

# MonoShield Protects Warehouse Against Potential Methane Vapor Intrusion

## Easy, Fast Installation Leads to Successful Implementation During Winter Conditions



## Highlights



Effective implementation in near-freezing temperatures



220,000 square feet installed



Improved protection over taped-seam barrier

## Site Details

### Site Type

Warehouse Development  
Near Former Landfill

### Contaminants of Concern

Methane

### Mitigation Approach

MonoShield® Vapor Barrier  
with TerraVent™

## Project Summary

A 220,000-square-foot warehouse development in Maryland, located near a former landfill, required contaminant vapor mitigation measures against the potential for methane vapor intrusion (VI). The initial VI mitigation system design proposed a 20-mil plastic membrane with taped seams. While this design met the minimum requirements for VI protection, its implementation during winter posed significant challenges. Cold weather conditions can diminish the workability of taped-barrier systems, leading to significant in-field challenges and project delays. To circumvent these issues and ensure adequate protection against methane VI, the project team sought the expertise of Land Science® for its MonoShield® Reinforced Metalized Contaminant Vapor Barrier and TerraVent Low-Profile Venting System.

MonoShield is proven to offer superior methane VI protection compared to taped vapor barriers. Featuring an easy roll-out design and utilizing a spray-applied nitrile-modified asphalt latex for sealing seams, utility penetrations, and terminations, MonoShield's ease of installation proved to be a significant benefit in the cold weather conditions onsite, ensuring the project moved forward, avoiding delays. The estimated installation time was significantly reduced compared to a taped system. Further, MonoShield's tear-and-puncture-resistant materials and grid-reinforced design maintained the barrier's integrity throughout construction activities, as confirmed by quality assurance/quality control testing (i.e., smoke testing) conducted by the Land Science Certified Inspector.



## Application

MonoShield installation at this site was completed by Budget Maintenance, a Land Science Certified Applicator

## Nitrile-Modified Asphalt Seams vs. Taped Seams



### Example of Nitrile-Modified Asphalt Seams

MonoShield Applications utilize a spray-applied nitrile-modified asphalt to seal seams and penetrations, eliminating bottlenecks in performance and installation time.



### Example of Taped Seams

Traditional vapor barrier installations require taped seams which contributes to long construction times and uncertainty in performance.

## Technology

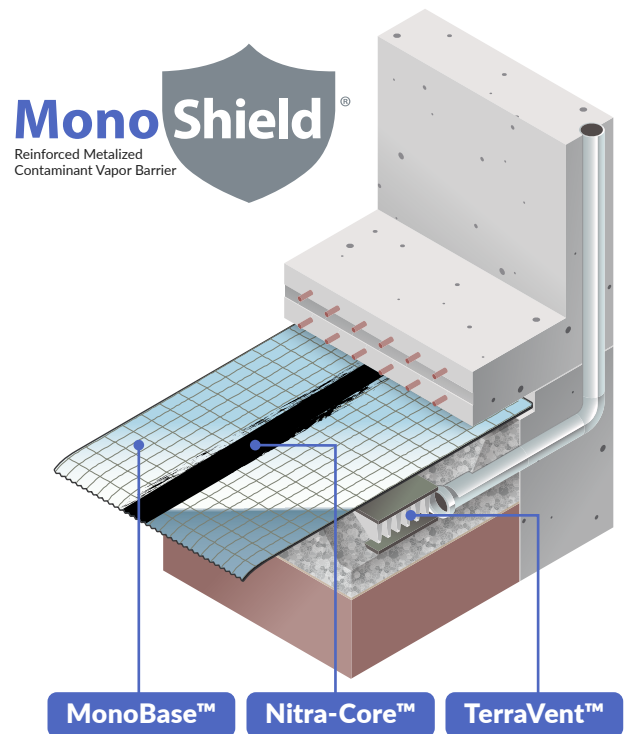
### Innovative Metalized Film Technology

Composed of an innovative metalized film that sets the standard for preventing diffusion and permeation of chemical vapors and a nitrile-modified asphalt that ensures a seal far more effective and easier to apply than tape-based or heat-welded systems, MonoShield offers the best of both worlds, providing developers with a viable long-term solution for reducing liability and protecting human health at a competitive cost.

### Nitrile-Modified Asphalt Technology

Land Science researchers have developed a break-through technology which incorporates nitrile, a material known for enhanced resistivity to contaminant permeation, into the spray applied core formulation. The resulting spray-applied core component offers an improvement of up to 10x in chemical resistivity compared to generic asphalt-latex spray applied barriers.<sup>1</sup>

1. U.S. and international patents pending.



## Results

Following installing the MonoShield contaminant vapor barrier with TerraVent, the new warehouse building met safety and environmental regulatory requirements, ensuring a safe breathing environment for future warehouse workers and building occupants. As Methane Vapor Intrusion concerns rise with the redevelopment of areas near former landfills, MonoShield continues to be proven as a cost-effective and reliable risk mitigation solution.

**Are You Planning a Vapor Intrusion Mitigation Project? Contact us today for a free estimate.**

1011 Calle Sombra, San Clemente, CA 92673 Phone: (949) 481-8118

[landsciencetech.com](http://landsciencetech.com)

