

Pollution Prevention (P2) for Home Construction

New home construction sites can be found all around the Phoenix-Metropolitan area as the region continues to grow in population. With home construction comes potential for air, soil, and water pollution.

Common construction materials such as isocyanates also pose health threats. It is important to address new home construction site pollution in order to ensure public health and environmental quality.



Indoor Air Quality

Many common materials used in home construction, including paints, adhesives, flooring, and insulation, can contain volatile organic compounds (VOCs). These compounds can become concentrated inside buildings and lead to adverse health effects for those who live and work there. Consider using materials that are certified by a third party for no or low emissions to improve indoor air quality and limit health hazards. The Environmental Protection Agency's (EPA) Indoor airPLUS program is a resource that can be used to identify certified low emission products.¹

Isocyanates are another type of harmful compound which can be found in building materials like spray-on insulation, coatings, and adhesives. If workers' potential exposure to these compounds cannot be eliminated by substituting safer materials, it should be mitigated through use of supplied-air respirators, full body personal protective equipment (PPE), and safety training of all employees who work with these materials.²

Dust Control

Construction activities also contribute to outdoor air pollution and can generate dust which is harmful when inhaled and can lead to respiratory problems. Some practices that can help reduce dust at construction sites include:³

- Proactively cover potential dust sources and trafficked areas with mulch or gravel.
- Reduce vehicle speed in and around the site and use paved roads when possible.
- Use covers or windbreaks to protect piles of material from wind exposure.
- Promptly transport waste materials offsite to proper disposal environments.
- Spray water to dampen dust and reduce air particulates.

Stormwater Pollution Prevention

Construction activities can introduce sediment and other pollutants into storm water runoff, eventually leading into Arizona surface waters. To mitigate this,

certain construction activities are required to obtain an AZPDES Construction Activity General Permit (CGP) from AZDEQ for their stormwater discharge. See ADEQ's AZPDES page for more information about affected discharges and permit requirements.⁴ Construction activities that do not need a CGP can still take the following steps to prevent stormwater pollution:⁵

- Assess the site to identify where stormwater flows and where possible pollutants will be located.
- Store construction materials in covered areas when possible.
- Ensure that all waste is stored in covered, leak-free containers and is disposed of promptly.
- Use berms to control runoff flow, reduce velocity, and limit erosion.
- Surround storm drain inlets with filters to remove pollutants before discharge.
- Train all employees on proper spill prevention and response procedures.

Sustainable Materials Management

Construction and demolition (C&D) activities can generate a large amount of debris made up of materials such as concrete, wood, plasters, asphalt and brick.⁶ Try to minimize generation of this potential waste stream by purchasing construction materials as needed and not accumulating excess on site. When debris is generated, look for opportunities to reuse the material rather than disposing of it as waste. It may be recoverable for use on future construction projects or for recycling into alternative products.⁷

Potential recycling solutions can be found by entering the material and location in ADEQ's Recycling Locator.⁸ When recycling is not possible, refer to ADEQ's Solid Waste page for information on non-municipal solid waste landfills that accept C&D debris.⁹

References

¹ [EPA. Indoor airPLUS Compliant Low Emission Products.](#)

² [National Institute for Occupational Safety and Health \(NIOSH\). Isocyanates.](#)

³ [Washington Department of Ecology. Methods for Dust Control.](#)

⁴ [ADEQ. Why do I need an AZPDES Construction Activity General Permit \(CGP\) for Stormwater?](#)

⁵ [EPA. Developing Your Stormwater Pollution Prevention Plan.](#)

⁶ [EPA. Advancing Sustainable Materials Management: 2014 Fact Sheet.](#)

⁷ [EPA. Sustainable Management of Construction and Demolition Materials.](#)

⁸ [ADEQ. Recycling Locator.](#)

⁹ [ADEQ. Solid Waste Management: Plan Reviews.](#)



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