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INTRODUCTION

The Neighborhood Revitalization Initiative is designed to pursue Habitat’s strategic imperative of helping to transform and strengthen communities so that those who reside in them will be able to live and grow into all that God intends for them. Neighborhoods affected by abandoned and foreclosed properties often experience an increase in crime resulting in decreasing property values. With the subsequent fleeing of neighbors, whose incomes may already be below standards, whole neighborhoods become blighted. Habitat’s Home Rehabilitation program and other housing products offer Habitat affiliates an opportunity to achieve several goals:

- Serve more families.
- Initiate partnerships with government and municipal entities.
- Partner with the community to curb the degradation of neighborhoods.
- Collaborate with other community organizations.

The following illustration shows how Home Rehabilitation fits as one of the components of Habitat’s Neighborhood Revitalization Initiative.

NRI Product Spectrum

This guide was created as a general resource to help you start a successful program. We created guidelines that will give you the flexibility to start a program that best fits your affiliate and community, and provides your staff, volunteers and homeowners with a satisfying experience. As we learn more from you and explore the questions you’ll raise, HFHI will provide additional materials that will expand and complement the information in this guide. We are here to help your program succeed, and we welcome your comments and suggestions at homerehab@habitat.org.
Why home rehabilitation?

Government programs, scarcity of affordable building land, and the need to serve more families while conserving assets and revitalizing our cities’ aging neighborhoods have all sparked a newfound interest in rehabilitating existing homes. Habitat for Humanity International has developed a Neighborhood Revitalization Initiative that highlights and encourages the use of these valuable assets.

For years, many Habitat affiliates have conducted their work in concert with community-based organizations, helping those communities fulfill their aspirations to become stronger, more vibrant places to live. In recognition of those efforts, Habitat for Humanity International created NRI to mobilize and leverage increased resources for affiliates and state support organizations to deliver an unprecedented level of support to communities seeking to enhance their long-term sustainability.

Home Rehabilitation is designed to support HFHI’s mission in two ways:

- Increase the number of families served annually by serving a segment of the population we have not served in the past.
- Call upon and mobilize individuals and institutions to implement policies and practices that preserve affordable housing through community partnerships and working with existing homes.

By participating in home rehabs, your affiliate will become part of a new movement to expand Habitat’s capacity to help those in need of a safe and decent place to live. Your light will shine brighter in your community as people see how your work serving those in need is restoring hope and dignity to their lives.

How it works

Home Rehab is a Habitat program. It is designed to be integrated into the organizational structure of your affiliate and supported by your board. In most cases, your current committee structure (Family Services, Volunteers, Construction, Resource Development, etc.) is sufficient to handle home rehabs. Based on the size of their home rehab efforts, some affiliates have created subcommittees in each area to better organize the work and responsibilities of the program. It serves families in need using Habitat’s basic tenets of eligibility: demonstrated need, willingness to partner and ability to pay.

Before you begin

If you want to begin home rehabs in your community, there are several assessments you must make first. Use the Readiness Checklist (Exhibit 1) as a guide to assess your affiliate’s preparedness. Review this program guide in its entirety for a better understanding of how the program works. Garner support from stakeholders at your affiliate, including the board of directors, staff and key volunteers.

1. Review the construction policies and practices already in place at your affiliate. Will they work for smaller, short-term repair projects? What adjustments need to be made?
2. Assess your affiliate’s staff and volunteer base. Can you use your existing volunteer base for home rehabs, or will you need to recruit new volunteers? Are there staff members or volunteers with repair experience? Would they be willing to serve in leadership roles for home rehabs?
3. Identify potential community partnerships with neighborhood organizations, city inspection/code officials, social service agencies and other housing agencies. How can you work together to improve your community?
4. Assess the scope of work you will agree to undertake, based on the skill level of staff and volunteers. The scope of work may grow as the resources of your affiliate and the skills of your volunteers grow. Remember, it is better to underpromise and overdeliver than to overpromise and underdeliver.

5. Assess your resource development capability. Before you begin providing services, determine the materials necessary to begin the program and decide how you will obtain these items, if you don’t already have them. Using the Gifts in Kind page online can help keep costs low.

Once you have evaluated your affiliate’s preparedness, if you determine that home rehabs will fit into your operations, follow the guidelines presented in the Process Summary (Exhibit 2) to begin helping homeowners remain in their homes.

First, register your home rehabs program. Fill out the Program Registration Form (Exhibit 3), have your board president or executive director sign it, and send it to the address listed on the form. You will be added to the home rehabs distribution list and will receive updates and resources from HFHI as they become available. Once you have registered, you are ready to begin repairing the homes of low-income homeowners.

[1] gik.habitat.org/
FAMILY SELECTION

Family selection is the process used by Habitat for Humanity affiliates to choose partners for home building and related work. The five steps of family selection, as presented in the Family Selection Affiliate Operations Manual:

1. Prepare for family selection.
2. Reach out to families (recruit).
3. Perform the application work.
4. Select the family.
5. Communicate the decision.

Since the beginning of the Habitat ministry in 1976, the affiliate model of family selection and the basic selection criteria have remained constant.

Three basic family selection criteria are required for all Habitat families:

1. **Need for adequate housing.**
   Affiliates must define the specifics of “need” in their own communities, taking into consideration housing conditions that are physically inadequate, unsafe, overcrowded, expensive or any other applicable local factor. The need for adequate housing may be evaluated in the context of the affiliate’s service area median income.
   Additionally, a family’s inability to obtain a conventional loan to pay for the work can be seen as an indicator of need. Circumstances that prevent the homeowners from doing the work themselves—such as disability, age or illness—can be seen as an indicator of need as well. In many cases, homeowners simply lack the knowledge and ability to carry out general maintenance and repairs to their home. Furthermore, you may consider referrals from other housing programs or agencies as demonstration of need.

2. **Ability to pay back the loan.**
   Affiliates should serve families with incomes within the affiliate’s board-approved annual income guideline. Adjustments can be made to serve lower-income families subject to their ability to pay. During the family selection process, a Habitat affiliate will ensure that no family is debt-burdened by the selection decision. For more information, please see the Cost Recovery section of this guide.

3. **Willingness to partner with the Habitat affiliate.**
   The most consistent way to measure a family’s willingness to partner is through sweat equity. For more information on sweat equity, see the Family Support section of this guide. Additional information regarding willingness to partner can be found in Policy 11 of the U.S. Policy Handbook and Section 2.B of the Quality Assurance Checklist.

The intensity with which the family selection requirements are applied to NRI housing products must be adjusted, as appropriate, to each product. Therefore, affiliates must update their board-approved process.

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1. my2.habitat.org/resourcelink/g323bc/Family-Selection-AOM-2010
to include family selection for NRI housing products. Since there is less time to develop a partnership with the partner family, it is critical that the partnership relationship begin at the Family Selection stage. The Exhibit section of this guide offers helpful templates to assist in family selection. For more information, see the Knowledge Center’s Construction page on My.Habitat. Consult the Family Selection Affiliate Operations Manual for a detailed presentation of the family selection process, including relevant documents such as:

1. Appendix 12: Notice of Incomplete Application
2. Appendix 20: Pre-Denial and Denial Letters – Credit Report
3. Appendix 22: Notice of Action Taken
4. Appendix 23: Sample Letter of Notification and Acceptance
5. Appendix 91: Sample Notice of Right to Request Specific Reasons for Denial

my2.habitat.org/resourcelink/q323bc/Family-Selection-AOM-2010
FAMILY SUPPORT

Once a family is selected to partner with a Habitat affiliate for an NRI housing product, the affiliate signs a Letter of Acceptance with the family. The Letter of Acceptance is a nonbinding, noncontractual letter that clearly states the expectations of the family. The expectations should not be new to the families but simply a reiteration of the expectations that the family heard in the selection process. Signing of the Letter of Acceptance is usually the point where family selection transitions to family support. Section 2 of the Family Support Affiliate Operations Manual4 explains more thoroughly the Letter of Acceptance and lists the important points that should be included in that letter. A sample Letter of Acceptance can be found in Appendix 23 of the Family Selection Affiliate Operations Manual5.

Sweat equity
Sweat equity is a core tenet of Habitat's ministry and is Habitat's most valuable tool in building the partnership among families, affiliate staff and volunteers. Families have an opportunity through sweat equity to invest physically and emotionally in the mission of Habitat. Sweat equity is designed to meet three important goals:
1. Partnership. Sweat equity provides meaningful interaction among families, Habitat staff, volunteers and community members.
2. Pride in homeownership. Sweat-equity hours worked on their home allows families to once again feel proud of their long-term investment in homeownership.
3. Development of skills and knowledge. Family members learn more about the maintenance and upkeep of their home as they work alongside volunteers.

When establishing sweat-equity policies and guidelines, affiliates should use their standard or the most appropriate method for tracking sweat-equity hours. See Appendix 5 of the Family Support Affiliate Operations Manual4 for a sample Sweat Equity Tracking Sheet.
For A Brush with Kindness, Weatherization and Critical Home Repair, the number of sweat-

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4 my2.habitat.org/pages/q3158c/Family-Support-AOM-2009
5 my2.habitat.org/resourcelink/q323bc/Family-Selection-AOM-2010
6 my2.habitat.org/pages/q3158c/Family-Support-AOM-2009
equity hours is based on the scope of the project, with a minimum of eight required hours. For Home Rehabilitation, the number of sweat-equity hours is based on the scope of the project, with a minimum of 16 required hours. A portion of hours should be completed before the work begins on the home. All present, physically capable family members must take an active role in the work. See Exhibit 4 for a List of Potential Sweat-Equity Opportunities.

Developing sweat-equity guidelines for NRI housing products is essential in understanding the obligations that the family is agreeing to when they are accepted into the program. It is recommended that the affiliate’s Family Selection, Family Support and Construction departments evaluate and develop sweat-equity requirements of the affiliate for each service provided, and get approval from their board of directors.

In conjunction with completing sweat-equity hours, partner families should participate in a homeowner education component that describes the benefits of the services they partnered in.

Your Family Support Committee or family services staff will be responsible for developing the length and components of family support for an NRI housing product. For more information, see the resources available on Mr.Habitat or consult the Family Support Affiliate Operations Manual.

my2.habitat.org/pages/g3158c/Family-Support-AOM-2009
VOLUNTEERS

Habitat affiliates work in communities around the world to select and support homeowners, organize volunteers and coordinate house-building and repair efforts. As with our new construction, volunteers typically perform the majority of the work and are essential to the success of the program. Although the program is designed to meet the needs of homeowners, attention to the needs of volunteers is also an important component.

Neighborhood revitalization may be a new concept for many volunteers. As with other Habitat projects, volunteers will be working alongside partner families. NRI projects also provide a different volunteer experience because the volunteers usually will get to see an entire project from start to finish, and they are contributing to helping the environment in addition to a family in need. NRI projects also often require volunteers to work on an occupied home. Therefore, volunteers must respect the home and its belongings. The affiliate should educate the volunteers on the process and benefits so that they know what to expect. Volunteers should receive substantial support from affiliates and industry professionals throughout the NRI project. Training will include instructions, visual examples and practical application. Tasks will be doable within the given time. Some of the volunteer work requires basic skills, while other tasks may call for more advanced skills that require proper instruction. For more information on Volunteer Management and Training, see the resources available on My.Habitat.

Youth volunteers

NRI projects often provide new opportunities to engage young volunteers. Information regarding the definition and limits of the types of activities in which young people may participate can be found in the Youth Involvement with Habitat for Humanity Worksites and NRI document on My.Habitat.

Young people under 16 are specifically prohibited under federal regulations from activities including, but not limited to:

- Working in general construction or being present on an active construction site.
- Performing general repair work.
- Engaging in any activities in connection with the maintenance or repair of machinery, equipment or an establishment.
- Performing outside window-washing tasks that involve working from window sills.
- Doing any work that requires the use of ladders, scaffolds or their substitutes.
- Working in warehouses (except office and clerical work).
- Operating power-driven machinery, including hoisting apparatus, golf carts, all-terrain vehicles, lawn mowers, cutters, weed-eaters and trimmers.
- Loading or unloading goods to or from trucks or conveyors.
- Children ages 14 and 15 may engage in limited activities such as clearing lots, painting, office and clerical work, advertising, cleaning, and maintenance work (including landscaping work but not the use of power-driven mowers or cutters).

Additional resources and information regarding the involvement of youths in NRI projects can be found at my2.habitat.org/kc/showregions/volunteer-mobilization/volunteer-management and my2.habitat.org/download/g32e40/HFHI-Legal-Advisory--Youth-Involvement-in-Worksites-and-NRI-Sept-2010.
found within the Affiliate Guide to Youth Involvement and the Habitat Youth Programs website.

Volunteer teams

In most respects, volunteer management for NRI housing products is similar to that of any other Habitat project. As such, volunteers will often be formed into teams. The teams will vary in size depending on the scope of the project and the space available at the work site. These teams should be matched with homeowners based on several factors, including size of the project and experience and size of the volunteer team. Volunteers will vary in their skill and experience levels, ranging from no experience to industry professionals. As such, volunteers will be trained and led by a construction crew leader. NRI projects are typically shorter than new construction projects, and it may be preferable to have volunteer teams that can work for the duration of the project.

Groups wishing to volunteer on NRI projects are asked to give some background on their group, the experience they have with similar volunteer work, and when they are available to work. Volunteer groups may be asked to sponsor all or part of the cost of the project on which they work. The affiliate may require groups to sponsor an NRI project in order to volunteer.

Team leaders

Team leaders (also known as site supervisors or construction crew leaders) are an important part of an NRI project. Team leaders can be paid staff or experienced volunteers. They organize, prepare and sometimes recruit their teams for the task of working on a home. As the liaison between the affiliate, the volunteers and the homeowner, the team leader is responsible for coordinating the work and supplies for a project. He or she must ensure volunteers are complying with safe work practices, maintain quality control of the work and ensure the work meets program standards.

Exhibit 5: Blank Volunteer Job Description Template may be helpful when recruiting volunteers for NRI projects.

One of the most important roles of the team leader is working with the homeowner to create realistic expectations of the work that the volunteers will perform and establish the homeowner’s role in the process.

Team leader training

Before leading a project, team leaders should receive training on the following:

- An introduction to the HFHI Neighborhood Revitalization Initiative.
- Working to revitalize existing neighborhoods.
- Working and communicating with homeowners.
- Organizing and assisting volunteer teams.
- Preparing your home project.
- Preparing your group for workdays.
- Basic and specific equipment and materials.
- Equipment and material pickup and delivery.
- Safety issues.
- Work completion checklist.

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10 my2.habitat.org/download/g2ecad/Affiliate-Guide-to-Youth-Involvement

11 www.habitatyouthprograms.org
On-site supervision
The team leader directs the volunteer team on the work and is responsible for creating a successful experience for them. Each affiliate will have to decide the level of supervision needed for a particular project.

The affiliate construction manager will provide additional technical support and supervision for team leaders. Construction managers should have acceptable training and demonstrate a thorough knowledge of the tasks they are asked to perform.

Liability
All volunteers must sign a Release and Waiver Form. The team leader makes sure this is signed before volunteers work on site. A Volunteer Release and Waiver of Liability Form is available online.

Post-project communication
Shortly after the project, affiliates are encouraged to communicate with volunteers to thank them for participating and close out the project. The following components may be used in post-project communication:

2. A summary of the results of the work.
CONSTRUCTION

HFHI U.S. Construction Definitions
The U.S. construction definitions were developed to enable all U.S. affiliates to use the same criteria when reporting information on U.S. families served in the quarterly Affiliate House Production Report. In the United States, any Habitat for Humanity program that results in housing construction interventions shall meet the following conditions:

1. The methodology used incorporates all of the Mission Focus Principles at the level of Habitat for Humanity engagement (e.g., board, staff, community, home partner).
2. The program is implemented by Habitat for Humanity staff, volunteers, home partners and contractors—as appropriate—who carry out a significant portion of the construction activity.

Sustainable building
Sustainable building is defined by Habitat for Humanity International as building practices that provide safe, comfortable, quality-built homes that are durable and constructed to minimize natural resource and energy use. HFHI’s goal is for all new homes to reach a minimum of Energy Star rating by fiscal year 2013.

New construction definition
Certificate of Occupancy, or its equivalent, has been obtained.
The building was not previously counted as a new home.
The home is inhabited by a board-approved family, even if Habitat does not hold the mortgage.

Rehabilitated home definition
1. Rehabilitated homes generally fall into one of two categories:
   a. The Habitat affiliate owns the home and sells it to a Habitat-approved partner family.
   b. Habitat does not own the home, but the homeowner becomes a board-approved partner family so that rehabilitation can be conducted.
2. Total costs, including purchase price, are at least 15 percent of the average cost of a new Habitat home in your area.
3. Certificate of Occupancy, or its equivalent, has been obtained.
4. The building was not previously counted as a new or rehabilitated home.
5. The home is inhabited by a board-approved family, even if Habitat does not hold the mortgage.

Note: This category includes recycled homes. A recycled home is a Habitat home that is rehabilitated for a different partner family. Recycled homes have an exception to Nos. 2 and 4 above.
Home repairs definition

1. Construction activity conducted by the affiliate that costs less than 15 percent of the average cost of a new Habitat home in the area.
2. The home must be owned and inhabited by a board-approved partner family.

Note: This can include work done on a home not originally constructed by Habitat, as long as the family becomes a Habitat-approved partner family.

This category does not include Habitat warranty work.

Upon completion, the repairs are in compliance with local building codes.

<table>
<thead>
<tr>
<th>REPAIR CATEGORIES</th>
<th>WEATHERIZATION</th>
<th>CRITICAL HOME REPAIR</th>
</tr>
</thead>
<tbody>
<tr>
<td>A BRUSH WITH Kindness</td>
<td>Exterior work that includes painting, patching, minor repair, landscaping or replacement of materials for the purpose of maintaining good or sound condition.</td>
<td>Designed to improve the energy efficiency and overall indoor air quality and comfort of the structure, weatherization is a systematic repair process to an existing home based on a comprehensive energy audit, resulting in a defined scope of work.</td>
</tr>
<tr>
<td>Costs not to exceed 5 percent of the average cost of a new Habitat home in the area.</td>
<td>Costs not to exceed 10 percent of the average cost of a new Habitat home in the area.</td>
<td>Costs not to exceed 15 percent of the average cost of a new Habitat home in the area.</td>
</tr>
</tbody>
</table>

Additionally, the table below compares the kinds of projects that should be considered Critical Home Repair and those that should be considered weatherization or A Brush with Kindness:

<table>
<thead>
<tr>
<th>A BRUSH WITH Kindness</th>
<th>WEATHERIZATION</th>
<th>CRITICAL HOME REPAIR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior scraping, caulking and painting</td>
<td>Interior and exterior work</td>
<td>Interior and exterior work necessary to maintain the home</td>
</tr>
<tr>
<td>Window repair (new screen, glass, glazing)</td>
<td>Replacement of windows and doors</td>
<td>Window replacement</td>
</tr>
<tr>
<td>Minor siding and trim repair</td>
<td>Caulking/foaming cracks and gaps</td>
<td>Extensive siding and trim repair or replacement</td>
</tr>
<tr>
<td>Minor roof repair and soffit or fascia replacement</td>
<td>Insulating openings, attics, crawlsaces, etc.</td>
<td>Major roof repair or replacement</td>
</tr>
<tr>
<td>Board replacement in porch, stair or ramp</td>
<td>Minor repairs to ventilation systems</td>
<td>Porch or wheelchair ramp construction</td>
</tr>
<tr>
<td>Door replacement</td>
<td>Adding or replacing door seals</td>
<td>Installation or extension of house systems (heating, electrical, plumbing, etc.)</td>
</tr>
<tr>
<td>Landscaping (pruning and trimming, weeding, reseeding)</td>
<td>Insulating pipes and duct work; wrapping water heaters</td>
<td>Floor and wall repair/replacement</td>
</tr>
<tr>
<td>Cleanup, brush/junk removal</td>
<td>Applying insulation in walls</td>
<td>Foundation repair</td>
</tr>
<tr>
<td>Weather stripping</td>
<td>Energy audits before and after work</td>
<td></td>
</tr>
</tbody>
</table>

This category does not include Habitat warranty work.

Upon completion, the repairs are in compliance with local building codes.
Due diligence
Due diligence is the most important facet of rehabilitating existing properties. It is not necessary that we accept all properties offered to us. We must define the parameters so that we will accomplish our mission without overspending money and time. Many affiliates will create criteria that will outline areas they do not wish to address. Some examples:

- Presence of asbestos.
- Presence of lead.
- Foundation problems.
- Exceeding size limitations.
- Historical district location.
- Neighboring properties.
- Scope of needed work.

The criteria should dictate rehab levels, energy conservation levels, warranties and materials in addition to volunteer involvement. More information concerning the different rehab aspects of due diligence can be found in Chapter 9 of the Construction Affiliate Operations Manual.

Assessment of potential project
An honest assessment of potential projects should be done by an individual or team familiar with all aspects of residential rehabilitation. That person or team must know about local code requirements, hazardous material recognition and requirements, energy and resource conservation in addition to volunteer capabilities. A thorough use of Exhibit 7: Rehab Assessment Document and Exhibit 8: Rehab Go/No-Go Checklist is encouraged to avoid overlooking potential tasks. The assessment will allow the affiliate to make an informed decision on whether or not to accept the project. The assessment further becomes the basis of developing a budget, a timeline, volunteer and community involvement in addition to the overall scope of the project.

Remember to consider the area the proposed project is in and how our efforts will affect the surroundings, safety and welfare of our partner families. Is the project part of a neighborhood revitalization program where we intend to have more Habitat families and where we are working with neighbors to create a sense of community? If the project is an infill location, do we intend to expand in the area? Just as in a new house construction program, we should be acutely aware of the surroundings. Is the project near churches and schools? Is public transportation available within a short distance? Or are there activities nearby that could threaten a partner family’s well-being?

Rehabbing “green”
As with new construction, Habitat for Humanity stresses the importance of building “green” to conserve our natural resources. Rehabilitating homes under a green program will reduce energy consumption, conserve water and eliminate unnecessary waste in the construction process.

The same concepts we use in building new Energy Star homes will apply to our rehab work if you are performing a “gut rehab,” where drywall or plaster is fully removed and studs are exposed. This style of rehab allows us to see the types and amounts of insulation, termite damage and penetrations as well as plumbing and wiring. From this point on, the project is much like that of a new dried-in house structure. If you are not exposing the studs, “weatherizing” the house will be extremely important.

my2.habitat.org/pages/q31582/Construction-AOM-2009
Weatherization tasks:

- Seal all accessible penetrations along the bottom plate and around doors and windows.
- Consider replacing windows for an Energy Star product, which will reduce emissions and air penetration.
- Properly flash windows when installing replacements, and use nonexpanding foam to seal the window frame on the inside.
- Rehang or replace existing exterior doors to prevent air leakage and seal with nonexpanding foam. Increase attic insulation to Energy Star recommendations.

Energy Star-labeled appliances, windows and mechanical equipment will improve the performance of all rehabbed homes. Remember to use the generous products donated to us through HFHI’s corporate partners.

Energy Star homes feature a duct system with very low leakage (less then 6 percent). Typical existing homes in America have duct leakage in excess of 20 percent. Duct leakage not only wastes energy, it can lead to air-pressure imbalances that can cause moisture and combustion safety problems. It is possible that replacing the mechanical system and air sealing to reduce air infiltration, and replacing windows, could worsen the effects of duct leakage due to the differences in air movement inside the house. Ventilation is extremely important as it controls moisture that affects sustainability, mold and comfort levels and reduces the threat of carbon monoxide getting into the house from combustion mechanical equipment. It is recommended that the affiliate work with a certified rater to ensure that adequate ventilation is allowed to correct any adverse conditions.

Please see the Energy Star\textsuperscript{16}-website to learn more about qualified products.

To compare energy savings of various improvements, work with a weatherization agency or RESNET-certified home energy rater. Check for volunteer HERS raters in your area at the Residential Energy Service Network\textsuperscript{17} website.

You can also use the online Home Energy Saver\textsuperscript{18} to compare the relative benefit of improvements yourself.

Another aspect of green rehabbing is water conservation. Install low-flow or dual-flush toilets and use faucets and showerheads that reduce water flow. Landscape the site with native foliage to ensure minimal maintenance and drought resistance. Consider catch basins or tanks to collect rainwater to be used for irrigation. Wrapping pipes with foam pipe insulation will prevent water from being wasted.

Consider adding a solar panel where applicable. Renewable energy sources can result in excess energy being sold back to the local power company. Whenever you are considering renewable energy sources, work with the local energy utility to ensure system compatibility with the existing power grid and safety for utility workers.

For more information on green construction, see the Green Building\textsuperscript{19} page on the Environment Protection Agency website.

Housing criteria (U.S. Construction standards)
It has always been a basic tenet of HFHI to construct simple, decent housing, and attention to that

\begin{itemize}
  \item www.energystar.gov/products
  \item www.natresnet.org/rater/partnership/default.htm
  \item hes.lbl.gov
  \item www.epa.gov/greenbuilding/
\end{itemize}
should be apparent in our rehabbing efforts. HFHI realizes that adhering to our building criteria could make the acquisition of rehab projects difficult, and has consequently agreed to ease some restrictions on house criteria.

**Policy 7: Construction Standards**

The policy variance relates to:

> “Affiliate builds to HFHI house design criteria, with exceptions for local and community requirements and ordinances.”

The current housing market provides Habitat affiliates with an opportunity to serve additional families by purchasing and rehabilitating foreclosed homes. HFHI understands that some of these homes may exceed the current house design criteria, as they may be larger than the square foot allowances in the policy or have garages or carports. It is important to keep affordability in mind when considering whether to purchase a property for rehabilitation, however.

Although senior management has made provisions to allow for variances in building criteria to ease the acquisition on rehab-able projects, it is still suggested that affiliates adhere as closely as possible to the original new-house size limitations, along with provisions on basements and carports, etc. The house criteria are available within the [U.S. Construction Standards](http://www.my2.habitat.org/download/g32fae/US-Construction-Standards).

Remember, a larger house may cost more to operate because of the increased demand to heat or cool a larger area.

It is also suggested that compliance with Energy Star regulation, Universal Design and accessibility be adhered to as closely as possible.

**Determining costs**

Once the assessment is complete, you can begin estimating the project’s cost. An important component of Habitat’s ministry is that services are sold to low-income partner families, not given away. This is essential to maintaining the sustainability of Habitat programs. It is also important, however, that the services be a blessing to the family and not an additional burden. Therefore, affordability is an equally vital component. The following guidelines will help your board set a pricing policy for Home Rehabilitation projects.

*Note: The Construction committee must work closely with the Family Selection and Family Support committees to ensure that the cost of the project is truly affordable for families whose incomes fall within the range approved by the board. Refer to the Family Selection section of this guide or the [Family Selection Affiliate Operations Manual](http://www.my2.habitat.org/resourcelink/g323bc/Family-Selection-AOM-2010) for an in-depth discussion of the factors involved in setting your affiliate’s partner family income qualifications.*

The board of directors of your affiliate should review the following guidelines and determine the policies of your affiliate in setting a selling price for Home Rehabilitation projects. They should be very similar to the policies currently in place for setting the selling price of a new home. In some situations, you may encounter “gray” areas that call for creativity and flexibility. The guidelines include a list of the principles that must be taken into account in determining project pricing, and a formula that affiliates can use to work through the variables.
Formula for determining the construction costs of a Home Rehabilitation project

Use this formula for estimating total project costs:

Cost of purchased building materials $ __________________
Value of donated building materials $ __________________
Contracted labor $ __________________
Administrative costs (i.e., salaries, insurance, marketing, etc.) Should total no more than 10 percent per project) $ __________________

Total project cost $ __________________

There are certain assumptions built into this formula:

• NO dollar value should be added for UNSKILLED VOLUNTEER LABOR. Most people who give their time and talents as Habitat volunteers do so with the understanding that their efforts make housing more affordable to partner families.
• The dollar value of DONATED PROFESSIONAL LABOR should be added. Affiliates have some latitude in this area when considering whether to include this in the total project cost.
• The dollar value of DONATED MATERIALS should be factored into the cost of the project. Factoring in the value of these materials helps keep the cost equitable for all homeowners, no matter how large the in-kind donation is for a particular project.
• It also is acceptable to add a portion of your administrative expenses to the cost of each project. Your goal, however, should be to keep this figure as low as possible. HFHI recommends adding no more than 10 percent to each project to cover administrative costs.

For more information on cost recovery, see the Cost Recovery section of this guide.
SAFETY

Habitat for Humanity International and its affiliates are committed to providing a safe and healthy construction site for volunteers, staff and outside contractors. HFHI’s safety goal is for its affiliates to have **zero accidents**. To achieve this goal, it is incumbent upon each affiliate to make safety a primary focus of its operations. The cornerstone of that effort should be the preparation and implementation of a comprehensive construction safety policy that has been tailored to fit the affiliate’s operations. The policy should not only describe recommended safety practices, but also outline the manner in which staff and volunteers will be trained to follow these practices and how their performance will be monitored. While performing work on existing structures, be aware that the types of possible injuries or accidents may be different from what you would normally expect when performing new construction. By following your safety plans, the chances of injury to yourself or others are minimized.

**Top safety concerns**

Based on affiliate surveys, HFHI has identified the most common safety concerns on Habitat construction sites. An affiliate should ensure that its safety training programs address each of these risks, as well as any other specific risks that are frequently encountered during construction operations. Note that many of the top safety concerns overlap with others. For example, roof safety includes not only fall prevention, but also measures to prevent the dropping of tools on workers below. The top safety concerns are:

1. **Roof safety:** For specific advice on how to work safely on a roof, refer to [OSHA’s Fall Protection e-Tool](https://www.osha.gov/SLTC/handpowertools/index.html).22
2. **Dropping of tools:** For specific instructions on the safe handling of tools on the job site, refer to [OSHA’s Hand and Power Tool e-Tool](https://www.osha.gov/SLTC/handpowertools/index.html). For information on equipment such as hard hats, see [OSHA’s Personal Protective Equipment e-Tool](https://www.osha.gov/SLTC/handpowertools/index.html).24
3. **Ladder safety:** Ladder safety involves multiple components: The ladder must be the correct size for the job, in sound condition and properly set up to ensure stability. In addition, the worker using the ladder must observe a number of safe practices, including facing the ladder at all times, wearing proper footwear and never climbing above the third highest rung.
4. **Housekeeping:** Keeping a clean work site is a priority. For construction site housekeeping tips, see Exhibit 9: Housekeeping at the Construction Site.
5. **Fall protection:** For specific advice on avoiding falls, refer to [OSHA’s Sample Fall Protection Plan](https://www.osha.gov/SLTC/handpowertools/index.html).25
6. **Scaffolds:** For recommendations on scaffold safety, refer to [OSHA’s Guide to Scaffold Use in the Construction Industry](https://www.osha.gov/SLTC/handpowertools/index.html).26

22 [my2.habitat.org/resourcelink/g2eaa6](https://www.my2.habitat.org/resourcelink/g2eaa6)
24 [my2.habitat.org/resourcelink/g2eacd](https://www.my2.habitat.org/resourcelink/g2eacd)
25 [my2.habitat.org/resourcelink/g2eaa1](https://www.my2.habitat.org/resourcelink/g2eaa1)
26 [my2.habitat.org/resourcelink/g2eaa0](https://www.my2.habitat.org/resourcelink/g2eaa0)
7. **Electrical protection**: In general, OSHA requires that employees not work near any part of an electrical power circuit unless protected.
   a. See [OSHA Electrical Safety Regulation 29 CFR 1926.416(a)(1)](my2.habitat.org/resourcelink/g2eace).
   b. OSHA’s eTool program provides excellent information and resources on electrical hazards that are the most frequent cause of electrical injuries on construction sites:
      i. [Contact with power lines](my2.habitat.org/resourcelink/g2ead0).
      ii. [Lack of ground-fault protection](my2.habitat.org/resourcelink/g2ead3).
      iii. [Path to ground missing or discontinuous](my2.habitat.org/resourcelink/g2ead4).
      iv. [Equipment not used in manner prescribed](my2.habitat.org/resourcelink/g2ead9).
      v. [Improper use of extension and flexible cords](my2.habitat.org/resourcelink/g2eadd).

8. **Guarding floor and wall openings**: For guidelines on how to properly secure a wall or floor opening, refer to [OSHA’s eTool](my2.habitat.org/resourcelink/g2eadd) and [OSHA’s Sample Fall Protection Plan](my2.habitat.org/resourcelink/g2eada).

9. **Fire protection**: The OSHA website has regulations and resources for fire prevention, protection and safety.
   a. [Fire Prevention Regulation](my2.habitat.org/resourcelink/g2ea9f).
   b. [Fire Protection Regulation](my2.habitat.org/resourcelink/g2ea9d).
   c. [Fire Safety](my2.habitat.org/resourcelink/g2eada).

**Hazards likely in NRI housing projects**
Of the hazards an affiliate is likely to encounter:
- **Asbestos**: Prior to 1976, asbestos was commonly used as a fire-retardant and as a flooring and insulation component. If asbestos is present (or suspected to be present) in the house, it will be necessary for the affected material to be removed and disposed of by a licensed asbestos remediation company. Under no circumstances should staff or volunteers handle asbestos. 
  » See Exhibit 10: Asbestos for more information.
- **Lead**: If the house was built before 1978, odds are good that it contains lead-based paint. Prior to then, lead was used extensively as a binder for paint. Homes built before 1960 are especially...
likely to contain heavily leaded paint. Because of health concerns, special care must be taken when dealing with lead-based products. Although volunteers can be trained to deal with the presence of lead, it is preferable to use a licensed contractor to remove and dispose of any material containing lead.

» See the Lead Fact Sheet\(^{39}\) on My.Habitat.
» See Exhibit 11: Lead in Paint for more information.
» See Exhibit 12: Legal Lead Memo for more information.

- **Mold**: Mold in a home can bring on health symptoms that can affect those who live there in many different ways.
  » See Exhibit 13: Mold Information for more information.

Mold basics: Please review the OSHA website\(^{40}\) for in-depth information when dealing with mold.

For specific safety information, please see Chapter 2 of the Construction Affiliate Operations Manual\(^{41}\).

If you have any questions, do not hesitate to contact the Affiliate Support Center at 877-HFHI-HELP (877-434-4435) or USSupportCenter@habitat.org. The Affiliate Support Center will direct your call or questions to the appropriate person. For more information, consult the Construction Affiliate Operations Manual.\(^{42}\)

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\(^{39}\) my2.habitat.org/download/q31c0b/HFHI-Lead-Safety-Statement-and-Key-Terms

\(^{40}\) www.osha.gov/SLTC/molds/index.html

\(^{41}\) my2.habitat.org/pages/q31582/Construction-AOM-2009

\(^{42}\) my2.habitat.org/pages/q31582/Construction-AOM-2009
COMMUNITY DEVELOPMENT

Habitat for Humanity’s Neighborhood Revitalization Initiative encourages affiliates to partner with the community in which they plan to offer NRI housing products. This partnership is a key component of Habitat’s view of community development. Community development is defined by Habitat as both a process and a result of an organized effort in a community, based upon a shared vision of the quality of life they wish to achieve, leading toward greater and sustainable individual and collective well-being. To that end, affiliates are encouraged to talk with the community and its leaders about whether this housing solution—and other plans the affiliate might have in the community—are best for the collective well-being of the neighborhood. For more information about NRI and community development, please visit Community Development and Partnerships on My.Habitat.
RESOURCE DEVELOPMENT

Affiliates should treat NRI housing products the same as new construction in terms of resource development. Volunteer labor, donated material, charitable contributions and loan payments comprise the bulk of the funding. NRI projects will typically cost less than new construction projects, allowing your affiliate to serve more families.

Sources of funding

1. **Sponsorships**: Sponsorships can be raised through a variety of sources, including local businesses, associations, churches and volunteer groups. Rehab sponsorships may be an attractive option to donors unable to offer a new house sponsorship. Your affiliate should take care to coordinate all project sponsorship efforts to avoid multiple asks to a potential donor and, of course, to provide consistent recognition to donors.

2. **General funding**: You are encouraged to explore creative ways of funding NRI projects other than sponsorships, including events and designated contributions by individuals.

3. **Gifts in Kind**: Materials and equipment needed for NRI projects may be available through HFHI’s Gifts in Kind program. This program offers tools, materials and services for use by your affiliate. National partners have agreements with HFHI to offer free products to affiliates. To view the lists of national partnerships, available products and ordering instructions, please go to the Gifts in Kind page online.

For more information, please consult the Resource Development Affiliate Operations Manual and Fundraising resources on My.Habitat.

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44 [gik.habitat.org](gik.habitat.org)
46 [my2.habitat.org/kc/fundraising](my2.habitat.org/kc/fundraising)
COST RECOVERY

Project costs should include the cost of purchased building materials; the value of donated building materials and donated professional services; the costs of professional services and contracted labor; direct and indirect costs of affiliate labor in performing, supervising or coordinating the work; supervision; permits (if any); and, at the affiliate's option, administrative costs. HFHI recommends administrative costs not exceed 10 percent of the total cost.

Affiliates should make every attempt to fit the payment option to the homeowner's ability to pay. Affiliates shall structure their repayment plan in such a way as to ensure that the monthly payment when combined with current home financial obligations (mortgage, insurance, property taxes and, where applicable, mortgage insurance and loan servicing) shall not exceed 30 percent of the household's gross income. HFHI believes it is important for affiliates to seek cost recovery as soon as possible on NRI projects.

Furthermore, your board should determine how the repayment obligation will be documented, based on the scope of the work and the affiliate's capacity to generate and execute appropriate documents.

Options are available for structuring the loan:

1. A secured zero-interest loan paid in monthly installments (no more than seven years is suggested) with a provision that the note be paid in full upon sale, refinancing or transfer of the property.

   The affiliate may also choose to offer the homeowner prepayment incentives, such as:
   ■ 30 percent reduction if paid off within two years.
   ■ 20 percent reduction if paid off within four years.
   ■ 10 percent reduction if paid off within six years.

2. When an eligible homeowner is enrolled in a partner program (private or public) whose purpose is to provide affordable housing services—and that program pays for the NRI project costs—repayment to Habitat by the homeowner can be waived.

Your board should develop parameters for loans and other cost-recovery options in regard to NRI housing products. This will allow program staff to operate with confidence and consistency when communicating with homeowners.

All laws governing credit applications, credit decision timelines, and making loans are fully applicable. For more information, see the resources available on My.Habitat and the Family Selection Affiliate Operations Manual.

A note on charging for NRI housing products: The Habitat model for financing construction services is the same whether providing weatherization services or building a new house. We are part of a Christian housing ministry that uses volunteers in partnership with families in need. Habitat for Humanity affiliates sell housing services to people in need at no profit. If it is required to make the services affordable, Habitat for Humanity affiliates finance them with no-interest loans. The resulting payments are used for the financing of additional affordable housing.

my2.habitat.org/resourcelink/q323bc/Family-Selection-AOM-2010
HFHI RESOURCES AND SUPPORT

HFHI provides support to affiliates who participate in the Neighborhood Revitalization Initiative in the following ways:

**Web page:** NRI housing products will have information on My.Habitat. These sites will provide you with information on upcoming training events, the ability to read and share best practices, and participation in forum discussions.

**NRI guides:** Guides for NRI housing products contain the guidelines, philosophy and purpose of the program and the templates and forms needed for your program to succeed (See exhibits for the templates and forms).

**Public relations and marketing:** For information and recommended resources related to communications, marketing and public relations, please visit [Awareness Raising](http://my2.habitat.org/kc/community-development/nri/awareness-raising) on My.Habitat.

**NRI branding:** HFHI is generating templates for postcards and letters, yard signs for NRI projects, information on how to develop local funding for the program and volunteer recruitment templates. NRI logos and additional materials will become available to you once your affiliate is enrolled in the program. See the [NRI Branding Guidelines](http://my2.habitat.org/download/g331d9/NRI-Branding-Guidelines_11-19-10) on My.Habitat for branding-related materials and information.

**National Gifts in Kind program:** GIK provides access to our national partners, which have agreements to offer free products to Habitat affiliates. These products can significantly reduce the cost of NRI projects. For more information, please go to the [Gifts in Kind](http://gik.habitat.org) page online.

**Training:** HFHI will provide technical assistance to you via Web or phone and through regional training workshops.

**Forms, samples and templates:** This guide's exhibits section has relevant forms and templates. The exhibits will continue to be updated and expanded as we learn more about your needs and receive helpful samples of your work.

**State support organizations:** SSOs may have developed funding programs or additional partnerships at the state level that could assist in your weatherization program. SSOs can also be a valuable resource for training, technical assistance and networking.

48  [my2.habitat.org/kc/community-development/nri/awareness-raising](http://my2.habitat.org/kc/community-development/nri/awareness-raising)
50  [gik.habitat.org](http://gik.habitat.org)
CONCLUSION

We hope starting a Home Rehabilitation program helps your affiliate better serve the housing needs in your community. It is intended to give you another opportunity to invite volunteers living in the neighborhood to connect with their neighbors in need. Home Rehabilitation can be a significant tool with which to engage your communities; help break down spiritual, political and cultural barriers; develop alliances; and begin the revitalization process. By extending grace and hope to struggling neighborhoods, home rehabilitation can have a dramatic impact on neighborhoods throughout your community.

Interest in Home Rehabilitation has spread all over the United States, and we are excited about bringing the program to even more communities. We look forward to partnering with you and serving your affiliate in making rehabs a successful part of your ministry.

Remember, HFHI’s Home Rehabilitation department is here to help. E-mail us with any questions or clarifications at homerehab@habitat.org.
EXHIBITS

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Exhibit 1: Home Rehabilitation Readiness Checklist

Before beginning your Home Rehabilitation program, here are some critical program components of which you should be aware. The more of these components you have in place, the more success you will have with rehabs.

- Review the Home Rehabilitation Program Guide. Understand the purpose and benefits to your affiliate.
- Get support for the program from the board of directors or management.
- Are there policies and procedures in place for your core building program that you can adjust to accommodate rehab projects?
- Are there skilled staff and volunteers with repair experience who could oversee a startup program? Are there experienced volunteers who could help run the program, perhaps with the assistance of an AmeriCorps member?
- Have you planned to use your current pool of volunteers, or will you recruit new volunteers for rehab projects?
- Identify potential strategic relationships with neighborhood organizations, city inspection officials, social service agencies and other affordable housing agencies. They will be your key resources for finding eligible homeowners and will help maximize resources and effectiveness.
- Determine the scope of the work you’ll take on, based on the skills of staff and volunteers. Start small and keep things simple. Don’t take on more than you can handle. Underpromise and overdeliver.
- Assess your resource development capability. Get the word out to key agencies, churches, corporations, schools and service organizations that may want to help or could sponsor a house. Be able to tell the story of the importance of keeping people in a safe, decent home and the importance of neighborhood revitalization. Home Rehabilitation offers new opportunities to reach sponsors who may never have considered Habitat.

The Home Rehabilitation department is here to help. Call or e-mail us at homerehab@habitat.org with any questions or clarifications. We are here to help make your new program a success.
Exhibit 2: Home Rehabilitation Process Summary

Here is a summary of the basic steps for operating a Home Rehabilitation program.

1. **Register**: Register your affiliate as a Home Rehabilitation affiliate.
2. **Family selection**: Use your regular application and selection process to select partner families. Make sure you check the deed to their home to ensure ownership and verification of homeowners insurance. This step begins the relationship that is critical for ensuring a successful experience for you, the homeowner and the volunteers.
3. **Scope of work**: Determine what work will be done and what will not be done, the estimated cost of the project, and the homeowner’s willingness to participate. Homeowners are interviewed, and their homes are evaluated for need. Homes are prioritized based on criteria set by you, and are completed as volunteer teams and sponsors are available to take on the projects.
4. **Clearly communicate with the homeowner**: Make sure the family knows what work will be done, what’s expected of them in terms of sweat equity, who will be at home during the project, and their repayment responsibilities. This step is critical for ensuring a successful experience for you, the homeowner and the volunteers.
5. **Create volunteer teams**: Use your current base of volunteers or recruit new volunteers from churches, businesses, schools and community groups.
6. **Find project sponsors**: Offer current and new donors the opportunity to support the Habitat mission. Your affiliate should take care to coordinate all resource development efforts to avoid multiple asks to potential donors and provide consistent recognition to donors.
7. **Scheduling volunteers**: When a project is ready, volunteer teams are matched to projects according to the size and experience of their group, dates they are available to volunteer and the work activities in which they want to participate.
8. **Plan and implement construction activity**: Ensure all materials and equipment are available, safety concerns are reviewed with volunteers, all work is completed and cleaned up, and the homeowner is satisfied. Staff should spend time on the work site based on the experience of the team and team leader.
9. **Closing ceremony/dedication**: Family and volunteer relations are important. Throughout the process, be mindful of the value of a positive relationship with the homeowner. Make sure the experience of the volunteers is positive; it may be the key to the ongoing success of your repair program. A closing ceremony recognizing the work done by the volunteers and homeowner, or a dedication of the refreshed house, helps to end the experience for the homeowner and the volunteers in a positive way.

* Sometimes steps 5, 6 and 7 occur at the same time.
Exhibit 3: Home Rehabilitation Program Registration Form

Thank you for embracing Habitat’s ministry of making decent, affordable housing in decent communities a reality. Habitat for Humanity International is asking all affiliates that wish to participate in Home Rehabilitation to register with the Home Rehabilitation department. This allows us to be proactive in communicating with you regarding any program updates or opportunities, to better plan for training and marketing activities, and to more accurately track program participation for reporting purposes.

By registering with the Home Rehabilitation department, you will have access to:

- Printed and electronic materials useful in operating a successful rehab program.
- Affiliate support via website, e-mail, phone consultation and regional training workshops.
- A Web forum enabling nationwide discussions about rehab questions and ideas.
- Access to the U.S. Gifts in Kind program resources.
- Assistance in forming partnerships with local housing, faith-based, government and social service organizations.

Registering affiliates agree to:

- Be solely responsible for the organization and operation of their Home Rehabilitation program, including resource development, volunteer recruitment, family selection and marketing.
- Comply with the U.S. Affiliate Agreement, particularly in the selection of families and construction services.
- Share program information and ideas that benefit other registered affiliates.
- Identify a contact person with whom the Home Rehabilitation department can communicate directly.
- Establish and build on existing partnerships with neighborhood organizations.

Affiliate name ______________________________________________________________________

Contact person and title ______________________________________________________________________

Phone # ___________________________ E-mail ______________________________________________________________________

Affiliate mailing address ______________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

(Principal officer’s signature) (Print) (Title) (Date)

Mail completed form to: Attn: Home Rehabilitation Registration
Habitat for Humanity International
270 Peachtree St., Suite 1300
Atlanta, GA 30303

Or e-mail to: homerehab@habitat.org

Or fax to: ___________________________
Exhibit 4: Potential Sweat-Equity Opportunities

Sweat equity is the actual hands-on work that partner family members perform in the construction of their own home, along with participation in other Habitat and community activities.

On-site construction tasks
- Working alongside the volunteers.

On-site alternative tasks
- Participating in the home-assessment process.
- Greeting and orienting volunteers.
- Acting as site host.
- Providing refreshments to volunteers.
- Cleaning up the project site.
- Staging and preparing the house for the workday
- Working on other construction sites.
- Allowing other family members or friends to contribute on-site construction hours.

Off-site alternative tasks
- Volunteering time at a child's school.
- Performing affiliate committee work.
- Attending homeowner education classes.
- Performing administrative tasks at an affiliate office.
- Speaking at engagements on behalf of the affiliate.
- Volunteering in the ReStore.
- Sending thank-you cards (provided by affiliate) to sponsors and volunteers.
- Working at other nonprofit or civic organizations.

Note: These are suggestions. Each affiliate should review its own sweat-equity guidelines for appropriateness of any considered for use.
Exhibit 5: Job Description Template

Habitat for Humanity of ________________________________
Volunteer Job Description

Job title: ____________________________________________

Goal of the job: _____________________________________

Department: _________________________________________

Responsible to: ______________________________________

Time required: _______________________________________

  Approximate hours: ________________________________

  Length of commitment: ____________________________

  Does the job need to be done on a particular date or day of the week? ____________________
  If yes, please give more information: _____________________________________________
  How many positions need to be filled? ____________________________________________

Responsibilities (list the tasks):

  1. _______________________________________________

  2. _______________________________________________

  3. _______________________________________________

  4. _______________________________________________

Qualifications or special skills needed: __________________

_______________________________________________________________________________

_______________________________________________________________________________

Training provided: _______________________________________

_______________________________________________________________________________

_______________________________________________________________________________

Affiliate contact information: ______________________________

_______________________________________________________________________________

_______________________________________________________________________________
Exhibit 6: Neighborhood Revitalization Initiative – Volunteer Survey

1. Is this your first time volunteering with Habitat for Humanity?
2. Is this your first time volunteering on a Neighborhood Revitalization Initiative project with Habitat for Humanity?
3. On which type of NRI project did you volunteer? Weatherization/A Brush with Kindness/ Critical Home Repair/Home rehabilitation
4. Training: Excellent/Good/Fair/Poor
   a. How would you rate the usefulness of the pretraining PowerPoint?
      ☐ Excellent ☐ Good ☐ Fair ☐ Poor
   b. How would you rate the on-site safety portion of the orientation?
      ☐ Excellent ☐ Good ☐ Fair ☐ Poor
5. On-site volunteer engagement: Excellent/Good/Fair/Poor
   a. How would you rate the ability of the construction supervisor to work with/supervise/instruct volunteers?
      ☐ Excellent ☐ Good ☐ Fair ☐ Poor
   b. How would you rate the amount of work given to the volunteers?
      ☐ Excellent ☐ Good ☐ Fair ☐ Poor
   c. How would you rate the interaction of the volunteers with the partner families?
      ☐ Excellent ☐ Good ☐ Fair ☐ Poor
   d. How would you rate your opportunity to learn about building, rehabilitation, weatherization or home repair techniques?
      ☐ Excellent ☐ Good ☐ Fair ☐ Poor
6. Did you learn skills that you will be able to apply in your own home?
7. Continued engagement: Very likely/Likely/Somewhat likely/Not at all likely
   a. How likely are you to use the knowledge you gained to maintain or improve your own home or rental unit?
      ☐ Very likely ☐ Likely ☐ Somewhat likely ☐ Not at all likely
   b. How likely are you to participate in another Habitat for Humanity volunteer opportunity?
      ☐ Very likely ☐ Likely ☐ Somewhat likely ☐ Not at all likely
   c. How likely are you to encourage a family member or friend to engage in a Habitat for Humanity volunteer opportunity?
      ☐ Very likely ☐ Likely ☐ Somewhat likely ☐ Not at all likely
8. What impact has this volunteer experience had on your perception of Habitat for Humanity?
9. What impact has this volunteer experience had on you personally?
10. Please tell us how we could improve this volunteer experience.
11. Would you like to receive Habitat for Humanity’s newsletter? If so, please provide your e-mail address below.
### Exhibit 7: Sample Rehab Assessment Document

<table>
<thead>
<tr>
<th>Home address:</th>
<th>Construction style:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of bedrooms</td>
<td>Square footage:</td>
</tr>
<tr>
<td>Value of offer:</td>
<td>Estimated rehab cost:</td>
</tr>
<tr>
<td>Orientation of house: N S E W Note: orientation indicates which exposure of the home gets mostly sun and mostly shade</td>
<td>Value of resale:</td>
</tr>
</tbody>
</table>

#### Health and safety
- Does this house pose any health hazards to the future occupants or the workers?
  - Estimate cost
  - Radon
    - Test results
    - Mitigation required yes no Action required
  - Lead
    - Mitigate
    - Encapsulate
  - Asbestos
    - Mitigate
    - Encapsulate

Health and safety factors are within our criteria for potential rehabbing. **GO**

Health and safety factors are outside our criteria for potential rehabbing. **NO GO**

#### Exterior inspection:
- As you proceed with the exterior inspection, you are looking for missing or damaged components that would permit water infiltration. Also look for signs of infestation (rot, droppings, boring, termite tubes, etc.).
  - Exterior inspection:
    - Front
    - Left
    - Right
    - Rear
    - Recommendations
    - Estimate cost

  - Siding warpage
  - Siding leakage
  - Paint condition
  - Window flashing
  - Window condition
  - Gutters and downspout
  - Soffits and fascia

Site considerations that may require extensive excavation or drainage work:
- Exterior appearances of home pass inspection. Nothing seen here eliminates this home from potential rehabbing. **GO**
- Exterior appearances of home indicate that there are repairs required beyond our criteria for rehabbing. **NO GO**

#### Exposed foundation:
- As you are considering the condition of the components of the home, keep in mind that many items you may want to replace could be sent to a ReStore for reuse. For that matter, the whole house may be considered a deconstruction project.
  - Exposed foundation:
    - Front
    - Left
    - Right
    - Rear
    - Recommendations
    - Estimate cost

  - Cracking
  - Leakage
  - Positive drainage
  - Window condition

Foundation is in adequate condition to be considered for rehabbing. **GO**

Foundation is in need of repairs beyond our criteria for rehabbing. **NO GO**

Notes on foundation
(Also see basement notes)
### Exposed Foundation

<table>
<thead>
<tr>
<th>Location</th>
<th>Description</th>
<th>Recommendations</th>
<th>Estimate Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Roof

<table>
<thead>
<tr>
<th>Condition</th>
<th>Recommendations</th>
<th>Estimate Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shingle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flashing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Penetrations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chimney</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Roof Notes

- Signs of water damage or significant air paths to the interior
- Engineering of roof system (adequate/inadequate)
- Insulation levels

The condition of the roof system is within our criteria for rehabbing. **GO**

The condition of the roof system is beyond our criteria for rehabbing. **NO GO**

### Attic

<table>
<thead>
<tr>
<th>Description</th>
<th>Recommendations</th>
<th>Estimate Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signs of water damage or significant air paths to the interior</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering of roof system (adequate/inadequate)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulation levels</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The condition of the roof system is within our criteria for rehabbing. **GO**

The condition of the roof system is beyond our criteria for rehabbing. **NO GO**

### Basement / Crawlspace

<table>
<thead>
<tr>
<th>Description</th>
<th>Recommendations</th>
<th>Estimate Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heaving walls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sagging of first floor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insufficient structural support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significant cracking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The condition of the foundation is within our criteria for rehabbing. **GO**

The condition of the foundation is beyond our criteria for rehabbing. **NO GO**

### Mechanical Systems

<table>
<thead>
<tr>
<th>Component</th>
<th>Approx. Age</th>
<th>Recommendations</th>
<th>Estimate Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiler</td>
<td>Approx. age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Converted coal or oil</td>
<td>Replace</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Usable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Ducts

<table>
<thead>
<tr>
<th>Material</th>
<th>OK but more required</th>
<th>Complete rewire</th>
<th>Must replace all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiberglass</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Electrical

<table>
<thead>
<tr>
<th>Component</th>
<th>Panel upgrade</th>
<th>Partial rewire</th>
<th>Complete rewire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peg and tube</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metal sheathed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Romex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Hookup

<table>
<thead>
<tr>
<th>Type</th>
<th>Upgrade hookup required</th>
<th>Hookup adequate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two-wire 60-amp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three-wire 100-amp+</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Plumbing

<table>
<thead>
<tr>
<th>Component</th>
<th>Drain is good</th>
<th>Supply is good</th>
<th>Drain replace</th>
<th>Supply replace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Galvanized supply</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steel drain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay drain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As you consider the combustion appliances required, note that it is best to place naturally aspirated equipment in isolated space. Combustion air should be brought in from an outside source, and the appliance should be placed in a sealed closet.

### Notes

- **Totals:**

- **Total:**
**Windows:** Windows in bedrooms should be adequately sized for egress. In many cases, replacement of the windows will be the best investment on a rehab.

<table>
<thead>
<tr>
<th>Wood with counterweights</th>
<th>Refit with inserts, weights removed and cavities insulated</th>
<th>Estimate cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>Storm windows to be added</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To be completely replaced with new</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Combination of strategies:</td>
<td></td>
</tr>
</tbody>
</table>

**Doors:**

**Exterior**

<table>
<thead>
<tr>
<th>Solid wood</th>
<th>Good condition</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hollow steel</td>
<td>Replace</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Interior**

<table>
<thead>
<tr>
<th>Solid wood</th>
<th>Good condition</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hollow core</td>
<td>Replace</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Kitchen**

<table>
<thead>
<tr>
<th>Cabinets</th>
<th>Replace</th>
<th>Reface</th>
<th>Repaint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Countertops</td>
<td>Replace</td>
<td>Resurface</td>
<td></td>
</tr>
<tr>
<td>Flooring</td>
<td>Replace</td>
<td>Keep</td>
<td></td>
</tr>
<tr>
<td>Sink</td>
<td>Replace</td>
<td>Resurface</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Notes:</th>
</tr>
</thead>
</table>

**Bath (Main)**

<table>
<thead>
<tr>
<th>Tub/shower</th>
<th>Replace</th>
<th>Resurface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sink</td>
<td>Replace</td>
<td>Resurface</td>
</tr>
<tr>
<td>Stool</td>
<td>Replace</td>
<td>Keep</td>
</tr>
<tr>
<td>Flooring</td>
<td>Replace</td>
<td>Keep</td>
</tr>
<tr>
<td>Ventilation</td>
<td>Needed</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Notes:</th>
</tr>
</thead>
</table>

**Bath (secondary)**

<table>
<thead>
<tr>
<th>Tub/shower</th>
<th>Replace</th>
<th>Resurface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sink</td>
<td>Replace</td>
<td>Resurface</td>
</tr>
<tr>
<td>Stool</td>
<td>Replace</td>
<td>Keep</td>
</tr>
<tr>
<td>Ventilation</td>
<td>Needed</td>
<td></td>
</tr>
<tr>
<td>Flooring</td>
<td>Replace</td>
<td>Keep</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Notes:</th>
</tr>
</thead>
</table>

**Walls**

<table>
<thead>
<tr>
<th>Gut to studs and fiberglass batt</th>
<th>Cover with drywall</th>
<th>Skim coat</th>
<th>Blow insulation</th>
<th>Details</th>
<th>Estimate cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Match with print</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exterior first floor (location)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interior first floor (location)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exterior second floor (location)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interior second floor (location)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Totals: |

*NEIGHBORHOOD REVITALIZATION INITIATIVE • HOME REHABILITATION*
### Ceilings

<table>
<thead>
<tr>
<th>Floors</th>
<th>Remove to frame</th>
<th>Cover with drywall</th>
<th>Skim coat</th>
<th>Add insulation to R value of:</th>
<th>Details:</th>
<th>Estimate cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>First floor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second floor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Floors

<table>
<thead>
<tr>
<th>Floors</th>
<th>Leave as is</th>
<th>Replace carpet</th>
<th>Replace vinyl</th>
<th>Refinish/other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living room</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dining room</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entry</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hall</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Master bedroom</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Bedroom 2</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Bedroom 3</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Bedroom 4</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Bedroom 5</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bath 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bath 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Other considerations:

- [ ]
- [ ]
- [ ]
- [ ]

**Totals:**

**Totals from**

- Page 1
- Page 2
- Page 3
- Page 4
- Page 5
- Page 6

**Total estimate for rehab:**
### Additional notes:

**Room additions:** In some cases, added rooms may degrade the quality of the home. Removal of such additions is best in such cases.

**Porches:** Often, porches pull away because of lack of adequate footing or structure. In such cases, you may need to shore up the roof with temporary bracing while you rebuild the foundation and deck.

**Safety:** It is important to consider the existing fire hazards on older homes. Usually, fire blocking was not used. Be sure to isolate each level of a home by blocking air paths between them. This also adds to the energy efficiency of the home.

**Lead:** This subject is not to be taken lightly. Lead-abatement guidelines have been provided by the EPA. In many cases, encapsulation by painting over lead-contaminated surfaces is all that needs to be done. The danger is greatest when you are sanding finishes containing lead paints. Get a copy of the lead-abatement fact sheets available from HFHI’s Department of Construction and Environmental Resources.

**Asbestos:** This product was not used a great deal for interior applications in residential construction. When it was used, it was in composition flooring or for pipe and duct insulation. Again, encapsulation may be your best strategy, but if asbestos is present in large quantities, you may need to hire a professional for mitigation or reject the home as a Habitat project.

**Existing vegetation:** Though vines growing on walls and trees resting on the roof may look quaint, be aware that these can lead to moisture damage and provide access for rodents and carpenter ants. Vegetation should be kept clear of the structure. Bushes near the foundation require water. This is not good for foundation drainage. Vegetation should be maintained at least three feet from the foundation, and the ground should drain away.

**Windows:** As mentioned, new windows will often be your best investment in a rehab project. Replacement sashes are another option. This allows you to use insulated glazing and new jamb inserts while not disturbing the original design of the window frame. If you intend to use the existing windows and sashes, consider adding storm windows to the home. This is not, however, the best way to go.

**Walls:** Do not be bound by the idea that all plaster and lathe must be removed before you can rehab. In many cases, you can skim coat it or add a layer of new quarter-inch drywall over it. If you use this strategy, you can make the necessary holes to run replacement electrical, plumbing and blown insulation, then cover them with the drywall. This reduces the amount of labor and landfill as well.

**Fireplaces:** Do not trust the condition of an existing chimney. It should be inspected by a professional. Old fireplaces are not an energy-saving device. The only thing they provide is atmosphere; they are a huge penalty in the performance of a home. If you leave an existing fireplace, consider a sealed-combustion, gas insert or at least an efficient wood-burning stove insert.
Exhibit 8: Home Rehabilitation Go/No-go Checklist

Date: ____________________________________________
House address: ____________________________________________
_____________________________________________________________________________
Conducted by: ____________________________________________
_____________________________________________________________________________

Basic house description
Year built: ____________________________________________
Building material and exterior cladding: ____________________________
Basement or crawlspace: ____________________________
Stories: ____________________________________________
Square footage: ____________________________________________
Bedrooms/bathrooms: ____________________________________________
Garage: attached/detached
Other outbuildings: ____________________________________________

Partner family and volunteer crew safety
Special attention to issues that may compromise health or safety

<table>
<thead>
<tr>
<th>Item</th>
<th>Results/description</th>
<th>Remediation strategy</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>Test results:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asbestos</td>
<td>Inspection results:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radon</td>
<td>Test results:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Existing system:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td>Test results:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Existing system:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mold (totaled)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roof pitch and height</td>
<td>N/A</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Other notes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety factors</td>
<td>Go</td>
<td></td>
<td>No go</td>
</tr>
</tbody>
</table>
### General exterior
Special attention to issues that may result in moisture infiltration or extensive land work

<table>
<thead>
<tr>
<th>Item</th>
<th>Results/ description</th>
<th>Remediation strategy</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driveway</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walkways</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drainage (land grade, soil constitution)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Softscape (grass, tree proximity)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cladding (cracks, warps, paint)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows (glass, casing, flashing, seal)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gutters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soffits and fascia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stoop or porch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exterior doors (entry system, core type)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exterior lighting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other notes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General exterior</td>
<td>Go</td>
<td></td>
<td>No go</td>
</tr>
</tbody>
</table>

### Roof
Special attention to issues that may result in moisture infiltration or excess/restricted airflow

<table>
<thead>
<tr>
<th>Item</th>
<th>Results/ description</th>
<th>Remediation strategy</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof line style</td>
<td></td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Shingles (type, state, missing)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flashing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vents (penetration and ridge)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chimney</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposed deck (rot, warp)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other notes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roof</td>
<td>Go</td>
<td></td>
<td>No go</td>
</tr>
</tbody>
</table>
## Foundation - exterior

<table>
<thead>
<tr>
<th>Item</th>
<th>Results/ description</th>
<th>Remediation strategy</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type and depth</td>
<td></td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Grade at foundation (within code)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cracks or deterioration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leakage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows (glass, casing, flashing, seal)</td>
<td></td>
<td>Possibility of concrete work</td>
<td></td>
</tr>
<tr>
<td>Window wells</td>
<td></td>
<td>Check municipality for rehab code</td>
<td></td>
</tr>
<tr>
<td>Other notes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foundation – exterior</td>
<td>Go</td>
<td>No go</td>
<td></td>
</tr>
</tbody>
</table>

## Basement or crawlspace

Special attention to structure (walls, ceiling, slab) and moisture infiltration

<table>
<thead>
<tr>
<th>Item</th>
<th>Results/ description</th>
<th>Remediation strategy</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type and depth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wall cracks or deterioration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wall warping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Necessary concrete work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floor – slab (cracks, heave)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floor – crawlspace</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows (casing, seal)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subfloor (supports, structure)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other notes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basement or crawlspace</td>
<td>Go</td>
<td>No go</td>
<td></td>
</tr>
</tbody>
</table>

## Electrical

The items that follow can be observed on an initial walkthrough; if the project seems viable, a complete inspection by a licensed professional must be done before final project acceptance.

<table>
<thead>
<tr>
<th>Item</th>
<th>Results/ description</th>
<th>Remediation strategy</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of last electrical inspection</td>
<td>Noted on the back side of the main panel door:</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Main supply amperage and circuit spaces</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main panel condition If any of these items are in substandard condition, professional labor will be required</td>
<td>Service drop (frayed or exposed):</td>
<td>Call licensed electrician</td>
<td></td>
</tr>
<tr>
<td>Breakers/bus (number, condition, overloaded):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outgoing wires (frayed or exposed):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proximity to water or gas hazard:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional electrical inspection results</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other notes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical</td>
<td>Go</td>
<td>No go</td>
<td></td>
</tr>
</tbody>
</table>
**Mechanical systems**

The items that follow can be observed on an initial walkthrough; if the project seems viable, a complete heating system inspection by a licensed professional must be done before final project acceptance.

<table>
<thead>
<tr>
<th>Item</th>
<th>Results/ description</th>
<th>Remediation strategy</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat supply</td>
<td>Mix a solution of 1 tablespoon soap and 1 pint water; spread over pipe connections at every coupling; if bubbles appear, there is a leak.</td>
<td>Call licensed professional</td>
<td>N/A</td>
</tr>
<tr>
<td>IF GAS (LP or natural): Check piped connections to all gas appliances for corrosion and leaks</td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Furnace:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water heater:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dryer:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heating appliance</td>
<td>Type, make, model, year:</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Condition (operation, cracks, corrosion):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air exchange system</td>
<td>Type, make model, year:</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Condition (operation, timing):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Point source vent operation</td>
<td>Bathroom(s):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visible ducting Vents and grilles to be inspected per room</td>
<td>Duct material:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condition (seals, corrosion, adequate supply):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other notes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanical systems</td>
<td>Go</td>
<td>No go</td>
<td></td>
</tr>
</tbody>
</table>
### Plumbing
Corrosion and leaking (gaskets and connections), stacks and water heater should be inspected by a licensed professional.

<table>
<thead>
<tr>
<th>Item</th>
<th>Results/ description</th>
<th>Remediation strategy</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main supply (shutoffs, corrosion)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drain (obstructions, rust)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water heater</td>
<td>Type, make model, year:</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Condition (corrosion, leakage):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water softener</td>
<td>Type, make model, year:</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Drain and check for buildup</td>
<td>Condition (corrosion, leakage):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plumbing assemblies and connections</td>
<td>Kitchen sink (faucets, pipe, seal):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If more than one bath, record additional assessments on the other side of this page.</td>
<td>Dishwasher (operation, hookup):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Plumbing info only; specific appliances detailed later in this document.</td>
<td>Disposal (operation, hookup):</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerator (ice maker):</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bathroom sink (faucets, pipe, seal):</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bathroom stool (operation, leakage):</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bathroom shower assembly (shower head, faucet):</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bathroom tub/surround (cracks, seal):</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bathroom drain (obstructions, seal):</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Washing machine (operation, hookup):</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Other notes
- Plumbing: Go, No go

### Attic
Special attention to moisture infiltration and excess/obstructed airflow

<table>
<thead>
<tr>
<th>Item</th>
<th>Results/ description</th>
<th>Remediation strategy</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truss system (load capacity, rot)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulation (level, age)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baffles (existing, effective)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vents (obstructions)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chimney (cracks, deterioration)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attic hatch (operation, insulation)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Other notes
- Attic: Go, No go
Appliances
Special attention to mold and energy efficiency; it may be more cost-effective in the long run to replace older appliances. Remember, we get Whirlpool either free or discounted, depending on the unit.

<table>
<thead>
<tr>
<th>Item</th>
<th>Results/ description</th>
<th>Remediation strategy</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refrigerator</td>
<td>Type, make, model, year:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Condition:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range (if gas, see note under Mechanical systems)</td>
<td>Type, make, model, year:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Condition:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dishwasher</td>
<td>Type, make, model, year:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Condition:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garbage disposal</td>
<td>Type, make, model, year:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Condition:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microwave</td>
<td>Type, make, model, year:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Condition:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washing machine</td>
<td>Type, make, model, year:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Condition:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dryer (if gas, see note under Mechanical systems)</td>
<td>Type, make, model, year:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Condition:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (use reverse side if necessary)</td>
<td>Type, make, model, year:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Condition:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appliances</td>
<td>Go</td>
<td>No go</td>
<td></td>
</tr>
</tbody>
</table>
## Living spaces, room by room

Use this section for a general inspection of each room, including kitchen, bathrooms, living room, dining room, bedrooms, storage rooms, hallways, etc. Print a separate sheet (two pages) for each room. Pay special attention to mold on surfaces.

<table>
<thead>
<tr>
<th>Item (room designation)</th>
<th>Results/ description</th>
<th>Remediation strategy</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Door (entry, condition)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switches (operation, exposed wire)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light fixtures (operation, condition)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoke detector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outlets (to code, number, operation, exposed wire)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Venting (operation, grilles)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wall rock (holes, mold)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ceiling rock (holes, mold)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floor</td>
<td>Consider taking up existing floor covering; mold can live in and under it undetected and may compromise subfloor</td>
<td>Floorboard (warping, sagging):</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Floor covering (tearing, wrinkles, cracks):</td>
<td></td>
</tr>
<tr>
<td>Windows (casing, seal, sill)</td>
<td>Type (single hung, slider, double pane, jamb, grid, etc.), age:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Condition:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closets (doors, shelving, bars, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage units (cabinets, vanities, shelving, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finished surfaces (countertop, mirrors, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Media jacks (type, condition)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Window treatments (shades, blinds, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trim</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other notes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living spaces</td>
<td>Go</td>
<td>No go</td>
<td></td>
</tr>
</tbody>
</table>
### Garage – attached

<table>
<thead>
<tr>
<th>Item (room designation)</th>
<th>Results/ description</th>
<th>Remediation strategy</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof joint to home (leaks, airflow)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slab joint to home (cracks)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common wall to home</td>
<td>Check municipality for rehab code</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposed framing (warp, plumb)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheathing (type, condition)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Truss system (load, rot)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floor – concrete slab (cracks, heave)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floor – other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows (casing, seal)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other notes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garage - attached</td>
<td>Go</td>
<td>No go</td>
<td></td>
</tr>
</tbody>
</table>

### Additional considerations

<table>
<thead>
<tr>
<th>Item (room designation)</th>
<th>Results/ description</th>
<th>Remediation strategy</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional considerations</td>
<td>Go</td>
<td>No go</td>
<td></td>
</tr>
</tbody>
</table>
Consider the things you cannot see:

Below grade foundation
- Insect infestation
- Deterioration
- Soil-bearing capacity

Water/sewer trench
- Underground obstruction of line
- Corrosion

Insulation
- Moisture infiltration
- Mold/mildew
- Inefficiency (gaps, compression)

Interior ductwork
- Seals
- Holes

Interior electric
- Frayed wires
- Wire location

Further considerations:
- Does the house need to be moved? This will require code to new construction standards.
- Is it fully accessible for those with limited mobility? Is it partially accessible (no-step entrance, 41-inch hallways, 3-foot-wide bathroom door)?
- Are there liens on the property?
- Are there neighborhood amenities nearby (grocery, playground, school, church)?
- Is the neighborhood aware of Habitat?

<table>
<thead>
<tr>
<th>Anticipated cost</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ESTIMATED WORK HOURS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FINAL RECOMMENDATION</td>
<td>GO</td>
<td>NO GO</td>
</tr>
</tbody>
</table>
Exhibit 9: Housekeeping at the Construction Site

Importance of maintaining a clean construction site
Keeping job sites clean and organized should be a priority integrated into all operational aspects of site management. Proper storage of tools and materials can make a job site safer. Proper storage can also improve efficiency: When tools are stored in their proper place, everyone will know where to find them when needed.

This information can help prevent injuries to our volunteers and staff:

Storage of tools and materials
- Store tools quickly after use, especially those that are dangerous and can cause accidents. After the workday is finished, remove from the work area all items not currently being used, and store them.
- Keep material storage areas clean and free of unwanted materials and debris.
- Secure loose and light materials that can be blown away by high winds.
- Remove empty bags or other containers of dust-producing materials from the work area. Be especially vigilant with dangerous materials such as lime.

Working areas
- Provide safe access for workers to the job site.
- Keep walking and working surfaces clear and clean at all times.
- Keep stairways and passageways free of materials and obstructions.
- Remove accumulated trash and put into its designated container.
- Hammer in, remove or bend nails protruding from scrap lumber before it gets piled. Bend all exposed rebar ends.
- Clean up spills on floors immediately.

Waste
- Place trash and recyclable containers throughout the job site and mark them for proper use. Remove debris at regular intervals.
- Provide trash receptacles for waste removal in above-grade floor work areas.
- Use drip pans to collect oils and fluids.
Exhibit 10: Asbestos

Asbestos is a mineral fiber. It can be positively identified only with a special type of microscope. There are several types of asbestos fibers. In the past, asbestos was added to a variety of products to strengthen them and to provide heat insulation and fire resistance. Asbestos is very dangerous to your health. It can harden on your lungs and create lung cancer and difficulty in breathing. Please take the time to read this article if you have been working with, or been around, asbestos. You need to know the facts.

How can asbestos affect your health?
From studies of people who were exposed to asbestos in factories and shipyards, we know that breathing high levels of asbestos fibers can lead to an increased risk of lung cancer:

- **Mesothelioma**, a cancer of the lining of the chest and the abdominal cavity.
- **Asbestosis**, in which the lungs become scarred with fibrous tissue.

The risk of lung cancer and mesothelioma increases with the number of fibers inhaled. The risk of lung cancer from inhaling asbestos fibers is also greater if you smoke. People who get asbestosis have usually been exposed to high levels of asbestos for a long time. The symptoms of these diseases do not usually appear until about 20 to 30 years after the first exposure to asbestos.

Most people exposed to small amounts of asbestos, as we all are in our daily lives, do not develop these health problems. However, if disturbed, asbestos material may release asbestos fibers, which can be inhaled into the lungs. The fibers can remain there for a long time, increasing the risk of disease. Asbestos material that would crumble easily if handled or that has been sawed, scraped or sanded into a powder is more likely to create a health hazard.

Where can asbestos be found, and when can it be a problem
Most products made today do not contain asbestos. Those few products that still contain asbestos that could be inhaled are required to be labeled as such. However, until the 1970s, many types of building products and insulation materials used in homes contained asbestos. Common products that might have contained asbestos in the past, and conditions that may release fibers, include:

- Steam pipes, boilers and furnace ducts insulated with an asbestos blanket or asbestos paper tape. These materials may release asbestos fibers if damaged, repaired or removed improperly.
- Resilient floor tiles (vinyl asbestos, asphalt and rubber), the backing on vinyl sheet flooring, and adhesives used for installing floor tile. Sanding tiles can release fibers. So may scraping or sanding the backing of sheet flooring during removal.
- Cement sheet, millboard and paper used as insulation around furnaces and wood-burning stoves. Repairing or removing appliances may release asbestos fibers. So may cutting, tearing, sanding, drilling or sawing insulation.

1. **Malignant mesothelioma** is a rare type of cancer that occurs in the thin layer of cells lining the body's internal organs, known as the mesothelium. There are three recognized types of mesothelioma.  
   **Pleural mesothelioma** is the most common form of the disease, accounting for roughly 70 percent of cases, and occurs in the lining of the lung known as the pleura.  
   **Peritoneal mesothelioma** occurs in the lining of the abdominal cavity, known as the peritoneum.  
   **Pericardial mesothelioma** originates in the pericardium, which lines the heart.
2. **Asbestosis** is a breathing disorder caused by inhaling asbestos fibers. Prolonged accumulation of these fibers in your lungs can cause scarring of lung tissue and shortness of breath. Asbestosis symptoms can range from mild to severe, and usually don’t appear until years after exposure.
- Door gaskets in furnaces, wood stoves and coal stoves. Worn seals can release asbestos fibers during use.
- Soundproofing or decorative material sprayed on walls and ceilings. Loose, crumbly or water-damaged material may release fibers. So will sanding, drilling or scraping the material.
- Patching and joint compounds for walls and ceilings, and textured paints. Sanding, scraping or drilling these surfaces may release asbestos.
- Asbestos cement roofing, shingles and siding. These products are not likely to release asbestos fibers unless sawed, drilled or cut.
- Artificial ashes and embers sold for use in gas-fired fireplaces. Also, other older household products such as fireproof gloves, stovetop pads, ironing board covers and certain hairdryers.

Where asbestos hazards may be found in the home
- Some roofing and siding shingles are made of asbestos cement.
- Houses built between 1930 and 1950 may have asbestos as insulation.
- Asbestos may be present in textured paint and in patching compounds used on wall and ceiling joints. Their use was banned in 1977.
- Artificial ashes and embers sold for use in gas-fired fireplaces may contain asbestos.
- Older products such as stove-top pads may have some asbestos compounds.
- Walls and floors around wood-burning stoves may be protected with asbestos paper, millboard or cement sheets.
- Asbestos is found in some vinyl floor tiles and the backing on vinyl sheet flooring and adhesives.
- Hot water and steam pipes in older houses may be coated with an asbestos material or covered with an asbestos blanket or tape.
- Oil and coal furnaces and door gaskets may have asbestos insulation.

What should be done about asbestos in the home?
If you think asbestos may be present on your project, don’t panic. Usually, the best thing is to leave asbestos material that is in good condition alone. Generally, material in good condition will not release asbestos fibers. There is no danger unless fibers are released and inhaled into the lungs. Check material regularly if you suspect it may contain asbestos. Don’t touch it, but look for signs of wear or damage such as tears, abrasions or water damage. Damaged material may release asbestos fibers. This is particularly true if you often disturb it by hitting, rubbing or handling it, or if it is exposed to extreme vibration or air flow. Sometimes, the best way to deal with slightly damaged material is to limit access to the area and not touch or disturb it.

If asbestos is present (or suspected to be present) in the house, it will be necessary for the affected material to be removed and disposed of by a licensed asbestos remediation company. Under no circumstances should staff or volunteers disturb asbestos. Check with local health, environmental or other appropriate officials to find out proper handling and disposal procedures. If asbestos material is more than slightly damaged, or if you are going to make changes in your home that might disturb it, repair or removal by a professional is needed. Before you have your house remodeled, find out whether asbestos materials are present.

How to identify materials that contain asbestos
You can’t tell whether a material contains asbestos simply by looking at it, unless it is labeled. If in doubt, treat the material as if it contains asbestos or have it sampled and analyzed by a qualified professional. A professional should take samples for analysis, since he or she knows what to look for, and because
there may be an increased health risk if fibers are released. If done incorrectly, sampling can be more hazardous than leaving the material alone. Do not take samples yourself. We recommend that trained professionals take samples of suspect materials, and that Habitat staff and volunteers do not attempt the removal of suspected asbestos. Please see Chapter 9 of the Construction AOM.

Suspect samples should be sent to:
   » An asbestos analysis laboratory accredited by the National Voluntary Laboratory Accreditation Program at the National Institute of Standards and Technology. Your state or local health department may also be able to help.

How to manage an asbestos problem

If the asbestos material is in good shape and will not be disturbed, do nothing! If it is a problem, there are two types of corrections: repair and removal. Repair usually involves either sealing or covering asbestos material. Sealing (encapsulation) involves treating the material with a sealant that either binds the asbestos fibers together or coats the material so fibers are not released. Pipe, furnace and boiler insulation can sometimes be repaired this way. This should be done only by a professional trained to handle asbestos safely. Covering (enclosure) involves placing something over or around the material that contains asbestos to prevent release of fibers. Exposed insulated piping may be covered with a protective wrap or jacket. With any type of repair, the asbestos remains in place. Repair is usually cheaper than removal, but it may make later removal of asbestos, if necessary, more difficult and costly. Repairs can be major or minor. Major repairs must be done only by a professional trained in safely handling asbestos. Minor repairs should also be done by professionals, since there is always a risk of exposure to fibers when asbestos is disturbed.

Repairs

Doing minor repairs yourself is not recommended. Improper handling of asbestos materials can create a hazard where none existed. If you nevertheless choose to do minor repairs, you should have as much information as possible on the handling of asbestos before doing anything. Contact your state or local health department or regional EPA office for information about asbestos training programs in your area. Your local school district may also have information about asbestos professionals and training programs for school buildings. Even if you have completed a training program, do not try anything more than minor repairs. Before undertaking minor repairs, carefully examine the area around the damage to make sure it is stable. As a general matter, any damaged area bigger than your hand is not a minor repair.

Before minor repairs are undertaken, be sure that your contractor is aware of all the precautions described earlier for sampling asbestos material. Always wet the asbestos material using a fine mist of water containing a few drops of detergent. Commercial products designed to fill holes and seal damaged areas are available. Small areas of material such as pipe insulation can be covered by wrapping a special fabric, such as rewetable glass cloth, around it. These products are available from stores that specialize in asbestos materials and safety items (listed in the telephone directory under “Safety Equipment and Clothing”).

Removal is usually the most expensive method and, unless required by state or local regulations, should be the last option considered in most situations. This is because removal poses the greatest risk of fiber release. However, removal may be required when remodeling or making major changes to your project home that will disturb asbestos material. Also, removal may be called for if asbestos material is damaged extensively and cannot be otherwise repaired. Removal is complex and must be done only by a contractor with special training. Improper removal may actually increase the health risks to you and your volunteers.

3. my2.habitat.org/pages/g31582/Construction-AOM
Asbestos professionals: Who are they and what can they do?

Asbestos professionals are trained in handling asbestos material. The type of professional will depend on the type of product and what needs to be done to correct the problem. You may hire a general asbestos contractor or, in some cases, a professional trained to handle specific products containing asbestos.

Asbestos professionals can conduct home inspections, take samples of suspect material, assess its condition, and advise about what corrections are needed and who is qualified to make these corrections. Once again, material in good condition need not be sampled unless it is likely to be disturbed. Professional correction or abatement contractors repair or remove asbestos materials.

Some firms offer combinations of testing, assessment and correction. A professional hired to assess the need for corrective action should not be connected with an asbestos-correction firm. It is better to use two different firms so there is no conflict of interest. Services vary from one area to another around the country.

The federal government has training courses for asbestos professionals around the country. Some state and local governments also have or require training or certification courses. Ask asbestos professionals to document their completion of federal or state-approved training. Each person performing work in your home should provide proof of training and licensing in asbestos work, such as completion of EPA-approved training. State and local health departments or EPA regional offices may have listings of licensed professionals in your area.

If you have a problem that requires the services of asbestos professionals, check their credentials carefully. Hire professionals who are trained, experienced, reputable and accredited, especially if accreditation is required by state or local laws. Before hiring a professional, ask for references from previous clients. Find out if they were satisfied. Ask whether the professional has handled similar situations. Get cost estimates from several professionals, as the charges for these services can vary.

Though private homes are usually not covered by the asbestos regulations that apply to schools and public buildings, professionals should still use procedures described during federal or state-approved training. Habitat affiliates and homeowners alike should be alert to the chance of misleading claims by asbestos consultants and contractors. There have been reports of firms incorrectly claiming that asbestos materials in homes must be replaced. In other cases, firms have encouraged unnecessary removals or performed them improperly. Unnecessary removals are a waste of money and affiliate resources. Improper removals may actually increase the health risks to you and your volunteers. To guard against this, know what services are available and what procedures and precautions are needed to do the job properly.

In addition to general asbestos contractors, you may need to select a roofing, flooring or plumbing contractor trained to handle asbestos when it is necessary to remove and replace roofing, flooring, siding or asbestos-cement pipe that is part of a water system. Normally, roofing and flooring contractors are exempt from state and local licensing requirements because they do not perform any other asbestos-correction work. Call 1-800-USA-ROOF for names of qualified roofing contractors in your area. (Illinois residents can call 708-318-6722.) For information on asbestos in floors, read "Recommended Work Procedures for Resilient Floor Covers." You can write for a copy from the Resilient Floor Covering Institute, 966 Hungerford Drive, Suite 12-B, Rockville, MD 20850. Enclose a stamped, business-size, self-addressed envelope.

If you hire a professional asbestos inspector:

- Make sure the inspection will include a complete visual examination and the careful collection and lab analysis of samples. If asbestos is present, the inspector should provide a written evaluation
describing its location and extent of damage, and give recommendations for correction or prevention.

- Make sure an inspecting firm makes frequent site visits if it is hired to ensure that a contractor follows proper procedures and requirements. The inspector may recommend and perform checks after the correction to ensure the area has been properly cleaned.

**If you hire a corrective-action contractor:**

- Check with your local air pollution control board, the local agency responsible for worker safety, and the Better Business Bureau. Ask if the firm has had any safety violations. Find out if there are legal actions filed against it.
- Insist that the contractor use the proper equipment to do the job. The workers must wear approved respirators, gloves and other protective clothing.
- Before work begins, get a written contract specifying the work plan, cleanup, and the applicable federal, state and local regulations the contractor must follow (such as notification requirements and asbestos disposal procedures). Contact your state and local health departments, EPA’s regional office and the Occupational Safety and Health Administration’s regional office to find out what the regulations are. Be sure the contractor follows local asbestos removal and disposal laws. At the end of the job, get written assurance from the contractor that all procedures have been followed.
- Ensure that the contractor avoids spreading or tracking asbestos dust into other areas of the project house. They should seal the work area from the rest of the house using plastic sheeting and duct tape, and also turn off the heating and air conditioning system. For some repairs, such as pipe insulation removal, plastic glove bags may be adequate. They must be sealed with tape and properly disposed of when the job is complete.
- Make sure the work site is clearly marked as a hazard area. Do not allow anyone not directly involved in the work into the area until work is completed.
- Insist that the contractor apply a wetting agent to the asbestos material with a hand sprayer that creates a fine mist before removal. Wet fibers do not float in the air as easily as dry fibers and will be easier to clean up.
- Make sure the contractor does not break removed material into small pieces. This could release asbestos fibers into the air. Pipe insulation was usually installed in preformed blocks and should be removed in complete pieces.
- Upon completion, ensure that the contractor cleans the area well with wet mops, wet rags, sponges or HEPA (high-efficiency particulate air) vacuum cleaners. Never use a regular vacuum cleaner. Wetting reduces the chance of spreading asbestos fibers in the air. All asbestos materials and disposable equipment and clothing used in the job must be placed in sealed, leak-proof, labeled plastic bags. The work site should be visually free of dust and debris. Air monitoring (to make sure there is no increase of asbestos fibers in the air) may be necessary to ensure that the contractor’s job is done properly. This should be done by someone not connected with the contractor.

**Caution!**

Do not dust, sweep or vacuum debris that may contain asbestos. These steps will disturb tiny asbestos fibers and may release them into the air. Remove dust by wet mopping or with a special HEPA vacuum cleaner used by trained asbestos contractors.

*For more information, please see Chapter 9 of the [Construction AOM](my2.habitat.org/pages/g31582/Construction-AOM).*

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4. [my2.habitat.org/pages/g31582/Construction-AOM](my2.habitat.org/pages/g31582/Construction-AOM)
Exhibit 11: Lead in Paint

Habitat for Humanity wants to keep you informed about lead in paint, pipes, dirt outside and many more places. It is very important to know these facts to safeguard your staff, volunteers and your homeowner families. Please see the Lead Fact Sheet1. Lead can be in places that you would never expect.

Did you know the following facts about lead?
• Lead exposure can harm young children and babies even before they are born.
• Even children who seem healthy can have high levels of lead in their bodies.
• You can get lead in your body by breathing or swallowing lead dust, or by eating soil or paint chips containing lead.
• You have many options for reducing lead hazards. In most cases, lead-based paint that is in good condition is not a hazard.
• Removing lead-based paint improperly can increase the danger to your family.

Additionally, be aware of any additional work required to handle a lead paint hazard if assessing a home built before 1978. As of April 2010, the EPA’s Renovation, Repair and Painting Rule requires that contractors performing renovation, repair and painting projects that disturb lead-based paint in homes, child care facilities and schools built before Jan. 1, 1978, be certified and follow specific work practices to prevent lead contamination. Additionally, you must comply with the requirements of HUD’s Lead Safe Housing Rule if you receive federal grant money (e.g., NSP1 or NSP2 funds) and you use that money to purchase and rehab a home constructed prior to Jan. 1, 1978. For more information on the prevention of lead paint contamination, call the EPA at 800-424-5323, visit the EPA lead website2, visit the HUD lead website3 or see the Safety section of this guide.

If you think your project home might have lead hazards, please visit the OSHA website regarding lead4, lead exposure and other important details. Below are some simple steps to protect your staff and volunteers and the homeowner family.

Health effects of lead
• Childhood lead poisoning remains a major environmental health problem in the U.S.
• Even children who appear healthy can have dangerous levels of lead in their bodies.

People can get lead in their body if they:
• Put their hands or other objects covered with lead dust in their mouths.
• Eat paint chips or soil that contains lead.
• Breathe in lead dust (especially during renovations that disturb painted surfaces).

Lead is even more dangerous to children than adults because:
• Babies and young children often put their hands and other objects in their mouths. These objects can have lead dust on them.

1. my2.habitat.org/download/g31c0b/HFHI-Lead-Safety-Statement-and-Key-Terms
2. www.epa.gov/lead/
3. www.hud.gov/offices/lead/healthyhomes/lead.cfm
• Children's growing bodies absorb more lead.
• Children's brains and nervous systems are more sensitive to the damaging effects of lead.

If not detected early, children with high levels of lead in their bodies can suffer from:
• Damage to the brain and nervous system.
• Behavior and learning problems (such as hyperactivity).
• Slowed growth.
• Hearing problems.
• Headaches.

Lead is also harmful to adults. Adults can suffer from:
• Difficulties during pregnancy.
• Other reproductive problems (in both men and women).
• High blood pressure.
• Digestive problems.
• Nerve disorders.
• Memory and concentration problems.
• Muscle and joint pain.

Where lead may be found:
In general, the older the home, the more likely it has lead-based paint.
• In paint:
  » Many homes built before 1978 have lead-based paint. The federal government banned lead-based paint from housing in 1978. Some states stopped its use even earlier.

Lead may be found:
• In homes in the city, country or suburbs.
• In apartments, single-family homes, and both private and public housing.
• Inside and outside of the house.
• In soil around a home. (Soil can pick up lead from exterior paint, or other sources such as past use of leaded gas in cars.)
• In household dust. (Dust can pick up lead from deteriorating lead-based paint or from soil tracked into a home.)

Drinking water
Your project home might have plumbing with lead or lead solder. Call the local health department or water supplier to find out about testing the water in your project home. You cannot see, smell or taste lead, and boiling water will not get rid of lead. If you think the project home's plumbing might have lead in it:
• Use only cold water for drinking and cooking.
• Run water for 15 to 30 seconds before drinking it, especially if the water has not run for a few hours.
• On the job site:
  » If you work with lead, you could bring it to your own home on your hands or clothes. Shower and change clothes before going home. Launder your work clothes separately from the rest of your family’s clothes.
Where lead is likely to be a hazard

Lead from paint chips, which you can see, and lead dust, which you can't always see, can be serious hazards.

Lead-based paint may also be a hazard when found on surfaces that children can chew or handle. It is important that these surfaces are repaired if lead-based paint is suspected, especially when they show wear and tear or damage. These areas include:
- Windows and window sills.
- Doors and doorframes.
- Stairs, railings and banisters.
- Porches and fences.

Note: Lead-based paint that is in good condition is usually not a hazard.

Lead dust can form when lead-based paint is dry-scraped, dry-sanded or heated. Dust also forms when painted surfaces bump or rub together. Lead chips and dust can get on surfaces and objects that people touch. Settled lead dust can re-enter the air when people vacuum, sweep or walk through it.

Lead in soil can be a hazard when children play in bare soil or when people bring soil into the house on their shoes.

For more information, please see the Lead Fact Sheet on My.Habitat.
Exhibit 12: Legal Lead Memo

MEMORANDUM
To: HFH US Affiliates
From: hfhi.legal.department
Subject: EPA And HUD lead-based paint regulations
Date: 11/24/09

This memo is intended for HFH U.S. Affiliates who may rehab, repair or demolish homes built prior to Jan. 1, 1978. The EPA has issued the Renovation, Repair and Painting Rule requiring the use of lead-safe practices, which will apply to any affiliate working on “target housing” or a “child-occupied facility,” despite the source of funding for the project. Target housing is defined as any dwelling constructed prior to Jan. 1, 1978, except pre-1978 housing for the elderly or people with disabilities (unless any child under 6 years of age resides or will reside in the housing) and any pre-1978 zero-bedroom dwellings (residential dwelling areas where the living area is not separated from the sleeping area) are not included in the definition of target housing. A child-occupied facility is a building or portion of a building constructed prior to 1978 that is visited regularly by the same child under 6 on at least two different days within any week (Sunday through Saturday), provided that each day’s visit lasts at least three hours, the combined weekly visits last at least six hours, and the combined annual visits last at least 60 hours. Child-occupied facilities may be located in target housing or in public or commercial buildings. Common areas that children under 6 simply pass through, such as hallways, stairways and garages, are not included in the definition of child-occupied facilities.

Additionally, if you are a recipient of NSP1, NSP2 or other federal grant money and you use that money to purchase and rehab a home falling under the definition above of target housing, you will also need to comply with the HUD Lead Safe Housing Rule.

I. Lead-Based Paint Hazards
Prior to Jan. 1, 1978, lead-based paint was often used in homes. About 50 percent of all homes built before 1978 have lead-based paint, and about 86 percent of all homes built prior to 1940 contain lead-based paint. This poses a danger because lead is a highly toxic metal that can cause a wide range of health problems, especially in young children. Children are particularly susceptible to health issues that arise from lead-based paint since they often put their hands or other lead-contaminated objects into their mouths and may play in lead-contaminated soil. Also, workers performing renovations, repairs and demolitions on pre-1978 homes are in danger of breathing in lead dust or fumes, especially when working on jobs that consist of sanding, scraping, brushing or blasting, which may disturb lead-based paint surfaces. Lead poisoning in individuals of all ages may cause damage to the brain and other vital organs, and may also cause behavioral problems, learning disabilities, seizures and, in some cases, even death.³

3. Id.
II. Lead-Based Paint Regulations

A. EPA’s RRP Rule:

In response to lead-based paint concerns, the EPA has issued the Renovation, Repair and Painting Rule ("RRP Rule"). Under the RRP Rule, contractors performing projects that disturb paint in target housing or child-occupied facilities, including most renovations, repairs, painting projects, weatherization projects, window replacements and partial demolition projects, must follow specific rules to prevent lead contamination.

- The general provisions of the EPA’s RRP Rule are as follows:

  1. The owner of a home must receive the EPA/HUD Renovate Right pamphlet at least seven days before beginning renovation activities, and a written acknowledgement that the owner received the pamphlet must be obtained (NOTE: This requirement will not apply to work by an affiliate on a house owned by that affiliate).

  2. All work sites must be properly prepared by posting warning signs to mark the work area and by isolating the work area so no dust or debris leaves it.

  3. Any firm working on target housing or child-occupied facilities must be certified by the EPA as a firm, which can be accomplished by applying to the EPA or to a state EPA-authorized renovation program and paying a fee.

  4. Firms must also have at least one worker who is a “certified renovator” assigned to each job where lead-based paint may be disturbed. A worker can become a certified renovator by completing an EPA or state-approved training course. A certified renovator must be present at the work site during the preparation of the site and during the post-renovation cleanings of the site and must also be available on site or by phone at all other times throughout the renovations.

  5. All renovation workers must be trained by a certified renovator on the job to use lead safe work practices or must be certified renovators themselves.

  6. Renovators must follow safe work practices at the work site, including:

    » Wearing personal protective equipment (e.g., Tyvek suits).

    » Containing the site to prevent dust and debris from exiting.

    » Covering with plastic sheeting or removing all objects.

    » Closing or covering with plastic sheeting all ducts.

    » Closing all windows and doors in the work area, including covering open doorways with plastic sheeting.

4. See 40 CFR Part 745 for additional details and requirements under the EPA’s RRP Rule.

5. See 40 CFR Part 745, 746.89 for a sample acknowledgement form.

6. Applications may be submitted beginning Oct. 22, 2009, and no firm may perform, offer or claim to perform renovations without EPA certification in target housing or child-occupied facilities on or after April 22, 2010. 40 CFR Part 745.89. Firms must be recertified by the EPA every five years. 40 CFR Part 745.89.

7. This requirement is technically found under the Occupational Safety & Health Administration Regulations at 29 CFR Part 1910. However, while not including personal protective equipment as a requirement in the RRP Rule, the EPA suggests all workers wear personal protective equipment when working around lead-based paint.
» Covering interior floors in the work area with plastic sheeting that extends a minimum of 6 feet beyond the surfaces undergoing renovation and covering the exterior ground in the work area with plastic sheeting that extends a minimum of 10 feet beyond the perimeter of the work area.
» Cleaning the work area daily.

• After the renovation is complete, the renovation team must:
  » Remove and dispose of all plastic sheeting used.
  » Thoroughly clean the work area.
  » Vacuum surfaces with a HEPA vacuum.
  » Seal all paint chips and other waste in heavy-duty bags and dispose of waste.\(^{10}\)
  » Wipe down all walls and surfaces.
  » Perform a visual inspection to ensure no dust, debris or residue remains.
  » Have the certified renovator follow proper cleaning verification procedures, then reclean and retest any areas that fail the cleaning verification procedures.

• All records and documentation must be kept for at least 3 years.
• Certain work practices are prohibited, including open-flame burning, the use of heat guns at temperatures exceeding 1,100 degrees Fahrenheit, and the use of power tools without HEPA exhaust control.

Any maintenance activities that consist of less than 6 square feet per interior room or 20 square feet per exterior surface are exempt from the RRP Rule. Also, the RRP Rule does not apply to minor repair activities, such as minor heating, ventilation or air conditioning work, or minor electrical work. However, these exemptions do not apply to window replacement jobs or to any jobs that involve the use of any of the prohibited work practices described above.

B. HUD’s Lead Safe Housing Rule:
HUD's Lead Safe Housing Rule\(^{11}\) applies only to rehabilitation projects on target housing\(^{12}\) and for which federal grant funds are used, including NSP1, NSP2, SHOP and Community Development Block Grant funding. HUD’s LSHR dictates three different levels of lead-based paint hazard reduction activities, depending on the amount of “federal assistance” used in the project.

Although HUD’s LSHR speaks in terms of the amount of “federal assistance” received for a particular unit, the rehabilitation costs associated with the unit are also taken into consideration. The applicable spending category for a dwelling unit is determined by the lesser of: (1) the amount of federal assistance provided to the unit and (2) rehabilitation hard costs for the unit. The lesser of these two amounts (hereinafter referred to as “federal assistance”) will determine which of the three HUD lead-based paint categories a particular project falls into. Attachment A contains an explanation of how to calculate each of these amounts under the HUD rule.

\(^{10}\) Local and state laws should be consulted regarding disposal of lead-based paint waste.
\(^{11}\) 24 CFR Part 35.
\(^{12}\) The LSHR does not indicate that it applies to child-occupied facilities outside of residential housing.
The three categories under HUD’s LSHR and the lead-based paint reduction requirements for each category are as follows:13

- **More than $25,000 of federal assistance used in the project – “Abatement”**: For projects using more than $25,000 in federal assistance, all lead hazards must be identified and abated.14 We anticipate that most NSP-funded projects will fall into this category. If a project exceeds this $25,000 threshold, the requirements are as follows:
  - Provide notice and the EPA/HUD Renovate Right pamphlet to owners (NOTE: This requirement will not apply to work by an affiliate on its own houses).
  - Have a certified risk assessor perform a risk assessment prior to any rehab work.
  - Have certified abatement contractors abate all lead-based paint hazards identified by the risk assessment on all applicable surfaces, including soil, except that interim controls are acceptable on exterior surfaces that are not disturbed by rehabilitation and on lead-paint hazards that have an area smaller than 2 square feet per interior room or 20 square feet per exterior painted surface.
  - Implement safe work practices (e.g., posting warning signs around the work site, preventing the release of dust or paint chips, and cleaning the work site using HEPA vacuums and lead-specific detergents) and repair any paint that is disturbed and known or presumed to be lead-based.15
  - Achieve clearance from a certified risk assessor or lead-based paint inspector that is independent from the firm. Keep a copy of each notice, evaluation and clearance report for at least three years.

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13. See 24 CFR Part 35 for additional details and requirements under HUD’s LSHR.
14. “Abatement” is defined by 24 CFR Part 35 as “any set of measures designed to permanently eliminate lead-based paint or lead-based paint hazards.” In addition to HUD’s LSHR requirements, when abatement is involved, all subparts of 40 CFR Part 745 should be consulted for additional EPA requirements regarding abatement activities, including the EPA notification requirement in Subpart L of 40 CFR Part 745.
15. If abatement is required of a lead paint hazard, 24 CFR Part 35.930 states that “it is necessary to abate only the surface area with hazardous conditions.”
16. Although there is a seeming inconsistency in this particular HUD category between the requirement for full abatement and the requirement that any paint disturbed and known or presumed to be lead-based paint must be repaired, these two requirements can be reconciled, as the two requirements together refer to a situation in which full abatement does not remove all the paint. According to HUD, in some cases, it may be preferable to encapsulate paint (permanently enclose the paint) rather than remove it. Under the HUD regulations, “Encapsulation means the application of a covering or coating that acts as a barrier between the lead-based paint and the environment and that relies for its durability on adhesion between the encapsulate and the painted surface, and on the integrity of the existing bonds between paint layers and between the paint and the substrate. Encapsulation may be used as a method of abatement if it is designed and performed so as to be permanent.” 24 CFR Part 35.110. HUD defines “permanent” as “an expected design life of at least 20 years.” Id. Such encapsulation would lead to full abatement but not necessarily to the full removal of all the paint, and thus these statements together do not create an inconsistency in the requirements for this HUD category.
• Between $5,000.01 and $25,000 of federal assistance utilized in the project – Implement “Interim Controls”: If the federal assistance used in a project falls within this threshold, the affiliate must implement interim controls of lead hazards as follows:
  » Provide notice and the EPA/HUD Renovate Right pamphlet to owners (NOTE: This requirement will not apply to work by an affiliate on its own houses).
  » Have a certified risk assessor perform a risk assessment on the dwelling unit.
  » Have a person who has successfully completed a HUD-approved lead safe work practices course or a person supervised by a certified lead-based paint abatement supervisor implement interim controls, such as paint stabilization of deteriorated paint, repairing and repainting damaged lead-based paint surfaces, covering contaminated soil with products such as woodchips or turf, treating friction and impact surfaces such as windows and doors, controlling dust, removing all loose paint before applying new paint (e.g., by wet sanding or wet scraping), and treating chewable surfaces with enclosures or coatings if evidenced by recent teeth marks.
  » Achieve clearance from a certified risk assessor or lead-based paint inspector that is independent from the firm at the conclusion of interim controls. Keep a copy of each notice, evaluation and clearance report for at least three years.

• $5,000 or less in federal assistance used in the project – Implement “Safe Work Practices”: Although most NSP projects will likely exceed this threshold, if a project falls within this threshold, the affiliate must implement safe work practices for lead hazards as follows:
  » Provide notice and the EPA/HUD Renovate Right pamphlet to owners (NOTE: This requirement will not apply to work by an affiliate on its own houses).
  » Implement safe work practices during the project, including preparing the work site to prevent the release of leaded dust, posting warning signs, containing lead-based paint chips and other debris within the work site until they can be safely removed, and cleaning the work site using proper cleaning methods and devices, such as HEPA vacuums.
  » Repair any disturbed paint.
  » Obtain clearance by a certified risk assessor or inspector that is independent from the firm.
  » Conduct ongoing lead paint maintenance activities, such as visual assessments for deteriorated paint and re-evaluations. Keep a copy of each notice, evaluation and clearance report for at least three years.

HUD’s LSHR does not allow the removal of paint with an open flame burning, machine sanding, abrasive blasting or sandblasting unless accompanied by HEPA local exhaust control. The rule also prohibits the removal of paint with heat guns that exceed 1,100 degrees Fahrenheit, by dry sanding or scraping, or by paint stripping in poorly ventilated spaces.

The LSHR also does not allow on-the-job training for workers; rather, it requires all workers to have completed a HUD-approved course, or the work crew must be supervised by a certified renovator who is also a certified lead abatement supervisor. Conducting lead-abatement work with any workers other than certified employees is prohibited by HUD. Therefore, if abatement is required, it is recommended

17. [An example of HUD-approved training for implementing interim controls is the HUD-EPA RRP curriculum.](#)
18. [“Interim controls” are defined by 24 CFR Part 35 as “a set of measures designed to reduce temporarily human exposure or likely exposure to lead paint hazards.”](#)
19. [Training that meets the EPA’s RRP Rule requirements is sufficient for conducting safe work practices.](#)
that you contract out the abatement work entirely and allow noncertified volunteers to begin work after
the abatement is completed and clearance is achieved.

Exempted from HUD’s LSHR, where only notice requirements20 and lead-safe work practices must
be completed, are the following:

• Any projects that disturb21 no more than 2 square feet per interior room or 20 square feet
per exterior painted surface (NOTE: According to HUD, window replacement, window sash
replacement and demolition of painted surface areas disturb more paint than this minimum
threshold).
• Any rehabilitation or renovation that does not disturb a painted surface. Any unoccupied dwelling
that is to be demolished, provided the dwelling will remain unoccupied until the demolition. Any
residential property where lead-based paint has been identified and clearance has been achieved.
• Any residential property found not to contain lead-based paint by a lead-based paint inspection

C. Testing for lead-based paint versus presuming lead-based paint exists
For target housing and child-occupied facilities, you may either presume the home or facility contains
lead-based paint, or you may elect to have the work area tested for lead-based paint prior to beginning
the job. Testing options, however, are different under the EPA and HUD regulations.

Under the EPA’s RRP Rule, two options are available for testing paint in target housing and child-
occupied facilities:

1. Paint testing can be completed by a certified lead-based paint inspector or lead-based paint risk
assessor, who will conduct a surface-by-surface investigation for lead-based paint by collecting
paint chips for laboratory analysis or by testing painted surfaces with a machine called an X-Ray
Fluorescence Analyzer. The XRF machine measures the amount of lead in the paint.
2. Paint testing can be completed by a certified renovator, who at your request can use EPA-
recognized chemical spot test kits to test all painted surfaces affected by the renovation.

HUD’s LSHR recognizes only Option 1 above. As a result, if you elect to test in a project involving
federal grant funds, it will be necessary to engage a certified lead-based paint inspector or lead-based
paint risk assessor to conduct a surface-by-surface investigation for lead-based paint.

When testing for lead-based paint, all surfaces coated with paint, shellac, varnish, stain, coating or
even paint covered by wallpaper must be tested if they will be disturbed during the renovation work,
unless you elect to presume the surface contains lead-based paint. A report that documents the testing
must list all of the surfaces that were tested and state whether any of those surfaces contain lead-based
paint. If lead-based paint is found to exist on any affected surface, the EPA’s RRP Rule and HUD’s LSHR
must be complied with fully.

Further, although the RRP Rule and the LSHR requirements for lead-based paint do not apply if
the dwelling is tested and found not to contain lead-based paint, the results of any such inspections for
lead-based paint may be refuted by subsequent inspection results. If the original results are subsequently
refuted and lead-based paint is found to exist on the property, it will be necessary to fully comply with
the applicable EPA and HUD regulations. Therefore, it is not recommended that you have the premises

20. Notice requirements include disclosing to the purchaser the presence of any known lead-based paint, giving
the purchaser a copy of the EPA/HUD Renovate Right pamphlet, giving the purchaser 10 days to conduct a risk
assessment, and including specific disclosure and warning language in the sales contract.
21. “Disturb” includes any activity disruptive to paint or any activity that breaks the surface of paint.
tested; rather, if the house or facility was constructed prior to 1978 and falls within the definition of target housing or a child-occupied facility, it is recommended that you presume lead-based paint is present and follow the HUD and EPA regulations regarding lead-based paint (NOTE: If the space you are renovating is a very small space, such as part of a small room, you may wish to test rather than presume lead-based paint is present in the space).

D. State and local regulations:
In addition to the EPA and HUD regulations, it may be necessary to comply with additional state and local requirements, any of which may be more stringent than or different from the EPA and HUD regulations. Also, state and local communities may have particular rules for waste disposal. Therefore, it is essential that an affiliate determine what lead rules apply in its state. To find out more information about the rules that apply in your state, please contact the EPA National Lead Information Center at 800-424-LEAD (5323) or the HUD Lead Hazard Control Center at 202-755-1785. You may also visit www.epa.gov/lead to obtain contact information for your regional EPA office or www.hud.gov/offices/lead for information regarding HUD programs in your community.

III. How the EPA and HUD regulations may apply to specific Habitat programs
A. A Brush with Kindness:
If a home receiving repairs and maintenance under the A Brush with Kindness program falls within the definition of target housing or a child-occupied facility, the requirements of the EPA's RRP Rule will apply. It is likely you will find that the RRP Rule will often affect ABWK, as the threshold under the rule is disturbing more than 20 square feet per side of exterior surface or disturbing more than 6 square feet per interior room, which often occurs in ABWK projects. This will necessitate compliance with all EPA RRP Rule requirements as set forth above in Part II.A.

HUD's LSHR will likely not apply to a standard ABWK project, as those projects do not typically receive federal funding.

Recommendation for ABWK projects: It is recommended that a Certified Renovator train noncertified renovation personnel in lead-safe work practices on the job. This training is not onerous and can be completed relatively quickly, possibly in less than one hour. Overall, the EPA lead-safe work practices are not overly burdensome for you or for volunteers and will likely not prevent you from participating in ABWK for target housing or child-occupied facilities. HFHI will provide initial training on the guidelines and guidance as to the best work practices for ABWK in the context of lead-safe practices. Also, you should require all workers to wear personal protective equipment, such as Tyvek suits.

B. Weatherization:
As with ABWK, the EPA's RRP Rule will apply to weatherization projects in target housing and child-occupied facilities, as these projects often disturb more than 20 square feet per side of painted exterior surface or more than 6 square feet per interior room. Also, the EPA's RRP Rule specifically cites weatherization in several places as an activity that falls under the rule. This will necessitate compliance with all RRP Rule requirements set forth above in Part II.A.

Additionally, the U.S. Department of Energy has adopted Lead-Safe Weatherization Practices for its federally funded weatherization projects. Although these rules are not technically binding on a weatherization project that is funded outside of this program, to ensure protection of Habitat workers and homeowners, HFHI recommends that all Habitat affiliates involved in weatherization projects comply with them. As a practical matter, these guidelines are very similar to the EPA's RRP Rule, so this
recommendation likely does not impose an undue additional burden.

To comply with these DOE requirements, the following weatherization practices should be implemented:

- Provide owners of target housing or a child-occupied facility that is to be weatherized by Habitat with the EPA/HUD Renovate Right pamphlet and have owners sign an acknowledgement that they received the pamphlet.
- Retain the signed acknowledgement form for at least three years from the date of signature. Post warning signs at entrances to the work site. Wear personal protective equipment.
- Have a certified renovator supervise and inspect any weatherization work to ensure it is being done properly, along with setting up and cleaning up the containment site. Contain the weatherization work area in conformance with the level of containment that applies to the particular job.
- Remove all protective clothing before leaving a confined work area.
- Dispose of waste in 6-mil plastic bags.
- Achieve a cleaning verification by a certified renovator.

Under the Lead-Safe Weatherization Practices, several work activities are prohibited, including the use of reusable cloth or fabric; the use of brooms and shop vacuums rather than wet-cleaning and HEPA vacuums; the use of an open-flame torch or heat gun above 1,100 degrees Fahrenheit to remove paint or window glazing; dry scraping or sanding; and abrasive blasting or grinding.

Unless federal funding is used for a weatherization project, HUD's LSHR will likely not apply.

Recommendation for weatherization projects: HFHI recommends that affiliates comply with both the EPA's RRP Rule and the DOE's Lead-Safe Weatherization Practices when engaging in weatherization activities. It is further recommended that a certified renovator train all noncertified renovation personnel on the job in lead-safe work practices. Also, all workers should be required to wear personal protective equipment.

C. Rehabilitation:
The EPA's RRP Rule will apply to all rehab projects on target housing and child-occupied facilities, despite the source of funding for such work. Therefore, compliance with the requirements of the RRP Rule as set forth above in Part II.A. is necessary.

Also, HUD's LSHR will apply to any rehab work on target housing that uses federal grant money, such as funds received under NSP1 or NSP2. In addition, we anticipate that NSP rehab projects of target housing will generally exceed the $25,000 threshold of HUD's LSHR (because the lesser of the amount of NSP funding and the hard costs of rehab will often exceed $25,000), and therefore abatement will typically be needed. To comply with HUD's LSHR, certified abatement contractors should perform the abatement. Noncertified volunteers should become involved only after the abatement is completed. If, however, a project falls into a lower threshold, the less stringent requirements for that threshold must be met, as set forth above in Part II.B.

Recommendation for rehab projects: All requirements of the EPA's RRP Rule must be followed for any rehab project on target housing and child-occupied facilities. Further, for any type of target housing rehab project involving more than $25,000 in federal assistance (based on the lesser of the federal grant funds provided to the dwelling unit and the hard costs of rehab for the unit), the best practice

22. [See www.waptac.org for more information.]
23. [See “Attachment B” for the LSW containment levels, requirements and types of activities falling within each level.]
24. [See HUD's LSHR thresholds above under Part II.B.]
is to contract or hire out the abatement work entirely. Although costs may be high to contract out the abatement work, NSP projects are able to bill for the entirety of these costs and do not have to reflect these costs in the final price to the partner family. If possible, consider avoiding the purchase of a home that is disclosed as having lead paint or presumed to have lead paint. Volunteers may be used once the abatement work is complete and clearance is achieved.

Also, for all gut rehab projects or similar major rehab projects on target housing and child-occupied facilities, including projects that are not federally funded, it is recommended that only certified contractors be used for the deconstruction of the home. Noncertified volunteers should become involved in the project only after the deconstruction is complete. All RRP Rule requirements will apply to a gut rehab project on target housing and child-occupied facilities, and if federal grant funds are used for a gut rehab project on target housing, the requirements of HUD’s LSHR will apply as well.

Additionally, for any rehab project involving between $5,000.01 and $25,000 in federal assistance or $5,000 or less in federal assistance, the applicable lead-based paint reduction activities can likely be completed without contracting out the work, so long as all applicable requirements of the EPA’s RRP Rule and HUD’s LSHR as set forth in Part II.A. and II.B. above are fulfilled.

D. Demolition

The EPA’s RRP Rule applies only to a “renovation” of target housing or a child-occupied facility. “Renovation” is defined as the “modification of any existing structure that results in the disturbance of painted surfaces, unless performed as part of an abatement.” Renovations include activities designed to update, maintain or modify all or part of a building. The RRP Rule was designed to prevent the introduction of new lead-based paint hazards that may be created by a renovation rather than address lead-based hazards that already exist. Therefore, the RRP Rule does not apply to a complete razing of a structure. However, if a smaller demolition project is undertaken that will disturb a painted surface, such as demolishing only part of a structure, the EPA considers this a renovation, so the RRP Rule will apply. Also, if a home is taken down to its studs as part of a deconstruction, the RRP Rule likely applies. The RRP Rule does not apply to the lead-based paint waste that may result from a complete demolition, although state and local laws regarding waste should be consulted.

HUD’s LSHR states that its requirements do not apply to “demolished” homes. We have verbally confirmed with HUD that “demolished” means fully razed. We note, however, that for NSP1- and NSP2-funded projects, only “blighted structures” may be demolished. Under both sets of NSP regulations, “blighted structures” are those “that exhibit objectively determinable signs of deterioration sufficient to constitute a threat to human health, safety and public welfare.” Therefore, unless a structure is “blighted,” NSP grant recipients may not use the funds to demolish a home containing lead-based paint.

If you wish to demolish a blighted structure that also contains lead-based paint using federal grant funds, or if you are not using federal grant funds to demolish a structure, you are generally not required under HUD’s LSHR to hire lead-licensed contractors to complete the demolition, since the structure will no longer exist. However, for safety reasons, it is recommended that a professionally trained lead-licensed contractor or certified abatement contractor complete the demolition. Once the structure is demolished, noncertified volunteers can become involved in the remainder of the project.

25. “Demolition” refers to the complete razing of a structure.
27. Id.
28. Id.
Local and state agencies should be consulted for other demolition requirements, such as the disposal of demolition waste. In many states, lead-based paint demolition debris may be sealed and placed for trash pickup or taken to a sanitary or demolition landfill for disposal, but other states may consider lead-based paint residue to be hazardous waste and impose additional requirements for waste testing and disposal.

Recommendation for demolition projects: Although the EPA’s RRP Rule and HUD’s LSHR likely will not apply to complete demolition projects, it is recommended that you hire a professional lead-licensed contractor or a certified abatement contractor or allow properly trained staff to demolish a structure falling within the definition of target housing or a child-occupied facility. It is recommended that noncertified volunteers become involved in the project only after demolition is complete.

It is further recommended that you consult your state and local regulations regarding disposal of lead-based paint waste.

ATTACHMENT “A”
Thresholds of federal assistance under HUD’S LSHR

A. Calculating the amount of federal assistance used in a project
Although the HUD rule speaks in terms of the amount of “federal assistance” received for a particular unit, the rehabilitation costs associated with the unit are also taken into consideration.

Under the dual-threshold approach to calculating the applicable spending level of federal assistance, two calculations must be made, and the lesser of the two calculations will be used to determine the applicable HUD LSHR spending category for a dwelling unit: (1) the amount of average federal assistance per dwelling unit, and (2) the average rehab hard costs per dwelling unit regardless of the source of funds. Thus, the level of assistance is determined by taking the lower of the cost per unit for rehab hard costs or federal assistance per unit.

1. Calculating the average federal assistance per dwelling unit
For purposes of item (1), the average federal assistance per unit is the total federal assistance divided by the total number of federally assisted dwelling units in the project. Federal assistance includes all federal funds assisting the project, regardless of how the funds are used. This would include the purchase price of the property and all hard costs, soft costs and other project costs.

2. Calculating the average rehab hard costs per dwelling unit
For purposes of item (2), the average rehab hard costs per dwelling unit are the actual hard costs, regardless of the source of funds, associated with the physical development of a unit. Hard costs of rehab include hard construction costs only, regardless of whether the costs were paid with federal or nonfederal, public or private funds. Hard costs do not include land acquisition costs or soft costs. Soft costs include the following: financing fees, credit reports, title binders and insurance, recordation fees, transaction taxes, impact fees, legal and accounting fees, appraisals, and architectural and engineering fees. In addition, the following costs are specifically excluded from hard costs: the costs of lead-based paint hazard evaluation, hazard reduction activities, costs of site preparation, occupant protection, relocation, interim controls, abatement, clearance,

and waste handling attributable to compliance with HUD’s LSHR requirements. All other hard costs are included.

Calculating hard costs for multiunit projects:

If all of the dwelling units in a project are federally assisted, the average rehab hard costs are calculated as follows:

\[
\text{Average per-unit rehab hard costs} = \frac{\text{Total rehab hard costs for the project}}{\text{Total number of dwelling units}}
\]

If some units in the multiunit project are federally assisted while others are not, calculate the total rehab hard costs per unit by using the following formula:

\[
\text{Average per-unit rehab hard costs} = \frac{\text{Rehab hard costs for all assisted dwelling units (not including common areas and exterior surfaces)}}{\text{Number of federally assisted dwelling units in the project}} + \frac{\text{Rehab hard costs for all common areas and exterior surfaces}}{\text{Total number of dwelling units in the project}}
\]

Calculating hard costs for a one-unit (e.g., single-family) project:

\[
\text{Average per-unit rehab hard costs} = \frac{\text{Total rehab hard costs for project}}{\text{Total number of units in project}} = \frac{\text{Total rehab hard costs for project}}{1}
\]

3. **Examples**

Both federal funds and rehab hard costs must exceed the lower threshold of the next highest level of assistance to be considered in that threshold. Thus, for a job to fall within the $5,000.01 to $25,000 threshold, both types of costs must equal or exceed $5,000.01. For a job to fall within the highest threshold of over $25,000, both types of costs must exceed $25,000.

The following examples will provide some clarity in making these calculations:

- A Habitat affiliate spends $40,000 of federal grant funds to rehabilitate a pre-1978 single-family home. The Habitat affiliate is rehabilitating only one home. The hard costs of rehabilitation for this home total $35,000. To determine the lead-based paint reduction activities required for this project, the calculations under HUD’s LSHR will be as follows:

30. *Examples are from the Center for Healthy Housing Interpretive Guidance on HUD’s LSHR, www.centerforhealthyhousing.org. See 24 CFR Part 35.915 and 35.925 for additional information and examples.*
- Average federal assistance per unit = $40,000 / 1 = $40,000.
- Average per-unit rehab hard costs = $35,000 / 1 = $35,000.
- The lesser of these two amounts is $35,000, so this project will fall into the greater than $25,000 HUD category, and the lead-based paint reduction requirements of that category will apply.
- If, however, average per-unit rehab hard costs had totaled $10,000 instead of $35,000, and the average federal assistance per unit remained at $40,000, this project would fall into the $5,000.01 to $25,000 HUD category, as the lesser of the two calculations in that situation would be $10,000.

» A Habitat affiliate is rehabilitating a 20-unit property built before 1978. Total rehab hard costs for the project are $650,000, including $150,000 for repairs to the common areas and exterior areas of the building, $250,000 to rehab 10 federally assisted dwelling units, and $250,000 for repairs to the 10 unassisted units. Total federal assistance to this project is $200,000. To determine the lead-based paint reduction activities required for this multiunit project, the calculations under HUD’s LSHR will be as follows:
  - Average federal assistance per unit = $200,000 / 10 assisted units = $20,000 per unit.
  - Average per unit rehab hard costs = ($250,000 / 10 assisted units) + ($150,000 / 20 total units) = $25,000 + $7,500 = $32,500 per unit.
  - The lesser of these two calculations is $20,000 (average federal assistance per unit), so the applicable HUD LSHR requirements for this project will be those for the $5,000.01 to $25,000 category.

ATTACHMENT B
Levels of containment under the DOE’s Lead-Safe Weatherization Practices

A. Level 1 Containment:
For any target housing or child-occupied facilities receiving weatherization measures that disturb less than 6 square feet of interior painted surface per room or 20 square feet of exterior painted surface, Level 1 Containment is required. This level of containment consists of methods that prevent dust generation and contain all debris during the work process.

Minor weatherization activities that may fall within Level 1 Containment include drilling and patching test holes, replacing HEPA filters, cleaning HEPA vacuums, removing caulk or window putty on the interior or exterior of the home, installing a thermostat, removing weather-stripping, and changing a furnace filter.

B. Level 2 Containment:
When weatherization measures disturb more than 6 square feet of interior painted surface per room or 20 square feet of exterior painted surface on target housing or a child-occupied facility, Level 2 Containment is required. This level of containment requires the covering of all horizontal surfaces, sealing doorways, closing windows, constructing barrier walls and covering HVAC registers with approved materials.

Weatherization activities that may fall within Level 2 Containment include drilling holes in interior

or exterior walls, replacing windows or doors, replacing furnaces, and replacing door jambs and thresholds. Even if a weatherization activity will disturb less than the hazard minimum permitted levels of the Level 1 Containment category, Level 2 Containment measures must be followed any time windows are being replaced or painted surface areas are being demolished.
Exhibit 13: Mold Information

Homes have been inspected by an assortment of agencies, only to leave the owners unaware that they had a mold problem. Mold in a home can bring on health symptoms that can affect those who live there in many different ways.

Mold basics: Please review the OSHA website for in-depth information when dealing with mold. The key to mold control is moisture control.
- If mold is a problem in your project home, you must clean up the mold and fix the water problem.
- It is important to dry water-damaged areas and items within 48 hours to prevent mold growth.

Why does mold grow?
Molds are part of the natural environment. Outdoors, molds play a part in nature by breaking down dead organic matter such as fallen leaves and dead trees, but indoors, mold growth should be avoided. Molds reproduce by means of tiny spores that are invisible to the naked eye and float through outdoor and indoor air. Mold may begin growing indoors when spores land on wet surfaces. There are many types of mold, and none of them will grow without water or moisture.

Can mold cause health problems?
Molds produce allergens (substances that can cause allergic reactions), irritants and, in some cases, potentially toxic substances (mycotoxins). Inhaling or touching mold or mold spores may cause allergic reactions in sensitive individuals. Allergic responses include hay fever-type symptoms such as sneezing, runny nose, red eyes and skin rash (dermatitis). Allergic reactions to mold are common. They can be immediate or delayed. Molds may also cause asthma attacks in people with asthma who are allergic to mold. In addition, mold exposure can irritate the eyes, skin, nose, throat and lungs of both mold-allergic and non-allergic people. Symptoms other than the allergic and irritant types are not commonly reported as a result of inhaling mold. Research on mold and health effects is ongoing. For more detailed information, consult a health professional. You might also consult your state or local health department.

How do I get rid of mold?
It is impossible to get rid of all mold and mold spores indoors; some mold spores will be found floating through the air and in house dust. The spores will not grow if moisture is not present. Indoor mold growth can and should be prevented or controlled by controlling moisture. If there is mold growth in your home, you must clean up the mold and fix the water problem. If you clean up the mold but don’t fix the water problem, then the mold problem will likely come back.

Who should do the cleanup?
One consideration is the size of the mold problem. If the moldy area is less than 10 square feet (less than roughly a 3-foot-by-3-foot patch), in most cases, you can handle the job yourself, following the guidelines below.
- If there has been a lot of water damage, or if mold growth covers more than 10 square feet, consult the U.S. Environmental Protection Agency guide Mold Remediation in Schools and Commercial Buildings. Although focused on schools and commercial buildings, this document is applicable to other building types. It is available for free by calling the EPA Indoor Air Quality Information Clearinghouse at 800-438-4318.
- If you choose to hire a contractor (or other professional service provider) to do the cleanup, make
sure the contractor has experience cleaning up mold. Check references and ask the contractor to follow the recommendations of the EPA, the guidelines of the American Conference of Governmental Industrial Hygienists, or other guidelines from professional or government organizations.

- If you suspect that the heating/ventilation/air conditioning system may be contaminated with mold (it is part of an identified moisture problem, for instance, or there is mold near the intake to the system), consult EPA’s guide Should You Have the Air Ducts in Your Home Cleaned? before taking further action. Do not run the HVAC system if you know or suspect that it is contaminated with mold; it could spread mold throughout the building. Call 800-438-4318 for a free copy.
- If the water or mold damage was caused by sewage or other contaminated water, call in a professional who has experience cleaning and fixing buildings damaged by contaminated water.

**Tips and techniques**
The tips and techniques presented in this section will help you clean up your mold problem. Professional cleaners or remediators may use methods not covered here. Please note that mold may cause staining and cosmetic damage. It may not be possible to clean an item so that its original appearance is restored.

- Fix plumbing leaks and other water problems as soon as possible. Dry all items completely.
- Scrub mold off hard surfaces with detergent and water, and dry completely.
- Absorbent or porous materials, such as ceiling tiles and carpet, may have to be thrown away if they become moldy. Mold can grow on or fill in the empty spaces and crevices of porous materials, so the mold may be difficult or impossible to remove.
- Avoid exposing staff, volunteers and others to mold.
- Do not paint or caulk moldy surfaces. Clean up the mold and dry the surfaces before painting. Paint applied over moldy surfaces is likely to peel.
- If you are unsure about how to clean an item, consult a specialist. Specialists in furniture repair, restoration, carpet and rug cleaning, water damage and fire or water restoration are often listed in phone books. Be sure to ask for and check references. Look for specialists who are affiliated with professional organizations.

**What to wear when cleaning moldy areas**
- Avoid breathing in mold or mold spores. To limit your exposure to airborne mold, you might want to wear an N-95 respirator, available at many hardware stores and from companies that advertise on the Internet. (They cost about $12 to $25.) Some N-95 respirators resemble a paper dust mask with a nozzle on the front; others are made primarily of plastic or rubber and have removable cartridges that trap most of the mold spores from entering. To be effective, the respirator or mask must fit properly, so carefully follow the instructions supplied with the respirator. Please note that the Occupational Safety and Health Administration requires that respirators fit properly when used in an occupational setting; consult OSHA for more information (800-321-OSHA).
- Please visit the OSHA websites below for further discussion regarding respirators, etc.:
  » Respirator Change-out Schedules
  » Respiratory Protection
  » Respiratory Protection eTool
  » Respiratory Protection (Small Entity Compliance Guide)
  » Respiratory Protection Standard - Training and Reference Materials
  » Respiratory Protection Standard, Assigned Protective Factors
• Wear gloves. Long gloves that extend to the middle of the forearm are recommended. When working with water and a mild detergent, ordinary household rubber gloves may be used. If you are using a disinfectant, a biocide such as chlorine bleach, or a strong cleaning solution, you should select gloves made from natural rubber, neoprene, nitrile, polyurethane or PVC. Avoid touching mold or moldy items with your bare hands.

• Wear goggles. To avoid getting mold or mold spores in your eyes, safety goggles that do not have ventilation holes are recommended.

How will we know when the remediation or cleanup is finished?
• Water leaks or moisture problems must have been completely fixed before the cleanup or remediation can be considered finished.
• Complete mold removal must have been completed. Visible mold and moldy odors should not be present. Please note that mold may cause staining and cosmetic damage.
• You should have revisited the site shortly after cleanup, and it should show no signs of water damage or mold growth.
• People should have been able to occupy or reoccupy the area without health complaints or physical symptoms.
• Ultimately, this is a judgment call; there is no easy answer. If you have concerns or questions, call the EPA Indoor Air Quality Information Clearinghouse IAQ INFO at 800-438-4318.

Teach homeowners proper moisture and mold prevention and control
• Moisture control is the key to mold control, so when water leaks or spills occur indoors, act quickly. If wet or damp materials or areas are dried 24-48 hours after a leak or spill happens, in most cases mold will not grow.
• Clean and repair roof gutters regularly.
• Make sure the ground slopes away from the building foundation, so that water does not enter or collect around the foundation.
• Keep air conditioning drip pans clean and the drain lines unobstructed and flowing properly.
• Keep indoor humidity low. If possible, keep indoor humidity below 60 percent, (ideally between 30 and 50 percent), relative humidity. Relative humidity can be measured with a moisture or humidity meter, a small, inexpensive ($10-$50) instrument available at many hardware stores.
• If you see condensation or moisture collecting on windows, walls or pipes, act quickly to dry the wet surface and reduce the moisture or water source. Condensation can be a sign of high humidity.
• Actions that will help to reduce humidity:
  » Vent appliances that produce moisture, such as clothes dryers, stoves and kerosene heaters, to the outside where possible. (Combustion appliances such as stoves and kerosene heaters produce water vapor and will increase the humidity unless vented to the outside.)
  » Use air conditioners and de-humidifiers when needed.
  » Run the bathroom fan or open the window when showering. Use exhaust fans or open windows whenever cooking, running the dishwasher or washing dishes, etc.
  » Increase ventilation or air movement by opening doors and windows, when practical. Use fans as needed.
  » Cover cold surfaces, such as cold water pipes, with insulation.
  » Increase air temperature.
Testing or sampling for mold
Is sampling for mold needed? In most cases, if visible mold growth is present, sampling is unnecessary. Since no EPA or other federal limits have been set for mold or mold spores, sampling cannot be used to check a building’s compliance with federal mold standards. Surface sampling may be useful to determine if an area has been adequately cleaned or remediated. Sampling for mold should be conducted by professionals who have specific experience in designing mold sampling protocols and methods and interpreting results. Please see A Brief Guide to Mold, Moisture, and Your Home, an EPA document.

Suspicion of hidden mold
You might suspect hidden mold if a building smells moldy but you cannot see the source, or if you know there has been water damage and residents are reporting health problems. Mold may be hidden in places such as the back side of dry wall, wallpaper or paneling; the top side of ceiling tiles; the underside of carpets and pads; etc. Other possible locations of hidden mold include areas inside walls around pipes (with leaking or condensing pipes), the surface of walls behind furniture (where condensation forms), inside ductwork, and in roof materials above ceiling tiles (due to roof leaks or insufficient insulation).

Investigating hidden mold problems
Investigating hidden mold problems may be difficult and will require caution when the investigation involves disturbing potential sites of mold growth. For example, removal of wallpaper can lead to a massive release of spores if there is mold growing on the underside of the paper. If you believe that you may have a hidden mold problem, consider hiring an experienced professional.

Cleanup and biocides
Biocides are substances that can destroy living organisms. The use of a chemical or biocide that kills organisms such as mold (chlorine bleach, for example) is not recommended as a routine practice during mold cleanup. There may be instances, however, when professional judgment may indicate its use (for example, when immune-compromised individuals are present). In most cases, it is not possible or desirable to sterilize an area. A background level of mold spores will remain, but these spores will not grow if the moisture problem has been resolved. If you choose to use disinfectants or biocides, always ventilate the area and exhaust the air to the outdoors. Never mix chlorine bleach solution with other cleaning solutions or detergents that contain ammonia, because toxic fumes could be produced.

Please note: Dead mold may cause allergic reactions in some people, so it is not enough to simply kill the mold, it must also be removed.