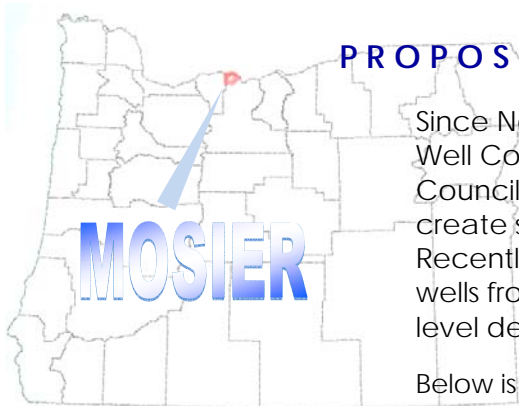


News from the Water Resources Department's Well Construction and Compliance Section



## PROPOSED MOSIER SPECIAL AREA STANDARDS

Since November 2014, the WRD has been working with members of the Well Construction Rules Advisory Committee (RAC), Mosier Watershed Council, and the Wasco County Soil and Water Conservation District to create special area standards for the "Mosier Area" of Wasco County. Recently completed proposed rules are meant to help prevent new wells from commingling aquifers and adding to the long-term water level declines in the Mosier area.

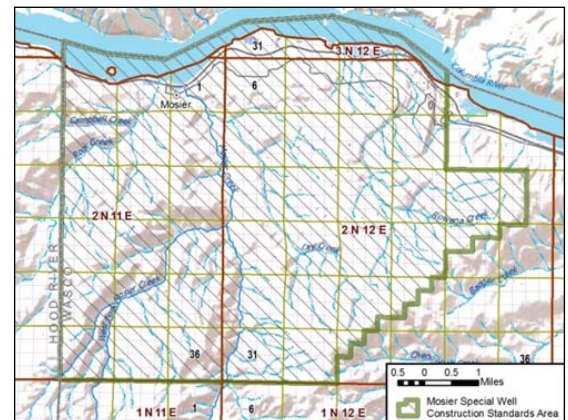
Below is a summary of the proposed rules for the Mosier Area:

- Start Cards must be received by the Department at least 10 calendar days prior to the start of construction, alteration, deepening or conversion on any new or existing well.
- All New wells shall have a nominal minimum well casing diameter of at least 6 inches.
- Wells shall not be permanently cased and sealed prior to consultation with the Department.
- All wells, in all aquifers, shall have a minimum 3/4-inch diameter dedicated measuring tube installed at the time of pump installation, pump repair, or pump replacement.

Along with the Mosier special area standards, additional proposed well construction rules are currently available for public comment.

The proposed rules include the following topics:

- Definitions
- Updated figure, table, appendix and rule references
- Clarification of applicable standards
- Dug wells
- Well placement
- Surface completions



The proposed rules will be presented for adoption before the Water Resources Commission at its June 2015 meeting. Copies of the proposed rules are available on our website at [www.wrd.state.or.us](http://www.wrd.state.or.us). The public comment period opened on April 1 and will close at 5:00pm on April 24, 2015. Written comments about the proposed rules may be sent to the Water Resources Department Rules Coordinator, at 725 Summer St NE, Suite A, Salem, Oregon 97301-1266. In addition, there are two public hearings scheduled regarding the proposed rules. One on April 22, 2015 at 5:00pm at the Mosier Grange located at 900 4<sup>th</sup> Avenue in Mosier and the other on April 24, 2015 at 9:00am at the Water Resources Department in Salem at 725 Summer St NE, Room 124A. Please direct questions about the proposed rules to Kristopher Byrd at (503) 986-0851 or by e-mail at [Kristopher.R.Byrd@wrd.state.or.us](mailto:Kristopher.R.Byrd@wrd.state.or.us).

### WELL SAID ARTICLES

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Air Sparging Wells



## REPORTING TOTAL DISSOLVED SOLIDS (TDS)

Recent changes to the well construction rules require the reporting of total dissolved solids (TDS) when using unhydrated bentonite as a sealing material (690-210-340). The rules state, in part, that unhydrated bentonite may only be used as an annular seal material below the water level in a well when the groundwater it comes in contact with does not exceed 800 parts per million (ppm) TDS. In water with a high TDS content, the hydration and swelling of bentonite may be inhibited. The result is that the bentonite may not swell to the necessary volume, resulting in an ineffective annular seal. According to the National Groundwater Association, elevated levels of total dissolved solids may have the following effects:

- High levels of TDS in drinking water can have negative effects on taste, resulting in water that tastes bitter, salty or metallic.
- With industrial use, dissolved salts may corrode metallic surfaces. Salt in intake water may interfere with certain chemical processes (EPA, 1986).
- High levels of TDS in water used for irrigation can harm crops either by destroying a crop or reducing crop yields while leaving the plants prone to disease.

If you have questions regarding this rule change, please contact Joel Jeffery, Well Construction Program Coordinator at (503) 986-0852 or by email at [Joel.W.Jeffery@wrdd.state.or.us](mailto:Joel.W.Jeffery@wrdd.state.or.us).

## NEW & IMPROVED! WELL OWNER'S HANDBOOK



Oregon  
Health  
Authority

OWRD has partnered with the Oregon Health Authority (OHA) to produce a new and improved Water Well Owner's Handbook. The booklet is a helpful reference and guide for landowners who have a well or who are looking into constructing one on their property. The handbook will feature a more modern look, along with valuable information from the OHA about water quality, testing, and conservation.

Some of the changes and additions include:

- Water Use – Estimating Household Needs
- Types and Effects of Water Contamination
- Water Quality Testing & Treatment Options
- Emergency Preparedness & Precautions
- OWRD Contact Information

The new handbook should be available near the end of June. Until then, you may direct your customers to the current electronic version, found on our website: [www.oregon.gov/owrd/Pages/pubs/index.aspx](http://www.oregon.gov/owrd/Pages/pubs/index.aspx).

### WELL SAID NEWSLETTER

Available on the web at <http://www.oregon.gov/owrd/Pages/gw/forms.aspx> Please share with others at your organization.

*Well Said* is a production of the Oregon Water Resources Department's Well Construction & Compliance Section and is designed to inform the drilling industry and the public about program activities and other items of interest.

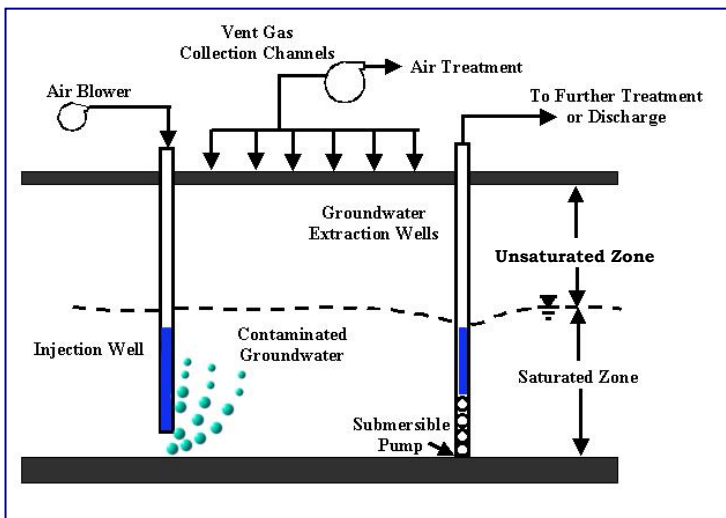
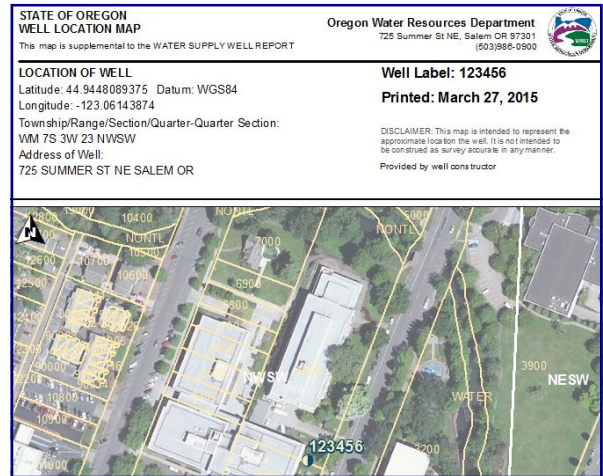
Questions or suggestions about this newsletter may be directed to Kristopher Byrd at (503) 986-0851 or [Kristopher.R.Byrd@wrdd.state.or.us](mailto:Kristopher.R.Byrd@wrdd.state.or.us)



For Well Construction & Compliance resources, log onto [http://www.oregon.gov/owrd/Pages/gw/wcc\\_index.aspx](http://www.oregon.gov/owrd/Pages/gw/wcc_index.aspx)

## MAPPING TOOL FOR WELL CONSTRUCTORS

Oregon Water Resources Department is excited to introduce the new **Mapping Tool** for Well Constructors. This useful tool allows those who e-file their well logs to submit a map of the location of the well on the tax lot during the e-filing process. While the choice to use the mapping tool is completely optional, it is an additional means of ensuring that the location information on the log is accurate. The mapping tool will immediately alert you to any discrepancies in the TRS/QQ/Q. Please note that this map does not take the place of the map submitted by the landowner. If you are Interested in e-filing logs, please contact Laurie Norton at (503) 986-0856 for a password. If you have questions about the mapping tool, please contact Ken Smith in Information Services at (503) 986-0867.



## AIR SPARGING WELLS

Air sparging wells are monitoring wells that are constructed on contaminated sites for remediation purposes. Once constructed, they become part of an in-place soil and groundwater treatment system in which air is injected through shallow wells into a contaminated aquifer. Air travels both horizontally and vertically in the groundwater and soil column. The injected air helps to vaporize and flush out contaminants, volatile organic compounds and fuels, into the unsaturated zone where a vapor extraction / recovery system collects and removes these contaminants.

In order to construct sparging wells, monitoring well constructors need to submit a Start Card and fee prior to installation and a well report, with map, after completion.

If you have any questions regarding Air Sparging or Sparging Wells, please contact Joel Jeffery at (503) 986-0852 or by email at [Joel.W.Jeffery@wrdd.state.or.us](mailto:Joel.W.Jeffery@wrdd.state.or.us).

# G R O U N D W A T E R

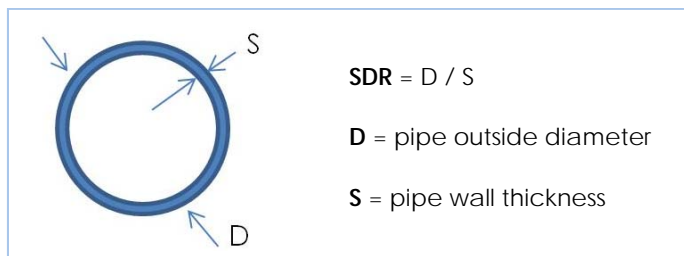


## PVC CASING FOR WATER WELLS

In order to ensure Polymerized Vinyl Chloride (PVC) casing used in the construction of water wells will withstand the stresses put on it during construction activity and that it will last for the life of the well, Oregon’s well construction standards dictate that PVC casing meet specific requirements. The PVC casing must be Type 1120 or 1220 and the Standard Dimension Ratio (SDR) must be of 21 (Class 200) or 26 (Class 160) or greater wall thickness.

The SDR is a method of rating pressure piping. It is the ratio of the pipe diameter to the wall thickness.

SDR can be expressed as:



For example, an SDR of 11 means that the outside diameter “D” of the pipe is eleven times the thickness “S” of the wall. This means that with a high SDR ratio the pipe wall is thin compared to the pipe diameter and with a low SDR ratio the pipe wall is thick compared to the pipe diameter. A high number for SDR pipe means a low-pressure rating and a low number for SDR pipe means a high-pressure rating.

Source: [http://www.engineeringtoolbox.com/sdr-standard-dimension-ratio-d\\_318.html/](http://www.engineeringtoolbox.com/sdr-standard-dimension-ratio-d_318.html/)

State regulations also require that PVC casing meet the standards of the National Sanitation Foundation and the specifications of the American Society for Testing and Materials (ASTM) International. Some of the standards are detailed below:

- ASTM F480:** Standard Specification for Thermoplastic Well Casing Pipe and Couplings made in Standard Dimension Ratios (SDR), Schedule 40 and Schedule 80.
- ASTM D2241:** Standard Specifications for Poly (Vinyl Chloride) (PVC) Pressure Rated Pipe (SDR Series).
- ASTM D1785:** Standard Specification for Poly (Vinyl Chloride) PVC Plastic Pipe, Schedules 40, 80 and 120.

Additionally, the PVC well casing must be clearly marked by the manufacturer showing: nominal size, type of plastic material, SDR and National Sanitation Foundation seal of certified approval. The maximum depths for using PVC casing as found in OAR 690-210-0210 (3) are:

## Depths

- SDR = 21** — Maximum Depth = **150 feet**
- SDR = 26** — Maximum Depth = **100 feet**

Questions about the use of PVC casing in water supply wells should be directed to Joel Jeffery, Well Construction Program Coordinator, at (503) 986-0852 or by e-mail at [Joel.W.Jeffery@wrd.state.or.us](mailto:Joel.W.Jeffery@wrd.state.or.us).



WCC: “Protecting water resources through appropriate prevention and enforcement.”



### WELL NOTED...



Well constructor working water 'magic'.  
"Pay no attention to the man behind the...  
drill rig!"

Flowing artesian well with no pressure gauge.



Another monitoring well is abandoned.



East Region Well Inspector viewing inside a well using a video camera.



"Serving the public by practicing and promoting responsible water management."





WELL CONSTRUCTION & COMPLIANCE SECTION  
OREGON WATER RESOURCES DEPARTMENT  
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April 2015  
Issue 39

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