

Roofing Consultant Overview

- » Roof System Selection
 - » Insulation/R-Value Requirements
- » Design, Detail and Submittal Review
 - » Early Involvement for Clarity in Bidding
- » Fiduciary Responsibility
 - » Protecting the Investment
- » Contracted Directly with Developer
 - » Line of Commitment



Evolution of Panelized Roof Assemblies

- » Large Structures with Clear Heights
 - » Dominant in Some Markets
 - » Insulation Considerations/Building Usage
 - » Solar Ready for Weight/Structure
 - » Payback Period for Solar and Roof System



Critical details to get right

- » Roof System Insulation Requirement
- » Detailing at Perimeters/Walls/Drainage/Equipment
- » Roof System Securement
 - » High wind vs. low wind areas
- » Skylight/Lighting/Venting Requirements
- » Solar Considerations – Mounting Type/Weight

New Development Design Minimums – Southwest Region

High Wind Areas

- Manufacturer's 72 MPH Wind Rider "Assembly Letter". Pull tests may be required for plywood decking by the manufacturer prior to putting the "Assembly letter" together. Assembly letter to list the following:
 - Total number of half (1/2) sheets and sheet width (not required for induction-welded membrane attachment system).
 - Sheet width and securement pattern of in-seam fastening or induction-welded membrane attachment system per 4' x 8' insulation/roof board.
- Termination of the field sheet up a minimum of 6" on the perimeter wall secured with a termination bar set in waterblock mastic. Alternative to be spray foam to close the gap at the ledger at perimeters.
- Minimum 4 half (1/2) sheets at building perimeters secured with heavy duty screw and plate assemblies at maximum 6" on center.**
- Consideration for induction-welded membrane attachment system (market driven) with a securement of 8 fasteners in the field of roof – 12 in the perimeter and 16 in the corners.**
- Introduction of the TPO clad top of wall treatment (FM Approved?) or wood nailer and coping metal.
- Use of the TPO clad detail or wood nailer coping metal at ALL walls 4' and lower from the roof deck.
- Use of a termination bar set in water block mastic and two (2) piece reglet and counterflashing assembly at walls greater than 4' from the structural deck.
 - Treatment and coating of walls above the reglet with a two (2) coat acrylic.

New Development Design Minimums – Southwest Region

Non-High Wind Areas

- Manufacturer's 55 MPH Wind Rider "Assembly Letter". Pull tests may be required by the manufacturer prior to putting the "Assembly letter" together.
- Minimum 4 half ($\frac{1}{2}$) sheets at building perimeters secured with heavy duty screw and plate assemblies at maximum 6" on center.**
- Consideration for induction-welded membrane attachment system (market driven) with a securement of 6 fasteners in the field of roof – 10 in the perimeter and 12 in the corners.**
- Introduction of the TPO clad top of wall treatment (FM Approved?) or wood nailer and coping metal.
- Use of the TPO clad detail or wood nailer coping metal at ALL walls 4' and lower from the roof deck.
- Use of a termination bar set in water block mastic and two (2) piece reglet and counterflashing assembly at walls greater than 4' from the structural deck.
- Treatment and coating of walls above the reglet with a two (2) coat acrylic.

*** Perimeter defined by use of ASCE 7-16 calculation using 60% of the roof deck height to finalize.*

Panelized Wood Deck

Panelized Wood Deck Installation in Progress



Panelized Wood Deck

**Panelized wood deck
with seismic straps,
skylight curbs, fall
protection bars and
Material Stored**



Panelized Wood Deck

**Warping of the ledger
for slope to drain at
perimeters, wood nailer
for coping metal
installation**



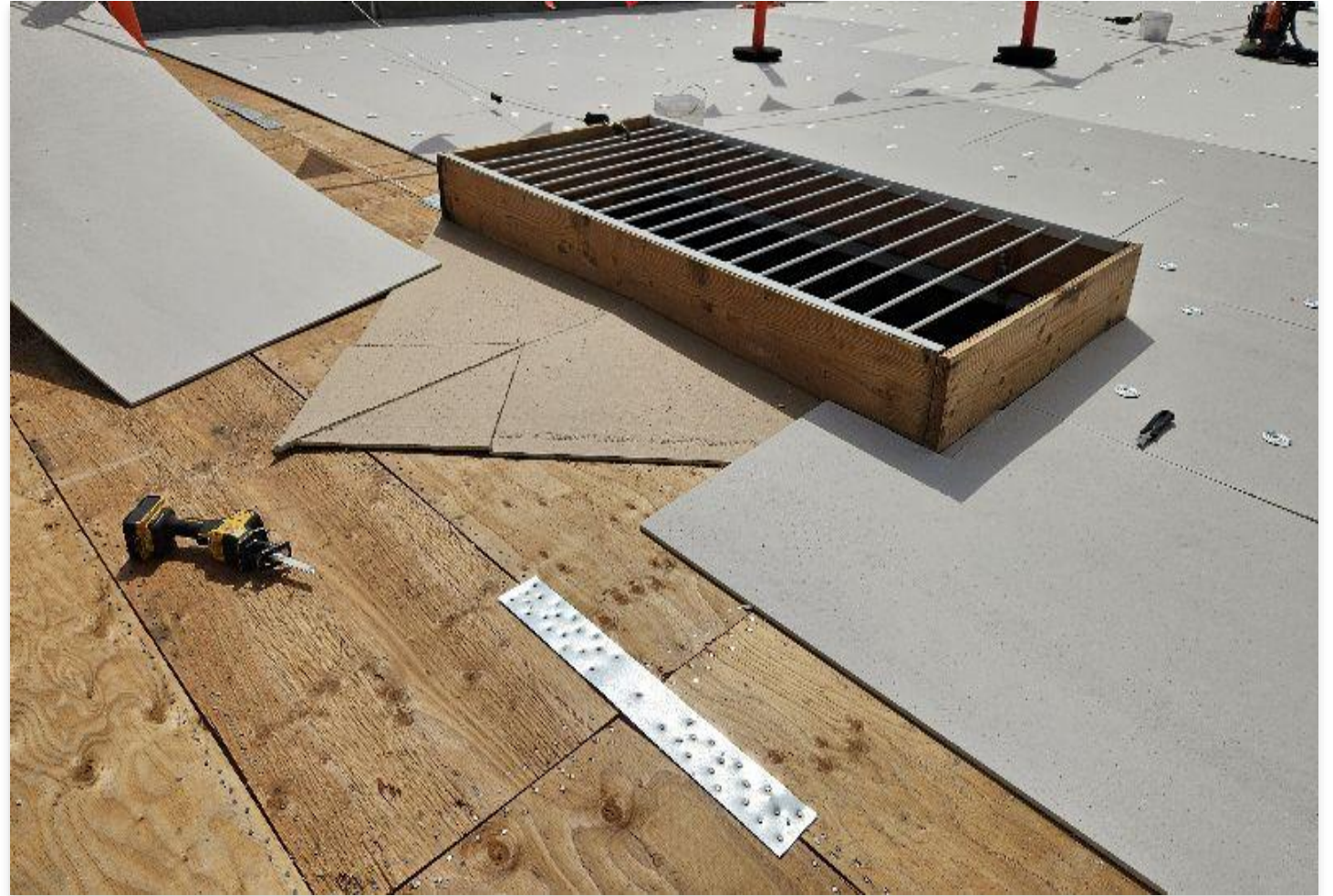
Panelized Wood Deck

Panelized Wood Deck in Process



Panelized Wood Deck

**Roof board Installation
and Cricketing for
Drainage
Considerations at
Skylight Curbs**



Roof Installation

**In-Seam single ply
attachment system over
roof board installation**



Roof Installation

**Thermoplastic clad
screw and plate
assemblies at induction
welded system**



Wind Damage Photographs

**Sever Wind Damage at
Building Perimeter**



Wind Damage Photographs

Roof Hatch Base Flashing Blow-Off



Wind Damage Photographs

**Perimeter Wall Wind
Blow-Off and Damage
Due to High Winds**



Installed Roof Protection Measures

**Solar Equipment
Storage, roof protection
and roof guarantee
considerations**



Wind Damage Photographs

**Single Ply Damage from
Improper Solar Panel
Storage and Blow-Off**



Wind Damage Photographs

**Single Ply and
Insulation Damage from
Improper Solar Panel
Storage and Blow-Off**



Wind Damage Photographs

Skylight Damage from Solar Panel Blow-Off



Solar

Installed Solar Panel System on New Single Ply Roof System



Solar Panel System on New Single Ply Roof

**Solar Panel Array
Installed on New Single
Ply Roof System**



In Summary

- » Understand your climate region, project specific wind speed, system securement and end-use conditions
- » Moisture, air and thermal performance are driven by the assembly, not the structural material
- » Small details have a big impact
- » Work with your client on a maintenance strategy (annual inspections, repairs, cleaning, etc.)

QUESTIONS?

This concludes The American
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