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WELL SAID NEWSLETTER

Available on the web at OWRD home page, under *Agency Spotlight > Well Said Newsletter*. Please share with others at your organization. *Well Said* is a production of the OWRD Well Construction Section and is designed to inform the drilling industry and the public about program activities and other items of interest. Questions or suggestions about this newsletter may be directed to Kristopher Byrd at (503) 991-2470 or email at Kristopher.R.Byrd@water.oregon.gov



Serving the public by practicing and promoting responsible water management.

E-FILE START CARD LOCATION UPDATE

In order to inform well constructors about potential well location issues in a timely manner, the e-file Start Card application has been updated to provide location alerts based on the latitude and longitude provided. The alerts will be in **bold red font** and inform the well constructor when the well is planned to be placed in a Special Well Construction Standards Area, Groundwater Restricted Area, DEQ Groundwater Management Area, and/or if the well is located within the 100-year flood zone. Hyperlinks to the specific Oregon Administrative Rules (OARs) will appear if the planned well location is within one of these location alert areas.

Location Alerts	
<i>Note: This section is populated from the Calculate TRS button above</i>	
Special Well Const. Standards Area:	Eola Hills Special Well Construction Standards Area OAR 690-200-0028
Groundwater Restricted Area:	Eola Hills OAR 690-502-0200
Well Located within 100 Year Flood Zone:	Yes OAR 690-210-0250
* For any questions about location alerts contact the regional Well Inspector *	

Example: Special Well Construction Standards Area.

Location Alerts	
<i>Note: This section is populated from the Calculate TRS button above</i>	
Special Well Const. Standards Area:	
Groundwater Restricted Area:	
Well Located within 100 Year Flood Zone:	
DEQ GW Management Area:	Lower Umatilla Basin OAR 690-210-0100
* For any questions about location alerts contact the regional Well Inspector *	

Example: DEQ Groundwater Management Area.

To get the location alerts, the latitude and longitude must be populated with the GPS location from the well constructors site visit, or the point generated by clicking on the map in the Start Card e-file application.

The Calculate TRS button must be clicked to generate the Location Alerts. If the Calculate TRS button is not clicked, the Locations Alerts will NOT be generated.

For questions about location alerts, please contact your regional well inspector.

Latitude/Longitude		
DDD.DDDDD°	DDD° MM' SS.S"	DDD° MM.MMM'
Decimal Degrees		
Latitude:	<input type="text"/>	
Longitude:	<input type="text"/>	<input type="button" value="Zoom To"/>
<input type="button" value="Calculate TRS =>"/>		

For questions about e-filing Start Cards, please contact Buffy Madrigal-Adams at (971) 287-8305 or Buffy.M.Madrigal-Adams@water.oregon.gov.

LANDOWNER CONTACT INFO ON START CARDS

Changes in 2021 to Oregon Revised Statute (ORS) 537.762 require that well constructors include the **landowner's email address** on Start Cards. The added requirement of the landowner's email provides the regional well inspectors an additional means of communication to gain site access to properties for well inspections.

Well inspectors often visit properties with locked gates or large acreages and cannot access the properties or locate the wells. Providing the landowner's email address gives the well inspectors another way of contacting the landowner **in advance** to schedule an inspection of their well and determine how to best access their property. The Department understands that not all landowners have email addresses or may request that their email not be included on the Start Card. In those cases, please provide **your** well constructor business email address.

For questions regarding Start Card requirements, please contact Travis Kelly, Well Construction Compliance Coordinator, at Travis.N.Kelly@water.oregon.gov or (971) 304-5079.

START CARD AMENDMENTS

When modernizing the e-file Start Card application, the Oregon Water Resources Department (OWRD) created new auto-validations and notification alerts based on the proposed work and well location. Although these new validations and notifications resulted in documents that are much more accurate and complete, there is still a need for occasional Start Card amendments.

Start Cards can be amended through the Start Card Information System (SCIS) by the Well Construction Section staff. Please be aware that the type of work can be changed, but only for similar fee or non-fee-based work. The Start Card cannot be changed from a fee based (new, deepening, or conversion) to a non-fee based (alteration or abandonment) type of work. In that case, you will need to transfer the fee based Start Card to another and file a new non-fee based Start Card. Additionally, Start Cards cannot be transferred between bonded well constructors.

For Start Card amendments, please contact Buffy Madrigal-Adams, Well Licensing Specialist, at Buffy.M.Madrigal-Adams@water.oregon.gov or (971) 287-8305, Tommy Laird, Well Construction Program Coordinator, at (503) 302-8618 or Tommy.K.Laird@water.oregon.gov, or Travis Kelly, Well Construction Compliance Coordinator, at Travis.N.Kelly@water.oregon.gov or (971) 304-5079.

MEET JOSEPH WALLNER-SENTLE — SW REGION WELL INSPECTOR

Please welcome Joseph Wallner-Sentle, the new Southwest Region Well Inspector for the Oregon Water Resources Department, replacing Bobby Buckmister. Joseph has lived in the region since the age of three and completed his education locally, earning a degree in Environmental Science, Policy, and Sustainability from Southern Oregon University.

Joseph's career began in the lumber industry, where he worked in both sales and yard positions throughout college and for some time after. These roles taught him valuable skills in attention to detail, teamwork, and the management of natural resources. In May 2024, Joseph joined OWRD as an Assistant Watermaster; assisting regional watermasters with various duties related to water rights and resource management.

During his time as an assistant, Joseph had the opportunity to work alongside the Department's previous well inspector, where he was introduced to the field of well inspections. He accompanied the inspector on site visits, learning about well alterations, compliance checks, and the hands-on aspects of well management. This experience sparked a deeper interest in well inspections and led him to pursue his current role.



Continued next page

MEET JOSEPH WALLNER-SENTLE, CONT'D

Joseph is grateful for the opportunity to contribute to the management and protection of Oregon's water resources. With a foundation in both environmental science and practical fieldwork, he is committed to ensuring that the state's water resources are used sustainably and responsibly, while supporting local communities and industries.

Joseph may be contacted at Joseph.N.Wallner-Sentle@water.oregon.gov or (541) 218-5122.

ABANDONMENT WELL REPORTS

Although licensed well constructors know how to properly abandon a well, some are not sure about the proper way to fill out an abandonment well report. Abandonment well reports should clearly describe how the hole was abandoned and the seal material that was used. Important information to add to the well report includes:

- Diameter of the well.
- Original depth of the well.
- Depth of the casing.
- Seal material depth.
- Static water level (if applicable)
- Amount of seal material used in the abandonment.
- Well identification number (if available).

Below are two examples of how to accurately capture the necessary information for well abandonment.

- Note the original well report number and county code (if applicable) and fill out the pre-alteration section of the well report with the information known about the well. For the Bore Hole Construction section, list the diameter of the well as the borehole and then complete the seal section with the depths and amount of material used. Complete the Casing/Liner section if the well casing is **not** removed and include the depth of the casing. For casing that was perforated, complete the Perforations/Screen section. If there is water in the well, well constructors must take a temperature and total dissolved solids reading and include it in the Well Test section. The Static Water Level section should be completed every time to include the Pre-Alteration/Existing Well SWL or be marked dry hole (do not include a Completed Well SWL). Finally in the Well Log section, state "Abandonment" and include the from and to depth the well was abandoned. Comments may be added to this section, for example, "Casing was extracted, borehole filled w/ grout" (see example below).

Material	From	To
Edit Delete Abandonment	0.00	150.00
Edit Delete Casing extracted,borehole filled w/grout	0.00	150.00
Material	From	To
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="button" value="Insert"/>		

- In the Comments/Remarks Section, state how the well was abandoned. At a minimum, provide the information noted in #1 above.

COMMENTS/REMARKS

Comments	This 6-inch hole was abandoned from ground surface to 150 ft with 45 bags of <u>unhydrated bentonite</u> . 40 ft of 0.250 steel casing was removed.
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During the technical review of an abandonment well report, the reviewer is looking for the diameter and depth of the well along with the type and amount of abandonment material used. Please be aware that there is a 500-word limit for the Comment/Remarks section.

Contact your regional well inspector for questions on properly completing an abandonment well report. Questions about proper abandonment methods should be directed to Tommy Laird, Well Construction Program Coordinator, at (503) 302-8618 or Tommy.K.Laird@water.oregon.gov.

WELL REPORT DEFICIENCIES

As of July 1, 2022, all well reports submitted to the Water Resources Department are reviewed by well construction program staff. These reviews ensure that the well report is complete and, based on information contained in the well report, that the well appears to have been constructed in accordance with minimum well construction standards. When the reviewer identifies a potential deficiency on the report, the well constructor will be contacted via email or phone with a description of the potential issue to give the well constructor the opportunity to address it.

There may be times when a reviewer identifies a potential deficiency that is not actually a deficiency. An example could be a tax lot number that differs from what is on the county's website. Information is constantly changing and there is always the possibility that the reviewer did not find the new information during their review. In these cases, well constructors should respond to the reviewer's communication and work with the department to resolve the issue. Resolution may include links to county websites, screenshots of tax maps, PDF documents, etc. The reviewer will look over the information provided and change the potential deficiency identified in their review.

By working together, well constructors and the department can make the well report review deficiency resolution process quick and easy. Questions about well report reviews should be directed to Travis Kelly, Well Construction Compliance Coordinator, at (971) 304-5079 or Travis.N.Kelly@water.oregon.gov.

TAX LOT & EXEMPT USE MAP DIFFERENCES

Well constructors are required to enter location information on well reports, including township, range, section, latitude and longitude, and tax lot. A common error found during the well report review process is that the tax lot number entered on the report is different than the tax lot listed on the exempt use map. Tax lot numbers can change frequently due to adjustments like purchases, sales, or corporate actions, that create new lots or combine existing ones.

The tax lot number on the well report is entered by the well constructor while the exempt use map tax lot numbers are from a Geographic Information System (GIS) layer. The OWRD mapping tool GIS layer is updated once a year for tax lot numbers, allowing the opportunity for differences in the tax lot number between what the constructor enters vs. the tax lot on the exempt use map. Additionally, there may be some distortion of the tax lot lines due to the inaccuracies or changes in spatial data that occur when mapping the Earth's three-dimensional surface onto a two-dimensional plane. Since Earth is a sphere (or more accurately, an oblate spheroid), flattening it for display in maps or GIS inevitably causes distortions in features like shape and area.

The most accurate information regarding tax lots can be found on the county assessor websites and the correct tax lot number should be listed on the report. Well report reviewers will review the county assessor and/or [ORMAP](#) to confirm tax lot numbers when a difference is found between the report and exempt use map.

Please contact your regional well inspector with any questions about tax lots. Questions about well report requirements should be directed to Travis Kelly at Travis.N.Kelly@water.oregon.gov or (971) 304-5079.

MAINTENANCE GUIDE FOR WELL OWNERS

Although properly constructed and maintained wells often provide a safe and reliable drinking water source for many years, the opposite can be said for wells that are improperly constructed or maintained, as these wells can be a potential health hazard, a source of groundwater contamination, or cause waste.

After a well constructor finishes a well to State standards, it is the landowners' responsibility to properly maintain the well. This maintenance requirement is necessary so that the well will continue to protect the groundwater resource for all Oregonians. To properly maintain their well, there are several guidelines that landowners should follow:

Proper Construction: Well constructors are professionals and are licensed by the state. They are responsible for constructing wells to state standards. This is the first step in safeguarding water quality.

Routine Maintenance: Well owners should implement a regular maintenance schedule and continuously monitor their well for changes in water taste, color, and smell. Annual upkeep can significantly extend the well's reliability as a safe water source.

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MAINTENANCE GUIDE FOR WELL OWNERS, CONT'D

Regular Testing and Monitoring: Even a well-built and maintained well should be tested annually to ensure water safety. Environmental changes can impact water quality, so an annual water quality test is recommended.

Visual Inspections: Conduct visual evaluations of the well cap and above-ground casing several times a year. Check for cracks, signs of rodents, or damage, and ensure the sanitary well cap is securely attached to prevent surface contamination.

Hazard Prevention: Avoid using or storing hazardous materials within 100 feet of the wellhead. Ensure the ground around the well is sloped for proper drainage and clear of debris. Maintain 12-inches of clearance from the ground surface to the top of the well casing.

Addressing Performance Issues: Over time, mineral deposits, microorganisms, and sediment can obstruct or damage the well and pump. Regular maintenance can help identify these issues, and licensed well constructors can provide the necessary expertise to resolve them.

By following these guidelines, landowners can protect their wells and help ensure an efficient and safe water source. Landowners that discover maintenance or productivity issues with their wells are encouraged to contact a licensed well constructor. They are familiar with construction and maintenance requirements and are a good source of information.

Landowners with questions about Oregon's well construction rules and statutes may call Tommy Laird, Well Construction Program Coordinator, at (503) 302-8618 or Tommy.K.Laird@water.oregon.gov.

Landowners with questions about licensed drillers may call Buffy Madrigal-Adams, Well Licensing Program Specialist, at (971) 287-8305 or Buffy.M.Madrigal-Adams@water.oregon.gov.

PUBLIC WATER SYSTEM WELLS



When reviewing well reports, the Oregon Water Resources Department (OWRD) identifies wells with a proposed use of "community" as likely public water systems, which require additional regulation by the Oregon Health Authority (OHA). Consequently, OWRD notifies OHA of any reviewed well reports with a proposed use of "community."

A public water system in Oregon is defined as:

- A system for the provision to the public of piped water for human consumption, if such system has more than three service connections, or supplies water to a public or commercial establishment that operates a total of at least 60 days per year, and that is used by 10 or more individuals per day.
- A system for the provision to the public of water through constructed conveyances other than pipes to at least 15 service connections or regularly serves at least 25 individuals daily at least 60 days of the year.

Landowners should contact OHA before drilling a public water system well, as a plan review is required before construction of a new system or major additions or modifications to existing systems. OHA's rules include additional setback requirements beyond those of OWRD for water supply wells. Specific site conditions may necessitate further setbacks identified during the plan review process. Wells not meeting these standards may not be permitted for system use.

For more detailed information about public water systems, please contact Oregon Health Authority's Drinking Water Services by email at info.drinkingwater@odhsoha.oregon.gov or (971) 673-0405.



GROUNDWATER

TESTING & MAINTENANCE OF PRIVATE WELLS

According to the Environmental Protection Agency (EPA), there are approximately 43 million private residential wells in the United States. In Oregon alone, nearly 23% of residents rely on residential wells for their water supply. While these wells are essential, they are also susceptible to performance and quality issues over time due to both natural and manmade processes. For this reason, regular water quality testing is vital to identify and address potential contaminants.



A 2023 article by KFF Health News reported that federal experts estimate more than a fifth of private wells have contaminant concentrations above safe levels. Well testing can detect a variety of contaminants, including nitrates, arsenic, bacteria, lead, iron, and manganese, as well as assess the water's hardness. Well owners are advised to test their water annually for nitrates and every 3-5 years for other contaminants. By staying vigilant and conducting regular well testing, landowners can ensure their wells remain safe and efficient, providing a reliable source of clean drinking water for years to come.

To learn more about testing, contact the Oregon Health Authority (OHA) for assistance in finding an accredited laboratory at (971) 673-0440.

If you live in the Lower Umatilla Basin Groundwater Management Area (LUBGWMA) in Morrow and Umatilla counties, you may be eligible for free water testing and a treatment system if high nitrate levels are detected in your well water.

For more information, visit <https://testmywell.oregon.gov> or call (541) 952-9254. (Source: [KFF Health News](#)).

NORTH CAROLINA WELLS REMAIN UNSAFE AFTER HURRICANE HELENE



Weeks after Hurricane Helene inundated western North Carolina with record rainfall, many residents still lacked access to clean drinking water. Over 150,000 municipal-water customers were under boil-water advisories, while approximately 40% of private wells tested were deemed unsafe for consumption. In North Carolina, where a third of the population relies on private groundwater sources, maintaining well safety is the sole responsibility of individual owners. The flooding likely contaminated tens of thousands of these wells, compounding the storm's devastating impact with a looming public health crisis.

The Environmental Protection Agency (EPA) analyzed samples from about 600 wells using two mobile labs stationed in the hardest-hit regions. Early results revealed that roughly 40% of these wells were contaminated—either with *E. coli*, which can cause severe gastrointestinal illnesses, or coliform bacteria, an indicator of harmful microorganisms. To address the crisis, the North Carolina Department of Health and Human Services distributed more than 6,000 free testing kits to county health departments, finding that 48 out of 84 samples tested positive for potentially harmful bacteria.

The scale of the problem is likely much larger. Researchers at Northeastern University estimated that up to 90,000 private wells may have been compromised by the flooding. Contamination sources include broken sewage systems, septic tanks, and runoff from agricultural operations. Efforts to mitigate the risk face a significant challenge: the lack of comprehensive data on private well locations. Private domestic wells are largely unregulated, and the last national survey to document their locations was conducted in 1990, leaving many gaps in understanding the full extent of the storm's impact.

For more information on wells in North Carolina, please read the New York Times article: <https://www.nytimes.com/interactive/2024/10/25/climate/private-wells-hurricane-flood.html>

WINTER WEATHER - COLD STRESS



Those who work in the well construction industry are typically outside in all types of weather, so they should be aware of the dangers of cold stress. Cold stress occurs when the body loses heat faster than it can produce it, leading to serious health risks. Outdoor workers, those in unheated areas, or anyone exposed to cold, wet, or windy conditions for long periods of time are particularly vulnerable. Certain individuals, including those with pre-existing conditions, are more vulnerable.

What Is Cold Stress?

When the body can't maintain its normal temperature, it works overtime to stay warm. This can result in:

- **Hypothermia:** Body temperature drops below normal, causing shivering, confusion, and, in severe cases, loss of consciousness.
- **Frostbite:** Freezing of skin and tissues, often in fingers, toes, or ears, which can lead to permanent damage.
- **Trench Foot:** Prolonged exposure to cold and wet conditions which restrict blood flow to the feet, causing swelling, numbness, and tissue injury.

Symptoms to Watch For:

- **Hypothermia:** Shivering, confusion, slurred speech, and fatigue.
- **Frostbite:** Numbness, tingling, or hard, pale skin, often affecting extremities (fingers, toes, ears, nose).
- **Trench Foot:** Tingling, pain, and swelling caused by prolonged wet exposure.

How to Prevent It:

1. **Dress for the Cold:** Wear multiple layers, including moisture-wicking base layers and waterproof outerwear. Hats, gloves, and boots are essential.
2. **Take Breaks:** Warm up indoors or in a sheltered area regularly. Avoid staying in cold or wet conditions longer than necessary.
3. **Eat and Drink:** Stay hydrated and eat energy-rich foods to keep your body fueled. Warm drinks are great for maintaining body heat.
4. **Watch for Warning Signs:** Be aware of early symptoms like shivering, numbness or pale skin, and act quickly.

Cold stress is preventable with the right precautions. By dressing properly, staying alert, and limiting exposure, you can protect yourself and others from the dangers of working or being outside in the cold. For more information on cold stress, please visit the Occupation Safety and Health Administration website: <https://www.osha.gov/winter-weather/cold-stress>.

PHOTOS FROM THE FIELD



Well constructed by landowner without a permit.



Well under construction in NW Oregon.



MORE PHOTOS FROM THE FIELD



New well in South Central Oregon



New well with a deficient seal in SW Oregon.



New well in Eastern Oregon.



New well in North Central Oregon.



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WELL SAID NEWSLETTER - Oregon Water Resources Dept

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