a proper control joint where the wall-on-deck continues into a wall-on-grade. The west masonry retaining walls, above the main parking area, are in good shape and show no signs of distress. The basement masonry walls of the building did not show any signs of distress. The retaining wall for the lower parking area does have water penetration issues and it is recommended that a repair method be scheduled in the near future. The structural integrity of the entire wall is not compromised; however, local zones of the wall do Need Attention.

  18. Stone or brickwork Stone veneer, on a portion of the exterior wall, is in good condition
- 18. Stone or brickwork Stone veneer, on a portion of the exterior wall, is in good condition as noted in item number 2 (Building Exterior Walls) above. The stone veneer is attached to the main floor studs only and does not extend above the 2<sub>nd</sub> floor level.

Property Condition Assessment March 15, 2019 Page -8-

- 19. Heating The A/C Units on the roof vary in age and all units appear to be serviceable and no problems were noted at the time of our inspection.
- 20. Air-conditioning The A/C Units on the roof vary in age and all units appear to be serviceable and no problems were noted at the time of our inspection.
- 21. Fireplaces Not Applicable
- 22. Floors Floors are covered with three-quarter inch (3/4") thick plywood on timber framing. The architectural plans indicate that one and one-half inches (1-1/2") of light weight concrete cover the plywood. The floors were well maintained.
- 23. Laundry facilities Not Applicable
- 24. Exterior lighting appear to be serviceable and no problems were noted at the time of our inspection.
- 25. Deferred maintenance The building has been well maintained there is evidence of ongoing maintenance and repairs. The roof appears to be at or near the end of its useful life but given the fact that maintenance has been performed and that there is no evidence of roof leaks, the Roof is serviceable. The roof drains must be kept clear of debris from the adjacent trees, and it is suggested to review the timber sleepers under some of the mechanical units for orientation which may obstruct drainage. Continued maintenance will become important with respect to both the lower parking retaining wall water proofing as mentioned above, and proper roof drainage.
- 26. Windows appear to be serviceable and no problems were noted at the time of our inspection.
- 27. Building foundation is comprised of continuous and pad footings at least 24" below grade and a minimum of 18" wide. The structural plans show that the concrete used for the footings is reinforced. The retaining wall footings are wider due to required resistance to overturning and have additional reinforcement that connects the footing to the masonry retaining wall. (See also Sections 1-2 herein)
- 28. Sanitary sewers and cleanouts appear to be serviceable and no problems were noted at the time of our inspection.
- 29. Stairs and railings The interior stairs, as noted above, are in good structural condition. The exterior stairs appear to be serviceable with the exception of some minor spalling that is occurring on some concrete treads and maintenance that may be required to patch or replace some broken treads specifically on the west side exterior stair treads have spalled off and it is suggested to repair those treads. Additionally, the north stairs land directly onto the parking deck and may need attention regarding egress conditions.

Property Condition Assessment March 15, 2019 Page -9-

30. Fire extinguishing systems - The fire detection system appears to be sufficient and serviceable and no problems were noted at the time of our inspection. Inspections and maintenance of the system is apparent.

#### 5 DISCUSSION WITH RESPECT TO TITLE 15 BUILDINGS AND CONSTRUCTION:

Per the City of South San Francisco, it is required that a licensed civil or structural engineer identify how this building complies with Title 15 of the municipal code, and that a report be made listing and describing any deficiencies relating to that title. The Site and Building Description section and the Alterations and Modifications sections above (Sections 1 and 2) list the structural items and describe any deficiencies noted. Title 15 of the municipal code references the 2016 California Building Code, 2016 Edition, Volumes 1 and 2 that are adopted by reference. The 2016 California Building Code (CBC) now refers to the International Existing Building Code (IEBC).

The IEBC provisions apply to repair, alterations, change of occupancy, addition to and relocation of existing buildings. Per the IEBC this building has no qualifying alterations or additions, nor has been relocated. The beam repair is historical and applies to vertical load capacity. The repair does not alter the demand-capacity ratio of the seismic or wind force-resisting systems. The change of occupancy is not expected to require any alterations or modifications to the existing building structure. Per section 106 of the IEBC, construction documents prepared by a licensed engineer are not required because no structural construction is anticipated for the proposed change of occupancy.

Per section 401 of the IEBC, materials in use in a building in compliance with requirements or approvals in effect at the time of their erection shall be permitted to remain in use. Per section 403 of the IEBC, no alterations are proposed, or have been made that change the demand-capacity ratios of the seismic and wind force-resisting systems. Per section 404, repairs were made many years ago and are, evaluated by observation, structurally sound. Per the IEBC definition of unsafe, this building structurally does not contain any dangerous structural members and would not be considered unsafe.

#### 6 DEFINITIONS

When "Appears Serviceable" or "Serviceable" is used it means we did not observe conditions that would lead us to believe operating problems exist with this system or component. In other words, the item is capable of being used. Some serviceable items may, however, show wear and tear that are typical for their age and use.

Property Condition Assessment March 15, 2019
Page -10-

When "Needs Attention" is used it means the item appears to be capable of being used with apparent problems and those problems should be monitored for repairs / replacement.

# **CONCLUSIONS**

The building is determined to be structurally safe as required by the City of South San Francisco Municipal Code for the purposes of change of occupancy. The overall building structural system appears complete and un-altered from the original plans and is in good condition. Continued maintenance is required to keep the building in good functioning condition. There are a few items that Need Attention or require maintenance (e.g. Roof, Lower Garage Retaining Wall, concrete stair treads, etc.) see Section 4 above.

Cordially,

WEXCO INTERNATIONAL CORP.

**BRAD AVRIT, PE CE** 

**President** 

JEFF HUGHES, GC Construction Manager ZACHARY MOORE, PE ME Senior Forensic Engineer

Enclosed:

Exhibit '1'

Brad Avrit, PE CE - Curriculum Vitae

Exhibit '2'

WEXCO Site Inspection Photographs

Exhibit '3'

Richmond Hoffmayer Structural Engineering, letter dated 2/24/19



RHSE Job 2019-0203

February 24, 2019

WEXCO International Corporation 4132 Del Rey Avenue Marina del Rey, CA 90292 Att: Jeff Hughes

Re: City of South San Francisco Incompleteness Letter, November 1, 2018

Section 19.80.160 – Structural Condition of Building Evaluation 2400 Westborough Blvd. - Commercial Condominium Conversion

South San Francisco, CA 94080

Dear Mr. Hughes,

Per your request, a site visit to 2400 Westborough Boulevard, South San Francisco, was made on February 14, 2019 to assess the existing building and provide a structural engineering opinion of the current conditions as required by the above noted incompleteness letter. During the site visit, the weather was cool and breezy with intermittent rain showers.

# Site and Building Description:

The building is located on the north side of Westborough Boulevard, on is a gently sloping lot that descends to the east (fig 1). The building is used for medical offices and is comprised of two floors of timber framed construction over masonry a basement. The main floor of the building is divided into an east wing and a west wing, with automobile drive through access to parking between the two wings (fig 2). The second-floor level encompasses the entire building footprint, bridging over the drive through, and connecting the east and west wings. At the west end, the main floor is built into the slope and the partially subterranean section is comprised of masonry retaining walls (fig 3). Continuing east from the drive through, the main floor extends out over the basement that is set into the descending grade. Nearly the entire east side of the building is exposed above grade (fig 4), with the exception of the south-east corner where the basement retaining wall terminates.

Parking is located on the north side of the building and is comprised of three separate areas. The majority of the parking is on grade at the building first floor elevation. This parking is along the north west side of the property. An extension of this main level parking extends eastward onto a concrete deck (fig 5) built over lower level parking which takes advantage of the descending site. The third parking area is on grade and under the eastern parking (fig 6). The lower parking is accessed by a driveway ramp that follows the descending slope. The driveway ramp is located along the north edge of the property. The lower parking is also accessible from a lower private street which connects to Gellert Boulevard to the east of the building.

The west boundary of the parking lot is up against an ascending slope and is separated from the slope by a masonry retaining wall which varies in height from an 8" curb near the building, to approximately 8'-8" above the finished grade at the north-west corner of the parking lot.

The east side parking deck is a post-tensioned concrete deck. This deck exhibits evidence that repairs were made in the past to patch cracks that my have allowed water to leak onto the parking level below. Observation of the slab from below shows evidence of efflorescence deposits where water has passed through ever time (fig 7). Masonry walls covered in stucco provide the guardrail along the east and north edges of the elevated concrete parking deck. Where the parking transitions from grade to concrete

deck, the north guardrail wall shows a vertical trending crack (fig 8). This is an indicator that the guardrail wall is partially on a foundation at grade and partially on a concrete deck. Differential settlement and/or incompatible deformations between the concrete deck and grade promote cracks of this type. It is essentially a cosmetic crack which can be repaired using proper methods to insure better performance in the future.

The post-tensioned concrete deck derives it's support from rectangular and circular cast-in-place concrete columns, cast-in-place concrete shear walls, and masonry walls (fig 9 through 12). The west side of the subterranean parking area is bounded by a masonry retaining wall. This wall shows signs that there is a breach in the waterproofing behind the wall on the dirt side, as water was seeping through at a noticeable rate during the observation (fig 13). The wall shows signs of previous patching (fig 14), and at the time of the site visit, large amounts of efflorescence and crumbling masonry was found where the water penetration was most active indicating this has been an ongoing occurrence (fig 15). The lower parking level is a concrete slab-on-grade in good condition with no significant cracks nor apparent occurrences of settlement.

The roof of the building is flat, covered with roll roofing and has gentle slopes to drain outlets. Roof access is provided by stairs from the east wing, to a small stair tower. The perimeter of the roof is primarily a low curb with a few zones where a small parapet occurs. The building is surrounded by tall trees on the south and west sides. At the time of the site observation, some debris from the trees was on the roof which have the potential to clog the roof drains (fig 16). Most of the roof perimeter overhangs the exterior walls of the building by approximately three feet. Over time, the roof overhang has settled such that rain water can collect along the curb and cannot adequately make its way to the drains (fig 17). Mechanical units on the roof are resting on timber sleepers. There are some units where the direction of the sleepers appears to be blocking the drainage slope on the roof (fig 18). Even with the observed ponding and slow drainage of the recent rain water, there were no observed roof leaks into the units below. Roof waterproofing is not part of the scope of the structural engineering observation, however, it should be noted that regular maintenance of the roof material is recommended to ensure future leaks do not occur.

The roof framing is primarily open-web timber joists spanning between timber stud bearing walls and/or timber headers. The 2<sup>nd</sup> floor ceiling system is typically T-bar hanging from the roof framing. However, the offices at the east end currently have an exposed framing system, allowing for easy observation of the open-web roof joists. Second floor framing is also primarily open-web timber joists spanning between timber glu-lam girders on a grid of columns from the west side of the building to the east side of the drive-through. On the east side of the drive-through, the open-web joist framing bears on stud walls. The ceiling of the 1<sup>st</sup> floor is typically T-bar, hanging from the 2<sup>nd</sup> floor framing. The main floor of the east wing is primarily 2x14 floor joists spanning between masonry and timber bearing walls. The ceiling of the basement is primarily T-bar hanging from the floor framing above. Apparently, a repair to a bearing wall in the east wing that supports a portion of the main floor and a portion of the 2<sup>nd</sup> floor framing was made sometime after the original plans were designed. This repair occurs in a basement area where a large retrofit glu-lam is installed on a steel post to the south and attached to a custom steel hanger at the north end (fig 19). The hanger attaches to a door header which in turn is supported by two posts in the door jamb. The repair appears to be in good condition as there is no evidence that any movement is occurring around the repair.

The foundation, as shown on structural plans from Markling & Yamasaki, dated circa 1974, show continuous concrete footings twenty-four inches into soil and typically eighteen inches wide. At the west end of the main floor, there is a low retaining wall foundation. The east wing basement is supported on two sides with retaining wall foundations and masonry walls on continuous footings at least eighteen inches wide. Along the drive-through, there are exposed concrete columns that support the second-floor girders and roof above. According to the structural plans, these columns are supported by pad footings. During the observation on February 14, 2019, there were no signs of settlement in any of the foundations, nor were there any signs of breaches in the waterproofing into the main floor of the building west wing or the basement under the east wing. The parking deck is supported on a retaining wall footing at the west side and north side. The east side of the parking deck is supported by concrete columns on pad footings, and concrete and masonry walls on continuous footings. On the south side of the parking deck, the slab partially rests on top of the basement masonry wall on a continuous footing. The structural plans indicate that all concrete footings noted are reinforced.

The building has two sets of interior stairs and one elevator. There is a small flight of egress stairs on the west side that allow the second-floor to exit to a path onto the hill outside the building. At the north side of the east wing, there is a small set of stairs that connect the parking deck area to the main floor. In the building there is a stair and elevator core located approximately at the midpoint of the building plan. These stairs and elevator extend from the lower basement of the east wing up to the roof access. There is a second stair system that connects the basement to the main floor, and the main floor to the second-floor. This second set of stairs is located near the north egress on the east wing. The second set of stairs are enclosed within framing and covered with carpeting. The main stair core stairs are exposed concrete treads on a steel stringer system (fig 20). All interior stairs were in good condition. The exterior stair treads on the west side show some signs of spalling of the concrete (fig 21). The exterior stairs on the north side appear to be in good structural condition (fig 22). It is not in the scope of this structural report to discuss the requirements for code required dimensions nor paint and visibility requirements regarding the path of travel, however these stairs terminate directly onto the parking deck and it is recommended that these stairs be inspected by a specialist in building egress.

### **Alterations and Modifications:**

As described above, the building had very few signs of repair, modifications or alterations. It is noted that the parking deck had some cracks that appeared to be repaired with some form of epoxy material. The cracking was minor over the area of the slab, and the repair was most likely an attempt to limit water penetration through the deck to the parking below. The crack repairs are not considered alterations or modifications to the deck, and do not change the original design demand load or capacity of the deck.

At the time of the observation, water was penetrating the retaining walls of the lower parking area. It was observed that there were several small patches on the surface of the masonry walls that were not leaking. Apparently, there is either no waterproofing behind this wall, or over the years the waterproofing has deteriorated. This will be an area that will require continued maintenance and monitoring. It is not in the scope of this report to provide a repair strategy for this situation. The patches occur on the wall surface and are not considered alterations or modifications to the masonry retaining wall and do not alter the demand nor capacity of the wall.

It is reported that the glu-lam beam and steel column repair under the main floor in the east wing was a response to damage that occurred during the 1989 Loma Prieta earthquake. It appears that a stud bearing wall supporting a portion of 2<sup>nd</sup> floor framing and roof framing over the east wing shown on the framing plans was not built with adequate bearing support in the basement area. The repair has stabilized this area and there is no apparent deflection in the area. The modification is nearly thirty years old and is in good condition.

The exterior walls and corridor walls of the building serve as shear wall structural elements. These elements, designed for plans in 1974, show no signs of alteration nor repair. The basement walls are masonry with an architectural textured pattern. All exposed portions of the building masonry walls appear to be in original condition with no noticeable cracks; specifically, no diagonal cracks were observed (fig 23), which typically indicate earthquake damage. The main floor and upper walls are stucco over ply. The stucco walls currently show no signs of patches or recent repairs except for a few patches where reportedly a cantilevered timber framed trellis was removed from the building on the east side (fig 24). The exterior wall configuration of placement and lengths match the original 1974 structural plans, therefor no modifications to the shear wall capacity of the building can be assumed.

The interior partition walls did not appear to have any vertical nor lateral separations along their supports. The floor and roof framing do not exhibit any excessive deflections. It was noted that there is some ponding on the roof where drainage slopes are shallow, and at cantilevers where long term deflection has likely reduced the original drainage gradient. No structural modifications or alterations were apparent to the floor and roof framing with the exception of the earthquake repair to the floor framing mentioned above.

### **Condominium Conversions 18.60.160:**

Pursuant to complying with the requirements for the City of South San Francisco Municipal Code, section 18.60.160, the following structural items have been identified and discussed with Title 15 of the code.

- 1. The building is a timber framed structure approximately forty-five years old. The construction would be considered type V. The 1974 structural plan design details show that the lateral force-resisting system is a combination of plywood shear walls and masonry shear walls.
- 2. The building exterior walls are stucco over plywood on timber studs, with gypsum wall board interior finishes. There are some reinforced masonry walls that act as retaining walls or basement walls. Some of the masonry walls have an architectural pattern on the exposed faces. Interior walls are masonry or stud walls in the basement level, and timber stud walls for both the main floor and second floor. Along the drive-through, the exterior wall is covered in stone veneer. This appeared to be in good condition at the time of the observation.
- 5. The roof system, as discussed previously, is roll roofing over plywood on open web timber joists. The open web joists have steel tubes as the webbing.
- 17. There are masonry guardrail walls along the edge of the parking area that are covered in stucco. The walls are in good shape with the exception of a proper control joint where the wall on deck continues into a wall on grade. The west masonry retaining walls above the main parking are in good shape and show no signs of distress. The basement walls of the building are masonry and did not show any signs of distress. The retaining wall for the lower parking area does have water penetration issues and it is recommended that a repair method be scheduled in the near future. The structural integrity of the entire wall is not compromised; however, local zones do need attention.
- 18. Stone veneer on a portion of the exterior wall is in good condition as noted in item number 2 above. The stone veneer is attached to the main floor studs only, and does not extend above the 2<sup>nd</sup> floor level.
- 22. Floors are covered with three-quarter inch thick plywood on timber framing. The architectural plans indicate that one and one-half inches of light weight concrete cover the plywood. The floors were well maintained.
- 25. Maintenance will become important with respect to both the lower parking retaining wall water proofing as mentioned above, and proper roof drainage. The roof drains must be kept clear of debris from the adjacent trees, and it is suggested to review the timber sleepers under some of the mechanical units for orientation which obstructs drainage. Additionally, some of the concrete on the west side exterior stair treads have spalled off and it is suggested to repair those treads. Dirt was observed close to the main floor windows on the west side of the building. It is recommended to lower the grade away from these windows on the west side to prevent any possible water penetration through the window frames (fig 25).
- 27. Foundation, as mentioned above, is comprised of continuous and pad footings at least twenty-four inches below grade and a minimum of eighteen inches wide. The structural plans show that the concrete used for the footings is reinforced. The retaining wall footings are wider due to required resistance to overturning and have additional reinforcement that connects the footing to the masonry retaining wall.
- 29. The interior stairs, as noted above, are in good structural condition. The exterior stairs appear to be in satisfactory condition with the exception noted in item number 25 above that some spalling is occurring on some concrete treads and maintenance may be required to patch or replace treads with broken pieces. Also note the north stairs land directly onto the parking deck and may need attention regarding egress conditions.

### Discussion with respect to Title 15 Buildings and Construction:

Per the City of South San Francisco, it is required that a licensed civil or structural engineer identify how this building complies with Title 15 of the municipal code, and that a report be made listing and

describing any deficiencies relating to that title. The Site and Building Description section and the Alterations and Modifications sections above attempt to list the structural items and describe any deficiencies noted. Title 15 of the municipal code references the 2016 California Building Code, 2016 Edition, Volumes 1 and 2 are adopted by reference. The 2016 California Building Code (CBC) now refers to the International Existing Building Code (IEBC). The IEBC provisions apply to repair, alterations, change of occupancy, addition to and relocation of existing buildings. Per the IEBC this building has no qualifying alterations or additions, nor has been relocated. The beam repair is historical and applies to vertical load capacity. The repair does not alter the demand-capacity ratio of the seismic or wind force-resisting systems. The change of occupancy is not expected to require any alterations or modifications to the existing building structure. Per section 106 of the IEBC, construction documents prepared by a licensed engineer are not required because no structural construction is anticipated for the proposed change of occupancy.

Per section 401 of the IEBC, materials in use in a building in compliance with requirements or approvals in effect at the time of their erection shall be permitted to remain in use. Per section 403 of the IEBC, no alterations are proposed, or have been made that change the demand-capacity ratios of the seismic and wind force-resisting systems. Per section 404, repairs were made many years ago and are, evaluated by observation, structurally sound. Per the IEBC definition of unsafe, this building structurally does not contain any dangerous structural members and would not be considered unsafe.

## **Structural Engineering Summary:**

This report is submitted with the intent to describe the condition of an existing building, located at 2400 Westborough Boulevard, South San Francisco, California. This building is determined to be structurally safe as required by the City of South San Francisco Municipal Code for the purposes of change of occupancy. The overall building structural system appears complete and un-altered from the original plans and is in good condition. Continued maintenance is required to keep the building in good functioning condition. Aside from retaining wall maintenance being noted for the lower parking garage, there are no reservations with respect to the condition of the existing building.

If you have any questions or comments regarding this matter, please feel free to contact me at your

earliest convenience.

Respectfully submitted,

oseph J Holfmayer PE SE

(photos attached, pages 6 through 8)



Fig 1 – South Side



Fig 3 - West Side



Crack Repair

Fig 5 – East Parking Deck



Fig 7 – Efflorescence Under Deck



Fig 2 – Drive-Through



Fig 4 - East Side



Fig 6 – Lower Parking

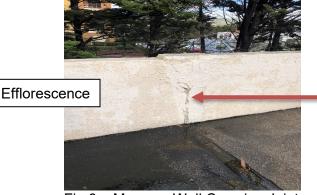


Fig 8 – Masonry Wall Crossing Joint

Transition Crack

Water Penetration

**Spalling** 



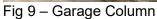




Fig 10 - Garage Column



Fig 11 – Concrete Shear Wall



Fig 12 - Garage Masonry Walls



Fig 13 – Garage Retaining Wall



Fig 14 – Retaining Wall Patches



Fig 15 – Retaining Wall Efflorescence



Fig 16 - Debris and Ponding on Roof



Fig 17 – Debris and Ponding on Roof

**Spalling** 

No Signs of Cracks



Fig 18 - Sleepers Across Roof Drainage



Fig 19 - Retrofit Beam



Fig 20 – Main Stairs



Fig 21 – Spalling of Exterior Stairs



Fig 22 - North Exit Stairs



Fig 23 -No Diagonal Cracks in Masonry



Note

Exiting onto Deck

Fig 24 - Stucco and Masonry Walls



Fig 25 – Dirt at Foundation Window