



SOLUTIONS FOR THE BUILT WORLD

Lake Forest Library



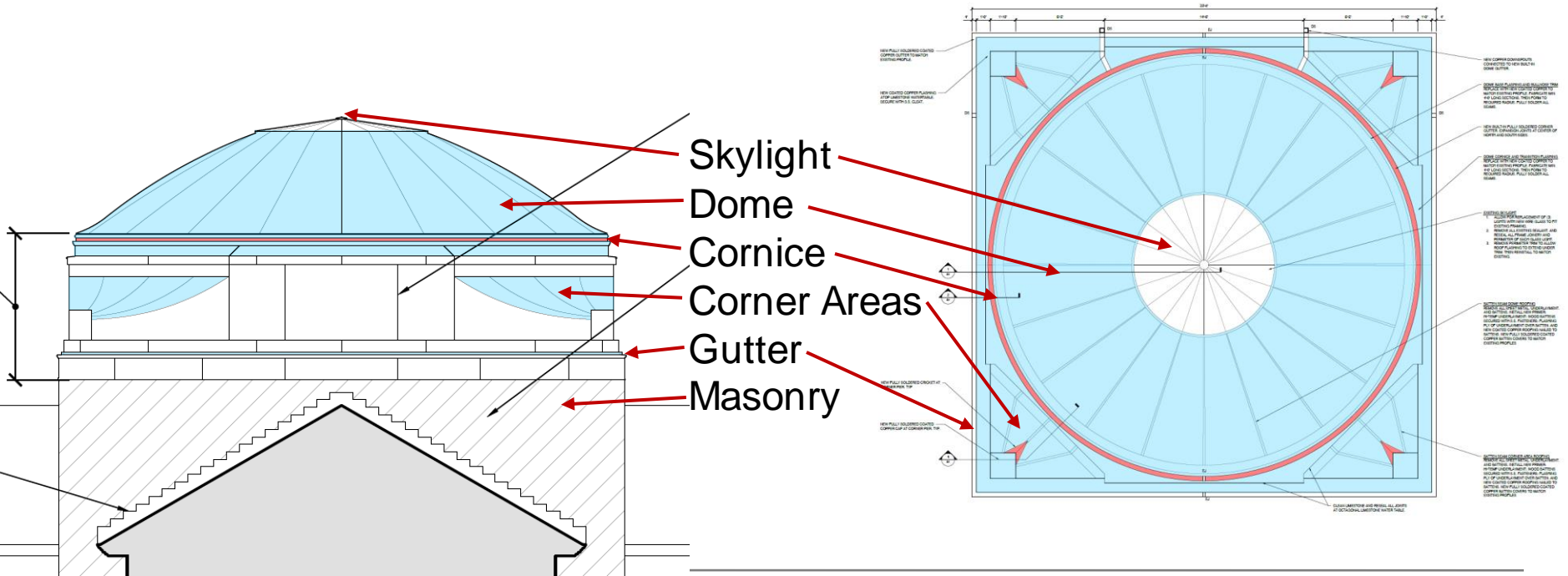
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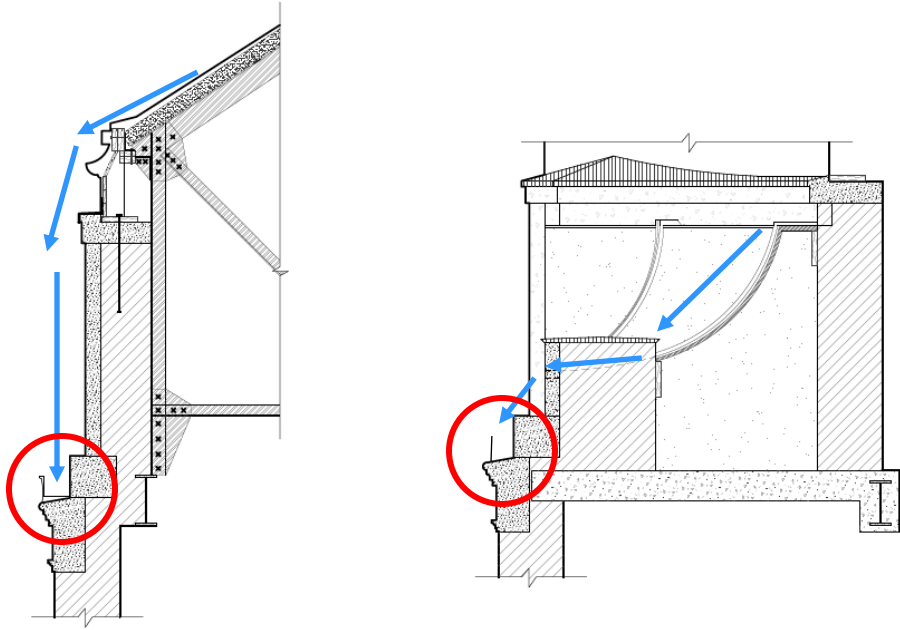
Wiss, Janney, Elstner Associates, Inc.

May 10, 2022

Dome Assembly



Drainage



Recommended Scope



Skylight



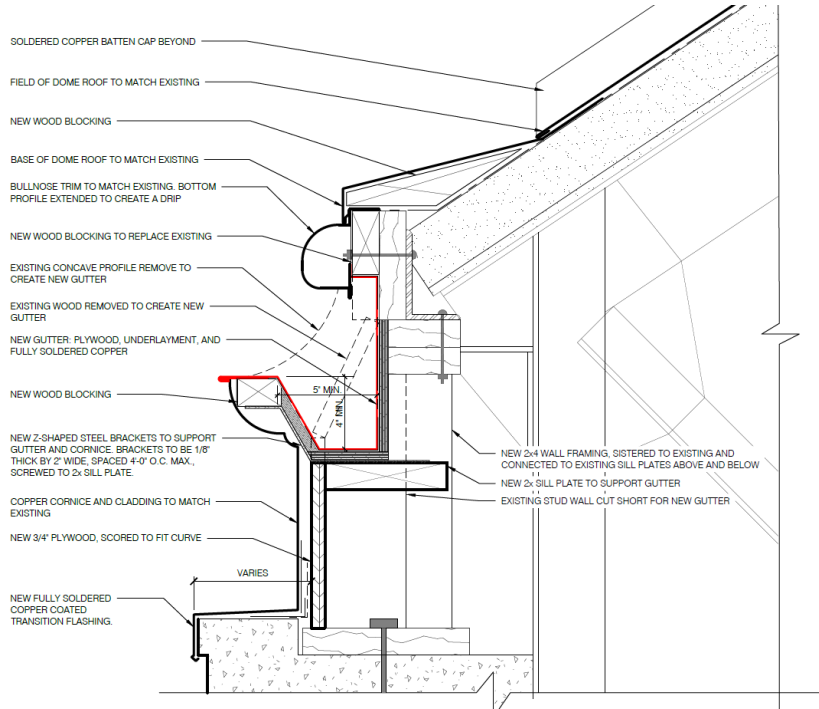
- Retain existing 1930 skylight
- Replace cracked panes of glass with new wire glass
- Re-seal all joinery

Dome



- Remove existing coated copper, wood battens, and asphalt felt
- Install new primer and fully adhered underlayment
- Install new wood battens
- Install new coated copper roofing
- Match all existing details and profiles

Dome Perimeter and Cornice

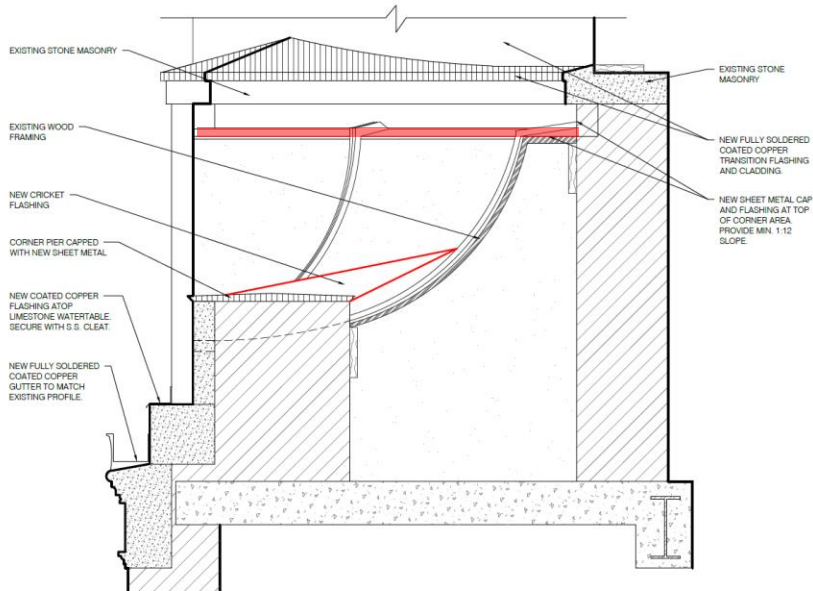


- Remove existing coated copper
- Install new underlayment and new coated copper
- Match existing details and profiles
- At existing concave profile, modify to create a new gutter for the dome. Downspouts at north wall.

Dome Perimeter and Cornice

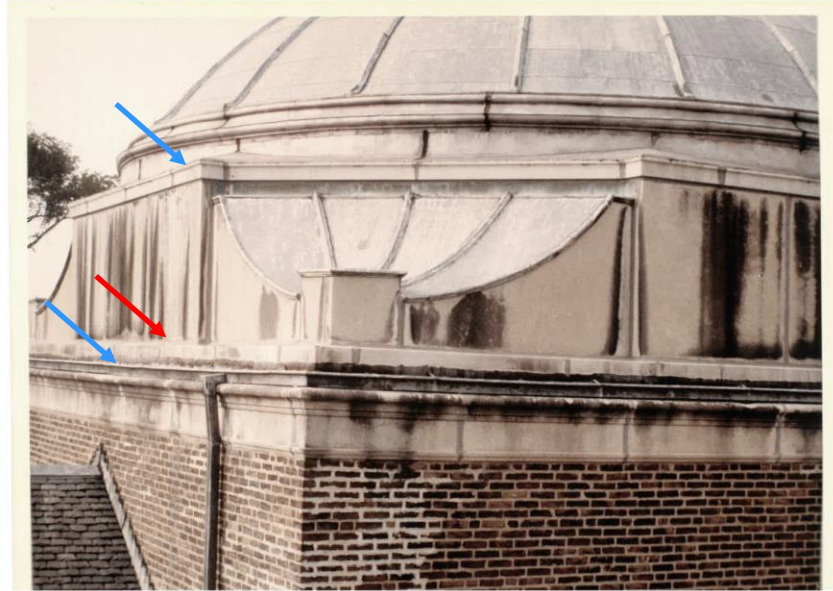


Corner Areas



- Remove existing coated copper, wood battens, and asphalt felt
- Install new fully adhered underlayment
- Install new wood battens
- Install new coated copper roofing
- Match all existing details and profiles
- Add slope and cricket

Stone Masonry

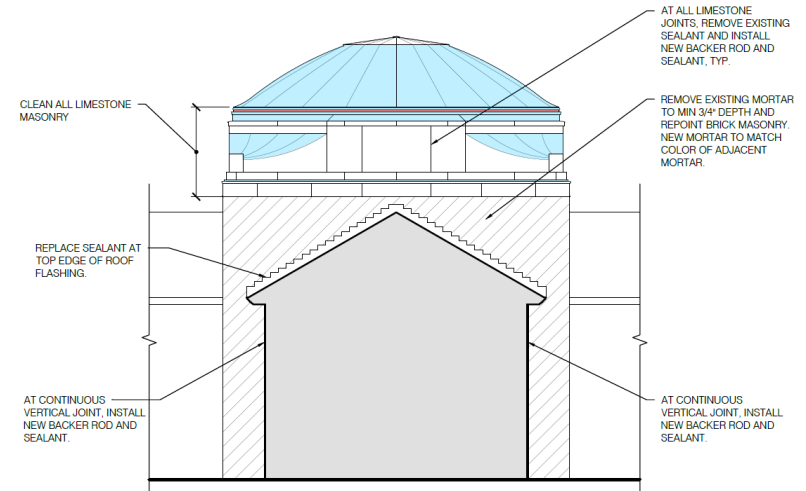


- Clean (as feasible)
- Re-seal all joints
- Coated copper flashing at all skyward-facing surfaces
- Gutter at bottom watertable replaced to match existing

Brick Masonry (Exterior)



- Repoint all joints, all four sides of central volume, to grade



Brick Masonry (Interior)



- Clean efflorescence
- Repoint all joints
- Replace individual spalled bricks
- Add insulation at dome
- Minimally condition attic space

Laylight



- No work required
- Clean to remove construction dust and debris

Circulation Room Ceiling



- Localized plaster patching to match original profiles and texture
- Prime and paint entire ceiling

Mural Restoration



- Defer to a future project
- Requires specialized work by a conservator
- Ensure that all pathways of moisture intrusion are fully resolved before addressing mural conservation

Coated Copper



Coated Copper

- Lead-coated copper
 - Developed in 1920s
 - Workability and durability of copper
 - Coated with lead for aesthetics: avoid green-colored staining
 - Patinated to a dull gray color
(in mid-twentieth century air pollution)
 - Due to health concerns, only a single U.S. manufacturer still produces the material

Lead-Coated Copper Patination

Original dome, 1984



Present dome, 2017



Coated Copper

- Tin-zinc-alloy-coated copper
 - Trade name “Freedom Gray”
 - Developed in 1990s
 - Widely used over last 20 years
 - Tin-zinc-alloy weathers to a neutral gray in Chicago climate

Tin-Zinc-Alloy-Coated Copper



First United Methodist Church, Evanston, 2009 (2022 photo)



University of Virginia, 2021

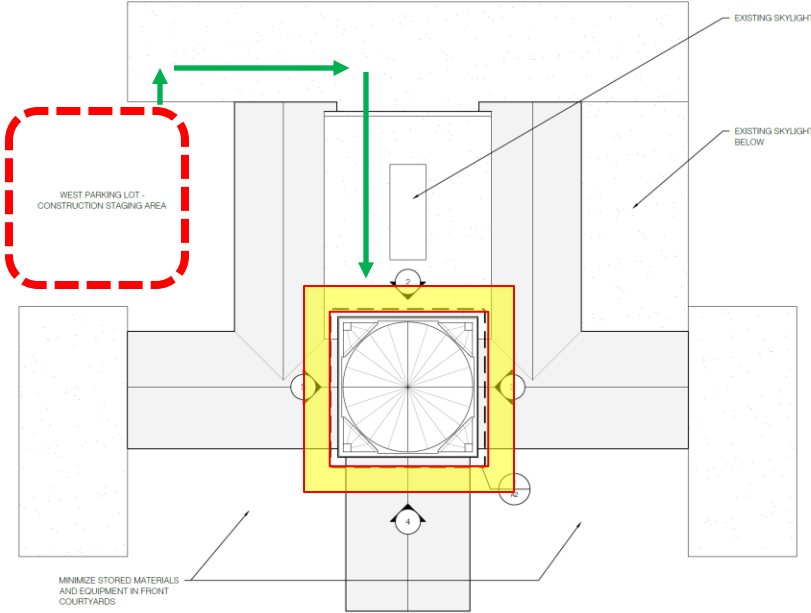


New York City Hall, 2015



Museum of the Bible, 2016

Construction Logistics



1 Overall Roof Plan
Scale: 1/16" = 1'-0"

Next Steps

- Library Board to confirm scope and budget
- Presentation to Historic Preservation Commission (May 25)
- Construction Documents
- Bidding
- Construction

Discussion

