



Homeowner's Guide



Revision: 5/7/2021



WELCOME HOME!

Congratulations on owning your new Habitat for Humanity Tucson Home! You've worked hard and now it is time to enjoy the fruits of your labor. Of course, **you also have new responsibilities as a homeowner.** We've created this manual to help you.

Included in this binder you will find a lot of useful information that will help you protect and preserve one of your most valuable assets and investments – your house. We've included information about your home and its **ongoing maintenance** to ensure that your home is kept in tip-top shape and, most importantly, to protect its value.

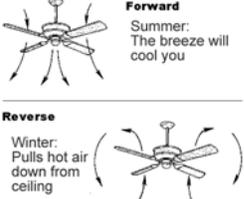
Please note that each of your appliances may require some form of product registration to preserve the warranty. Please take time to look through the owner/operation manuals that were either in the appliance or in a kitchen drawer when you moved in to see what is covered by each company's warranty as well as the limitations of the warranty. And make sure to register if you need to!

We hope you care for your house with the same vigor that you put into your sweat equity and training to own it. And we hope you create wonderful and lasting memories in your new home.

1. WELCOME TO YOUR GREEN HOME

Your home has been built to the latest Energy Star Green Building standards. Keeping your home operating at peak efficiency is **now your responsibility** and easier than you may think; it will save you money while continuing to protect the world we all share.

Here are a few simple things to do (more information about each of these items can be found in this manual):

<p>Check and replace your air filter on a monthly basis. Your heater and air conditioner won't have to work so hard which will save you money each month on your electric bill and will lengthen the life your heater and air conditioner.</p>	
<p>Use only Compact Florescent Lights (CFLs) or LED lights. These light bulbs cost more money to buy but they use significantly less electricity to run them and will save you money each month on your electric bill.</p>	
<p>Adjust your thermostat; 76 – 80 degrees in the summer, 68 – 72 degrees in the winter. Tip: if you want to save money; in the summer keep the house at 80 degrees and use the ceiling fan to cool you, in the winter keep the house at 68 and wear heavier clothing to keep you warm. Don't use the thermostat to quickly heat up or cool down your home.</p>	
<p>When you are in a room use your ceiling fans, they can make you feel cooler in the summer and in the winter they can push heat down from the ceiling. Turn off the ceiling fan when you leave the room.</p> <p>There is a switch on your ceiling fan to change the direction that the blades rotate.</p>	
<p>Keep east and west facing window blinds closed during the summer and open during the winter.</p>	
<p>Use your recycle bin; don't throw away what can be recycled.</p>	
<p>Native trees have been planted to provide shading on the east and/or west side of your home, do not remove these trees. If one dies then replace it with another tree native to our area.</p>	
<p>Check the seals and weather stripping on your doors in the Spring and Fall, adjust or replace when you notice large gaps.</p>	
<p>Use your laundry drying rack to dry your clothes, minimize the use of your clothes dryer.</p>	
<p>Remove solar screens in the fall and put them back on in the spring. Solar screens can significantly reduce the amount of heat entering the house in the summer, but in the winter you may want the house to be warmed by the sun.</p>	

2. MAINTENANCE OF YOUR HOME

Your home will **require preventative maintenance by you** to preserve its beauty and value, an understanding of how to care for each feature in your new home will prevent costly repairs and replacements later. Preventative maintenance on your new home should begin when you move in. Read the following sections of this manual to become familiar with the procedures for maintenance. Use the provided checklist on Page 17.

The Arizona desert experiences a wide range of temperatures each day. Building materials such as wood, stucco, and concrete are subjected to constant expansion and contraction from day to day. This can result in minor warping of wood materials and hairline cracking of drywall, stucco, concrete, and mortar. These effects are particularly obvious in the first year after a new home has been built.

You can minimize these effects by maintaining a fairly constant temperature inside your home. This allows the wood to dry at an even rate and may help eliminate larger settlement cracks. Minor cracks are a normal part of the aging process of your home.

If you live in an area covered by a Homeowners Association then consult your CC&Rs before performing maintenance that will affect the exterior appearance of your house.

Heating and Air Conditioning

Your home is equipped with a high quality heating and air conditioning system that complies with local and state energy codes. With proper care, the system will provide many years of enjoyable, dependable service. Please read the instructions and become familiar with the heating and air conditioning systems before you use them.

Keep all vents and registers clean and free of dust, cobwebs, and debris. Keep plants well away from the outdoor unit.



We recommend that the replaceable ***filters be changed every 30 days***. Your replaceable filter is usually located behind a large grill in your hallway ceiling, but this can vary from house to house. In areas with heavy dust more frequent changes may be in order. Fresh filters will significantly reduce operating costs and will prolong the life of your system. 90 day filters are available (and they cost more than 30 day filters).

Tip: mark the date you changed it on the side of the filter, time goes by quicker than you think...



Your home may be equipped with a **washable** air filter that is usually located in the fresh air vent on your front porch (pictured here). But it can also be located behind the replaceable filter in your hallway. You will need a Phillips head screw driver to remove the two screws holding the grill in place and then remove the filter, vacuum it, wash it with water with a bit of vinegar (to kill bacteria), rinse thoroughly, put it back in place and screw the grill back in place.

Vinyl Window Frames

Vinyl window frames are made to last for years, but they do require routine maintenance. Perhaps the most important is to keep the window tracks free of dirt and debris. Use a broom or brush to loosen collected debris and vacuum thoroughly as a part of your regular cleaning routine. Avoid using abrasive cleaners as they may scratch the finish. If windows do not slide freely after cleaning, a silicone lubricant can be used on the tracks (**do not** use any oil based lubricants such as WD-40).

Your window frames have small weep holes at the bottom to permit water to drain from the track. Keep the weep holes open and free of debris. Avoid flooding window tracks, excessive water can overflow the track and back up into your home.

Appliances

Information about each appliance can be found in the manuals that are either in the appliance or were left in a kitchen drawer for your use. Please read the manufacturer's instructions on usage and care before you use the appliance.

Clean your refrigerator condenser coils.

Dusty condenser coils cause a refrigerator to work harder; which translates into bigger energy bills and a shorter life expectancy for the fridge – not good. To prevent this from happening, use a vacuum or broom to remove dust build up from the coils every three months (once a month if you have pets). Depending on the model that you own, the coils will either be located behind the refrigerator or underneath the refrigerator. To access coils located underneath, remove the grill at the bottom front of the fridge. To access coils located behind, pull the unit out from the wall.



Clean your kitchen exhaust fan filter every three months.

Remove the filter from the exhaust fan. Put the filter in a sink with de-greaser and let it soak for an hour. Rinse thoroughly with water. Once the filter has dried put it back into the exhaust fan.

Cabinets

Your cabinet fronts are made of finished hardwoods. Remove splashes and splatters promptly to avoid permanent stains. The beauty of the wood can be preserved by polishing with a mild furniture polish.

Minor scratches can be covered with a putty stick that matches the finish of your cabinets. Putty sticks can be purchased at paint or hardware stores. The hinges on your cabinet doors can be lubricated, if necessary, with an oil based lubricant. Apply a very small drop of oil to the top of the hinge and work the door back and forth several times so the oil will penetrate into the hinge. Wipe the excess oil with a dry paper towel.

Smoke Detectors

Several smoke detectors have been installed in your new home. The selection of the smoke detectors and their location are done to meet the requirements of local and state building codes. Please **do not** move or disable smoke detectors.

If a smoke detector goes off while you are cooking, first make sure that you have turned on your kitchen exhaust fan to its maximum setting, you may need to open some windows and doors to get the cooking smoke out of your house. **Do not** disable the smoke detector, it is working correctly!

Smoke detectors have two power sources. One is wired into the main house electrical system; the other is a 9 volt battery inside each smoke detector. This battery “backup” allows the smoke detector to remain functional even if an electrical power failure occurs.

The 9 volt batteries should be replaced at least once a year. Habitat suggests doing it on your birthday or some other day that you’ll remember. When a battery begins to lose strength the smoke detector will emit a short chirp or low beeping noise to alert you that it is time to replace the battery. Replace the battery immediately, smoke detectors save lives so it is simply **not** a good idea to disable a smoke detector. Replace the batteries in all smoke detectors at the same time, if one smoke detector starts to chirp it won’t be long until the others start as well.

Caulking

Over time, and particularly in our warm and dry climate, caulking will dry and shrink. When this happens, it no longer provides a good seal against moisture. As a part of your routine maintenance, you should inspect the caulking around your sink tops, tub, and shower and repair as needed.

Concrete Floors

Routine sweeping, mopping, washing and mechanical scrubbing of floors with water and neutral pH cleaners (if necessary) is recommended. Water only is sufficient for most environments. **Do not use** cleaners that are acidic or that have citrus or Butyl compounds. Although your sealed





concrete floor is chemically resistant and helps reduce staining, some compounds, especially acids, may damage the surface, and therefore it may not be suitable for some applications. Regular maintenance and cleaning will help prolong surface shine. Wipe up any chemical spills as soon as possible.

Concrete floors can be slippery when wet; we highly recommend the use of a bath mat or rug next to your shower and bath tub.

Counter Tops

With proper care and maintenance your laminate counter tops are designed to provide years of use. Always use a cutting board to protect your counter tops when you prepare food. **Never place a hot pot** or pan directly on the counter top as they will scorch the surface, use a pot holder or trivet. **Never sit on** the counter top as excessive weight can cause warping, drawer problems, or cracking of cabinet rails. **Do not** use steel wool, abrasive cleaners, or harsh chemicals.

To clean the surface, use a damp cloth or sponge and a mild soap or detergent. Difficult stains such as coffee or tea can be removed using a mild household cleaner and baking soda; mixing to achieve a paste consistency. Use a stiff nylon bristle brush, scrubbing (approx. 15-20 strokes) the affected area. Do not scrub so as to mar (damage, scratch) the surface finish. Stubborn stains that resist any of the above cleaning methods may require the use of undiluted household bleach or nail polish remover. Use a cotton ball saturated with bleach or nail polish remover (acetone); gently rub the stain for up to two minutes. Rinse thoroughly with warm water and wipe dry using a soft cloth. This step may be repeated if the stain appears to be going away and the color of the laminate has not been affected.

Doors

The doors and door frames in your house are made of painted wood. Wooden doors are subject to expansion and contraction with changes in heat and humidity. The result can be warping and sticking. This is normal and may correct itself as conditions change. You should allow your house to go through at least one dry and one damp season before you make any permanent changes.

You can correct most sticking doors by the careful use of sandpaper to remove a very small amount of the wood, it is not necessary to remove the door. Use touchup paint on the exposed wood promptly.

The hinges and locks on your doors may require lubrication from time to time for proper maintenance and to prevent squeaks. Remove the hinge pin and rub it with graphite lube or lead pencil and then replace it. **Do not** use an oil based lubricant (such as WD-40).

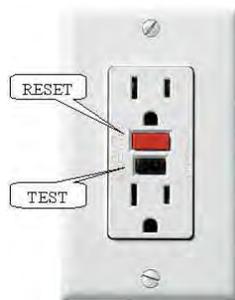
Inspect the weather-stripping on your exterior doors frequently and repair or replace as needed. Weather-stripping should form a reasonably tight seal to prevent air and water from entering. Normal contraction of wood doors can leave a small gap in weather stripping. This is normal. The small gap will close when the humidity increases and the door expands.

If you cannot locate a tripped breaker in your circuit breaker panel then it is possible that one of your GFI outlets have tripped. If you have lost power in your kitchen, bathroom, garage or exterior (outside) outlets then you should **next** check for a tripped GFI outlet (refer to next section for more details). The GFI outlet for kitchen, bathroom, and garage will be somewhere in that room, the exterior outlets are usually controlled by a GFI in the garage.

If you still cannot locate a tripped breaker or GFI outlet, or if the breaker or GFI continues to trip after being reset then **unplug** everything in the room and try to reset the breaker again, if it still trips then you have a short circuit and will need a licensed electrician to perform the repair. If this final step fixes your problem then you have a short in one of your appliances; do not use the appliance until it is repaired or replaced.

If the electrical power is lost throughout your home, check to see if your neighbors have also lost their power. If the neighborhood is affected then contact your power company to report the problem. If only your house is affected then check your master circuit breaker and if it has tripped, reset it.

Ground Fault Interrupt Devices (GFI)



During the walkthrough, our representative will point out the location of GFI outlets. GFI outlets are located in the kitchen, bathrooms, and garage. These outlets are designed to prevent dangerous electrical shock and afford additional protection in wet areas.

The GFI outlet has two buttons, one will reset the circuit and the second will test the GFI device. Note that your outlet may not look exactly like the one pictured here.

To reset a GFI device press the reset button, you should hear a soft “click” when the button has been pressed.

If resetting the GFI device does not restore power to the outlet then check the circuit breaker in the circuit breaker panel.

Caution: Small children can be injured by poking small metal objects into wall outlets. You can prevent this by installing child proof devices on all floor level electrical outlets. These devices are available in grocery stores, drug stores, home centers and hardware stores.



Plumbing System

Your plumbing system features modern design and materials. In the event of a plumbing emergency, you must close the main water shut-off at once. Flowing water can cause severe damage to your home and its contents.



The main water shut-off is located below the front hose bibb. The valve shown in the picture is in the ON position and water can flow into the house, simply turn the handle to turn off the water. Our representative will identify the water shut-off during your walkthrough.

Other water shut-offs are located under the sinks in the bathrooms and the kitchen. There are several kinds of under sink shut off valves, familiarize yourself with your valves so you know how they operate in the event of an emergency.

Each plumbing fixture in your house has a drain pipe specially designed to provide a water vapor barrier between your home and the sewer. The drain pipe or “trap” is the U-shaped area of pipe directly under the sink (see picture above). The trap holds water which prevents the airborne bacteria and odor of sewer gas from entering your home. Because of their shape, the traps are the most likely area to become clogged.

The following pages guide you through how to unclog a drain, it is strongly suggested that you avoid the use of drain cleaning chemicals except as a last resort if you can't clear the clog using these instructions.

How to clean a clogged or slow running drain... find and remove the clog!

Tools required:

- Pipe wrench, screw driver, plumbing snake



The most common problem with bathroom sinks and bathtubs are hair clogs. Bathroom sinks have a pivot rod that helps to raise and lower the drain stopper; hair can get trapped on this rod and build up over time.

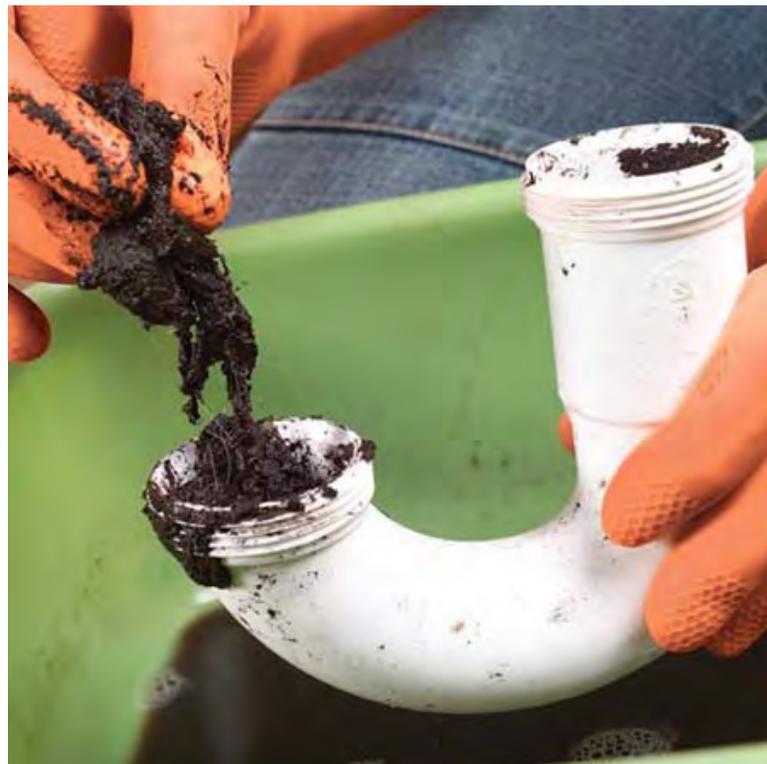
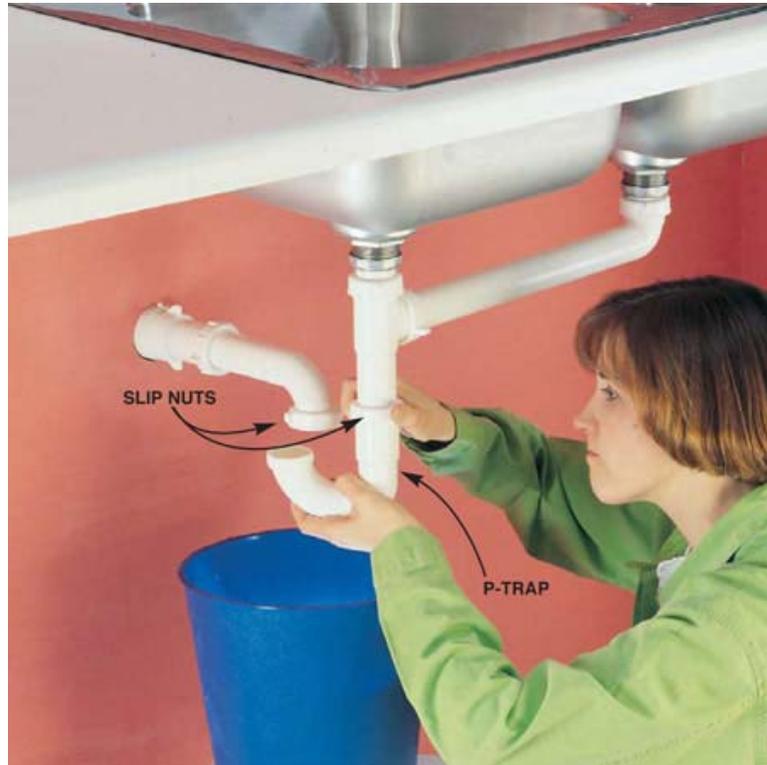
1. Place a pan or bucket under the “p-trap” to catch any water
2. Remove and clean the “p-trap” (as shown in the next two pictures)
3. Loosen the pivot rod retaining nut
4. Remove the pivot rod from the drain pipe
5. Remove the drain stopper
6. Remove as much of the clog as you can from the top
7. Pour a bit of water down the drain to clear what remains
8. Replace the drain stopper, pivot rod, and “p-trap”
9. Mop up any water that may have spilled in your cabinet or floor.



The most common problem with kitchen sinks is the buildup of grease and food particles in the “p-trap” or foreign objects getting stuck somewhere in the drain.

1. Place a pan or bucket under the “p-trap” to catch any water
2. Remove and clean the “p-trap” (as shown in the next picture)

Tip: if you drop a ring, or other valuable object, in the sink then immediately check the “p-trap”. Remove the grease and food particles from the “p-trap”. You may wish to wear rubber gloves.



If the clog wasn't in the “p-trap” or pivot rod then it is time to use the plumbing snake to try to find and remove it.

1. Insert the snake into the drain pipe

2. The snake will uncoil and spin along the drain pipe
3. If it gets hard to push then you are either at the clog or a bend in the pipe, continue trying to push the snake into the pipe. If the snake won't go any further then continue to "spin" the cable which will either allow it go around the bend or rip open the clog
4. Remove the snake from the drain by turning the handle the other way.
5. If this doesn't remove the clog then you may need to call a professional.
6. Reconnect the "p-trap" and run water to ensure that the clog has been cleared.



*Note: pictures used on these pages came from the "The Family Handyman" web site:
<http://www.familyhandyman.com>*

Bathtub and Shower

Your bathtub and shower are made of acrylic and can be chipped or scratched by heavy or sharp objects. **Do not** sit or stand on the edge of the bath tub as this can crack the tub.

Clean the tub and shower using a nonabrasive cleaner designed for bathroom use. Rinse the surface thoroughly to remove all traces of the cleaner. After each use, rinse the tub and shower walls with clean water to lessen the effects of soap buildup.

Toilets

Toilets are made of vitreous china, a glasslike material that is almost impervious to staining. Clean your toilets with a toilet bowl cleaner and brush. Vitreous china is brittle and will easily break or shatter if hit with a hard object.

Always keep a plumber's plunger on hand to use in the event of a stoppage of a toilet. Do not continue to flush the toilet until the water from the previous flush has gone down the drain, or else the toilet will overflow.



Each toilet has a shut-off valve behind the toilet bowl.

Use only toilet water fresheners that mount in the toilet bowl. **Do not** place water fresheners in the tank as it may soften the rubber seals and void the manufacturer's warranty.

Hot water heater



Your water heater is covered by a warranty from the manufacturer. Please read the operating instructions. In the event of a leak in your water heater, close the shut-off valve on the top of the water heater and turn off the circuit breaker located in the circuit breaker panel.

Your water heater should be drained and flushed according to the manufacturer's suggestions. This simple procedure will remove accumulated silt and debris so that the water heater is efficient and durable.

Set your water heater to 120 degrees.

Exterior Finish

The primary exterior finishes on your home are wood and stucco. We recommend that you inspect the exterior surfaces of your home every three months.

Stucco

Stucco is a cement product subject to expansion and contraction. Minor hairline cracks can develop in the outer layer of stucco. This is normal and does not reduce the function of the stucco in any way.

The white powdery substance that sometimes accumulates on stucco surfaces is called efflorescence. It is not a defect. This is a natural phenomenon and cannot be prevented. In some cases, it can be removed by scrubbing with a stiff brush and strong vinegar. Consult your hardware store or home center for commercial products to remove efflorescence.

Keep dirt at least three to four inches below the stucco.

Wood

If you find cracking or peeling of the paint then sand the area, fill cracks with wood filler, and repaint promptly. All exterior wood on your home will require repainting every two to



four years or more if necessary. Surfaces that receive direct sun will require more frequent repainting.

Split or damaged wood, particularly on the ends, should be repaired and repainted to avoid further damage. Small splits on the end of wood are called checking. This is normal and does not affect the strength of the wood.

Fencing

Your homes block wall fencing is designed to provide you with privacy; they **are not** designed to provide structural support for window boxes, hanging planters, or heavy artwork. Placing heavy items on these walls can loosen the blocks and collapse the fence.

Water that is allowed to saturate the soil next to the fence may result in soil movement which will cause the fence to crack and result in damage to the fence footing. Therefore plants and drip systems must be placed a minimum of 3 feet from the fence. The soil should be graded to slope away from the fence.

Gates

The wooden slats in the gate should be treated with a water repellent as needed. If water beads up then the fence is protected. Hinges can be lubricated with a silicon spray lubricant.

Concrete

Concrete is a major structural element in your new home. It provides strength and durability for the foundation, driveway, and sidewalk. While concrete requires minimal care, it should be kept free of accumulated dirt, debris, oil, and greases. Do not run water or allow water to pond near the foundation, driveway, and sidewalk. Water can cause soil expansion which can result in fractures to the concrete.

With the extreme variations of temperatures and humidity in this area, minor cracks and surface color variations are normal and unavoidable. The driveways are designed for residential traffic; do not permit large trucks to use your driveway.

Your home is constructed using highly tensioned cables placed in the concrete. **Never cut or core** the concrete foundation of your home without getting the advice of a structural engineer.

Landscaping, Drainage, and Grading

Your lot has been graded to drain water away from your home. The grading plan for your lot has been carefully engineered and graded to standards that have been established by local governmental agencies to insure proper drainage or, in some cases to retain water on your lot. Failure to maintain the established grade may result in damage to your home, your lot, and neighboring property. Natural settling can change the original grading. It is your responsibility to maintain the original grading of your lot and to preserve good drainage.



Water retention basins have been established to capture rain water and gray water from your washing machine. These have been planted with native desert vegetation that can survive the Tucson climate with nothing more than regular rain fall. **During the first year** you should water your plants weekly. During the hot summer months, some native plants will look better with occasional supplemental watering.

Keep plantings a minimum of two to three feet from the foundation, driveway, and sidewalk. This will keep standing water from undermining those structures; it will also void your termite warranty.

Native tree species have been planted to minimize water needs while maximizing the cooling effects to your home. **Do not** remove these trees; in the event that one of them does not survive then replace it with another native tree.

Subterranean termites

Subterranean termites are native to this region. Your home has been treated with a chemical barrier to deter the termites from entering your home. **Avoid breaking** this two to three foot chemical barrier during your landscaping and home maintenance activities. Subterranean termites depend on soil moisture as their primary source of water, by reducing the moisture in your soil, you can aid in deterring these pests.



It is important that you inspect the perimeter of your home on a regular basis. If you notice evidence of termites, such as a mud tube on your foundation, call Habitat Homeowner Services as soon as possible.



Subterranean termites typically swarm in the spring on warm, calm, sunny days following rain. These swarms usually occur between mid-morning and mid-afternoon and may last several hours. They are looking for moist soil in close proximity to wood in order to start a new colony. By keeping water and plants away from your home's foundation you will lessen the chances that the swarming termites will find your home attractive for their new nest.

How to Tell the Difference between Termite Swarmers and Winged Ants



Ants

- Elbowed antennae
- Narrow (pinched) waistline
- Two pairs of wings - front wings much longer



Termites

- Straight, beaded antennae
- Broad waistline
- Two pairs of wings - equal in size

Gray Water System

Your washing machine connections have been plumbed for both sewer and gray water. If you use a detergent designed for use in gray water systems then you can use the water from your washing machine to water some of your plants. **Use caution**, you can kill your plants if you accidentally use the wrong detergent and fabric softener.

It is easy to move the washing machines drain hose, so Habitat suggests that you use the “To Outside for Plants” connection along with gray water safe detergents most of the time. When you need to use some other detergent then simply move the drain hose to the “To Sewer” connection.



If you accidentally put harsh detergents into your gray water system then immediately get your hose and flood the water basin(s) that your gray water system flows into. This will dilute the detergents and *may* minimize the damage done to your plants.

The gray water will discharge either into a small basin on the side of your yard (picture on this page) or be piped into the large retention basin in the front of your yard (picture on Page 13) depending upon your specific lot plan.

The potential ecological benefits of gray water recycling include:

- Reuse water that would otherwise be wasted





- Add nutrients from your wash water to your topsoil
- Groundwater recharge
- Greater quality of groundwater using nature's method of purification
- Increased plant growth
- Reclamation of nutrients
- Reduced energy use and chemical pollution from treatment

Choosing compatible soaps & detergents

Cleaning products labeled "biodegradable" or "natural" or even "eco-friendly" may not be garden-friendly or "biocompatible," that is, suitable for the plants and soils of your gray water-irrigated landscape.

The following products have been recommended on a number of gray water reference web sites, Habitat does not warrant or recommend their use and is providing it solely as examples of what other knowledgeable people are successfully using:

- ECOS liquid detergent (available at Walmart, COSTCO, and Sam's)
- Oasis Laundry Detergent (liquid) (mail order)
- Vaska (mail order)
- Dr. Bronners liquid soap (mail order)

Avoid the use of any soap or detergent whose ingredients include:

- chlorine or bleach
- peroxygen
- sodium perborate
- sodium tryptochlorite
- boron
- borax
- petroleum distillate
- alkylbenzene
- "whiteners"
- "softeners"
- "enzymatic" components

3. MAINTENANCE SCHEDULE

Maintenance Schedule for Your Home	
What to do	When to do maintenance
<i>Tip - Help remember your maintenance schedule by getting and using a calendar. Every year write down when you need to do the tasks and then check off once you've done it.</i>	
Cooling and Heating System	
Schedule inspection	Annually or per manufacturer guidance
Replace and/or clean air filters Write replacement date on filters	Monthly or per manufacturer guidance
Adjust thermostat for season change	As temperatures change
Water heater	
Drain water heater	Per manufacturer guidance
Adjust temperature to 120°F	At move in
Clothes Washer	
Read manual and follow directions	Per manufacturer guidance
Clothes Dryer	
Clean out filter	After each use
Check dryer vent to exterior	Annually
Yard	
Inspect / repair gray water harvesting system	Annually or per manufacturer guidance
Inspect / repair rainwater harvesting system	Annually or per manufacturer guidance
Maintain proper weed control, drainage, and landscaping – remember to water plants & trees	As needed
Building Exterior	
Check / repair roofing for signs of wear or damage	As needed
Check / repair all cracked or missing exterior caulking	As needed
Inspect solar panels	Per manufacturer's guidance
Other	
Clean stove hood filter regularly	Monthly
Check / repair air leakage inside: replace weather-stripping and caulking	Spring and Fall
Inspect and recharge fire extinguisher	After use or annually

Green Home Guide

Your Habitat home is a PIMA COUNTY Green House, and uses at least 15% less energy than non-green homes.

1. WELCOME

Your Green Home Guide is designed to be a living document with updates made periodically by you, the home owner. We hope the information provided will help you manage the responsibilities of homeownership, environmental stewardship, and living sustainably. What we do today will impact future generations and our beautiful Sonoran desert.

Why is a “green” home important?

- Lower monthly bills by saving energy and water;
- Cleaner indoor air;
- Improved personal health;
- Increased durability;
- Greater comfort;
- Better for the environment, community and residents; and
- Live longer, live better.



2. GREEN BUILDING STANDARDS FOR HOMES

To meet the green building standards and receive certification from either a national (LEED) or regional (The Pima County Regional Residential Green Building Program) green building program, a third party inspection needs to take place. Key items are examined and verified prior to designation.

A green home must have green measures that increase sustainability in six broad categories: location and linkages; sustainable site; water efficiency; energy efficiency; materials and resources; and indoor environmental quality. Learn more at www.pimaxpress.com.

Not all new or remodeled homes are “green.” They may be of high quality but may not be built to the meet the performance levels that green homes are required to have.

Congratulations! Your green home is designed and built to be:

- Healthy,
- Comfortable,
- Durable,
- Energy and water efficient, and
- Environmentally responsible.

Pima County Regional Residential Green Building Program

A certified green home will include eco-friendly measures incorporated into the home.

Key items are:

- Size: Smaller homes are more energy and resource efficient.
- Erosion control: Manage erosion during construction and after; also no introduction of invasive plants.
- Water savings: At least 20% better than current building code requirements.
- Energy savings: At least 15% better than current building code requirements. Reduce and manage waste: Diverting construction waste from the landfill during the building of the home.
- Indoor air quality: Good ventilation and exhaust, proper design of the air conditioning, and no path for carbon monoxide to get from the garage into the air handler or home.
- Operations and maintenance manual: Like your car, your home requires maintenance to keep it running well and green. Your home has new features and ways to maintain them that may or will differ from how you’ve done things in past homes.

3. GREEN HOME FEATURES & SYSTEMS

Humans use most of the world’s resources – water, air, food, energy, and resources such as wood and petroleum that are manufactured into paper and plastic for use at our homes. We also produce large amounts of waste and have a significant impact on the environment. We can reduce that impact when we make our home more environmentally friendly. Your home may have active green features such as



a rain water harvesting landscape system. If you change the slopes or drainage you can save rainwater on your property for irrigation use. A passive green feature in your home may be your windows or insulation. Super-insulated walls and windows help homes be more air tight and prevent energy loss. They save you money on energy bills, and keep you cooler in the summer and warmer in the winter.

4. ENERGY SAVING ASPECTS OF YOUR HOME

APPLIANCES

In a typical U.S. home, the major appliances are responsible for about 20% of the average total energy bill. Refrigerators, freezers, clothes washers, dryers, dishwashers and ranges and ovens are the primary energy using appliances in most households. Of these appliances, new Habitat homes include a new refrigerator and oven/range.

homeeverything

All U. S. Habitat affiliates use Energy Star® refrigerators and range/ovens donated by Whirlpool. These refrigerators are roughly 15% more efficient than cheaper models in their size. This provides a direct savings to the homeowner of approximately \$10 annually. While this may not seem like a lot, it is just one of your household appliances.

FLUORESCENT and LED LIGHT BULBS

The greenest option for home lighting comes in compact fluorescent bulbs (CFLs) or LED. These bulbs initially cost more than incandescent bulbs, but use a fraction of the electricity and last about 10 times longer (usually around 10,000 hours). Another benefit is that, because CFLs and LEDs release less heat, summer cooling costs will be lower. They are also safer because they will not cause fires if a flammable material is left next to the bulb, which is sometimes a problem with incandescent bulbs.



CFLs are typically sold in the spiral shape, but can be found in a variety of shapes as shown:

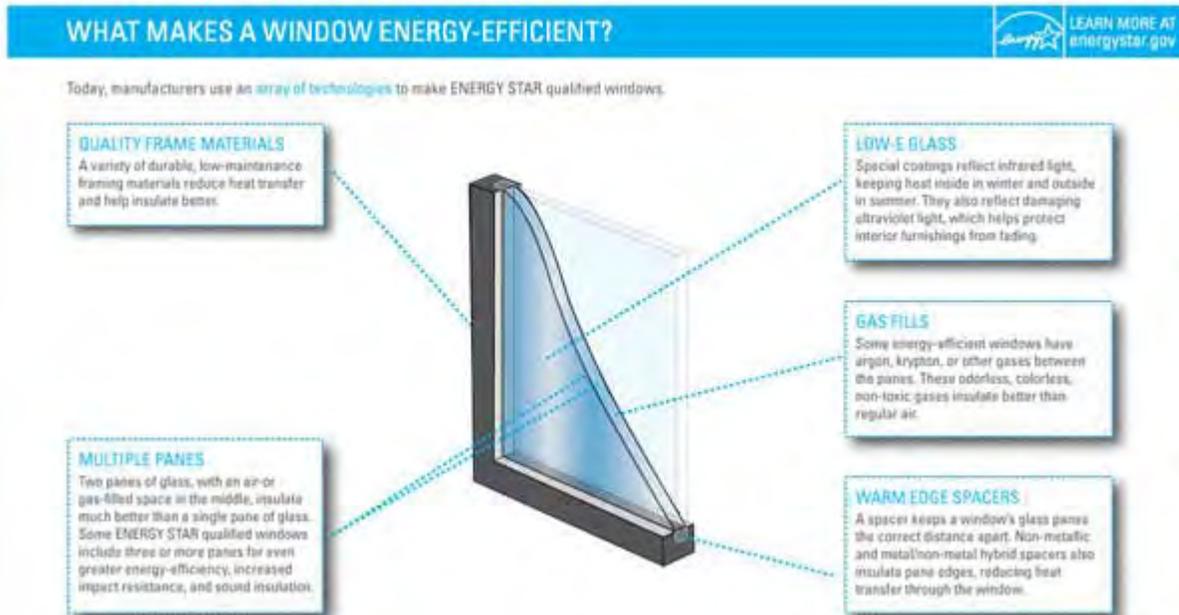
Installation of CFLs and LEDs is as simple as installing incandescent bulbs. The real benefit in using CFLs and LEDs is seen with decreased electricity costs. Running a CFL rather than an incandescent bulb saves approximately \$4.43 in electricity cost per bulb, per year, assuming that each bulb runs an average of three hours per day. A home using 10 CFLs rather than incandescent light bulbs could save \$44.30 per year in electricity cost.

There is one environmental drawback to using CFLs: the mercury found in the bulbs. Though mercury is present in CFLs, it is in very small amounts and incidental exposure to the lamp contents is not harmful. If a CFL is broken, the area should be thoroughly cleaned to remove glass and phosphor dust. Due to the mercury content, CFLs do need to be properly disposed of. Bulbs can be dropped off free of charge at any of your local Home Depot or Lowe's home center stores, or can be taken to the City of Tucson Household Hazardous Waste site. (See Important Numbers list for more info.)

WINDOWS

Many homeowners think of windows as little more than a tool to allow sunlight to enter a room. Though this is the primary goal for windows, those windows need to be insulated against heat loss in

the winter (causing higher heating cost), unwanted heat gain (causing higher cooling cost) in the summer, and winds any time of the year.



Windows are measured by the U-factor, which measures their energy efficiency; that is, the rate of heat transfer through the window. The best products on the market have the lowest U-factors, and therefore the lowest levels of heat loss. Single pane windows can lose up to 84% of a room's heat to the outdoors. That is why your Habitat home has double pane windows. According to the U.S. Department of Energy, windows generally account for 10-25% of your heating bill in the winter. The Energy Star® approved windows in your home will reduce heating and cooling costs by 15%. Assuming that the average annual heating and cooling cost in Tucson are \$536, homeowners could easily see annual utility bill savings of \$80.

Additionally, heat gain can be reduced by installing white blinds to reflect the heat away from the windows. Those blinds should be closed during the day, particularly on south-and-west facing windows.

SOLAR WINDOW SCREENS

Your home may be equipped with solar window screens. Solar screens are an energy saving device which blocks 90% of the sun's heat before it is able to hit your glass; it is like having a shade tree in front of every window. 44% of the heat gain in your home comes from this visible light, keeping this light from entering the house means that your air conditioner doesn't have to work that hard thus saving you on the cost of electricity.

CENTRAL AIR CONDITIONING

The average home spends almost 20 percent of its utility bill on cooling. Increased energy production to run cooling systems not only raises costs, it also can contribute to pollution that adversely affects the quality of the air we breathe. Particularly in hot regions such as Tucson, using the right type of air conditioning units could drastically reduce the amount of energy used in a home.

A common way to measure the energy efficiency of air conditioning units is by using the Seasonal Energy Efficiency Ratio (SEER). This ratio can be determined by dividing the air conditioning's cooling output by the power input. A high SEER number indicates higher unit efficiency. The standard SEER rating for an air conditioner is 14.

Your Habitat home is equipped with an Energy Star® certified air conditioning system. On average, Energy Star® certified air conditioners are about 14% more efficient than non-certified units.



A correctly sized 14 SEER unit can save families \$85 annually over less efficient units if they are used properly.

Some tips that can make your unit more efficient are:

- Check the thermostat setting to ensure that the system only works when needed.
- Check your system's air filter every month. If the filter looks dirty, change it. A dirty filter will slow air flow and make the system work harder to keep you cool—wasting energy and money. It will also damage the system, leading to early failure.
- Have your system serviced annually to ensure it's running at top efficiency for money and energy savings.

CEILING FANS (in Family Room – all rooms wired for fans)

The ceiling fan installed in your family room will help you FEEL cooler and therefore allow you to set the temperature of the AC a little higher in the summer, thereby helping you save money and energy. In the summer months, your ceiling fan offers the greatest energy saving benefits when run in a counter-clockwise direction. While a ceiling fan does not necessarily lower the temperature, it does



make the room feel cooler by providing a circulatory breeze. If the outside temperature is not too high, you might be able to achieve a comfortable environment by turning off the HVAC altogether, by opening a few windows and allowing the ceiling fan to circulate warm air outdoors. Effective circulation can make you feel up to 8 degrees cooler, and reduce air conditioning bills by up to 40%.

Ceiling fans can also help keep your home warm in the winter. Most ceiling fans have a switch that allows you to reverse its direction. By reversing the direction of the fan blades, warm air is pushed up against the ceiling and then down the walls, gently re-circulating warm air through the room without causing a chilling breeze. Use a very low fan speed for winter and turn down your thermostat to capture the heating bill savings from using fans. This technique has been proven to lower home heating costs by as much as 10% by offsetting the HVAC work load.



- Remember that ceiling fans help you feel cooler (or warmer), not the room, so when you leave the room make sure to turn off the fan.
- Clean the fan blades at least annually to reduce particle dust in your home and to keep the fan in good operating condition.

The other rooms of your home are wired for ceiling fans as well. They are far less expensive to run than air conditioning. If you install more fans, here are some tips to help ensure that you reap the energy saving benefits:

- The most frequently used rooms should have a ceiling fan
- The blades of the fans should be between 7-9 feet above the floor, and 10-12 inches below the ceiling. If the blades of your fan are too close to the ceiling, you will not be able to make use of the winter time benefits, and will be less efficient in the summer time. The blades should be at least 18 inches from the nearest wall

RETRACTABLE CLOTHESLINE

While Habitat has provided washer and dryer hookups, an actual washer or dryer are not provided. Before you go out and buy a dryer, consider your options for drying clothes. Dryers are third among appliances for energy usage in your home (after refrigerator and washing machine). For this reason, Habitat has provided your home with a clothes drying rack. Realistically you probably cannot dry all of your clothes on that rack, but any towels or clothes that you can air dry will save you money, save energy, and reduce air pollution. The dry air of Tucson is perfect for air drying clothes. If you were to dry half of your clothes on a clothesline you would **save over \$65 a year in energy costs**. Additionally, you would **prevent over 1,000 pounds (that's right - POUNDS) of CO2 from going into the air**.

5. WATER SAVING ASPECTS OF YOUR HOME

LOW-FLOW FIXTURES

It is now a legal requirement for all new homes to have ultra low-flush (ULF) toilets, which use a maximum of 1.28 gallons of water per flush.

Habitat has also installed low-flow shower heads and faucet aerators that reduce water consumption by as much as 50% and whose flow rate is at 1.5 gallons per minute.



NO DISHWASHER/NO GARBAGE DISPOSAL

It's true! Though you might like the convenience of dishwashers and garbage disposals, they are water wasters. Dishwashers use large volumes of water, almost 16 gallons of water per load, while garbage disposals use nearly 50 gallons of water a week than home without them. Before you go buying them and having them installed, think about the balance between conservation and convenience.

6. WASTE REDUCING ASPECTS OF YOUR HOME

RECYCLE BINS



Your home has been equipped with an indoor recycle bin, along with a trash bin under your cabinet, to help you recycle. It is a place you can put your recycling indoors so you don't always have to walk outside every time you have something to recycle. Then a couple times a week you can transfer it to your "Blue Barrel" for curb-side pick-up. To order a blue barrel recycling container and find out your recycling schedule, call 791-3171.

Guidelines for blue barrel recycling:

- No plastic bags, no garbage (except shredded paper).
- Please make sure materials are clean, empty and dry.
- Set out your blue barrel for collection when it is more than half full. Having the truck stop for nearly empty containers increases fuel consumption and air pollution.
- Have barrel at curb by 6:00 am to ensure service.
- Leave labels on containers. Bottle and jar caps and lids can be recycled on or off.
- Lightly rinse food containers. Use water wisely – throw very dirty items into the garbage.
- All recyclables go loose into the blue barrel, together – no sorting! Please put them in individually, not inside a box or bag.
- Do not flatten cans and bottles to insure sorting equipment works properly.
- Do flatten corrugated cardboard boxes. Remove plastic wrapping and liners.
- Shredded paper may be recycled in the blue barrel if it is secured in a clear plastic bag. This is the only time that plastic bags can go in the recycling container.

If in doubt whether an item is recyclable, call 791-5000 to find out or put it in the garbage.

PREVENT WASTE

We can reduce the amount of garbage we throw away by not making it in the first place. Use and buy less stuff. If you live in the City of Tucson, you have a choice of three sizes of garbage barrel; a smaller barrel will cost less than the bigger one. Call 791-3171 to order or resize your garbage barrel.

- Use durable products instead of disposable (cloth napkins, reusable plates, etc.)
- Pay bills on-line to avoid paper bills (saves on stamps too!)
- Use reusable bags when shopping
- Use refillable water bottles instead of buying bottled water
- Buy in bulk or in concentrates

7. HEALTHY AIR INSIDE YOUR HOME

Minimizing Exposure to Airborne Pollutants

The Environmental Protection Agency (EPA) tells us that indoor air pollution is among the top five environmental health risks that we face in our lives. The American Lung Association reports that each year second hand smoke sends 7,500 – 15,000 children aged 18 months or younger to the hospital. Carbon monoxide levels can rise very quickly in unventilated areas without anyone noticing the colorless, odorless, toxic gas. Indoor air pollutants can affect your entire family – even your pets.



- The best way to control or eliminate indoor pollutants is by eliminating their sources or reducing their emissions.
- To reduce indoor air pollution, ventilate your home with clean outdoor air when our weather permits. Bathroom and kitchen fans that exhaust to the outdoors also help reduce pollution build-up inside.
- Change the filters regularly on your heating and cooling systems and remember pollution prevention is the key to healthy indoor air. Information about outdoor air pollutants, the causes, and solutions is found at www.deq.pima.gov.

Preventing Indoor Air Pollution		
Indoor Air Pollutants	Sources	Health Effects
Particulate matter (PM) Microscopic solid, liquid droplets that are floating in the air.	Tobacco smoke; cooking (especially frying); tracking in on shoes; candles, incense, fireplaces; building materials and furnishings; hobby and craft materials; and pesticides. Also biologic sources such as viruses; bacteria; molds; pollen; dust mites; and cockroach body parts and droppings; and animal dander.	Aggravated asthma; acute respiratory symptoms; chronic bronchitis; decreased lung function; increased risk of heart attack; death.
	Prevention	
	Eliminate indoor smoking; properly ventilate while cooking; clean or replace door mats; vacuum carpets weekly and clean annually; check and clean fireplace and chimney annually, have fewer fires in fireplace; dust and clean your house regularly.	
Carbon monoxide (CO) A colorless, odorless, toxic gas formed from the combustion of carbon compounds.	Tobacco smoke, unvented kerosene and gas space heaters; leaking chimneys and furnaces; back-drafting from furnaces, gas water heaters, wood stoves, and fireplaces; gas stoves; and vehicle exhaust from attached garages or idling vehicles.	Headaches; dizziness; disorientation; nausea; fatigue; impaired vision and coordination; confusion; fatal at high concentrations.
	Prevention	
	Ventilate, eliminate indoor smoking; install CO alarm (with charged batteries); keep gas appliances properly adjusted; follow direction for space heater use; use stove correctly; do not use BBQs inside; open flues when using fireplace; keep heating and cooling system operating correctly; do not idle vehicles near house or run motors inside a closed garage.	
Mold Molds are fungi and are important in the natural environment. Molds break	Mold may begin growing indoors when mold spores land on surfaces that are wet. There are many types of mold, and none will grow without water or moisture.	Allergic reactions; asthma episodes; irritation to eyes, skin, nose, throat, and lungs; infections in those with weakened immune system. In addition to producing allergens and irritants, mold can also produce potentially toxic substances.



<p>down dead organic matter such as fallen leaves and dead trees. Mold can be many colors including black, white, gray, blue and green. Mold spores are invisible to the naked eye and float through outdoor and indoor air.</p>	Prevention	
<p>Volatile organic compounds (VOCs) Include a variety of chemicals that are evaporated from products both during use and while stored.</p>	<p>Cleaning and disinfectant products; paints; lacquers; strippers; solvents; pesticides; building materials; furnishings; new carpets; stored fuels and automotive products; office, hobby and craft supplies; dry-cleaned clothing; pesticides; preservatives; aerosols; air fresheners.</p>	<p>Eye, nose, and throat irritation; headaches; dizziness; fatigue; loss of coordination; memory impairment; nausea; damage to liver, kidney and central nervous system; allergic skin reaction; cancer.</p>
	Prevention	
	<p>Keep exposure to a minimum; provide plenty of fresh air and ventilation when using products; follow label directions; keep lids closed; buy in quantities that you will use up; keep products out of reach of children and pets; instead of aerosol use pump sprays; use brushes or rollers instead of spray paint; bring unused or leftover product to the Tucson/Pima County Household Hazardous Waste Program.</p>	

The following chart shows the indoor air pollutants of concern for our geographic area. Also included are the best ways to prevent indoor air pollution and reduce associated health risks.



8. HOME EMERGENCY INFORMATION AND SAFETY TIPS

- BEFORE an emergency, locate central shut-off valves for each of the following:
 - Water supply;
 - Electricity supply; and
 - Heating fuel (gas)
- Identify fire escape routes and hold practice fire drills at least once a year.
- Do not block fire escapes.
- Keep a fire extinguisher in the kitchen and garage.
- Keep area around fireplace, furnace, hot water heater, and other combustion equipment clean and free of clutter and materials that can catch fire.
- Set hot water heater to 120°F degrees.
- To avoid releases of deadly carbon monoxide inside your home, never use unvented grills, stoves and heaters or other unvented combustion equipment inside your home or garage.
- Replace batteries in smoke alarms and carbon monoxide detectors as noted by the manufacturer.
- Do not use or store flammable materials, such as gasoline, near an ignition source (e.g., hot water heater or other appliance with a pilot light).

9. OPERATION AND MAINTENANCE MANUALS FOR NEW ITEMS

Manuals for the major new items that have been installed in your home are located in your new kitchen. Please note that your appliances may require some form of registration to activate the warranty. Please take time to look through the manuals to see what is covered by each manufacturer's warranty as well as the limitations of each warranty. Make sure to register the appliance if the manufacturer suggests it.



10. UTILITIES & RELATED SERVICES

Service provider	Contact information
Electric Utility Company	Tucson Electric Power Emergency: 520-623-3451 Customer Service: 520-623-7711 www.tep.com
Garbage & Recycling Collection	City of Tucson Environmental Services 520-791-3171
Gas Utility Company	Southwest Gas 520-889-1888 http://swgas.com
Household Hazardous Waste Program	City of Tucson/Pima County 520-888-6947 http://cms3.tucsonaz.gov/es/household_hazardous_waste
Internet Service Provider	
Recycling Information	Tucson Clean & Beautiful Recycling Information Line 791-5000 http://www.ci.tucson.az.us/tcb/
Telephone Company	Cell: Land:
TV Cable Company	
Wastewater/Sewer	Pima County Regional Wastewater Reclamation Department 740-6500 www.pima.gov/wwm/
Water Utility Company	Tucson Water Emergency: 791-4100 Customer Service 791-3242 www.tucsonaz.gov/water/
Trees for Tucson and Recycling Info Tucson Clean and Beautiful	791-3109 www.tucsonaz.gov/tcb/tft/



Utility Services – Limited Income Program Instruction Sheet

The City of Tucson Utility Services department provides assistance to qualified customers for a monthly discount toward your monthly Tucson Water and Environmental Services charges. The credit can be up to 3 years from the approval date.

To be eligible for the credit, you must:

- Have water or residential refuse service from the City of Tucson. (Eligibility is limited to one location at a time with city limits).
- Have the City of Tucson Utility Services bill in your name.
- Customer must meet household size/income guidelines and obtain verification of your information.

1. Review Requirements: Review the eligibility requirement below:

Income Guidelines for Calendar Year 2018 Limites de Ingreso Para el Año 2018

Number of Persons In Household	Total Gross Annual Income
1	\$15,572
2	\$25,519
3	\$35,037
4	\$43,252
5	\$51,039
6	\$59,696
7	\$68,353
8	\$77,010
For each additional person, Add \$8,657	Por cada persona adicional, Incremente por \$8,657

2. Make Appointment: If you meet income requirements please contact the limited income discount phone number at (520) 791-5443 (M-F 8 am – 5 pm) to schedule an appointment.

During your appointment you will need to bring the following documents. Applicants who don't provide the required documents will not be approved.

A. City of Tucson Utility Services Statement (City of Tucson Utility Bill):

Applicants must bring their current Utility Services Statement. The bill must show the account in your name and the qualifying service address.

B. Valid Photo ID matching the name on the application

(State ID card, Driver's License, Military ID)



C. Proof of Household Size: (The total number of persons living in your home).

In order to qualify for the limited income program, we will need to verify each person living in the household. This includes verifying all social security numbers for each household member.

D. Household Income: Is considered to be the combined income of all persons living in the household such as (examples): Salary, child support, alimony, interest earnings, and rental income, Temporary Assistance for Needy Families, Supplemental Security Income, State Supplemental Payment, Social Security, Veteran, Disability, Unemployment, and Retirement Benefits: and other cash public assistance.

In Order to qualify for the limited income program, we will need to verify the last 30 days of income. Any income that you have received in the last 30 days you will need to bring to the appointment. Examples of this include social security award letter, pension verification, disability letter, check stubs for the past 30 days of when your appointment is scheduled or any other type of income that you have received in the past 30 days.

- Paycheck stubs
- D.E.S. award letter (food stamps/cash assistance)
- Pension letter
- Social Security award letter
- SSI/disability letter
- Unemployment check stub
- Letterhead from employer with pay rate and weekly hours

3. Renewal: Participants in the COT Limited Income Assistance Program are qualified for up to 36-months from approval date. Participants will receive a notification letter via mail at least 30 days prior to the expiration period as a reminder to review eligibility for the COT Limited Income Program.

Participants that do not renew prior to the expiration date will be removed from the program and will be assessed the full COT Fees.

If you have questions on the COT Limited Income Application or verification process, please contact COT Utility Services at (520) 791-5443 or visit our web site at www.tucsonaz.gov/water.



HABITAT FOR HUMANITY TUCSON

WARRANTY SERVICE PROCEDURE

Most issues that arise in your home can be taken care of with regular home maintenance and can be fixed by you, the homeowner. This book contains instructions for how to deal with most home problems, such as smoke alarms, how to adjust your heating/air conditioning and hot water heater, minor drips in your plumbing system, etc. In addition, your appliances are covered by manufacturer warranties; if you have an appliance problem, contact the manufacturer directly.

Be sure to **register** all appliances/warrantable items through the manufacturer's warranty in your name, immediately after closing.

For those issues that cannot be fixed by you, there are two methods for contacting Habitat:

1. Email warranty@habittucson.org with your warranty request. Describe the problem, and give your name, address and phone number in the email. This email will go directly to the construction staff, who will contact you.
2. For Emergency Warranty issues only, please call or text the Warranty Phone Number (520) 276-3135. Describe the problem, and give your name, address and phone number.

You can expect a call-back from construction staff within 24 hours of your notification to Habitat of your warranty problem.