Pine Brook Press

A quarterly journal for, about and by Pine Brook Hills residents | FALL 2017

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2017 COMMUNITY CALENDAR

HOA MEMBERSHIP MEETING - TUESDAY, NOVEMBER 7

6 PM - Come and enjoy the POTLUCK DINNER

7 PM - Presentation on SPACE EXPLORATION!

MEETINGS ARE AT THE COMMUNITY CENTER/FIREHOUSE UNLESS OTHERWISE NOTED.

2017 HOA Next Membership Meeting | November 7.

HOA Board Meetings HOA Board meetings are open to all residents. Attendance is welcomed and encouraged. Meetings begins at 7 PM. Next meeting: January 2018

BMFPD AUXILIARY | Meets quarterly on Sundays. Next meeting Sunday, October 22, 12:45 - 2:45 PM. Email <u>auxpresident@bouldermountainfire.org</u> for more information.

ARCHITECTURAL REVIEW COMMITTEE | Meets the second Tuesday of every month at 7 PM.

BMFPD BOARD | Meets the second Monday of every month at 6:30 PM at either the Pine Brook Firehouse or Boulder Heights Firehouse. Call 303-440-0235 for specifics.

WATER BOARD | Meets the third Thursday of every month at 4:30 PM. Call the Water Office at 303-443-5394 for dates.

BOULDER MOUNTAIN HANDMADE MARKET | November 11 and 12 at the Boulder Elks Lodge, from 10 AM to 4 PM each day.

CARDS & COOKIES | December 3 at the Community Center. Kids will decorate cookies and make cards for firefighter volunteers.

Please share your photos. We need them!

Email your PBH images to press@pinebrookhills.org Thanks to Emelie Griffith for capturing this morning hike photo opp!



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BOULDER MOUNTAIN HANDMADE SUPPORTS THE FIREFIGHTERS; HERE'S HOW TO SUPPORT BOULDER MOUNTAIN HANDMADE By Ann Blonston

40 years strong \mid 50 talented artisans & bakers \mid 200 community residents involved Raised over \$15,000 last year to the Auxiliary's direct support programs including fire safety & equipment needs

Boulder residents have many opportunities throughout the year to shop some great art and craft sales, but only one makes a difference in the quality of our safety services here in Boulder Mountain Fire District. If you are going to holiday shop at just one event this year, make it Boulder Mountain Handmade on November 11 & 12 at the Elks Lodge.

What started out as the Pine Brook Hills Arts and Crafts Show has grown over the years into BMFPD Auxiliary's main fundraiser, contributing over \$15,000 last year to the Auxiliary's direct support programs. With funds raised, the Auxiliary hosts the department's annual volunteer recognition event, conducts community outreach and education events throughout the year, including New Resident information packets and welcome sessions, as well as the spring Fire Safety Sale. Auxiliary provisioners crucially provide food and drink supplies to our emergency responders when they are on incident calls in our district, such as 2017's Wagon Wheel Gap fire. In addition, the Auxiliary donates funds to the department for unfunded or underfunded equipment needs that arise during the year.

After 40 plus years, the event now hosts over 60 talented artisans and fine artists from around the region, in addition to continuing its popular craft sales and bakery areas, both of which feature items donated by fire district residents. And that's the second way you can support the event: donate one or a dozen of your special craft gift items, and bake something delicious for Boulder Mountain Handmade's Bakery. These two sale areas alone



generated over \$8,000 of the event's proceeds in 2016. With more customers expected this year, the Auxiliary welcomes new donors in both the craft and bake areas.

Boulder Mountain Handmade has always welcomed families and kids with its ever-popular fire truck tours, young music performers and a complimentary maker space for all ages.

In all, over 200 district residents are involved in making the event the successful fundraiser it has become.



THERE'S ROOM FOR MORE BAKERS AND VOLUNTEERS. SIGN UP ON THE WEBSITE. www.bouldermountainhandmade.com Contact aux.president@bouldermountainfire.org



PRESIDENT'S PATTER

By Brian Wahlert

It's hard to believe that this is my last President's Patter. Pine Brook's bylaws limit the president's term to two years, and time really does fly when you're having fun because my two years are

just about over. We have an amazing group of residents who have landed in our wonderful community, and it's been my great pleasure to get to know many of you. Pine Brook is an extraordinarily special place.

I won't be going far, though. By Pine Brook tradition the former president continues to serve on the board as the "member at large." Allen Saville has done a great job in that role for the past two years, and I will try to fill his shoes, if elected at our November membership meeting.

As you know, the Pine Brook HOA is an all-volunteer organization, funded only by your dues payments. \$75 is the suggested annual amount per household, although many of you (62% of those who pay dues) contribute \$100 or more.

The majority of those funds go to support our community fire mitigation program, a unique feature of Pine Brook among Boulder foothills communities. We encourage residents to perform proper mitigation to protect their own houses, but when it comes to protecting the community as a whole, large fuel breaks that span across property boundaries have proven effective at keeping fire out of Pine Brook and stopping the spread of fire within Pine Brook. Every year, we send the majority of your HOA dues to Boulder Mountain Fire to maintain and expand our system of fuel breaks.

The remainder of your dues support a wide variety of services, including this publication, the Pine Brook Directory (which will be published again early next year), social gatherings like our ice cream social and gala events, and physical improvements like the better parking and drainage around the Community Center. Many of our services, like forest health, roads, architectural review, and newcomer welcome, require little or no funding because volunteers generously contribute their time.

There's always more that we could do if more funds were available, particularly in the area of fire mitigation. This year, we embarked on a several-years-long plan to build a fuel break in the area of the Anne U. White Trail on the northwest side of Pine Brook. This fuel break was already a priority, but became even more important when the Douglas Fir Tussock Moth outbreak killed many of the trees in that area, leaving a lot of dry fuel behind.

In the recent community survey, we asked, "If there were a vehicle for making tax-deductible donations to benefit PBH, would you contribute more?" 82% of you responded to this question with a "yes" or a "maybe." Given that favorable response, and given the generosity of our residents who contribute more (sometimes much more) than the \$75 annual HOA dues, we have set up a new organization, the Pine Brook Hills Community Fund. The Community Fund is a charitable organization recognized by the IRS under section 501(c)(3). What that means is that contributions to the Community Fund (unlike the HOA) are tax-deductible charitable donations for the donor.

As stated in its bylaws, the Community Fund was created for the following purposes:

A. Increasing public safety, particularly through projects and education designed to improve wildfire mitigation and forest health.

B. Erection or maintenance of public buildings, monuments, or works.

C. Any other charitable purpose allowed under Section 501(c)(3) of the Internal Revenue Code of 1986, as amended.

We initially plan to focus on accelerating our community fuel break program, but as time goes on, we anticipate other types of projects as well. As an example, a neighborhood park or playground would be a great place for residents to gather. The biggest hurdle is where to locate it. The HOA doesn't own any land, but a community-minded resident might choose to donate a portion of their property for this purpose. This generous gift would not only benefit the community but with the Community Fund now in place, would also afford the resident a tax break.

A small way that we can all help is by directing Amazon to donate a portion of our purchases back to the Community Fund. If you ever shop at Amazon, take a minute to go to the Community Fund website at www.pinebrookhills.org/ CommunityFund and follow the two-step instructions there. It takes less than a minute to set up, and then every time you shop at Amazon after that, Amazon will donate to the Community Fund.

And of course, we welcome any and all direct donations. The Community Fund shares a mailbox with the HOA, so you can drop off checks or mail them to 1907 Linden Drive, Boulder, CO 80304. The Community Fund also accepts credit and debit card donations on our website:

www.pinebrookhills.org/CommunityFund.

I'm often amazed at the generosity and love for Pine Brook that our residents show in giving their time and money to the neighborhood. The Community Fund provides residents a new way to donate to the neighborhood and get a little something back in the form of a charitable donation tax deduction. With this new fundraising vehicle available, I hope we can do even more great things.

In closing, I want to thank you all for the support you've given me over the past two years as I served as your HOA president. I'm so grateful to have found this amazing community up in the hills yet so close to Boulder, and to have had the opportunity to lead it. I look forward to many more decades of living the dream in our spectacular neighborhood.

For credit & debit card donations and to donate to the Pine Brook Community Fund http://www.pinebrookhills.org/CommunityFund

DELICIOUS TRASH!

Living in the mountains, we reside with wildlife and must take precautions to keep them safe from us, which in turn helps us live in harmony with them.

Some residents are leaving trash outside the day before pickup. Trash gets eaten by bears and other animals, causes a mess, and puts the animals in danger. Further, bears remember food sources and will continue coming back.

PLEASE:

PUT TRASH OUT ONLY THE MORNING OF THE PICKUP DAY!

This year a high number of bears have been killed by Parks & Wildlife because they've become accustomed to proximity with humans. A fed bear is a dead bear, even if it's eating trash. Let's do our part to protect everyone. Our being responsible preserves bear's lives and keeps our neighborhood safer and cleaner for all.

Thank you for helping us all live in unison with PBH nature.



photo by Kristen Cannon

FOR MORE TIPS ON LIVING SAFELY AND HARMONIOUSLY WITH WILDLIFE, CHECK OUT OUR WEBSITE.
Colorado Parks and Wildlife district wildlife manager Kristin Cannon presented
"Living With Your Wild(er) Neighbors" at our September HOA meeting.
You can find her excellent presentation here: http://pinebrookhills.org/Living/Wildlife.html

Hello Neighbor!



I'm Emelie, your Pine Brook Hills realtor®! Pine Brook Hills is an incredible place that we call home. As your REALTOR®, my passion for our neighborhood and the lifestyle it holds is represented by:

~ Local market knowledge ~ A background in real estate marketing to focus your home ~ the awareness that <u>life here is all in the details</u>

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LET THERE BE NIGHT

For many PBH residents seeing the stars and the Milky Way is one of the best aspects of living outside the city. Light pollution from outdoor and indoor lights is becoming an increased concern in our neighborhood.

The PBH Community Standards reinforce Boulder Land Use Code regarding lighting:

• Lighting that spills into adjacent properties in a disturbing manner is not allowed.

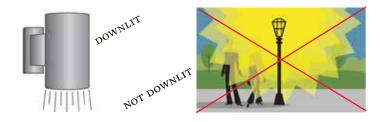
• Lighting sources should be down lights (downlit) with an opaque shield that light can't pass through; bright light sources should be avoided.

Per Boulder County Land Use Department – Outdoor Lighting Requirements:

• Light Trespass is lighting that intrudes into neighbors, keeps others awake, or decreases the ability to see stars. This includes "security" floodlights.

• "Skyglow is the wasted light shining skywards and reflecting out into the atmosphere."

• "Overly bright and poorly aimed lights that cause glare, which is the most safety-related aspect of light pollution."



Since 2003, Boulder County has required that new outdoor lighting must be shielded to direct light downward, and must be installed to minimize light trespass onto neighboring properties.

If you have bright lights, such as flood lights, or are considering installing them, take a walk outside around your property at night and check how much light spills into your neighbors' yards. Take their perspective and consider what the lighting impact will be on them. If your home has lots of glass, ensure that your indoor window coverings are sufficient to avoid projecting detrimental light to your neighbors. Review the PBH Community Standards or the Boulder County Land Use Codes and make sure what you are considering is not prohibited. Think about the wildlife sharing your property. How does (or will) the lighting affect their biological patterns?

If you put up light displays around the holidays, be aware of the effect your holiday cheer has on the neighbors by putting lights on a timer and leaving them off in the later evening.

Bad Lighting:

- Contributes to sky glow with upward direction of light.
- Reduces enjoyment of the night sky.
- Causes glare, light trespass, and harsh illumination.
- Wastes energy.

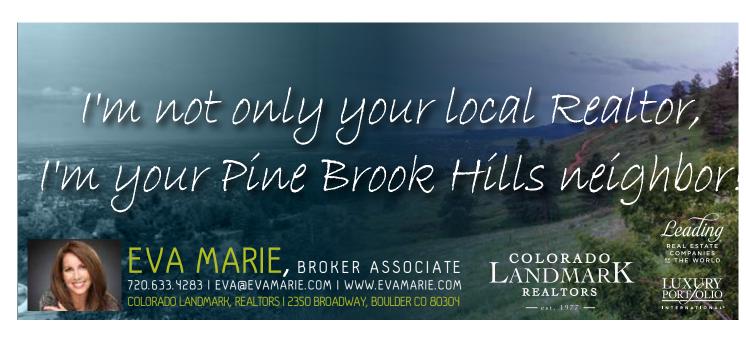
Good Lighting:

- Directs light down and to the sides as needed.
- Reduces glare, and even more importantly, illumination.
- Does not trespass onto neighboring properties.
- Helps preserve the dark night sky.
- Saves energy and reduces costs.

Thank you for helping to make PBH a place to enjoy our cosmic magic.

PBH COMMUNITY STANDARDS: http://pinebrookhills.org/HOA/Covenants/community_standards.html BoCO details on lighting regulations:

https://assets.bouldercounty.org/wp-content/uploads/2017/03/p09-outdoor-lighting-requirements.pdf



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WELCOME NEWCOMERS TO PBH!

With Jo Wiedemann



ROSS KRONMAN AND ALDA ABBRACCIAMENTO are East Coasters currently living in NYC (having moved back there from stints in Richmond, VA and Larkspur, CA), but have been visiting Colorado for the past nine years. Their son Alex went to Colorado College, and after graduation he started a company in Boulder. They have come to love Boulder and for the past 2 1/2 years have been looking in the area for a second home. They were fortunate enough to find a home in PBH and moved in mid-July.

Ross is semi-retired. He worked most recently in residential real estate in suburban New Jersey. Alda works for Ogilvy & Mather, an advertising agency in New York, so they travel back and forth. Ross is spending more time here working on the house. He loves home improvement projects AND the mountains - so they are very happy to have joined this community and look forward meeting more of their neighbors.

UYESHIRO FAMILY

The last issue included the Uyeshiro family's story...here's their photo. Welcome to PBH!







JESSE AND SARAH DOBBS and their two cats Rilo and Godzilla moved to PBH from Brooklyn, NY. They quickly adopted their newest four-legged canine son Gary. Jesse was born in Salt Lake City, UT and Sarah was born in Detroit, MI. They both moved to Denver, and while not knowing it, lived just blocks from each other. It took a couple of years, but they finally met and soon moved to Williamsburg, Brooklyn to pursue business opportunities. It has always been a dream of Jesse and Sarah to live and raise a family in Boulder, and after a few years in Brooklyn it was time to move back to Colorado. They chose PBH because of their love for the outdoors and mountain living lifestyle. Their favorite part of the day is the morning enjoying coffee and a Bing and taking in the wonderful views in PBH.

Sarah is a make-up artist by trade spending over a decade in the industry, working on various Broadway shows and NY Fashion Week. She turned her passion for art into jewelry and is now a goldsmith with her own line. Sarah loves to garden, paint, and do anything that enhances her artistic sense of life. Jesse is a jewelry retailer with an emphasis on high-end alternative wear. He owns a group of jewelry stores across the country where piercing services are also offered. Jesse likes to ride bikes, practice Krav Maga and geek-out over audio/visual equipment.

They have already had a wonderful time meeting their closest neighbors and are very excited to keep exploring the neighborhood and getting to know everyone else.

Space Exploration & Mars with Don Hassler

By Allen Saville

When you get around to planning your next trip to Mars, Don Hassler, who lives in Boulder Heights, is the first guy you should consult. Dr. Hassler, an active member of our beloved BMFPD firefighter cadre, probably knows more about exploration of the Red Planet than anyone on our planet. He will be our program speaker and guide to Mars at our final HOA meeting for 2017 on November 7.

Don travels the world speaking and coordinating with other space exploration programs and keeps up with a number of the space exploration programs within our solar system and beyond. Spend an evening with Don thinking about matters beyond our planet.

Don has been involved in lead and lesser roles in the Mars Rover program, experiments and measuring activities on the Space Shuttle, and the International Space Station, exploration programs at major observatories, and much more.

In addition to his impressive academic and scientific credentials, Don has a knack for making things fun. If you have a child (or a grandchild) who is working on a science project that involves space exploration or is just interested in the topic, you might want to bring them along for this program.

A Bit About Don Hassler

Hassler began his career in 1985 as a graduate student working on a NASA sounding rocket program at the University of Colorado's Laboratory for Atmospheric & Space Physics (LASP). After launching and analyzing the data from 3 sounding rocket flights he receiving his PhD in Physics from the Univ. of Colorado in 1990. He did a postdoc in France and then at Harvard University before returning to Colorado in 1994 to work at NCAR's High Altitude Observatory. In 1997 Hassler was hired to help build and grow the Boulder office of Southwest Research Institute.



In addition to his work in solar physics, he is Principal Investigator of the RAD instrument on the Mars Science Laboratory Curiosity rover which landed on Mars in 2012. RAD is making the 1st measurements of the radiation environment on the surface of another planet in preparation for future human exploration of the Mars in the coming years. In 2014, Hassler became the Director of the Institut d'Astrophysique Spatiale in Orsay, France, the same lab where he did his postdoc 20 years earlier. He is only the 2nd American to serve in such a capacity in France. Hassler is now back at Southwest Research Institute in Boulder full time in the role of Science Program Director. He has designed, built and worked on instruments that have flown on 10 sounding rocket flights, the Space Shuttle, several deep space spacecraft, and the Mars Curiosity rover. Hassler has over 100 publications in the refereed literature.



Do you have any program ideas?

If you have ideas about a topic of general interest that you would like to have presented and explored at one of our HOA meetings, please share your idea(s). Email: MemberAtLarge@PineBrookHills.org



Photo by James Adams

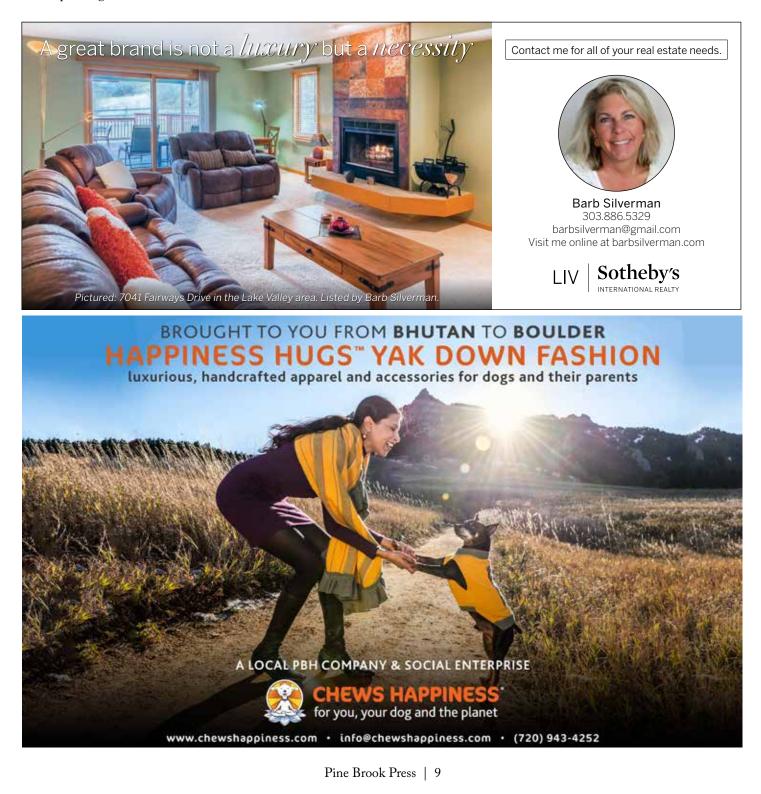
Helping One of Our Own

Matt Kieffer, one of Boulder Mountain Fire's first responders and member of the Wildfire Mitigation Crew recently underwent heart surgery after battling heart failure while away from home and on duty. This will involve a lengthy recovery during which he will be unable to work.

Matt has been on the BMFPD wildfire crew for 3 seasons. He has responded to many emergency events within our fire district, and even traveled nationally on large wildfires as part of a BMF team. He has worked tirelessly on district wildfire mitigation projects and has dedicated his life to responding to others in their time of need. The BMFPD Wildfire Crew is raising funds to help with his living expenses during this time. We appreciate any assistance that can be made to help someone who has helped so many others.

The crew has set up a webpage that is accepting donations at: www.gofundme.com/mattkieffer

Checks can be made out directly to Matt Kieffer and sent to 702 Victoria Court, Lafayette, CO 80026.





Did you know?

~CITIZEN ASSIST~

Should you need assistance...someone fell and can't get back up, a family member would have trouble getting from the house to the car for a doctor's appointment, there's a snake blocking your stairway (don't laugh this happened!)...

YOU CAN CALL 911 AND REQUEST HELP.

It's called "citizen assist." Responders will likely be members of BMFPD and they are glad to provide support.



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ON THE WATER FRONT BUDGET & WATER QUALITY HARDNESS Pur Path de Hand

By Bob de Haas

It's Budget Time! All special districts begin working on their budgets for the following year about this time. A preliminary budget for Pine Brook Water should be available by early October. Copies of this preliminary/proposed budget will be available upon request by either calling our office to request a mailed copy, or by emailing contact@pinebrookwater.com to request an electronic copy. Review and comments are welcomed.

The Water Board will host public meetings and hearings for discussion and public comment. The dates of those hearings have not been set yet, but will be advertised in the Boulder Daily Camera as required by law, and more importantly we will also post notices by all of our drop boxes.

Water Quality and Hardness – *Continued from the last issue!* The District just finished conducting the required lead and copper testing. The results showed that our water is "unchanged" does not leach lead and copper.

In the last issue of the Pine Brook Press I stated that when you soften our water you may cause it to leach copper and lead from your household plumbing. I've since become aware of research that suggests otherwise. For detailed information about soft and hard water and research related to both, see Brian Wahlert's article on page 14. If you soften your water and test results indicate that levels of lead and copper are higher than recommended, the remedy for an individual homeowner is simple and cheap. Anytime the water has been sitting "idle" in your pipes for more than 6 hours (and I personally would probably play it safe and say 4 hours, especially if I had young children at home), you just have to flush the water out of the tap for a few minutes to get rid of the metals.

The results showed that our water is "unchanged" and does not leach lead and copper.

No one wants to waste water, but you're actually using very little water with this remedy. For example, a three-quarter inch copper line only holds 1.15 gallons every 50 feet. A half inch pipe only holds .51 gallons per 50 feet. Most homes are plumbed with half inch pipe. You would not need to run much water out of each tap to flush the line.

To be more water conservative, you could catch the water in a jug or container and use it to water plants. In the bathroom, a simple flush of the toilet removes almost all of the water back to where it comes into the house. Follow this with a quick flush of the tap and you're done.

Email for any questions, comments or an electronic copy of the budget: contact@pinebrookwater.com

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HOA SOCIAL COMMITTEE UPDATE

By Sarah Wahlert

It's been a busy summer for social events. The annual ice cream social had a fantastic turnout with more than 75 people in attendance. Neighbors socialized, played lawn games, and were amazed by sleight-of-hand tricks performed by magician Gregg Tobo from Astonishing Productions. Kids frolicked in the bouncy house and got tours of one of BMFPD's fire trucks. And, of course, everyone enjoyed the ice cream sundae bar and root beer floats. Thank you to all the fantastic volunteers who helped make this event happen, including Allen Saville, Alicia Villarreal, Ben Pratt, Natasha Bordorff, Mark Andersen, Margaret Dixon, and Brian Wahlert!

In the recent community survey, many residents expressed interest in block parties. These events are a great opportunity to meet or catch up with the neighbors who live closest to you. This summer, three block parties hosted a combined total of over 100 neighbors. Another block party is scheduled for the fall. A huge thank you to block party hosts Joyce Quinn, Nancy Mohr, Kathy Eyster, Jennifer Streets, Cyndi

Eyster, Jennifer Streets, C Wiedemann, and Jo Weidemann!

If you have kids, mark your calendars to attend our "Cards and Cookies" event in the afternoon on December 3. We'll be decorating holiday cookies and making thank you cards for our fire department volunteers. We'd love to have you join us! More details will be sent out closer to the event.



Vine; Yum! Ice cream and





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Hard Water: Issues and Treatment Options

By Brian Wahlert

Pine Brook's Water

Our household water is affected by the path it takes through the ground to get to the Pine Brook reservoir and treatment plant. It picks up minerals like calcium and magnesium, which dissolve in the water. Water with high mineral content is said to be hard. Other parts of the country, like the Northeast, have softer water.

Every year, Pine Brook Water runs tests and publishes a quality report. They started testing for CaCO3 hardness in 2010, and for six years it was very consistent, ranging from 102 parts per million (ppm) to 133 ppm – moderately hard, but not extremely so. Then in the most recently published 2016 test the hardness nearly doubled from its historic average to 229 ppm. More recent informal tests yield numbers around 200 ppm, still very hard.

Characteristics of hard water

Before discussing the concerns with hard water, let's point out the benefits. First, hard water is not a health risk. If anything, it's a benefit. We need calcium and magnesium to keep our bodies healthy, and our tap water provides these in small amounts.

Naturally soft water also tends to be acidic, but our hard water is higher in pH and therefore much less likely to leach metals like lead. Lead solder wasn't banned until 1986, so if your home is older than that, you likely have lead solder connecting your copper pipes.

But hard water also has problems. It causes spots and streaks on glassware and dishes. It clouds your shower door and leaves deposits on your faucets and sinks. Washing clothes in hard water dulls colors, turns whites yellow, and makes fabric stiff and brittle.

Other effects aren't as visible, but are more problematic. The mineral buildup on the outside of faucets is also occurring inside your pipes and appliances. Hot water causes more of the calcium and magnesium to precipitate out than cold water, so mineral scale is typically much more pronounced in your hot water pipes, dishwasher, washing machine, water heater, and boiler. Mineral scale doesn't heat efficiently. As scale builds, energy efficiency decreases.

Scale also shortens the life of appliances. Left untreated, hard water will lead to more frequent replacement of dishwashers, water heaters, and boilers.

Scale obstructs the proper functioning of valves, over time preventing them from closing properly and causing leaks. Outside of natural disasters, water damage is the most expensive source of homeowners' insurance claims. Slow leaks that go undetected over a long period of time can cause mold and lead to tens of thousands of dollars in repair costs.

Treatment options

What can you do about hard water? A bewildering array of technologies is available. First, one that doesn't treat hardness: Activated charcoal/carbon filtration removes chlorine, sediment, and volatile organic compounds, but does not remove the minerals that cause hardness. Reverse osmosis does remove these minerals, but the cost and waste typically prevent installation as a whole-house system.

Traditional water softeners

A water softener changes the water through a process called ion exchange, replacing the calcium and magnesium with ions (typically sodium) that are more soluble and therefore don't precipitate out as scale. Ion exchange was invented in 1903.

For some time, water experts worried that softened water might cause leaching of metals like lead. The EPA dispelled this notion in the 1990s with a scientific study, "Leaching of Metals from Household Plumbing Materials: Impact of Home Water Softeners." The authors summarized their results

as follows: "[I]on exchange softened water did not show a pattern of higher metal leaching from the plumbing materials.... The test results suggested, therefore, that ion exchange water softening will not

What is hard water, why is it a problem, and what can you do? plumbing mate The test results therefore, that i water softening

necessarily increase the corrosivity of the water." Other scientists have repeated the EPA's results over the past 20 years.

A water softener comes with other concerns, however. A water softener periodically backwashes with a concentrated sodium chloride solution, which flushes out to a drain. In Pine Brook, that drain would typically lead to a septic system. The concentrated sodium can interfere with the septic system, potentially clogging or contaminating the leach field and causing environmental damage. For this reason, Connecticut and Massachusetts prohibit the discharge of backwash brine into septic systems.

If you use softened water for irrigation or watering plants, then your plants are taking in potentially harmful sodium. Potassium can be used instead of sodium, but at greater cost.

Continued next page.

ar go undetected ead to tens of

Residents have expressed interest in understanding

and addressing the effects of Pine Brook's hard water.

LANDSCAPE DESIGN 🤝 BUILD 🤝 MAINTAIN



Alternatives to ion exchange:

Polyphosphates

Adding a small amount (two to three ppm) of polyphosphate to water sequesters the calcium and magnesium and coats the insides of pipes, preventing scale formation. Phosphates have been used for scale control in industrial boilers since the 19th century, and are used today in some municipal water systems to inhibit corrosion and scale. Homeowner products are available with cartridges that dispense small amounts of food-grade polyphosphate into household water.

Other technologies

Other technologies are much newer and don't have the proven track record of ion exchange and polyphosphates. Template assisted crystallization (TAC) seems to have the most scientific support. In TAC, the water is passed through media that changes the calcium and magnesium ions into tiny crystals, which rinse away rather than accumulating as scale.

Another option, magnetic water treatment, involves applying an electromagnetic field to water, altering the minerals' ability to stick to downstream plumbing. The science on this is mixed, but some studies show some benefit.

Leak detection

If you don't want to treat your water but want some protection against damage, leak detection and prevention technologies are available. At the high end, whole-house leak detection can cost upwards of \$1000. Some of these systems monitor the water as it comes into the house, and if slow steady usage is detected over a long period of time (the telltale sign of a leak), automatically shut off the water. This type of system detects a leaking pipe in the walls, which could otherwise go undetected for months or years and do costly damage.

At the other end of the spectrum is a simple battery-powered device that you place in locations where leaks are likely – under your dishwasher or water heater, for example. When it detects even a tiny amount of water, it emits a loud chirp, alerting you to a leak. These devices are available from many manufacturers and cost around \$10.

Conclusion

Hard water is a fact of life in Pine Brook, and while it isn't a health risk, it can cause significant problems including expensive water damage. We want you to be aware of the options that are out there for treatment and leak detection. And because water varies significantly from location to location and from year to year, and even from house to house based on specific plumbing and fixtures, the effects of water treatment vary. Having the water that comes out of your taps professionally tested is the only way to be completely sure that the water that you use is safe. PINE BROOK PRESS 1907 LINDEN DRIVE BOULDER, COLORADO 80304

