ZACKS, FREEDMAN & PATTERSON
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November 2, 2018

VIA HAND DELIVERY AND EMAIL

Angela Calvillo, Clerk of the Board
San Francisco Board of Supervisors
1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
San Francisco, CA 94102
Board.of.Supervisors@sfgov.org

Re: Appeal of CEQA Certification of Final EIR
Planning Case No. 2013.1535ENV/CUA
450-474 O'Farrell Street/532 Jones Street, San Francisco
Engineer's Report

Dear Ms. Calvillo:

Please kindly add the attached engineer's report to the case file for this appeal.

Thank you.

Very truly yours,

ZACKS, FREEDMAN & PATTERSON, PC

Ryan J. Patterson

Encl.

375 Beale Street
Suite 500
San Francisco, CA 94105
p: 415.392.6952
www.degenkolb.com

June 27, 2018

Mr. Ryan Patterson
Zacks, Freedman & Patterson, PC
235 Montgomery Street, Suite 400
San Francisco, CA 94104
ryan@zfplaw.com

Reference: **540 Jones Street**
Peer Review of Adjacent Construction at 450 O'Farrell Street
San Francisco, California
[Degenkolb Job Number B7425014.00]

Dear Mr. Patterson,

We previously submitted a Structural Engineering Peer Review letter, dated January 19, 2018, regarding the proposed development at 450 O'Farrell Street in San Francisco, California. That letter was submitted to the San Francisco Planning Department as part of the EIR review process.

The Project Sponsor subsequently issued a document titled *RESPONSES TO COMMENTS on the Draft EIR*, dated June 2018, Planning Department Case No. 2013.1535ENV, State Clearinghouse No. 2017022067. This document included reference to all items included in our January 19, 2018, Peer Review letter.

This letter presents our replies to the responses issued by the Project Sponsor. Where comments were provided specific responses, we have included the specific response with the original comment and our subsequent reply (i.e. Comment – Response – Reply). All remaining comments were addressed with the collective response GE-1 (pages RTC 83-85). Our reply to GE-1 is included as follows:

Project Sponsor Response: (Page RTC 83-85) **GE-1** ***...Compliance with the San Francisco Building Code would adequately protect adjacent properties...***

Reply: Response GE-1 is generally non-responsive to the specific items in our Peer Review letter. Instead, it indicates reliance on the Geotechnical Report and San Francisco Department of Building Inspection Plan Check to protect the adjacent existing structure at 540 Jones Street. We believe the SF DBI plan check will provide a standard review, focused on general safety and procedural appropriateness, that won't necessarily address this sensitive existing building with sensitive tenants where extreme diligence is necessary to avoid damage and unacceptable impacts. As such, we maintain that the Project Sponsor should specifically address our Peer Review comments.

Peer Review Comments, Project Sponsor Responses and Peer Review Replies

The following presents replies to the responses issued by the Project Sponsor. For tracking purposes, we have included our original comments (unchanged from our previous issuance), followed by the Project Sponsor response (in ***bold italics***) and our subsequent reply (in **bold**).

1. Existing Conditions
    a. Investigate and document existing conditions, including building foundations, site retaining walls and utility lines as necessary to prevent conflicts, design changes and unforeseen conditions during installation of elements at/near/across the property line. Coordinate construction detailing, e.g. tiebacks, with existing conditions.
2. Temporary Shoring Design
    a. Forces. Restrained walls shall be designed for at-rest pressures. Surcharges from adjacent structures shall be included.
    b. Seismic. Seismic forces shall be considered where the failure plane is such that a Life-Safety hazard is created for adjacent properties if an earthquake-induced failure were to occur.
    c. Deflections. Shoring shall be designed to limit differential movement of adjacent structures and improvements.
    d. Construction stages. Design shall consider forces and deflections at interim construction stages (i.e. the stages of construction corresponding to excavation depths between existing and final grades), the final excavation stage and stages associated with decommissioning of temporary shoring and transition to permanent retention systems.
    e. Underpinning. Underpinning of existing adjacent structures shall consider lateral stability associated with lateral soil pressures and surcharges.
3. Temporary Shoring Construction Documents
    a. Water. Provide surface drainage, dewatering (as required) and shoring wall back-drainage.
    b. Construction Stages. Drawings shall clearly indicate the stages of construction across the entirety of the site.
    c. Raveling and Over-break. The Construction Documents shall include requirements associated with preventing and immediately addressing sloughing and over-break during excavation along the property line.

d. Underpinning. Underpinning of adjacent structure shall be done in a sequential installation of underpinning piers. Underpinning pier excavations shall be lagged and over-break shall be immediately backfilled behind lagging. Underpinning piers shall be pre-loaded with jacking prior to proceeding to the subsequent pier in the sequence.

4. Permanent Structure Design & Construction Documents
   a. Water. Provide surface drainage and wall back-drainage.
   b. Permanent soil and surcharge pressures. Permanent structure shall be designed to resist permanent soil and structure surcharges, including MCE seismic increment.
5. Construction Period Monitoring
   a. Monitoring Program. Provide a Monitoring Program consistent with the Standard of Care for a property line excavation adjacent an occupied historic multi-story residential structure.

Project Sponsor Response: [Page RTC-54] **CR-3** ... ***In addition, monitoring would be required to document and remediate any damage to adjacent and nearby historic buildings caused by construction activities at the project site. These mitigation measures would reduce any potential damage to adjacent structures from construction to less than significant... Although the mitigation measures themselves do not provide all of the details for avoiding physical damage to adjacent buildings caused by vibration, they adequately establish performance standards and milestones for preparation of detailed plans for Planning Department review, which would be necessary to ensure that development, implementation, and enforcement of the plans would reduce the potential impact to less-than-significant levels.***

Reply: The implication is that damage to adjacent structures will be "less than significant." Using a typical scale of negligible-minor-moderate-significant, the response implies that the project may cause moderate damage to adjacent structures. We believe moderate damage to 540 Jones Street will require extensive repairs to unreinforced masonry and building systems that will require disruption of numerous tenants. We believe a project that allows moderate damage to an adjacent historic SRO is below the standard of care and not an acceptable approach. The project should endeavor to conduct monitoring and mitigation to limit to minor damage. 540 Jones is a vulnerable building type with a vulnerable tenant population and the approach to protection should appropriately address these vulnerabilities.

i. Survey Monitoring. Specify location and frequency of survey monitoring, including points on existing building, site walls and utilities. Survey monitoring points shall be fixed repeatable targets located such that they will be accessible throughout construction.

ii. Inclinometer. Consider installation of an inclinometer in the site alley at 540 Jones.

iii. Noise. Consider noise monitoring during excavation activities. If used, specify noise monitoring locations and equipment specifications.

iv. Vibration Monitoring. Consider vibration monitoring during excavation activities. If used, specify vibration monitoring locations and equipment specifications.

b. Distribution of Monitoring Programs. Distribute monitoring reports within 24 hours of monitoring. Include adjacent Owner and their Engineer in distribution.

c. Monitoring Triggers.

Project Sponsor Response: [Page RTC-55] **CR-3** ... ***In addition, this plan shall state the maximum settlement levels not to be exceeded at each building and shall be a range from 3/8-inch to monitor activities; 1/2-inch for construction to be halted; or a level determined by the site-specific assessment made by the structural engineer in coordination with the preservation architect for the project.***

Reply: The settlement levels referenced in the response are consistent with our recommendations (below), but the statement "or a level determined by the... structural engineer..." implies that the levels can be changed. The structural engineer for the new building is not necessarily qualified or in a position to make an objective assessment of the settlement levels appropriate for the adjacent existing historic building at 540 Jones Street. As such, we take exception to their ability to revise the settlement levels. We request that the following line be removed from the EIR: *~~or a level determined by the site-specific assessment made by the structural engineer in coordination with the preservation architect for the project.~~*

i. Meeting Trigger. Specify movement that corresponds to triggering a meeting between technical team to assess performance of shoring and determine next steps. We propose 3/8-inch movement for Meeting Trigger.

ii. Stop Work Trigger. Specify movement that corresponds to triggering a stop work in the vicinity of the movement until remediation is determined and implemented. We propose 1/2-inch movement for Stop Work Trigger.

6. Repair of Damage

   a. Establish expectations for repair of damage caused by the adjacent construction activities that includes all items in buildings or other structures. Some items should be repaired immediately (e.g. disruption to utilities, function of doors), whereas others may wait until the end of construction (e.g. moderate cracking of concrete).

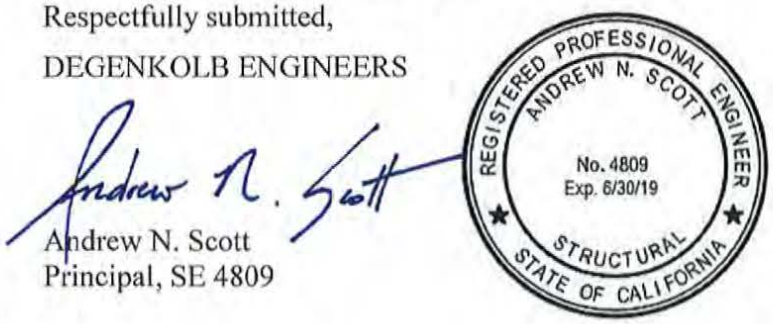
Disclaimer and Limitations

Degenkolb Engineers is not taking responsibility for the design, installation, construction or monitoring of the excavation shoring system. It shall not be construed that we are supplanting or joining with the Structural Engineer or Shoring Engineer of Record in their professional responsibility for the design and adequacy of the structural and excavation shoring systems, respectively. The opinions we've expressed shall not be construed as warranties or guarantees.

It is our pleasure to be of service. If you have any questions or need additional information, please do not hesitate to contact us.

Respectfully submitted,

DEGENKOLB ENGINEERS



Andrew N. Scott
Principal, SE 4809

ANS/rjw
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RESUME

Andrew N. Scott, SE
Principal

Education

B.S., Magna Cum Laude Structural Engineering, University of California, San Diego, 1997

M.S. Structural Engineering, University of California, San Diego, 1998

Professional Registration

California Structural Engineer, 2004 License No. 4809

California Civil Engineer, 2001 License No. 61655

Utah — Structural Engineer, 2009 License No. 7272327-2203

Qualifications

Andrew Scott joined Degenkolb in 1999 after receiving his Master of Science degree in Structural Engineering from the University of California, San Diego. Andrew's portfolio represents an interest in complex and challenging projects spanning the broad range of Degenkolb market sectors. He has particular interests in seismic strengthening and renovation of existing buildings, as well as excavation shoring, construction means and methods engineering, and construction phase project support. He has additional experience in new design, complex analysis, and peer review of concrete, steel, timber, masonry structural systems and excavation shoring systems. Andrew was also a member of the Degenkolb post-earthquake reconnaissance team that surveyed L'Aquila, Italy in April 2009.

Andrew N. Scott, SE

Principal

Licensing Agreements / Peer Review of Adjacent Construction

390 Fremont, Adjacent Construction at 340 Fremont, San Francisco CA

Consulted to Owner of 390 Fremont, an existing historic concrete structure, relative to protection of existing improvements and negotiation of a Licensing Agreement with the adjacent construction project. Provided Peer Review of adjacent excavation shoring, developed Monitoring Program and worked directly with Owner's Attorney to finalize Licensing Agreement. Project resulted in successful execution of an Agreement, a productive working relationship between adjacent Owners, minimal damage to 390 Fremont and completed construction of the adjacent residential tower at 340 Fremont.

1525 Pine Street, Adjacent Construction at 1545 Pine Street, San Francisco, CA

Consulted to HOA of 430 Hayes Street, an existing multi-unit residential structure during enforcement of a previously executed Licensing Agreement. Provided construction period monitoring of construction and consultation related to repair of minor damage.

430 Hayes Street, Adjacent Construction at 450 Hayes, San Francisco CA

Consulted to HOA of 430 Hayes Street, an existing multi-unit residential structure during enforcement of a previously executed Licensing Agreement. Provided construction period monitoring of construction and consultation related to repair of minor damage.

915 Folsom Street, Adjacent Construction at 923 Folsom Street, San Francisco, CA

Consulted to Owner of 915 Folsom, an existing multi-unit residential building constructed circa 1920, relative to protection of existing improvements and negotiation of a Licensing Agreement with the adjacent construction project. Project resulted in execution of a Licensing Agreement, successful protection of 915 Folsom and completed construction of the adjacent structure.

3986 20th Street, Adjacent Construction at 3984 20th Street, San Francisco CA

Consulted to Owner of 3986 20th Street, an existing single family home, relative to adjacent construction on a steep sloping site. Project included replacement of existing shallow foundations along the property line with a retaining wall for basement expansion. Project resulted in successful protection of 3986 20th Street and completed construction of the adjacent structure.

14 Laidley, Slope Protection Act Review, San Francisco

Performed third-party review of proposed construction as required by San Francisco Department of Building Inspection relative to the Slope Protection Act for this steep hillside residential development

Highland Hospital, Acute Tower Replacement Project, Oakland CA

Developed Monitoring Program for historic structures adjacent to Acute Tower Replacement Project in response to EIR-required Cultural Resources Mitigation Measures. Program include a Vibration Control Plan, a Crack Control Plan and Pre-Construction Condition Survey. The program was implemented and the adjacent Tower project was completed with minimal impacts to the adjacent historic structures.

Andrew N. Scott, SE

Principal

945 Bryant, Adjacent Construction at 975 Bryant, San Francisco, California

Performed an evaluation along the property line with 945 Bryant. 945 Bryant is a 3-story commercial building with a surrounding surface parking lot and a drive aisle along the property line with 975 Bryant. 975 Bryant is a new multi-story residential development.

180 Grand Garage, Adjacent Construction at 2300 Valdez, Oakland, California

Conducted a primary Peer Review of all available documents for adjacent construction with an itemized list of comments, as appropriate, and periodic observation of construction progress during critical stages of construction, with a focus on below-grade construction adjacent to the Garage footings

2520 Regent Street, Adjacent Construction at 2539 Telegraph, Berkeley, California

Reviewed the excavation shoring, construction logistics, new building, and advising regarding design and construction for a 70-unit multi-story development. Work included observing the construction to monitor progress and advise regarding any follow-up items, such as repairs to the adjacent 3-story residential structure.

Promenade Apartments, 1455 4th Street, Santa Monica, California

Peer reviewed the shoring and structural documents related to the shoring of an adjacent building.

Old Tavern and Presbyterian Church, Adjacent Construction at Sutter Hospital, Sacramento, California

Provided structural protection of two existing buildings due to construction at the adjacent medical center.

San Francisco PUC Bay Division Pipeline Reliability Upgrade Project, San Francisco Bay Area, CA

Historic Resource Protection for existing historic resources along 20 miles of new large-diameter pipeline placement, including adjacent cut/cover and tunneling operations. Scope included Peer Review of adjacent construction and development of vibration and deformation monitoring plans for existing historic structures.

Andrew N. Scott, SE
Principal

Litigation Support/Expert Witness

1043 Electric Ave, Insurance Claim
Perform Peer Review on documents available to-date, including report prepared by underwriter's Structural Engineer, Thornton Tomasetti. Attend meeting in-person in Virginia.

Jackson Rancheria Casino and Hotel, Litigation Support
The project began with the discovery of mold in several exterior walls. Soon after, one-third of the casino was closed due to concerns for long-span laterally- unbraced ceiling support beams. We joined the team and provided a second opinion that the ceiling beams were potentially hazardous and their design was deficient. We were subsequently hired to lead the continuing structural investigation that discovered numerous construction and design deficiencies. Over the next 3 years, we provided design services to correct these structural deficiencies along with litigation support services. Some programmatic upgrades were also incorporated to improve casino operations.

Confidential Multi-Housing Units
We were asked to join the Plaintiff's expert team after significant work had been performed to assess a materials deficiency. Materials used on the project were degrading at an unexpected rate, though degradation was hidden from view and Plaintiffs were not incurring present-day costs. We collaborated with the diverse expert team to perform a Structural Assessment of the conditions of the 300,000 square-foot facility, to clarify the Life-Safety implications of the degradation, and to establish a timeframe for potential Life-Safety hazards. In this regard, we processed the complex technical work of the expert team into a tangible, Code-based understanding of the claim. The claim subsequently settled after deposition.

Confidential Post-Tensioned Concrete Parking Garage
We supplanted prior engineering firms to bring closure to a number of outstanding issues related to the structural integrity of the existing 140,000 square-foot structure. The issues were potential Life-Safety hazards and needed to be addressed prior to selling the building. We performed an independent assessment, developed innovative testing and observation approaches, and then prepared a comprehensive expert report. We subsequently developed construction documents, to mitigate the deficiencies which were transferred to the new owners and we're hired by the new owners to implement the mitigation work.

1211 Embarcadero, Litigation Support
Provided full service litigation support related to failure of the stucco skin system on this recently completed structure.

Calisle v. Norris, Litigation Support
Provided litigation support and structural design related to property line support issues due to an adjacent construction project.

Azevedo v. Thomas Ward, Litigation Support
Provided litigation support for defense against construction defect claims for a recently completed custom residence.

2433 Franklin, Litigation Support
Providing litigation support for plaintiff against the landlord related to a garage expansion project in this existing building.

655 Sutter, Academy of Art, Litigation Support
Provided litigation support related to an adjacent excavation shoring project.

Strata Development, Peer Review and Litigation Support
Provided peer review and litigation support related to the excavation support for this new building adjacent to an existing hotel.

Law Offices of George W. Nowell
Expert Witness services related to structural damage and repair of an existing structure (pier).

Equity Residential
Renovation of existing buildings, including investigation and mitigation of fire damage and investigation and mitigation of Contractor-related foundation damage.

McNear's Beach Pier, Litigation Support
Provided full service litigation support, including Expert Witness deposition, related to the repair of an existing structure damaged by marine vessel impact. The case settled In favor of our client.

Degenkolb

Andrew N. Scott, SE

Principal

Relevant Experience

Bishops Central Storage
Salt Lake City, Utah
New design of the 500,000 SF LDS Bishop Central Storehouse with a focus on seismic design. Facility includes bulk storage bays, racked storage bays, refrigeration/freezer bays, and administrative building.

Beehive Clothing
Salt Lake City, Utah
Seismic evaluation and strengthening of an existing 300,000 SF manufacturing facility. Including both Structural and Non-Structural elements using ASCE 31 and 41. The Performance Objective for the project is to return to operation shortly after a major seismic event.

VA San Francisco, Building 203
San Francisco, California
Seismic retrofit of the existing 336,000 square foot main medical center building to an Immediate Occupancy performance level. The building is four stories plus a basement and sub-basement.

VA San Francisco, Building 22
San Francisco, California
Design of new 14,000 square foot building. The structural system is light gauge metal.

VA San Juan, Seismic Corrections
San Juan, Puerto Rico
Seismic evaluation and upgrade of this existing 1960s acute care hospital. The building will remain occupied during construction.

Piilani Village
Kihei, Maui, Hawaii
Designed a panelized roofing system and provided construction administration support for 10 single story CMU buildings in a new commercial development.

UC Berkeley, Berkeley Art Museum and Pacific Film Archive Berkeley, California
Provide construction means and methods engineering for the renovation of the University of California Press Building and the demolition of the Statewide Office Building parking structure, both located on the block bounded by Oxford, Addison, and Center Streets. Use elements of the new structure, installed in an appropriate sequence, to facilitate the construction means and methods. Work with BIM (Revit) to maximize our collaboration with the design team and will make our Revit model available for coordination.

Stanford Hospital + Clinics Lucile Packard Children's Hospital Stanford, California
Provide a multi-phase approach to complex shoring design project. The first phase will be a Schematic Design study to understand the project constraints, establish the design criteria, and identify the potential shoring systems. The second phase will proceed with development of Construction Documents in close collaboration with the Design Assist Contractor. The third phase will support the construction project with Construction Administration services during construction.

Highland Hospital
County of Alameda, California
Currently a member of the design team for the rebuild of Highland Hospital, including development of structural drawings and calculations to comply with the applicable Codes of the County of Alameda.

Andrew N. Scott, SE

Principal

690 Market, Ritz-Carlton, Shoring and Means & Methods
San Francisco, California
Provided construction means and methods engineering services related to partial demolition and adaptive reuse of this historic San Francisco structure. Prepared Construction Documents for temporary shoring and sequencing to remove all but the facade of this 12 and 16 story structure, excavate a new basement level and mat foundation, and build a modern steel frame building behind the existing facade. This challenging project required close coordination with the design team for the new structure as well as the construction team, and required safe support of both gravity and lateral loads at all stages of demolition and new construction. The project is a 2006 SEAOC award winner.

Presidio PHSH Adaptive Re-use, Construction Means & Methods
San Francisco, California
Provided construction means and methods engineering services for the adaptive re-use of the Public Health Service Hospital in the Presidio.

Old Tavern and Presbyterian Church Adjacent to Sutter Medical Center
Sacramento, California
Structural protection of two existing buildings due to construction at the adjacent medical center.

942 Market Street
San Francisco, California
Provided structural design and construction administration for the residential conversion of this historic office building, as well as construction means and methods engineering.

Carnegie Mellon University, Moffet Field
Sunnyvale, California
Seismic strengthening and adoptive re-use of an existing historic structure for use as a branch campus for the university of this existing building.

Walt Disney Museum, Seismic Strengthening
San Francisco, California
Design strengthening schemes for four historic buildings located in the Presidio National Park land. The four buildings will be used as a museum to Walt Disney and supporting functions for the museum.

Historic Bank Building
Salt Lake City, Utah
Seismic evaluation and strengthening of this classic downtown Salt Lake City structure. Advanced analysis was used, in accordance with ASCE 31 and 41, to minimize the work necessary to achieve the desired performance objective. The structural costs, which were initially cost-prohibitive, were sufficiently reduced to allow the project to move forward.

Beresford Hotel, 635 Sutter St.
San Francisco, California
Performed a seismic evaluation and prepared construction documents to bring this unreinforced masonry building, located in San Francisco's historic hotel district, into compliance with the City's Unreinforced Masonry (URM) Ordinance.

40 Gold Street
San Francisco, California
Prepared a structural evaluation and designed the seismic strengthening and structural renovations of a four-story concrete building that was originally constructed around 1910. The scheme brought the building into compliance with the City of San Francisco requirements for existing buildings.

Andrew N. Scott, SE

Principal

St. Patrick's Seminary
Menlo Park, California
Served as lead engineer for the Phase III construction, consisting of the Chapel and A wing buildings. This unique project consisted of seismically strengthening complicated historic unreinforced masonry buildings. Work consisted of adding a supplemental steel diaphragm in the Chapel attic, a series of new multistory shotcrete shearwalls, and anchorage connections throughout the buildings.

The Church of Jesus Christ Latter-day Saints, Granite Mountain Vault, Seismic Evaluation
Alta, Utah
Seismically evaluate the Granite Mountain Vault complex. The evaluation includes structural, nonstructural, geological and geotechnical considerations. The complex is a series of lined tunnels excavated into the granite formation on the north side of a canyon. The complex contains large quantities of important information on a variety of storage media.There are corrosion issues at isolated locations on the tunnel lining.

800 Market Street, Means & Methods Engineering
San Francisco, California
Provided construction means and methods engineering for temporary shoring and demolition workduring the renovation and seismic strengthening of the existing building.

UC Berkeley CITRIS Building, Shoring Revisions
Berkeley, California
Review and revise designs for shoring with regards to the redesigned building to proceed into construction.

Arpeggio of Berkeley, Peer Review
Berkeley, California
Peer review of shoring and underpinning with a focus on protection of existing adjacent structures.

Davis Hall North University of California, Berkeley
Berkeley, California
Provided full service structural engineering services related to the demolition of the existing Davis Hall North and excavation shoring for the new Davis Hall North Replacement. Prepared construction documents for temporary shoring bulkheads including both soldier beam and tieback systems and soil nail systems. This required close coordination with existing construction, including the building to be demolished, the existing adjacent buildings to remain, existing campus and City utilities, as well as the new building. Provided full service support to the project during construction.

Terrabay Condominiums
South San Francisco, California
Structural design of a 50-foot tall permanent retaining wall to facilitate a flat building foundation on this steep hillside site.

Berkeley YMCA - Complete Seismic Upgrade
Berkeley, California
Degenkolb Engineers has been providing consulting services to the Berkeley YMCA for the County of Alameda since the 1970s. The YMCA consists of a historic turn of the century unreinforced masonry building and a 1959 precast concrete structure. In the late 1980s, the YMCA embarked on a largescale improvement project for the complex that included seismic retrofit and construction of a new building. Degenkolb provided the consulting services for the seismic retrofit project, completed in 2001, and for various tenant improvement projects in the older buildings.

VA San Francisco, Building 22
San Francisco, California
Design of new 14,000 square foot addition. The structural system is light gauge metal.

Andrew N. Scott, SE

Principal

Berkeley YMCA - Complete Seismic Upgrade
Berkeley, California
Degenkolb Engineers has been providing consulting services to the Berkeley YMCA for the County of Alameda since the 1970s. The YMCA consists of a historic turn of the century unreinforced masonry building and a 1959 precast concrete structure. In the late 1980s, the YMCA embarked on a largescale improvement project for the complex that included seismic retrofit and construction of a new building. Degenkolb provided the consulting services for the seismic retrofit project, completed in 2001, and for various tenant improvement projects in the older buildings.

First Church of Christ, Scientist, Renovations and Seismic Strengthening
Berkeley, California
Degenkolb performed a seismic evaluation of this famous Bernard Maybeck structure in accordance with the State Historic Building Code (SHBC) and recommended seismic strengthening. The goal of our seismic strengthening scheme was to improve the life-safety performance of the building in a major earthquake. We implemented our scheme through phased design and construction administration services for the seismic strengthening of the First Church of Christ, Scientist.

St. Michael's Parish
Livermore, California
Performed seismic strengthening design and construction administration for the retrofit of the Parish's large reinforced concrete church, as well as two smaller classroom buildings.

Church of Jesus Christ of Latter-day Saints Temple
Oakland, California
Performed a detailed seismic evaluation using advanced analysis techniques and performance based earthquake engineering to minimize the required seismic strengthening.

Church of Jesus Christ of Latter-day Saints Temple
Jordan River, Utah
Performed a detailed seismic evaluation using advanced analysis techniques and performance based earthquake engineering to minimize the required seismic strengthening.

Church of Jesus Christ of Latter-day Saints Temple
Bern, Switzerland
Performed a seismic evaluation of the structural and nonstructural systems to assess the seismic risk of the building.

Church of Jesus Christ of Latter-day Saints Manufacturing Facility
Salt Lake City, Utah
Seismic evaluation and recommended strengthening of an existing manufacturing facility, including both Structural and Non-Structural elements using ASCE 31 and 41. The Performance Objective for the project is to return to operation shortly after a major seismic event. We are working with the client to understand the overall vision of "operational" performance for the facility, including utility service, outside infrastructure, and workforce issues.

Department of Veterans Affairs (VA), Buildings 9,10,13
San Francisco, California
Seismic retrofit of multiple existing buildings on the campus.

A San Francisco, Building 203
San Francisco, California
Seismic retrofit of the existing 336,000 square foot main medical center building to an Immediate Occupancy performance level. The building is four stories plus a basement and sub-basement.

Andrew N. Scott, SE

Principal

VA San Juan, Seismic Corrections
San Juan, Puerto Rico
Seismic evaluation and upgrade of this existing 1960's acute care hospital. The building will remain occupied during construction.

First Church of Christ Scientist, 1700 Franklin Street
San Francisco, California
Feasibility study of seismic strengthening concepts of an unreinforced masonry building to comply with the City's UMB Ordinance.

UC Merced Sierra Terraces, Structural Peer Review
Merced, California
Peer reviewed the structural design and construction documents of a residential complex for the UC Merced campus.

Metropolis Development, Peer Review
Los Angeles, California
Peer Reviewed a 34 story high rise building to comply with the City of LA requirements for alternative design procedures.

Sunrise of Torrance, 25535 Hawthorne Boulevard, Peer Review Torrance, California
Peer reviewed the design of a four-story assisted living facility.

San Jose Civic Center Peer Review
San Jose, California
Peer reviewed the San Jose Civic Center. The building program included an 18 story, 400,000 sq ft office building, a 13,000 sq. ft Rotunda dome, 93,000 sq. ft of council space and 160,000 sq. ft of parking. The structural systems include concrete and steel framing with steel moment resisting frames, steel eccentrically braced frames and concrete shear walls to resist seismic loads.

2770 Green Street,
San Francisco, California
Provided consulting for the owners of a property to inspect whether the building was damaged.

1455 Market, Adjacent Construction at 1411 Market Street,
San Francisco, California
Provided a review for the excavation shoring at the new condo project adjacent to the owner's building. The adjacent property includes shoring along the shared property line.

1693 Market Street, Adjacent Construction at 1699 Market Street,
San Francisco, California
Supported client in developing and negotiating Licensing Agreement between two structures for temporary easement to install tiebacks under the building. Performed a technical review of the available documents as it related to excavation shoring along the property line between the two buildings.

221 Main Street, Adjacent Construction at 160 Folsom Street,
San Francisco, California
Supported a client team in developing and negotiating a License Agreement to add a third building, which is a high-rise adjacent to 221 Main Street, which required excavation shoring that included tiebacks under 221 Main Street. Performed a technical review of the available documents related to excavation shoring along the property line. The review focused on protecting the existing structure at 221 Main Street, giving consideration to excavation, tiebacks, dewatering, vulnerability of exterior site and the unique challenges of the soils in the area.