State of Oregon Department of Environmental Quality

Informational Paper: Survey Exemption for Residential Renovations

Asbestos 2018 rulemaking
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Introduction

The Oregon Department of Environmental Quality reviewed asbestos rules in Oregon Administrative Rule 340 Division 248 under the authority of Oregon Revised Statute 468A.700-.760. This review provides stakeholders and DEQ with an opportunity to evaluate and clarify regulations and standards for asbestos-related activities, where a potential for exposure to asbestos fibers exists. This paper examines the current rule that exempts[1] asbestos surveying, involving sampling of suspect materials prior to conducting a residential renovation.

Human health can be protected by performing asbestos surveys prior to renovation and demolition. When a residential renovation is conducted that impacts, disturbs, or improperly removes ACM, the asbestos fibers may be released into the home, and the occupants may be exposed to the asbestos fibers. There are no known safe levels of exposure to asbestos fibers. Asbestos can cause diseases such as asbestosis, mesothelioma or lung cancer and serious respiratory illnesses.

The asbestos survey is a tool used to ensure compliance with the asbestos abatement rules. Current Oregon rules require an asbestos survey prior to commercial demolitions and renovations, and for residential demolitions of buildings constructed prior to Jan. 1, 2004. Residential renovation construction projects are currently exempt from the asbestos survey requirement.

DEQ staff frequently receive inquiries from building owners, homeowners, and contractors about asbestos survey requirements for residential renovations. DEQ staff recommend to have a survey conducted by an accredited inspector, or the owner occupant can collect samples themselves of suspect material for lab analysis. DEQ explains that any ACM identified must be removed by a licensed asbestos abatement contractor. This is to ensure that the requirements regarding licensing, notification, work practices, packaging for disposal, and disposal of friable and nonfriable ACM are performed. An owner occupant is allowed to perform the asbestos abatement work and is exempt[2] from the work practices including abatement by a licensed asbestos abatement contractor and other rules, with the exception of the asbestos disposal requirements in OAR 340-248-0280 and OAR 340-248-0290.

Residential renovation project costs can increase significantly as a result of finding ACM while performing the project work, or if potential ACM is identified when construction loads are brought to a disposal site. For example, project costs can increase if ACM is not identified and properly removed before construction activity begins. In this scenario, a release or potential release of asbestos fibers from work that breaks-up, dislodges, or disturbs ACM requires that the facility be decontaminated by a licensed asbestos abatement contractor to remove any asbestos fibers from home furnishings, walls, and floors. This is done by utilizing the required work practices for friable asbestos abatement. Residential renovation project waste that is transported and tipped at a disposal site and is suspected of containing

[1] OAR 340-248-0250(2)(c)
[2] ORS 468A.755 Exemptions

asbestos-containing waste material is required to have an accredited inspector sample the suspect materials. If the suspect ACWM is confirmed to contain asbestos, then a licensed asbestos abatement contractor is required for the clean-up of the ACWM and to dispose it at a facility permitted to accept ACWM. The disposal facility where the debris was tipped loses valuable tipping space until the ACWM is properly removed by licensed and certified asbestos professionals.

When a demolition or renovation on a facility is properly executed with consideration for ACM, the facility owners, contractors, waste haulers, and disposal facilities benefit. ACMs can be accurately identified and project budgets can account for abatement costs in advance of the project start date. Facility owners can ensure their project is not posing a risk of asbestos exposure to themselves, other building occupants, contractors, workers or neighbors. Contractors can ensure that they can accurately identify building materials for ACM to support a work-plan that is safe for workers and has required removal work practices according to OAR 340 Division 248. Disposal sites improve their facility management when they can review a survey for ACWM-derived loads (regardless of knowing if the ACWM came from a facility renovation or demolition) or are provided adequately packaged ACWM to ensure proper management, employee health, and environmental safety.

Background

The Environmental Quality Commission adopted a rule requirement in 2002 that requires an asbestos survey to be completed by an accredited inspector prior to any renovation or demolition with the exception of renovations completed by a residential owner occupant. DEQ requested and received comments from stakeholders about the survey requirement. Comments included questions about why the survey requirement was going to apply to more than the National Emissions Standards for Hazardous Air Pollutants[3] regulatory threshold, which exempts residential dwellings of four or fewer units.

DEQ additionally received comments about the 2002 rulemaking regarding a potential increase in costs that surveys may add to remodeling projects. There was concern that if homeowners were required to survey residential renovation projects they would instead do the removal themselves to save costs and the subsequent costs of hiring of a licensed abatement contractor. Finally, there was concern about the potential for an increase in illegal disposal of asbestos making the solid waste industry or a contractor potentially liable for a homeowner's improper asbestos removal. In response to these concerns, the EQC adopted revised rules that changed the survey requirement to non-residential renovation or demolition only.

DEQ complaints about improper removal of ACM during residential demolitions and renovations have more than doubled from 2012 and 2016. In 2015, the EQC adopted asbestos rule amendments that require an owner or operator to have an accredited inspector perform an asbestos survey before demolition activities at residential buildings. The rulemaking[4] implemented Senate Bill 705 that specifically required DEQ to address residential demolitions. Time constraints for the rulemaking did not allow for other considerations brought up during the Senate Bill 705 rulemaking, including survey requirements for residential renovations.

[3] NESHAP. National Emissions Standards for Hazardous Air Pollutants, Asbestos

[4] SB 705 DEQ rulemaking documents are on the DEQ Website: http://www.oregon.gov/deq/Regulations/rulemaking/Pages/Rasbestos2015.aspx

Definitions

Oregon Administrative Rule 340, Division 248 defines a renovation as altering in any way one or more facility components. Operations in which load-bearing structural members are wrecked or removed are excluded. A demolition is defined in rule as the wrecking or removal of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility. The distinction between a renovation and a demolition, where a demolition is removing a load-bearing structural member, does not necessarily represent the impact or intensity of the asbestos abatement. A project that is considered a small-scale, short-duration activity by definition potentially reduces the risk of releasing airborne asbestos. Small-scale, short-duration activities are not renovations or demolitions and do not require a survey.

Small-scale, short duration activity is defined in rule means a task where the removal of asbestos is not the primary objective of the job, including but not limited to: (a) removal of small quantities of asbestos-containing insulation on beams or above ceilings; (b) replacement of an asbestos-containing gasket on a valve; (c) installation or removal of a small section of wallboard; (d) removal of asbestos-containing thermal system insulation not to exceed amounts greater than those that can be contained in a single glove bag; (e) minor repairs to damaged thermal system insulation that do not require removal; (f) repairs to asbestos-containing wallboard; (g) installation of electrical conduits through or proximate to asbestos-containing materials; and (h) repairs, involving encapsulation, enclosure, or removal, of small amounts of friable asbestos material in the performance of emergency or routine maintenance activity and not intended solely as asbestos abatement. Such work may not exceed amounts greater than those that can be contained in a single prefabricated mini-enclosure. Such an enclosure must conform spatially and geometrically to the localized work area, in order to perform its intended containment function.

Examples of residential renovation enforcement cases

DEQ reviewed a sample of 125 formal enforcement actions related to asbestos statewide from January 2015 to February 2017 using the following key search words: residential[5], residence, dwelling, single-family home, duplex, renovation, renovate, demolish, and demolition. The sample cases researched were further divided into three overall categories of *residential*, *renovation*, and *demolition.* A few cases as early as 2012 were included in the research reviewed if those cases were part of administrative efforts to digitize printed documents. Formal Enforcement Actions related to key search terms *residential* and *renovation* made up 29 percent of the total cases sampled. Examples of the residential renovation activities requiring enforcement are below.

a) Respondent removed an HVAC unit, ducting, and thermal system insulation components (materials) from a residential building. The TSI contained 65 percent Chrysotile asbestos by weight and was determined to be a friable TSI capable of crumbling under hand pressure. The asbestos materials were transported from the project to the Metro South transfer station, which is not a DEQ-authorized waste disposal site for asbestos. The asbestos materials were not adequately abated, packaged for disposal, or safely transferred allowing for open accumulation and the potential release of asbestos fibers into the air.

b) Respondent removed approximately 200 square feet of sheet vinyl flooring that contained 60 percent Chrysotile asbestos in its backing material. The ACMs were scraped, crumbled, or damaged during the removal and thrown in an open dumpster, resulting in the potential release of asbestos fibers into the air by unlicensed asbestos abatement contractors and uncertified laborers. Additionally, an active day care was located immediately adjacent to this site with ACM fragments encountered 10 feet from the day care.

[5] OAR 340-248-0260(1)(h) Residential buildings include: site built homes, modular homes constructed off site, mobile homes, condominiums, and duplexes or other multi-unit residential buildings consisting of four units or less.

c) Respondent allowed an unlicensed person to perform an asbestos abatement project, openly accumulating ACWM, and failing to submit notification for an asbestos abatement project.

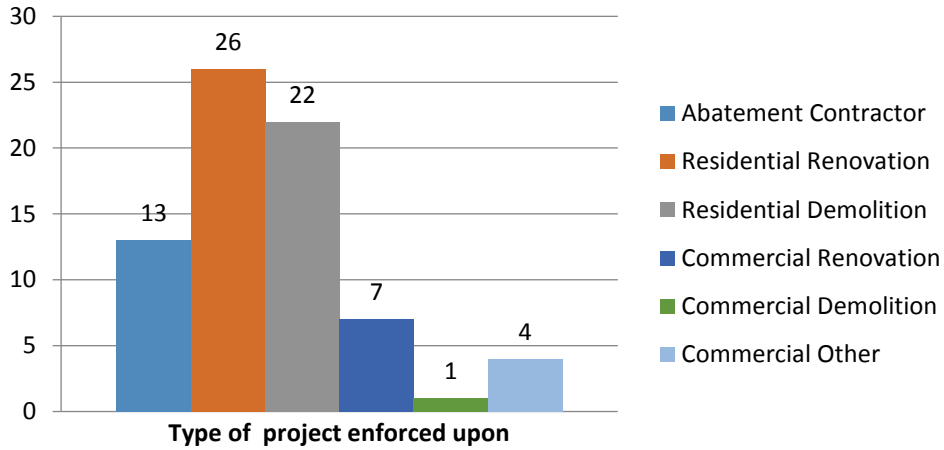
d) Respondent removed cement asbestos board siding from the exterior of a residential building. The CAB siding contained approximately 15 percent Chrysotile asbestos by weight. The respondent rendered the material friable due to poor handling practices, failing to enclose the area where friable asbestos materials were being removed from with a negative pressure enclosure and did not adequately wet the CAB siding.

e) Respondent removed approximately 115 square feet of floor tile and mastic that contained 10 percent Chrysotile asbestos in the tile and 2 percent Chrysotile asbestos in the mastic, 6 feet of paper duct insulation that contained 70 percent Chrysotile, and an unknown amount of popcorn ceiling texture and joint compound that contained a total of 9 percent Chrysotile. The ACMs were scraped, crumbled, or damaged during the removal resulting in the potential release of asbestos fibers into the air by unlicensed asbestos abatement contractors and uncertified laborers. The Respondent left the ACWM in an uncovered trailer at the residence.

Densely populated areas of Oregon: DEQ northwest region cases

DEQ's northwest region documented 90 formal enforcement actions associated with 73 individual projects, from May 2014 to July 2017. The project categories associated with these individual projects is summarized in Figure 1. The most prevalent project category worthy of enforcement action is residential renovations, which comprises 36 percent of the individual projects enforced upon.

Figure 1. DEQ NWR asbestos enforcement cases by project type (May 2014- July 2017)



Associated costs with asbestos enforcement actions

Common activities occur in asbestos abatement civil penalty cases concerning residential renovations. The composite case scenarios A and B consist of at least three civil penalty cases to ensure anonymity. These cases were the product of complaints, but it should be noted that DEQ does not only inspect projects based on complaints. A third case scenario C is presented that shows the potential costs if a residential renovation survey is performed prior to commencing work and no civil penalty for improper work practices. All three scenarios are assumed to have the same amount of materials for comparison. Table 1 on page 6 shows the costs for each scenario and the images on page 7 show examples taken from enforcement cases at residential renovations.

Scenarios A – C for residential renovation enforcement actions and a home renovation without penalty

Scenario A – Complaints from disposal sites

DEQ is contacted by a disposal site regarding a suspect load of residential renovation construction waste that appears to have friable ACM within the load tipped by a waste hauler. The disposal site had the suspect material tested by a laboratory that resulted in three (3) percent chrysotile asbestos. DEQ received an emergency waiver request from a licensed asbestos abatement contractor to clean up the fragmented friable asbestos at the disposal site and the facility site where the ACWM was generated.

The developer of the site where the waste was generated confirmed they failed to have an asbestos survey conducted, to notify DEQ of an asbestos abatement project, to hire an abatement contractor licensed with DEQ, to properly remove friable material or comply with packaging requirements associated with friable abatement, or to properly dispose of ACWM at a DEQ permitted facility authorized to receive asbestos waste.

Scenario B – Complaints from the public

DEQ receives a public compliant of a residential renovation with a drop box at the project site. While on site, the DEQ inspector observed nonfriable ACM that was rendered friable from improper removal and improper work practices. The ACWM was piled and scattered around the radius of the project site. Some ACWM were stored outside without proper packaging and labeling resulting in open accumulation.

The project owner failed to notify DEQ of an asbestos abatement project, to hire a licensed accredited abatement contractor, to employ laborers who are certified by DEQ to remove friable asbestos, and to properly remove and package friable ACWM.

Asbestos exposure as a result of scenarios A and B

In these common scenarios, asbestos materials were openly accumulated and asbestos fibers were likely released into the air, potentially exposing workers, the public, and neighbors to asbestos fibers. Improper labeling and packaging for proper disposal of ACWM exposes workers at the generation site and the disposal site.

Scenario C – Home renovation

Home renovation project owner hires an accredited inspector to perform an asbestos survey and take material samples for a home renovation with potential or suspect ACM. The survey shows material containing more than one percent asbestos by weight. As a result of the survey, the owner submits a notification form and the coordinating fee to DEQ, then hires a licensed asbestos abatement contractor to perform the abatement.

Table 1. Scenarios A – C summary of costs for enforcement action cases concerning residential renovations and a home renovation without penalty

Scenario	Summary	Costs
A	Performing an asbestos abatement project without a license and for disposing of ACWM at an unauthorized disposal site location. Result: Public and worker exposure to asbestos	1. DEQ emergency asbestos project notification and fee adds 50 percent to the tiered cost structure: $600 (originally $400) 2. Hire a licensed abatement contractor to clean up the ACWM at the disposal site: $8,000 3. Hire a licensed abatement contractor to clean up the ACM at the generation site: $20,000 4. DEQ Civil Penalty $26,000 **Total cost: $54,600***
B	Performing an asbestos abatement project without being a licensed asbestos abatement contractor or hiring a licensed asbestos abatement contractor to perform the asbestos abatement, and open accumulation of friable ACWM at a residence. Result: Public and worker exposure to asbestos	1. DEQ **emergency** asbestos project notification and fee (adds 50 percent to the tiered cost structure): $150 (originally $100) 2. Hire a licensed abatement contractor to clean up the asbestos-containing waste material at the generation site: $25,000 3. DEQ Civil Penalty $30,000 **Total cost: $55,150***
C	Home renovation	1. Hire an accredited inspector to perform an asbestos survey and have samples tested: Metro region $550 Outside of the Metro region: $550[6] est. 2. DEQ notification form and fee: $100 3. Hire a licensed abatement contractor to perform the abatement work: $4,000 est. **Total projected cost, Metro region: $4,650** **Total projected cost outside Metro region: $4,650****

*Contractors can also receive penalties from OSHA that are not included in these examples

**Travel time was estimated in the eastern region to be around $60 per hour and $.0.06 cents per mile.

[6] A total of 10 AHERA accredited asbestos inspectors that work in all geographic areas of Oregon were interviewed for this paper. The costs for surveys depend on several factors such as project scope and location (how far the inspector had to travel). The average costs for residential renovation surveys were between $350 and $550, consistently. The accredited inspectors commented that their years of experience and knowledge of materials supported their ability to take appropriate samples. This estimate takes into consideration low to moderate travel costs.

Images from DEQ enforcement action cases for residential renovations

Image 1. Residential CAB siding rendered friable (fragmented) as a result of sawing through CAB panels for sliding door installation, 30% chrysotile asbestos content.

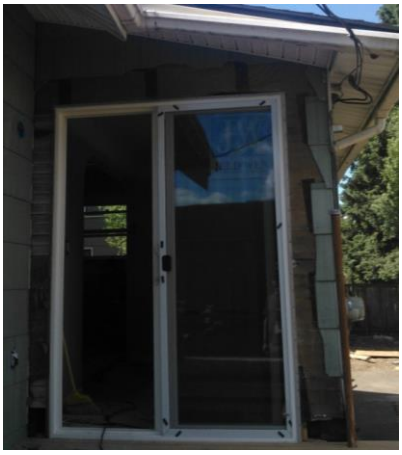


Image 2. Residential CAB siding rendered friable (fragmented) as a result of sawing through CAB panels for sliding door installation, 30% chrysotile asbestos content.

Image 3. Asbestos-containing materials in a residence that has been scraped, crumbled, or damaged during the removal and thrown into an open dumpster, resulting in the potential release of asbestos fibers into the air by unlicensed asbestos abatement contractors and uncertified laborers.

Image 4. Impacted TSI in a residential basement containing 90% Chrysotile asbestos. Failing to be a licensed asbestos abatement contractor, improper removal of friable ACM.

Image 7. Residential asbestos siding containing 14% Chrysotile asbestos.

Image 8. Homogenous asbestos-containing flooring from a residence in a pile in the kitchen adjacent to a front room.

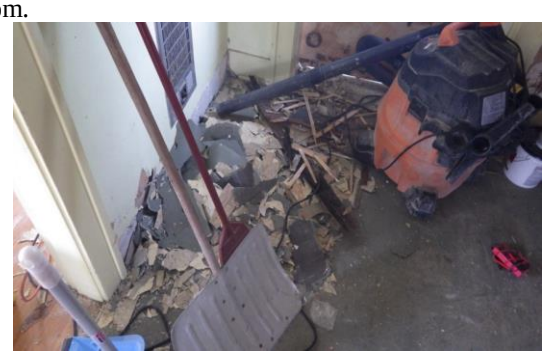


Image 9. Fragmented residential siding containing 30% Chrysotile asbestos CAB panels frequently fragment into friable pieces.

Image 10. Drop box of residential remodeling debris that was tipped and found to contain asbestos-containing thermal system insulation wrap.

Out-of-state rules for asbestos surveys for residential renovations

In comparison to Oregon, other states and state air agencies require surveys for residential renovations and are described below. Table 2 below summarizes the states reviewed.

Southwest Clean Air Agency[7] in Washington State that covers Clark, Cowlitz, Lewis, Skamania, and Wahkiakum counties requires a survey for residential renovations to be performed by an AHERA[8] building inspector. Spokane Regional Clean Air Agency[9] also requires a survey for residential renovations. Owner-occupied single-family residences performed by the owner-occupant does not require a survey. Colorado Department of Public Health and Environment[10] requires a survey for residential renovations. Wyoming Department of Environmental Quality[11] does not require a survey for demolition or renovation of private residences, but "strongly suggests" hiring an asbestos building inspector to collect samples of any suspect materials.

[7] SWCAA 476-040 Asbestos Survey Requirements (1) Renovation (a) Prior to performing any renovation activity the property owner or the owner's agent shall determine whether there are suspect asbestos-containing materials in the work area. The property owner or the owner's agent shall obtain an asbestos survey of any suspect asbestos-containing materials. The asbestos survey shall be performed by an AHERA (Asbestos Hazard Emergency Response Act) building inspector. An asbestos survey at a single family resident is not required to be performed by an AHERA building inspector when the renovation project is performed by the owner/occupant.

[8] AHERA – Asbestos Hazard Emergency Response Act

[9] Spokane Regional Clean Air Agency Article IX Section 9.03 and Section 9.02(T) Owner-Occupied, Single-Family Residence definition – means any non-multiple unit building containing space for uses such as living, sleeping, preparation of food, and eating that is used by one family who owns the property as their domicile (permanent and primary residence) both prior to and after renovation or demolition…

[10] Colorado Department of Public Health and Environment

[11] Wyoming Department of Environmental Quality

Table 2. Summary of out-of-state policies for residential renovation surveys

State agency or pollution authority	Do they require surveys for residential renovations?
Southwest Clean Air Agency	Yes. An asbestos survey at a single family resident is not required to be performed by an AHERA building inspector when the renovation project is performed by the owner/occupant. [12]
Spokane Regional Clean Air Agency	Yes. The rule is for any person that causes or allows renovation, demolition, or an asbestos project to occur must first obtains an asbestos survey performed by an AHERA building inspector.
Puget Sound Clean Air Agency	Yes. An asbestos survey at a single family resident is not required to be performed by an AHERA building inspector when the renovation project is performed by the owner/occupant.
Colorado Department of Public Health and Environment	Yes. Prior to any renovation or demolition which may disturb greater than the trigger levels of material identified as a suspect asbestos-containing material pursuant to the EPA "Green Book", Managing Asbestos in Place, Appendix G (1990), the facility component(s) to be affected by the renovation or demolition shall be inspected to determine if abatement is required.
Wyoming Department of Environmental Quality	No. (Residential demolitions and renovations.) From the website: "Although private residences have the same potential to contain asbestos-containing material as a public and commercial building, the asbestos regulations in Wyoming do not extend to private residences, unless the renovation or demolition activity is being performed to allow the property/facility to become public and private. We strongly suggest that you hire an Asbestos Building Inspector to collect samples of any suspect material that needs to be tested for asbestos content prior to disturbance…"

Removing the survey exemption for residential renovation projects

If a survey is required for residential renovations, a possible scenario for rule consistency is to follow the same exemptions currently in rule for residential demolitions provided below:

- Survey exemptions for facilities that were constructed after 2004;
- Asbestos abatement conducted inside a single private residence is exempt from the survey requirement if the residence is occupied by the owner and the owner occupant is performing the work; and
- Waivers for residential surveys approved by DEQ on a case-by-case[13] basis.

Discussion points related to removing the survey exemption for residential renovations

a) Residential renovation surveys are not at cost parity statewide. Rural areas of Oregon may see higher survey costs from travel expenses from accredited surveyors to fulfill the statewide needs for surveys.

[12] SWCAA 476-030(26) "Owner-Occupied, Single-Family Residence" means any non-multiple unit building containing space for uses such as living, sleeping, preparation of food, and eating that is currently used or was once used, occupied, or designed to be occupied by one family who owns the property as their domicile. This term includes houses with a "mother-in-law apartment" or "guest room". This term does not include rental property or multiple-family units, nor does this term include any mixed-use building, structure, or installation that contains a residential unit

[13] OAR 340-248-0270(3)

DEQ interviewed 10 accredited asbestos inspectors[14] that perform residential renovation surveys in all areas of the state for this paper. The inspection costs, including lab testing are overall similar regardless of where in the state the survey took place. Because the survey costs depend on many variables including travel and project scope, the costs for surveys will vary. Statewide, the average costs were between $350 and $550 for residential renovation surveys. Travel costs in some areas of the state were estimated to be about $60 per hour of travel and $0.60 cents per mile.

b) Licensed abatement contractors that have their own accredited asbestos inspectors on staff may have a potential competitive advantage over other businesses; potentially small businesses that do not have accredited inspectors on staff. Currently, this has not been an issue for projects that require surveys.
In the case of the asbestos abatement inspectors interviewed, larger businesses do not generally compete with smaller business to survey residential renovation projects.

c) The requirement for residential renovation surveys may increase the need for accredited inspectors. A lack of accredited asbestos inspectors may delay projects; however, more individuals may seek accreditation to perform asbestos surveys, or add the asbestos accreditation to an existing profile of survey expertise, as the need potentially increases for accredited asbestos inspectors.

d) A DEQ asbestos inspector accreditation program may ensure training specific to Oregon rules; however, DEQ does not oversee accreditation of asbestos inspectors. Currently DEQ requires that an accredited asbestos inspector perform surveys for commercial renovations and demolitions, and residential demolitions. The rules define accredited inspector to mean a person that has completed training and received accreditation under 40 C.F.R. Part 763 Subpart E, Appendix C (Model Accreditation Plan). Section B (initial Training), Subsection 3 (Inspector), (1994). The federal training does not cover residential demolitions or renovations projects. A DEQ accreditation program may benefit all renovation and demolition projects currently covered by the rules in OAR 340 Division 248, but would require additional resources at DEQ. A DEQ accreditation program fee would potentially provide revenue to support the program.

e) A survey requirement for residential renovations will require a well-planned public awareness effort to educate accredited asbestos inspectors, communities, and local governments.

f) A survey for residential renovations will add an additional set of costs to a project, and at minimum, the cost for the survey of suspect ACM.

g) A residential renovation survey requirement may reduce the potential for open accumulation at the generation site to protect human health from asbestos fibers such as neighborhoods and populated areas.

h) The survey requirement may reduce the need for accredited asbestos inspectors to provide services to disposal sites to inspect drop boxes or tipped loads for suspect ACM.

It is common for a disposal drop box to be located at a generation site that contains ACM that is exposed to the air resulting in potential open accumulation of ACM for extended periods of time. Once the drop box is transported to a disposal site, the accumulated construction waste may be identified by the waste hauler or the disposal facility as having suspect ACM. Suspect ACM identified at a disposal facility such as a transfer station is challenging to handle because the transfer station may not be permitted to accept ACM. More transfer stations are developing

[14] Appendix B – Summary of conversations with accredited asbestos inspectors

Special Waste Management Plans that are required to be approved by DEQ, for processes to deal with ACM that is inadvertently brought to the transfer station.

Oregon disposal facilities are taking measures to ensure they are aware of what materials are being brought for disposal by requiring contractors to submit a survey or information that discloses if the construction load contains ACM.
A common theme from the accredited inspectors interviewed for this report was their increase in survey work from contractors conducting residential renovations who are required to identify if ACWM will be included in the project waste before the contractor can acquire a project drop box from a waste hauler or disposal facility.