

# GOLD HAMMER AWARD 2012



CITY  
PERFORMANCE  
HALL







The First LEED® SILVER Certified Performance Hall in Texas

# CITY PERFORMANCE HALL



The City Performance Hall uses the Longest Kalzip® Panels in North America





*The Dallas City Performance Hall*





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This lyrical and elegant addition to the Dallas Arts District promises to be a unique and delightful “village for the arts” for Dallas audiences.



*The Dallas City Performance Hall*



# 2012 GOLD HAMMER APPLICATION

■ Outstanding Commercial Project

*Dallas City Performance Hall  
2520 Flora Street  
Dallas, Texas 75201*

■ Contractor's Name:

*Castro Roofing of Texas, L.P.*

■ Phone Number:

*214.381.8108*

■ Project Owner:

*City of Dallas  
1500 Marilla Street  
Dallas, Texas 75201*

■ Project consultant, engineer or architect:

*Corgan Associates, Inc.  
401 North Houston Street  
Dallas, TX 75202*

■ Other members involved:

*Bradco Supply Corporation, Spec Building Materials,  
Dallas Fort Worth Roofing Supply*

■ Date of commencement / completion:

*September 2010 through February 2012*

■ Submitted by:

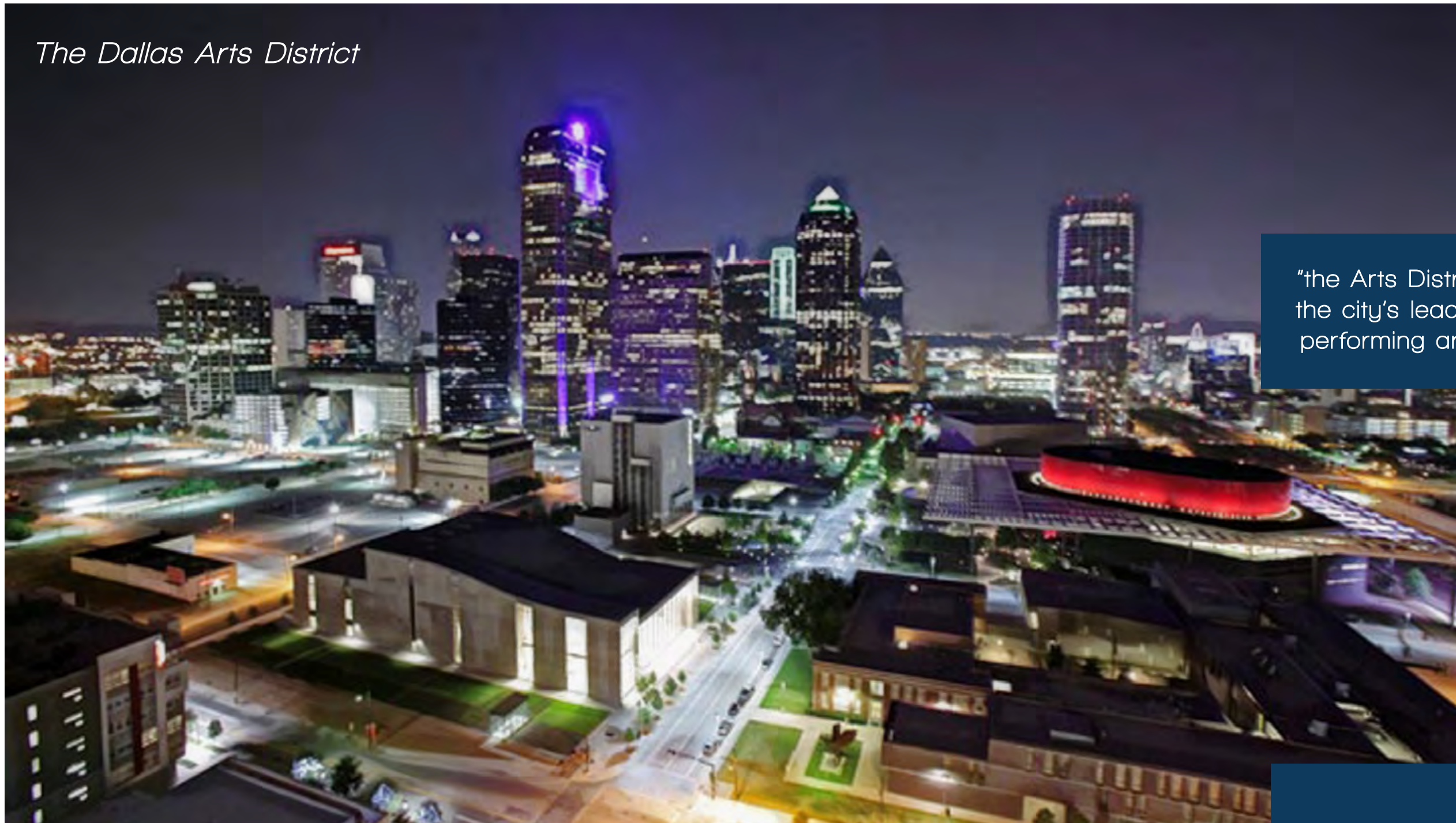
*Gustavo Posada*

■ Title:

*Marketing and Creative Services*



*The Dallas Arts District*



"the Arts District is home to the city's leading visual and performing arts institutions"

CITY  
PERFORMANCE  
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# CLIENT INTRODUCTION

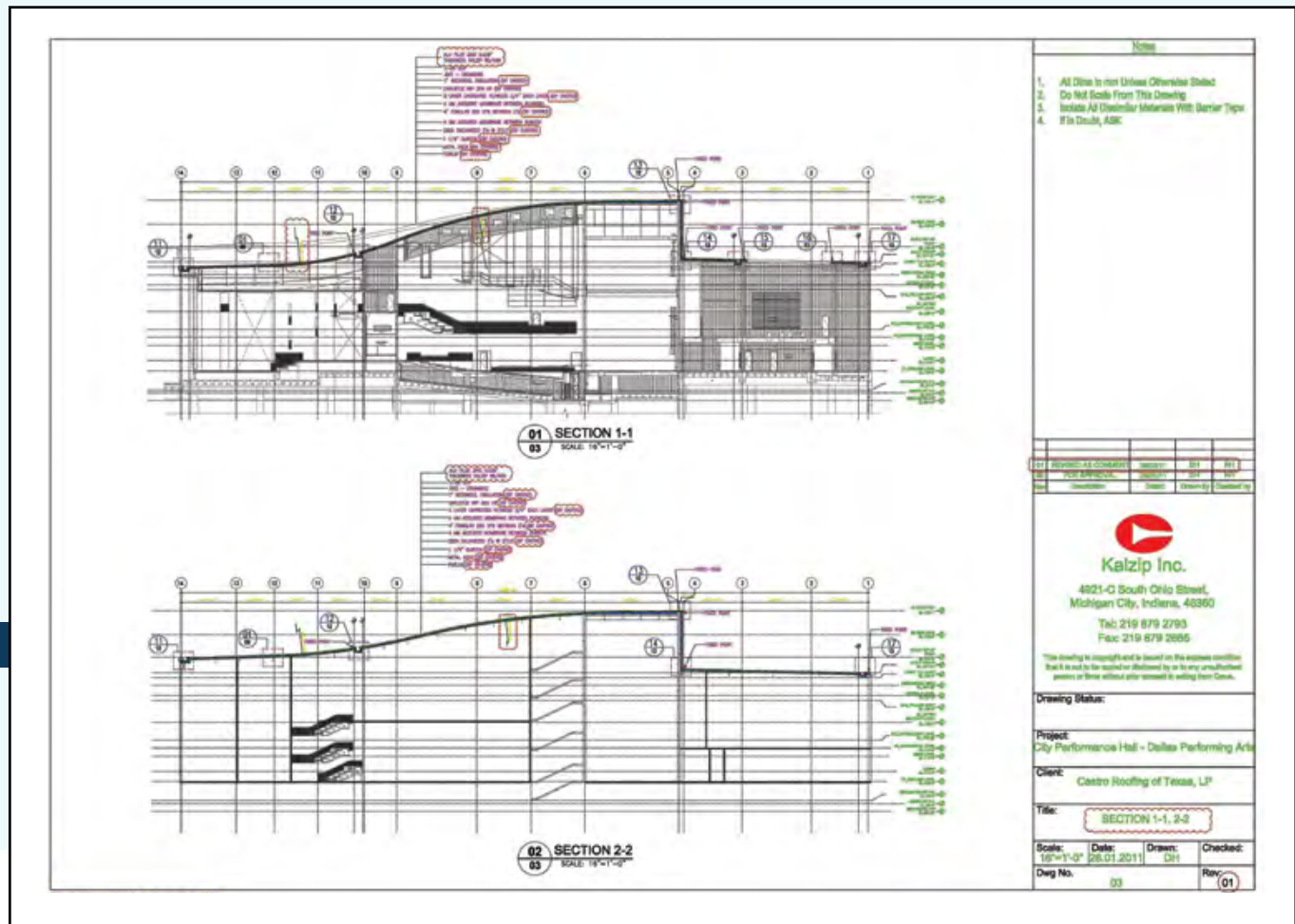
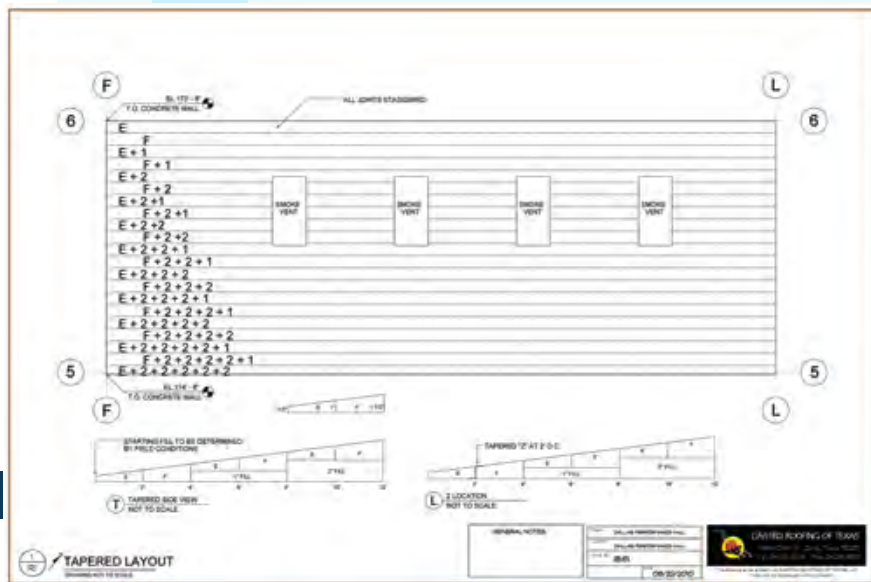
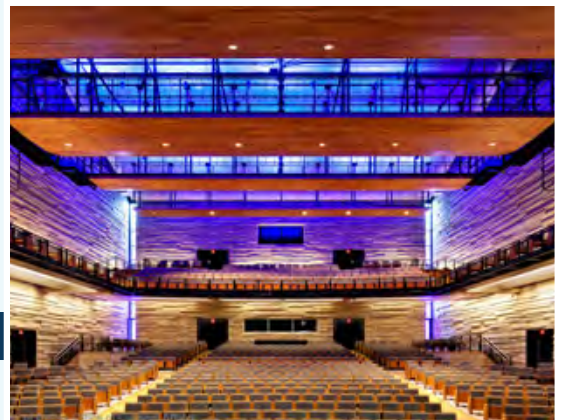
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Located at the intersection of Routh and Flora in Dallas, Texas, the Dallas City Performance Hall opened its doors September 2012 to serve as a multi-disciplinary gateway to the Arts District, presenting a broad range of cultural performances and events by a growing group of small and midsize cultural organizations representing all artistic disciplines and the diverse heritages of the Dallas community.

This lyrical and elegant addition to the Dallas Arts District promises to be a unique and delightful “village for the arts” for Dallas audiences. Designed by Skidmore, Owings, & Merrill, LLP, one of the world’s leading architecture, urban design, engineering, and interior architecture firms, the newly completed Phase I of the design includes a state-of-the-art, 750-seat, multi-purpose theater specifically designed to accommodate a wide variety of performance needs, as well as an expansive front lobby capable of accommodating small performances and events for up to two hundred people.

The dynamic features of these two spaces encourage social and cultural interaction from the street to the stage, from pre-show cocktails to post-show conversation, and offer both artists and audiences the opportunity to engage with all forms of performance, from the outsized spectacle of epic theatre to the smooth elegance of a jazz quartet. Dallas City Performance Hall is the place to discover our next generation of great arts organizations and be captivated by the energetic and multifaceted creative spirit of Dallas artists!









### Property:

Dallas City Performance Hall  
2520 Flora Street  
Dallas, Texas 75201

### Owner:

City of Dallas  
1500 Marilla Street  
Dallas, Texas 75201

### Architect:

Corgan Associates, Inc.  
401 North Houston Street  
Dallas, TX 75202



# GENERAL INFORMATION

## Roof System Type:

- mechanically seamed aluminum plus zinc coated 2 ½" seam 15 ¾" wide Kalzip 65/400 metal standing roof panel

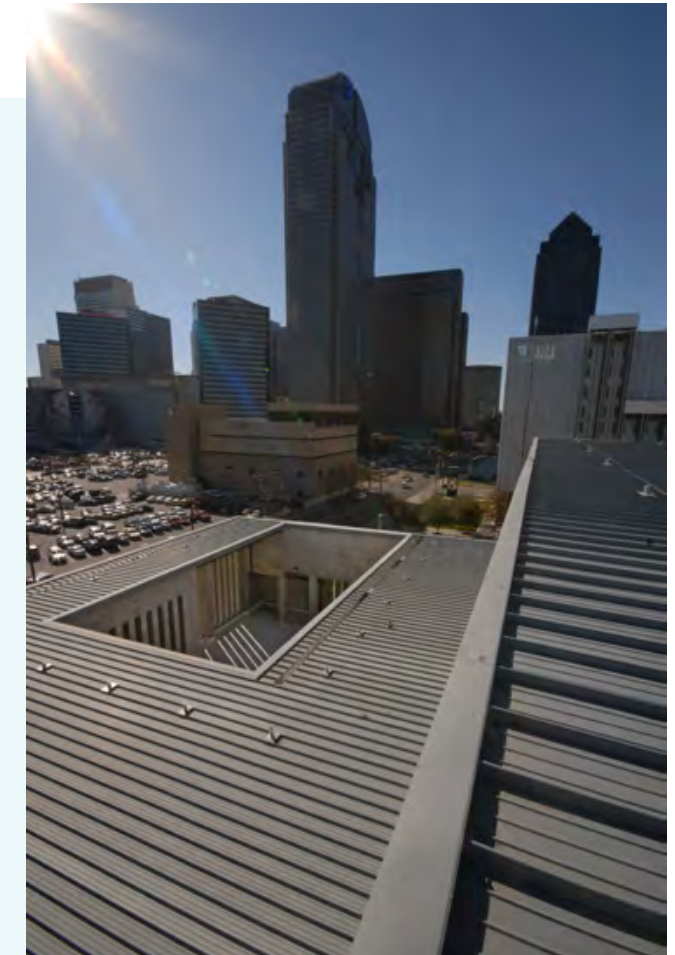
## Metal Roof Assembly:

- metal deck and structural concrete deck
- custom cut and infill metal deck flutes with mineral wool insulation
- loose lay layer of 5/8" Durock cement board
- loose lay layer of 4mm acoustic membrane
- loose lay second layer of 5/8" Durock cement board
- screw 22ga galvanized metal z's down to deck at 2' on center
- fill space between z's with two layers of 2" Foamular 250 insulation
- loose lay layer of 3/4" Struc-one untreated plywood
- loose lay second layer of 4mm acoustic membrane
- screw down second layer of 3/4" plywood down to top of metal z's
- self-adhere layer of 40mil Carlisle wip 300ht under-layment
- screw down I-25 clips to top of metal z's
- loose lay layer of 1" mineral wool insulation
- self-adhere acoustic anti-drumming membrane to underside of Kalzip Alupluszinc metal roof panels
- anchor Kalzip Alupluszinc metal roof panels to I-25 clips

## Other Interesting Facts:

- provided and installed four smoke vents with special acoustical properties
- provided and installed rood hatch
- provided and installed OSHA-approved fall protection system at all roof areas
- small scale mock-up of entire building completed with all details on actual structure
- BIM (Building Information Modeling) – system used to visually input project into a three dimensional model
- Castro Roofing's in-house CAD Designer spent many hours integrating the BIM system
- third party peer was utilized to review entire submittals package
- engineering calculation done for the metal panel roof system
- engineering calculations done for light-gauge z metal and perimeter wood blocking
- entire roof assembly tested for acoustical soundness
- Certified LEED project – all submittals and closeouts related to LEEDS were achieved
- tapered insulation at transition from radial metal deck to flat structural concrete deck was achieved



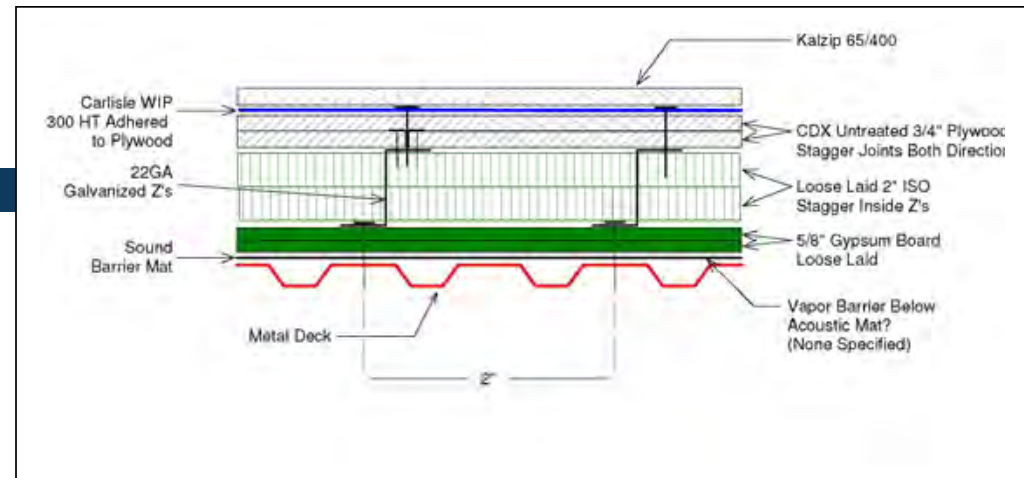


"high-profile, high-rise buildings provide a birds-eye view of the entire roof and its many facets."





# UNIQUENESS



The Dallas Performance Hall roofing project had many unique characteristics. The acoustical requirements were very stringent and the installation of these items had to be extremely precise. In order to meet both the acoustician's and the architect's requests, multiple meetings were held, with the conversation revolving around the exact position of the different acoustical components, their staggered orientation to one another, and the method of attachment. The submittal process to accomplish this formidable task also required multiple revisions and additional meetings.

The roof assembly consisted of ten different layers of materials. From infilling the metal deck with "rockwool" that was cut from stock material to fit precisely between the deck-flutes, all the way to the self-adhering acoustical anti-drumming membrane, which was hand-applied to the underside of the panels, the roof assembly was a very complicated procedure. A detailed sample of the roof assembly, from the metal deck up, was sent to a laboratory for acoustical testing and final approval.

The aesthetic considerations were of the utmost importance due to the building's unique position in the downtown Dallas area. At this location, adjoining high-profile, high-rise buildings provide a birds-eye view of the entire roof and its many facets. In addition, the elevated Woodall Rogers expressway also provides a magnificent view of the building's unique architectural roof design.





*In these photos different layers of the metal deck, the insulation, the cement board, structural plywood and the acoustic mat can be seen*



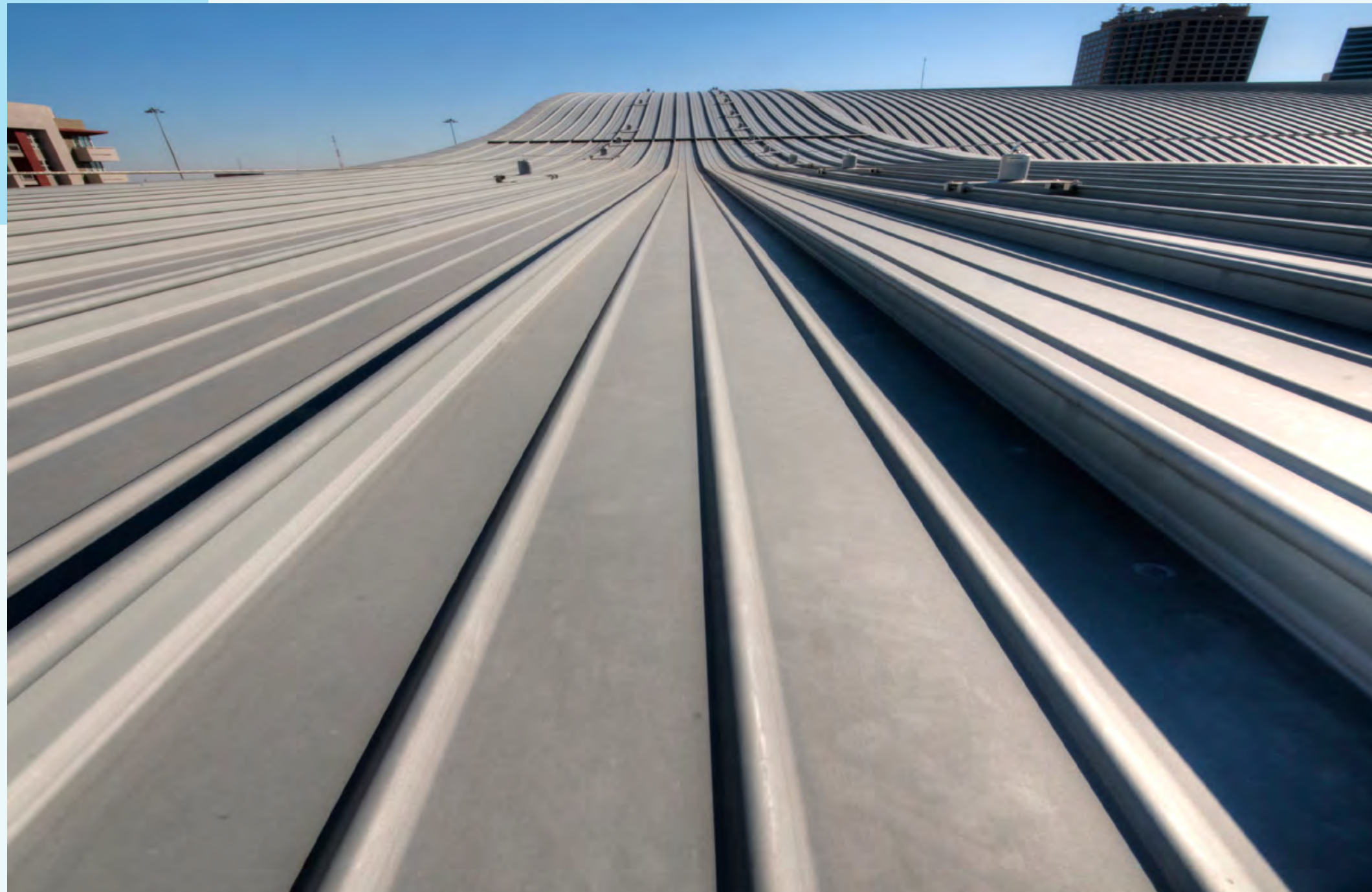




*More layers being installed, the architect stated that any noise during performances was unacceptable. So multiple layers of acoustic mats were installed.*



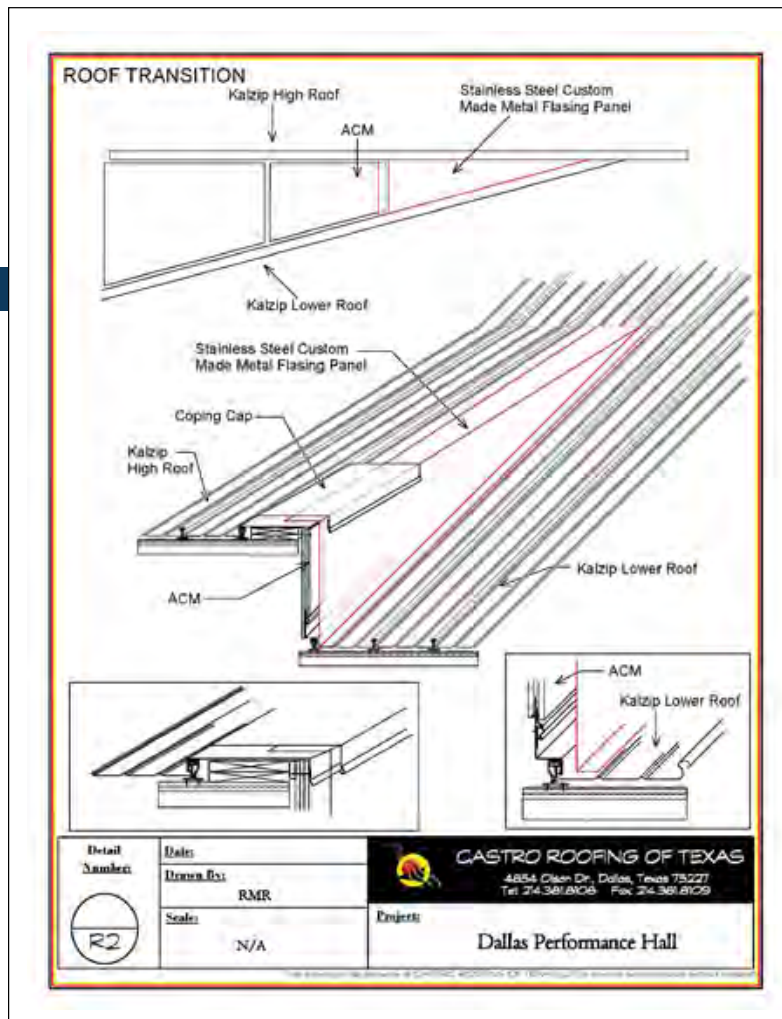




*The Longest Kalzip® Panels in North America*



# CHALLENGES



The Dallas City Performance Hall used the Longest Kalzip® Panels in North America. Because of this, the length of the panels presented logistical and hoisting challenges. Some of the lengths were 75 feet, 90 feet, and 146 feet, but the longest and hardest to handle were the 306 foot panels. For the first three lengths, a custom-built hoist was used to raise the panels to the roof surface without any damage to the light-gauge metal. However, the longest panels had to be manually lifted by twenty men on the roof and twenty men on the ground. Coordination was key, and thus, the men on the roof had to lift at the same time to avoid damaging the sensitive panels.

Also, the metal panel field fabrication required a significant amount of space. For the longest panels, which measured 306 feet, an adjacent busy road had to be shut down to allow for the necessary space for the panels' fabrication. After that, the twenty member team on the ground was evenly positioned to safely move the panels next to the building, and the twenty member team positioned on the roof hoisted the metal panels.

Finally, many of the roof assembly components came from Europe, thereby necessitating careful ordering and tracking of these components. This was critical because shipping costs were high and lead times were extensive.

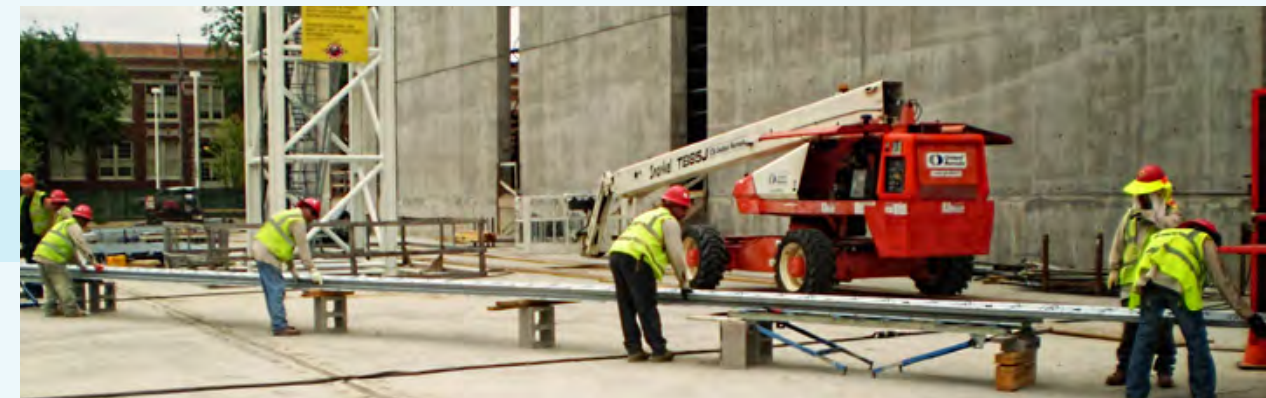




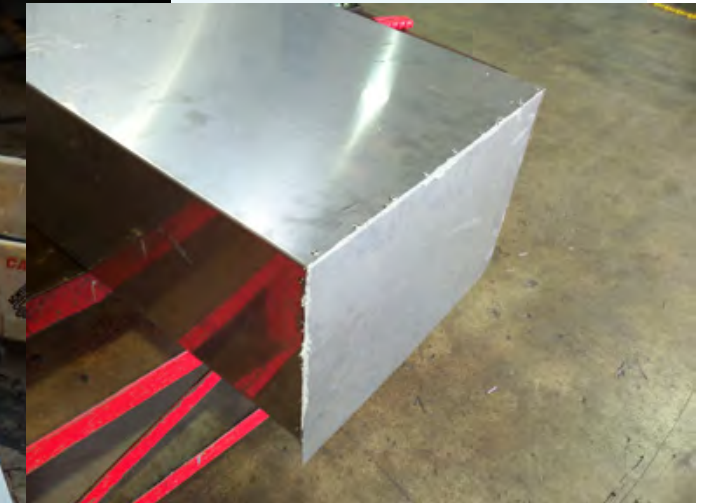
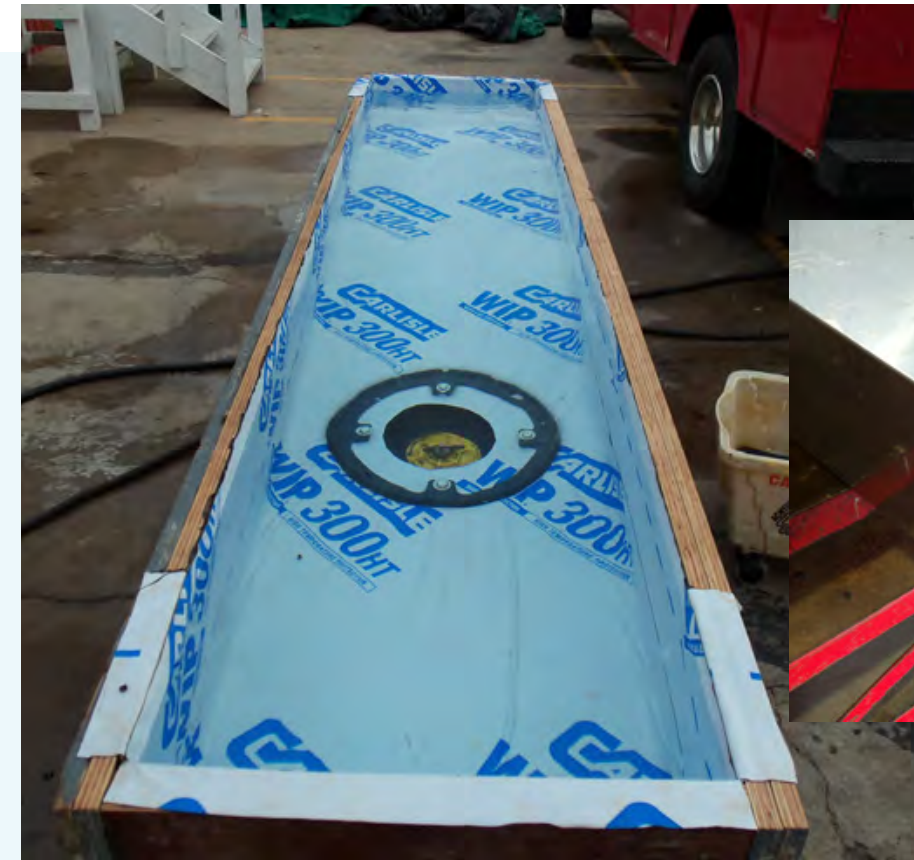


"the metal panel field fabrication required a significant amount of space"





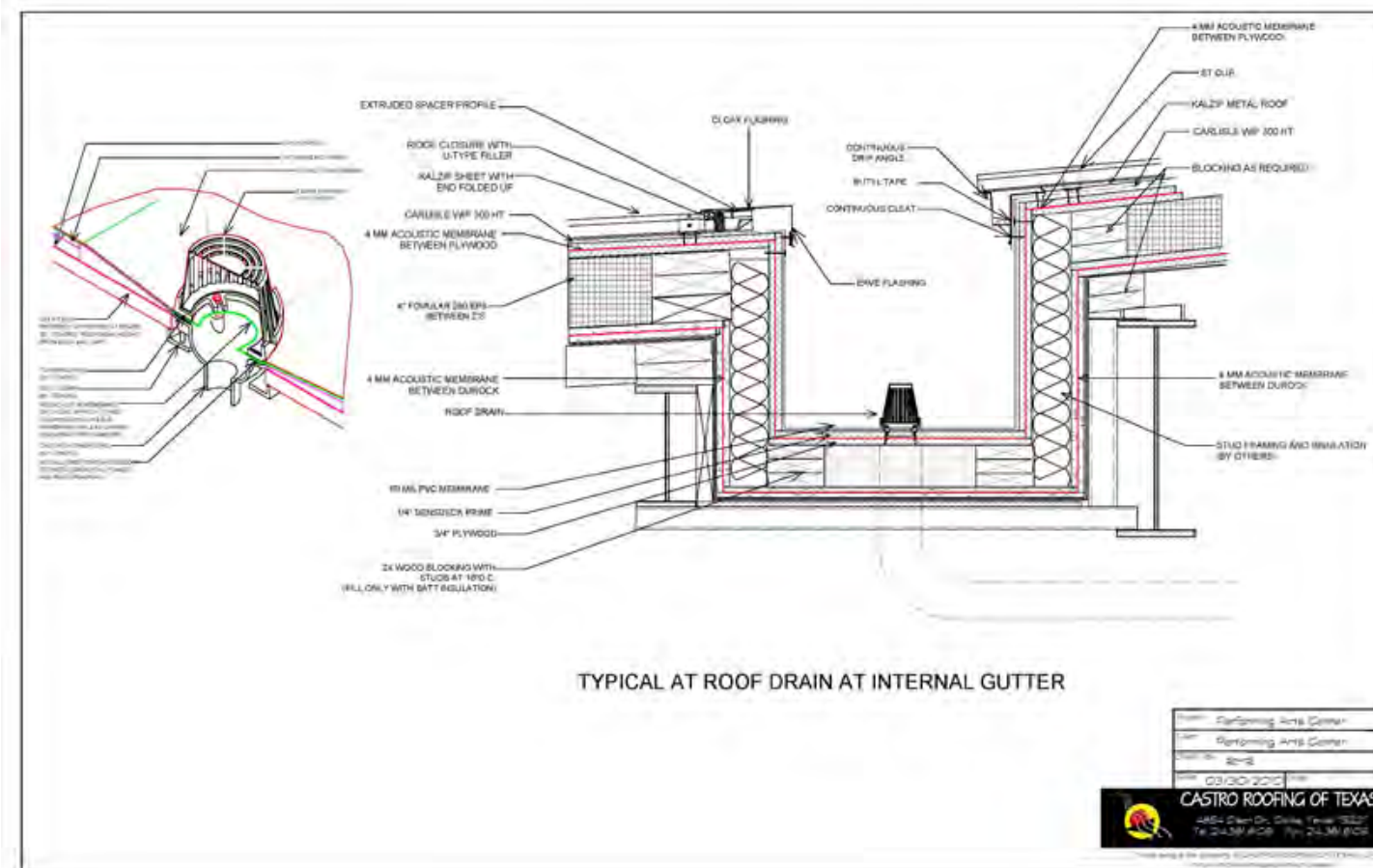




*"Large parts of the system were manufactured and assembled at the award winning Castro Roofing metal works shop"*



# OTHER CHALLENGES



The internal gutter system also turned out to be quite challenging. Large parts of the system were manufactured and assembled at the award winning Castro Roofing metal works shop. The stainless steel gutters were also manufactured and installed at the shop. Each gutter assembly was then fully tapered to provide a positive slope to the drain. The completed gutters were then shipped to the site in forty foot pieces, hoisted to the roof and then properly installed on the roof system.







*"safety meetings were scheduled and held throughout  
the duration of the entire project"*



# SAFETY



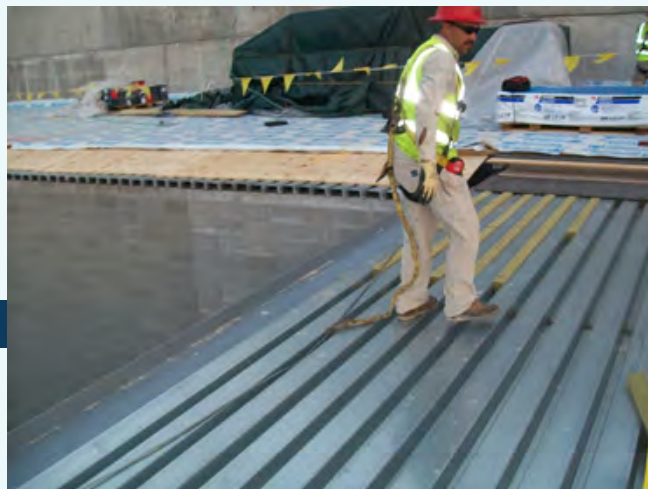
When it comes to safety, there is no compromise. Castro Roofing's regular on-site, "tool box talk" safety meetings were scheduled and held throughout the duration of the entire project. Foremen took the lead by administering the meeting and making recommendations on upcoming portions of the project. A third party job-safety expert was hired to provide an additional job-specific safety plan that was implemented without fail.

As a result, no lost time and zero accidents were reported.

## Important Tool Box Talk Items:

- OSHA Safety Standards review
- 100% tied-off rule in full effect
- urban environment safety requirements
- scaffolding
- hand tools
- eye protection
- protective wear (gloves, clothes, and shoes)
- hard hat safety
- back injury protection
- no horseplay on site





*100% tied-off rule in full effect*









Scott Brown  
Castro Roofing of Texas  
4854 Olsen Dr  
Dallas, TX 75227

10 December 2012

Re: Dallas City Performance Hall

Kalzip, Inc would like to commend Castro Roofing for their installation work on the City Performance Hall project. This project presented several complex elements that Castro was able to respond and bring the project to successful completion. Specifically these elements included the following:

Acoustic Build Up – Castro installed/supplied/tested a sensitive acoustic assembly was specified by Corgan Associates Architecture to meet the project requirements. This included hand applying Kalzip anti-drumming material to the backside of the pre-formed sheets on the roof.

Detailing and Geometry – The project featured a multi-wave curved roof, long length continuous sheets, and multiple roof penetrations. Again, Castro demonstrated technique and resourcefulness to accommodate these extreme project conditions. As an example, the site formed panels were rolled in excess of 300ft long onsite. These are the longest single length Kalzip panels roll formed in North America to date. Sheets of this length required thorough coordination of the site labor. Just the handling aspect alone is a major undertaking to ensure the panels were lifted and installed without damage.

Material –The Kalzip standing seam roof material supplied for the project (Alupluzinc) has a zinc surface fused with an aluminum core. This material, like other zinc metals, requires specific and careful handling that must be followed by the installation crews.

Kalzip enjoyed working with Castro for this project and look forward to the next opportunities on the horizon!

Sincerely,

Dan Vinet, PE  
General Manager

Kalzip Inc, 4921 C Ohio Street, Michigan City, IN 46360  
T: +01-219-879-2793 F: +01-219-879-2665  
Dan.vinet@kalzip.com www.kalzip.com

# COMMENDATIONS







To: Ruben Amesquita  
Castro Roofing  
4854 Olson Drive  
Dallas, Texas 75227

RE: Dallas City Performance Hall project

The Dallas City Performance Hall is a very unique building which will provide the City of Dallas a beautiful venue to explore the Arts. One of the unique characteristics of this building was its roofing component.

Due to the nature of the building, acoustics were major challenge in the design of the roof. The roof consisted of many layers of acoustic material capped off with Kalzip panels that exceeded single lengths at minimum of 125 feet and some up to 320 feet. Castro's field operations exceeded the owners and McCarthy's expectations.

After various coordination meetings, the field supervision from Castro implemented this difficult roof with high quality performance and attention to detail. I recommend Castro Roofing for the 2012 Golden Hammer Award.

Thank you,

*Wesley Moncrief*

**Wesley J. Moncrief**

**Project Manager**

McCarthy Building Companies, Inc.  
2600 Ross Ave, Dallas, TX 75201  
Office: 214.754.9111 Ext:25

Fax: 214.754.9106

Mobile: 469.323.3576

# COMMENDATIONS



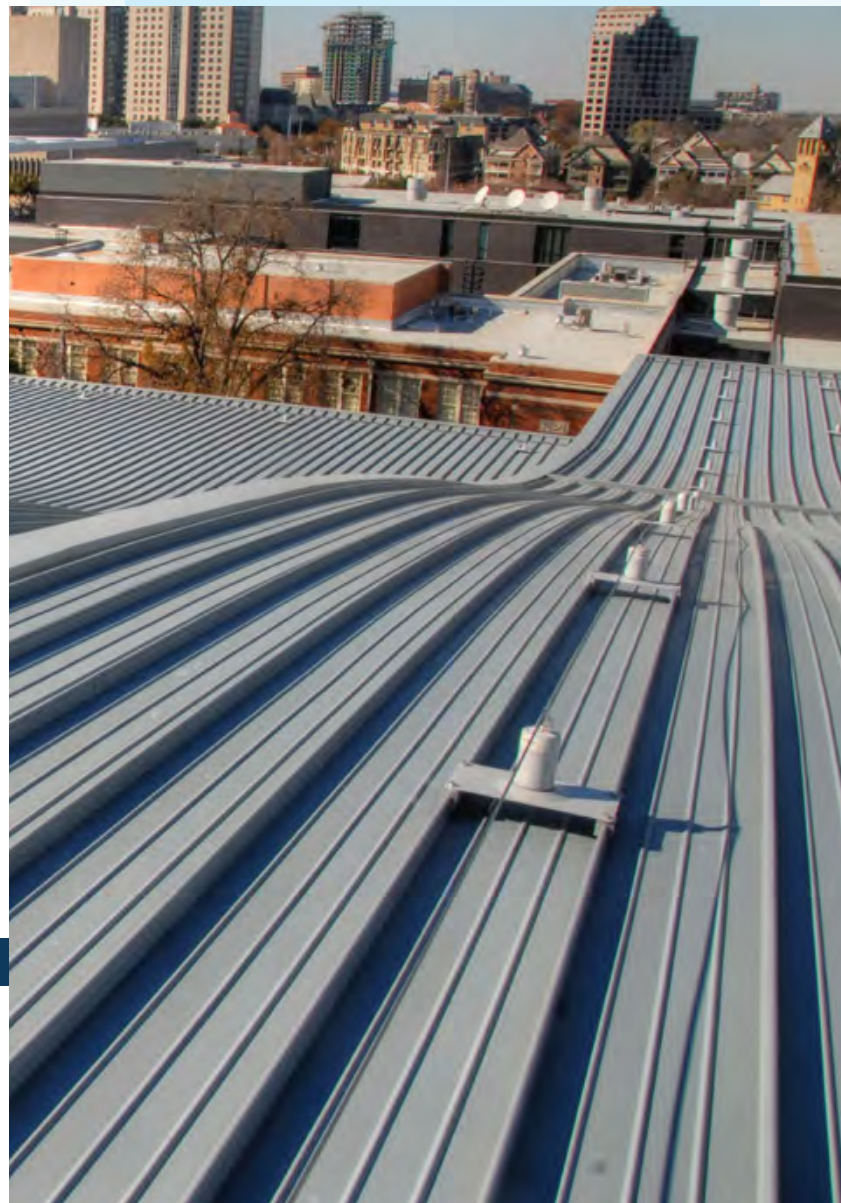




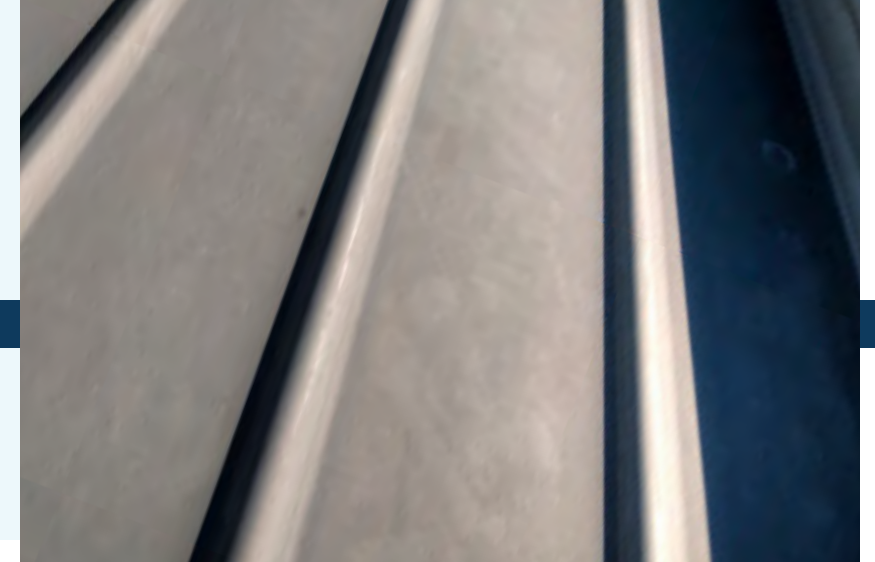
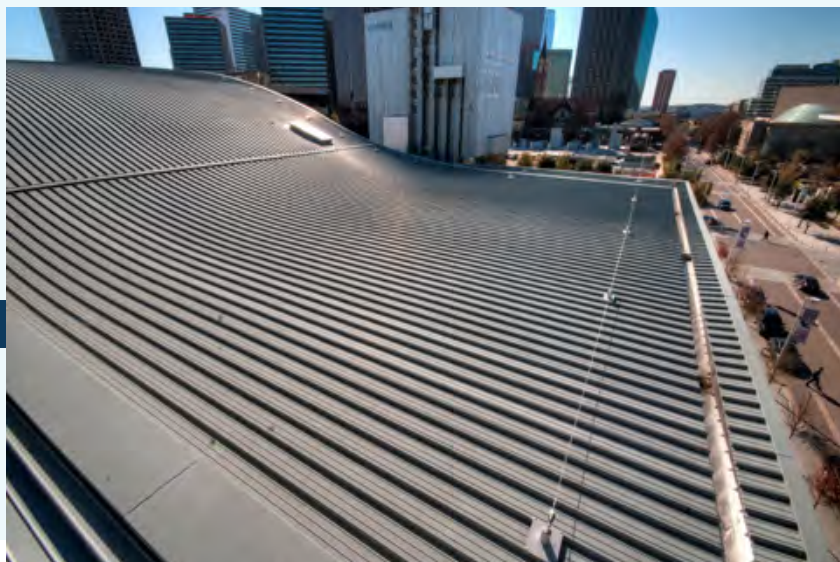
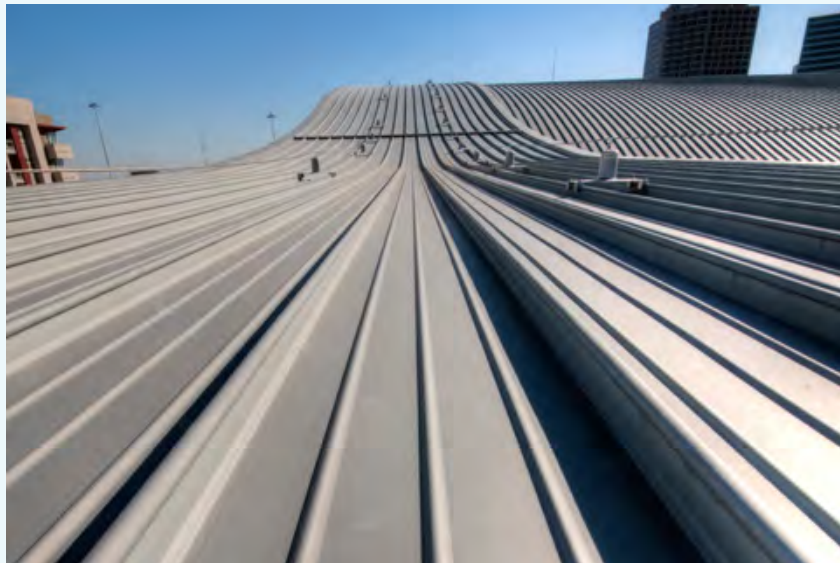
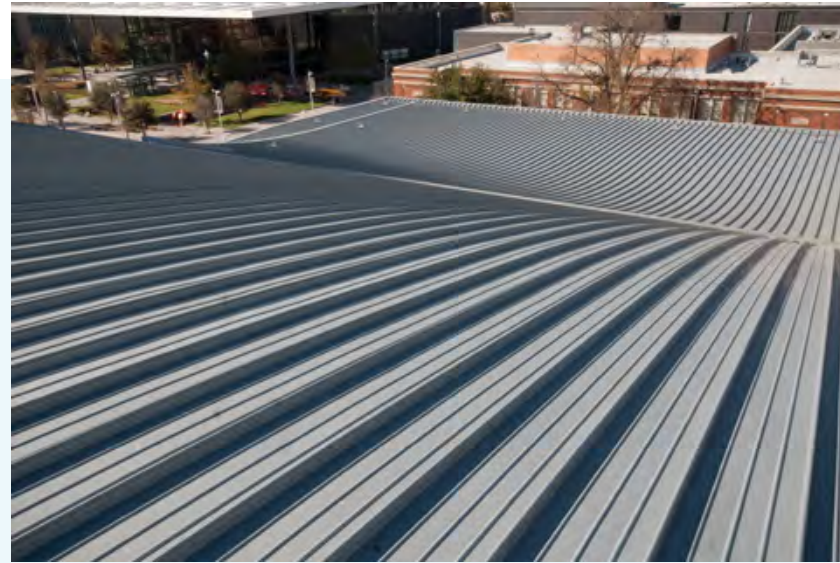




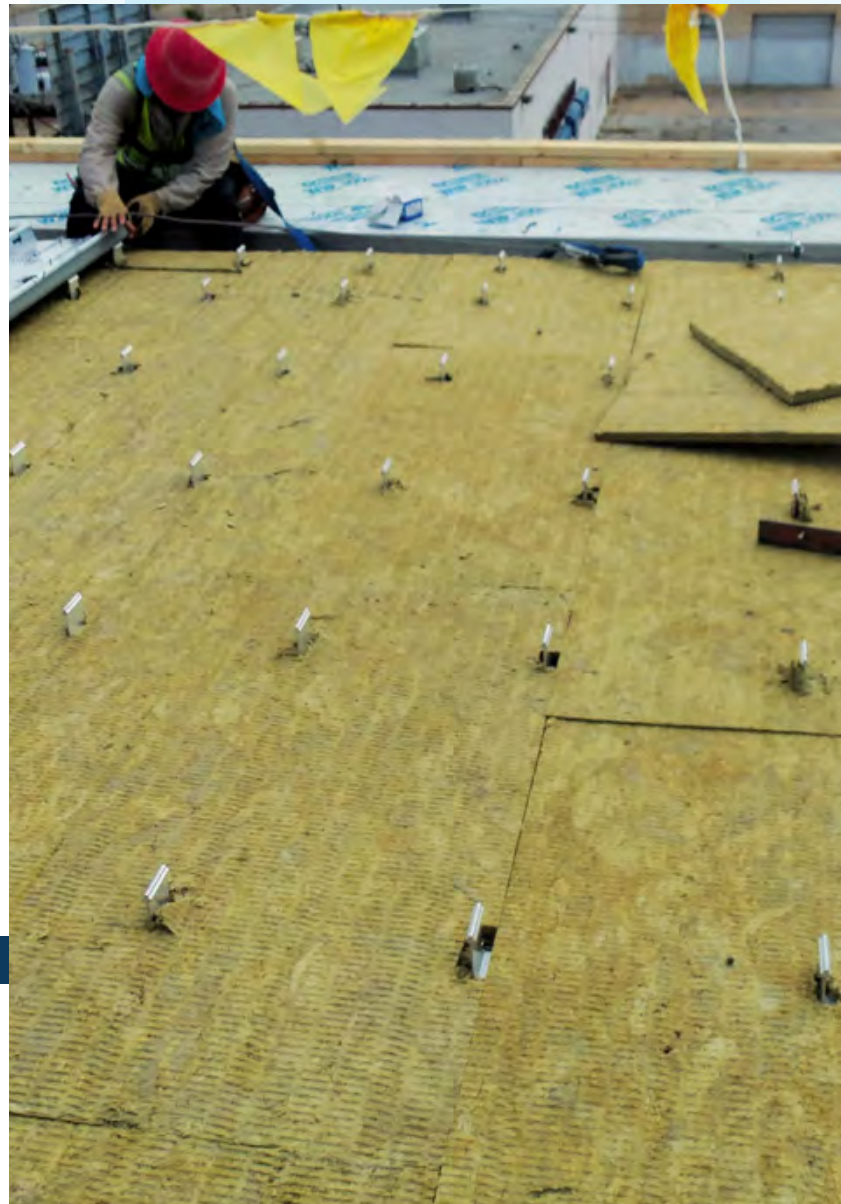
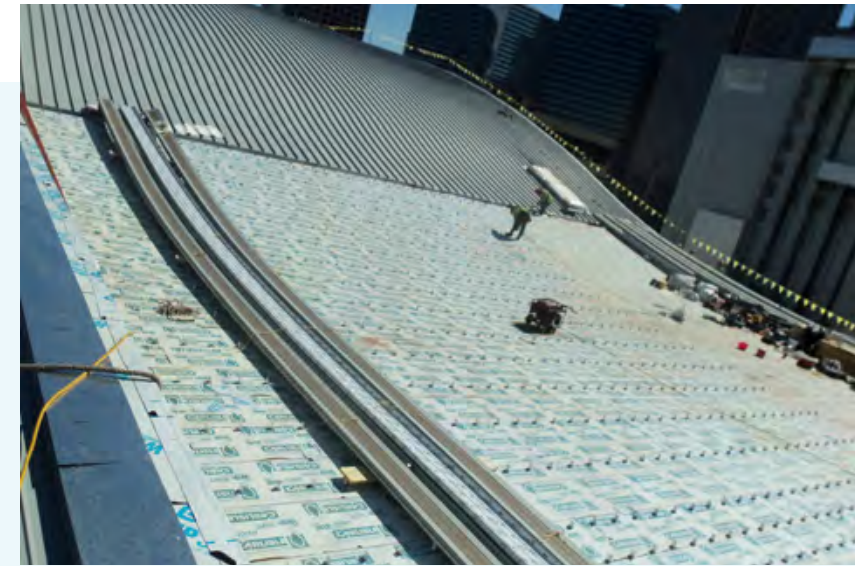




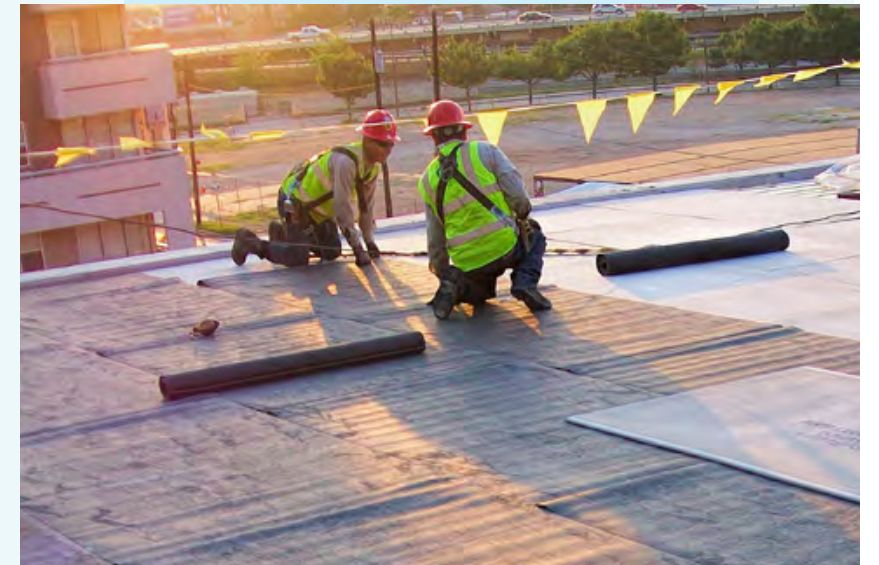
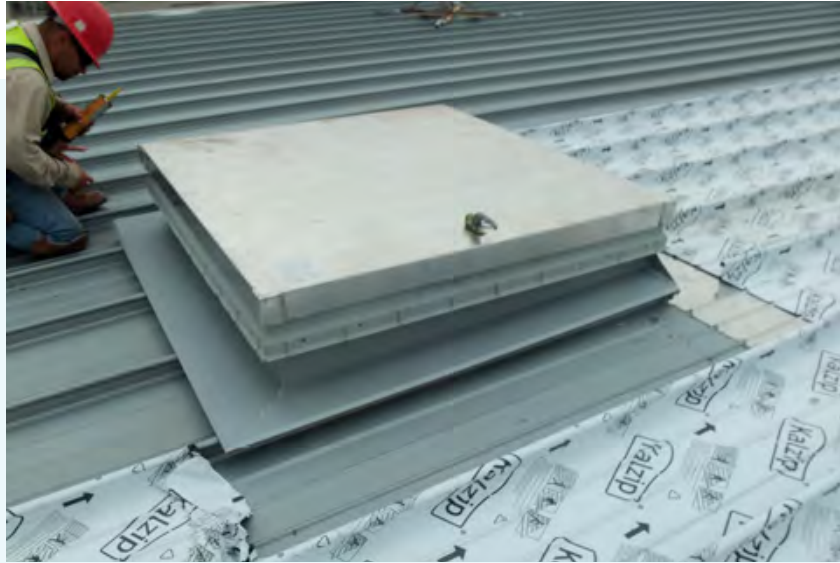
















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