

SLIDING BALCONY DOORS EXPERT OPINION BY JEFFREY WEINSTEIN, ARCHITECT

The Olive 8 project ('Project'), designed and built between 2005-2009, is required to comply with Fair Housing Act (FHA) Regulations, first enacted in 1996 and updated in 1998, including those related to Usable Doors. Usable Doors are required to have a minimum 31-5/8 inch clear open width, but those sliding balcony doors designed and specified by MG2 throughout the Project did not meet this requirement. The failure to design the balcony sliding doors at Olive 8 to comply with all FHA Regulations resulted in various design defects, and falls below the Architect's Standard of Care. MG2 was aware of FHA compliance issues, that some FHA requirements are not incorporated into the local building code permit approval process. See 7/12/06 letter from Craig Davenport to Alec Carlin at RCH re: FHA Compliance Issues (RCH-MG2 109122).

The Owner-Architect Agreement between Olive 8 (RCH) and MulvannyG2 Architecture (MG2), section 1.2.3.6 states "The Architect shall review any and all laws, codes, and regulations applicable to the Architect's services. The Architect shall respond in the design of the Project to requirements imposed by **governmental authorities having jurisdiction over the Project**. Architect's Instruments of Service (and in particular the Construction Documents produced by Architect) and the Work contemplated thereby (if executed in general accordance with the Instruments of Service) **shall comply with all applicable laws, codes, ordinances, rules, regulations, interpretation and requirements of federal and local authorities and agencies ("Governmental Requirements")** which are in effect at the time such Instruments of Service are submitted for action by such governmental authorities or agencies.

Architect MG2 retained Studio Pacifica (Karen Braitmeyer, FAIA) to perform an ADA/FHA review and prepare a report outlining various design recommendations for the Project, dated 11/7/06, (see RCH-MG2 109074 and 033068). The date of this Report follows MG2's Construction Set of Documents, dated 10/30/06, by just one week, resulting in subsequent potential revisions to the Construction Documents. However, it wasn't until Monday, January 26, 2009 (see RCH 011778) that MG2 reported to RCH that "Karen Braitmeyer just called with update after consulting various individuals. She is now saying all Type B exterior balconies need to be accessible via usable doors, 31-3/4" clear width. There is no clear exception with FHA or HUD to reduce the door opening width at shallow balconies and thus is recommending we provide the required 31-3/4" width at all locations."

As a result, the 6'-0" wide sliding balcony doors designed, specified and installed throughout the condominium portion of Olive 8, as well as those 5'-9" and 5'-0" wide sliding balcony doors installed at Units 06 and 07 (235 doors total), needed to be modified or replaced in their entirety. This was a difficult, time-consuming and costly modification to the original design and construction.

Design Defects falling below Standard of Care

1. MG2 failed to show and/or specify that all 6'-0" wide sliding balcony doors at residential units (189 total) are required to maintain a nominal 32" clear width or 31-5/8" minimum clear opening (nominal widths allow a tolerance of up to 3/8"). The FHA Guidelines explain "Unfortunately, many of the standard 6-foot sliding patio door assemblies yield only a 28-1/2 inch maximum clear opening in the full open position. Note: 28-1/2 inches is not an acceptable 32-inch nominal dimension. Builders and product

specifiers must carefully select door assemblies that yield the 32-inch nominal clear opening (a clear opening from 31-5/8 to 32 inches or more)."

Shop Drawings submitted by Advanced Glazing Systems (AGS), the "Design-Build Curtain Wall Consultant" (see page 5, Part 1 of Owner-Architect Agreement for list of Owner's consultants and contractors, RCH 005782) and Glazing Contractor on the Project, show the 6'-0" wide slider with a 30" clear opening (due to the protruding pull handles). AGS's Shop Drawings, based on MG2's Construction Documents (CDs) were approved as submitted by MG2 without correction. So MG2 had a second opportunity to correct the 6 foot balcony sliders to show the proper clear dimension.

However, as "Design-Build Curtain Wall Consultant", AGS "is responsible to provide all design, engineering, coordination, manufacturing, fabrication, shop labor, materials, tools, equipment and appurtenances of every kind for the complete execution to furnish and install exterior glazing systems, including but not limited to storefront windows, storefront doors, revolving doors, horizontal glazing, windows and related work (the 'Work')." (RCH-MG2 036763) In addition, in their proposal, AGS says "we anticipate providing design build services with the owner, Architect and general contractor for a period of at least 6-9 months. During this time, AGS would provide detailing for the architect to include in final 'issued for construction' drawings." (RCH--MG2 114093)

Therefore, AGS had ample opportunity to identify violations of "all applicable laws, codes, ordinances, rules, regulations, interpretation and requirements of federal and local authorities and agencies" in MG2's set of Construction Documents. David Thayer's June 1, 2009 email request to Martin O'Leary for JTM to prepare a "written report and assessment of liability on this matter for use in discussions with AGS and the Architect with regard to cost recovery/liability" suggests RCH believed AGS bears part responsibility for "the sliding door retrofit work". (RCH-MG2 056344)

Because MG2 had 2 opportunities to supply the critical minimum clear dimension at these 6 foot sliders, during preparation of the CDs and Shop Drawing review, I have assessed the Architect 2/3 responsibility for the costs of the sliding door retrofit work, and AGS 1/3 responsibility for their failure to identify and report the violation to the project team.

2. The second design defect that falls below the Architect's Standard of Care involves the Sliding Balcony Doors in Units 07 and Penthouse (L38) Units. Although these doors were designed and shown by MG2 as 6 foot wide sliders (without required minimum 31-5/8" clear opening width), AGS inexplicably submitted Shop Drawings to MG2 showing 5 foot wide sliders in Units 07, and 5'-9" wide sliders in Penthouse Units (apparently without any notification to MG2). MG2 approved the Shop Drawings anyway. All twenty (20) of the Unit 07 sliders were replaced with swinging doors, and six (6) of the Penthouse Unit sliders were replaced with swinging doors to provide required FHA access to balcony decks.

Exhibit 'C', Supplemental Conditions to Trade Contractor (RCH-MG2 112851), item 1. Deviations states "No deviations from the contract plans, specifications, or approved submittals will be allowed without prior written consent of Architect and Owner", although this particular document may not have been attached to AGS's Subcontract Agreement. However, Exhibit 'E', Terms and Conditions to Subcontract, which was attached to the AGS Agreement with Skanska, article 6.4 Revisions to Submittals, states

"Subcontractor shall specifically advise Contractor in writing when transmitting a revised shop drawing or other submittal of any revisions that are in addition to, or differ from, those requested by the Contractor or the Architect on prior versions of the submittal. If Subcontractor does not provide written notice of such additional or different revisions to Contractor, Contractor's and/or Architect's approval of the submittal shall not include such additional or different revisions." (RCH-MG2 036842)

Furthermore, Exhibit 'Y' to the AGS Agreement, Article 2.1 Design Scope Description, states "Subcontractor shall be responsible for performing and completing the following design work in strict compliance with the Contract Documents: This subcontractor is responsible to provide all design, engineering, coordination, manufacturing, fabrication, shop labor, materials, tools, equipment and appurtenances of every kind for the complete execution to furnish and install exterior glazing systems, including but not limited to storefront, revolving doors, horizontal glazing, windows and related work as described in the Specifications, drawings and herein" ('Design Work').

Article 2.3, Coordination with Contractor and Architect states "Subcontractor acknowledges that the Design Work is part of the overall design of the Project and that it must be integrated into the overall design of the Project. Subcontractor shall work with Contractor and the Architect (and its design consultants), as Contractor or the Architect deem necessary to coordinate and integrate Subcontractor's Design Work, with the overall Project design and construction drawings".

And article 2.11, Responsibility for Design states "Contractor's, Owner's, or the Architect's review or approval of any interim design submissions or the Construction Documents shall not relieve Subcontractor of its responsibility for the professional quality, technical accuracy, and completeness of all Design Work or any of Subcontractor's other obligations under the Subcontract". (RCH-MG2 036891-036893)

The Owner-Architect Agreement, Section 2.6.4.1 (RCH 005817), states "The Architect shall upon Owner's request review and approve or take other appropriate action upon the Contractor's submittals, such as Shop Drawings, Product Data, and Samples, for the purpose (unless Owner requests otherwise) of **checking for conformance with information given** and the design concept expressed in the Contract Documents". Therefore, MGS had a responsibility to properly check for discrepancies between dimensions in the Shop Drawings versus CDs, but AGS is equally (50-50) responsible for submitting inaccurate Shop Drawings not in conformance with design intent without written explanation or notice to the project team.

3. The third design defect is MG2's design of 5 foot wide balcony sliding doors for Units 06. There is no way this door specification could ever meet FHA requirements. In my expert opinion, the door location and size of opening perpendicular to the length of the balcony deck makes a swinging door the only feasible solution. Design of a sliding door at this particular location falls below the Architect's Standard of Care; consequently, the Architect is 100% responsible for the retrofit work (all 20 sliding balcony doors were replaced with swinging doors).

In summary, MG2 has responsibility for 2/3 of Design Defect #1 direct costs, 50% of design defect #2 direct costs, and 100% of design defect #3 direct costs. Given the discovery of the code violations so late during construction (see 1/19/09 email from Craig Davenport to Glenn Allen, "How this one got past everybody

is a mystery- I didn't think about it until a buyer asked me about it on Friday", RCH017748), the significant time and expense spent by ownership coordinating the sliding balcony door retrofit process, I consider a 15% mark-up (not including sales tax) on direct costs to be reasonable and appropriate.

Note: Please see cost breakdown for design defect #2 above in RCH's Sliding Balcony Doors claim (RCH 017710, bottom of page). The claim shows a total of 46 doors, but the description indicates a total of 39 doors (20 doors at 07 Units and 19 Penthouse doors), of which 26 were replaced with swinging doors.

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