

- ARCHIVE:** Archived due to the 2014 rule revision. Revision was necessary to update rule citations and language within the TGC. Refer to VA30007.14.018 for the updated document.
- TITLE:** “Restricted” (Modified) Residential Properties<sup>1</sup>.
- DATE EFFECTIVE:** January 2010
- HISTORY:** New addition to the Technical Guidance Compendium
- KEYWORDS:** Point of compliance, environmental covenant, residential land use, activity and use limitations, institutional control, engineering control, operation and maintenance, direct contact soil standards
- RULE/ AUTHORITY:** Ohio Administrative Code (OAC) 3745-300-07, -08, -09
- QUESTION:** What remedial activities may a volunteer implement to achieve VAP direct contact soil standards to support residential land uses for a shallower point of point of compliance (POC) less than 10 feet (the minimum depth for unrestricted land use)?
- BACKGROUND:** Based on OAC 3745-300-07(I)(1) (effective 3/1/09), a property meets unrestricted land use when residential direct contact soil standards are achieved to a minimum depth of 10 feet below ground surface. However, in some cases it may not be economically or technically feasible for residential properties to be cleaned up to the 10-foot depth for unrestricted use. In such cases, the VAP will consider a modified residential POC shallower than 10 feet, if an appropriate POC can be justified and controls added to ensure it is maintained.
- ANSWER:** To depart from the unrestricted residential use soil depth (10 feet) POC, a volunteer must establish and maintain a POC that supports future land use and takes into account potential exposure pathways and COCs. [OAC 3745-300-07(I)(1)(a)(i)]. Any modification of the unrestricted land use POC must be supported by property-specific information on end-use or redevelopment plans including subsurface structures and utilities. In other words, if a volunteer wishes to establish a residential direct contact POC less than 10 feet, the decision must be based on the property’s anticipated end use. There must be a reasonable expectation that the modified POC is unlikely to be breached given the planned redevelopment, or the expected residential use. Only after this POC is established and it is shown that it can be properly supported should the volunteer go on to consider how this restriction is to be implemented and maintained.

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<sup>1</sup> This guidance applies only to the direct contact soil exposure pathway for residential receptors. All other pathways must be addressed in accordance with OAC 3745-300 (e.g., vapor intrusion to indoor air, construction/excavation pathways, and/or important ecological receptors).

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Direct contact soil standards for residential receptors can be met in a number of ways. First, for any property not meeting a 10-foot POC, a use restriction must be placed in an environmental covenant<sup>2</sup> for the property. This restriction should reflect the property use assumptions upon which the POC was established, e.g., if we concluded 2' POC is reasonable because it is unlikely there will be any digging as we are building high rise apartments, the property must be restricted to high rise apartments.

Second, the volunteer must establish the appropriate remedy needed. This can be done through construction of a physical barrier that eliminates contact with soil above applicable standards such as hard surface engineering controls or a soil cover cap. An O&M plan is necessary to see that these controls are maintained. Alternatively, the activity prohibition can also be achieved through an EC that simply prohibits regrading and/or digging deeper than the POC.

Any modification of the unrestricted land use POC must be supported by property-specific information on end-use or redevelopment plans including subsurface structures and utilities. The VAP rules dictate separate verification criteria to demonstrate the remedy is complete and the long-term obligations required for maintenance of the selected remedy.

The discussion below focuses on the most typical scenario, restricted residential use properties, where the POC is not less than 2 feet, but not greater than 10 feet. Residential land use scenarios where the POC is shallower than two feet below ground surface or the POC is 10 feet or greater below ground surface is provided in Exhibit 1. Additionally, a residential land use scenario where the POC is 10 feet or greater below ground surface is considered an unrestricted land use. This remedy option and all long term obligations are also provided in Exhibit 1.

A separate determination that applicable standards are met is needed for other soil exposure pathways, such as construction / excavation activity or vapor intrusion, and for exposure to COCs in other environmental media at the property, such as surface water or ground water. Important ecological resources, if present at the property, need to be assessed in accordance with OAC 3745-300-08 and 09.

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<sup>2</sup> Use restrictions are termed institutional controls or “activity and use limitations” under Ohio’s Voluntary Action Program (VAP). For sites seeking a covenant not to sue, activity and use limitations are established under an environmental covenant.

**“Restricted” Land Use Scenario (POC greater than two feet but less than 10 feet)***Examples:*

- Restricted residential uses - condominiums, apartments, and/or slab-on-grade residential developments with potential exposure pathways to soil.

*Point of compliance<sup>3</sup>:*

- No less than two- feet and no greater than 10 feet below ground surface. Soil from ground surface to two feet below ground surface must meet residential direct contact soil standards. A justification based on site-specific criteria is required to establish and maintain the property-specific POC. An elevation survey is required by VAP to document the POC pursuant to OAC 3745-300-07(J)(14) and OAC 3745-300-11(E)(1)(c)(iii).

*Typical scenario:*

- Residential uses with associated green space (e.g., lawns, parks, landscaped areas, recreational areas, backyards) with contaminated soil below the POC.
- Expectation that soil may be excavated within or below the applicable POC for activities such as landscaping or maintenance of infrastructure, like utilities. Once any excavation activity is completed, the soil barrier must be restored to maintain the POC in accordance with OAC 3745-300-07(I)(1)(a).

*Environmental covenant requirements:*

- Establishes activity and use limitations - restricting property to a prescribed land use. The environmental covenant declares that a central management entity is responsible for site construction and maintenance, fence installation and other activities that may result in disturbance of soil at the property.
- The volunteer or property owner must maintain compliance with the activity and use limitations prescribed in the environmental covenant.

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<sup>3</sup> Point of compliance in this scenario is the reasonably anticipated depth to which a resident might be expected to dig.

**Remedial options:**

OPTION 1	OPTION 2
<p>An O&amp;M plan, comprised of maintenance of an engineering control or other protective soil barrier<sup>4</sup> to eliminate direct contact with soil above residential standards is required.</p> <p>Environmental covenant that establishes activity and use limitations - restricting the property to a prescribed land use and prohibiting fee simple, single family homes or duplexes, or 'stand alone' dwellings that are not condominium property pursuant to Ohio law. The environmental covenant declares that a central management entity is responsible for site construction and maintenance, fencing and other activities that may result in disturbance of soil at the property.</p> <p>A risk mitigation plan may be included that would allow excavation below the point of compliance. Provisions in the risk mitigation plan must contain language which provides that the engineering control will be replaced following excavation activities.</p>	<p>An environmental covenant including activity and use limitations to maintain the POC and prevent exposure to contaminated soil below the POC.<sup>5</sup> This option eliminates reliance on engineering controls or other barrier to prevent exposure below the POC.</p> <p>Examples of what the environmental covenant should require include the following:</p> <ul style="list-style-type: none"> <li>• An excavation depth restriction, which prohibits excavation below the POC.</li> <li>• Excavation of soil within the applicable POC may occur for activities such as landscaping or maintenance of infrastructure, but once any excavation activity is completed, the soil barrier must be restored to maintain the POC in accordance with OAC 3745-300-07(I)(1)(a).</li> <li>• Prohibition against subsurface structures including basements and utilities below the POC.</li> </ul> <p><b>NOTE:</b> This remedy is not suitable for properties that may undergo re-grading below the point of compliance or rely on a risk mitigation plan to comply with the demonstration of applicable standards. <b>Non compliance with the environmental covenant will result in an automatic voidance of the covenant not to sue (CNS).</b></p>

<sup>4</sup> Soil used as a barrier to underlying contaminated soil can constitute an engineering control. VAP statute ORC 3746.04(B)(2)(a)(iii) refers to engineering controls that contain or control the release of hazardous substances... in order to comply with applicable standards. Soil left in place for use as a protective cap can be considered an engineering control by its use and reliance as a barrier to COCs in soil.

<sup>5</sup> The effectiveness of relying on activity and use limitations as the sole remedy for the property to maintain compliance with direct contact soil standards requires a site-specific evaluation of anticipated land uses.

**Long-term obligations:**

OPTION 1	OPTION 2
<p>1. Requires regular O&amp;M (and risk mitigation plan, if needed) reporting requirements to the Agency on efficacy of engineering control cap (and implementation of RMP, if present).</p> <p>2. Breach of the cover or exposure to contaminated soil below the POC without the use of a risk mitigation plan triggers non-compliance with applicable standards. The O&amp;M plan provides the 'opportunity-to-cure process', pursuant to Ohio Revised Code (ORC) 3746.12(B), for the volunteer or central management entity that is responsible for the O&amp;M activities to return the property to compliance.</p> <p>3. Maintain compliance with the activity and use limitations prescribed in the environmental covenant.</p>	<p>1. Maintain compliance with the activity and use limitations prescribed in the environmental covenant.</p> <p>2. No O&amp;M plan is required. However, without an O&amp;M plan, violation of an activity and use limitation in the environmental covenant triggers automatic voidance of the CNS pursuant to ORC 3746.05. There is no 'opportunity-to-cure process' under ORC 3746.05.</p>

**SUMMARY:**

Restrictions must be placed on residential properties that do not meet direct contact soil standards within the 10-foot POC specified by OAC 3745-300-07(I)(1) (eff. 3/1/09) or in prior rule versions. The remedy at these "restricted" residential properties is guided by a combination of the final POC and anticipated [or desired] land use and activities. Associated benefits and uncertainties are associated with each potential remedy as described in this guidance. It is up to the volunteer to determine which remedy best suits the needs of the final use of the property.

**OHIO EPA CONTACT:**

For any questions concerning this issue, please contact the VAP central office at (614) 644-2924.

**EXHIBIT 1**

Scenario discussions herein correspond to the schematic in Exhibit 2 where soils do not meet direct contact residential soil standards within two feet of ground surface (Scenario A) or the POC is 10 feet or greater (unrestricted land use) below ground surface (Scenario C).

**Scenario A: Condominiums or apartments, with maintenance of an appropriate cap such as a hard cover barrier (i.e., pavement or concrete) and no exposed soil**

*Direct contact soil point of compliance:*

- Shallower than two feet below ground surface.

*Typical scenario:*

- Downtown urban areas where there are no associated green spaces (e.g., lawns, parks, recreational areas, landscaped areas, recreational areas, backyards) except for those supported by a protective pavement or concrete cap or barrier to underlying soil exceeding direct contact soil standards.
- There is no opportunity for residential receptors to come into contact with soil.

*Remedy:*

- O&M plan comprised of maintenance of a pavement cap, concrete cap, or building slab that eliminates contact with soil above applicable standards.<sup>6</sup>
- Environmental covenant that establishes activity and use limitations - restricts the property to a prescribed land use and prohibits fee simple, single family homes or duplexes, or 'stand alone' dwellings that are not condominium property pursuant to Ohio law. The environmental covenant declares that a central management entity (e.g., homeowner/condo association) is responsible for site construction and maintenance, fencing and other activities that may result in disturbance of soil at the property.

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<sup>6</sup> A protective cap would be some type of competent barrier such as a concrete or asphalt engineering control that prevents contact with underlying soil.

*Long term obligations and risks:*

- Regular O&M plan and risk mitigation plan (if present) reporting requirements<sup>7</sup> to the Agency.
- Compliance with activity and use limitations prescribed in the environmental covenant must be maintained.
- Breach of the cap or exposure to contaminated soil below the POC triggers non-compliance with applicable standards. The O&M plan provides the 'opportunity-to-cure process', pursuant to ORC 3746.12(B), for the volunteer or central management entity that is responsible for the O&M activities to return the property to compliance.
- Violation of an activity and use limitation (i.e., non-compliant land use) triggers the automatic voidance of the CNS pursuant to ORC 3746.05.

**Scenario C: Single or multi-family dwellings, and/ or unknown residential land use (unrestricted land use)***Direct contact soil point of compliance:*

- Applicable standards are met in soils from the surface to 10 feet or greater below ground surface.

*Typical scenario:*

- Fee simple single or multi-family homes, sub-divisions or unknown residential land use.
- Expectation of residential receptors excavating soil to any depth.
- Whenever unrestricted land use is desired by the volunteer.

*Remedy:*

- None required to comply with direct contact standards for soil.
- Note that if COCs in another environmental media at the property should exceed standards, a remedy may be needed to comply with those standards.

*Long term obligations/risks:*

- None, unrestricted land use allows for no long term obligations.

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<sup>7</sup> It is desirable to have one entity accept responsibility for maintenance of the O&M plan and/or the environmental covenant. This is because implementation of the O&M obligations or compliance with the environmental covenant by individual homeowners would be difficult to verify by the Agency, as well as cumbersome for individual property owners (e.g., annual reporting to the Agency).

Exhibit 2. Restricted Residential Point of Compliance Schematic

