



Oregon

Tina Kotek, Governor

Water Resources Department

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MEMORANDUM

TO: Water Resources Commission

FROM: Doug Woodcock, Acting Director

SUBJECT: Agenda Item H, June 16, 2023
Water Resources Commission

Well Construction – Proposed Rule Adoption

I. Introduction

During this agenda item, the Commission will consider adoption of proposed rule changes in Oregon Administrative Rules 690, Divisions 190, 200, 205, 210, 215, 225, 240, and 260. The proposed rules implement recent legislation applicable to well construction.

II. Statutory Background

The Department's Oregon Administrative Rules, Chapter 690, Divisions 190, 200, 205, 210, 215, 225, 240, and 260 pertaining to well construction need to be updated to conform with House Bill 2145 (2021), House Bill 3030 (2019), Senate Bill 688 (2019), and House Bill 4061 (2022). The proposal also clarifies language, corrects grammar, updates tables and figures, and restores a rule deleted through clerical error in 2016. Per House Bill 2145 (2021), the new rules need to take effect July 1, 2023.

III. Rulemaking Timeline and Process

Rules Advisory Committee Meetings: The Department formed a Rules Advisory Committee (RAC), comprised of 20 members representing well drilling, education and training, consulting, Tribes, local governments, and environmental non-governmental organizations. Please see Attachment 1 "Rules Advisory Committee Members."

The RAC met December 13, 2022, January 11, 2023, February 15, 2023, and March 15, 2023. The meetings were hybrid and open to the public. During the meetings, the RAC reviewed proposed rule changes and the draft statements of need, racial equity impacts, and fiscal and economic impacts. Please see Attachment 2 "Notice of Proposed Rulemaking."

Groundwater Advisory Committee Meetings: The Groundwater Advisory Committee (GWAC), that advises the Commission on rules pertaining to the development and protection of groundwater (ORS

536.090), met on February 21 and May 2, 2023, to review and discuss the draft rules. During the May meeting, GWAC recommended that “the Department continue to work with the drilling community to develop a future option to text or leave a voice mail with the regional well inspector at least four hours ahead of work to comply with notification requirements when drilling in areas that lack internet access.”

Notice of Proposed Rulemaking: The Department filed the “Notice of Proposed Rulemaking” (Attachment 2) on March 21, 2023. The notice was published in the Oregon Bulletin on April 3, 2023. On April 3, the Department also notified the RAC, interested parties, and other members of the public through direct emails, posting on the Department’s Rulemaking website, posting on the Oregon Transparency website, emailing GovDelivery subscribers (Rulemaking and Legislation/Budget), emailing members of the Groundwater Advisory Committee, emailing the administrator of the Oregon Groundwater Association listserv, emailing Well Said subscribers, and emailing those legislators requiring notification per administrative rules.

Public Comment Period; Public Hearing: The public comment period for the proposed rulemaking was open from April 3 to May 3. During that period the Department received three written comments. The Department held one hybrid public hearing in Salem on April 27th from 3:00 to 5:00 pm. During the hearing two members of the public provided joint comments. Please see Attachment 3 “Public Comments on Proposed Rules.”

IV. Proposed Rules

The Well Construction Rulemaking will implement House Bill 2145 (2021) relating to the exempt use map and recording fee, well driller licensing, and well report and start card data and reporting requirements. The proposed rules will:

- Add licensing requirements for well drillers;
- Require exempt use map to be submitted by drillers;
- Require groundwater use recording fee to be paid by drillers;
- Implement new start card notification, information and data requirements; and
- Implement new well report information and data requirements

The proposed rules also increase the initial civil penalty for major and minor well construction violations in order to align the penalties among rule divisions.

This rulemaking also implements House Bill 3030 (2019) and Senate Bill 688 (2019) relating to temporary license authorizations for active-duty Armed Forces Spouses, and House Bill 4061 (2022), extending the time for the Department to issue a Notice of Violation (NOV) after becoming aware of a violation from five calendar days to ten business days. Finally, the Department is using this rulemaking opportunity to clarify language, correct grammar, update tables and figures, and restore a rule inadvertently deleted in 2016. Please see Attachment 4 “Final Proposed Rules with Track Changes.”

V. Summary of Public Comments Received and Changes to Proposed Rules as a Result of Public Comments

Most public comments on the Notice of Proposed Rulemaking pertained to welding requirements for new monitoring well drilling licenses (i.e., OAR 690-205-0020(1)(f) and 690-240-0065(1)(e)). Those commenting noted that monitoring well construction does not typically require welding. However, House Bill 2145 (2021) requires all new well construction licensees to demonstrate welding proficiency, regardless of whether they have a monitoring well or a water supply well endorsement on their license. Several comments noted that pending legislation, House Bill 3343A (2023), would give the Department discretion to set welding requirements based on well type and urged the Department to remove the welding proficiency requirement for new monitoring well drilling licensees upon passage of the legislation.

The Department considered the comments and has monitored the progress of House Bill 3343A. Because House Bill 3343A has not made its way through the legislative process, the Department does not have the discretion to set welding requirements based on well type.

The Department also received comments regarding proposed changes to OAR 690-205-0200(1)(h), 690-205-0200(5), 690-240-375(1)(h), and 690-240-0375(5). These proposed rules outline preferred methods for notification of time of commencement of work and/or time of well seal placement. One commenter suggested removal of the U.S. Postal Service mail notification option, noting that it was not a reliable means of providing day of notification and that reliance on traditional mail services conflicted with the “modernization” goal of House Bill 2145 (2021). Other comments noted that day of notification may not be feasible when unforeseen circumstances arise on site or when working on remote sites lacking adequate cellular data coverage.

The Department considered the comments and determined that to be responsive to the needs of the drilling industry, the ability to provide notification by U.S. Postal Service mail is going to remain in place. This decision is because there are many drillers in Oregon that live outside a reasonable distance to a regional office, so hand delivery of notification documents is not feasible. In addition, there are also some licensed drillers that do not conduct business with the Department by computer, and instead choose to use the U.S. Postal Service. The Department understands that drillers will need to time the mailing of their documents so that they are received within the required timeframes, but since the mailing of documents is currently allowed, the continued acceptance of documents sent by mail will not be a change to the drilling operators that choose to conduct business in this manner. Regarding the comment about unforeseen circumstances or working on sites with inadequate cellular coverage, the Department conducted research and determined that there are reasonably priced handheld satellite communication devices that offer the ability to send an electronic mail message to the Department to meet the notification requirements. Well constructors also can send their notification before leaving an area with adequate cellular data coverage, or they may even phone their office and have their staff submit the appropriate notification. Because these other options are available, the Department determined that they would not incorporate this comment.

During the Department's presentation of the draft proposed rules to the GWAC, it was recommended that the Department continue to work with the drilling community to explore day of drilling or seal placement notification opportunities that include text messaging or voice mail with the regional well

inspector when drilling in areas that lack internet access. This issue was discussed during the rulemaking meetings and the Department determined that these notification methods do not meet the recordkeeping and tracking needs of the program. The program does not have staff to monitor phone lines and process incoming communication so that time and date information can be collected, and field staff notified in a timely manner so that they can arrange their schedules to be present during the work associated with the notifications. The Department understands that this topic is of interest to the well drilling industry and will continue to monitor the effectiveness of available notification tools to assess if there are other notification options that may be acceptable in the future.

The Department did revise the proposed rules in response to a comment about the welding proficiency requirement for well constructor license applicants. The commentor stated that a demonstration of welding proficiency for water well endorsement should meet a welding standard, such as American Welding Society (AWS) D1.1, and be supervised by a certified inspector, or instructor. The Department incorporated an option for providing evidence of welding proficiency to the proposed rules that includes sending a copy of an American Welding Society D1.1 structural welding certificate for steel with a test in the 2G horizontal position. Please see Attachment 3 “Public Comments on Proposed Rules.”

VI. Next Steps

If the rules are adopted, the Department will communicate changes to the well construction industry, other affected stakeholders, and Department field staff using various means, including direct mailings to licensed drillers, emails to subscribers to the Department’s Well Said newsletter, written articles in the Well Said newsletter, presentation at the Fall 2023 Oregon Groundwater Association Conference, training for the Department’s field staff, and posting on the Well Construction and Rulemaking webpages.

VII. Conclusion

Well Construction rulemaking is needed to implement recent legislation, including House Bill 2145 (2021), House Bill 3030 (2019), Senate Bill 688 (2019), and House Bill 4061(2022), to restore a rule inadvertently deleted, and to clarify existing rules. Several sections within House Bill 2145 must be implemented no later July 1, 2023.

VIII. Alternatives

The Commission may consider the following alternatives:

1. Adopt the final proposed rules in Attachment 4
2. Adopt modified final proposed rules.
3. Not adopt rules and request the Department further evaluate the issues.

IX. Director’s Recommendation

The Director recommends Alternative 1.

Kris Byrd
(503) 991-2470

Laura Hartt
(971)720-0963

Attachments:

1. Rules Advisory Committee Members (packet page 6)
2. Notice of Proposed Rulemaking and Draft Public Comment Rules (packet page 7)
3. Public Comments on Proposed Rules (packet page 175)
4. Final Proposed Rules with Track Changes (packet page 183)

Rules Advisory Committee (RAC) Roster 2022-2023 Well Construction Rulemaking		
Name	Affiliation/Organization	Email
Branden Pursinger	Association of Oregon Counties	bpursinger@oregoncounties.org
C.J. Nugent	Nugent Drilling	cjnugentdrilling@gmail.com
Cheyenne Holliday	Verde	cheyenneholliday@verdenw.org
Eric Schneider	Schneider Water Services	eric@schneiderwater.com
Floyd Sippel	Sippel Well Drilling	floyd@sippelwelldrilling.com
Garry Zollman	Zollman's Larry Burd Well Drilling	zollmanslbwd@yahoo.com
Greg Kupillas	Pacific Hydro-Geology	phggek@bctonline.com
Jack Abbas	Abbas Well Drilling & Pump Service	jackabbas1955@gmail.com
John Stadel	Arrow Drilling	john@arrowdrilling.net
Karen Lewotsky	Oregon Environmental Council	karen@oeconline.org
Kelly Warren	Confederated Tribes of the Umatilla Indian Reservation	KellyWarren@ctuir.org
Kevin Gill	Clouser Drilling	kevin@clouserdrilling.com
Lauren Poor	Oregon Farm Bureau	lauren@oregonfb.org
Mark Griffith	Klamath Community College	griffithm@klamathcc.edu
Mark Landauer	Special Districts Association of Oregon	mark@mjlconsulting.com
Matthew Walter	Klamath Community College	walter@klamathcc.edu
Michael Klobes	Always Pure	m.klobes@always-pure.com
Priya Dhanapal	City of Beaverton	pdhanapal@beavertonoregon.gov
Richard Mest	Master Water Conditioning Corporation	richard@masterwater.com
Shilah Olson	Wasco County Conservation District	shilah.olson@or.nacdnet.net

OFFICE OF THE SECRETARY OF STATE
SHEMIA FAGAN
SECRETARY OF STATE

CHERYL MYERS
DEPUTY SECRETARY OF STATE



ARCHIVES DIVISION
STEPHANIE CLARK
DIRECTOR

800 SUMMER STREET NE
SALEM, OR 97310
503-373-0701

NOTICE OF PROPOSED RULEMAKING
INCLUDING STATEMENT OF NEED & FISCAL IMPACT

CHAPTER 690
WATER RESOURCES DEPARTMENT

FILED
03/21/2023 6:10 PM
ARCHIVES DIVISION
SECRETARY OF STATE

FILING CAPTION: Amend well construction rules to implement 2019, 2021, and 2022 legislation; restore rule inadvertently deleted

LAST DAY AND TIME TO OFFER COMMENT TO AGENCY: 05/03/2023 5:00 PM

The Agency requests public comment on whether other options should be considered for achieving the rule's substantive goals while reducing negative economic impact of the rule on business.

CONTACT: Laura Hartt
971-720-0963
 wrd_dl_rule-coordinator@water.oregon.gov

725 Summer St NE, Ste A
Salem, OR 97301

Filed By:
Laura Hartt
Rules Coordinator

HEARING(S)

Auxiliary aids for persons with disabilities are available upon advance request. Notify the contact listed above.

DATE: 04/27/2023

TIME: 3:00 PM - 5:00 PM

OFFICER: Laura Hartt

HEARING LOCATION

ADDRESS: North Mall Office Building, Room 124, 725 Summer St NE, Salem, OR 97301

SPECIAL INSTRUCTIONS:

This public hearing will be in a hybrid format and will be recorded.

The meeting location is accessible to persons with disabilities. Language services also are available upon request. A request for an interpreter for the hearing impaired, other language services, or for other accommodations for persons with disabilities should be made at least 48 hours before the meeting to Laura Hartt @ WRD_DL_rule-coordinator@water.oregon.gov.

REMOTE MEETING DETAILS

MEETING URL: [Click here to join the meeting](#)

PHONE NUMBER: 253-215-8782

CONFERENCE ID: 98720578967

SPECIAL INSTRUCTIONS:

This public hearing will be in a hybrid format and will be recorded.

If you wish to join virtually to make public comments, please register using the Zoom link provided.

To call in, please dial using the phone number provided. The passcode to join by telephone is 679003

Language services are available upon request. A request for an interpreter for the hearing impaired or other language services should be made at least 48 hours before the meeting to Laura Hartt @ WRD_DL_rule-coordinator@water.oregon.gov.

NEED FOR THE RULE(S)

With the passage of Oregon Laws 2021, chapter 610, and associated amendments to Oregon Revised Statute (ORS) 536.090, 536.750, 536.900, 537.545, and 537.747 to 537.795, the Oregon Water Resources Department (OWRD) has determined rulemaking is required to align current Oregon Administrative Rules (OARs) with Oregon statute.

With the passage of Oregon Laws 2019, chapter 142, sections 1-3 and Oregon Laws 2019, chapter 626, sections 1 and 2, OWRD has determined rulemaking is required to align current OARs with Oregon law.

With the passage of Oregon Laws 2022, chapter 52, creating new provisions, amending ORS 536.900 and 537.990, and prescribing an effective date, OWRD has determined rulemaking is required to align current OARs with Oregon law.

With the inadvertent deletion of OAR 690-215-0200, OWRD has determined rulemaking is required to restore the rule to align current OARs with Oregon statute. OWRD also has determined additional rulemaking is needed for grammatical and clarification purposes.

The rule divisions requiring amendment are the following: OAR 690-190 relating to Exempt Groundwater Use Recording Requirements; OAR 690-200 relating to Water Supply Well Construction Standards (Introduction, General Standards and Definitions); OAR 690-205 relating to Water Supply Well Construction (Standards; Licensing); OAR 690-210 relating to Well Construction Standards; OAR 690-215 relating to Maintenance, Repair and Deepening of Water Supply Wells; OAR 690-225 relating to Enforcement; OAR 690-240 relating to Construction, Maintenance, Alteration, Conversion and Abandonment of Monitoring Wells, Geotechnical Holes and Other Holes in Oregon; and OAR 690-260 relating to Civil Penalty Assessment for Other Than Well Constructors.

The proposed amendments to the rules add new well construction licensing requirements, increase start card fees, require the e-filing of documents, move the exempt use map and fee requirements from the landowner to the driller, and require additional notice and information on start cards and well reports. The proposed amendments will establish two-year reciprocity for spouses of active-duty military members who are well drillers in good standing in another state. The proposed amendments will increase civil penalties nominally for the first time since 1986 and align with existing civil penalties for related Class III minor violations. The proposed amendments also extend the timeframe for issuing Notices of Violation from 5 calendar days to 10 business days after the violation is discovered.

This rulemaking will ensure that OWRD's rules are consistent with existing law. This rulemaking also will ensure consistent application of the law and provide well drillers with timely assurance they are meeting current well construction standards.

DOCUMENTS RELIED UPON, AND WHERE THEY ARE AVAILABLE

This rulemaking implements provisions within Or Laws 2022, ch 51; Or Laws 2021, ch 610; Or Laws, ch 142; and Or Laws ch 626. These documents are available here: https://www.oregonlegislature.gov/bills_laws/Pages/Oregon-Laws.aspx.

STATEMENT IDENTIFYING HOW ADOPTION OF RULE(S) WILL AFFECT RACIAL EQUITY IN THIS STATE

OWRD held a Rules Advisory Committee with community input that included representatives from Oregon's Tribal communities, environmental and social justice organizations, community colleges, and small businesses. During this engagement OWRD received no feedback demonstrating a negative impact to racial equity throughout the State. The rulemaking will modernize the well construction program by clarifying drilling requirements and enhancing the electronic filing system. These features should provide greater certainty, improve access to information, increase department responsiveness, and streamline compliance with licensing and fee requirements, benefitting low-income areas.

FISCAL AND ECONOMIC IMPACT:

As discussed below, the economic and fiscal impacts associated with this rulemaking stem primarily from implementation of Or Laws 2021, ch 610, and are a not a result of the rulemaking per se. The exception is the increase in civil penalties, which is authorized by ORS 537.992.

Recording Fees: Prior to the passage of Or Laws 2021, ch 610, the landowner, or owner of land on which a well is drilled, was responsible for submitting the exempt use map and recording fee (\$300). Or Laws 2021, ch 610 amends ORS 537.545 to shift responsibility for submission of the exempt use map and recording fee to the water supply well constructor licensed under ORS 537.747 or to the landowner if the landowner is permitted under ORS 537.753(4) to construct a well. The proposed changes to the Division 190 rules implement the new statutory requirements. Under these new requirements, a water supply well constructor may incur additional costs associated with the preparation and submission of the exempt use map and recording fee. Because the landowner was previously responsible for paying these fees, and because it is anticipated that water supply well constructors will pass the exempt use map and recording fee the landowner as part of the cost of services, the fiscal impact to the landowner should remain relatively unchanged relative to fiscal impacts predating Or Laws 2021, ch 610. However, water supply well constructors may incur additional costs associated with administration of collecting and submitting the exempt use registration fee. There also may be tax implications associated with increased gross revenue because of collecting the fee from landowners.

Prior to Or Laws 2021, ch 610, one ODWR staff member was dedicated to collecting the exempt use fee and map from landowners. With the amended Division 190 rules, ODWR staff can shift focus away from following up with landowners to other duties that better serve well owners and drillers. The improved OWRD efficiency should result in intangible economic benefits to those awaiting approval to proceed with well construction activities.

Licensing Proficiency Requirements: With passage of Or Laws 2021, ch 610, applicants for a monitoring well or water supply well constructor's license must provide OWRD with evidence of welding proficiency to obtain a license. Welding proficiency may be demonstrated by providing OWRD with (a) a copy of an arc welding certificate from a nationally recognized welding organization, including the American Welding Society, American Petroleum Institute, American Society of Mechanical Engineers, and the United States Military; (b) a copy of an official transcript or other official written documentation from a community college that demonstrates a passing grade in an arc welding training course; (c) official written documentation from a university, welding school, trade school, technical institute, or nationally recognized welding organization that demonstrates that the applicant has received a passing grade in an arc welding training course or has otherwise completed professional welding training; or (d) written documentation from a certified welding instructor or inspector, providing proof that the applicant has successfully completed arc welding tests to demonstrate proficiency at welding steel casing joints as required in OAR 690-210-0200.

The estimated cost of demonstrating proficiency is as follows: (1) approximately \$250 for testing and certification from a national recognized welding organization; (b) approximately \$300 to \$2,400 for successful completion of an arc

welding course at a community college. This range is based on a survey of 17 Oregon community colleges offering the course and includes the cost of tuition for the arc welding course, tuition for any prerequisite courses, lab and student fees, books, tools, and equipment, where those costs were provided; and (c) approximately \$400 to \$1,300 for arc welding instruction and testing through a private party or institution. This range is derived from discussions with instructors from Albany Weld School, Baker Technical Institute, and R&S Welding Mentors. These discussions revealed that the ultimate cost will vary, because demonstration of proficiency may require from one to eight hours of evaluation, training, and certification, depending on the applicant's prior welding experience. Also, the license applicant may incur additional fees if tools and other equipment are not provided by the instructor.

Additional costs for employers (ranging from \$25-\$40/hour plus the cost of benefits, etc.) when the license applicant's employer is paying for the applicant's time while obtaining welding proficiency.

Civil Penalties: ORS 536.900 authorizes OWRD to assess civil penalties for violations of ORS 537.545 relating to exempt use map and recording fee submissions. These violations can occur when either a well constructor fails to submit the exempt use map and recording fee, or when a landowner drilling their own well fails to submit the exempt use map and recording fee. Under the Division 190 rules, violation of the exempt use map and recording fee requirements are considered Class III Minor violations.

ORS 537.992 authorizes OWRD to impose penalties on well drillers for violations of ORS 537.747 to 537.795 and 537.992, capping penalties at \$1,000 for major violations and \$250 for minor violations. Currently, Division 225 and Division 240 rules impose a \$25 minimum civil penalty for Minor violations and a \$50 minimum civil penalty for Major violations on water supply and monitoring well drillers. These nominal amounts were set in 1986. However, Division 260 rules, which apply to landowners and other responsible parties, impose a \$50 minimum civil penalty for Class III Minor violations and a \$200 minimum civil penalty for Class III Major violations.

The rule amendment would raise the civil penalties in Divisions 225 and 240 for Minor violations to \$50 and Major violations to \$200 to align with the civil penalties in the existing Division 260 rules. Given inflation rates, this is still a nominal amount and not likely to increase fiscal impacts on violators appreciably.

Other costs: For well drillers operating in remote locations with limited cellular service, timely compliance with seal placement notification requirements may require use of a satellite of messaging service. Devices supporting that service may range in cost from \$250-\$800, while monthly service may range from \$20 to \$200 per month.

COST OF COMPLIANCE:

(1) Identify any state agencies, units of local government, and members of the public likely to be economically affected by the rule(s). (2) Effect on Small Businesses: (a) Estimate the number and type of small businesses subject to the rule(s); (b) Describe the expected reporting, recordkeeping and administrative activities and cost required to comply with the rule(s); (c) Estimate the cost of professional services, equipment supplies, labor and increased administration required to comply with the rule(s).

(1) Identify any state agencies, units of local government, and members of the public likely to be economically affected by the rule(s).

The rules are likely to economically affect applicants applying for a water supply or monitoring well driller's license. There is no anticipated economic effect on OWRD, other state agencies, or units of local government.

(2)(a) Estimate the number and type of small businesses subject to the rule(s).

OWRD estimates there are approximately 100 water supply well constructors with drilling businesses in Oregon who

may be responsible for submitting the exempt use map and recording fee because of the new submittal requirements. The number of landowners who are permitted under ORS 537.753(4) to construct a well but who may also be small businesses owners subject to the rules is unknown.

(2)(b) Describe the expected reporting, recordkeeping and administrative activities and cost required to comply with the rule(s).

Because the water supply well constructor already is required to submit the well report, the additional administrative costs associated with preparing and submitting the exempt use map and recording fee should be minimal. Additionally, if the water supply well constructor decides to pass along these added costs to the landowner as part of the cost of services, the water supply well constructor may not incur any administrative cost to comply with these rules. If the exempt use map and recording fee are prepared and submitted by the landowner permitted under ORS 537.753(4) to construct a well, the administrative costs will be consistent with the current status quo and will not result in additional fiscal impact to the landowner.

(2)(c) Estimate the cost of professional services, equipment supplies, labor and increased administration required to comply with the rule(s).

The estimated cost is minimal; the rules do not require small businesses to obtain professional services, equipment, supplies, labor, or other administrative abilities to comply with the exempt use map and fee requirements. ODWR's current E-File system has been modified to allow the creation of the required map and allow the registration fee to be electronically submitted at the same time as filing the well report. If the well driller chooses to submit the well report on paper, the exempt use registration map and fee just need to be included. The only increase in cost would be the time associated with mapping the location of the new well on a tax assessor map and writing the check to be included with the well report.

DESCRIBE HOW SMALL BUSINESSES WERE INVOLVED IN THE DEVELOPMENT OF THESE RULE(S):

The Rules Advisory Committee included members representing small businesses most likely to be affected by this rulemaking, including drillers, pump installers, farmers, and consultants.

WAS AN ADMINISTRATIVE RULE ADVISORY COMMITTEE CONSULTED? YES

RULES PROPOSED:

690-190-0005, 690-190-0010, 690-190-0100, 690-190-0200, 690-200-0005, 690-200-0020, 690-200-0021, 690-200-0027, 690-200-0028, 690-200-0046, 690-200-0050, 690-205-0010, 690-205-0020, 690-205-0045, 690-205-0175, 690-205-0200, 690-205-0205, 690-205-0210, 690-210-0130, 690-210-0140, 690-210-0150, 690-210-0155, 690-210-0160, 690-210-0170, 690-210-0180, 690-210-0190, 690-210-0220, 690-210-0230, 690-210-0240, 690-210-0270, 690-210-0280, 690-210-0290, 690-210-0320, 690-210-0380, 690-210-0400, 690-210-0410, 690-210-0420, 690-215-0005, 690-215-0017, 690-215-0055, 690-215-0060, 690-215-0070, 690-215-0201, 690-225-0020, 690-225-0030, 690-225-0110, 690-240-0005, 690-240-0006, 690-240-0010, 690-240-0024, 690-240-0026, 690-240-0060, 690-240-0065, 690-240-0210, 690-240-0340, 690-240-0375, 690-240-0385, 690-240-0395, 690-240-0410, 690-240-0560, 690-240-0580, 690-240-0640, 690-260-0030, 690-260-0040, 690-260-0060

AMEND: 690-190-0005

RULE SUMMARY: Amends rule applicability to conform with statute (Or Laws 2021, ch 610) by clarifying that the exempt use groundwater recording requirements apply to well constructors as well as to landowners.

CHANGES TO RULE:

690-190-0005

Purpose and Applicability ¶¶

(1) These rules describe the requirements under which the Oregon Water Resources Department will administer and enforce the provisions of ORS 537.545 relating to the recording of exempt groundwater use. Moneys from fees collected and deposited to the credit of the Water Resources Department Water Right Operating Fund shall be used for the purpose of evaluating groundwater supplies, conducting groundwater studies, carrying out groundwater monitoring, processing groundwater data and the administration and enforcement of ORS 537.545 and these rules.¶¶

(2) These rules apply to:¶¶

(a) Any ~~owner of land on which a well is completed after July 22, 2009~~ water supply well constructor or permitted landowner with a landowner permit and bond that constructs a well to allow groundwater use for purposes that are exempt under ORS 537.545.¶¶

(b) Each new well that is completed or existing well that is converted to allow groundwater use for purposes that are exempt under ORS 537.545. This includes wells that are drilled to replace an existing well.¶¶

(3) These rules do not apply to:¶¶

(a) A well that is repaired, deepened, or altered.¶¶

(b) A water supply well that is permanently abandoned pursuant to OAR 690-220 within 30 days of well completion.

Statutory/Other Authority: ORS 536.027, Or Laws 2021, ch 610, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 537.545-537.795, Or Laws 2021, ch 610, ORS 536.900, ORS 537.992

AMEND: 690-190-0010

RULE SUMMARY: Amends rule definition to conform with statute (Or Laws 2019, ch 142; Or Laws 2019, ch 626) by defining who is considered a water supply well constructor for purposes of these rules.

CHANGES TO RULE:

690-190-0010

Definitions ¶¶

- (1) "Converting" has the same meaning as defined in ORS 537.515(3).¶¶
 - (2) "Department" means the Oregon Water Resources Department.¶¶
 - (3) "Director" means the Director of the Oregon Water Resources Department.¶¶
 - (4) "Recording-" means the filing of a map locating any new or converted well that is completed to allow groundwater use for purposes that are exempt under ORS 537.545, and the fee, in the amount established under 537.545, for each new or converted well that is completed.¶¶
 - (5) "Landowner" means the owner of land at the time a well(s) subject to these rules is completed.¶¶
 - (6) "Well Completion" means the end of construction date reported on the water supply well report.¶¶
 - (7) "Well Identification Number" means the stamped well number on the stainless steel label that is attached to the well.¶¶
 - (8) "Water Supply Well Constructor" means any person who has a current water supply well constructor's license with a water supply well endorsement issued in accordance with ORS 537.747(3) or with a water supply well temporary authorization endorsement issued in accordance with ORS 537.747 (3), Section 1, Chapter 142, Oregon Laws 2019, and Section 1, Chapter 626, Oregon Laws 2019.
- Statutory/Other Authority: ORS 536.027, ORS 537.505-537.795, Or Laws 2019, ch 142, Or Laws 2019, ch 626
 Statutes/Other Implemented: ORS 537.54505-537.795, Or Laws 2019, ch 142, Or Laws 2019, ch 626

AMEND: 690-190-0100

RULE SUMMARY: Amends rule to conform with statute (Or Laws 2021, ch 610) by adding a recording requirement for well constructors to submit an exempt use map and fee within 30 days of well completion; clarifies map requirements.

CHANGES TO RULE:

690-190-0100

Recording Requirements ¶¶

~~The landowner shall submit the following to the Department~~ person licensed under ORS 537.747 or permitted under ORS 537.753 (4) that constructs a well to allow groundwater use for a purpose that is exempt under ORS 537.545 (1) shall submit the following to the Department, along with the well report required by ORS 537.765, no later than 30 days after well completion:¶¶

(1) A tax lot map showing the location of the completed well on the property, that includes:¶¶

(a) A map reference number (Township, Range and Section).¶¶

(b) Location of the completed well by the latitude and longitude as established by a global positioning system or with distances (north/south and east/west) indicated from an identified property boundary, property corner or survey corner. Multiple wells may be shown on one tax lot map.¶¶

(c) Location of well(s) in relation to nearest driveway, access road and permanent structures.¶¶

(d) The direction of north marked on the map.¶¶

(e) Well Identification Number for each completed well.¶¶

(f) Street address of the completed well if available.¶¶

(2) A map submitted under a Department-approved electronic mapping program satisfies the requirements under section (1).¶¶

(3) An exempt groundwater use recording fee in the amount established under ORS 537.545.

Statutory/Other Authority: ORS 536.027, Or Laws 2021, ch 610, ORS 537.505-537.795, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 537.545, Laws 2021, ch 610, ORS 537.505-537.795, ORS 536.900, ORS 537.992

AMEND: 690-190-0200

RULE SUMMARY: Amends rule to conform with statute (Or Laws 2021, ch 610) by adding requirements for OWRD to notify well constructors of exempt use requirements that have not been met within 120 days; clarifies how enforcement proceedings will occur for exempt use map and fee violations; clarifies violation magnitude.

CHANGES TO RULE:

690-190-0200

Compliance and Enforcement ¶¶

(1) If the Department determines that a water supply well constructor or permitted landowner has not met the requirements of these rules, the Department shall notify the water supply well constructor or permitted landowner of the specific nature of the requirements that have not been met.¶

(2) The Department shall, within ~~6~~120 days of receipt of the map and fee, notify the water supply well constructor or permitted landowner of the recording requirements that have not been met.¶

(3) Failure to meet the requirements of these rules may result in formal enforcement action(s). This action(s) may include:¶

(a) Establishing a specified time for bringing the water supply well constructor or permitted landowner into compliance,¶

(b) Assessment of a civil penalty following procedures outlined in ~~OAR 690-260 rule~~25 rules for water supply well constructors and OAR 690-260 rules for permitted landowners. Violations under these rules are considered as Class III Minor violations for permitted landowners and Minor violations for water supply well constructors, or¶

(c) Any other action authorized by law.

Statutory/Other Authority: ORS 536.027, ORS 536.900, ORS 537.505-537.795, Or Laws 2021, ch 610, ORS 537.992

Statutes/Other Implemented: ORS 537.5456.900, ORS 537.505-537.795, Or Laws 2021, ch 610, ORS 537.992

AMEND: 690-200-0005

RULE SUMMARY: Amends rule table by removing outdated effective date.

CHANGES TO RULE:

690-200-0005

Basis for Regulatory Authority ¶¶

(1) The right to reasonable control of the ground waters of the State of Oregon has been declared to belong to the public. Through the provisions of the Ground Water Act of 1955, ORS 537.505 to 537.795, the Water Resources Commission has been charged with the administration of the rights of appropriation and use of the ground water resources of the state and the prevention of waste and contamination of ground water. This is primarily accomplished by the licensing of well constructors and the promulgation of rules governing well construction, alteration, abandonment, conversion, maintenance, and use. Ultimately the landowner of the property where the well is constructed is responsible for the condition, use, maintenance of setbacks, and abandonment of the well.¶¶

(2) The following rules apply to all wells which are constructed for the purpose of locating or obtaining water as defined in ORS 537.515(9) with the following exceptions:¶¶

(a) The construction, maintenance, conversion, and abandonment of monitoring wells, geotechnical holes, and other holes are regulated under OAR 690-240;¶¶

(b) Holes constructed under ORS Chapters 517, 520, 522, and rules promulgated from those statutes, are the responsibility of the Oregon Department of Geologic and Mineral Industries and are not subject to these rules. These include, but are not limited to, holes constructed for the purposes of exploring for, or producing, petroleum, minerals, or geothermal resources; and¶¶

(c) Underground Injection Systems, which are regulated by the Oregon Department of Environmental Quality under OAR 468B.¶¶

[NOTE: Table 200-1 lists common subsurface borings and indicates which administrative rule governs the construction, conversion, maintenance, alteration, and abandonment of the boring. ~~{Table not included. See ED. NOTE.}~~¶¶

(3) When natural flow of water occurs in holes not regulated under these rules, the Water Resources Commission may regulate under separate rules or statutes to protect the ground water from contamination or waste;¶¶

(4) In addition to regulating new well construction, alteration, abandonment, conversion, and maintenance actions, the Water Resources Commission may impose conditions upon the use of any existing water supply well as may be necessary to prevent waste, undue interference with other wells or contamination. When necessary, the Commission may order discontinuance of use, repair, temporary, or permanent abandonment of any well to accomplish the same objectives.¶¶

(5) Except for the Commission's power to adopt rules, the Commission may delegate to the Water Resources Director the exercise or discharge in the Commission's name of any power, duty or function of whatever character, vested in or imposed by law upon the Commission. The official act of the Director acting in the Commission's name and by the Commission's authority shall be considered to be an official act of the Commission. The Commission delegates to the Director full authority to act in the Commission's name where that delegation is reflected in these rules.¶¶

(6) Under the provisions of ORS 537.780, the Commission is authorized to adopt such procedural rules and regulations as deemed necessary to carry out its function in compliance with the Ground Water Act of 1955. In fulfillment of these responsibilities and to ensure the preservation of the public welfare, safety, and health, the Commission has established these rules and regulations as the minimum standards for the construction, alteration, conversion, abandonment and maintenance of water supply wells in Oregon.¶¶

(7) The rules and regulations set forth herein shall become effective upon adoption by the Commission.

Statutory/Other Authority: ORS 536.027, ORS 536.090, ORS 537.505--537.795, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505--537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

**WATER RESOURCES DEPARTMENT
CHAPTER 690**

WATER SUPPLY WELL CONSTRUCTION STANDARDS

TABLE 200-1

WHICH STANDARDS APPLY?

The Department regulates the construction of borings through which groundwater may become contaminated. The type of boring (and its purpose) will determine which set of regulations apply. Questions often arise as to how a certain boring is to be regulated. In general, if the purpose of a boring is to seek water then it is considered a well. The table below lists common types of holes and the standards that apply. This is not a complete list of borings and there are other types of borings regulated by other agencies. Contact the Water Resources Department if you have any questions.

The general standards and their Oregon Administrative Rule reference are:

- Water Supply Wells OAR 690-200 through 690-235
- Monitoring Wells OAR 690-240
- Other Holes OAR 690-240-0030
- Geotechnical Holes OAR 690-240-0035 through 690-240-0049

Description of Boring:	Standards that Apply
Air Sparging Well	Monitoring Well
Aquifer Storage and Recovery Well	Water Supply Well
Cathodic Protection Hole	Geotechnical Hole
Community Well	Water Supply Well
Construction Hole	Other Hole
Dewatering Well	Water Supply Well
Domestic Well	Water Supply Well
Drive Point (Core holes)	Geotechnical Hole
Drive Point Well (Dewatering)	Water Supply Well
Drive Point Well (Water Sampling)	Monitoring Well
Drive Point Well (Water Supply)	Water Supply Well
Dry (Disposal) Well	Other Hole
Elevator Shaft	Other Hole
Extraction Well	Monitoring Well
Gas Migration Hole	Geotechnical Hole
Geothermal Well	Water Supply Well
Gravel Pit	Other Hole
Heat Exchange Hole (Closed Loop)	Geotechnical Hole
Heat Exchange Hole (Open Loop)	Water Supply Well
Horizontal Drain (Slope Stability)	Geotechnical Hole
Horizontal Well (Monitoring)	Monitoring Well
Horizontal Well (Water Supply)	Water Supply Well
Inclinometer	Geotechnical Hole
Industrial Well	Water Supply Well

OAR 690-200-0005

Table 200-1

Injection Well (Water)	Water Supply Well
Injection Well (Remediation) (>72 Hours)	Monitoring Well
Injection Well (Remediation) (<12 Hours)	Geotechnical Hole
Irrigation Well	Water Supply Well
Monitoring Well	Monitoring Well
Municipal Well	Water Supply Well
Observation Hole	Monitoring Well
Permeability Test Hole	Geotechnical Hole
Piezometer (Electric)	Geotechnical Hole
Piezometer (Pneumatic)	Geotechnical Hole
Piezometer Well	Monitoring Well
Piling Hole	Other Hole
Post Hole	Other Hole
Power Pole Hole	Other Hole
Public Supply Well	Water Supply Well
Remediation Or Recovery Well	Monitoring Well/Water Supply Well
Rock Boring (<10 Feet)	Other Hole
Rock Boring (>10 Feet)	Geotechnical Hole
Seismic Shot Hole	Geotechnical Hole
Slope Stability Hole	Geotechnical Hole
Soil Boring (<10 Feet) (geophysical borings)	Other Hole
Soil Boring (>10 Feet) (geophysical borings)	Geotechnical Hole
Soil Vapor Hole	Geotechnical Hole
Sparging Well	Monitoring Well
Storm Water Disposal	Other Hole
Sump	Other Hole (if < 10 ft. deep and > 10 ft. dia.)
Temporary Monitoring Well (<12 Hours)	Geotechnical Hole
Temporary Monitoring Well (>12 Hours)	Monitoring Well
Trench	Other Hole
Underground Storage Tank (UST) Pit	Other Hole
Vapor Extraction Hole	Geotechnical Hole
Wetland Delineation Hole	Other Hole
Wet Soil Monitoring Hole	Geotechnical Hole

AMEND: 690-200-0020

RULE SUMMARY: Amends rule by updating appendix name referenced in the rule and by updating name and rule label on the appendix.

CHANGES TO RULE:

690-200-0020

General Statement About the Standards ¶¶

(1) The rules and regulations set forth herein provide the minimum standards for the construction, conversion, alteration, maintenance, and abandonment of water supply wells. After the effective date of adoption of these rules and regulations, no water supply well shall be constructed, altered, converted, or abandoned contrary to the provisions of these rules and regulations without prior approval from the Water Resources Department. Violation of these standards may result in enforcement under OAR chapter 690, division 225, including suspension or revocation of a constructor's license, imposition of civil penalties on the landowner or constructor, action on a bond, or other sanctions authorized by law.¶¶

(2) Every well shall be designed and constructed to adapt to the existing local geologic and ground water conditions at the well site and shall fully utilize every natural protection to the ground water supply. If prior to or during construction the well constructor becomes aware that specific site conditions will not allow adherence to the following minimum well standards, the constructor shall request and obtain written approval from the Director to use alternative construction methods, materials or standards. The request shall be in writing and submitted to the Director as described in OAR 690-200-0021. Special standard approval from the Director must be obtained prior to completion of the well.¶¶

(3) Certain wells constructed under these rules may be suitable for use as public, community, municipal, or public utility supplies. Regulations administered by other agencies may apply in addition to those in this chapter (see Appendix 1).¶¶

[ED. NOTE: Appendices referenced are available from the agency.]200-1).

Statutory/Other Authority: ORS 536.027, ORS 536.090, ORS 537.505 – ~~ORS 537.795-537.795~~, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505 – ~~ORS 537.795-537.795~~, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

APPENDIX 200-1**Additional Requirements by Other State Agencies of Oregon**

In the administration of ORS 537.505 to 537.795, the Director of the Water Resources Department has statutory authority under the provisions of ORS 537.780 "to prescribe and enforce general standards for the construction and maintenance of wells and their casings, fittings, valves, and pumps..." Other agencies of the state have statutory responsibilities that relate either directly or indirectly to the construction and operation of public water supply systems and their source of water supply. These agencies and their responsibilities are listed as follows:

<p>OREGON HEALTH AUTHORITY 800 NE Oregon Street Portland, OR 97232 (serving more than three single residents) https://www.oregon.gov/oha/pages/index.aspx</p>	<p>ORS Chapter 448</p>	<p>Municipal Water Supply Systems Public Water Supply Systems Community Water Supply Systems Source Water Protection</p>
<p>BUILDING CODES DIVISION 1535 Edgewater NW Salem, OR 97304-4635 https://www.oregon.gov/bcd/pages/index.aspx</p>	<p>ORS Chapter 446</p>	<p>Electrical and Plumbing for all Commercial Enterprises Mobile Home Park Water Supply Systems</p>
<p>OREGON PUBLIC UTILITY COMMISSION 201 High St SE #100 Salem, OR 97301 https://www.oregon.gov/puc/pages/default.aspx</p>	<p>ORS Chapter 757</p>	<p>Private Owners (water supply systems, 200 homes or more)</p>
<p>DEPARTMENT OF ENVIRONMENTAL QUALITY 700 NE Multnomah St Portland, OR 97232 https://www.oregon.gov/deq/pages/index.aspx</p>	<p>ORS Chapter 468</p>	<p>Water Quality Monitoring Underground Injection Systems Source Water Protection</p>
<p>SECRETARY OF STATE CORPORATION DIVISION Oregon Business Registry 255 Capitol St NE Salem OR 97310 https://secure.sos.state.or.us/cbrmanager/index.action#stay</p>		<p>Business Registry for Water Districts</p>

APPENDIX 200-1- CONTINUED

All wells constructed in Oregon, including those to serve as a source of ground water to municipal, community, public, or public utility water supply systems, must be constructed in accordance with the rules and regulations prescribing general standards for the construction and maintenance of wells in Oregon (OAR 690 Divisions 205, 210, 215, 220, and 240). Additional construction standards for water supply systems may be required by the above listed agencies. Such rules and regulations generally include the source of water supply to the systems and may affect well construction requirements. Copies of the various agency rules may be obtained by contacting the responsible agency. Well constructors planning to construct a well as a source of water supply for any of the above systems are advised to contact the responsible agency prior to the beginning of well construction.

AMEND: 690-200-0021

RULE SUMMARY: Rule Summary: Amends rule for consistency with start card and well report data requirements by adding a requirement for latitude and longitude for special standards, along with a requirement for information about original well construction for alteration or abandonment work to allow OWRD staff to make informed decisions concerning requests for deviation from minimum well construction standards.

CHANGES TO RULE:

690-200-0021

Special Standards ¶

(1) Site conditions may require specific design, construction, and abandonment procedures to adapt to the existing local geologic and ground water conditions to fully utilize every natural protection to the state's ground water. Specific site conditions may require different design, construction, setback, or abandonment standards than required by the Water Supply Well construction rules. Alternative technologies or methods not addressed in these rules may also exist which could be effectively utilized in the construction or abandonment of a water supply well. Prior to the completion of the well, a bonded constructor must request and receive approval from the Department to use methods or materials that do not meet the water supply well construction standards. The Department may approve such requests either orally or in writing. If oral approval is granted, the written request must be submitted to the Department within three working days of the date of the oral approval. Failure to submit a written request as described above may void the prior oral approval. The proposed methods or materials shall provide at least the same level of resource protection as that which is provided by these rules. ¶

(2) The written request for special standards shall include: ¶

(a) Name, license number and signature of the bonded well constructor; ¶

(b) Location of the well by county, township, range, section, tax-lot (if assigned) ~~and either the 1/4, 1/4 section or,~~ and Latitude and Longitude as established by a global positioning system; ¶

(c) Name and address of landowner; ¶

(d) Address of the project/well site; ¶

(e) Type of work; ¶

(f) The distance to the nearest ~~well and septic tank~~ septic tank, drainfield, closed sewage line, and closed storm drainfieldage system; ¶

(g) The reasons(s) that conformance to the rules and regulations for water supply wells cannot be met; ¶

(h) A diagram and written description showing the proposed water supply well design, construction, or abandonment; ¶

(i) A site map showing the relationship of the well to any existing septic tank, drainfield, closed sewage line, and closed storm drainage systems, if the request is to place a well within the minimum setbacks described in OAR 690-210-0030; ¶

(j) The well identification number, if assigned; ~~and~~ ¶

(k) The start card number; ~~and~~ ¶

(l) Any associated well report numbers if special standard request is for alteration or abandonment.

Statutory/Other Authority: ORS 536.027, ORS 536.090, ORS 537.505--537.795, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505--537.795, ORS 536.900, ORS 537.992

AMEND: 690-200-0027

RULE SUMMARY: Amends rule figure by replacing outdated figure; amends rule table by updating rule label.

CHANGES TO RULE:

690-200-0027

Restrictions on Water Supply Well Construction and Use in Critical Groundwater Areas or Areas Withdrawn by Commission Order ¶¶

(1) The use of ground water is restricted in Critical Ground Water Areas or Withdrawal Areas established by Commission Order, under ORS 537.735 and 536.410. Before constructing a water supply well, the constructor shall determine whether the proposed well site is within a Critical Ground Water or Withdrawal Area. (Refer to Figure 200-1.)¶¶

(2) If the water supply well is within a Critical Ground Water or Withdrawal Area, the constructor shall contact the watermaster for the county where the water supply well is to be constructed for more information. (Refer to Table 200-2.)¶¶

(3) Construction of water supply wells in violation of a critical ground water or withdrawal order are subject to enforcement action as described in OAR 690, division 225.¶¶

[ED. NOTE: Tables and Figures referenced are available from the agency.]

Statutory/Other Authority: ORS 536.027, ORS 536.090, ORS 537.505—537.795, ORS 536.410






Statutes/Other Implemented: ORS 536.090, ORS 537.505—537.795, ORS 536.410

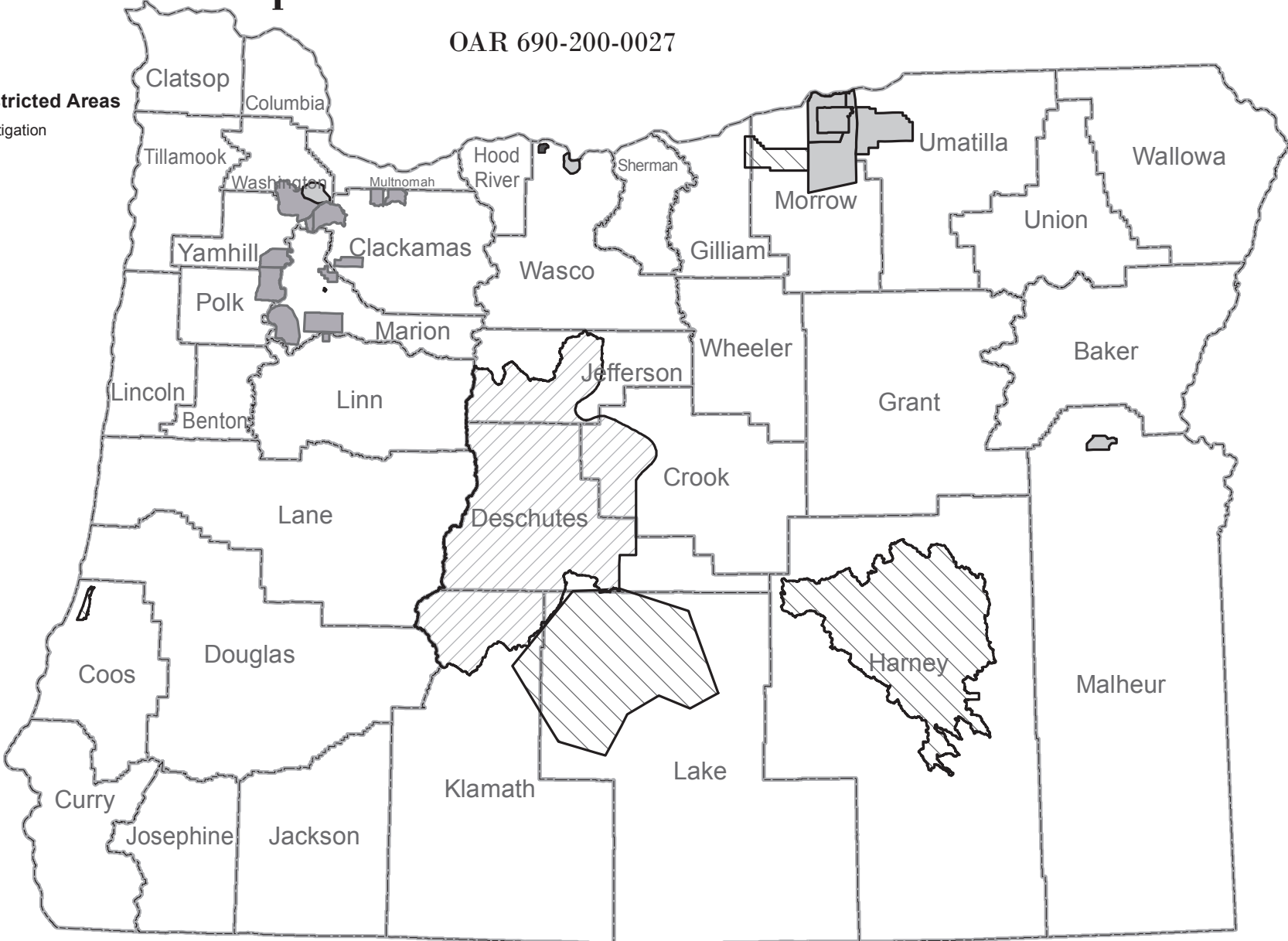
RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

Special Groundwater Control Areas

OAR 690-200-0027

Groundwater Restricted Areas

-  Groundwater Mitigation
-  Classified
-  Limited
-  Critical
-  Withdrawn



**WATER RESOURCES DEPARTMENT
CHAPTER 690
DIVISION 200
WATER SUPPLY WELL CONSTRUCTION STANDARDS**

**Table 200-2
(OAR 690-200) Watermaster
Office Phone Numbers**

District	Watermaster Office	Phone Number
1	Tillamook	503-815-1967
2	Eugene	541-682-3620
3	The Dalles	541-506-2652
4	Canyon City	541-575-0119
5	Pendleton	541-278-5456
6	La Grande	541-963-1031
7	Enterprise	541-398-8172
8	Baker City	541-523-8224
9	Vale	541-473-5130
10	Burns	541-573-2591
11	Bend	541-306-6885
12	Lakeview	541-947-6038
13	Medford	541-774-6880
14	Grants Pass	541-476-1288
15	Roseburg	541-440-4255
16	Salem	971-719-6262
17	Klamath Falls	541-883-4182
18	Hillsboro	503-846-7780
20	Clackamas	503-312-1743
21	Condon	541-384-4207
22	Salem	503-508-2394
23	Milton-Freewater	541-371-0818
24	Bend	541-639-4109

Notes:

1. Watermaster phone numbers are subject to change.
2. A current version of this table is available from the Water Resources Department's Salem office.

AMEND: 690-200-0028

RULE SUMMARY: Amends rule Figure 200-7 by replacing outdated figure; amends remaining rule figures by updating rule labels.

CHANGES TO RULE:

690-200-0028

Designated Special Area Standards ¶¶

(1) Special Area Standards for the Construction and Alteration of Water Supply Wells in the Lakeview Area.¶¶

(a) As used in this rule and illustrated in Figure 200-3, "The Lakeview Area" includes the area located in Sections 4, 5, 8 and 9 of Township 39 South, Range 20 East of the Willamette Meridian, Lake County, Oregon. Beginning at a point on the West line of Section 4, said point bears South 1 40' 45" East - 2245.31 feet from the Northwest Corner of Section 4; thence South 89 54' 45" East - 1907.04 feet to the West right of way line of the Fremont Logging Road; thence South 39 26' 40" East along the West right of way line of the Fremont Logging Road - 3095.16 feet; thence South 1 53' 14" East - 617.32 feet to the South line of Section 4; thence continuing in Section 9 - South 00 13' 8" West parallel to the North South centerline of Section 9 - 2649.14 feet to the East West centerline of Section 9; thence South 89 45' 31" West along the East West centerline of Section 9 - 3782.55 feet more or less to the West line of Section 9; thence West along the East West centerline of Section 8 - 1320.00 feet more or less to the center East 1/16 corner of Section 8; thence North 2640.00 feet more or less to the East 1/16 corner common to Sections 5 and 8; thence North 1 41' 33" West - 2630.48 feet more or less to the center East 1/16 corner of Section 5; thence North 1 40' 45" West - 410.32 feet; thence South 59 54' 45" East - 1307.02 feet more or less to the point of beginning.¶¶

(b) Any new, altered, deepened or converted well in the sedimentary units (clay, sand, silt, gravel) in the Lakeview Area shall be cased and sealed according to OAR 690, division 210 with the following additional requirements:¶¶

(A) Unperforated casing and seal shall extend from land surface to a depth of 250 feet below land surface; and¶¶

(B) Perforated casing may extend below the seal.¶¶

(c) Liner installed in any new, altered, deepened or converted well in the sedimentary units (clay, sand, silt, gravel) in the Lakeview Area shall not extend more than 10 feet above the bottom of the unperforated casing.¶¶

(d) Alternatives to the special area standards shall be approved only if it can be demonstrated that the alternative techniques proposed to be used are as effective as the techniques required in subsection (1)(b) and (1)(c) above. Such alternatives require prior written approval by the Department and follow-up testing as may be required by the Department.¶¶

(e) Except as they may conflict with subsection (1)(b) and (1)(c), all other provisions of Oregon Administrative Rules for Well Construction and Maintenance Standards apply.¶¶

(f) This rule is applicable to wells for which construction, alteration, deepening or conversion began on or after April 1, 2004.¶¶

(g) This special area standard may be revised at a future date when additional information and analysis is provided from other agencies including the Oregon Department of Environmental Quality.¶¶

(2) Special Area Standards for the Construction, Conversion and Maintenance of Water Supply Wells for the "Petes Mountain Area", Clackamas County.¶¶

(a) As used in this rule and illustrated in Figure 200-4, "The Petes Mountain Area" includes the area located in Sections 28, 29, 32, 33 and 34 Township 2 South, Range 1 East, Willamette Meridian; and Sections 2, 3, 4, 5, 9, 10, 11, 15 and 16, Township 3 South, Range 1 East, Willamette Meridian. Beginning at the intersection of SW Ek Road and SW Stafford Road (T.2 S., R.1 E., Sec. 29); thence southerly along SW Stafford Road to SW Mountain Road; thence southerly along SW Mountain Road to SW Hoffman Road; thence easterly along SW Hoffman Road to the intersection of SW Hoffman Road, SW Petes Mountain Road and SW Riverwood Drive; thence due east to the Willamette River; thence northerly along the Willamette River to the mouth of the Tualatin River; thence northwesterly along the Tualatin River to SW Borland Road (a.k.a. Willamette Falls Drive); thence northwesterly along SW Borland Road to SW Ek Road; thence westerly along SW Ek Road to SW Stafford Road, to the point of beginning.¶¶

(b) All new, altered, deepened or converted wells constructed in the Petes Mountain Area shall be cased and sealed in accordance with OAR 690, Division 210 with the following additional requirements:¶¶

(A) All new wells shall have a nominal minimum well casing diameter of at least 6 inches.¶¶

(B) All wells shall have a minimum 3/4-inch diameter dedicated measuring tube installed at the time of pump installation, pump repair or pump replacement (See Figure 200-5 and OAR 690-215-0200).¶¶

(C) Alternatives to the special area standards shall be approved only if it can be demonstrated that the alternative

techniques proposed to be used are as effective as the techniques required in subsection (2)(b) above. Such alternatives require prior written approval by the Department. In addition, follow-up testing may be required by the Department to insure the effectiveness of the alternative technique.¶

(D) Except as they may conflict with subsection (2)(b), all other provisions of Oregon Administrative Rules for Well Construction and Maintenance Standards apply.¶

(E) This rule is applicable to wells for which pump installation, repair or replacement began on or after July 1, 2008.¶

(F) This special area standard may be revised at a future date when additional information and analysis is provided from other agencies including the Oregon Department of Environmental Quality.¶

(3) Special Area Standards for the Construction, Conversion and Maintenance of Water Supply Wells for the "Eola Hills Ground Water Limited Area," Polk and Yamhill Counties.¶

(a) As used in this rule and illustrated in Figure 200-7, "The Eola Hills Ground Water Limited Area" includes all or portions of Sections 4 through 9, 16 through 21, and 29 through 32, Township 6 South, Range 3 West, Willamette Meridian; Sections 3 through 10, 15 through 22, 28, 29 and 30, Township 7 South, Range 3 West, Willamette Meridian; Sections 1 through 5, 8 through 17, 20 through 29, and 32 through 36, Township 6 South, Range 4 West, Willamette Meridian; and Sections 1 through 30, Township 7 South, Range 4 West, Willamette Meridian. The boundary of the Eola Hills area is as follows: Beginning at the intersection of the south line of Township 5 South and U.S. Highway 99W, thence east along the township line to the Willamette River, thence southerly to Oregon State Highway 22, thence westerly to U.S. Highway 99W, thence northerly along Hwy 99W to the point of beginning.¶

(b) All new, altered, deepened or converted wells constructed in the Eola Hills Ground Water Limited Area shall be cased and sealed in accordance with OAR 690, Division 210 with the following additional requirements:¶

(A) All new wells shall have a nominal minimum well casing diameter of at least 6 inches.¶

(B) 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 (See Figure 200-5 and OAR 690-215-0200).¶

(C) All new and deepened wells developing water from basalt in the Eola Hills Ground Water Limited Area shall be limited to one aquifer and shall be continuously cased and continuously sealed to within 100 feet of the bottom of the hole.¶

(c) Alternatives to the special area standards shall be approved only if it can be demonstrated that the alternative techniques proposed to be used are as effective as the techniques required in subsection (3)(b) above. Such alternatives require prior written approval by the Department. In addition, follow-up testing may be required by the Department to insure the effectiveness of the alternative technique.¶

(d) Except as they may conflict with subsection (3)(b), all other provisions of Oregon Administrative Rules for Well Construction and Maintenance Standards apply.¶

(e) This rule is applicable to wells for which pump installation, repair or replacement began on or after July 1, 2008.¶

(4) Special Area Standards for New, Altered, Deepened or Converted Water Supply Wells in the "Mosier Area," Wasco County.¶

(a) As used in this rule and illustrated in Figure 200-8, the "Mosier Area" includes the area located in Section 36 Township 3 North, Range 11 East, Willamette Meridian; and Sections 31, 32, 33 and 34 Township 3 North, Range 12 East, Willamette Meridian; and Sections 1, 2, 3, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35 and 36 Township 2 North, Range 11 East, Willamette Meridian; and Sections 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 27, 28, 29, 30, 31, 32 and 33 Township 2 North, Range 12 East, Willamette Meridian. Beginning at a point of intersection of the Wasco County, Hood River County, State of Oregon and State of Washington lines; thence south along the Wasco and Hood River County line to the Southwest corner of Section 34, Township 2 North, Range 11 East of the Willamette Meridian; thence east to the Southeast corner of Section 32, Township 2 North, Range 12 East of the Willamette Meridian; thence north to the East 1/4 corner of Section 32; thence east to the Southeast corner of the SW1/4 of the NW1/4 of Section 33; thence north to the Southeast corner of the NW1/4 of the NW1/4 of Section 33; thence east to the Southeast corner of the NE1/4 of the NW1/4 of Section 33; thence north to the North 1/4 corner of Section 33; thence east to the Southeast corner of the SW1/4 of the SE1/4 of Section 28; thence north to the Southeast corner of the NW1/4 of the SE1/4 of Section 28; thence east to Southeast corner of the NW1/4 of the SW1/4 of Section 27; thence north to the Southeast corner of the SW1/4 of the NW1/4 of Section 27; thence east to the Center 1/4 corner of Section 27; thence north to Southeast corner of the NE1/4 of the NW1/4 of Section 27; thence east to the Southeast corner of the NW1/4 of the NE1/4 of Section 27; thence north to the Northeast corner of the NW1/4 of the NE1/4 of Section 27; thence east to the SE corner of section 22; thence north to the East 1/4 corner of Section 22; thence east to the Center 1/4 of Section 23; thence north to the Southeast corner of the NE1/4 of the NW1/4 of Section 23; thence east to the Southeast corner of the NE1/4 of the NE1/4 of Section 23; thence north to the Northwest corner of Section 24; thence east to the North 1/4 corner of Section 24; thence north to the North 1/4 corner of Section 13; thence west to the

Northeast corner of Section 15; thence north to the Oregon and Washington State line; thence west along the Oregon-Washington State line to the point of beginning.¶

(b) Well constructors shall provide at least 10 calendar days notice to the Department prior to the start of construction, alteration, deepening or conversion on any new or existing well in the "Mosier Area", in one of two ways:¶

(A) A Start Card submitted electronically at least ten (10) calendar days prior to the start of construction, alteration, deepening or conversion; or¶

(B) A Start Card mailed, faxed or hand delivered and received by the Department in Salem at least ten (10) calendar days prior to the start of construction, alteration, deepening or conversion.¶

(c) In cases where the additional notice requirement cannot be met the well constructor shall notify the Department by fax, telephone or e-mail prior to the start of construction, alteration, deepening or conversion. Department approval is required to proceed. Approval shall be either, verbal, written or electronic.¶

(d) All new and deepened water supply wells developing water from the Columbia River Basalt Group in the "Mosier Area", as described in (a) above, shall be limited to one aquifer and shall be constructed in accordance with OAR 690, division 210 with the following additional requirements:¶

(A) All new wells shall have a nominal minimum well casing diameter of at least 6 inches.¶

(B) The well constructor shall provide the following information to the Department so that a case and seal depth can be determined. The well shall not be permanently cased and sealed prior to consultation with the Department:¶

(i) A rough log that describes the kind and nature of the material in each formation penetrated, with at least one entry for each change of formation, the thickness of aquifers and available static water level measurements; and¶

(ii) Such additional information as required by the Department.¶

(e) Alternatives to the special area standards shall be approved only if it can be demonstrated that the alternative techniques proposed to be used are as effective as the techniques required in (d) above. Such alternatives require prior written approval by the Department. In addition, follow-up testing may be required by the Department to ensure the effectiveness of the alternative technique.¶

(f) 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 (See Figure 200-5 and OAR 690-215-0200).¶

(g) Except as they may conflict with (d) above, all other provisions of Oregon Administrative Rules for Well Construction and Maintenance Standards apply.¶

[ED. NOTE: Exhibits referenced are available from the agency.]

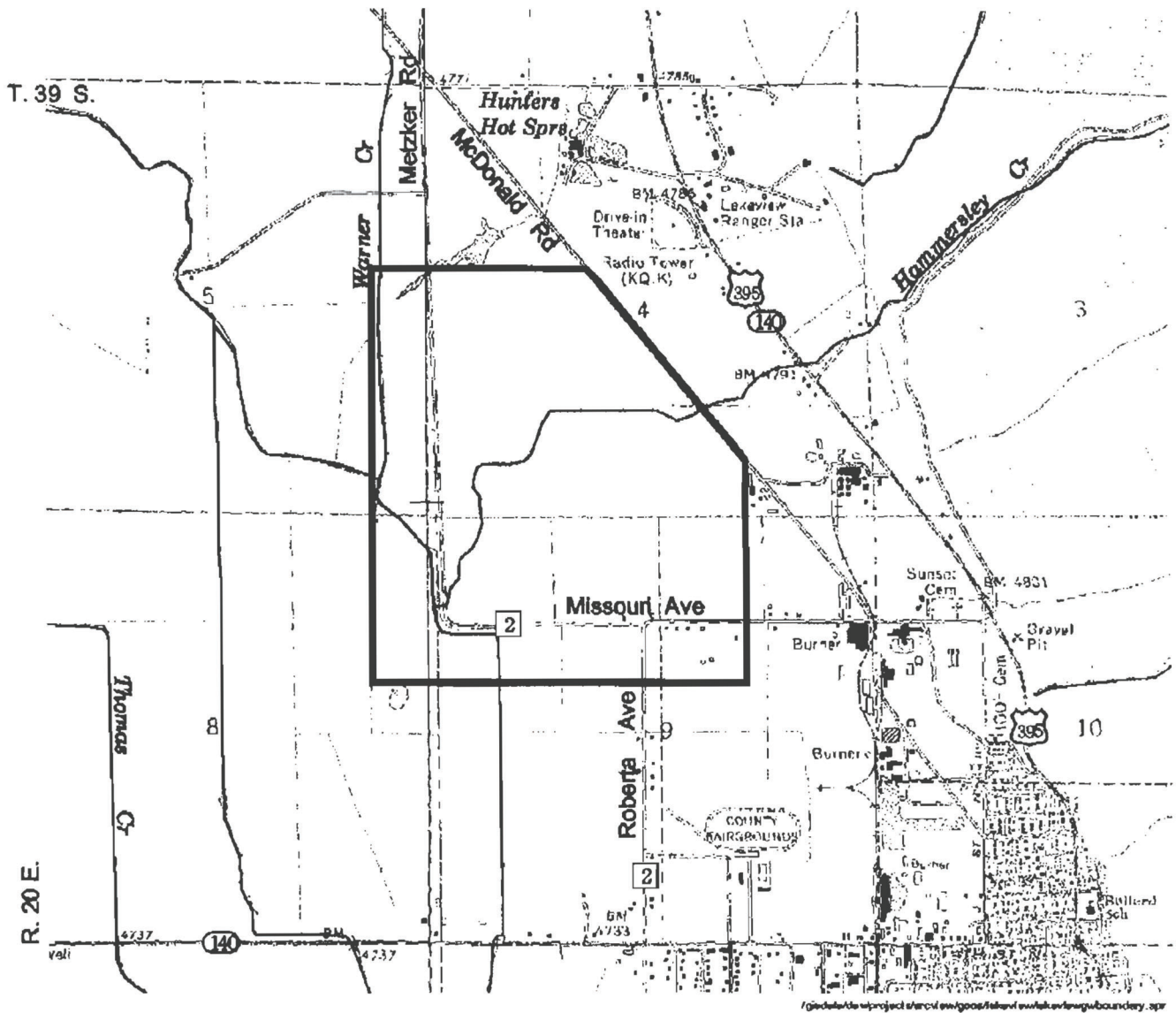
Statutory/Other Authority: ORS 183, ~~537.780~~, ORS 537.505-537.795, ORS 536.027, ORS 536.090, 540ORS 540, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 183, ~~536~~, ORS 537.505--537.795, ~~537.780(1)~~, 540ORS 536.090, ORS 540, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

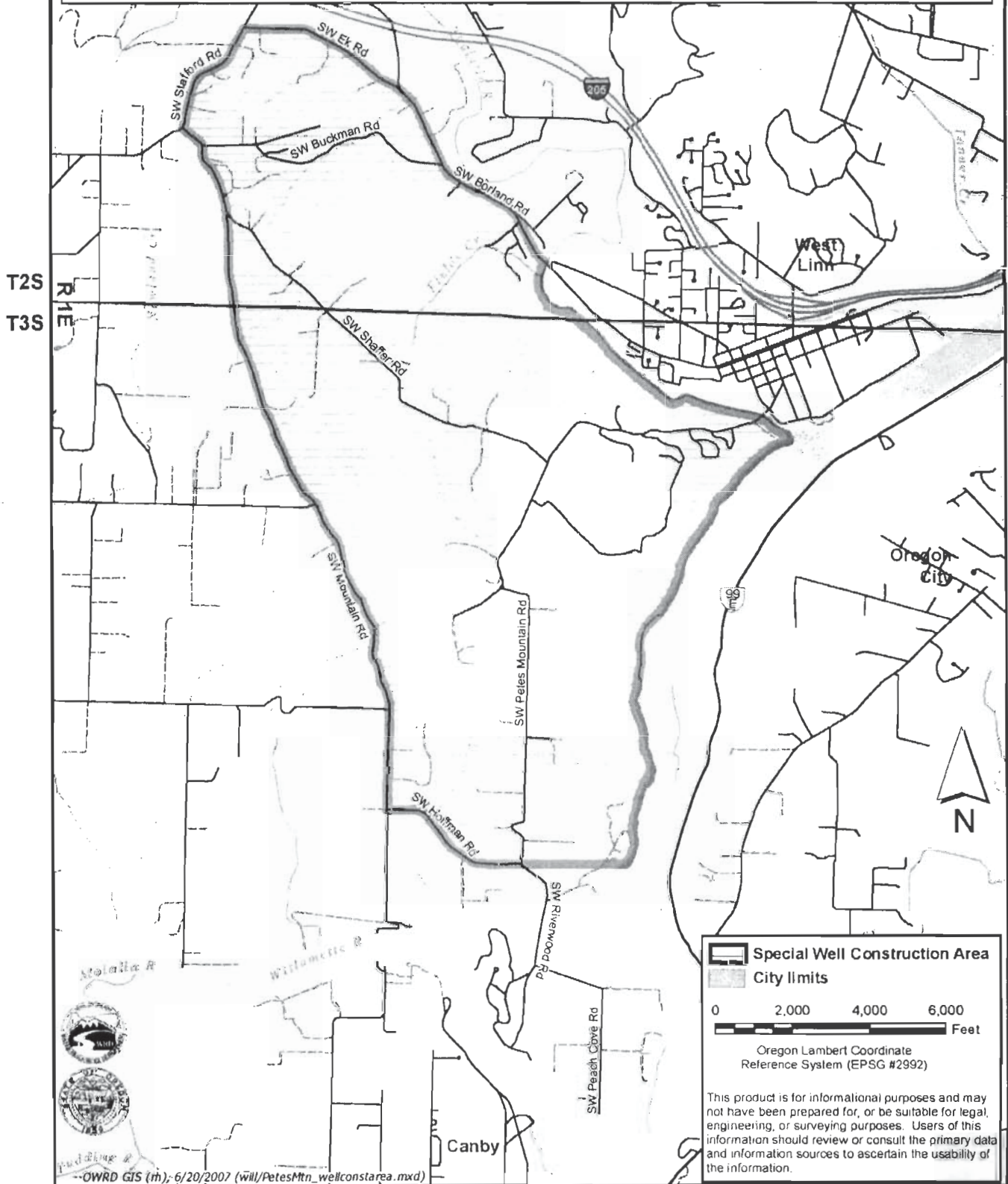
FIGURE 200-3

Special Area Standards
"Lakeview Area"
OAR 690-200-0028

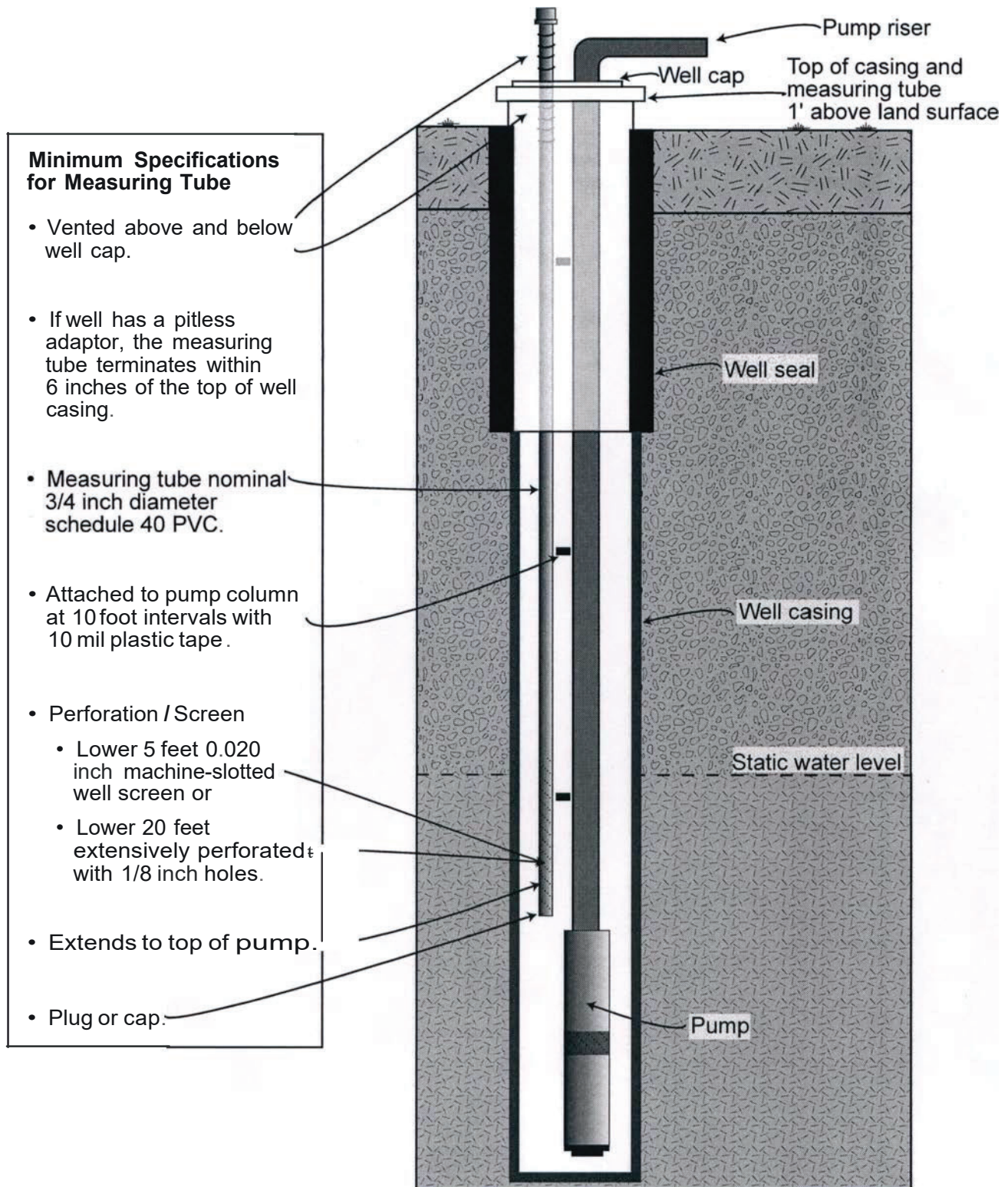


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Special Area Standards: Petes Mountain Area



Measuring Tube Diagram and Specifications

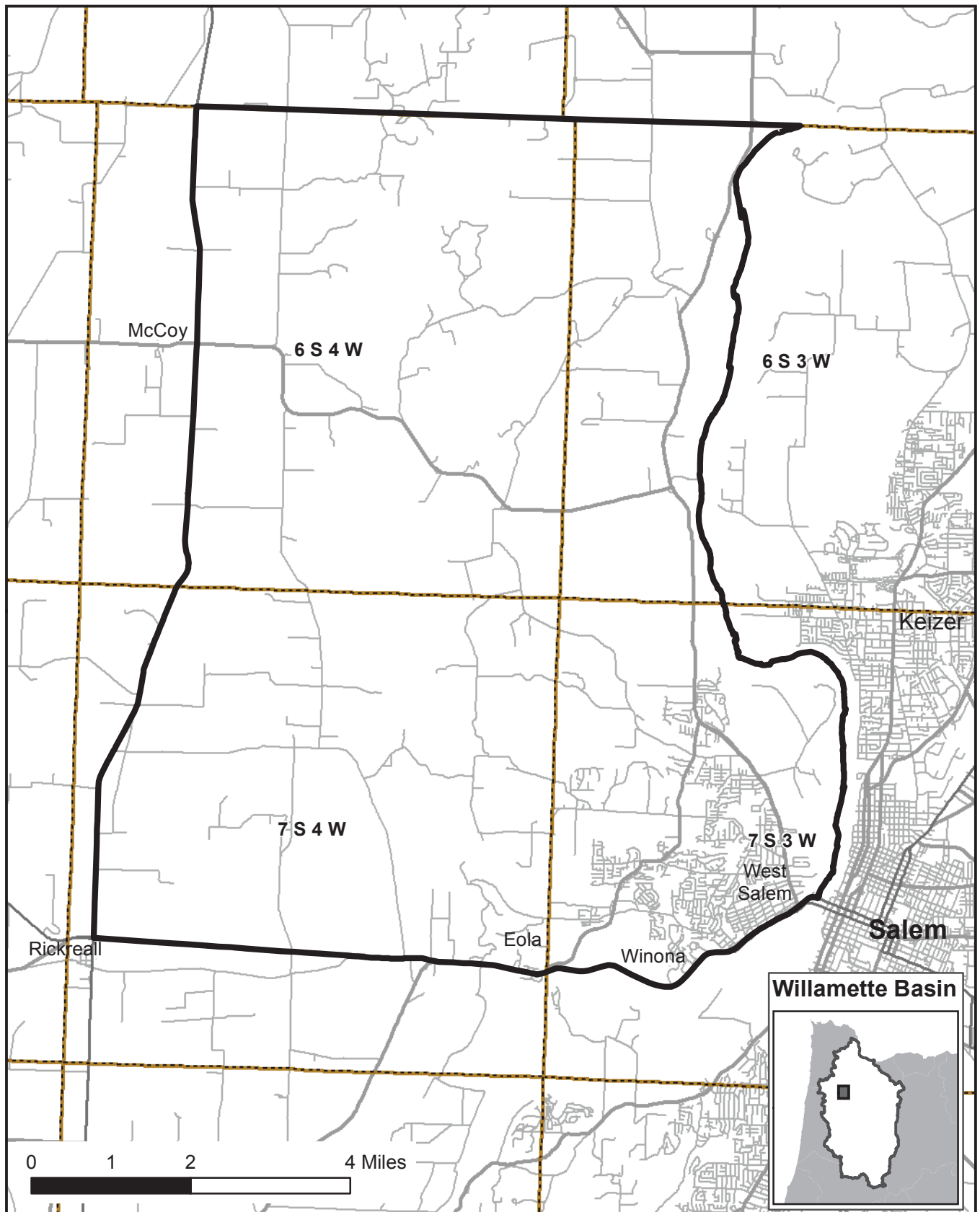


This diagram details the minimum standards for a dedicated measuring tube. A measuring tube may be constructed in a manner that exceeds these standards without prior Department approval. The dedicated measuring tube shall not be reduced in size over the length of the pipe and shall remain free from wires or any other obstruction.

Eola Hills Groundwater Limited Area

Special Area Standards


OAR 690-200-0028, 690-215-0201



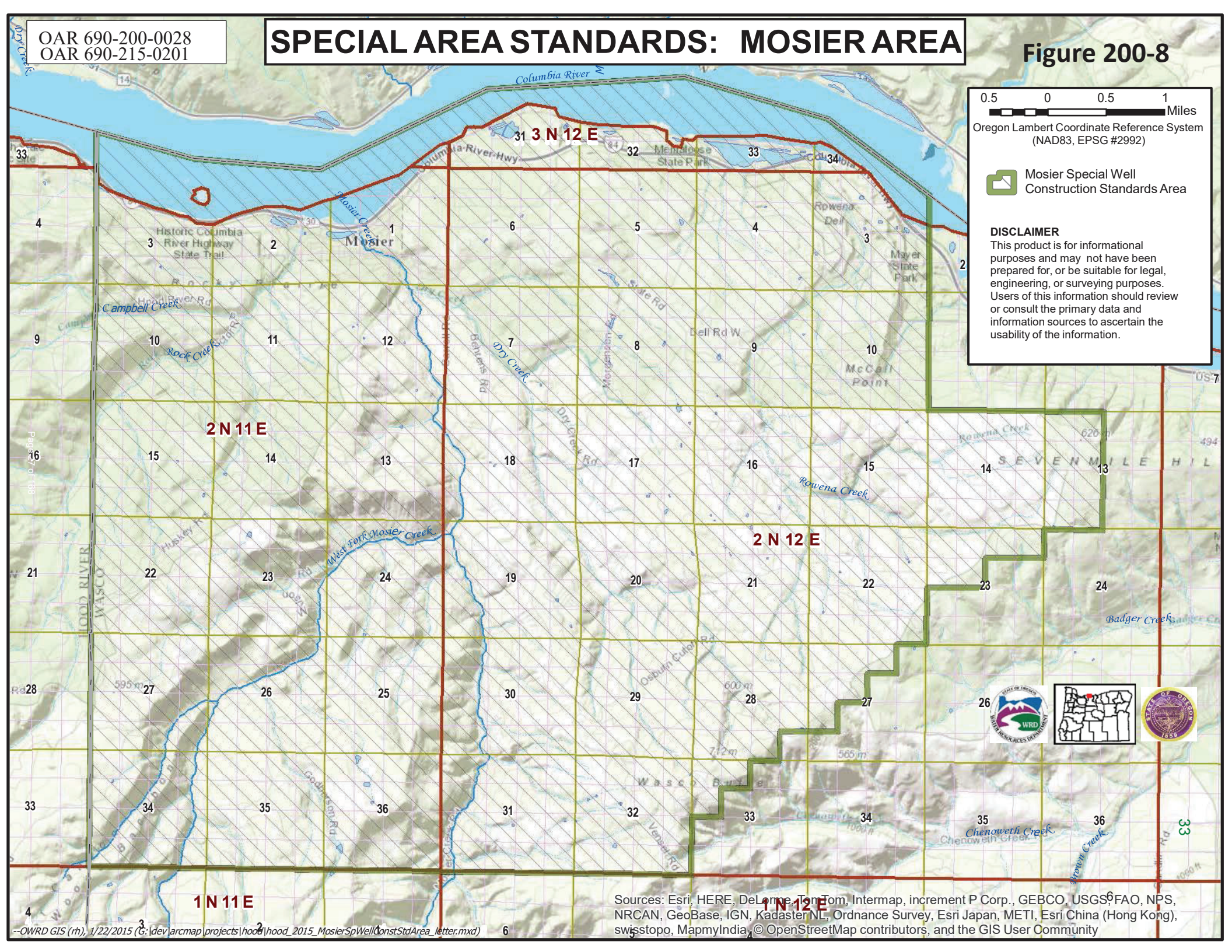
SPECIAL AREA STANDARDS: MOSIER AREA

Figure 200-8

0.5 0 0.5 1 Miles
Oregon Lambert Coordinate Reference System
(NAD83, EPSG #2992)

 Mosier Special Well Construction Standards Area

DISCLAIMER
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

AMEND: 690-200-0046

RULE SUMMARY: Amends rule figure by updating rule label.

CHANGES TO RULE:

690-200-0046

Perched Ground Water ¶¶

Wells drawing water from perched zones must be constructed to prevent the waste of this type of ground water.
(See Figure 200-2)¶¶

[ED. NOTE: Figures referenced are available from the agency.]

Statutory/Other Authority: ~~ORS 183, 536, 537, 540~~ORS 536.027, ORS 537.505 - 537.795, ORS 540, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ~~ORS 183, 536, 537, 540~~ORS 537.505 - 537.795, ORS 540, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

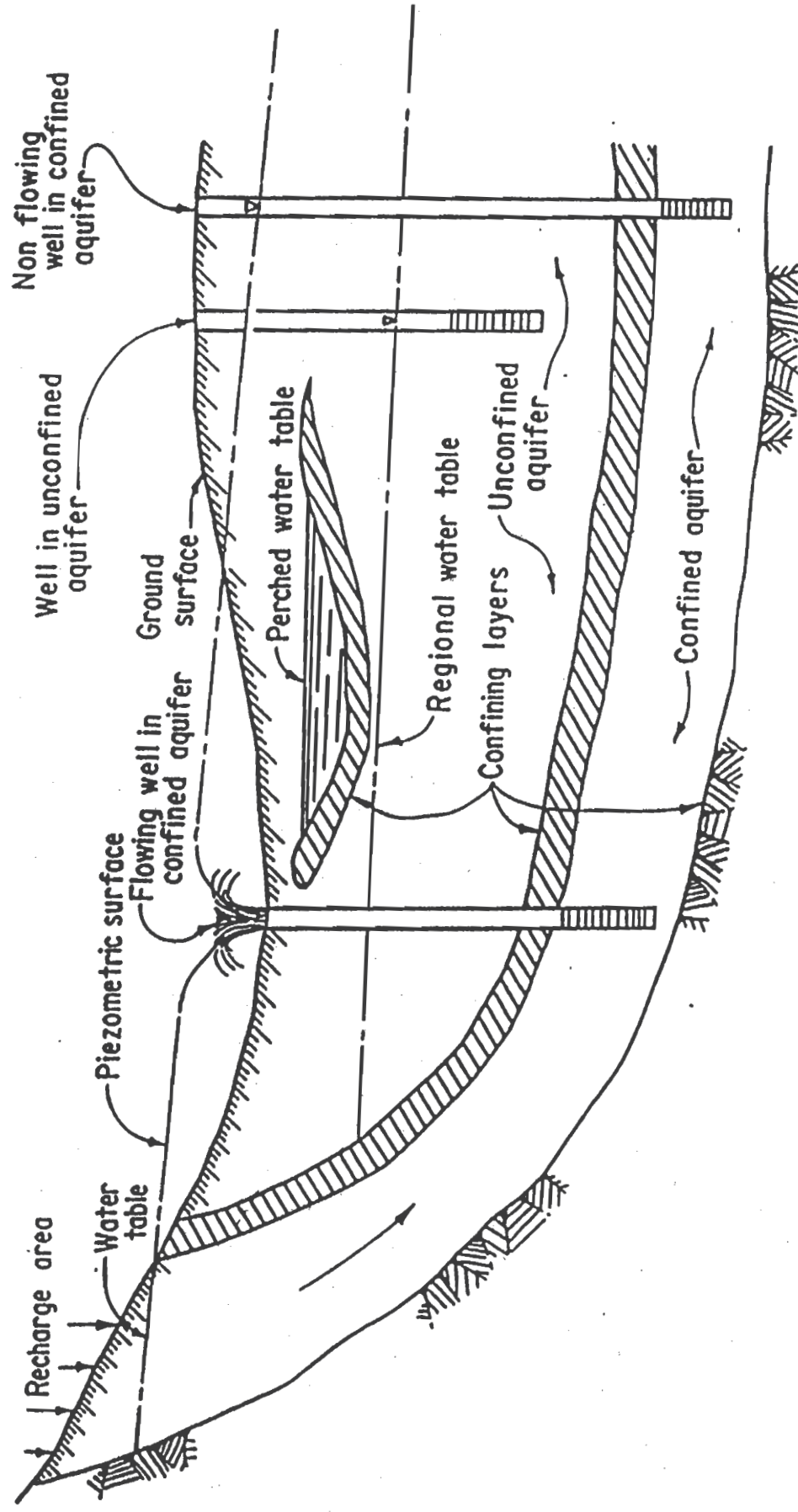


FIGURE 1-2.—Types of aquifers. 103-D-1401.

AMEND: 690-200-0050

RULE SUMMARY: Amends rule to conform with statute (Or Laws 2019, ch 142; Or Laws 2019, ch 626) by modifying definitions associated with licensed well constructors; amends rule figure by updating rule label.

CHANGES TO RULE:

690-200-0050

Definitions ¶

The Water Resources Commission uses the definitions of the words listed below in the administration and enforcement of Oregon's Ground Water Law and the Rules and Regulations for the Construction and Alteration of Wells. No other definitions of these same words apply. ¶

(1) "Abandonment, Permanent" means to remove a well from service by completely filling it in such a manner that vertical movement of water within the well bore and within the annular space surrounding the well casing, is effectively and permanently prevented. If a portion of a well is to be abandoned in order to prevent commingling, waste, or loss of artesian pressure, the abandonment shall conform with the requirements of OAR chapter 690, division 220 for water supply wells. This term is synonymous with "decommission." ¶

(2) "Abandonment, Temporary" means to remove a drilling machine from a well site after completing or altering a well provided the well is not immediately put into service, or to remove a well from service with the intent of using it in the future. ¶

(3) "Access Port" means a minimum 1/2-inch tapped hole and plug, a 1/2-inch capped pipe welded onto the casing in the upper portion of a water supply well, or a dedicated measuring tube to permit unobstructed entry to determine the water level in the well at any time. ¶

(4) "Air Gap" means a complete physical break between the outlet end of the discharge pipe or other conduit and the discharged substance. The break shall be at least twice the inside diameter of the pipe or conduit. (Back-siphon prevention). ¶

(5) "Airline" means a water level measuring device consisting of a pressure gauge attached to an airtight line or pipe of known length, within the water supply well bore, extending from land surface to below the pumping level. The device will allow the water level to be computed by measuring the stable air pressure remaining in the line after completely purging water from within the line. ¶

(6) "Air/Vacuum Relief Valve" means a device to automatically relieve or break vacuum. (Back-siphon prevention). ¶

(7) "Altering a Well" means the deepening, hydrofracturing, re-casing, perforating, re-perforating, installation of packers or seals, and any other material change in the design or construction of a well. Material changes include but are not limited to casing installation or modification including casing extensions, installation or modification of liner pipe, reaming or under reaming of the borehole, pitless unit installation or re-sealing except for re-sealing performed during pitless adapter installation. ¶

(8) "Annular Space" means the space between the drillhole wall and the outer well casing. ¶

(9) "Aquifer" means a geologic formation, group of formations, or part of a formation that contains saturated and permeable material capable of transmitting water in sufficient quantity to supply wells or springs and that contains water that is similar throughout in characteristics such as potentiometric head, chemistry, and temperature (see Figure 200-2). ¶

(10) "Artesian Aquifer" means a confined aquifer in which groundwater is under sufficient head to rise above the level at which it was first encountered, whether or not the water flows at land surface. If the water level stands above land surface, the well is a flowing artesian well (see Figure 200-2). ¶

(11) "Artesian Water Supply Well" means a water supply well in which groundwater is under sufficient pressure to rise above the level at which it was first encountered, whether or not the water flows at land surface. If the water level stands above land surface the well is a flowing artesian water supply well. ¶

(12) "Automatic Low-Pressure Drain" means a self-activating device designed and constructed to intercept incidental leakage and drain that portion of an irrigation pipeline or any other method of conveyance whose contents could potentially enter the water supply when operation of the irrigation system pumping plant fails or is shut down. (Back-siphon prevention). ¶

(13) "Back-Siphon Prevention Device" means a safety device used to prevent water pollution or contamination by preventing flow of a mixture of water and/or chemicals in the opposite direction of that intended. (Back-siphon prevention). ¶

(14) "Bored Well" means a well constructed with the use of earth augers turned either by hand or by power equipment. ¶

(15) "Buried Slab Type Well" means a dug well in which well casing is used to case the upper hole. A slab, sealed with cement grout, is placed between the upper hole and lower drillhole, and the remainder of the annulus is filled

with concrete.¶

(16) "Casing" means the outer tubing, pipe, or conduit, welded or thread coupled, and installed in the borehole during or after drilling to support the sides of the well and prevent caving. Casing can be used, in conjunction with proper seal placement, to shut off water, gas, or contaminated fluids from entering the hole, and to prevent waste of groundwater.¶

(17) "Casing Seal" means the water tight seal established in the well bore between the well casing and the drillhole wall to prevent the inflow and movement of surface water or shallow groundwater in the well annulus, or to prevent the outflow or movement of water under artesian or hydrostatic pressures. This term is synonymous with "annular seal" or "surface seal".¶

(18) "Check Valve" means a certified device designed and constructed to close a water supply pipeline, chemical injection line, or other conduit in a chemigation system to prevent reverse flow in that line. (Back-siphon prevention).¶

(19) "Chemigation" means the method of applying agricultural chemicals and fertilizer through an irrigation system.¶

(20) "Clay" means a fine-grained, inorganic material having plastic properties and with a predominant grain size of less than 0.002 mm.¶

(21) "Commission" means the Oregon Water Resources Commission.¶

(22) "Committee" means the Oregon Ground Water Advisory Committee created by ORS 536.090.¶

(23) "Community Well" means a water supply well, whether publicly or privately owned, which serves or is intended to serve more than three connections for residences or other connections for the purpose of supplying water for drinking, culinary, or household uses.¶

(24) "Confined Animal Feeding or Holding Area" means the concentrated confined feeding or holding of animals or poultry, including but not limited to horse, cattle, sheep, swine, and dairy confinement areas, slaughterhouse or shipping terminal holding pens where the animal waste is allowed to build up on the ground. Pastures and areas adjacent to buildings where animals and animal waste is confined by a physical barrier such as concrete are exempt.¶

(25) "Confining Interval" means a low permeability material such as clay or solid, unfractured, consolidated rock immediately overlying an artesian (confined) aquifer (see Figure 200-2).¶

(26) "Consolidated Formation" means materials that have become firm through natural rock-forming processes. It includes, but is not limited to, such materials as basalt, sandstone, shale, hard claystone, and granite.¶

(27) "Contamination" means an impairment of water quality by chemicals, radionuclides, biologic organisms or other extraneous matter whether or not it affects the potential or intended beneficial use of water.¶

(28) "Continuing Education" means that education required as a condition of licensure under ORS 537.747, to maintain the skills necessary for the protection of groundwater, the health and general welfare of the citizens of Oregon and the competent practice of the construction, alteration, abandonment, conversion, and maintenance of water supply wells, monitoring wells, and geotechnical holes.¶

(29) "Continuing Education Committee" means the Well Constructor Continuing Education Committee authorized under Chapter 496, Oregon Laws 2001 (ORS 537.765).¶

(30) "Continuing Education Course" means a formal offering of instruction or information to licensee's that provides continuing education credits.¶

(31) "Continuing Education Credit" (CEC) means a minimum of 50 minutes of instruction or information approved by the Continuing Education Committee.¶

(32) "Converting" a well means changing the use of an existing well or hole not previously used to either withdraw or monitor water such that the well or hole can be used to either withdraw or monitor water.¶

(33) "Deepening a well" means extending the well bore of an existing well through previously undisturbed native material. Deepening is a type of alteration.¶

(34) "Department" means the Oregon Water Resources Department.¶

(35) "Director" means the Director of the Department or the Director's authorized representatives.¶

(36) "Documentation of Completion" means written evidence or documentation demonstrating attendance and completion of a continuing education course, including but not limited to: a certificate of completion, diploma, transcript, certified class roster, or other documentation as approved by the Continuing Education Committee.¶

(37) "Domestic Well" means a water supply well used to serve no more than three residences for the purpose of supplying water for drinking, culinary, or household uses, and which is not used as a public water supply.¶

(38) "Drawdown" means the difference in vertical distance between the pumping level and the static water level in a well.¶

(39) "Drive Point Well" means a well constructed by driving into the ground a well-point fitted to the end of a pipe section or series of pipe sections.¶

(40) "Dug Well" means a well in which the excavation is made by the use of digging equipment such as backhoes, clam shell buckets, or sand buckets. (See Hand dug well).¶

- (41) "Excavation" means a free-standing cavity with greater width than depth constructed in the earth's surface which has a primary purpose other than seeking water or water quality monitoring. ¶
- (42) "Figure", when used herein, refers to an illustration and is made a part of the primary article and section by reference. ¶
- (43) "Filter Pack Well" means a well in which the area immediately surrounding the well screen or perforated pipe within the water-producing zone is filled with graded granular material. ¶
- (44) "Geologic Formation" means an igneous, sedimentary, or metamorphic material that is relatively homogeneous and is sufficiently recognized as to be distinguished from the adjacent material. The term is synonymous with "formation." ¶
- (45) "Geologist" means an individual registered by the State of Oregon to practice geology. ¶
- (46) "Geotechnical hole" means a hole constructed to collect or evaluate subsurface data or information, monitor movement of landslide features, or to stabilize or dewater landslide features. Geotechnical holes are not monitoring wells or water supply wells as defined below. Various classes and examples of geotechnical holes are listed in OAR 690-240-0035(6)-(9). ¶
- (47) "Grout" means approved cement, concrete, or bentonite sealing material used to fill an annular space of a well or to abandon a well. ¶
- (48) "Grout Pipe" means a pipe which is used to place grout at the bottom of the sealing interval of a well. ¶
- (49) "Hand dug well" means a well in which the excavation is only made by the use of picks, shovels, spades, or other similar hand operated implements. (See Dug Well). ¶
- (50) "Hazardous Materials Training" means training as defined by OAR 437-002-0100 Adoption by Reference Subdivision H Hazardous Materials 1910.120 Hazardous Waste Operations and Emergency Response. ¶
- (51) "Hazardous Waste" means a substance as defined by ORS 466.005. ¶
- (52) "Hazardous Waste Disposal Site" means a geographical site in which or upon which hazardous waste is disposed. ¶
- (53) "Hazardous Waste Storage Site" means the geographical site upon which hazardous waste is stored. ¶
- (54) "Hazardous Waste Treatment Site" means the geographical site upon which or a facility in which hazardous waste is treated. ¶
- (55) "Health Hazard" means a condition where there are sufficient concentrations of biological, chemical, or physical, including radiological, contaminants in the water that are likely to cause human illness, disorders, or disability. These include but are not limited to, naturally occurring substances, pathogenic viruses, bacteria, parasites, toxic chemicals, and radioactive isotopes. Sufficient concentrations of a contaminant include but are not limited to contaminant levels set by the Oregon Department of Environmental Quality and Oregon Health Division. ¶
- (56) "Health Threat" means a condition where there is an impending health hazard. The threat may be posed by, but not limited to: a conduit for contamination, or a well affecting migration of a contaminant plume, or the use of contaminated water. A well in which the construction is not verified by a water supply well report or geophysical techniques may be considered a conduit for contamination in certain circumstances. Those circumstances include, but are not limited to: an unused and neglected well or a well for which no surface seal was required. A well in which the casing seal, sanitary seal, or watertight cap has failed, or was inadequately installed may be considered a conduit for contamination. ¶
- (57) "Horizontal Well" means a well that intentionally deviates more than 20 degrees from true vertical at any point. ¶
- (58) "Hydrofracturing" means the use of high pressure liquid, sand, packers or other material to open or widen fractures in consolidated formations for the purpose of increasing well yield. ¶
- (59) "Hydrologic Cycle" is the general pattern of water movement by evaporation from sea to atmosphere, by precipitation onto land, and by return to sea under influence of gravity. ¶
- (60) "Inspection Port" means an orifice or other viewing device from which the low-pressure drain and check valve may be observed. ¶
- (61) "Jetted Well" means a well in which the drillhole excavation is made by the use of a high velocity jet of water. ¶
- (62) "Leakage" means movement of surface and/ or subsurface water around the well casing or seal. ¶
- (63) "Liner Pipe" means the inner tubing, pipe, or conduit installed inside the well casing or lower well bore. The liner pipe is used to protect against caving formations and is not permanently affixed to the drillhole wall or casing. ¶
- (64) "Lower Drillhole" means that part of the well bore extending below the casing seal interval in a well. ¶
- (65) "Mineralized Water" means any naturally occurring groundwater containing an amount of dissolved chemical constituents limiting the beneficial uses to which the water may be applied. ¶
- (66) "Monitoring Well" means a well designed and constructed to determine the physical (including water level), chemical, biological, or radiological properties of groundwater. ¶

- (67) "Monitoring Well Constructor" means any person who has a current ~~water monitoring~~ well constructor's license ~~with a monitoring well endorsement issued in accordance with ORS 537.747(3).~~ ¶
- (68) "Monitoring Well Constructor's License" means a Water Well Constructor's License with a monitoring well endorsement issued in accordance with ORS 537.747(3); or with a monitoring well temporary authorization endorsement issued in accordance with ORS 537.747 (3), Section 1, Chapter 142, Oregon Laws 2019, and Section 1, Chapter 626, Oregon Laws 2019. ¶
- (69) "Municipal or Quasi-Municipal Well" means a water supply well owned by a municipality or nonprofit corporation that may be used as a community or public water supply. ¶
- (70) "Order" means any action satisfying the definition given in ORS Chapter 183 or any other action so designated in ORS 537.505 to 537.795. ¶
- (71) "Other Hole" means a hole other than a water supply well, a monitoring well, or geotechnical hole, however constructed, in naturally occurring or artificially emplaced earth materials, through which groundwater can become contaminated. Holes constructed under ORS Chapters 517, 520, and 522 are not subject to these rules. Other holes are regulated under OAR 690-240. Examples of other holes are listed in 690-240-0030. ¶
- (72) "Perched Groundwater" means groundwater held above the regional or main water table by a less permeable underlying earth or rock material (see Figure 200-2). ¶
- (73) "Permeability" means the ability of material to transmit fluid, usually described in units of gallons per day per square foot of cross-section area. It is related to the effectiveness with which pore spaces transmit fluids. ¶
- (74) "Person" includes individuals, corporations, associations, firms, partnerships, joint stock companies, public and municipal corporations, political subdivisions, the state and any agencies thereof, and the Federal Government and any agencies thereof. ¶
- (75) "Petcock Valve" is a valve used to contain pressure which when opened will drain the line or pipe. ¶
- (76) "Petroleum" means gasoline, crude oil, fuel oil, diesel oil, lubricating oil, oil sludge, oil refuse, and crude oil fractions and refined petroleum fractions, including gasoline, kerosene, heating oils, diesel fuels, and any other petroleum-related product or waste or fraction thereof that is liquid at a temperature of 60 degrees Fahrenheit and a pressure of 14.7 pounds per square inch absolute. "Petroleum" does not include any substance identified as a hazardous waste under 40 CFR Part 261. ¶
- (77) "Piezometer" means a type of monitoring well designed solely to obtain groundwater levels. Piezometers are prohibited in areas of known or reasonably suspected contamination. This term is synonymous with "observation well" (See OAR 690-240). ¶
- (78) "Pitless Adapter" means a commercially manufactured device designed for attachment to one or more openings through a well casing, which will permit water service pipes to pass through the wall of a well casing or extension thereof and prevent entrance of contaminants into the well or groundwater. (Note: Unhydrated bentonite shall be installed at least one and one-half inches thick around the casing in any disturbed seal interval during pitless adapter installation). ¶
- (79) "Pitless Unit" means a commercially manufactured assembly which extends the upper end of the well casing to above grade, constructed and installed so as to prevent the entrance of contaminants into the well and to protect the groundwater supply, conduct water from the well, and provide full access to the well and water system parts therein. (Note: Unhydrated bentonite shall be installed at least one and one-half inches thick around the casing in any disturbed seal interval during pitless unit installation). ¶
- (80) "Porosity" means the ratio of the volume of voids in the geologic formation being drilled to the overall volume of the material without regard to size, shape, interconnection, or arrangement of openings. ¶
- (81) "Potable Water" means water which is sufficiently free from biological, chemical, physical, or radiological impurities so that users thereof will not be exposed to or threatened with exposure to disease or harmful physiological effects. ¶
- (82) "Potentiometric Surface" means the level to which water will rise in tightly cased artesian wells (see Figure 200-2). ¶
- (83) "Pressure Grouting" means a process by which grout is confined within the drillhole or casing by the use of retaining plugs or packers and by which sufficient pressure is applied to drive the grout slurry into the annular space or zone to be grouted. ¶
- (84) "Professional" means any person licensed or registered by the State of Oregon to construct monitoring wells, water supply wells, or practice geology or civil engineering. ¶
- (85) "Public-at-Large" means a person not actively engaged in the well industry. ¶
- (86) "Public Water System" means 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 ten or more individuals per day. Public water system also means 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. A public water system is either a "Community Water System," a "Transient Non-Community Water System," a

"Non-Transient Non-Community Water System" or a "State Regulated Water System." ¶

(87) "Public Well" means a water supply well, whether publicly or privately owned, other than a municipal well, where water is provided for or is available through the single user for public consumption. This includes, but is not limited to, a school, a farm labor camp, an industrial establishment, a recreational facility, a restaurant, a motel, or a group care home. ¶

(88) "Pumping Level" means the level of the water surface in a well while it is being pumped or bailed. ¶

(89) "Pump Test" means the procedure involving pumping water for a specified period of time to determine the yield characteristics of an aquifer. ¶

(90) "Refusal to Renew" means a provision in an order, or as allowed by ORS 537.747, that prohibits renewal of a well constructor's license, for a specified term not to exceed one year from the expiration date of the current license. ¶

(91) "Remediation Well" means a well used for extracting contaminants and/or contaminated groundwater from an aquifer. This term is synonymous with "extraction well" and "recovery well." ¶

(92) "Respondent" means the person against whom an enforcement action is taken. ¶

(93) "Responsible Party" means the person or agency that is in charge of construction or maintenance and is either in violation as specified in a notice of violation or who may benefit from that violation. ¶

(94) "Rough Drilling Log" means a record kept on the well site of the information needed to complete the well report for the well being constructed. ¶

(95) "Revoke" means termination of a well constructor's license. ¶

(96) "Sand" means a material having a prevalent grain size ranging from 2 millimeters to 0.06 millimeters. ¶

(97) "Sanitary Seal" means a tight fitting properly sized threaded, welded, or gasketed cap placed on the top of the permanent well casing to prevent entry of water and foreign material. ¶

(98) "Sealant": See Grout. ¶

(99) "Silt" means an unconsolidated sediment composed predominantly of particles between 0.06 mm and 0.002mm in diameter. ¶

(100) "Slope Stability Geotechnical Hole" means a geotechnical hole excavated, drilled or bored for studying and/or monitoring movement of landslide features, including water levels, or other mass-wasting features to detect zones of movement and establish whether movement is constant, accelerating, or responding to remedial measures. Hole(s) excavated, drilled or bored for the purpose of slope remediation or stabilization shall be considered a slope stability geotechnical hole. Slope stability geotechnical holes are not monitoring wells, piezometers, or water supply wells. ¶

(101) "Sponsor" means an institution, professional organization, individual, or business that offers continuing education courses to licensees. This term is synonymous with provider. ¶

(102) "Static Water Level" means the stabilized level or elevation of water surface in a well not being pumped. ¶

(103) "Sump" means a hole dug to a depth of ten feet or less with a diameter greater than ten feet in which groundwater is sought or encountered. ¶

(104) "Suspension" means the temporary removal of the privilege to construct wells under an existing license for a period of time not to exceed one year. ¶

(105) "System Interlock" means an interlocking mechanism used to link irrigation pumps and chemical injection units, other pumps, or supply tanks so designed that in the event of irrigation pump malfunction or failure, shutdown of the chemical injection units will occur. (Back-siphon prevention). ¶

(106) "Unconsolidated Formation" means naturally occurring, loosely cemented, or poorly indurated materials including clay, sand, silt, and gravel. ¶

(107) "Underground Injection" means the emplacement or discharge of fluids to the subsurface. ¶

(108) "Underground Injection System" means a well, improved sump, sewage drain hole, subsurface fluid distribution system, or other system or groundwater point source used for the emplacement or discharge of fluids. ¶

(109) "Upper Oversize Drillhole" means that part of the well bore extending from land surface to the bottom of the surface seal interval. ¶

(110) "Violation" means an infraction of any statute, rule, standard, order, license, compliance schedule, or any part thereof and includes both acts and omissions. ¶

(111) "Water Supply Well" means a well, other than a monitoring well, that is used to beneficially withdraw or beneficially inject ground or surface water. Water supply wells include, but are not limited to, community, dewatering, domestic, irrigation, industrial, municipal, and aquifer storage and recovery wells. ¶

(112) "Water Supply Well Constructor" means any person who has a current water supply well constructor's license ~~with a water supply well endorsement issued in accordance with ORS 537.747(3).~~ ¶

(113) "Water Supply Well Constructor's License" means a Water Well Constructor's License with a water supply well endorsement issued in accordance with ORS 537.747(3); or with a water supply well temporary authorization endorsement issued in accordance with ORS 537.747 (3), Section 1, Chapter 142, Oregon Laws 2019, and Section

1, Chapter 626, Oregon Laws 2019. ¶

(114) "Water Supply Well Drilling Machine" means any power-driven driving, jetting, percussion, rotary, boring, digging, augering machine, or other equipment used in the construction or alteration of water supply wells. ¶

(115) "Water Table" means the upper surface of an unconfined water body, the surface of which is at atmospheric pressure and fluctuates seasonally. The water table is defined by the levels at which water stands in wells that penetrate the water body (see Figure 200-2). ¶

(116) "Water Well Constructor's License" means a license to construct, alter, deepen, abandon or convert wells issued in accordance with ORS 537.747(3). Endorsements are issued to the license and are specific to the type of well a constructor is qualified to construct, alter, deepen, abandon or convert. ¶

(117) "Well" means any artificial opening or artificially altered natural opening, however made, by which groundwater is sought or through which groundwater flows under natural pressure, or is artificially withdrawn or injected. This definition shall not include a natural spring, or wells drilled for the purpose of exploration or production of oil or gas. Prospecting or exploration for geothermal resources as defined in ORS 522.005 or production of geothermal resources derived from a depth greater than 2,000 feet as defined in 522.055 is regulated by the Department of Geology and Mineral Industries. ¶

(118) "Wet Soil Monitoring Hole" means a shallow geotechnical hole set vertically in the ground and constructed to a depth of three and one-half feet or less for studying and/or monitoring the upper portion of the shallowest water-bearing unit within and immediately below the surface soil horizon. ¶

[ED. NOTE: Figures referenced are available from the agency]

Statutory/Other Authority: ORS 536.027, ORS 536.090, ORS 537.505 - 537.795, Or Laws 2019, ch 142, Or Laws 2019, ch 626

Statutes/Other Implemented: ORS 536.090, ORS 537.505 - 537.795, Or Laws 2019, ch 142, Or Laws 2019, ch 626

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

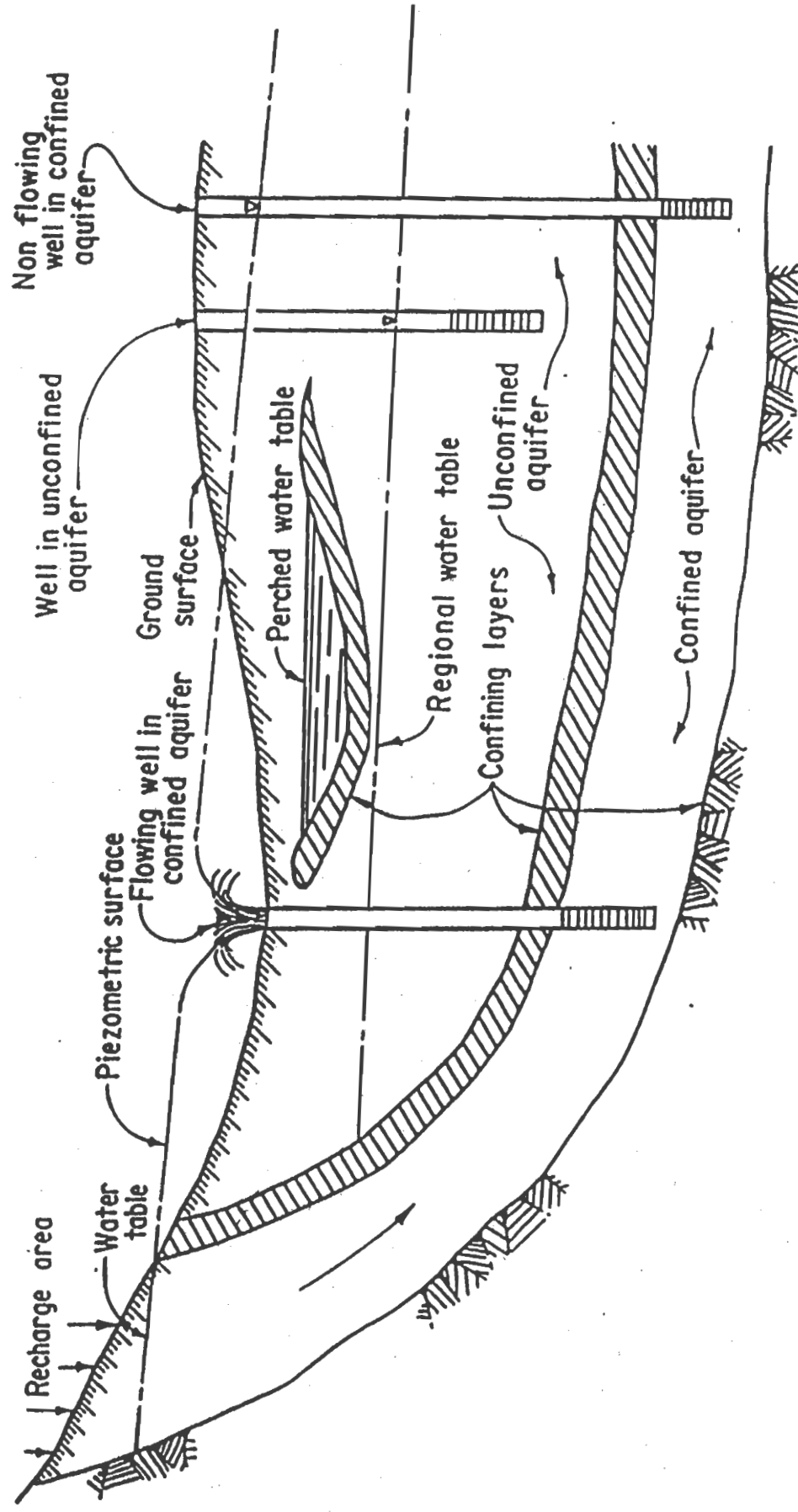


FIGURE 1-2.—Types of aquifers. 103-D-1401.

AMEND: 690-205-0010

RULE SUMMARY: Amends rule to add clarity to examination requirements for license applicants.

CHANGES TO RULE:

690-205-0010

Water Supply Well Constructor License Examination ¶¶

(1) The Water Resources Department administers the written examination required under ORS 537.747. Separate examinations are administered for each license endorsement. The Department schedules the examination on the second Monday during the months of January, April, July and October. Examinees must pay a \$20.00 exam fee. Special accommodations may be given to those individuals who cannot attend the regularly scheduled examination dates. Requests shall be considered on a case-by-case basis. The examination tests the applicant's knowledge of:¶¶

(a) Oregon laws and administrative rules on the use of ground water, water supply well constructor licensing requirements, basic information on hydrogeology, the construction of water supply wells, and the preparing and filing of Start Cards and Water Supply Well Reports;¶¶

(b) Hydrogeology, the occurrence and movement of ground water, and the design, construction and development of water supply wells; and¶¶

(c) Types, uses, and maintenance of drilling tools and equipment, drilling problems and corrective procedures, repair of faulty water supply wells, sealing of water supply wells, and safety rules and practices.¶¶

(2) An applicant who fails to pass an endorsement examination may retake an examination for the same endorsement after three months and the payment of another examination fee.¶¶

(3) Passing examination scores are valid for three years from the date of the examination.

Statutory/Other Authority: ORS 536.090, ORS 537.505--537.795-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505--537.795, ORS 536.900, ORS 537.992

AMEND: 690-205-0020

RULE SUMMARY: Rule Summary: Amends rule name to add temporary authorization for water supply well construction to conform with statute (Or Laws 2019, ch 142; Or Laws 2019, ch 626); amends rule requirements regarding water supply well construction licensing to conform with statute (Or Laws 2021, ch 610); amends rule to add temporary authorization for water supply well construction licensing requirements to conform with statute (Or Laws 2019, ch 142; Or Laws 2019, ch 626); amend rules grammatically.

CHANGES TO RULE:

690-205-0020

Water Supply Well Constructors License, Experience Requirements and Trainee Card and Temporary Authorization

(1) License. To qualify for a Water Supply Well Constructor's License, a person shall:

(a) Be at least 18 years old;

(b) Pass a written examination;

(c) Have a minimum of one year experience, during the previous 36-month period, in water supply well construction, conversion, alteration, or abandonment. This experience shall include the operation of well drilling machinery for water supply well construction, alteration, conversion, or abandonment on a minimum of fifteen water supply wells or a demonstration of equivalent experience in the operation of well drilling machinery. The following are acceptable as evidence of experience:

(A) Water supply well reports, or rough well logs with applicants' name entered, for each of the 15 wells. The name, address, and telephone number of the person responsible for the construction of each well shall be included on each report or log.

(B) Income tax returns showing source of drilling income for a period of time, or worker's compensation account information or the equivalent may be established to satisfy the one year of active construction requirement.

(C) Any other evidence the Director may deem suitable.

(D) A license held in another state shall not substitute for required evidence of experience.

(d) Pay a license fee.

(e) Provide evidence of welding proficiency. Acceptable evidence of welding proficiency includes:

(A) A copy of an arc welding certificate from a nationally recognized welding organization. Acceptable organizations include, but are not limited to, American Welding Society, American Petroleum Institute, American Society of Mechanical Engineers, and the United States Military; or

(B) A copy of an official transcript or other official written documentation from a community college that demonstrates a passing grade in an arc welding training course; or

(C) Official written documentation from a university, welding school, trade school, technical institute, or nationally recognized welding organization that demonstrates that the applicant has received a passing grade in an arc welding training course or has otherwise completed professional welding training; or

(D) Written documentation from a certified welding instructor or certified welding inspector, providing proof that the applicant has successfully completed arc welding tests to demonstrate proficiency at welding steel casing joints as required in OAR 690-210-0200.

(f) Applicants that hold a current Oregon monitoring well constructor's license are not required to provide evidence of welding proficiency to obtain a water supply well endorsement.

(2) Trainee. If an applicant passes the written Water Supply Well Constructor's License examination, but cannot meet the experience requirement, the Commission may issue a trainee card. To qualify for a Water Supply Well Constructor Trainee Card, a person must:

(a) Be at least 18 years old;

(b) Pass a written examination; and

(c) Be supervised by a person who holds a valid Water Supply Well Constructor's License.

(3) Trainee card. A trainee card is valid for three (3) years from the date the examination was passed.

(4) Supervision. Supervision as it relates to any person who holds a Water Supply Well Constructor Trainee Card:

(a) A trainee may operate a cable tool drilling machine without a licensed Water Supply Well Constructor physically present at the well site only if:

(A) The licensed constructor can reach the well site within two hours if so requested by an authorized representative of the Department; and

- (B) The licensed constructor has signed the rough drilling log within eight working hours prior to the representative's visit. ¶
- (b) A licensed Water Supply Well Constructor must physically be on the site at all times when a cable tool drilling machine is: ¶
- (A) Drilling within a flowing artesian well; ¶
- (B) Setting or advancing casing; ¶
- (C) Setting liner; ¶
- (D) Perforating casing; ¶
- (E) Setting well screens; ¶
- (F) Placing packers; ¶
- (G) Placing casing seals; ¶
- (c) A Water Supply Well Constructor trainee may operate a non-cable tool water supply well drilling machine without a licensed Water Supply Well Constructor physically present at the well site only during the following events: ¶
- (A) Air test or pump test of the well; ¶
- (B) Gravel packing operations; ¶
- (C) Developing a completed well; ¶
- (D) Removal of the drill stem from the well. ¶
- (d) Activities under subsection (4)(c)(A)-(D) of this rule shall proceed only if: ¶
- (A) The licensed Water Supply Well Constructor can reach the site within one hour if so requested by an authorized representative of the Department; and ¶
- (B) The licensed Water Supply Well Constructor has signed the rough drilling log within eight working hours prior to the representative's visit. ¶
- (e) An authorized representative of the Department in whose jurisdiction the water supply well is being constructed has the authority to: ¶
- (A) Grant an extension to the time limits stated above when a request, showing good cause, is received from the bonded constructor in advance for each particular well; and ¶
- (B) Place additional restrictions on the trainee, including requiring the constructor to be on the site at all times while the drilling machine is operating, when the authorized Department representative determines that either the drilling environment or the knowledge and/or experience of the trainee warrant closer supervision. ¶
- (f) For a Water Supply Well Constructor Trainee to operate a water supply well drilling machine without a licensed Water Supply Well Constructor present, the trainee's card must be endorsed with the name of the bonded Water Supply Well Constructor responsible for the construction of the water supply well. ¶
- (5) Water Supply Well Constructor's License Temporary Authorization Endorsement. A person that is the spouse of a member of the Armed Forces of the United States through marriage or domestic partnership, whose spouse is stationed in this state, may apply for a Water Supply Well Constructor's License Temporary Authorization Endorsement. ¶
- (a) Application for a water supply well constructor's license temporary authorization endorsement must include the following: ¶
- (A) Completed and signed application form including evidence the person is 18 years of age or older; ¶
- (B) Examination fee; ¶
- (C) A copy of a marriage certificate, domestic partnership registration, or other official evidence of legal union and an attestation that said union is valid and in effect; ¶
- (D) A copy of the spouse or domestic partner's assignment to an Oregon duty station by official active duty military order; ¶
- (E) Official verification of the applicant's current authorization to provide water supply well constructor services in another state along with the Department's "good standing" form; ¶
- (F) A completed comparison form as provided by the Department, outlining the out-of-state licensing authority's authorization requirements; and ¶
- (G) Official notification from the Department that applicant has passed the water supply well constructors license examination. ¶
- (b) The Department will review the application for a Water Supply Well Constructor's License Temporary Authorization Endorsement once all materials are submitted. A Water Supply Well Constructor's License Temporary Authorization Endorsement shall be issued if the Department determines: ¶
- (A) Applicant is eligible to apply; ¶
- (B) The Out-of-state authorization is current; ¶
- (C) The Out-of-state licensing authority's licensing requirements are substantially similar to the Department's requirements; ¶
- (D) The good standing form is complete; ¶

(E) The applicant has passed the written exam; and ¶

(F) The license fee is paid. ¶

(c) A temporary authorization endorsement issued by the Department is valid until the earliest of: ¶

(A) Two (2) years after the date of issuance; ¶

(B) The date the spouse's term of military service ends; ¶

(C) The date the persons out-of-state authorization expires. ¶

(d) Temporary authorizations are not renewable. The holder of an expired temporary authorization may not continue to provide services for the construction, alteration, conversion, or abandonment of water supply wells after expiration unless the person obtains a Water Supply Well Constructor's License under subsection one (1) of this rule. ¶

(e) The Department shall report annually to the State Legislature about temporary authorization endorsements as required in Section 1, Chapter 626, Oregon Laws 2019. ¶

(6) Other supervision requirements for persons not licensed or permitted to construct water supply wells, or who do not hold a Water Supply Well Constructor Trainee Card: ¶

(a) Persons who are in the act of constructing, altering, converting or abandoning water supply wells must be supervised by a licensed Water Supply Well Constructor who is physically present at the well site at all times during construction, alteration, conversion, or abandonment activity. ¶

(b) The supervising Water Supply Well Constructor is responsible for all applicable statutes and rules in construction, alteration, conversion, or abandonment of the water supply well. ¶

(6Z) Persons who satisfy all requirements of ORS 537.747(3) shall be issued a Water Supply Well Constructor's License. The responsibilities for issuing and securing a Water Supply Well Constructor's License or trainee card are listed in subsections (a) and (b) of this section. ¶

(a) The Water Supply Well Constructor's License applicant is responsible for: ¶

(A) Completing an application or renewal form for a new or renewed license or trainee card; ¶

(B) Submitting the application or renewal form to the Water Resources Department along with the required fees; ¶

(C) Carrying the license or trainee card whenever constructing, altering, converting, or abandoning any water supply well; and ¶

(D) Providing the Water Resources Department, within 30 days, notification of any change of mailing address. ¶

(E) Providing the Water Resources Department documentation satisfying the continuing education requirements set forth in OAR 690-205-0035 through 690-205-0120. ¶

(b) The Water Resources Department is responsible for: ¶

(A) Designing and providing Water Supply Well Constructor license(s) and trainee cards; ¶

(B) Designing and providing application forms and renewal forms for licenses and application forms for trainee cards; ¶

(C) Processing applications and renewals for licenses and applications for trainee cards; ¶

(D) Returning incomplete application and renewal forms to applicants for completion; and ¶

(E) Sending new and renewed licenses to applicants who have completed the application or renewal form and submitted the required fee. This does not preclude refusal to renew as outlined in OAR 690-205-0025(4). ¶

(78) Bonded Water Supply Well Constructor. For a person to possess a bonded Water Supply Well Constructor's License, the person must provide to the Department a properly executed Water Well Constructor's Bond or Irrevocable Letter of Credit. The Water Resources Department shall indicate on the constructor's license a bonded classification. ¶

(89) Representatives of the Water Resources Department may ask anyone constructing, altering, or abandoning a water supply well to present their license or trainee card as proof of eligibility to construct, alter, convert, or abandon water supply wells in the State of Oregon. Licensed individuals shall display their license or trainee card and photo identification when they are requested to do so by Water Resources Department personnel.

Statutory/Other Authority: ORS 536.090, ORS 537.505--537.795, ORS 536.900, ORS 536.027, ORS 106.340, ORS 537.992, Or Laws 2019, ch 142, Or Laws 2019, ch 626, Or Laws 2021, ch 610

Statutes/Other Implemented: ORS 536.090, ORS 537.505--537.795, ORS 536.900, ORS 106.340, ORS 537.992, Or Laws 2019, ch 142, Or Laws 2019, ch 626, Or Laws 2021, ch 610

AMEND: 690-205-0045

RULE SUMMARY: Amends rule by removing outdated rule implementation date.

CHANGES TO RULE:

690-205-0045

Continuing Education Requirement ¶

(1) ~~As of June 30, 2005, e~~ Each individual licensed under ORS 537.747 is required to obtain a minimum of 14 continuing education credits (CECs) during each licensing period regardless of the number of licenses or endorsements held. Continuing education credits may be obtained through clinics, schools, professional organizations, seminars, lectures or other continuing education courses that relate to the practice of well construction and are approved by the Continuing Education Committee.¶

(2) A minimum of two (2) CECs shall pertain to ground water and well construction statutes under ORS 537.505 to 537.795 and 537.992, and administrative rules under OAR 690-200 through 690-240 during each licensing period.¶

(3) A maximum of eight (8) CECs may be obtained through approved safety/first aid/CPR/Hazardous Materials courses during each licensing period. Of the eight (8) CECs, a maximum of four (4) CECs may be obtained through Hazardous Materials training courses and a maximum of four (4) CECs may be obtained through safety/first aid/CPR courses.¶

(4) Exhibitions shall count as one (1) CEC per approved exhibition attended and shall not exceed two (2) CECs per licensing period.¶

(5) Licensees may count approved CECs accumulated after January 1, 2002, for their first license renewal that requires CECs.

Statutory/Other Authority: ORS 536.090, ORS 537.505–~~537.795~~–537.795, ORS 536.027, ORS 536.900, ORS 536.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505–~~537.795~~, ORS 536.900, ORS 536.992

AMEND: 690-205-0175

RULE SUMMARY: Amends rule by adding signature requirement for clarity

CHANGES TO RULE:

690-205-0175

Landowner Well Construction Permit, Fee and Bond ¶¶

(1) The Water Resources Commission requires a permit, permit fee, and bond or irrevocable letter of credit, for each water supply well constructed, altered, converted, or abandoned by a landowner, unless the landowner is a licensed and bonded Water Supply Well Constructor. The landowner permit and bond shall be obtained prior to beginning work on a well.¶¶

(2) To receive a Landowner Well permit, a person must submit the following to the Director:¶¶

(a) A completed application form provided by the Commission, containing:¶¶

(A) The property owner's name, address and telephone number;¶¶

(B) The surety company's name, address and telephone number;¶¶

(C) The proposed location of the well by township, range, section, tax-lot number if assigned, and street address;¶¶

(D) The proposed use of the water supply well; and¶¶

(E) The type of proposed work; and¶¶

(F) Well design plan on form approved by the Department.¶¶

(b) A properly executed Landowner's Water Well Bond or Irrevocable Letter of Credit in the amount specified under ORS 537.753 to the State of Oregon; and¶¶

(c) A permit fee in the amount specified under ORS 537.753.¶¶

(3) Only the owner of record, a member of the immediate family of the owner of record, or a full time employee of the owner of record, (whose main duties are other than the construction of wells), may operate a well drilling machine under a landowner's permit.¶¶

(4) A landowner permit issued pursuant to these rules shall expire six months from the date of issuance.¶¶

~~(a)~~ A water well report shall be submitted within 30 days of expiration of the landowner permit, or within 30 days of completion of the well, whichever occurs first. The report shall be certified as correct by signature of the landowner constructing the water supply well.¶¶

(5) If the landowner permit expires, a landowner may reapply for a new landowner permit by complying with the requirements described in sections (1), (2) and (3) of this rule.¶¶

(6) The Department may deny a landowner permit if it is determined that the construction, alteration, abandonment, or conversion of the proposed well is a health threat, a health hazard, a source of contamination, or a source of waste of the ground water resource.

Statutory/Other Authority: ~~ORS 183, 536, 537, 536.090, ORS 537.505-537.795, ORS 183, ORS 536.027, ORS 536.900, ORS 537.992, ORS 540~~

Statutes/Other Implemented: ~~ORS 183, 536, 537, 540, HB 2296A (2017), 536.090, ORS 537.505-537.795, ORS 183, ORS 536.900, ORS 537.992, ORS 540~~

AMEND: 690-205-0200

RULE SUMMARY: Amends rule regarding information required on start cards for water supply well construction to conform with statute (Or Laws 2021, ch 610).

CHANGES TO RULE:

690-205-0200

Water Supply Well Construction Notice Required (Start Card) ¶

(1) Each bonded Water Supply Well Constructor licensed to operate in the State of Oregon and each landowner holding a landowner's permit shall provide ~~notice~~ start card as required in ORS 537.762 before commencing the construction, alteration, or abandonment of any water supply well or conversion of any monitoring well, geotechnical hole, or other hole to a water supply well. The start card shall contain the following information: ¶

(a) ~~Name and mailing, telephone number, electronic mail address and post-office address of the landowner; of the well;~~ ¶

(b) Street address of the well; ¶

~~(c) The approximate location of the water supply well; and~~ ¶

~~(d) The proposed depth, diameter, and purpose or use if the well is new, altered, or converted. If property does not have an address, then the street address nearest to the proposed well;~~ ¶

(c) The approximate location of the water supply well by county tax lot number, township, range, section and nearest quarter-quarter section; ¶

(d) The latitude and longitude of the well as established by a global positioning system; ¶

(e) The proposed depth and diameter of the well; ¶

(f) The proposed purpose or use of the groundwater from the proposed well if the well is new, altered, or converted; ¶

(g) The time frame proposed for beginning and completing the construction, alteration, abandonment or conversion; ¶

(h) The time frame proposed for annular seal placement. If the actual date of seal placement is not the date proposed on the start card, the licensed or permitted person shall notify the department of the change at least four (4) hours before placing the seal. Notification shall be submitted: ¶

(A) Electronically by department approved methods; or ¶

(B) By mail, or hand, delivery to the region office where the well to be drilled, altered, converted, or abandoned is located. If this method is used, then the notification must be on a department approved notification form and received by the region office at least four (4) hours prior to placing the seal; or ¶

(C) By electronic mail. If notification is sent by electronic mail, then the electronic mail shall include a completed copy of a department approved notification form. If department approved notification form is not attached to the electronic mail, then original notification form must be submitted to the Department within three (3) working days of the date of electronic mail notification. ¶

(i) The well identification label number, if assigned; ¶

(j) The water right application, permit or certificate number, if applicable; ¶

(k) The original well log number, if applicable; ¶

(l) The type of work proposed; ¶

(m) Notification of any need for special standards; ¶

(n) The signature and license number, if applicable, of the bonded and licensed or permitted person who would undertake the work; ¶

(o) For an existing well, the current purpose or use of the well and the existing depth and diameter of the well. ¶

(2) In addition to the information required pursuant to OAR 690-205-0200(1)(a)-(d), a start card may also contain information regarding the type of proposed alteration. ¶

(3) Forms for making these reports and submitting fees shall be furnished by the Department. ¶

(4) Landowners who construct, alter, convert, or abandon a water supply well shall also comply with OAR 690-205-0175. ¶

~~[ED. NOTE: Tables and Figure~~ ¶

(5) On the day that work on the well commences, the licensed or permitted person shall, before commencing work, notify the department that the work is about to commence. Notification shall be submitted: ¶

(a) Electronically by department approved methods; or ¶

(b) By mail, or hand delivery, to the region office where the well to be drilled, altered, converted, or abandoned is located. If this method is used, then the notification must be on a department approved notification form and received by the region office prior to beginning construction, alteration, conversion, or abandonment work; or ¶

(c) By electronic mail. If notification is sent by electronic mail, then the electronic mail shall include a completed

copy of a department approved notification form. If department approved notification form is not attached to the electronic mail, then original notification form must be submitted to the Department within three (3) working days of the date of electronic mail notification. ¶

[ED. NOTE: Forms referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505–~~537.795~~-537.795, ORS 536.027, ORS 536.900, ORS 537.992, Or Laws 2021, ch 610

Statutes/Other Implemented: ORS 536.090, ORS 537.505–~~537.795~~, ORS 536.900, ORS 537.992, Or Laws 2021, ch 610

AMEND: 690-205-0205

RULE SUMMARY: Amends rule regarding start card reporting requirements for water supply well construction to conform with statute (Or Laws 2021, ch 610); amends rule by adding Figure 205-1 and Table 205-1.

CHANGES TO RULE:

690-205-0205

Start Card Reporting Requirements ¶

(1) The start card notification required in ORS 537.762 shall be submitted to the Department's region office. (Figure 205-1) within which the water supply well is being constructed, altered converted or abandoned using one of the following methods: ¶

(a) Start cards submitted electronically shall be transmitted by a Department-approved method and shall be submitted not earlier than 60 days and not later than three (3) calendar days (72 hours) before beginning construction, alteration, conversion or abandonment work on any water supply well. ¶

(b) By regular mail ~~so that it is received by the Department~~ not earlier than 60 days and not later than three (3) calendar days (72 hours) prior to commencement of work; or ¶

(c) By hand delivery, during regular office hours, not earlier than 60 days and not later than three (3) calendar days (72 hours) before beginning the construction, alteration, conversion or abandonment work on any water supply well; or ¶

(d) By facsimile transmission (FAX) (Table 205-1) not earlier than 60 days and not later than three (3) calendar days (72 hours) before beginning the construction, alteration, conversion or abandonment work on any water supply well. If this method is used, a legible copy of the start card shall also be mailed, or delivered to the appropriate OWRD region office no later than the day work begins; t earlier than 60 days and not later than three (3) calendar days (72 hours) before the day work begins. ¶

(e) Start cards may not be submitted earlier than 60 days or later than three (3) calendar days (72 hours) before beginning construction, alteration, conversion or abandonment work on any water supply well except as specified in Section (3) of this rule. ¶

(2) The fee required under ORS 537.762(5) for the construction of a new well, deepening of an existing well, conversion of a monitoring well, geotechnical hole, or other hole shall be submitted to the Department's Salem office with a duplicate copy of the start card. A duplicate start card is not required if the start card fee is included with a start card submitted electronically under Section (1)(a) of this rule. ¶

(3) ~~If a start card has been filed under section (1) and (2) of this rule and~~ The requirement in subsection (1) of this section that a licensed or permitted person must submit a start card not less than three calendar days (72 hours) before beginning work on a well does not apply: ¶

(a) ~~To a second or additional wells are requireder well drilled on the same or a contiguous tax lot and for the same landowner, then and for which a valid unexpired start card has been submitted pursuant to this section, if a start cards for the second or additional wells shall beater well is filed not later than the day the work begins on the water well begins. ¶~~

(b) During water emergencies or casing height adjustments, if a start card is submitted before work begins. ¶

(4) The Director or region office may provide an alternative means of a start card notification. If an alternative means of notification is used, the start card shall be mailed or deliverreceived toby the regionDepartment's Salem office within one week of beginning work on the water supply well. A Water Supply Well Constructor whose license has been restricted by order shall provide notice as stipulated in the order. ¶

(5) Once received by the Department, the start card shall be confidential for a period of one year after it is received or until the water supply well report required by OAR 690-205-0210 is received, whichever is shorter. ¶

(6) The start card may be used in an administrative enforcement action at any time, including the period of confidentiality. Once the start card is used for enforcement reasons, it is no longer confidential. ¶

(7) A separate start card and fee, if necessary, is required for each well that is constructed, altered, abandoned, or converted. This requirement includes unsuccessful wells and wells exempt from appropriation permit requirements under ORS 537.545. ¶

(8) Effective July 1, 2024, start cards shall be submitted to the department by electronic means unless prior written approval is received to submit paper start cards. ¶

(9) A start card expires if construction, alteration, abandonment or conversion of a well does not begin on or before 60 days after submission of the start card. If a start card expires, a new start card and fee must be submitted in compliance with ORS 537.762 and these rules before construction, alteration, abandonment or conversion of the well may occur. If a start card is withdrawn before expiring, the licensed or permitted person that submitted the start card may request that the fee paid for the withdrawn start card be transferred to a new start card. ¶

(10) For good cause shown, start cards may be extended in exigent circumstances one time for up to 30 calendar days with prior department approval. Requests for extension shall be submitted: ¶

(a) In writing on a department approved form prior to expiration of the start card. The form shall include: ¶

(A) The start card number; ¶

(B) A description of the circumstances that warrant extension of the start card; ¶

(C) Date of request; ¶

(D) Driller name and license number; ¶

(E) Owner name and contact information. ¶

(b) Electronically by department approved methods. ¶

(c) For the purposes of this rule, "good cause" means the exigent circumstances are due to circumstances beyond the reasonable control of the requester.

Statutory/Other Authority: ORS 536.090, ORS 536.027, ORS 536.900, ORS 537.505--537.795, ORS 537.992, Or Laws 2021, ch 610

Statutes/Other Implemented: ORS 536.090, ORS 536.900, ORS 537.505--537.795, ORS 537.992, Or Laws 2021, ch 610

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

WATER RESOURCES DEPARTMENT
CONSTRUCTION, MAINTENANCE, ALTERATION, CONVERSION AND
ABANDONMENT OF MONITORING WELLS, GEOTECHNICAL HOLES AN
OTHER HOLES IN OREGON

Table 205-1
(690-205-0205)

Region Office Phone and Fax Numbers

Region	Office Location	Phone Number	Fax Number
Eastern	Baker City	541-523-8224	541-550-3898
North Central	Pendleton	541-278-5456	541-278-0287
Northwest	Salem	503-986-0893	503-986-0903
South Central	Bend	541-306-6885	541-388-5101
Southwest	Medford	541-774-6880	503-774-6187

Notes:

1. Fax numbers are subject to change.
2. A current version of this table is available from the Water Resources Department's Salem office.
3. See Figure 205-1 for a map of region boundaries.

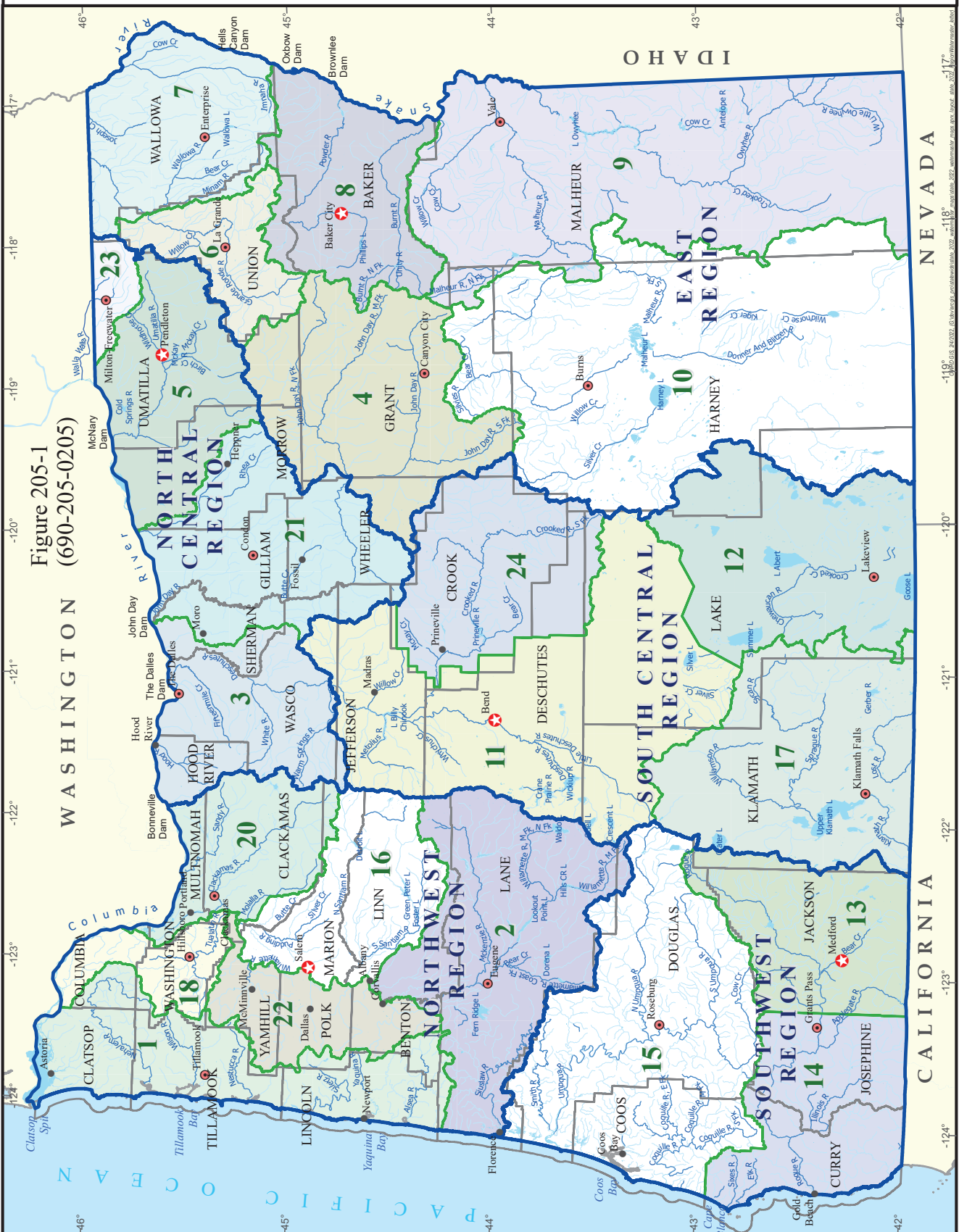
District Offices

- 1 Tillamook
- 2 Eugene
- 3 The Dalles
- 4 Canyon City
- 5 Pendleton
- 6 La Grande
- 7 Enterprise
- 8 Baker City
- 9 Vale
- 10 Burns
- 11 Bend
- 12 Lakeview
- 13 Medford
- 14 Grants Pass
- 15 Roseburg
- 16 Salem
- 17 Klamath Falls
- 18 Hillsboro
- 20 Clackamas
- 21 Condon
- 22 Salem
- 23 Milton-Freewater
- 24 Bend



State of Oregon
Water Resources Department
 795 Summer Street NE, Suite A
 Salem, Oregon 97301-1266
 (503) 986-0900
www.oregon.gov/OWRD

Regions and Watermaster Districts 2022



-124° -123° -122° -121° -120° -119° -118° -117°
 -46° -45° -44° -43° -42°

AMEND: 690-205-0210

RULE SUMMARY: Amends rule regarding water supply well reporting requirements to conform with statute (Or Laws 2021, ch 610).

CHANGES TO RULE:

690-205-0210

Well Report Required (Water Supply Well Log) ¶

(1) A water well report (water well log) shall be prepared for each water supply well constructed, altered, converted, or abandoned. This requirement includes unsuccessful wells and wells exempt from appropriation permit requirements under ORS 537.545. The log shall be certified as correct by signature of the Water Supply Well Constructor constructing the water supply well. The completed log shall also be certified by the bonded Water Supply Well Constructor responsible for construction of the well. A water well report must be submitted by each bonded constructor (if drilling responsibility is shifted to a different bonded constructor), showing the work performed by each bonded constructor. ¶

(2) ~~The log~~ Well Reports may be submitted electronically by a Department-approved method. Well reports submitted on paper shall be prepared in triplicate on forms furnished or previously approved in writing by the Water Resources Department. The original shall be furnished to the Director, the first copy shall be retained by the Water Supply Well Constructor, and the second copy shall be given to the customer who contracted for the construction of the water supply well. ¶

(3) The bonded Water Supply Well Constructor shall file the certified water well log report with the ~~Director~~ Water Resources Department within 30 days after the completion of the construction, alteration, conversion or abandonment of the water supply well. ¶

(4) The trainee or Water Supply Well Constructor operating the water supply well drilling machine shall maintain a rough log of all geologic strata encountered and all materials used in the construction of the water supply well. This log shall be available for inspection by the ~~Watermaster~~ well inspector, or other authorized agent of the Water Resources Department at any time before the water well report is received by the Department. The rough drilling log shall be in handwritten or electronic form, or a voice recording. ¶

(5) In the event a constructor leaves any drilling equipment or other tools in a water supply well, this fact shall be entered on the water well report. ¶

(6) A copy of any special authorizations or special standards issued by the Director shall be attached to the water supply well report. ¶

(7) The report of water well construction required in section (1) of this rule shall be submitted electronically by a Department-approved method or recorded on a form provided or previously approved in writing by the Department. The form shall include, as a minimum, the following: ¶

(a) Name and ~~Address of Landowner;~~ ¶

~~post-office address of the well owner;~~ ¶

(b) Name and license number, if applicable, of the licensed or permitted person performing the work; ¶

(c) Name and license number, if applicable, of the licensed or permitted person responsible for the work; ¶

(d) Name of any person that assisted with the work; ¶

(e) Started/Completed date; ¶

(ef) Location of the well by county, Township, Range, Section, tax lot number, if assigned, street address, or nearest address, ~~and either the nearest 1/4, 1/4 section or,~~ and Latitude and Longitude as established by a global positioning system (GPS); ¶

(dg) Start card number; ¶

(eh) Well identification label number (well tag number); ¶

(fi) Type of well; ¶

(j) Use of well; ¶

(gk) Type of work; ¶

(h) Temperature of water; ¶

(il) Depth drilled and completed depth; ¶

(m) Diameter of boreholes; ¶

(n) Type, size, and amount of casing and where placed in the well; ¶

(o) Type and amount of seal material used and where placed; ¶

(p) Number and location of perforations or screens; ¶

(q) Temperature of the groundwater encountered; ¶

(r) Thickness of aquifers; ¶

(s) Total dissolved solids (TDS); and ¶

(j) Such additional information as required by the Department. ¶

(8) Effective July 1, 2024, well reports shall be submitted to the department by electronic means unless prior written approval is received to submit paper well reports.

Statutory/Other Authority: ORS 536.090, ~~ORS 537.505–537.795~~-537.795, Or Laws 2021, ch 610, ORS 536.027, ORS 537.992, ORS 536.900

Statutes/Other Implemented: ORS 536.090, ~~ORS 537.505–537.795~~, Or Laws 2021, ch 610, ORS 537.992, ORS 536.900

AMEND: 690-210-0130

RULE SUMMARY: Amends rule figure by updating rule label.

CHANGES TO RULE:

690-210-0130

Sealing of Wells in Unconsolidated Formations Without Significant Clay Beds ¶

Water supply wells drilled into unconsolidated water-bearing strata overlain by unconsolidated materials, such as sand, silt, or gravel, without significant clay beds, shall have a watertight, unperforated well casing extending to a minimum of eighteen feet below land surface. An upper oversize drillhole, four inches greater in diameter than the nominal diameter of the casing, shall be constructed to a minimum depth of 18 feet. To prevent caving, a temporary surface casing, at least 18 feet in length, shall be used throughout the construction of the annular seal space. The annular space between the permanent well casing and the upper, oversize drillhole shall be completely full of grout in accordance with OAR 690-210-0310 thru 690-210-0360 after the permanent well casing is set into final position. The temporary surface casing shall be removed from the well as the annular space is filled. (See Figure 210-2)¶

[ED. NOTE: Figures referenced are available from the agency.].

Statutory/Other Authority: ORS 536.090, ORS 537.505 - 537.795, ORS 536.027, ORS 536.900, ORS 537.992

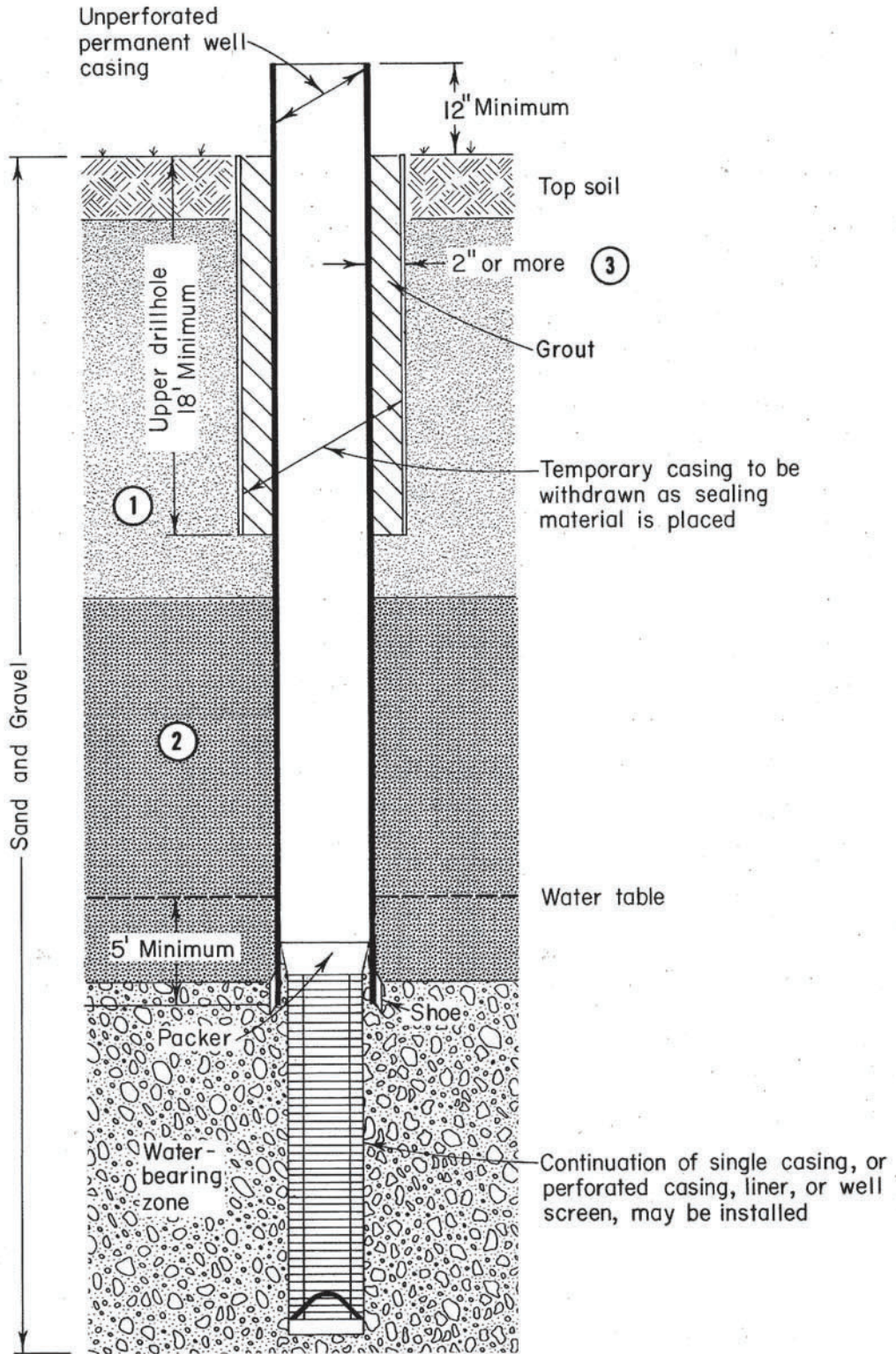
Statutes/Other Implemented: ORS 536.090, ORS 537.505 - 537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

SEALING OF WATER SUPPLY WELLS IN UNCONSOLIDATED FORMATIONS WITHOUT SIGNIFICANT CLAY BEDS (OAR 690-210-0130)

Overlying Material - Sand and Gravel without Clay

Water-bearing Formation - Sand and Gravel or Similar



- ① Upper oversize drillhole and annular seal must extend to a depth of at least 18 feet.
- ② Unperforated watertight well casing must extend at least 5 feet below the water table and to a minimum depth of 18 feet.
- ③ Annular sealing space requirements are based on nominal casing sizes

AMEND: 690-210-0140

RULE SUMMARY: Amends rule figure by updating rule label.

CHANGES TO RULE:

690-210-0140

Sealing of Water Supply Wells in Unconsolidated Formations with Significant Clay Beds ¶

Water supply wells drilled into water-bearing intervals overlain by unconsolidated deposits of clay, or sand and gravel in which significant interbeds of clay are present, shall have a watertight, nonperforated, permanent well casing extending at least five feet into the clay interval overlying the water-bearing zone. In all cases, an upper oversize drillhole, at least four inches greater in diameter than the nominal diameter of the permanent well casing shall be constructed to this same depth. In the event that the subsurface materials penetrated by the upper drillhole cave, or tend to cave, an outer, temporary surface casing shall be used to case out caving materials throughout the construction of the oversize drillhole. If the clay interval is 13 feet or less below land surface, the watertight, nonperforated well casing and the upper, oversize drillhole shall extend to a minimum depth of 18 feet below land surface. If necessary to complete the well, the single, permanent well casing may be extended below the required sealing depth prior to sealing the well with grout. If preferred, a smaller diameter casing, liner, or well screen may be installed. The annular space between the permanent well casing and the upper, oversize drillhole shall be completely filled with grout in accordance with OAR 690-210-0310 through 690-210-0360 after the permanent well casing is set into final position. The temporary surface casing shall be removed from the well as the annular space is filled. (See Figure 210-3).¶

[ED. NOTE: Figures referenced are available from the agency.]

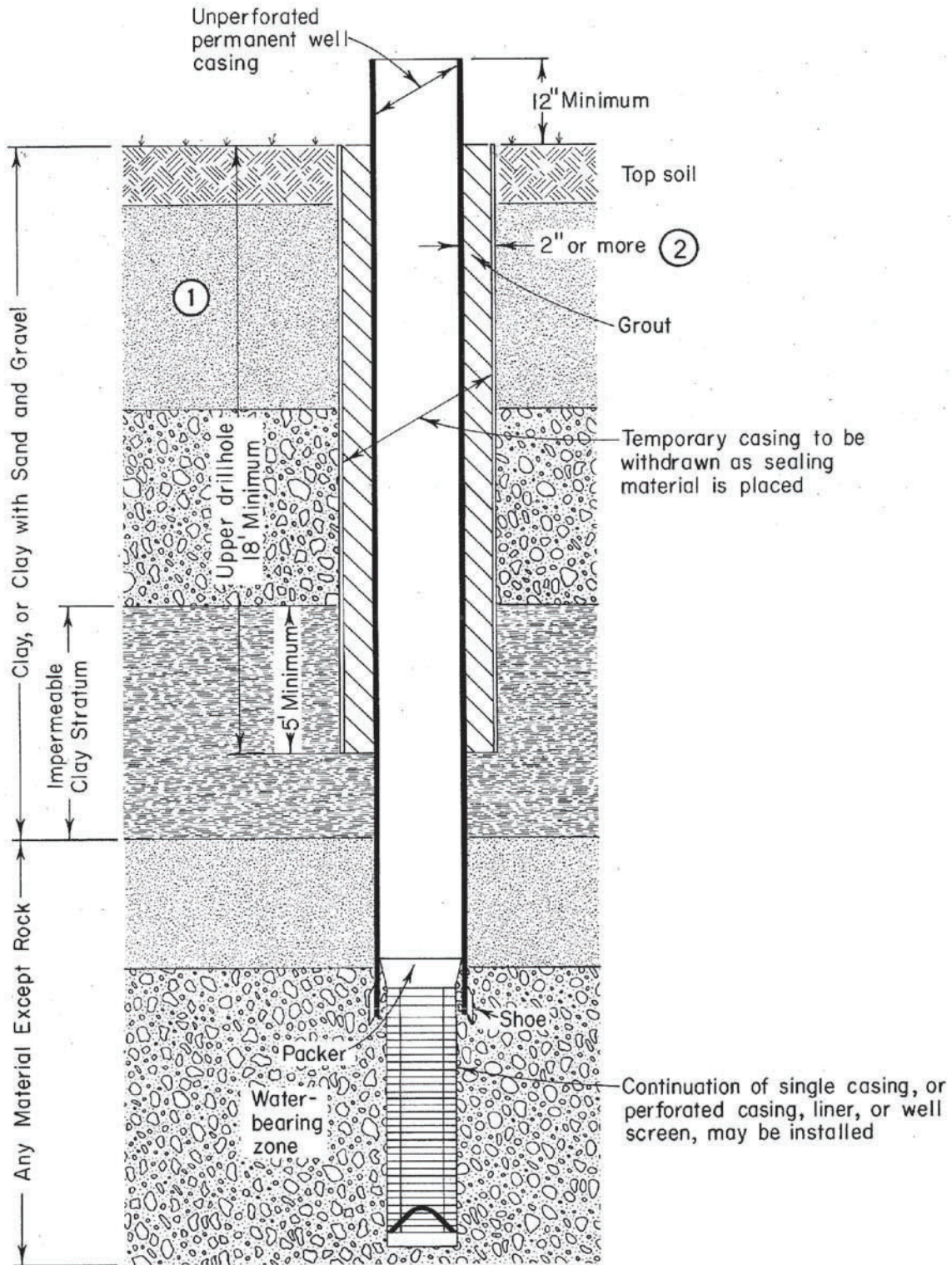
Statutory/Other Authority: ORS 536.090, ~~ORS 537.505-537.795-537.795~~, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS ~~183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

SEALING OF WATER SUPPLY WELLS IN UNCONSOLIDATED FORMATIONS WITH SIGNIFICANT CLAY BEDS (OAR 690-210-0140)

Overlying Material – Clay, or Sand and Gravel with Interbedded Clay
Water-bearing Formation – Any Material Except Rock



- ① Unperforated well casing and annular seal must extend at least 5 feet into impermeable stratum, and must extend at least 18 feet below land surface.
- ② 1" or more if cement grout is placed by grouting method A, B, or D. Annular sealing space requirements are based on nominal casing sizes

AMEND: 690-210-0150

RULE SUMMARY: Amends rule regarding well sealing requirements for clarity; amends appendix and figures by updating rule labels.

CHANGES TO RULE:

690-210-0150

Sealing of Water Supply Wells in Consolidated Formations ¶¶

(1) Water supply wells drilled into a water-bearing rock formation overlain by clay, silt, sand, gravel, cobbles, or similar materials, shall be constructed in accordance with one of the following methods:¶¶

(a) Method 1 (Continuous Seal):¶¶

(A) An upper oversize drillhole, at least four inches greater in diameter than the nominal diameter of the permanent well casing to be installed, shall extend from land surface to at least five feet into solid, unfractured, consolidated rock overlying the water-bearing rock formation below a depth of 13 feet. Unperforated permanent well casing shall extend to this same depth.¶¶

(B) The annular space between the permanent well casing and the drillhole wall within the consolidated rock formation shall be filled with grout using an approved grout placement method.¶¶

(C) The upper annular space between the permanent well casing and the drillhole wall shall be filled with grout using an approved grout placement method from land surface to at least five feet into a clay interval below a depth of 13 feet.¶¶

(D) The annular space between the upper and lower sealing intervals shall be filled with grout using an approved grout placement method.¶¶

(E) A smaller diameter liner pipe or well screen may be installed to complete the well.¶¶

(F) If cement grout is placed by a suitable method from the bottom of the permanent well casing to land surface (Methods A, B, D, Appendix 210-3), the upper drillhole shall be at least two inches larger than the nominal diameter of the permanent well casing. (See Figure 210-4);¶¶

(b) Method 2 (Step-Down Casing/Inner Casing):¶¶

(A) An upper oversize drillhole, at least four inches greater in diameter than the upper permanent well casing to be installed, shall extend from land surface to at least five feet into a clay interval below a depth of 13 feet.¶¶

~~(B) Unperforated, permanent well casing~~ If no clay interval is present, then the upper oversize drillhole shall extend to a minimum depth of 18 feet below land surface. In the event that the subsurface materials penetrated by the upper oversize drillhole cave, or tend to cave, an outer temporary surface casing at least 18 feet in length shall be used throughout the construction of the upper oversize drillhole to prevent caving.¶¶

(B) The upper permanent well casing shall be unperforated and shall extend to, and be driven into, solid, unfractured, consolidated rock overlying the water-bearing rock formation.¶¶

(C) A lower drillhole, at least as large as the inside diameter of the upper permanent well casing, shall be constructed at least five feet into solid unfractured consolidated rock overlying the water-bearing rock formation.¶¶

(D) A smaller diameter steel well casing, at least two inches smaller in diameter than the diameter of the upper permanent well casing, shall extend at least five feet into solid unfractured consolidated rock overlying the water-bearing rock formation and at least eight feet into the upper permanent well casing.¶¶

~~(E) The annular space between the upper oversize drillhole and the upper permanent well casing, and it shall be completely filled with grout using an approved grout placement method after the upper permanent well casing is set into final position. The annular space between the smaller diameter lower permanent well casing and the lower drillhole, shall be completely filled with cement grout using an approved grout placement method after the upper permanent well casing and it is set into final position. The lower permanent well casing are set into final position. annular seal shall extend at least eight feet into the upper permanent well casing (See Figure 210-5);~~¶¶

(c) Method 3 (Under-Reaming):¶¶

(A) An upper oversize drillhole, at least four inches greater in diameter than the permanent well casing to be installed, shall extend from land surface to at least five feet into a clay interval below a depth of 13 feet. If no clay interval is present, then the upper oversize drillhole shall extend to a minimum depth of 18 feet below land surface. In the event that the subsurface materials penetrated by the upper oversize drillhole cave, or tend to cave, an outer temporary surface casing at least 18 feet in length shall be used throughout the construction of the upper oversize drillhole to prevent caving.¶¶

(B) A lower drillhole, at least two inches greater in diameter than the diameter of the permanent well casing to be installed, shall be constructed at least fifteen feet into solid, unfractured, consolidated rock overlying the water-

bearing rock formation by under-reaming methods.¶¶

(C) Unperforated, permanent well casing shall extend to and be driven into solid, unfractured, consolidated rock overlying the water-bearing rock formation at the bottom of the under-reamed section following placement of the casing seal material.¶¶

(D) The annular space between the upper oversize drillhole and the permanent well casing shall be filled with cement grout using Method C or unhydrated bentonite. The annular space between the lower under-reamed drillhole and the permanent well casing shall be completely filled with cement grout applied under pressure in accordance with grout placement Method A, B, or D, in Appendix 210-3. See Figure 210-6.¶¶

(E) Casing seals may not be placed in unconsolidated formation materials using the under-reaming method.¶¶

(2) In all cases, (Methods 1, 2, or 3, above), if materials penetrated by the upper oversize drillhole cave, or tend to cave, an outer temporary surface casing shall be used to case out all caving material throughout construction of the oversize drillhole. The temporary surface casing shall be withdrawn as the annular space is filled with grout.¶¶

[ED. NOTE: Figures and Appendices referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505–537.795–537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS ~~183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

**WATER RESOURCES DEPARTMENT
CHAPTER 690
DIVISION 210
WELL CONSTRUCTION STANDARDS**

APPENDIX 210-3

I. Recommended Methods of Placement of Cement Grout

Method A - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. A well casing with a float shoe at its lower end shall be placed in the well and suspended slightly above the point of bearing. A grout pipe shall be run inside the casing to the check valve. The grout pipe shall be connected to a suitable pump and water or drilling fluid shall first be circulated to clear the annular space. Grout shall be pumped through the grout pipe until clean grout completely fills the interval to be sealed. The grout pipe shall then be removed and the cement allowed to set. (See Figure 210-1)

Method B - Grout shall be placed by pumping or air pressure injection through a grout pipe installed inside the casing from the casing head to a point five (5) feet above the bottom of the casing. The grout pipe shall extend through an airtight sealed cap on the head of the well casing. The casing head shall be equipped with a relief valve and the grout pipe shall be equipped at the top with a valve permitting injection. The lower end of the grout pipe and the casing shall be open. Clean water shall be injected down the grout pipe until it returns through the casing head's relief valve. The relief valve is then closed and injection of water is continued to clean the hole until it flows from the bore hole outside the casing that is to be grouted in place. Without significant interruption, grout shall be substituted to water and, in a continuous manner, injected down the grout pipe until it returns to the surface outside of the casing. A small amount of water may be used to flush the grout pipe, but the pressure should remain constant on the inside of the grout pipe and the inside of the casing until the grout has set. Pressure shall be maintained for at least twenty-four (24) hours, or until such time as a sample of the grout indicates a satisfactory set. Cement grout shall be used for this procedure with a minimum annular space of one (1) inch completely surrounding the casing. (See Figure 210-1)

Method C - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. The well casing shall be firmly seated at the bottom of the drillhole. A grout pipe shall be run to the bottom of the hole through the annular space between the casing and the well bore. After water or any other drilling fluid has been circulated in the annular space sufficiently to clear obstructions, the grout pipe shall be connected to a suitable pump and grout shall be pumped through the grout pipe until clean grout is circulated to land surface, or until grout completely fills the interval to be sealed. The lower end of the grout pipe shall remain submerged in grout while grout is being placed. The grout pipe shall be withdrawn before the initial set of the grout. (See Figure 210-1)

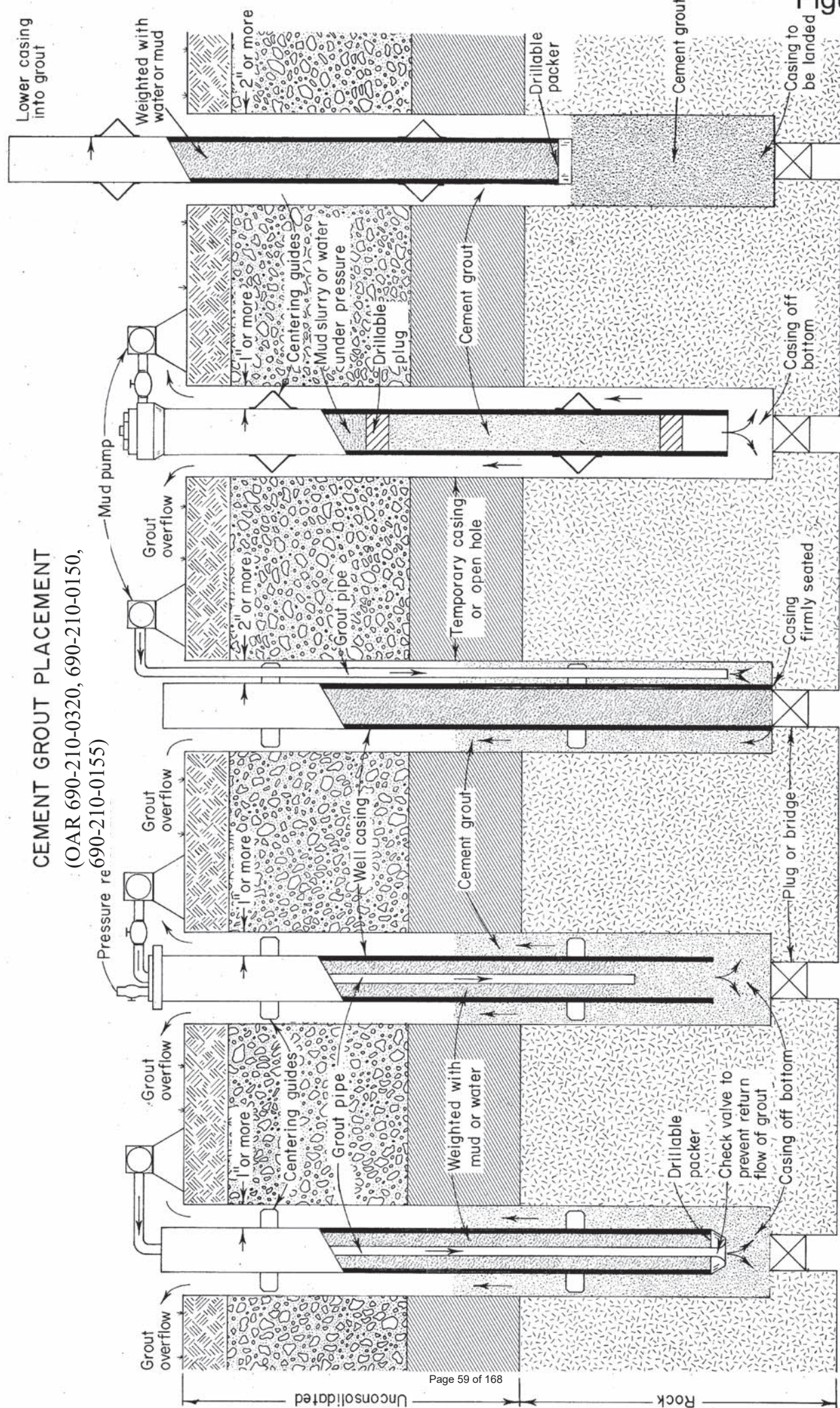
Method D - The well bore shall be plugged with a drillable plug or bridge at the lowest point to

be sealed. After the casing is run and landed, a casing plug, having a length greater than the diameter of the casing, shall be placed in the casing. If the drillhole is free of mud or water, this lower separation plug may be eliminated. A measured amount of cement grout necessary to completely fill the annular space of the interval to be grouted is pumped or placed by bailer in the casing. A second casing plug, having a length greater than the diameter of the casing, shall be placed in the casing above the grout. The casing shall then be capped with a pressure cap and shut-off valve, and shall be connected to a suitable pump. The casing shall then be raised far enough above the point of bearing to clear the first separation plug. Water or drilling mud shall then be pumped under pressure into the casing forcing the grout and upper casing plug down the casing. The position of the plug must be known at all times. A small amount of grout may remain in the lower end of the casing. When the plug reaches the point desired above the bottom of the casing, the pump shall be stopped and the casing seated. (See Figure 210-1)

Method E - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. A sufficient amount of cement grout to completely fill the interval of the well to be sealed shall be placed at the bottom of the drillhole by pump bailer or grout pipe. The well casing shall have centering guides attached at appropriate intervals to keep the casing centered in the bore hole. The bottom of the well casing shall be fitted with a tight drillable plug and shall be lowered into the drillhole forcing the grout upward into the annular space. Gravity installation without the aid of a grout pipe shall not be used. In no instance shall this method be used deeper than thirty (30) feet and in no case for a municipal, community, or public water supply well. (See Figure 210-1)

CEMENT GROUT PLACEMENT

(OAR 690-210-0320, 690-210-0150, 690-210-0155)



METHOD A METHOD B METHOD C METHOD D METHOD E

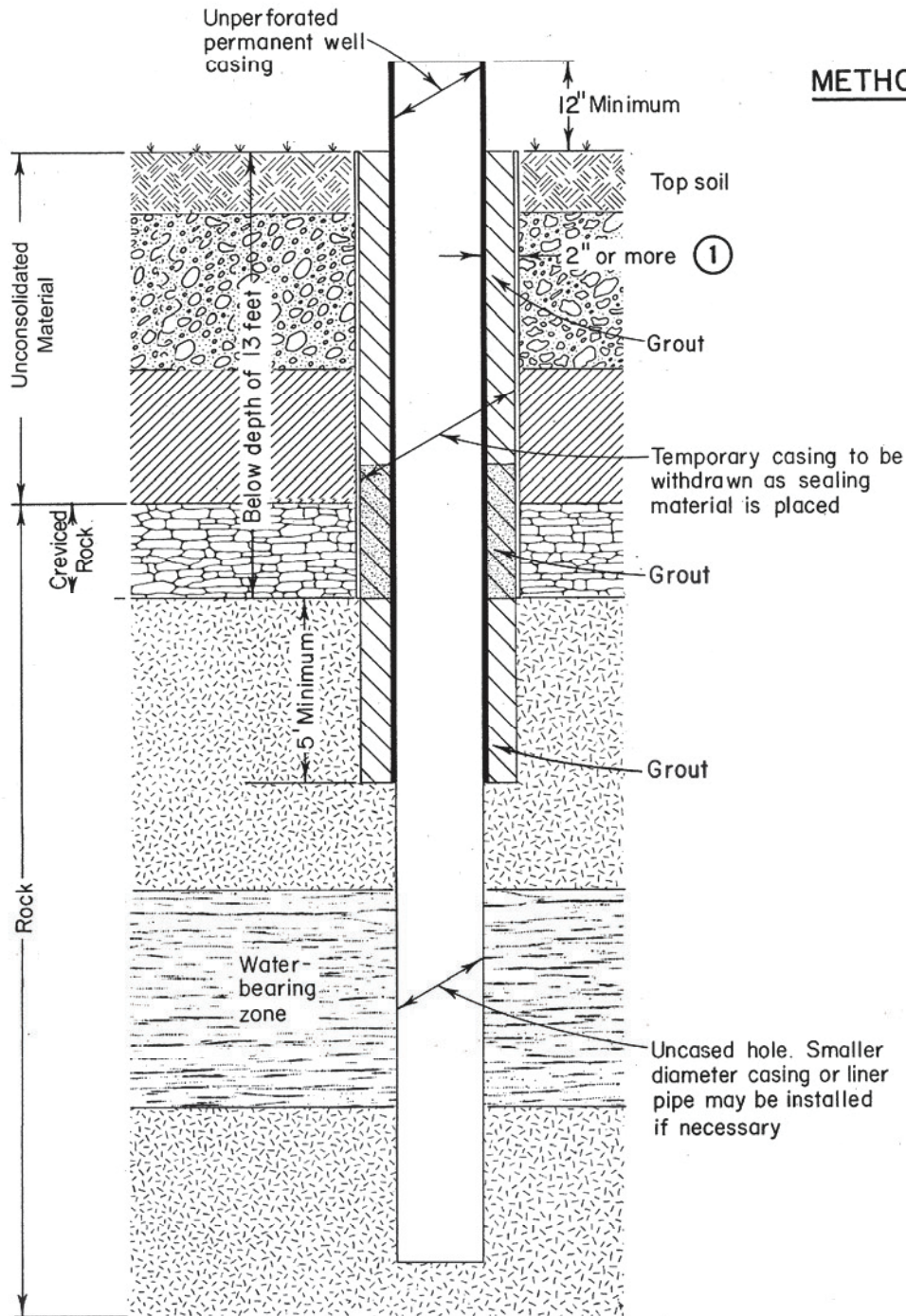
Water-bearing Formation — Rock

Figure 210-4

SEALING OF WATER SUPPLY WELLS
IN CONSOLIDATED FORMATIONS
(OAR 690-210-0150)

Overlying Material - Unconsolidated Material

Water-bearing Formation - Rock

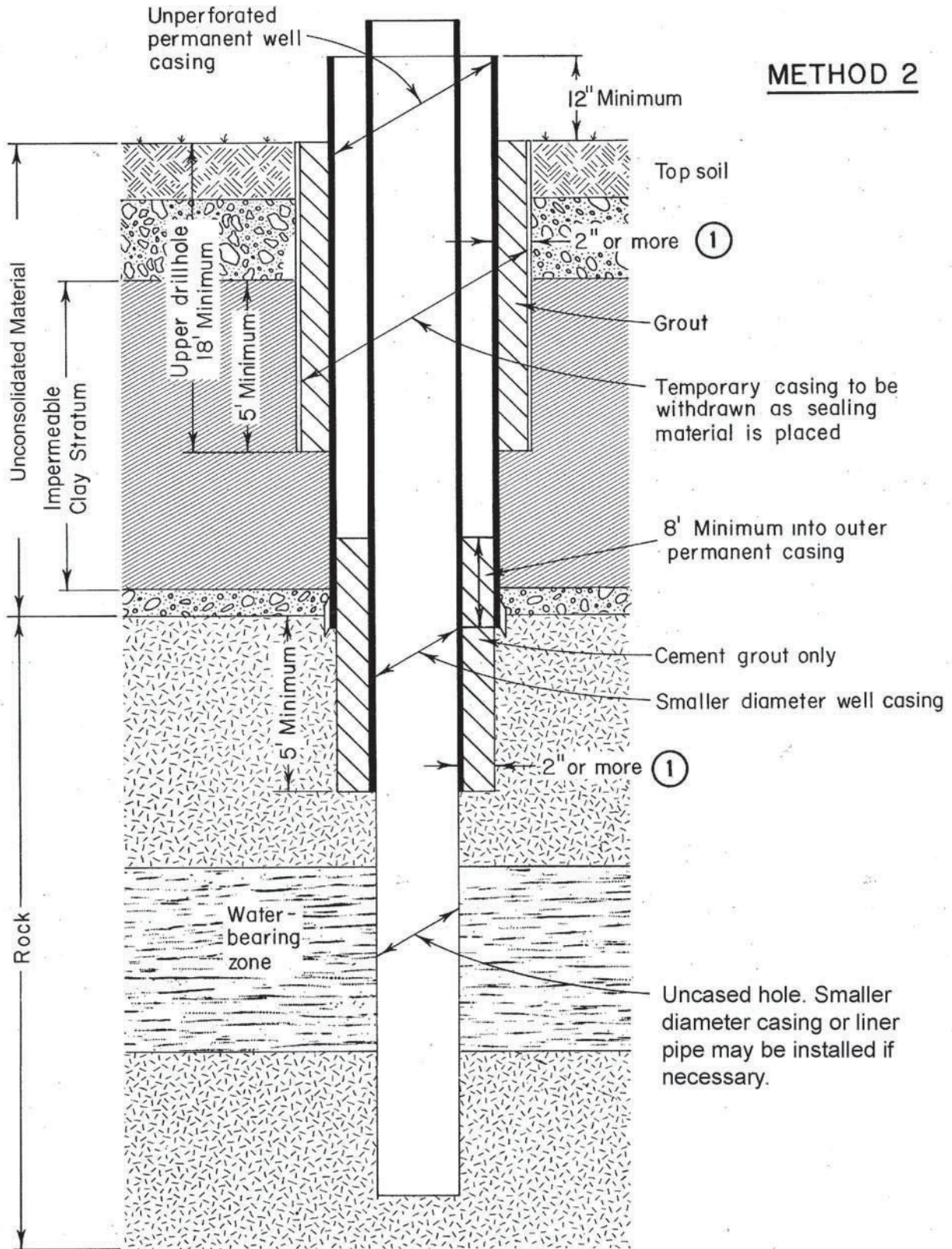


METHOD I

① 1" or more if cement grout is placed by grouting method A, B, or D. Annular sealing space requirements are based on nominal casing sizes.

SEALING OF WATER SUPPLY WELLS
IN CONSOLIDATED FORMATIONS
(OAR 690-210-0150)

Overlying Material - Unconsolidated Material
Water-bearing Formation - Rock



METHOD 2

① 1" or more if cement grout is placed by grouting method A, B, or D. Annular sealing space requirements are based on nominal casing sizes.

Water-bearing Formation — Rock

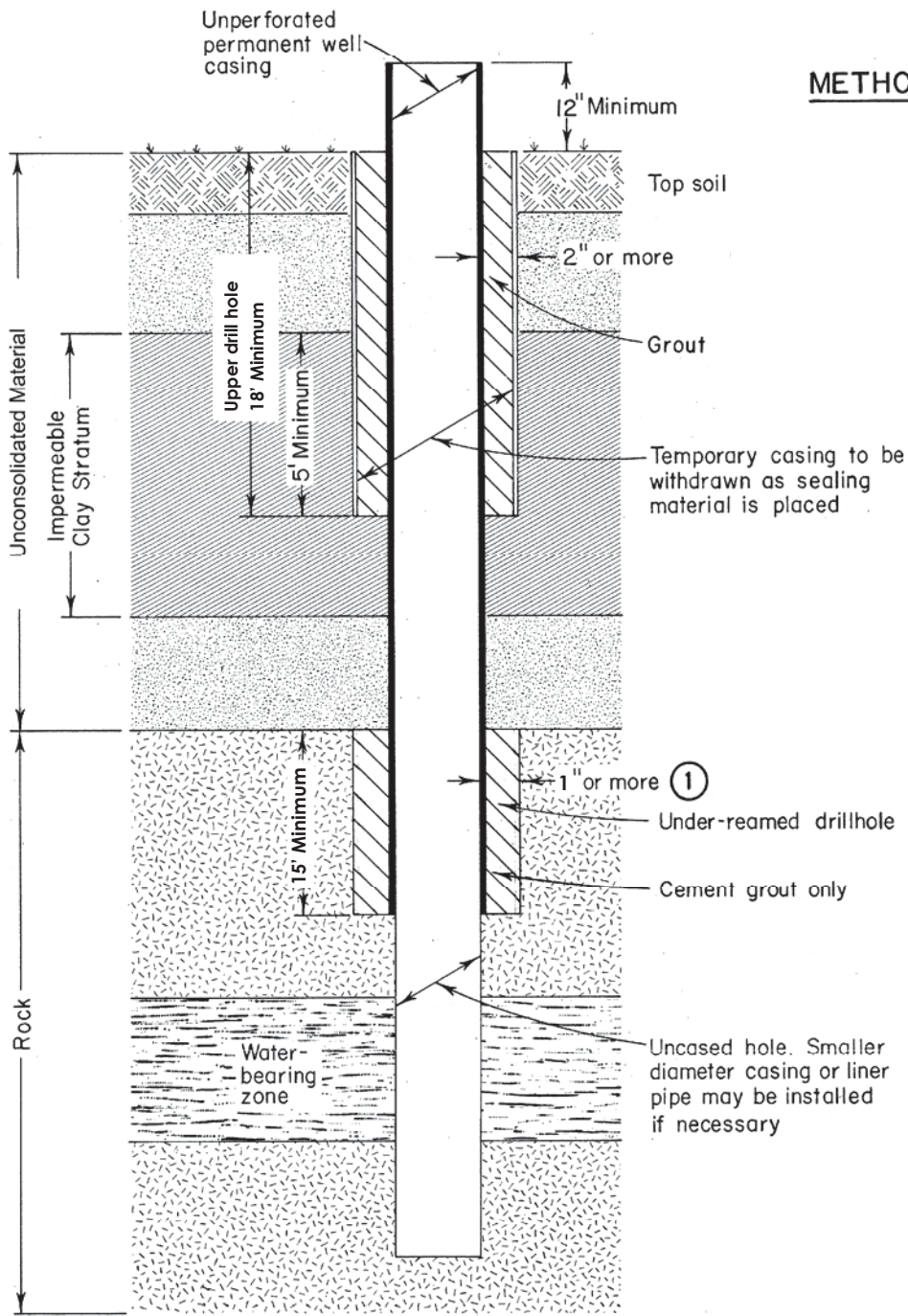
Figure 210-6

**SEALING OF WATER SUPPLY WELLS
IN CONSOLIDATED FORMATIONS
(OAR 690-210-0150)**

Overlying Material - Unconsolidated Material

Water-bearing Formation - Rock

METHOD 3



① 1" or more if cement grout is placed by grouting method A, B, or D. Annular sealing space requirements are based on nominal casing sizes.

AMEND: 690-210-0155

RULE SUMMARY: Amends rule appendix and figures by updating rule labels.

CHANGES TO RULE:

690-210-0155

Additional Standards for Artesian Water Supply Wells ¶¶

(1) Water supply wells penetrating into an artesian aquifer shall have an upper oversize drillhole at least four inches greater in diameter than the nominal diameter of the permanent well casing to be installed. Watertight unperforated casing shall extend and be sealed at least five feet into the confining interval immediately overlying the artesian water-bearing zone. In all cases, a minimum of 18 feet of casing and casing seal will be required. If cement grout is placed by a suitable method from the bottom of the casing (Methods A, B, or D, in Appendix 210-3 and Figure 210-1), the diameter of the upper oversize drillhole shall be at least two inches larger than the nominal diameter of the permanent well casing.¶¶

(2) To complete the well, inner casing, liner, or a well screen may be installed. When artesian pressures are encountered in the absence of a confining interval, casing and casing seal requirements shall be determined by the Director upon written application. In the alternative, the person constructing the well may construct the well in conformance with the minimum standards for artesian wells with a confining interval, set forth in section (1) of this rule.¶¶

(3) If an artesian water supply well flows at land surface, the well shall be equipped with a control valve and a watertight mechanical cap, threaded or welded, so that all flow of water from the well can be completely stopped.¶¶

(4) All flowing artesian wells shall be equipped with a pressure gauge placed on a dead- end line. A petcock valve shall be placed between the gauge and well casing. (See Figure 210-7).¶¶

(5) All flowing artesian water supply wells shall be tested for artesian shut-in pressure in pounds per square inch and rate of flow in cubic feet per second, or gallons per minute, under free discharge conditions. This data shall be reported on the well report.¶¶

[ED. NOTE: Figures & Appendices referenced are available from the agency.]

Statutory/Other Authority: ~~ORS 183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ~~ORS 183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

**WATER RESOURCES DEPARTMENT
CHAPTER 690
DIVISION 210
WELL CONSTRUCTION STANDARDS**

APPENDIX 210-3

I. Recommended Methods of Placement of Cement Grout

Method A - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. A well casing with a float shoe at its lower end shall be placed in the well and suspended slightly above the point of bearing. A grout pipe shall be run inside the casing to the check valve. The grout pipe shall be connected to a suitable pump and water or drilling fluid shall first be circulated to clear the annular space. Grout shall be pumped through the grout pipe until clean grout completely fills the interval to be sealed. The grout pipe shall then be removed and the cement allowed to set. (See Figure 210-1)

Method B - Grout shall be placed by pumping or air pressure injection through a grout pipe installed inside the casing from the casing head to a point five (5) feet above the bottom of the casing. The grout pipe shall extend through an airtight sealed cap on the head of the well casing. The casing head shall be equipped with a relief valve and the grout pipe shall be equipped at the top with a valve permitting injection. The lower end of the grout pipe and the casing shall be open. Clean water shall be injected down the grout pipe until it returns through the casing head's relief valve. The relief valve is then closed and injection of water is continued to clean the hole until it flows from the bore hole outside the casing that is to be grouted in place. Without significant interruption, grout shall be substituted to water and, in a continuous manner, injected down the grout pipe until it returns to the surface outside of the casing. A small amount of water may be used to flush the grout pipe, but the pressure should remain constant on the inside of the grout pipe and the inside of the casing until the grout has set. Pressure shall be maintained for at least twenty-four (24) hours, or until such time as a sample of the grout indicates a satisfactory set. Cement grout shall be used for this procedure with a minimum annular space of one (1) inch completely surrounding the casing. (See Figure 210-1)

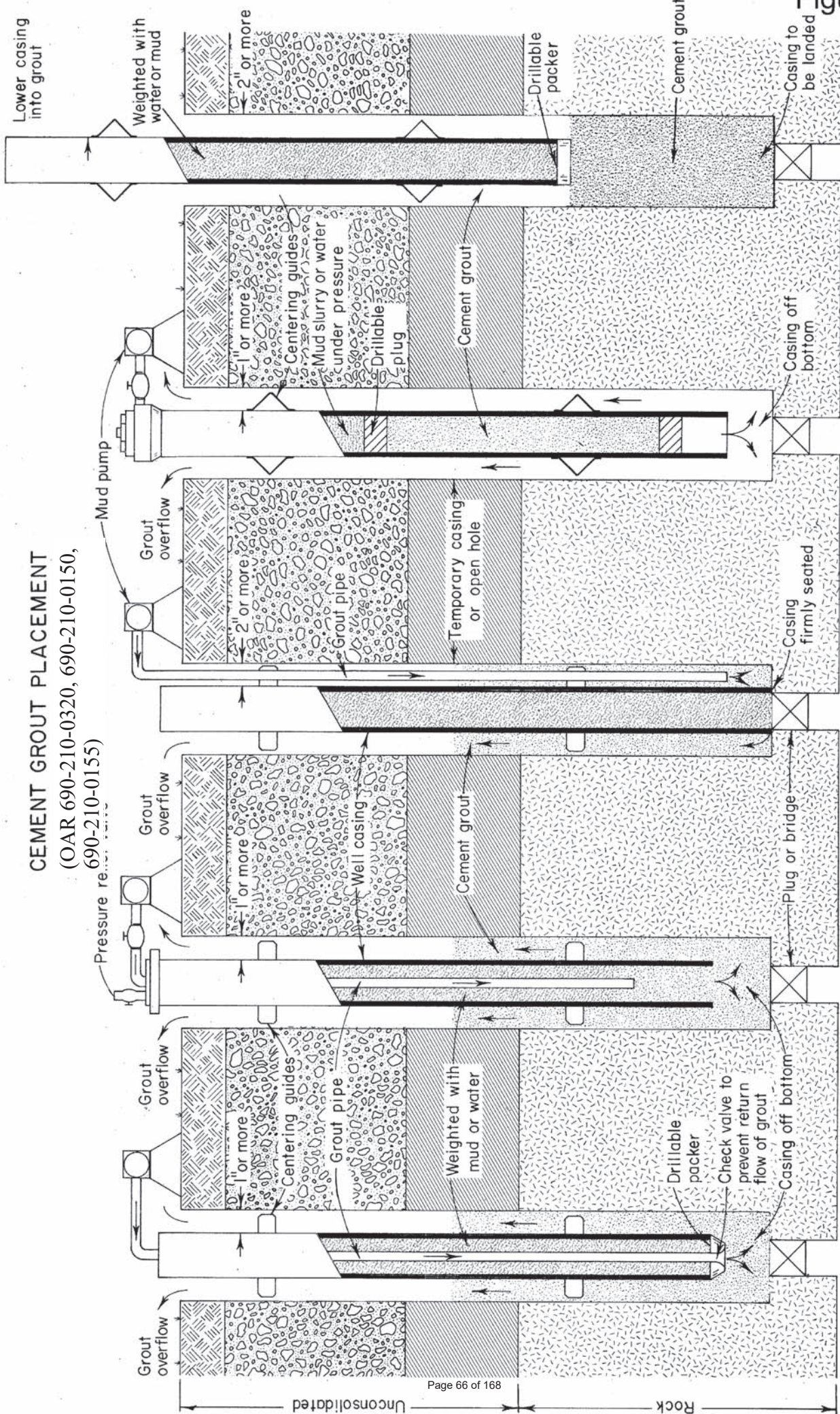
Method C - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. The well casing shall be firmly seated at the bottom of the drillhole. A grout pipe shall be run to the bottom of the hole through the annular space between the casing and the well bore. After water or any other drilling fluid has been circulated in the annular space sufficiently to clear obstructions, the grout pipe shall be connected to a suitable pump and grout shall be pumped through the grout pipe until clean grout is circulated to land surface, or until grout completely fills the interval to be sealed. The lower end of the grout pipe shall remain submerged in grout while grout is being placed. The grout pipe shall be withdrawn before the initial set of the grout. (See Figure 210-1)

Method D - The well bore shall be plugged with a drillable plug or bridge at the lowest point to

be sealed. After the casing is run and landed, a casing plug, having a length greater than the diameter of the casing, shall be placed in the casing. If the drillhole is free of mud or water, this lower separation plug may be eliminated. A measured amount of cement grout necessary to completely fill the annular space of the interval to be grouted is pumped or placed by bailer in the casing. A second casing plug, having a length greater than the diameter of the casing, shall be placed in the casing above the grout. The casing shall then be capped with a pressure cap and shut-off valve, and shall be connected to a suitable pump. The casing shall then be raised far enough above the point of bearing to clear the first separation plug. Water or drilling mud shall then be pumped under pressure into the casing forcing the grout and upper casing plug down the casing. The position of the plug must be known at all times. A small amount of grout may remain in the lower end of the casing. When the plug reaches the point desired above the bottom of the casing, the pump shall be stopped and the casing seated. (See Figure 210-1)

Method E - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. A sufficient amount of cement grout to completely fill the interval of the well to be sealed shall be placed at the bottom of the drillhole by pump bailer or grout pipe. The well casing shall have centering guides attached at appropriate intervals to keep the casing centered in the bore hole. The bottom of the well casing shall be fitted with a tight drillable plug and shall be lowered into the drillhole forcing the grout upward into the annular space. Gravity installation without the aid of a grout pipe shall not be used. In no instance shall this method be used deeper than thirty (30) feet and in no case for a municipal, community, or public water supply well. (See Figure 210-1)

CEMENT GROUT PLACEMENT
 (OAR 690-210-0320, 690-210-0150,
 690-210-0155)



METHOD E

METHOD D

METHOD C

METHOD B

METHOD A

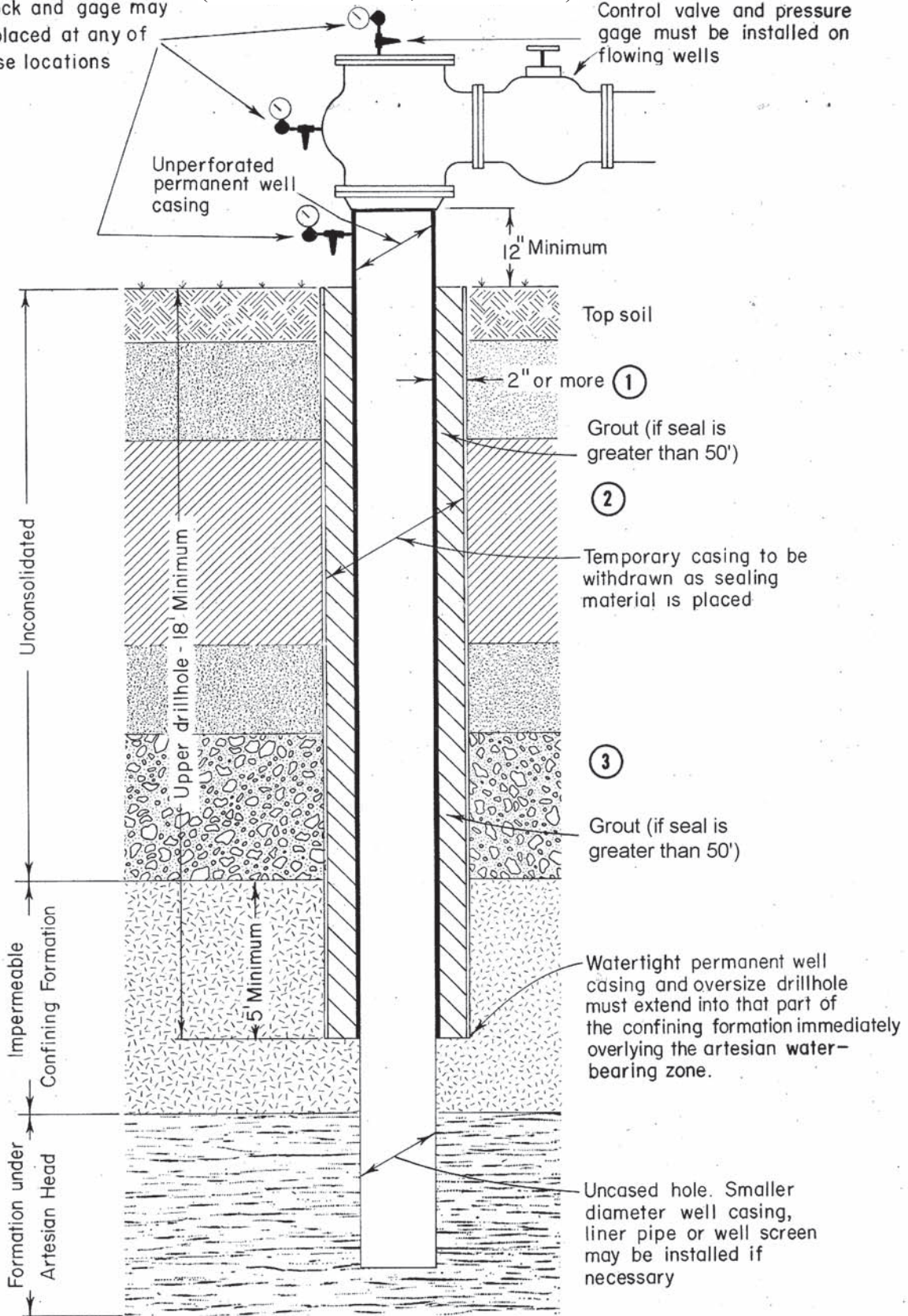
SEALING OF AN ARTESIAN WELL

(OAR 690-210-0155, 690-215-0070)

NOTE:

Petcock and gage may be placed at any of these locations

Control valve and pressure gage must be installed on flowing wells



- ① 1" or more if cement grout is placed by grouting method A, B, or D. Annular sealing space requirements are based on nominal casing sizes.
- ② Well must not be constructed in a manner that will allow water from an artesian zone to commingle with other confined or unconfined water-bearing zones.
- ③ Must be completed with the seals, packers, or casing necessary to eliminate subsurface or surface leakage.

AMEND: 690-210-0160

RULE SUMMARY: Amends rule figure by updating rule label.

CHANGES TO RULE:

690-210-0160

Additional Standards for Filter Pack Wells with Surface Casing ¶

If a permanent surface casing is installed in the construction of a filter pack well, a watertight, welded, steel plate at least 3/16 of an inch in thickness shall be installed between the inner production casing and the outer surface casing at the well head. A watertight fill port with threaded cap may be installed for the purpose of placing additional filter pack material in the well. (See Figure 210-8.)¶

[ED. NOTE: Figures referenced are available from the agency.]

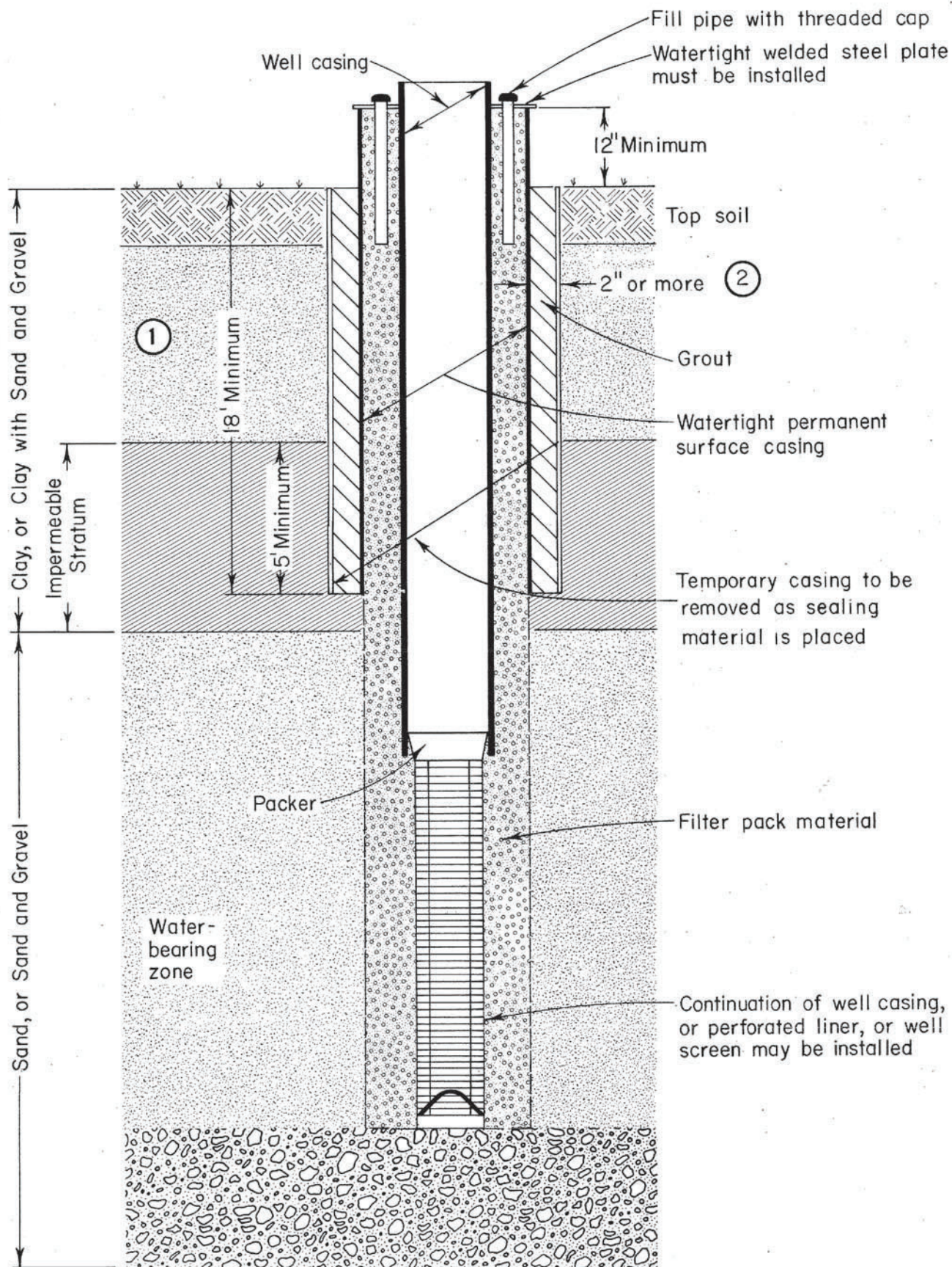
Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

SEALING OF A FILTER PACKED WELL WITH SURFACE CASING⁷⁵

(OAR 690-210-0160)



- ① Minimum of 18 feet provided that the impermeable stratum is at or near land surface.
- ② Annular sealing space requirements are based on nominal casing size.

AMEND: 690-210-0170

RULE SUMMARY: Amends rule figure by updating rule label.

CHANGES TO RULE:

690-210-0170

Additional Standards for Filter Pack Wells without Surface Casing ¶

If a permanent surface casing is not installed in the construction of a filter pack well, and filler tubes are to be used, an oversize well bore having a nominal diameter of at least eight inches greater than the nominal diameter of the permanent well casing shall be constructed. If filler tubes are not to be used, an oversize well bore having a nominal diameter of at least four inches greater than the nominal diameter of the permanent well casing shall be constructed. A suitable plug shall be installed in the annular space between the filter pack material and the grout seal. A watertight fill pipe with threaded cap may be installed for the purpose of placing additional filter pack material in the well. The outside diameter of the fill pipe shall not exceed one-half the thickness of the grout seal surrounding the permanent well casing and shall be centered in the annular space. (See Figure 210-9.)¶

[ED. NOTE: Figures referenced are available from the agency.]

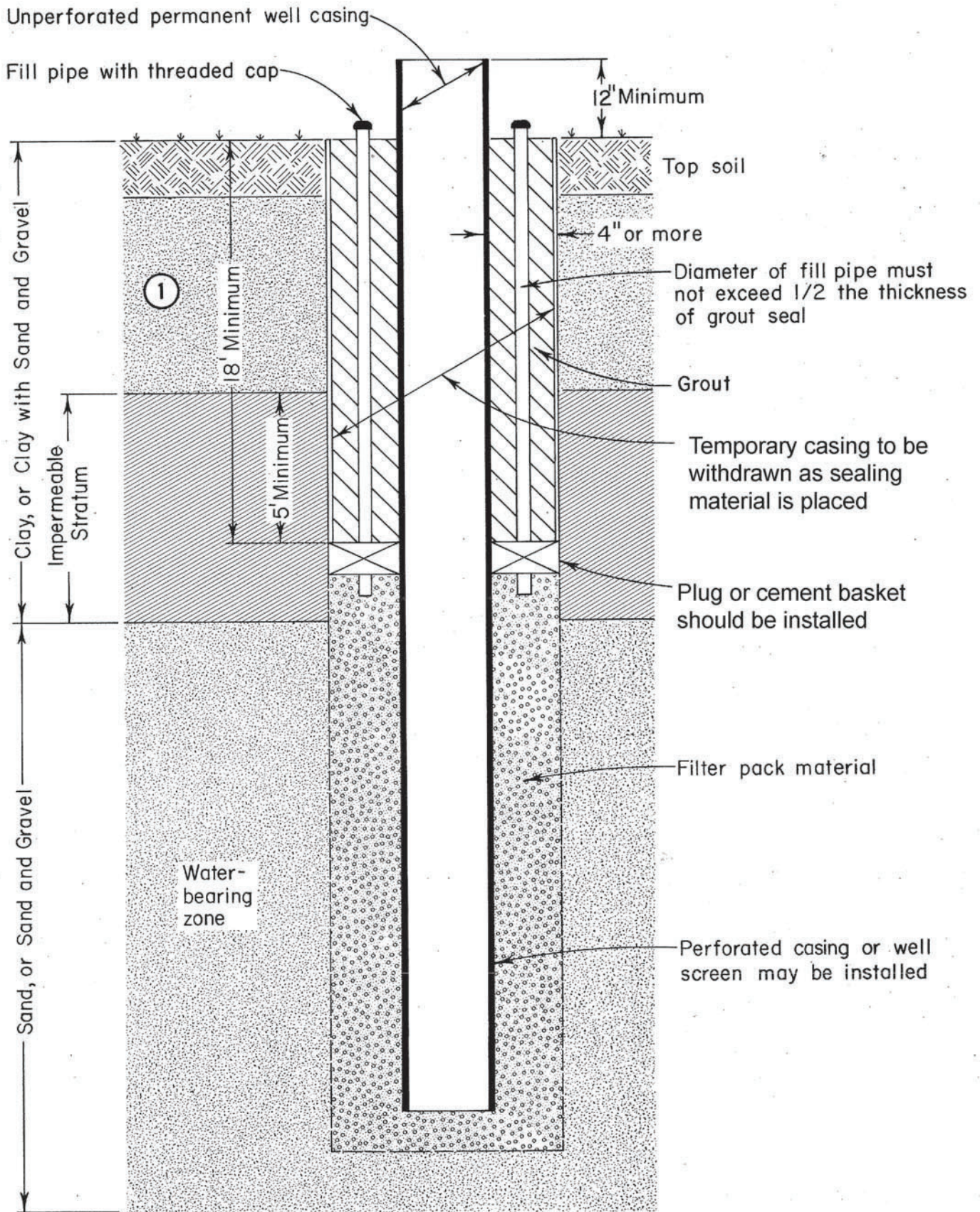
Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

SEALING OF A FILTER-PACKED WELL WITHOUT SURFACE CASING

(OAR 690-210-0170)



① Minimum of 18 feet provided that the impermeable stratum is at or near land surface.

AMEND: 690-210-0180

RULE SUMMARY: Amends rule figure and table by updating rule labels.

CHANGES TO RULE:

690-210-0180

Additional Standards for Driven or Jetted Wells ¶¶

All drive point wells or jetted wells shall have nonperforated, watertight casing meeting the minimum specifications shown in Table 210-1 and extending a minimum distance of 18 feet below land surface. Drive casing greater than 3-1/2 inches shall comply with the minimum specifications in OAR 690-210-0190. An upper drillhole at least four inches greater in nominal diameter than the permanent casing shall extend at least 18 feet below land surface. The annular space shall be filled with grout. If temporary casing is used during construction, it must be removed during placement of the grout. (See Figure 210-10.)¶¶

[ED. NOTE: Tables and Figures referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505–537.795–537.795, ORS 536.027, ORS 536.900, ORS 537.992

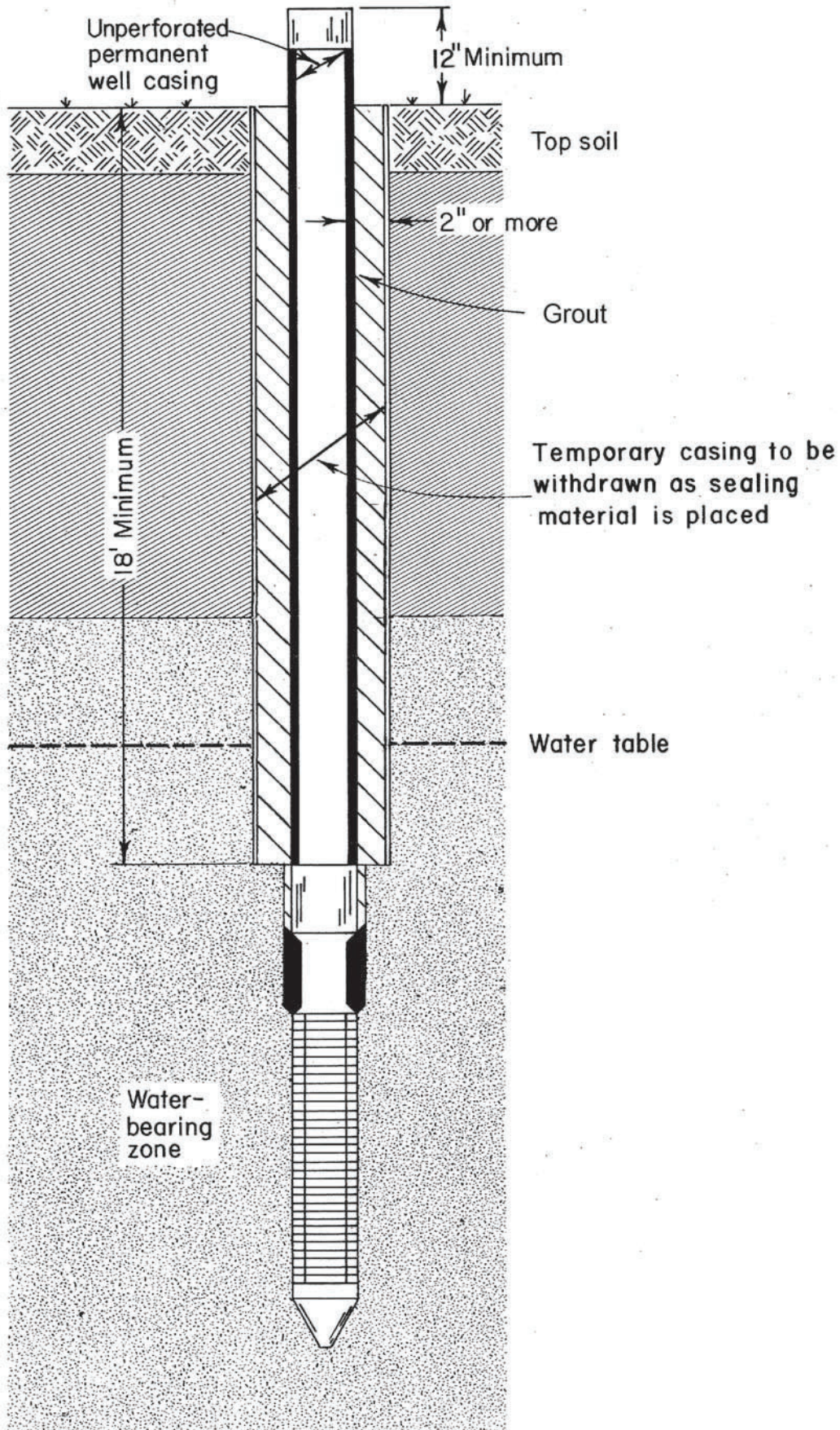
Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

TABLE 210-1
(690-210-0180)
(Specifications for Drive Pipe)

Nominal Size (inches)	Outside Diameter (inches)	Wall Thickness (inches)	Weight Per Foot (pounds)
1-1/2	1.900	0.145	2.72
2	2.375	0.154	3.65
2-1/2	2.875	0.203	5.79
3	3.500	0.216	7.58
3-1/2	4.000	0.226	9.11

SEALING OF A DRIVEN OR JETTED WELL (OAR 690-210-0180)



AMEND: 690-210-0190

RULE SUMMARY: Amends rule by adding Table 210-3; amends rule Table 210-2 by updating rule label.

CHANGES TO RULE:

690-210-0190

Steel Casing ¶¶

(1) All steel casing installed shall be in new or like new condition, being free of pits or breaks, and shall meet or exceed the minimum American Society for Testing Materials (ASTM A-53A or B) specifications for steel pipe, for the sizes as set out in Table 210-2.¶¶

(2) All steel casing having a diameter larger than 20 inches shall have a wall thickness of at least 0.375 inch.¶¶

(3) Steel casing installed in a well greater than a nominal diameter of ten inches, having a wall thickness of 0.250 inch and meeting or exceeding ASTM A-53 A or B specifications must not exceed the following depth limitations (Diameter - Maximum Depth, respectively):¶¶

(a) 12 inches - 500 feet;¶¶

(b) 14 - 16 inches - 250 feet;¶¶

(c) 18 - 20 inches - 100 feet.¶¶

(4) Steel casings of other ASTM specifications shall not be used without written permission of the Director. A written request to use casing of other specifications shall be submitted to the Director. This request shall include a description of the casing specifications and the reason for its use.¶¶

[~~ED. NOTE: Tables & Publications referenced are available from the agency.~~](5) See Table 210-3 for capacity of drillhole or casing.

Statutory/Other Authority: ORS 536.090, ORS 537.505–537.795-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

**OREGON ADMINISTRATIVE RULES
WATER RESOURCES DEPARTMENT
CHAPTER 690, DIVISION 210
WELL CONSTRUCTION STANDARDS**

TABLE 210-2

(Minimum specifications for steel well casing)

Nominal Size (inches)	Outside Diameter (inches)	Wall Thickness (inches)	Weight Per Foot (pounds)
2	2.375	.154	3.65
2-1/2	2.875	.203	5.79
3	3.500	.216	7.58
3-1/2	4.000	.226	9.11
4	4.500	.237	10.79
5	5.563	.244	13.70
6	6.625	.250	17.02
8	8.625	.250	22.36
10	10.750	.250	28.04
*12	12.750	.312	41.45
*14	14.000	.312	45.68
*16	16.000	.312	52.27
*18	18.000	.375	70.59
*20	20.000	.375	78.60

* Note: Steel casing installed in a well greater than a nominal diameter of ten (10) inches, having a wall thickness of .250 inch and meeting ASTM A-53 A or B specifications must not exceed the following depth limitations (Diameter - Maximum Depth, respectively):

1. 12 inches - 500 feet
2. 14 - 16 inches - 250 feet
3. 18 - 20 inches - 100 feet

Table 210-3
Capacity of Drillhole or Casing
OAR 690-210-0190

Nominal Size (in inches)	Gallons per Linear Foot
2	0.163
4	0.653
5	1.020
6	1.469
7	1.999
8	2.611
9	3.305
10	4.080
11	4.937
12	5.875
14	7.997
16	10.445
18	13.219
20	16.320
24	23.501

AMEND: 690-210-0220

RULE SUMMARY: Amends rule table by updating rule label.

CHANGES TO RULE:

690-210-0220

Plastic Casing Joints ¶

All plastic casing joints shall be watertight. Either "bell" type, threaded, or coupling hubs are approved. Hub couplings shall be of material meeting the specifications for plastic casings as set forth in OAR 690-210-0210. Joints shall be made by solvent cement in accordance with manufacturer's directions. Newly assembled joints require careful handling until the initial set has taken place, which varies with the temperature and the pipe size. The recommended initial set times are from manufacturer's recommendations (See Table 210-4).¶

[ED. NOTE: Tables referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 183, 536, 537, 540 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

OAR 690-210-0220

Table 210-4
Set time for plastic casing joints

Temperature Range During Initial Set Time	Set Time for Various Pipe Sizes In Hours					
	3"	4"	6"	8"	10"	12"
60 F - 100 F	1/2	1/2	1/2	3/4	3/4	1
40 F - 60 F	2	2	4	4	4	4
0 F - 40 F	6	6	8	10	12	12

NOTE: After the initial set, the joints will withstand the stress of a normal installation. However, considerable care should be employed in handling the string.

AMEND: 690-210-0230

RULE SUMMARY: Amends rule appendix and figure by updating rule labels.

CHANGES TO RULE:

690-210-0230

Inner Casing ¶

Inner casing installed into a well must meet the minimum requirements of well casing (OAR 690-210-0190). The space between the two well casings shall be sealed so as to prevent the movement of water between the two casings. Inner casing installed in a well shall extend or telescope at least eight feet into the lower end of the well casing. The inner casing must be centered and must be a minimum of one inch smaller in diameter than the outer casing if an under reaming method system is used. If other methods are used, the inner casing must be a minimum of two inches smaller in diameter than the outer casing. The grout must be placed in a positive manner in accordance with method A, B, D, or E (see Appendix 210-3).¶

[ED. NOTE: Appendices referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 183, 536, 537, 540 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

**WATER RESOURCES DEPARTMENT
CHAPTER 690
DIVISION 210
WELL CONSTRUCTION STANDARDS**

APPENDIX 210-3

I. Recommended Methods of Placement of Cement Grout

Method A - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. A well casing with a float shoe at its lower end shall be placed in the well and suspended slightly above the point of bearing. A grout pipe shall be run inside the casing to the check valve. The grout pipe shall be connected to a suitable pump and water or drilling fluid shall first be circulated to clear the annular space. Grout shall be pumped through the grout pipe until clean grout completely fills the interval to be sealed. The grout pipe shall then be removed and the cement allowed to set. (See Figure 210-1)

Method B - Grout shall be placed by pumping or air pressure injection through a grout pipe installed inside the casing from the casing head to a point five (5) feet above the bottom of the casing. The grout pipe shall extend through an airtight sealed cap on the head of the well casing. The casing head shall be equipped with a relief valve and the grout pipe shall be equipped at the top with a valve permitting injection. The lower end of the grout pipe and the casing shall be open. Clean water shall be injected down the grout pipe until it returns through the casing head's relief valve. The relief valve is then closed and injection of water is continued to clean the hole until it flows from the bore hole outside the casing that is to be grouted in place. Without significant interruption, grout shall be substituted to water and, in a continuous manner, injected down the grout pipe until it returns to the surface outside of the casing. A small amount of water may be used to flush the grout pipe, but the pressure should remain constant on the inside of the grout pipe and the inside of the casing until the grout has set. Pressure shall be maintained for at least twenty-four (24) hours, or until such time as a sample of the grout indicates a satisfactory set. Cement grout shall be used for this procedure with a minimum annular space of one (1) inch completely surrounding the casing. (See Figure 210-1)

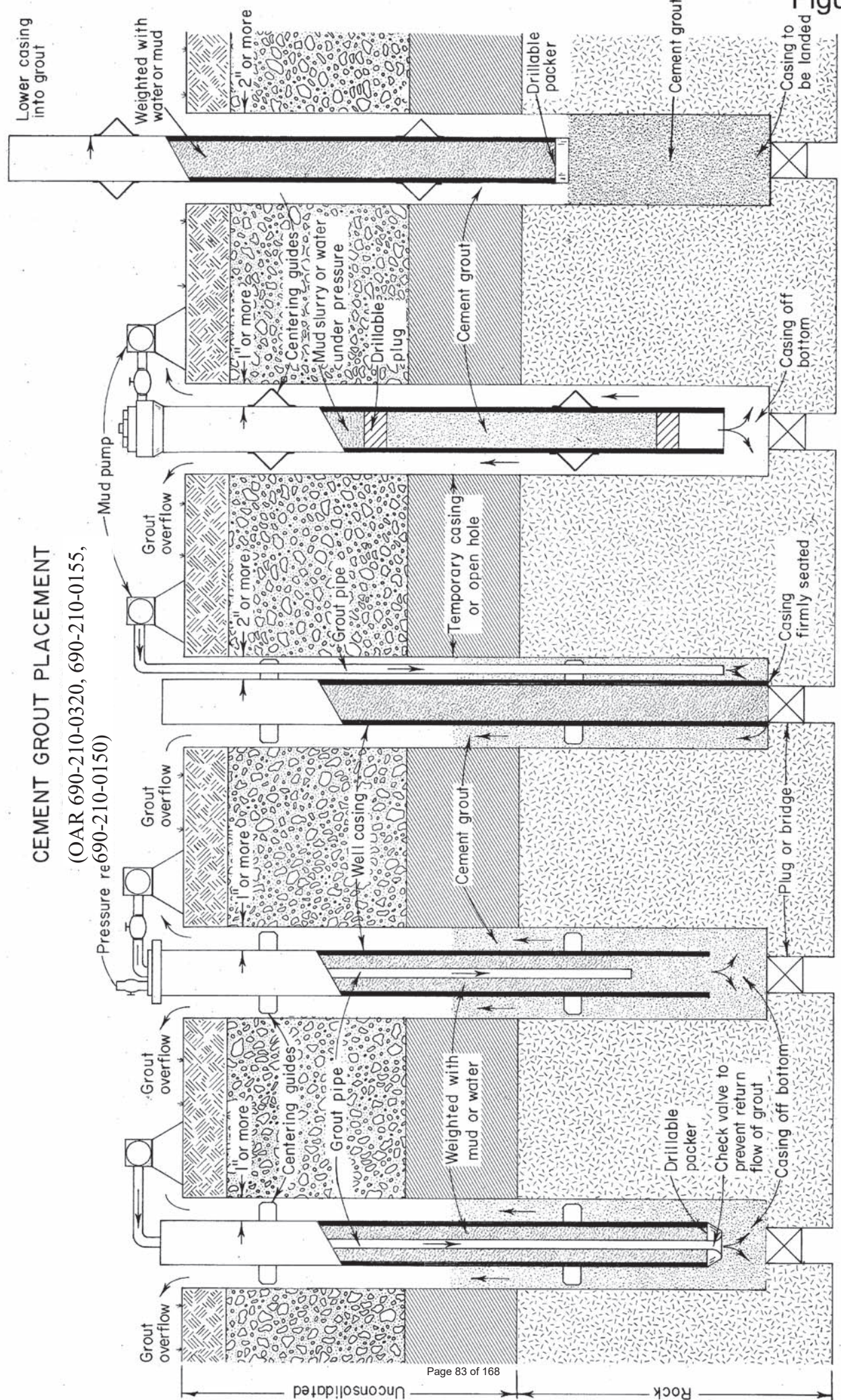
Method C - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. The well casing shall be firmly seated at the bottom of the drillhole. A grout pipe shall be run to the bottom of the hole through the annular space between the casing and the well bore. After water or any other drilling fluid has been circulated in the annular space sufficiently to clear obstructions, the grout pipe shall be connected to a suitable pump and grout shall be pumped through the grout pipe until clean grout is circulated to land surface, or until grout completely fills the interval to be sealed. The lower end of the grout pipe shall remain submerged in grout while grout is being placed. The grout pipe shall be withdrawn before the initial set of the grout. (See Figure 210-1)

Method D - The well bore shall be plugged with a drillable plug or bridge at the lowest point to

be sealed. After the casing is run and landed, a casing plug, having a length greater than the diameter of the casing, shall be placed in the casing. If the drillhole is free of mud or water, this lower separation plug may be eliminated. A measured amount of cement grout necessary to completely fill the annular space of the interval to be grouted is pumped or placed by bailer in the casing. A second casing plug, having a length greater than the diameter of the casing, shall be placed in the casing above the grout. The casing shall then be capped with a pressure cap and shut-off valve, and shall be connected to a suitable pump. The casing shall then be raised far enough above the point of bearing to clear the first separation plug. Water or drilling mud shall then be pumped under pressure into the casing forcing the grout and upper casing plug down the casing. The position of the plug must be known at all times. A small amount of grout may remain in the lower end of the casing. When the plug reaches the point desired above the bottom of the casing, the pump shall be stopped and the casing seated. (See Figure 210-1)

Method E - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. A sufficient amount of cement grout to completely fill the interval of the well to be sealed shall be placed at the bottom of the drillhole by pump bailer or grout pipe. The well casing shall have centering guides attached at appropriate intervals to keep the casing centered in the bore hole. The bottom of the well casing shall be fitted with a tight drillable plug and shall be lowered into the drillhole forcing the grout upward into the annular space. Gravity installation without the aid of a grout pipe shall not be used. In no instance shall this method be used deeper than thirty (30) feet and in no case for a municipal, community, or public water supply well. (See Figure 210-1)

CEMENT GROUT PLACEMENT
(OAR 690-210-0320, 690-210-0155,
re 690-210-0150)



METHOD A
METHOD B
METHOD C
METHOD D
METHOD E

AMEND: 690-210-0240

RULE SUMMARY: Amends rule figure by updating rule label.

CHANGES TO RULE:

690-210-0240

Casing Shall be Centered ¶¶

In all instances, casings shall be centered in sealed intervals. Casing centralizers may be used to ensure centering. When sealing a well by Method E, casing centralizers shall be used. (See Figure 210-11, ~~1986~~)¶¶

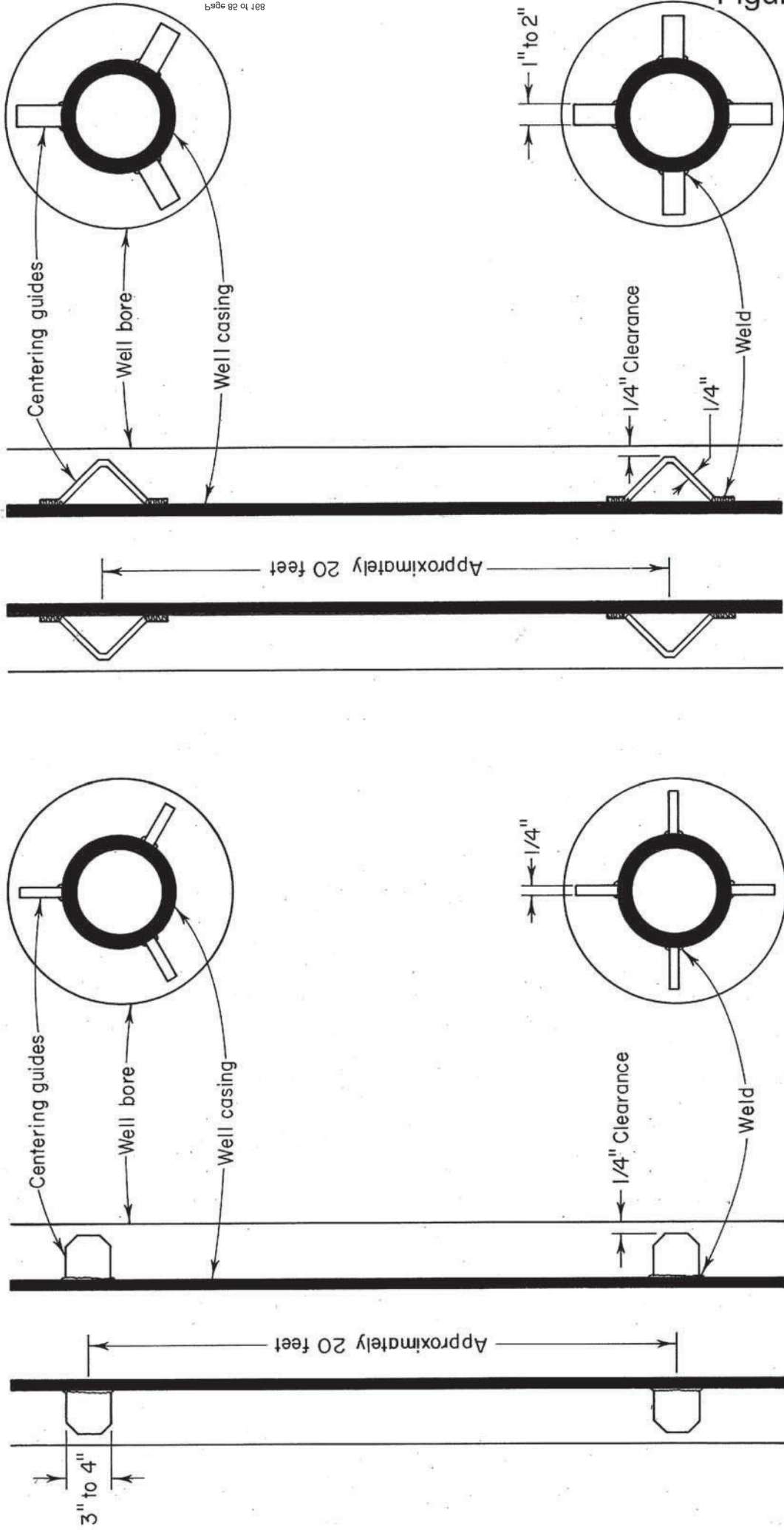
[ED. NOTE: Figures referenced are available from the agency.]

Statutory/Other Authority: ~~ORS 183, 536, 537, 540~~ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

RECOMMENDED USE OF CENTERING GUIDES
(OAR 690-210-0240)



NOTE: Well casing, to be sealed into an oversize drillhole, should be equipped with a series of centering guides to insure proper centering of casing. Guides should be evenly spaced in groups of 3 or 4, and attached to the casing.

AMEND: 690-210-0270

RULE SUMMARY: Amends rule appendix by updating appendix title and rule label.

CHANGES TO RULE:

690-210-0270

Pitless Well Adapters and Units ¶¶

Surface seal requirements for well casing set forth herein shall also apply when a pitless adapter or unit is installed in a well. The seal shall cover that interval occupied by the pitless case from the point of casing connection to land surface. A cement grout seal shall not be allowed within the pitless unit or pitless adaptor sealing interval. The pitless adapter or unit sealing interval shall be sealed with unhydrated bentonite as described in OAR 690-210-0330 and 690-210-0340. The pitless adapter or unit, including the cap or cover, pitless case and other attachments, shall be designed and constructed to be watertight to prevent the entrance of contaminants into the well from surface or near-surface sources. Pitless units shall be vented to the atmosphere. Refer to OAR 690-210-0210 if the pitless adaptor or unit is to be used in conjunction with PVC casing. ¶¶

NOTE: Prior to installing pitless well adapters or units on public, community, municipal, or public utility water supply wells, contact the Department of Human Resources. (See references to Health Division regulation in Appendix 210-1). ¶¶

[ED. NOTE: The Appendices referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505–537.795-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 183, 536, 537, 540 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

APPENDIX 210-1**Additional Requirements by Other State Agencies of Oregon**

In the administration of ORS 537.505 to 537.795, the Director of the Water Resources Department has statutory authority under the provisions of ORS 537.780 "to prescribe and enforce general standards for the construction and maintenance of wells and their casings, fittings, valves, and pumps..." Other agencies of the state have statutory responsibilities that relate either directly or indirectly to the construction and operation of public water supply systems and their source of water supply. These agencies and their responsibilities are listed as follows:

<p>OREGON HEALTH AUTHORITY 800 NE Oregon Street Portland, OR 97232 (serving more than three single residents) https://www.oregon.gov/oha/pages/index.aspx</p>	<p>ORS Chapter 448</p>	<p>Municipal Water Supply Systems Public Water Supply Systems Community Water Supply Systems Source Water Protection</p>
<p>BUILDING CODES DIVISION 1535 Edgewater NW Salem, OR 97304-4635 https://www.oregon.gov/bcd/pages/index.aspx</p>	<p>ORS Chapter 446</p>	<p>Electrical and Plumbing for all Commercial Enterprises Mobile Home Park Water Supply Systems</p>
<p>OREGON PUBLIC UTILITY COMMISSION 201 High St SE #100 Salem, OR 97301 https://www.oregon.gov/puc/pages/default.aspx</p>	<p>ORS Chapter 757</p>	<p>Private Owners (water supply systems, 200 homes or more)</p>
<p>DEPARTMENT OF ENVIRONMENTAL QUALITY 700 NE Multnomah St Portland, OR 97232 https://www.oregon.gov/deq/pages/index.aspx</p>	<p>ORS Chapter 468</p>	<p>Water Quality Monitoring Underground Injection Systems Source Water Protection</p>
<p>SECRETARY OF STATE CORPORATION DIVISION Oregon Business Registry 255 Capitol St NE Salem OR 97310 https://secure.sos.state.or.us/cbrmanager/index.action#stay</p>		<p>Business Registry for Water Districts</p>

APPENDIX 210-1- CONTINUED

All wells constructed in Oregon, including those to serve as a source of ground water to municipal, community, public, or public utility water supply systems, must be constructed in accordance with the rules and regulations prescribing general standards for the construction and maintenance of wells in Oregon (OAR 690 Divisions 205, 210, 215, 220, and 240). Additional construction standards for water supply systems may be required by the above listed agencies. Such rules and regulations generally include the source of water supply to the systems and may affect well construction requirements. Copies of the various agency rules may be obtained by contacting the responsible agency. Well constructors planning to construct a well as a source of water supply for any of the above systems are advised to contact the responsible agency prior to the beginning of well construction.

AMEND: 690-210-0280

RULE SUMMARY: Amends rule figures by updating rule labels

CHANGES TO RULE:

690-210-0280

Access Ports, Dedicated Measuring Tubes and Airlines ¶¶

(1) All water supply wells , including wells that have been temporarily removed from service, temporarily abandoned due to a recess in construction, or temporarily abandoned before commencing service, shall be properly covered and shall be equipped with a usable access port with a minimum diameter of 1/2- inch for the purpose of determining the water level in the well at any time.¶

(2) Access ports shall be installed prior to the Water Supply Well Constructor removing the well drilling machine from the well site.¶

(3) Dedicated measuring tubes that meet the requirements of OAR 690-215-0060 are recommended to be installed on all water supply wells at the time of pump installation, pump repair, or pump replacement. Where required, dedicated measuring tubes shall be a minimum of 3/4-inch diameter schedule 40 PVC extending to the top of the pump (See Figure 200-5). The 3/4-inch diameter dedicated measuring tube may be reduced in size to 1/2-inch where it goes through the watertight well cap, but shall not be reduced in size over the length of the pipe.¶

(4) An airline is not a substitute for a required dedicated measuring tube and, if installed, must enter the well in a location other than the access port.¶

(5) Access ports, dedicated measuring tubes or airlines on all water supply wells shall be capped and be a minimum of twelve inches above finished ground surface or pumphouse floor (See Figures 210-12)(See Figure and 200-5).¶

(6) Access ports, airlines and dedicated measuring tubes on all water supply wells shall be maintained by the landowner in a condition that will prevent contamination of the groundwater resource, and shall remain free from wire or other obstruction.¶

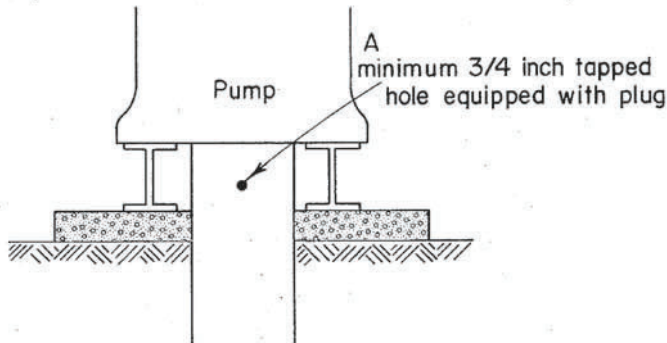
[ED. NOTE: Figures referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505–537.795-537.795, ORS 536.027, ORS 536.900, ORS 537.992

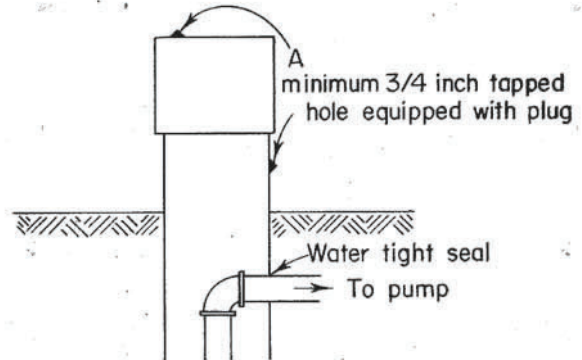
Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

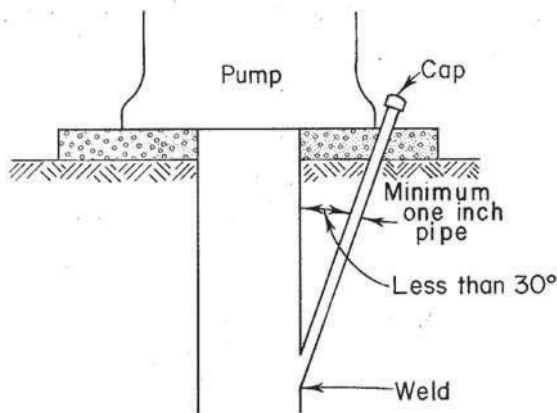
**SUGGESTED METHODS OF INSTALLING
ACCESS PORTS, PRESSURE GAUGES, AND AIR LINES
FOR MEASURING WATER LEVELS IN WELLS
(OAR 690-210-0280)**



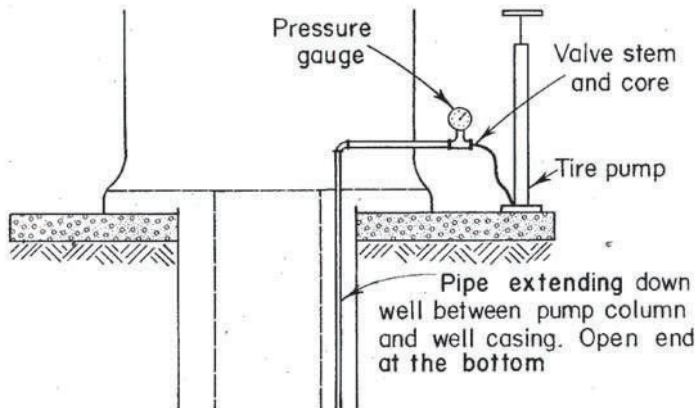
ACCESS PORT FOR MEASURING DEVICE



ACCESS PORT FOR MEASURING DEVICE



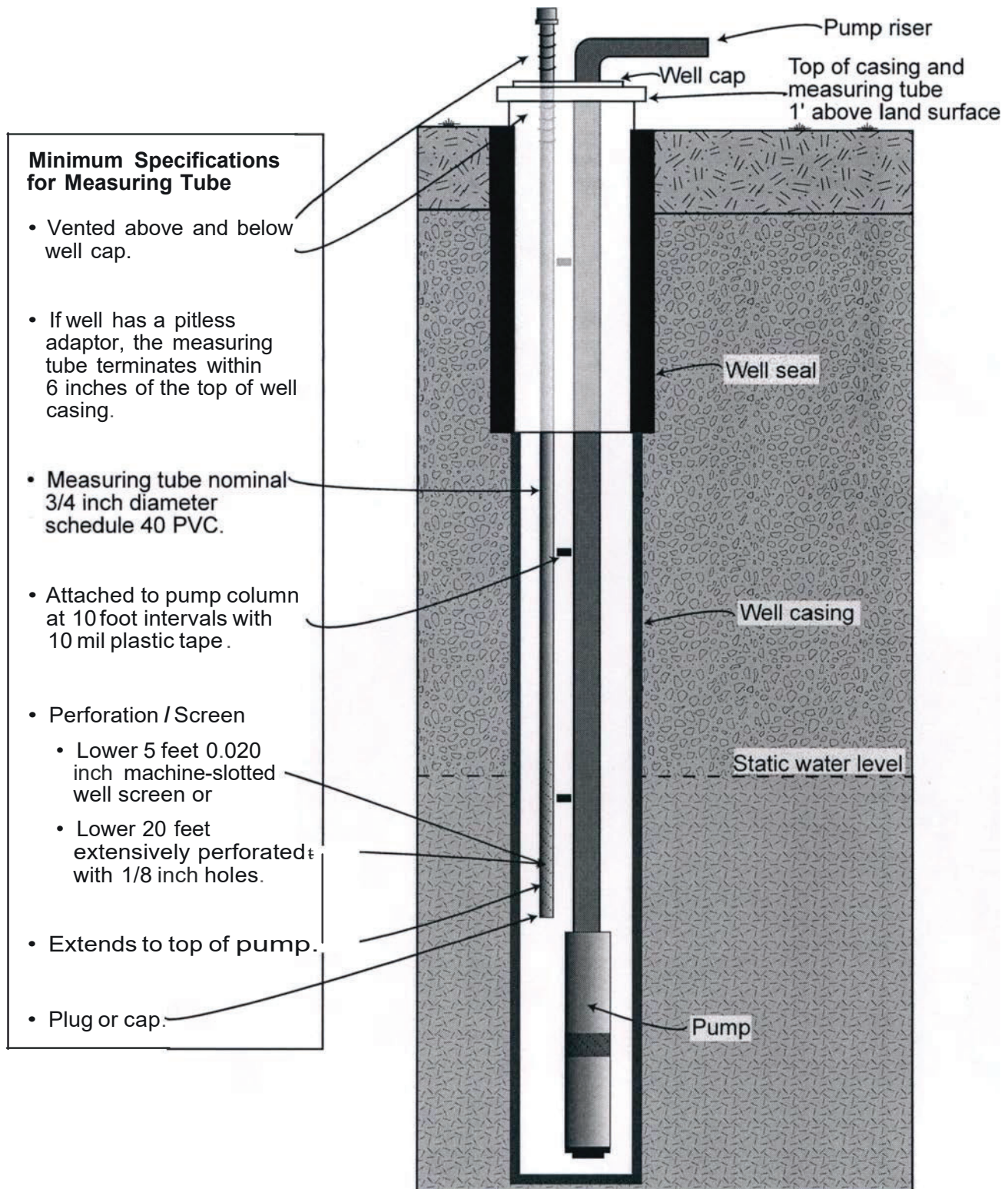
ACCESS PORT FOR MEASURING DEVICE



AIR LINE INSTALLATION

An air line installation is recommended where the water level lies at a considerable depth below land surface. The amount of air pressure that can be built up inside the air line will be equal to the depth of water standing above the bottom of the air line. The exact depth to the bottom of the air line is required to obtain an accurate measurement of the water level in the well. One pound per square inch pressure equals 2.31 feet of water.

Measuring Tube Diagram and Specifications



This diagram details the minimum standards for a dedicated measuring tube. A measuring tube may be constructed in a manner that exceeds these standards without prior Department approval. The dedicated measuring tube shall not be reduced in size over the length of the pipe and shall remain free from wires or any other obstruction.

AMEND: 690-210-0290

RULE SUMMARY: Amends rule table by updating rule label.

CHANGES TO RULE:

690-210-0290

Liner Pipe ¶¶

Liner pipe installed through caving formations and installed without driving, may be of lighter weight than specified by Table 210-2 under OAR 690-210-0190. Such lightweight pipe shall have a wall thickness equal to or greater than 0.188 inch. All liner pipe shall be of steel, in new or like new condition, being free of pits or breaks; or shall be of polymerized vinyl chloride (PVC) type 1220 or 1120 and SDR 26 (Class 160) or greater wall thickness. Liner pipe installed in a well shall extend or telescope at least eight feet into the lower end of the well casing. In the event that more than one string of liner pipe is installed, each string shall extend or telescope at least eight feet into the adjacent larger diameter liner pipe. Liner pipe shall be removable. Liner pipe may be welded or hooked onto the permanent well casing but shall not be permanently fixed to a well casing or borehole wall using packers or grout which would prohibit the liner's removal. (See Inner Casing, OAR 690-210-0230.)

Statutory/Other Authority: ORS 536.090, ORS 537.505–537.795-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

**OREGON ADMINISTRATIVE RULES
WATER RESOURCES DEPARTMENT
CHAPTER 690, DIVISION 210
WELL CONSTRUCTION STANDARDS**

TABLE 210-2

(Minimum specifications for steel well casing)

Nominal Size (inches)	Outside Diameter (inches)	Wall Thickness (inches)	Weight Per Foot (pounds)
2	2.375	.154	3.65
2-1/2	2.875	.203	5.79
3	3.500	.216	7.58
3-1/2	4.000	.226	9.11
4	4.500	.237	10.79
5	5.563	.244	13.70
6	6.625	.250	17.02
8	8.625	.250	22.36
10	10.750	.250	28.04
*12	12.750	.312	41.45
*14	14.000	.312	45.68
*16	16.000	.312	52.27
*18	18.000	.375	70.59
*20	20.000	.375	78.60

* Note: Steel casing installed in a well greater than a nominal diameter of ten (10) inches, having a wall thickness of .250 inch and meeting ASTM A-53 A or B specifications must not exceed the following depth limitations (Diameter - Maximum Depth, respectively):

1. 12 inches - 500 feet
2. 14 - 16 inches - 250 feet
3. 18 - 20 inches - 100 feet

AMEND: 690-210-0320

RULE SUMMARY: Amends rule figure and rule appendix by updating rule labels.

CHANGES TO RULE:

690-210-0320

Methods of Placement of Cement Grout or Concrete ¶

Cement grout or concrete used as a sealing material in a well shall be placed or forced upward from the bottom to completely fill the annular space to be grouted and shall be placed in one continuous operation without significant interruption. If temporary outer surface casing is used in the construction of the well, it shall be withdrawn as the grout or concrete is placed. (For acceptable methods of placement, see Appendix 210-3 and Figure 210-1, ~~1986~~.)

[~~ED. NOTE: Figures and Appendices referenced are available from the agency.~~]

Statutory/Other Authority: ~~ORS 183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ~~ORS 183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

**WATER RESOURCES DEPARTMENT
CHAPTER 690
DIVISION 210
WELL CONSTRUCTION STANDARDS**

APPENDIX 210-3

I. Recommended Methods of Placement of Cement Grout

Method A - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. A well casing with a float shoe at its lower end shall be placed in the well and suspended slightly above the point of bearing. A grout pipe shall be run inside the casing to the check valve. The grout pipe shall be connected to a suitable pump and water or drilling fluid shall first be circulated to clear the annular space. Grout shall be pumped through the grout pipe until clean grout completely fills the interval to be sealed. The grout pipe shall then be removed and the cement allowed to set. (See Figure 210-1)

Method B - Grout shall be placed by pumping or air pressure injection through a grout pipe installed inside the casing from the casing head to a point five (5) feet above the bottom of the casing. The grout pipe shall extend through an airtight sealed cap on the head of the well casing. The casing head shall be equipped with a relief valve and the grout pipe shall be equipped at the top with a valve permitting injection. The lower end of the grout pipe and the casing shall be open. Clean water shall be injected down the grout pipe until it returns through the casing head's relief valve. The relief valve is then closed and injection of water is continued to clean the hole until it flows from the bore hole outside the casing that is to be grouted in place. Without significant interruption, grout shall be substituted to water and, in a continuous manner, injected down the grout pipe until it returns to the surface outside of the casing. A small amount of water may be used to flush the grout pipe, but the pressure should remain constant on the inside of the grout pipe and the inside of the casing until the grout has set. Pressure shall be maintained for at least twenty-four (24) hours, or until such time as a sample of the grout indicates a satisfactory set. Cement grout shall be used for this procedure with a minimum annular space of one (1) inch completely surrounding the casing. (See Figure 210-1)

Method C - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. The well casing shall be firmly seated at the bottom of the drillhole. A grout pipe shall be run to the bottom of the hole through the annular space between the casing and the well bore. After water or any other drilling fluid has been circulated in the annular space sufficiently to clear obstructions, the grout pipe shall be connected to a suitable pump and grout shall be pumped through the grout pipe until clean grout is circulated to land surface, or until grout completely fills the interval to be sealed. The lower end of the grout pipe shall remain submerged in grout while grout is being placed. The grout pipe shall be withdrawn before the initial set of the grout. (See Figure 210-1)

Method D - The well bore shall be plugged with a drillable plug or bridge at the lowest point to

be sealed. After the casing is run and landed, a casing plug, having a length greater than the diameter of the casing, shall be placed in the casing. If the drillhole is free of mud or water, this lower separation plug may be eliminated. A measured amount of cement grout necessary to completely fill the annular space of the interval to be grouted is pumped or placed by bailer in the casing. A second casing plug, having a length greater than the diameter of the casing, shall be placed in the casing above the grout. The casing shall then be capped with a pressure cap and shut-off valve, and shall be connected to a suitable pump. The casing shall then be raised far enough above the point of bearing to clear the first separation plug. Water or drilling mud shall then be pumped under pressure into the casing forcing the grout and upper casing plug down the casing. The position of the plug must be known at all times. A small amount of grout may remain in the lower end of the casing. When the plug reaches the point desired above the bottom of the casing, the pump shall be stopped and the casing seated. (See Figure 210-1)

Method E - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. A sufficient amount of cement grout to completely fill the interval of the well to be sealed shall be placed at the bottom of the drillhole by pump bailer or grout pipe. The well casing shall have centering guides attached at appropriate intervals to keep the casing centered in the bore hole. The bottom of the well casing shall be fitted with a tight drillable plug and shall be lowered into the drillhole forcing the grout upward into the annular space. Gravity installation without the aid of a grout pipe shall not be used. In no instance shall this method be used deeper than thirty (30) feet and in no case for a municipal, community, or public water supply well. (See Figure 210-1)

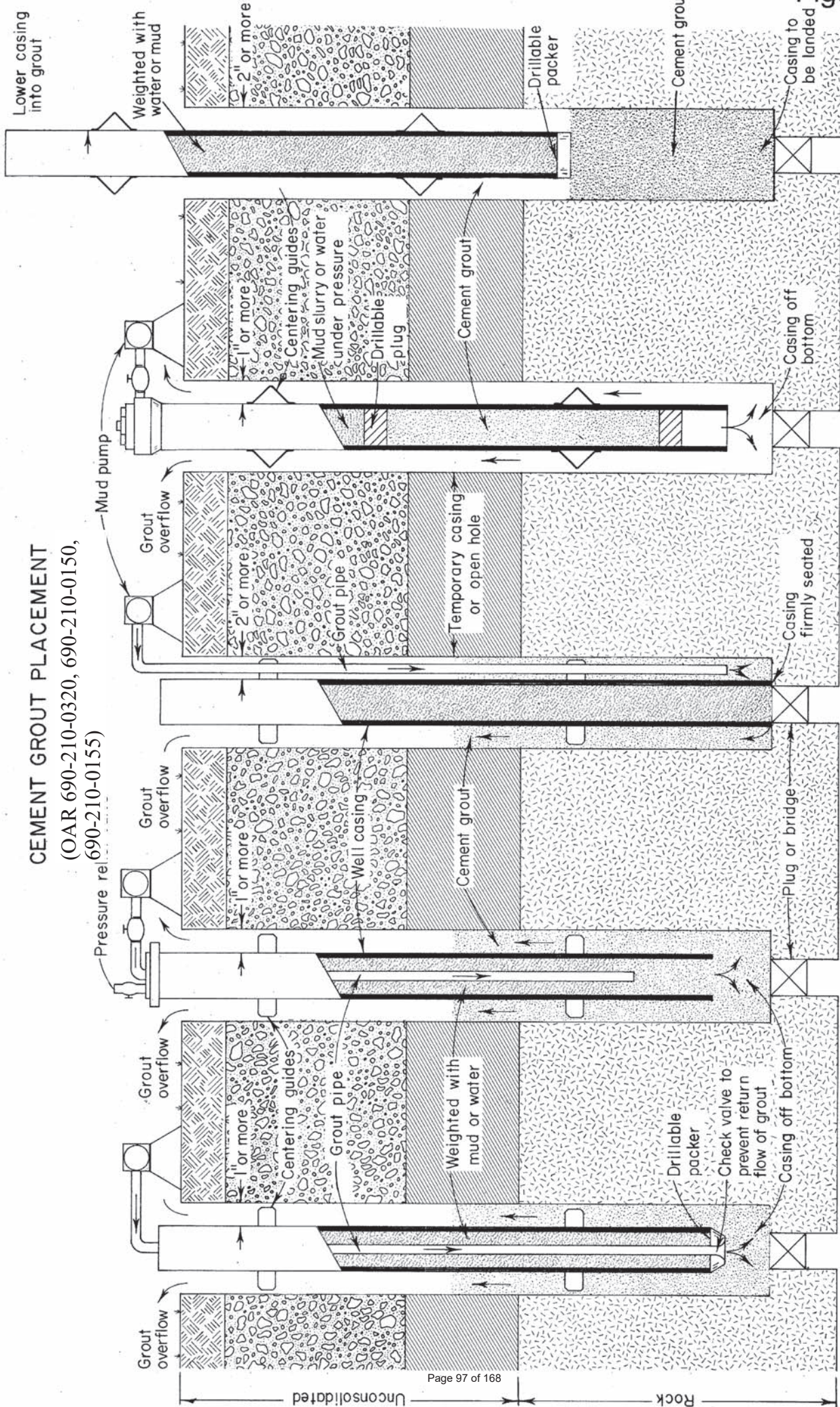
METHOD E

METHOD D

METHOD C

METHOD B

METHOD A



CEMENT GROUT PLACEMENT

(OAR 690-210-0320, 690-210-0150,

690-210-0155)

AMEND: 690-210-0380

RULE SUMMARY: Amends rule appendix by updating rule label.

CHANGES TO RULE:

690-210-0380

Disinfection of a Well ¶

Prior to or after being placed in the well, pumping equipment, sand, gravel and well casing shall be thoroughly hosed or sluiced with water, and shall be disinfected with a solution containing at least 50 parts per million chlorine. All water introduced into a well during construction shall be clean and potable. Upon completion, the well and its equipment, including the interior of the well casing, shall be thoroughly swabbed and cleaned to remove all of the oil, grease, and foreign substances. The well and its equipment shall be disinfected by thoroughly agitating and mixing in the well a solution containing enough chlorine to leave a residual of 25 parts per million throughout the well after a period of 24 hours. Disinfection should also occur following the installation of pumping equipment. (See Chart Recommendations for Disinfection of Wells, Appendix 210-2).¶

NOTE: Other public agencies may have jurisdiction over the discharge of chlorine in certain areas. The constructor should contact the Oregon Department of Environmental Quality or the appropriate city public works department for further information.¶

[ED. NOTE: Appendices referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505–537.795-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 183, 536, 537, 540536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

APPENDIX 210-2

I. Recommendations For Disinfection of Wells

Every newly constructed, altered, or repaired well should be assumed to be contaminated by micro-organisms. Before the initiation of use, each well must be thoroughly and carefully cleaned and treated to ensure that all disease carrying organisms are eliminated. Care should be exercised to make certain that all areas of the well come into contact with a solution containing enough available chlorine to completely destroy all harmful bacteria. An initial chlorine concentration of 50 parts per million (ppm) with a residual chlorine requirement of 25 ppm after 24 hours is considered adequate for this purpose. Either domestic laundry bleaches containing sodium hypochlorite, such as Clorox or Purex, or calcium hypochlorite in powder or tablet form (Olin HTH) may be used.

Hypochlorite solutions should be thoroughly mixed throughout the well either by the use of drilling tools, a pump, or by placing a calculated number of HTH tablets at regular intervals on a nylon string and dissolving them in places throughout the well. In all cases, the well casing and pump column standing above the water table should be thoroughly cleaned of all grease and oil and should be carefully washed down with the hypochlorite solution.

The well should be allowed to remain undisturbed after the treatment for a period of 24 hours. Then it is recommended that the well be tested for residual chlorine (at least 25 ppm must remain). After successful treatment, all water remaining in the well and supply system should be run to waste and a sample of fresh water from the well tested by the local county sanitarian for bacteriological purity.

SOLUTIONS CONTAINING HYPOCHLORITES

Laundry Bleach

Common domestic laundry bleaches contain from 5.25 percent to 6.00 percent sodium hypochlorite. These amounts are equivalent to approximately 2.5 percent available chlorine or about 25,000 ppm as originally purchased. A one gallon container of liquid bleach mixed with 500 gallons of water will dilute the original solution to approximately 50 ppm available chlorine.

High-Test Hypochlorite Compounds

Calcium hypochlorite (Olin HTH) in powder or tablet form contains about 50 percent active chlorine. One ounce of dry HTH powder mixed with 75 gallons of water will result in a solution containing approximately 50 ppm available chlorine. Eight tablets $\frac{1}{8}$ oz. each) of HTH are equivalent to one ounce of dry powder or granules.

APPENDIX 210-2 Continued

QUALITY OF HYPOCHLORITE NEEDED TO PROVIDE
50 PPM ACTIVE CHLORINE IN WELL WATER

(1) If using liquid bleaches, the following formula is applicable:

$$\frac{\text{Feet of water in well} \times \text{Gallons per foot}}{62} = \text{Pints of bleach needed}$$

Feet of water = Total depth of well minus static water level multiplied by gallons per foot (See Table II).

(2) If using HTH compounds, the following formula is applicable:

$$\frac{\text{Feet of water} \times \text{Gallons per foot}}{75} = \text{Ounces HTH needed}$$

(3) If HTH tablets are used:

$$\frac{\text{Feet of water} \times \text{Gallons per foot}}{9} = \text{Number of 1/8 oz. tablets needed}$$

AMEND: 690-210-0400

RULE SUMMARY: Amends rule figure by updating rule label.

CHANGES TO RULE:

690-210-0400

Construction of Dug Wells ¶¶

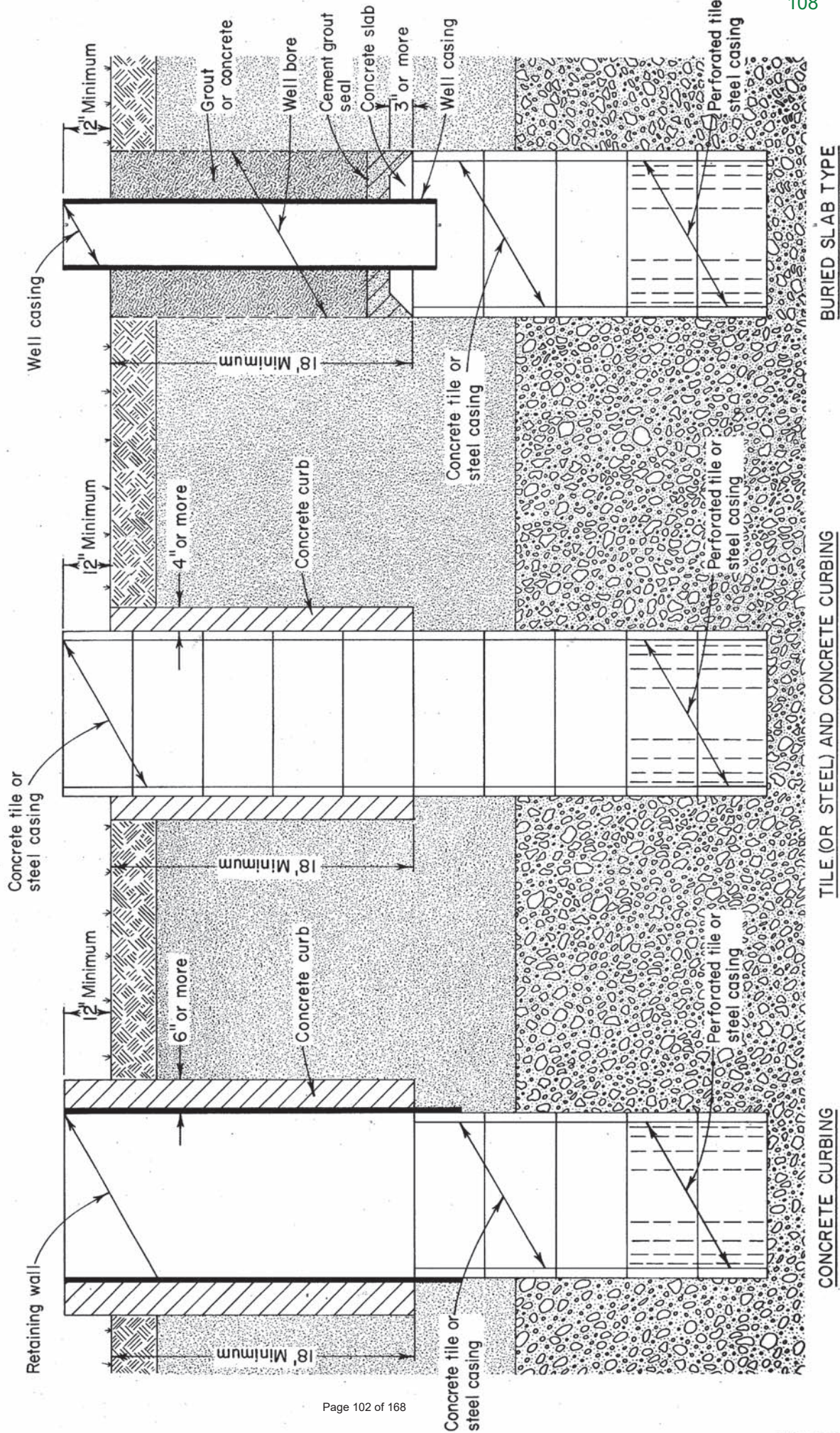
Dug wells that are 21 feet or less in depth shall be sealed with grout from land surface to within three feet of the bottom of the well. Dug wells greater than 21 feet in depth shall be sealed with grout from land surface to a depth of at least 18 feet below land surface. In all cases a watertight surface curbing shall extend from a minimum of 12 inches above land surface and continue the entire length of the sealed interval. Open wells, sometimes called sumps, which exceed ten feet in average diameter and are dug to a depth of ten feet or less are exempt from these construction requirements, but are subject to all the requirements covering the use of ground water (water right application). (See Figure 210-13).

Statutory/Other Authority: ~~ORS 183, 536, 537, 540~~ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ~~ORS 183, 536, 537, 540~~ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

SEALING OF DUG WELLS
(OAR 690-210-0400, 0410, 0420)



AMEND: 690-210-0410

RULE SUMMARY: Amends rule figure by updating rule label.

CHANGES TO RULE:

690-210-0410

Buried Slab Construction ¶¶

In a buried slab type well, the slab shall be at least 18 feet below land surface and shall be at least three inches in thickness. The slab shall be reinforced to withstand all stresses. The slab shall be sealed with cement grout at least one foot thick, and the well bore backfilled with grout in accordance with OAR 690-210-0300 through 690-210-0360. (See Figure 210-13).¶¶

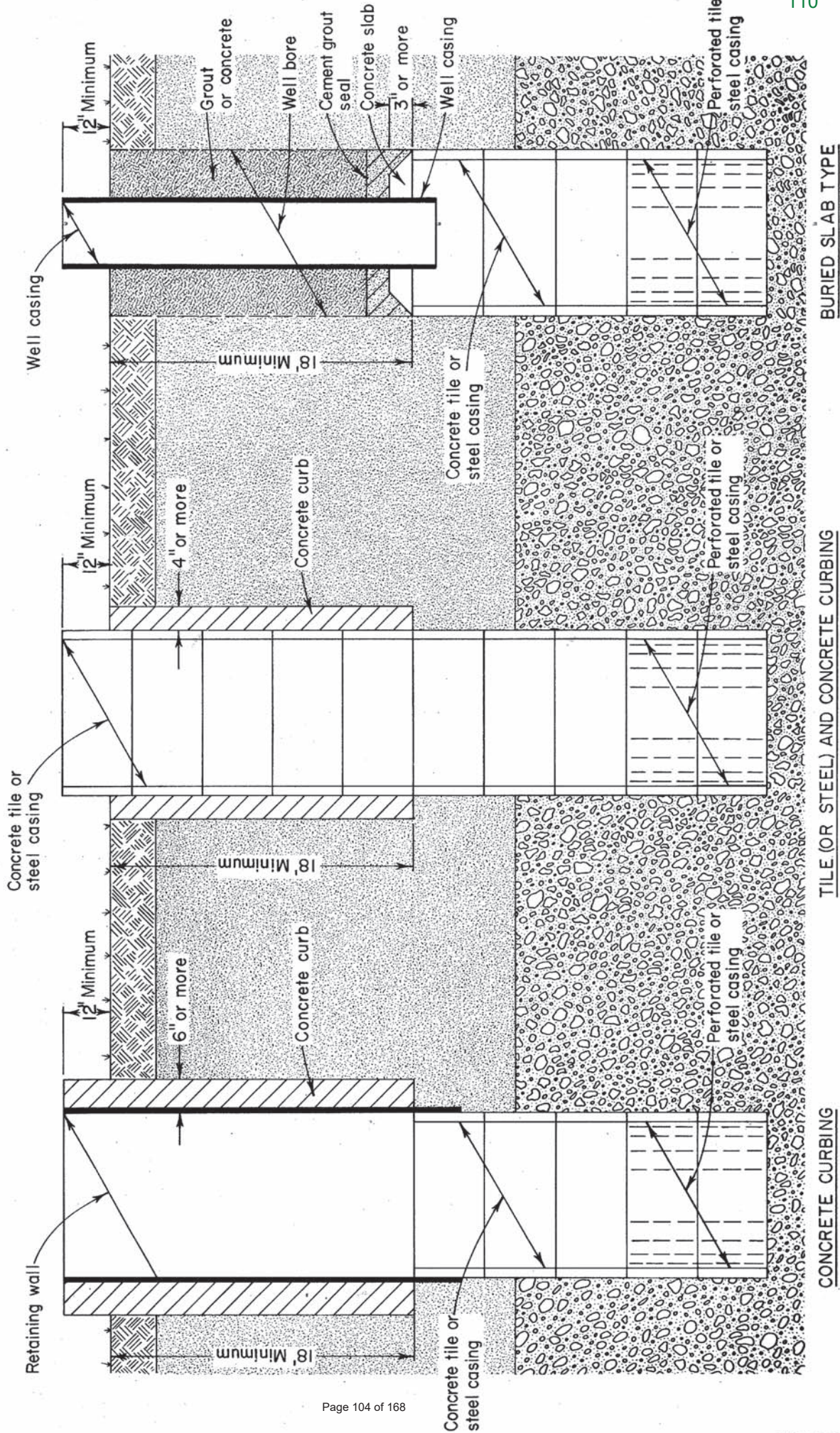
[ED. NOTE: Figures referenced are available from the agency.]

Statutory/Other Authority: ~~ORS 183, 536, 537, 540~~ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ~~ORS 183, 536, 537, 540~~ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

SEALING OF DUG WELLS
(OAR 690-210-0400, 0410, 0420)



AMEND: 690-210-0420

RULE SUMMARY: Amends rule figure by updating rule label.

CHANGES TO RULE:

690-210-0420

Surface Curbing ¶

(1) The surface curbing required in OAR 690-210-0400 shall be of concrete, concrete tile, or steel. If concrete is used, the concrete wall thickness shall not be less than six inches. In the case of buried slab type wells, well casing meeting the minimum specifications given in 690-210-0190 through 690-210-0220 shall be used. (See Figure 210-13.)¶

(2) If precast concrete tile or steel casing is used for the surface curbing, the well diameter to the bottom of the surface curbing shall be eight inches greater than the outside diameter of the tile or steel, and the annular space shall be completely filled with grout in accordance with OAR 690-210-0310 through 690-210-0340. (See Figure 210-13.)¶

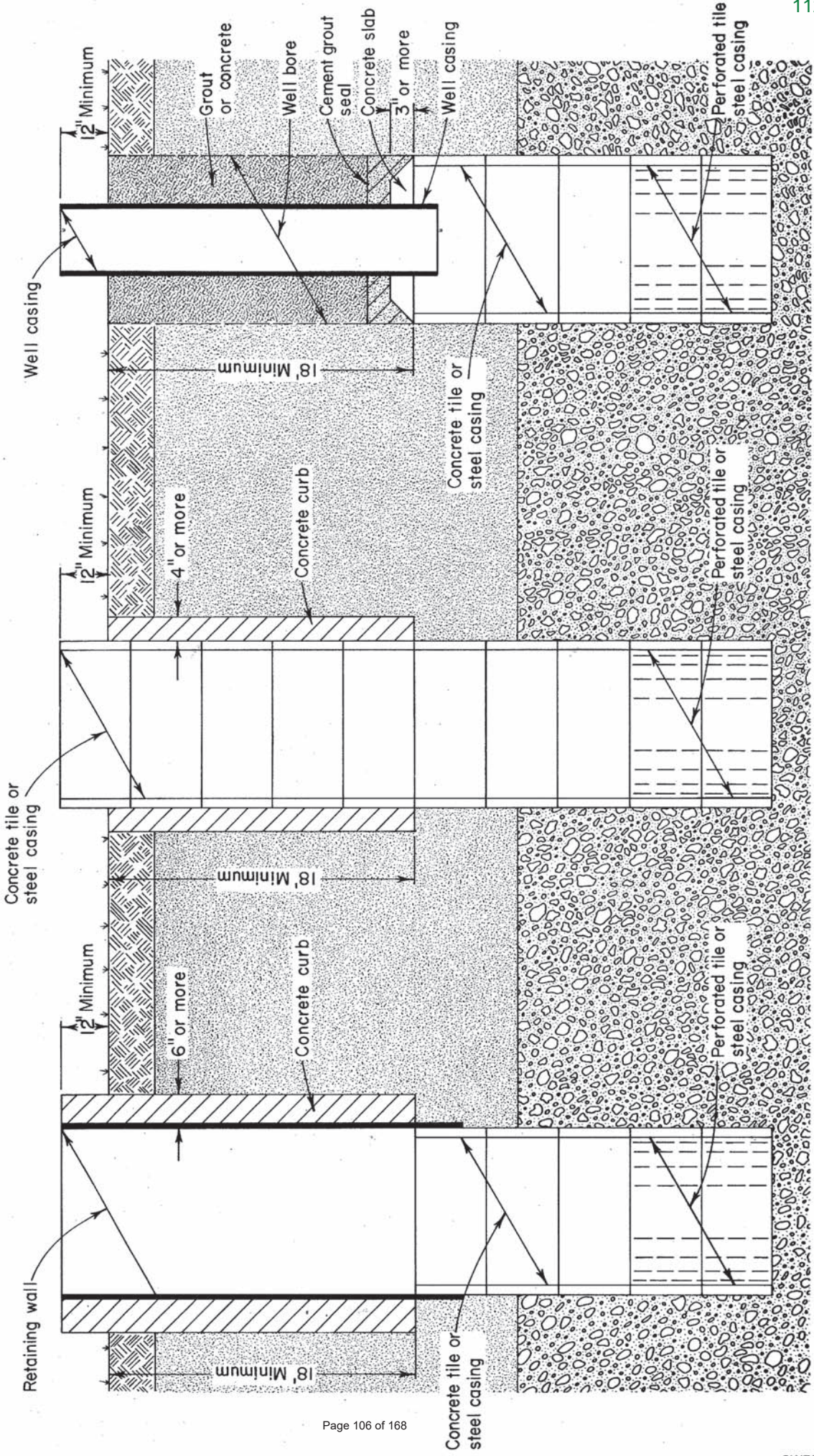
[ED. NOTE: Figures referenced are available from the agency.]

Statutory/Other Authority: ORS 183.536, 537, 540, 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 183.536, 537, 540, 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

SEALING OF DUG WELLS
(OAR 690-210-0400, 0410, 0420)



AMEND: 690-215-0005

RULE SUMMARY: Amends rule by updating appendix name referenced in the rule and by updating name and rule label on the appendix.

CHANGES TO RULE:

690-215-0005

Prevention of Groundwater Contamination, Health Hazard, and Waste ¶

(1) The landowner of the property on which the water supply well is constructed is ultimately responsible for the maintenance and use of the water supply well. All water supply wells should be disinfected following the installation of pumping equipment. Refer to OAR 690-210-0380, Appendix 210-2 for recommendations on well disinfection.¶

(2) The landowner shall maintain all water supply wells in a condition where they are not a health threat, a health hazard, a source of contamination or a source of waste of the ground water resource by allowing loss of artesian pressure or commingling of aquifers. A pitless adapter may be attached to the casing to transmit water from the well into the delivery pipeline. The pitless adapter shall be installed in such a manner as to prevent the contamination of the ground water resource. The landowner is responsible to assure that the space between the side of the well borehole and the well casing is sealed as required by OAR 690-215-0025.¶

(3) If, in the opinion of the Director, a water supply well is a health threat, a health hazard, a source of contamination, or a source of waste of the ground water resource, the Director may order discontinuance of, or impose conditions upon, the use of the water supply well. In addition, the Director may order that the well be repaired or permanently abandoned in accordance with OAR chapter 690, divisions 215 and 220 of the Standards for Construction and Maintenance of Water Supply Wells in the State of Oregon.¶

[ED. NOTE: Appendices referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505--537.795, ORS 536.900, ORS 536.027, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

APPENDIX 210-2

I. Recommendations For Disinfection of Wells

Every newly constructed, altered, or repaired well should be assumed to be contaminated by micro-organisms. Before the initiation of use, each well must be thoroughly and carefully cleaned and treated to ensure that all disease carrying organisms are eliminated. Care should be exercised to make certain that all areas of the well come into contact with a solution containing enough available chlorine to completely destroy all harmful bacteria. An initial chlorine concentration of 50 parts per million (ppm) with a residual chlorine requirement of 25 ppm after 24 hours is considered adequate for this purpose. Either domestic laundry bleaches containing sodium hypochlorite, such as Clorox or Purex, or calcium hypochlorite in powder or tablet form (Olin HTH) may be used.

Hypochlorite solutions should be thoroughly mixed throughout the well either by the use of drilling tools, a pump, or by placing a calculated number of HTH tablets at regular intervals on a nylon string and dissolving them in places throughout the well. In all cases, the well casing and pump column standing above the water table should be thoroughly cleaned of all grease and oil and should be carefully washed down with the hypochlorite solution.

The well should be allowed to remain undisturbed after the treatment for a period of 24 hours. Then it is recommended that the well be tested for residual chlorine (at least 25 ppm must remain). After successful treatment, all water remaining in the well and supply system should be run to waste and a sample of fresh water from the well tested by the local county sanitarian for bacteriological purity.

SOLUTIONS CONTAINING HYPOCHLORITES

Laundry Bleach

Common domestic laundry bleaches contain from 5.25 percent to 6.00 percent sodium hypochlorite. These amounts are equivalent to approximately 2.5 percent available chlorine or about 25,000 ppm as originally purchased. A one gallon container of liquid bleach mixed with 500 gallons of water will dilute the original solution to approximately 50 ppm available chlorine.

High-Test Hypochlorite Compounds

Calcium hypochlorite (Olin HTH) in powder or tablet form contains about 50 percent active chlorine. One ounce of dry HTH powder mixed with 75 gallons of water will result in a solution containing approximately 50 ppm available chlorine. Eight tablets $\frac{1}{8}$ oz. each) of HTH are equivalent to one ounce of dry powder or granules.

APPENDIX 210-2 Continued

QUALITY OF HYPOCHLORITE NEEDED TO PROVIDE 50 PPM ACTIVE CHLORINE IN WELL WATER

(1) If using liquid bleaches, the following formula is applicable:

$$\frac{\text{Feet of water in well} \times \text{Gallons per foot}}{62} = \text{Pints of bleach needed}$$

Feet of water = Total depth of well minus static water level multiplied by gallons per foot (See Table II).

(2) If using HTH compounds, the following formula is applicable:

$$\frac{\text{Feet of water} \times \text{Gallons per foot}}{75} = \text{Ounces HTH needed}$$

(3) If HTH tablets are used:

$$\frac{\text{Feet of water} \times \text{Gallons per foot}}{9} = \text{Number of 1/8 oz. tablets needed}$$

AMEND: 690-215-0017

RULE SUMMARY: Amends rule figures by updating rule labels.

CHANGES TO RULE:

690-215-0017

Down Well Continuous Water Treatment and Back-Siphon Prevention Devices ¶¶

(1) The following definitions apply solely to OAR 690-215-0017:¶¶

(a) "Backflow" means the flow of a mixture of water, fertilizer and/or chemicals in the opposite direction of that intended.¶¶

(b) "Backpressure" means an elevation of pressure downstream of the distribution system that would cause, or tend to cause, water to flow opposite of its intended direction.¶¶

(c) "Back-siphonage" means a drop in distribution system pressure below atmospheric pressure (partial vacuum), that would cause, or tend to cause, water to flow opposite of its intended direction.¶¶

(d) "Reduced Pressure Principle Backflow Prevention Assembly (RP)" means an assembly containing two independently acting approved check valves, together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. The unit shall include properly located resilient seated test cocks and tightly closing resilient seated shutoff valves at each end of the assembly. This assembly is designed to protect against a non-health hazard or a health hazard.¶¶

(e) "University of Southern California, Foundation for Cross-Connection Control and Hydraulic Research (USC FCCCHR)" is an agency that conducts laboratory and field tests to evaluate and grant "Certificates of Approval" to backflow prevention assemblies meeting approved standards.¶¶

(2) If a chemical is used to treat well water, it shall not be allowed to come into contact with the inside of the well casing above the water level. Down well treatment of well water will only be allowed if a commercial water treatment system is used. Delivery pipes or tubes designed for use with the treatment chemicals shall be used to place the chemicals into the water in the well. This rule does not apply when disinfecting the well and the pumping equipment.¶¶

(3) Only chemicals approved by the National Sanitation Foundation to treat drinking water may be allowed to enter a well. In no event shall agricultural chemicals or fertilizers be allowed to enter a well.¶¶

(4) Back-siphon prevention devices shall be installed on any irrigation system connected to a groundwater source when chemicals or fertilizers are applied through the system. The landowner or other responsible party shall ensure that back-siphon prevention devices are installed and function properly prior to the irrigation system being used for the application of chemicals or fertilizers. (See Figure 215-1 and Figure 215-2.) The landowner or other responsible party shall test the devices at the time of installation and prior to the first use of each calendar year to ensure that the devices are installed and function properly. The Department may require the landowner or other responsible party to submit a copy of the back-siphon prevention device test results for review. The installation of chemical or fertilizer injection equipment into an irrigation system connected to a groundwater source shall not result in contamination of the groundwater resource.¶¶

(a) Irrigation systems with a mainline diameter 4-inches or greater shall contain:¶¶

(A) An automatic low-pressure drain or similar device approved by the Water Resources Department which shall:¶¶

(i) Be installed between the irrigation pump and the irrigation mainline check valve at the lowest point of the horizontal water supply mainline;¶¶

(ii) Be designed to drain all incidental leakage from the check valve out of the irrigation mainline before that leakage enters the groundwater supply;¶¶

(iii) Be at least 3/4 inch in diameter with a closing pressure of not less than 5 psi;¶¶

(iv) Use a corrosion-resistant tube, pipe, or similar conduit that is sloped to discharge the solution a distance of at least 20 feet away and down-gradient from the irrigation groundwater source and any other water sources. At the discharge point there shall be an air gap between the discharge pipe and the discharged solution. The air gap shall be a minimum of six inches;¶¶

(v) Not have any valves located on the outlet side of the drain tube; and¶¶

(vi) Have a dam, collection reservoir or similar means to prevent the discharged solution from pooling and draining back toward the groundwater source.¶¶

(B) An inspection port or direct access point which shall:¶¶

(i) Be located on top of the mainline between the irrigation pump and the irrigation mainline check valve, directly overhead of the low-pressure drain; and¶¶

(ii) Have a minimum diameter opening of four inches from which the check valves and low-pressure drain shall be

visible. If a four-inch inspection port or direct access point is not possible, a proposed alternative access system may be submitted for review and approval by the Department.¶

(C) An irrigation mainline check valve which shall:¶

(i) Consist of at least a single check valve;¶

(ii) Be located in the irrigation mainline between the irrigation pump and the point of chemical or fertilizer injection into the irrigation mainline, and downstream from the vacuum relief valve and automatic low-pressure drain;¶

(iii) Be of heavy-duty construction with all materials being compatible with and resistant to any chemicals or fluids that it is expected to come into contact with;¶

(iv) Be resistant to corrosion or protected to resist corrosion;¶

(v) Be spring-loaded and provide and maintain a watertight seal against backflow;¶

(vi) Be labeled with the following information: manufacturer's name and model number, working pressure in pounds per square inch (psi), maximum flow rate, and direction of flow;¶

(vii) Not consist of metal-to-metal seal surfaces; and¶

(viii) Be designed and rated for pressures expected to be encountered, including those caused by pumping, water hammers, back-pressure, or other sources. Installation, operation, maintenance and testing shall be according to design and manufacturer's specifications and recommendations.¶

(D) An air/vacuum relief valve which shall:¶

(i) Be located on top of the horizontal irrigation mainline between the irrigation pump and the irrigation mainline check valve; and¶

(ii) Have a total (individually or combined) orifice size of at least 3/4-inch diameter for a 4-inch pipe, a 1-inch diameter for a 5- to 8-inch pipe, a 2-inch diameter for 9- to 18-inch pipe, and a 3-inch diameter for a 19-inch and greater pipe.¶

(E) An automatic, quick-closing chemical injection line check valve which shall:¶

(i) Be attached to the irrigation mainline or located between the chemical injection unit and the point of chemical or other fluid injection into the irrigation mainline;¶

(ii) Be made of material that is compatible with and resistant to any chemicals or fluids to be injected;¶

(iii) Prevent backflow of irrigation water into the chemical injection line; and¶

(iv) Prevent siphoning or seepage from the chemical supply tank when the irrigation system is either automatically or manually shut down.¶

(F) A system interlock which shall: mechanically or electrically connect the water supply pump and the chemical injection unit for the purpose of automatically shutting down the chemical injection unit in the event of water supply pump shutdown or failure. The landowner or other responsible party shall demonstrate system interlock operation if requested by the Department.¶

(G) An emergency shut-off that can be operated manually by the landowner or other responsible party so that the irrigation system or the chemical injection unit can be shut down in the event it becomes necessary.¶

(H) A pressure switch that will stop the chemical injection unit when the water pressure decreases to the point where chemical or fertilizer distribution is adversely affected.¶

(b) Irrigation systems with a mainline diameter less than 4-inches shall contain:¶

(A) A lead free reduced pressure principle backflow prevention assembly (RP) which shall:¶

(i) Be approved by the University of Southern California, Foundation for Cross-Connection Control and Hydraulic Research, or other equivalent testing laboratory;¶

(ii) Be installed horizontal unless they are specifically approved for vertical installation;¶

(iii) Be located in the irrigation mainline between the irrigation pump and the point of chemical or fertilizer injection into the irrigation mainline;¶

(iv) Be of heavy-duty construction with all materials compatible with and resistant to any chemicals or fluids that it is expected to come into contact with;¶

(v) Be resistant to corrosion or protected to resist corrosion;¶

(vi) Provide and maintain a watertight seal against reverse flow;¶

(vii) Be labeled with the following information: manufacturer's name and model number, working pressure in pounds per square inch (psi), maximum flow rate, and direction of flow;¶

(viii) Not consist of metal-to-metal seal surfaces;¶

(ix) Be designed and rated for pressures expected to be encountered, including those caused by pumping, water hammers, back-pressure, or other sources. Installation, operation, maintenance and testing shall be according to design and manufacturer's specifications and recommendations; and¶

(x) Include an approved air gap and drain line. The diameter of the drain line shall be at least as large as the mainline diameter. The drain line shall be sloped in such a manner as to drain all incidental leakage a distance of at least 20 feet away and down-gradient from the irrigation groundwater source and the RP assembly. The air gap shall be a minimum of one and one-half times the diameter of the mainline. The outlet side of the drain line shall

have a dam, collection reservoir or similar means to prevent the discharged solution from pooling and draining back toward the groundwater source.¶

(B) An automatic, quick-closing chemical injection line check valve which shall:¶

(i) Be attached to the irrigation mainline or located between the chemical injection unit and the point of chemical or fertilizer injection into the irrigation mainline;¶

(ii) Be made of material that is compatible with and resistant to any chemicals or fluids to be injected;¶

(iii) Prevent backflow of irrigation water into the chemical injection line; and¶

(iv) Prevent siphoning or seepage from the chemical supply tank when the irrigation system is either automatically or manually shut down.¶

(C) A system interlock which shall: mechanically or electrically connect the water supply pump and the chemical injection unit for the purpose of automatically shutting down the chemical injection unit in the event of water supply pump shutdown or failure. The landowner or other responsible party shall demonstrate system interlock operation if requested by the Department.¶

(D) An emergency shut-off that can be operated manually by the landowner or other responsible party so that the irrigation system or the chemical injection unit can be shut down in the event it becomes necessary.¶

(E) A pressure switch that will stop the chemical injection unit when the water pressure decreases to the point where chemical or fertilizer distribution is adversely affected.¶

(c) The Director may allow modifications or changes in materials, design, or technology in lieu of that specified herein. Requests for modifications or changes shall be in writing, detailing the current or proposed system and the desired changes, and shall include component specifications, a detailed drawing of the proposed system, and the system's uses. Once installed, the modified system shall provide at least as much protection to the groundwater resource as that provided by the devices required in this regulation;¶

(d) The injection of chemicals or fertilizers into an irrigation system connected to a groundwater source shall not occur within ten feet from a wellhead.¶

(e) An additional vacuum relief valve may be installed downstream of the irrigation mainline check valve to prevent potential collapse of the irrigation mainline in the event of rapid mainline drainage.¶

(f) The landowner or other responsible party shall ensure that additional inspections and testing of approved back-siphon prevention devices are conducted:¶

(A) At the time of any repair or relocation;¶

(B) More frequently than annually for back-siphon prevention devices that repeatedly fail; or¶

(C) After a backflow incident.¶

(g) These regulations are in addition to equipment requirements for chemical application under the Federal Insecticide, Fungicide and Rodenticide Act, and are not intended to replace those regulations;¶

(h) Irrigation systems that are subject to OAR 690-215-0017(4) and are connected to:¶

(A) A public water system, shall also comply with Oregon Health Authority cross-connection control requirements in OAR Chapter 333 and backflow prevention requirements in the Oregon Plumbing Specialty Code. Contact the Oregon Health Authority and the Oregon Building Codes Division for more information;¶

(B) A private water system, shall also meet the backflow prevention requirements in the Oregon Plumbing Specialty Code. Contact the Oregon Building Codes Division for more information.¶

(i) Before each chemical application, the treatment site and surrounding area should be assessed to determine if the application will endanger or be a potential hazard to workers, bystanders, domestic animals, fish or wildlife, ground or surface water, or neighboring crops.¶

(5) Back-siphon prevention devices found not to be functioning properly shall be either repaired or replaced. Repair or replacement shall take place prior to the irrigation system being used for the application of chemicals or fertilizers.¶

(6) Bypass piping installed around approved back-siphon prevention devices must be equipped with approved back-siphon prevention devices and must:¶

(a) Afford at least the same level of protection as the approved back-siphon prevention devices being bypassed; and¶

(b) Comply with all other requirements.¶

(7) The landowner or other responsible party shall provide access and clearance for required operation, testing, maintenance, and repair of back-siphon prevention devices.¶

(8) In cold climate areas, back-siphon prevention devices shall be protected from freezing.¶

(9) Back-siphon prevention devices shall:¶

(a) Not be located in any area containing fumes that are toxic, poisonous, or corrosive;¶

(b) Be installed in a manner that precludes the possibility of continuous submersion of back-siphon prevention devices; and¶

(c) Be installed in a manner that precludes the possibility of any submersion of the air/vacuum relief valve.¶

(10) The Director may require a landowner or other responsible party to install a back-siphon prevention device

on any water supply well, including wells which are exempted by ORS 537.545. The Director also may require a landowner or other responsible party to install a back-siphon prevention device as a condition of a water right permit. When required to be installed:¶

(a) Back-siphon prevention devices shall be specifically designed and manufactured to prevent backflow, back-siphonage, backpressure, siphoning, seepage, suction, or leakage and shall prevent used, unclean, polluted, or contaminated water, mixtures, or substances from entering the groundwater resource;¶

(b) The landowner or other responsible party shall test the back-siphon prevention devices at the time of installation and once per calendar year to ensure that they are functioning properly;¶

(c) The Department may require the landowner or other responsible party to test the back-siphon prevention devices more frequently than annually to ensure that they are functioning properly; and¶

(d) The Department may require the landowner or other responsible party to submit a copy of the back-siphon prevention device test results for review.¶

(11) Whenever the Director deems it appropriate, the Department may investigate alleged violation of statutes, standards or rules governing back-siphon prevention devices to determine whether a violation has occurred. Violations of OAR 690-215-0017 may be administered under ORS 536.900(1)(b), 537.990(3), or OAR Chapter 690, Division 260, as appropriate to gain compliance.¶

(12) Additional Oregon Health Authority standards apply to wells used for public water systems. See OAR Chapter 333 or contact the Oregon Health Authority for more information.¶

(13) Additional requirements in the Oregon Plumbing Specialty Code apply to wells used for public or private water systems. Contact the Oregon Building Codes Division for more information.¶¶

[ED. NOTE: Figures referenced are available from the agency.]

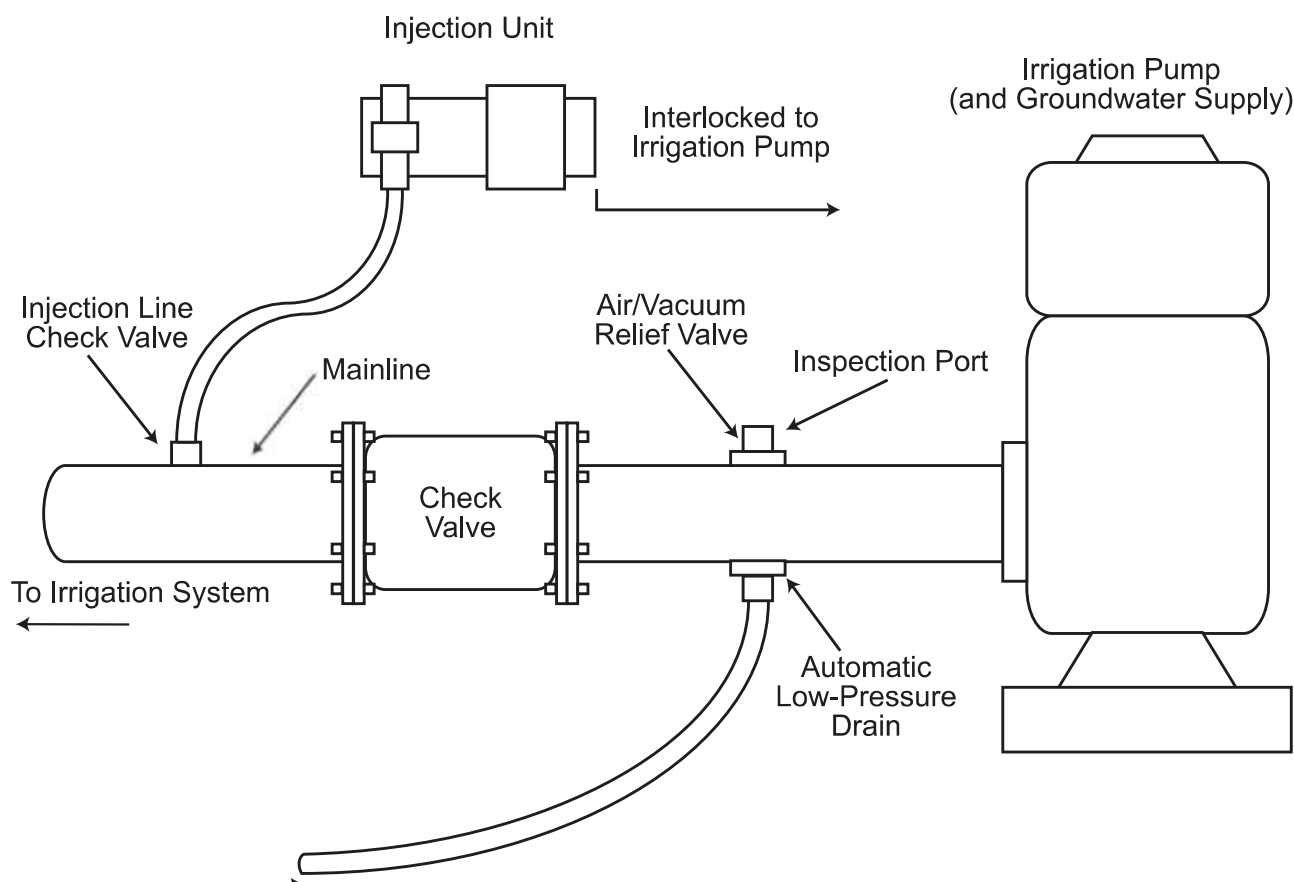
Statutory/Other Authority: ORS 536.090, ORS 537.505–537.795–537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

Backflow Prevention Device

Figure 215-1

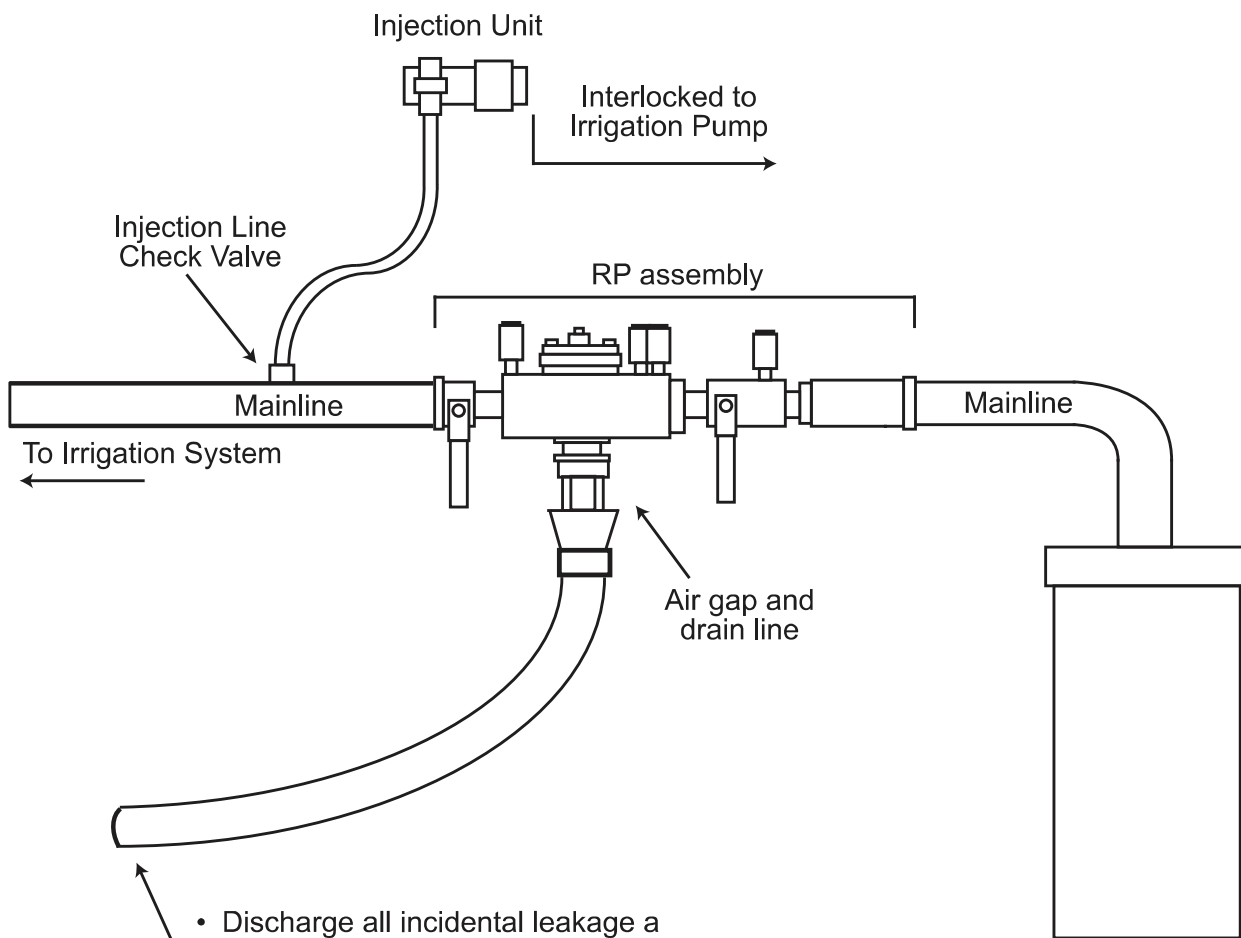


- Discharge solution a distance of at least 20 feet away and down-gradient from water source
- Maintain an air gap between end of discharge pipe and the discharged solution
- Chemical or fertilizer injection shall not occur within ten feet from a wellhead

Backflow prevention device using check valve with vacuum relief and low pressure drain.

Backflow Prevention Device

Figure 215-2



- Discharge all incidental leakage a distance of at least 20 feet away and down-gradient from water source
- Maintain an air gap between end of discharge pipe and the discharged solution
- Chemical or fertilizer injection shall not occur within ten feet from a wellhead

Backflow prevention device using a reduced pressure principle backflow prevention assembly (RP).

AMEND: 690-215-0055

RULE SUMMARY: Amends rule by removing editor note regarding Appendix not found in rule.

CHANGES TO RULE:

690-215-0055

Well Identification Label Maintenance ¶

The well identification label shall not be removed from the wellhead and shall be maintained by the landowner in an accessible location and in a readable condition. See OAR 690-200-0048 for well identification label placement methods and instructions.¶

[ED. NOTE: Appendices referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505–~~537.795~~–537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505–~~537.795~~–537.795, ORS 536.900, ORS 537.992

AMEND: 690-215-0060

RULE SUMMARY: Amends rule figure by updating rule label.

CHANGES TO RULE:

690-215-0060

Access Ports, Dedicated Measuring Tubes and Airlines ¶¶

(1) All water supply wells, including wells that have been temporarily removed from service, temporarily abandoned due to a recess in construction, or temporarily abandoned before commencing service, shall be properly covered and shall be equipped with a usable access port with a minimum diameter of 1/2-inch for the purpose of determining the water level in the well at any time.¶¶

(2) Dedicated measuring tubes are recommended to be installed on all water supply wells at the time of pump installation, pump repair, or pump replacement. Where required, dedicated measuring tubes shall be a minimum of 3/4-inch diameter schedule 40 PVC extending to the top of the pump. The 3/4-inch diameter dedicated measuring tube may be reduced in size to 1/2-inch where it goes through the watertight well cap, but shall not be reduced in size over the length of the pipe. Dedicated measuring tubes shall be vented above and below the well cap and shall be attached to the pump column at 10 foot intervals with 10 mil plastic tape. The lower five feet of the dedicated measuring tube shall be either 0.020 inch machine slotted well screen or the lower 20 feet of the dedicated measuring tube shall be extensively perforated with 1/8 inch holes. Dedicated measuring tubes shall be plugged or capped at the bottom (See Figure 200-5) and shall remain free from wire or other obstruction.¶¶

(3) An airline is not a substitute for a required dedicated measuring tube and, if installed, must enter the well in a location other than the access port.¶¶

(4) Access ports, dedicated measuring tubes or airlines on all water supply wells shall be capped and a minimum of twelve inches above finished ground surface or pumphouse floor. If the well has a pitless adaptor then the dedicated measuring tube shall terminate within six inches of the top of the well casing.¶¶

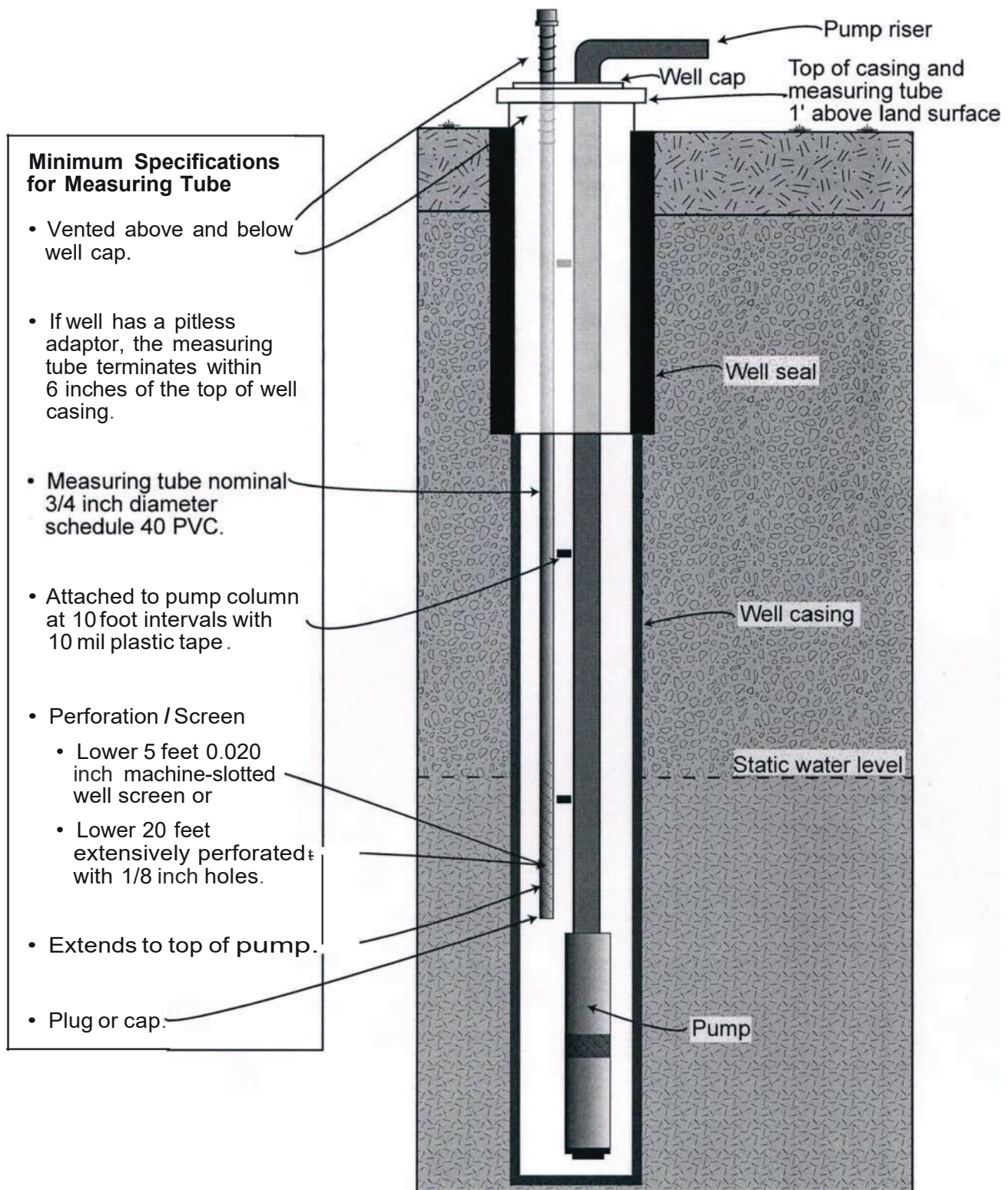
(5) Access ports, airlines and dedicated measuring tubes on all water supply wells shall be maintained by the landowner in a condition that will prevent contamination of the groundwater resource.

Statutory/Other Authority: ~~ORS 183, 536, 537, 540~~ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

Measuring Tube Diagram and Specifications



This diagram details the minimum standards for a dedicated measuring tube. A measuring tube may be constructed in a manner that exceeds these standards without prior Department approval. The dedicated measuring tube shall not be reduced in size over the length of the pipe and shall remain free from wires or any other obstruction.

AMEND: 690-215-0070

RULE SUMMARY: Amends rule figure by replacing outdated figure.

CHANGES TO RULE:

690-215-0070

Pressure Gauge ¶

The pressure gauge and petcock valve required by OAR 690-210-0155 shall be maintained so that the artesian pressure can be accurately determined at any time. (See Figure 210-7.)¶

[ED. NOTE: Figures referenced are available from the agency.]

Statutory/Other Authority: ~~ORS 183, 536, 537, 540~~ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992, ORS 540.045

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992, ORS 540.045

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

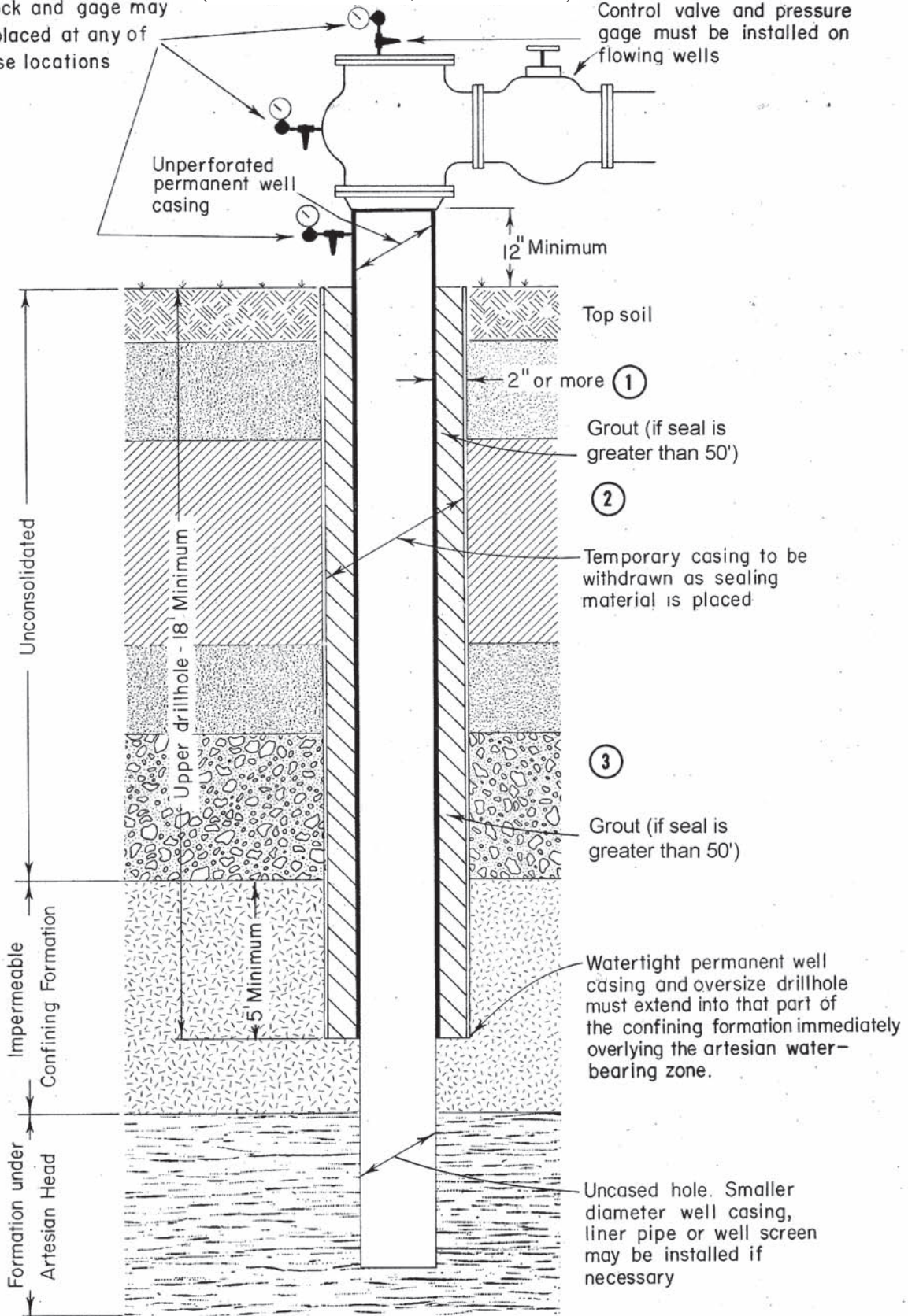
SEALING OF AN ARTESIAN WELL

(OAR 690-210-0155, 690-215-0070)

NOTE:

Petcock and gage may be placed at any of these locations

Control valve and pressure gage must be installed on flowing wells



- ① 1" or more if cement grout is placed by grouting method A, B, or D. Annular sealing space requirements are based on nominal casing sizes.
- ② Well must not be constructed in a manner that will allow water from an artesian zone to commingle with other confined or unconfined water-bearing zones.
- ③ Must be completed with the seals, packers, or casing necessary to eliminate subsurface or surface leakage.

ADOPT: 690-215-0201

RULE SUMMARY: Restores rule (formerly 690-215-0200) deleted due to clerical error. No changes have been made to the original language. Figure 200-7 has been updated. Figures 200-4, 200-5, and 200-8 have been reattached.

CHANGES TO RULE:

690-215-0201

Dedicated Measuring Tube

A dedicated measuring tube as described in 690-215-0060 shall be installed in any water supply well at the time of pump installation, pump repair or pump replacement in the following areas (See Figures 200-4, 200-5, 200-7 and 200-8): ¶

(1) Petes Mountain Area of Clackamas County (See OAR 690-200-0028(2)); ¶

(2) Eola Hills Ground Water Limited Area of Polk and Yamhill Counties (See OAR 690-200-0028(3)); ¶

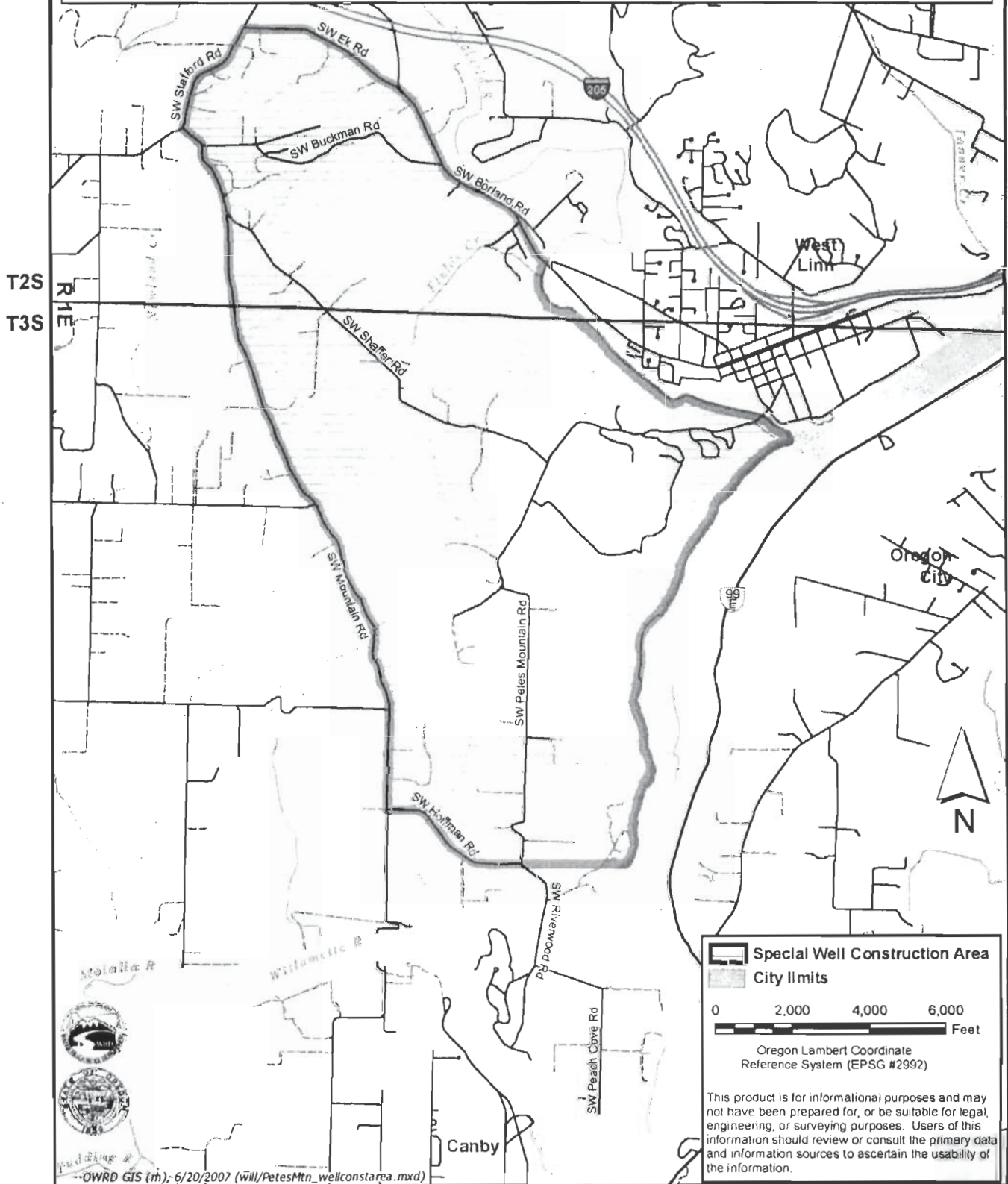
(3) "Mosier Area" Special Area Standards area of Wasco County (See OAR 690-200-0028(4)).

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

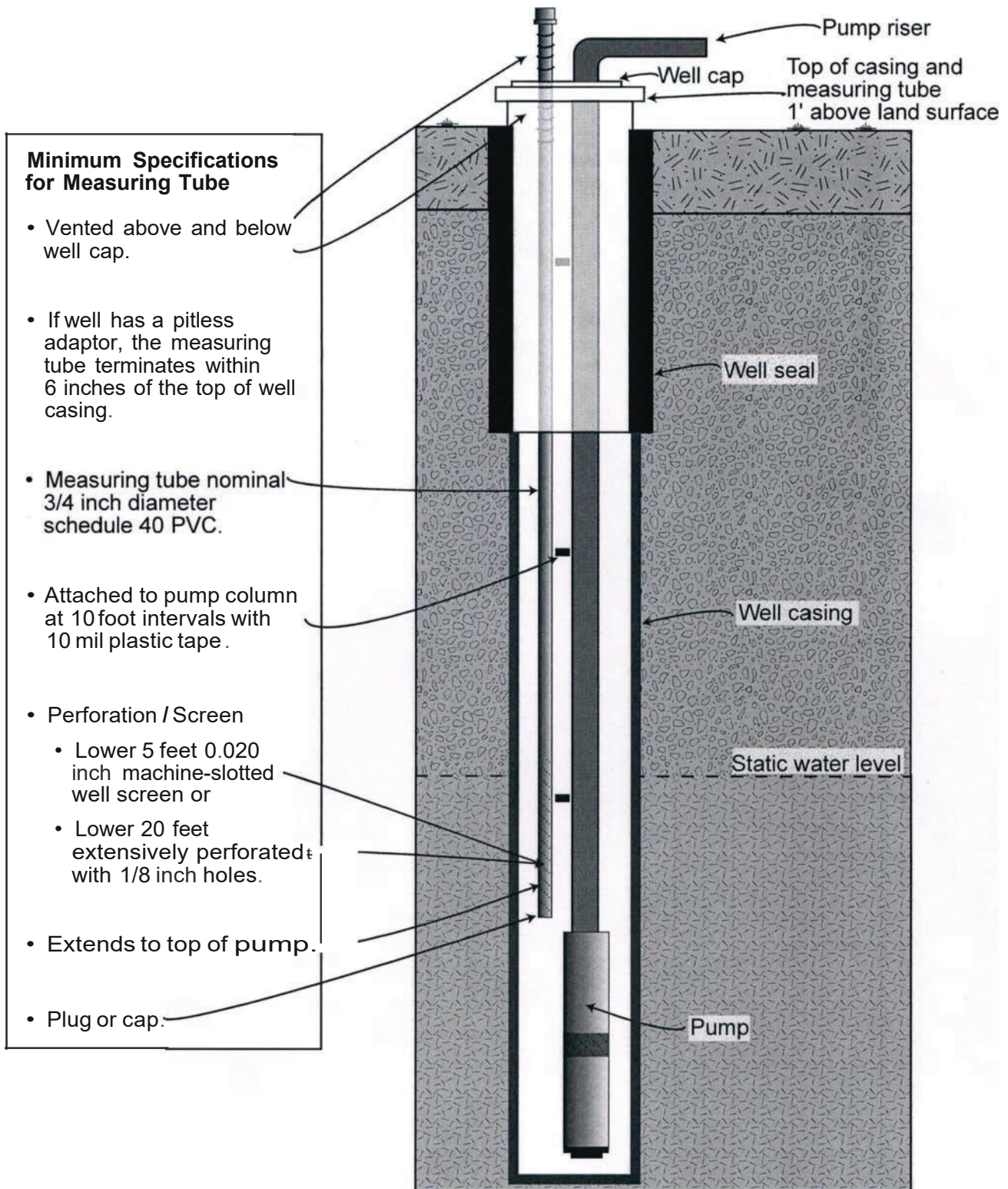
Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

Special Area Standards: Petes Mountain Area



Measuring Tube Diagram and Specifications

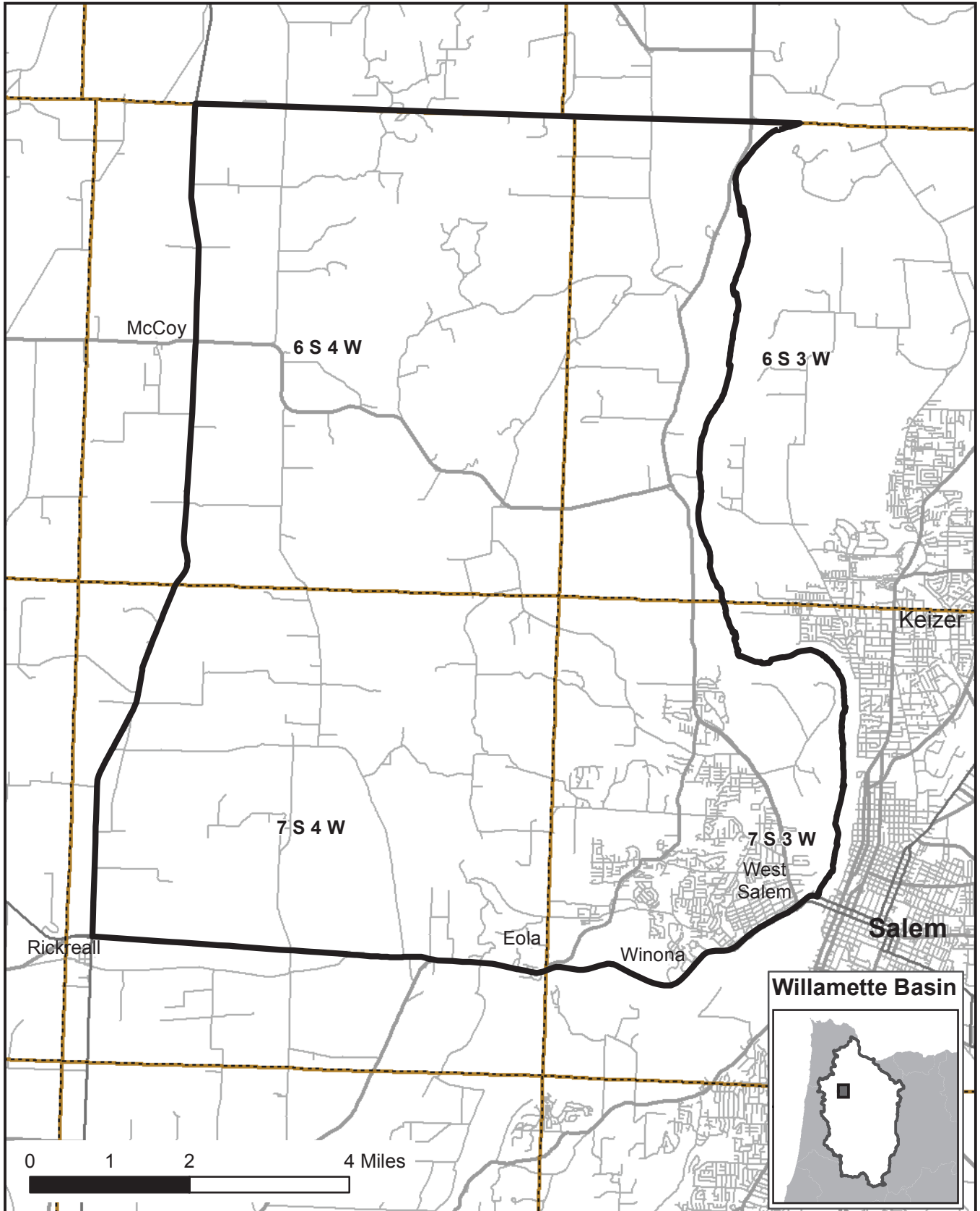


This diagram details the minimum standards for a dedicated measuring tube. A measuring tube may be constructed in a manner that exceeds these standards without prior Department approval. The dedicated measuring tube shall not be reduced in size over the length of the pipe and shall remain free from wires or any other obstruction.

Eola Hills Groundwater Limited Area

Special Area Standards


OAR 690-200-0028, 690-215-0201



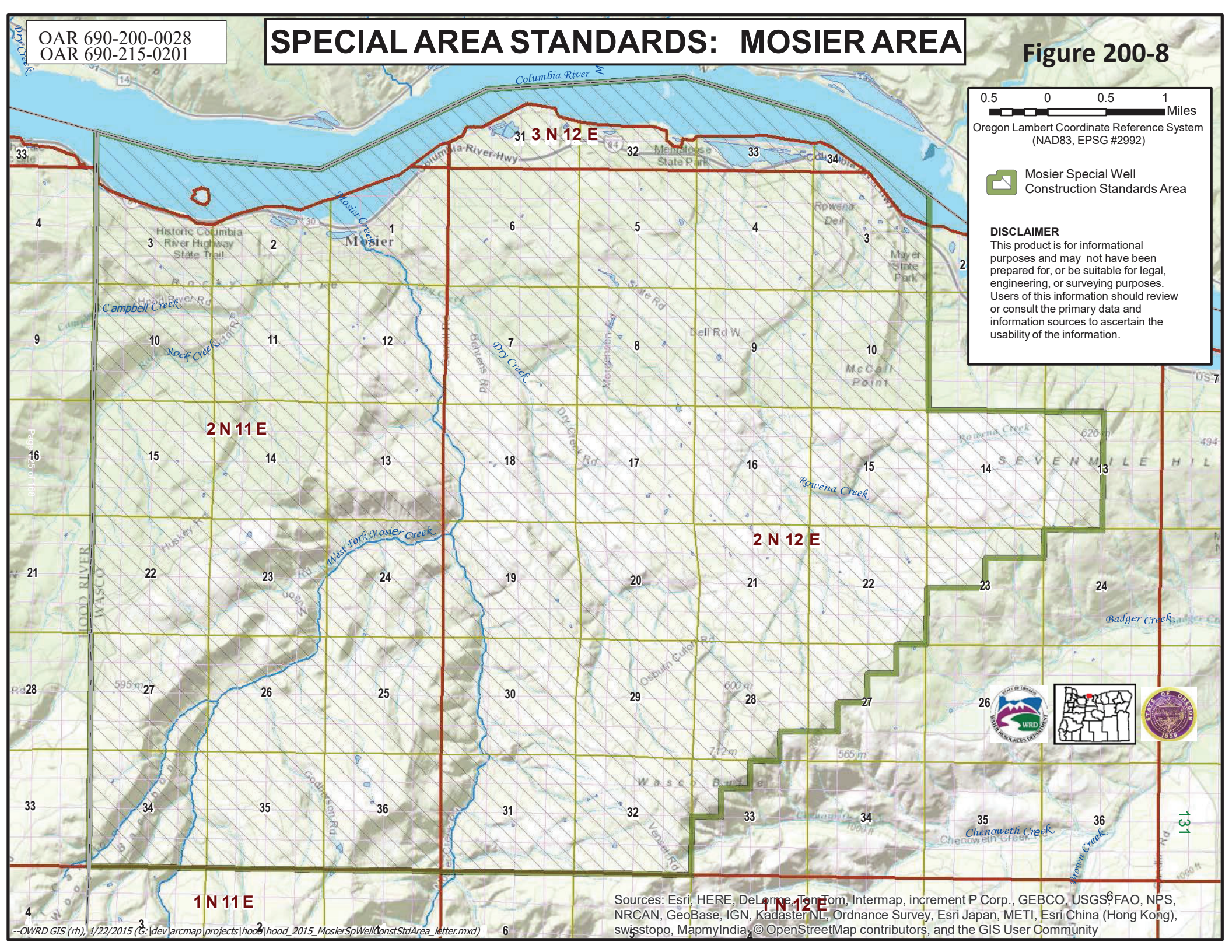
SPECIAL AREA STANDARDS: MOSIER AREA

Figure 200-8

0.5 0 0.5 1 Miles
Oregon Lambert Coordinate Reference System (NAD83, EPSG #2992)

 Mosier Special Well Construction Standards Area

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AMEND: 690-225-0020

RULE SUMMARY: Amends rule to capture full scope of work performed by licensed well constructors and for consistency with other rule divisions governing well construction and with ORS 537; amends rule to reference Table 225-2; amends rule table with newer version for clarity.

CHANGES TO RULE:

690-225-0020

Investigation of Alleged Violations ¶¶

(1) The Water Resources Director, upon the Director's own initiative, or upon complaint alleging violation of statutes, standards or rules governing construction, alteration, conversion, or abandonment of wells may cause an investigation to determine whether a violation has occurred. If the investigation indicates that a violation has occurred, the Director shall notify the persons believed responsible for the violation including but not limited to:¶

(a) Any Water Supply Well Constructor involved; or¶

(b) The landowner, if the violation involves construction, alteration, operation, or abandonment of a well.¶

(2) Enforcement and civil penalty assessment for "other than well constructors" is described in OAR 690-260.¶

(3) See Table 225-2 for a description of the well construction enforcement process.

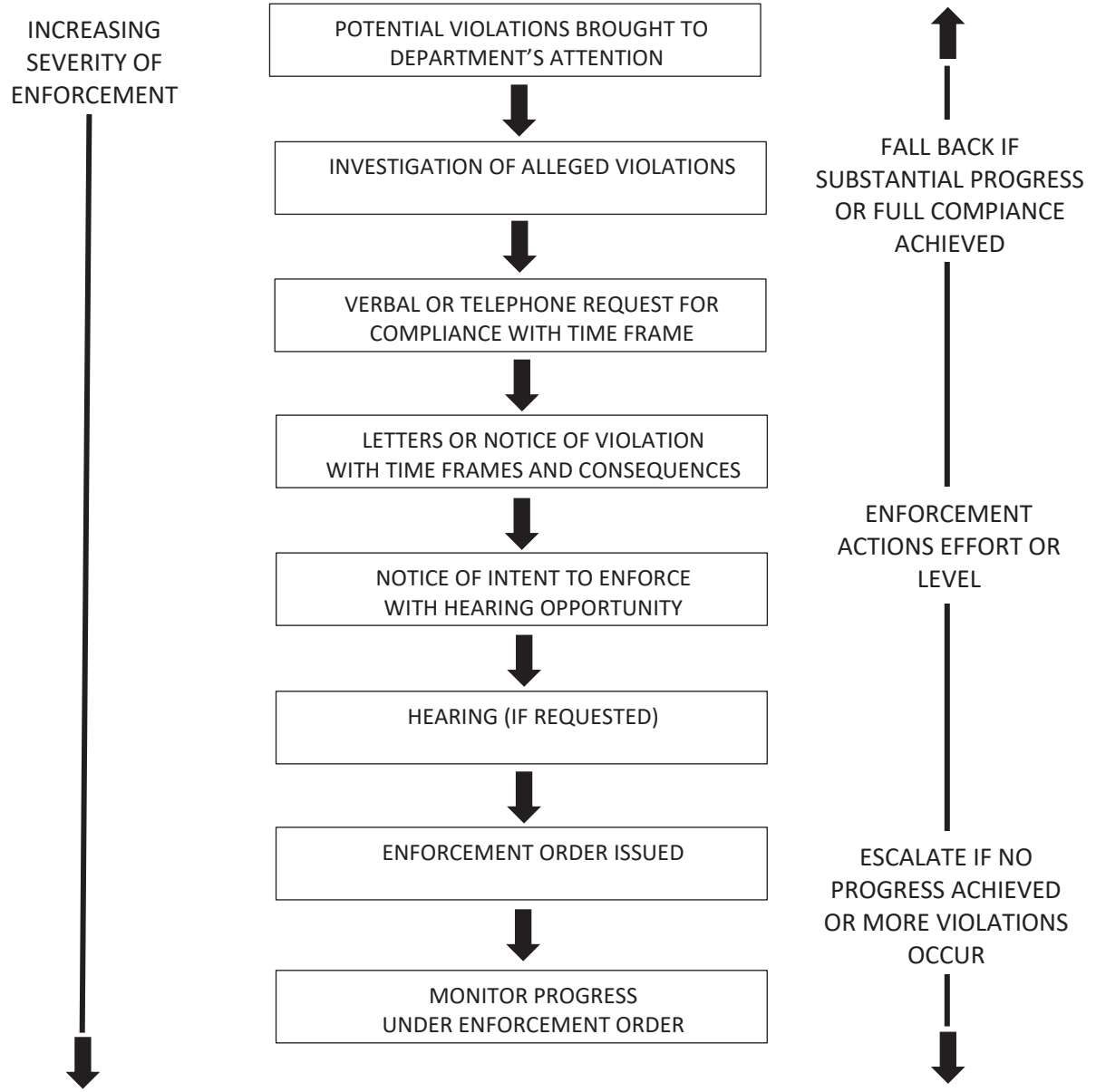
Statutory/Other Authority: ORS 183, 536, 537, 54536.090, ORS 537.505-537.795, ORS 537.992, ORS 536.027, ORS 183, ORS 536.900

Statutes/Other Implemented: ORS 183, 536, 537, 54536.090, ORS 537.505-537.795, ORS 537.992, ORS 183, ORS 536.900

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

EXAMPLE OF WELL ENFORCEMENT PROCESS
(690-225-0020, 690-225-0030)

Table 225-2



It is desirable to achieve compliance at the lowest possible level of enforcement. Escalation of enforcement can be expected if compliance does not result at the next lower level. Reduction of enforcement effort can be expected if substantial progress toward compliance is achieved.

AMEND: 690-225-0030

RULE SUMMARY: Amends rule to capture full scope of work performed by licensed well constructors and for consistency with other rule divisions governing well construction and with ORS 537; amends rule to reference Table 225-2; amends rule table with newer version for clarity; minor grammatical correction.

CHANGES TO RULE:

690-225-0030

Enforcement Actions ¶

(1) If, after notice and opportunity for hearing under ORS 183.310 to 183.550 the Director determines that one or more violations have occurred, the Director may ~~impose~~ take one or more of the following actions: ¶

(a) Provide a specified time for remedy; ¶

(b) Assess a civil penalty in accordance with the schedule of civil penalties in OAR 690-225-0110; ¶

(c) Suspend, revoke, or refuse to renew the licenses when one or more persons responsible for the violation hold a Water Supply Well Constructor's License; ¶

(d) Require that a person whose license has been refused renewal pass the Water Supply Well Constructor's License examination before a new license is issued; ¶

(e) Impose any reasonable conditions on the Water Supply Well Constructor's License to insure correction of the violation and future compliance with the law. These conditions may include but are not limited to: ¶

(A) Fulfilling any outstanding obligations which are the result of administrative action before the constructor can offer any services or construct, alter, convert, or abandon any well; ¶

(B) Requiring additional advance notice to be given to the Department of construction, alteration, conversion, or abandonment of any well; ¶

(C) Requiring a seal placement notice be given to the Department 24 hours in advance of placing the seal; or ¶

(D) Any other conditions the Director feels are appropriate. ¶

(f) Order the landowner to repair or meet other conditions on use of the well, or order discontinuance of use and proper abandonment pursuant to ORS 537.775; ¶

(g) Make demand on the Water Well Constructor's Bond or on the Landowner's Water Well Bond. This may occur only if the Director has given the notice required in OAR 690-225-0020 to the persons responsible for the violation within three years after the date the well report is filed with the Department. If no well report has been filed, the three-year limitation shall not apply until such time as a well report is filed; ¶

(h) Take any other action authorized by law. ¶

(2) An order may specify a schedule of escalating or cumulative sanctions to be assessed on specified dates until satisfactory correction of the violation has been completed. ¶

(3) Any Water Supply Well Constructor whose license is suspended or revoked shall not contract for well construction services or operate well drilling machines in the State of Oregon during the suspension or revocation period. ¶

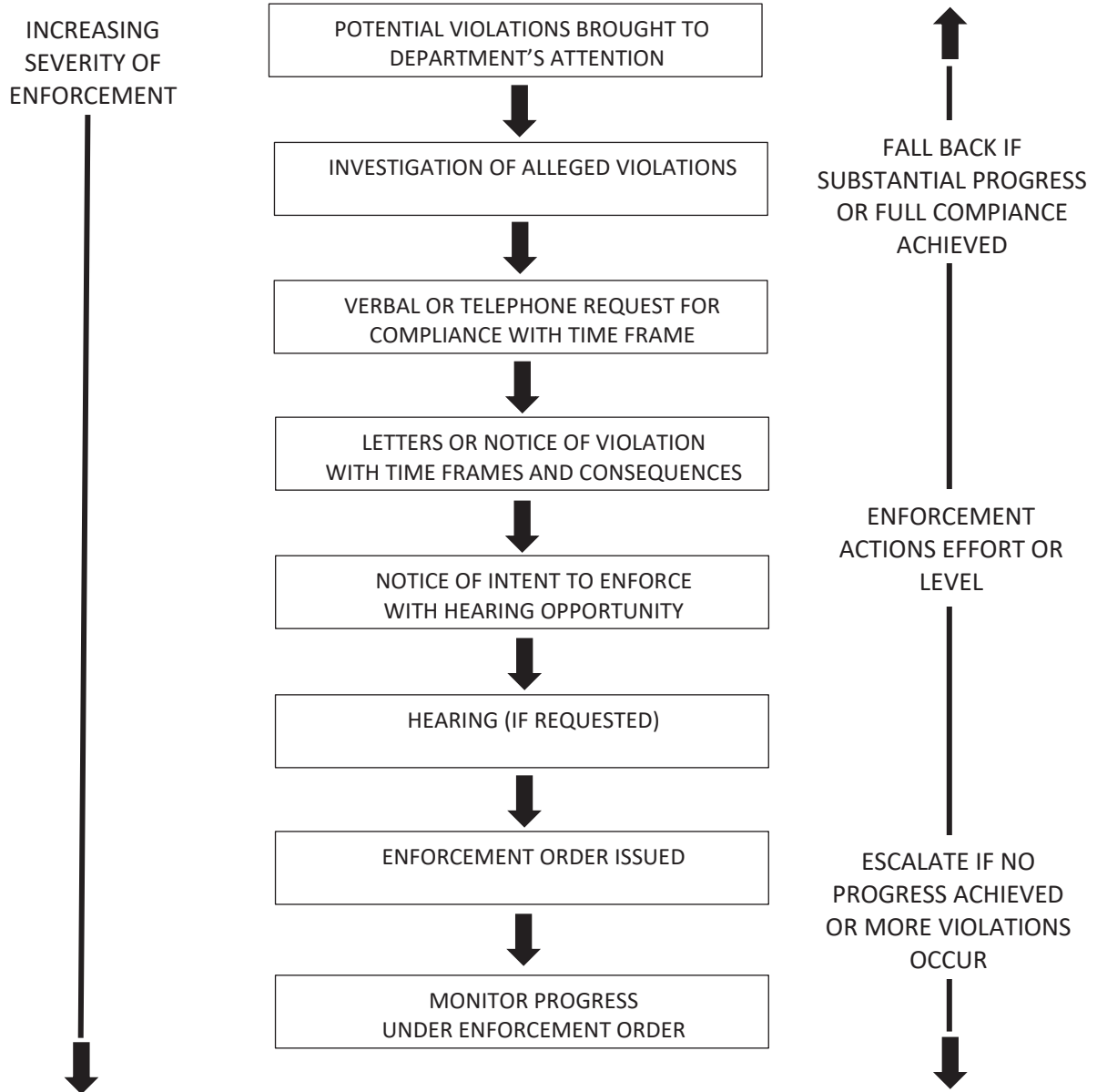
(4) See Table 225-2 for a description of the well construction enforcement process.

Statutory/Other Authority: ~~ORS 183, 536, 537, 545~~ ORS 536.090, ORS 537.505-537.795, ORS 183.310-183.550, ORS 537.992, ORS 536.027, ORS 536.900

Statutes/Other Implemented: ~~ORS 183, 536, 537, 545~~ ORS 536.090, ORS 537.505-537.795, ORS 183.310-183.550, ORS 537.992, ORS 536.900

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

EXAMPLE OF WELL ENFORCEMENT PROCESS
(690-225-0020, 690-225-0030)



It is desirable to achieve compliance at the lowest possible level of enforcement. Escalation of enforcement can be expected if compliance does not result at the next lower level. Reduction of enforcement effort can be expected if substantial progress toward compliance is achieved.

AMEND: 690-225-0110

RULE SUMMARY: Amends rule by increasing lowest civil penalty amounts for both minor violations and major violations to be consistent with penalties for other than well constructors in OAR 690-260, as authorized by ORS 537.992; amends rule by adding civil penalties for well constructors for violations of ORS 537.545(5), as authorized by ORS 536.900; amends rule to implement groundwater use registration requirement changes outlined in Or Laws 2021, ch 610; amends rule table so that it is consistent with requirements in ORS 537.762, ORS 537.545, and with proposed rule changes in OAR 690-190, 690-205

CHANGES TO RULE:

690-225-0110

Schedule of Civil Penalties ¶¶

(1) The amount of civil penalty shall be determined consistent with the following schedule: ¶¶

(a) Not less than ~~\$250~~ nor more than \$250 for each occurrence defined in these rules as a minor violation; ¶¶

(b) Not less than ~~\$5200~~ nor more than \$1,000 for each occurrence defined in these rules as a major violation; ¶¶

(c) First occurrence, in a calendar year, of a missing or late start card fee shall be \$150; ¶¶

(d) Second occurrence, in a calendar year, of a missing or late start card fee shall be \$250; ¶¶

(e) Third, and each subsequent, occurrence, in a calendar year, of a missing or late start card fee shall be \$250 and may include suspension of the Water Supply Well Constructor's license, and any other action authorized by law. ¶¶

(f) First occurrence, in a calendar year, of a missing or late exempt ground water use recording fee shall be \$150; ¶¶

(g) Second occurrence, in a calendar year, of a missing or late exempt ground water use recording fee shall be \$250; ¶¶

(h) Third, and each subsequent, occurrence, in a calendar year, of a missing or late exempt ground water use recording fee shall be \$250 and may include suspension of the Water Supply Well Constructor's license, and any other action authorized by law. ¶¶

(2) For purposes of assessing a civil penalty, the start card fee referred to in subsections (1)(c), (d), and (e) of this rule shall not be considered late if it is received in the Salem office of the Water Resources Department within five days of the receipt of the start card, provided the start card was submitted in a timely manner as described in ORS 537.762 and OAR 690-205-0200. ¶¶

(3) For purposes of assessing a civil penalty, the exempt ground water use recording fee referred to in subsections (1)(f), (g), and (h) of this rule shall not be considered late if it is received in the Salem office of the Water Resources Department within five days of the receipt of the water supply well report, provided the well report was submitted in a timely manner as described in ORS 537.765 and OAR 690-205-0210. ¶¶

(4) Table 225-1 lists minor violations of well construction standards. All other violations are declared to be major. ¶¶

[ED. NOTE: Tables referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505--537.795, ORS 536.900, Or Laws 2021, ch 610, ORS 527.992, ORS 183, ORS 536.027

Statutes/Other Implemented: ORS 536.090, ORS 537.505--537.795, ORS 536.900, Or Laws 2021, ch 610, ORS 527.992, ORS 183

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

**TABLE 225-1
(690-225-0110)**

**MINOR WELL CONSTRUCTION
VIOLATIONS**

Oregon Statute Reference	Value Assignment	Title
ORS 537.762	Minor	REPORT OF COMMENCEMENT OF CONSTRUCTION; COMMENCEMENT OF WORK NOTIFICATION; OR SEAL PLACEMENT DATE CHANGE NOTIFICATION
ORS 537.765	Minor	WELL REPORT
ORS 537.789	Minor	WELL IDENTIFICATION NUMBER
ORS 537.545 (5)	Minor	EXEMPT GROUNDWATER USE MAP OR RECORDING FEE
Administrative Rule Reference	Value Assignment	Title
690-190-0100	Minor	EXEMPT GROUNDWATER USE MAP OR RECORDING FEE
690-200-0048	Minor	WELL IDENTIFICATION LABEL
690-205-0185	Minor	WATER SUPPLY WELL DRILLING MACHINES
690-205-0200	Minor	WATER SUPPLY WELL CONSTRUCTION NOTICE REQUIRED (START CARD)
690-205-0205	Minor	START CARD REPORTING REQUIREMENTS
690-205-0210	Minor	WELL REPORT REQUIRED (WATER SUPPLY WELL LOG)
690-210-0270	Minor	PITLESS WELL ADAPTERS AND UNITS
690-210-0280	Minor	ACCESS PORTS AND AIRLINES
690-210-0290	Minor	LINER PIPE
690-210-0370	Minor	WELL TEST
690-215-0055	Minor	WELL IDENTIFICATION LABEL MAINTENANCE
690-230-0050	Minor	DESCRIPTION OF PROPOSED WELL USE (START CARD)
690-230-0060	Minor	IDENTIFICATION OF INTENDED WELL USE (WELL LOG)
690-230-0080	Minor	PUMP TESTING OF LOW-TEMPERATURE GEOTHERMAL INJECTION WELLS WITH AN ANTICIPATED INJECTION RATE OF LESS THAN 15,000 GALLONS PER DAY
690-230-0090	Minor	WATER TEMPERATURE MEASUREMENT

AMEND: 690-240-0005

RULE SUMMARY: Amends rule table by removing outdated effective date.

CHANGES TO RULE:

690-240-0005

Introduction ¶¶

- (1) Monitoring wells and geotechnical holes drilled to allow ground water and geologic determinations are constructed in a variety of environments and under a variety of conditions. Improper construction, maintenance, operation, and abandonment can allow deterioration of ground water quality and supply. Although enforcement actions may be exercised against other parties, the landowner of the property where the monitoring well or geotechnical hole is constructed is ultimately responsible for the condition, use, maintenance, conversion, and abandonment of the monitoring well, or geotechnical hole.¶¶
- (2) Holes other than monitoring wells, water supply wells, or geotechnical holes which are drilled, excavated, or otherwise constructed in the earth's surface can also provide an avenue for deterioration of ground water quality. Improper construction, maintenance, use, and abandonment of other holes can pose a significant risk to ground water. Table 240-1 lists common subsurface borings and indicates which administrative rule governs the construction, conversion, maintenance, alteration, and abandonment of the boring.¶¶
- (3) Ground water problems are difficult, expensive, and time consuming to correct. The Water Resources Commission (Commission) has been authorized to develop standards for wells drilled for the purpose of monitoring ground water in order to protect the state's ground waters. The Commission has also been authorized to develop standards for other holes through which ground water may become contaminated. The rules set forth herein are adopted to provide that protection. Their purpose is to prevent and eliminate ground water contamination, waste, and loss of artesian pressure.¶¶
- (4) The Commission may develop additional rules as needed prescribing standards for the construction, operation, maintenance, and abandonment of other specific types of wells and holes to protect ground water.¶¶
- (5) Except for the Commission's power to adopt rules, the Commission may delegate to the Water Resources Director the exercise or discharge in the Commission's name of any power, duty or function of whatever character, vested in or imposed by law upon the Commission. The official act of the Director acting in the Commission's name and by the Commission's authority shall be considered to be an official act of the Commission. The Commission delegates to the Director full authority to act in the Commission's name where that delegation is reflected in these rules.¶¶
- (6) Under the provisions of ORS 537.780, the Commission is authorized to adopt such procedural rules and regulations as deemed necessary to carry out its function in compliance with the Ground Water Act of 1955. In fulfillment of these responsibilities and to ensure the preservation of the public welfare, safety, and health, the Commission has established these rules and regulations as the minimum standards for the construction, alteration, abandonment, conversion, and maintenance of monitoring wells in Oregon.¶¶
- (7) Monitoring wells are wells as defined in ORS 537.515(9). A license and licensing fee, bond, examination, well report, and start card are required for construction, conversion, alteration, or abandonment of a monitoring well. In addition, a start card fee is required for new construction, deepening a well, and conversion.¶¶
- (8) To protect the ground water resource, the Commission has the authority to regulate geotechnical holes under ORS 537.780(1)(c)(A). Construction of geotechnical holes requires either a Water Supply Well Constructor or Monitoring Well Constructor's License or Oregon registration as a geologist or civil engineer. If any one of the criteria in OAR 690-240-0035(2)(a)-(d) is met, a geotechnical hole report must be submitted.¶¶
- (9) To protect the ground water resource, the Commission has the authority, under ORS 537.780(1)(c)(A), to regulate any hole through which ground water may be contaminated. Construction of holes other than water supply wells and monitoring wells does not require a license and licensing fee, bond, examination, well report, start card, and start card fee.¶¶
- (10) Holes constructed under ORS Chapters 517, 520, and 522, and rules promulgated from those statutes, are the responsibility of the Oregon Department of Geology and Mineral Industries and are not subject to these rules. These include, but are not limited to, holes constructed for the purposes of exploring for, or producing, petroleum, minerals, or geothermal resources.¶¶
- (11) The rules and regulations set forth herein shall become effective upon adoption by the Water Resources Commission.¶¶
- (12) Under no circumstances shall a monitoring well, piezometer, geotechnical hole, or other hole be constructed in a manner that allows commingling or leakage of ground water by gravity flow or artesian pressure from one aquifer to another. (See definition of aquifer.)¶¶
- (13) The rules and regulations set forth herein provide the minimum standards for the construction, conversion,

alteration, maintenance, and abandonment of monitoring wells, geotechnical holes, and other holes. After the effective date of adoption of these rules and regulations, no monitoring well, geotechnical hole, or other hole shall be constructed, altered, converted, or abandoned contrary to the provisions of these rules and regulations without prior approval from the Water Resources Department. Violation of these standards may result in enforcement under OAR chapter 690, division 240, including suspension or revocation of a constructor's license, imposition of civil penalties on the landowner or constructor, action on a bond, or other sanctions authorized by law.¶

[ED. NOTE: Tables referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505--537.795, ORS 536.900, ORS 536.027, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505--537.795, ORS 536.900, ORS 537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

**WATER RESOURCES DEPARTMENT
CHAPTER 690
DIVISION 240
CONSTRUCTION, MAINTENANCE, ALTERATION, CONVERSION AND
ABANDONMENT OF MONITORING WELLS, GEOTECHNICAL HOLES AND OTHER
HOLES IN OREGON**

TABLE 240-1**Which standards apply?**

The Department regulates the construction of borings through which groundwater may become contaminated. The type of boring (and its purpose) will determine which set of regulations apply. Questions often arise as to how a certain boring is to be regulated. In general, if the purpose of a boring is to seek water then it is considered a well. The table below lists common types of holes and the standards that apply. This is not a complete list of borings and there are other types of borings regulated by other agencies. Contact the Water Resources Department if you have any questions.

The general standards and their Oregon Administrative Rule reference are:

Water Supply Wells	OAR 690-200 through 690-235
Monitoring Wells	OAR 690-240
Other Holes	OAR 690-240-0030
Geotechnical Holes	OAR 690-240-0035 through 690-240-0049

Description of Boring	Standards that Apply
Air Sparging Well	Monitoring Wells
Aquifer Storage and Recovery Well	Water Supply Wells
Cathodic Protection Hole	Geotechnical Holes
Community Well	Water Supply Wells
Construction Hole	Other Holes
Dewatering Well	Water Supply Wells
Domestic Well	Water Supply Wells
Drive Point (Core holes)	Geotechnical Holes
Drive Point Well (Dewatering)	Water Supply Wells
Drive Point Well (Water Sampling)	Monitoring Wells
Drive Point Well (Water Supply)	Water Supply Wells
Dry (Disposal) Well	Other Holes
Elevator Shaft	Other Holes
Extraction Well	Monitoring Wells
Gas Migration Hole	Geotechnical Holes
Geothermal Well	Water Supply Wells
Gravel Pit	Other Holes
Heat Exchange Hole (Closed Loop)	Geotechnical Holes
Heat Exchange Hole (Open Loop)	Water Supply Wells
Horizontal Drain (Slope Stability)	Geotechnical Holes
Horizontal Well (Monitoring)	Monitoring Wells
Horizontal Well (Water Supply)	Water Supply Wells

Inclinometer	Geotechnical Holes
Industrial Well	Water Supply Wells
Injection Well (Water)	Water Supply Wells
Injection Well (Remediation) (>72 Hours)	Monitoring Wells
Injection Well (Remediation) (<72 Hours)	Geotechnical Holes
Irrigation Well	Water Supply Wells
Monitoring Well	Monitoring Wells
Municipal Well	Water Supply Wells
Observation Hole	Monitoring Wells
Permeability Test Hole	Geotechnical Holes
Piezometer (Electric)	Geotechnical Holes
Piezometer (Pneumatic)	Geotechnical Holes
Piezometer Well	Monitoring Wells
Piling Hole	Other Holes
Post Hole	Other Holes
Power Pole Hole	Other Holes
Public Supply Well	Water Supply Wells
Remediation Or Recovery Well	Monitoring Well/Water Supply Wells
Rock Boring (<10 Feet)	Other Holes
Rock Boring (>10 Feet)	Geotechnical Holes
Seismic Shot Hole	Geotechnical Holes
Slope Stability Hole	Geotechnical Holes
Soil Boring (<10 Feet)(geophysical borings)	Other Holes
Soil Boring (>10 Feet)(geophysical borings)	Geotechnical Holes
Soil Vapor Hole	Geotechnical Holes
Sparging Well	Monitoring Wells
Storm Water Disposal	Other Holes
Sump	Other Holes (if < 10 ft. deep and > 10 ft. dia.)
Temporary Monitoring Well (<72 Hours)	Geotechnical Holes
Temporary Monitoring Well (>72 Hours)	Monitoring Wells
Trench	Other Holes
Underground Storage Tank (UST) Pit	Other Holes
Vapor Extraction Hole	Geotechnical Holes
Wetland Delineation Hole	Other Holes
Wet Soil Monitoring Hole	Geotechnical Holes

AMEND: 690-240-0006

RULE SUMMARY: Amends rule by adding information requirements for monitoring well special standard requests. This information is required to make informed decisions in regard to proper monitoring well abandonment processes and procedures as described in OAR 690-240-0510.

CHANGES TO RULE:

690-240-0006

Special Standards ¶

(1) Site conditions may require specific design, construction, and abandonment procedures to adapt to the existing local geologic and ground water conditions to fully utilize every natural protection to the state's ground water. Specific site conditions may require different design, construction, setback, or abandonment standards than required by the Monitor Well or Geotechnical Hole construction rules. Alternative technologies or methods not addressed in these rules may also exist which could be effectively utilized in the construction or abandonment of a monitoring well or geotechnical hole. Prior to the completion of the well, a bonded constructor must request and receive approval from the Department to use methods or materials that do not meet the monitoring well or geotechnical hole construction standards. The Department may approve such requests either orally or in writing. If oral approval is granted, the written request must be submitted to the Department within three working days of the date of the oral approval. Failure to submit a written request as described above may void the prior oral approval. The proposed methods or materials shall provide at least the same level of resource protection as that which is provided by these rules. ¶

(2) The written request for special standards shall include: ¶

(a) Name, license number and signature of the bonded well constructor; ¶

(b) Location of the well by county, township, range, section, tax-lot (if assigned) ~~and either the 1/4, 1/4 section or,~~ and Latitude and Longitude as established by a global positioning system; ¶

(c) Name and address of landowner; ¶

(d) Address of the project/well site; ¶

(e) Type of work; ¶

(f) The reasons(s) that conformance to the rules and regulations for monitoring wells or geotechnical holes cannot be met; ¶

(g) A diagram and written description showing the proposed monitoring well or geotechnical hole's design, construction, or abandonment; ¶

(h) The well identification number, if assigned; ~~and~~ ¶

(i) The start card number; ¶

(j) If the request is to abandon a monitoring well in-place, then the most current water quality analytical data shall also be provided; ¶

(k) Oregon Department of Environmental Quality site or facility identification number and no further action (NFA) decision, if applicable; and ¶

(l) Any associated well report numbers if special standard request is for alteration or abandonment.

Statutory/Other Authority: ORS 536.090, ORS 537.505--537.795-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505--537.795, ORS 536.900, ORS 537.992

AMEND: 690-240-0010

RULE SUMMARY: Amends rule to conform with statute (Or Laws 2019, ch 142; Or Laws 2019, ch 626) by modifying well constructor license definitions; updates definition of "monitoring well drilling machine" for consistency with definitions in water supply well rules; amends rule figure by updating rule label.

CHANGES TO RULE:

690-240-0010

Definitions ¶

The following definitions apply to terms as used in monitoring well, geotechnical hole and other hole rules, OAR 690-240-0005 to 690-240-0640. No other definitions of these same words apply. ¶

- (1) "Abandonment, Permanent" means to remove all or any portion of a monitoring well from service by filling it in such a manner that vertical movement of water within the well bore and within the annular space surrounding the well casing is effectively and permanently prevented. This term is synonymous with "decommission". ¶
- (2) "Abandonment, Temporary" means to remove a drilling machine from a well site after completing or altering a well provided the well is not immediately put into service, or to remove a well from service with the intent of using it in the future. ¶
- (3) "Altering a Well" means the deepening, re-casing, perforating, re-perforating, installation of packers or seals, and other material changes in the design or construction of a well. Material changes include but are not limited to the installation or modification of well casing including casing extensions, or installation or modification of liner pipe, or under reaming of the borehole. ¶
- (4) "Annular Space" means the space between the drillhole wall and the outer well casing. ¶
- (5) "Aquifer" means a geologic formation, group of formations, or part of a formation that contains saturated and permeable material capable of transmitting water in sufficient quantity to supply wells or springs and that contains water that is similar throughout in characteristics such as potentiometric head, chemistry, and temperature. (Figure 240-1) ¶
- (6) "Area of Known or Reasonably Suspected Contamination" means a site that is currently under investigation by the Oregon Department of Environmental Quality, U.S. Environmental Protection Agency, or other state or federal agency for the presence of contaminants, or a site where a prudent person would suspect contamination after conducting an appropriate inquiry consistent with good commercial or customary practice as to the nature of the property. ¶
- (7) "Artesian Aquifer" means a confined aquifer in which groundwater is under sufficient head to rise above the level at which it was first encountered whether or not the water flows at land surface. If the water level stands above land surface the well is a flowing artesian well. (Figure 240-1) ¶
- (8) "Artesian Monitoring Well" means a monitoring well in which groundwater is under sufficient pressure to rise above the level at which it was first encountered, whether or not the water flows at land surface. If the water level stands above land surface the well is a flowing artesian monitoring well. ¶
- (9) "Bored Well" means a well constructed with the use of earth augers turned either by hand or by power equipment. ¶
- (10) "Casing" means the outer tubing, pipe, or conduit, welded or thread coupled, and installed in the borehole during or after drilling to support the sides of the well and prevent caving. Casing can be used, in conjunction with proper seal placement, to shut off water, gas, or contaminated fluids from entering the hole, and to prevent waste of groundwater. ¶
- (11) "Casing Seal" means the water tight seal established in the well bore between the well casing and the drillhole wall, above the filter pack seal, to prevent the inflow and movement of surface water or shallow groundwater in the well annulus, or to prevent the outflow or movement of water under artesian or hydrostatic pressures. This term is synonymous with "annular seal" or "surface seal". ¶
- (12) "Civil Engineer" means an individual registered by the State of Oregon to practice civil engineering. ¶
- (13) "Clay" means a fine-grained, inorganic material having plastic properties and with a predominant grain size of less than 0.002 mm. ¶
- (14) "Closed Loop Ground Source Heat Pump Boring" means a geotechnical hole, cased or uncased, constructed for the purpose of installing a closed loop heat exchange system for a ground source heat pump. ¶
- (15) "Commission" means the Oregon Water Resources Commission. ¶
- (16) "Committee" means the Oregon Ground Water Advisory Committee created by ORS 536.090. ¶
- (17) "Confining Interval" means a low permeability material such as clay or solid, unfractured, consolidated rock immediately overlying an artesian (confined) aquifer. (Figure 240-1) ¶
- (18) "Consolidated Formation" means materials that have become firm through natural rock-forming processes. It

- includes, but is not limited to, materials such as basalt, sandstone, shale, hard claystone, and granite.¶
- (19) "Contamination" means any chemical, ion, radionuclide, synthetic organic compound, microorganism, waste or other substance that does not occur naturally in groundwater or that occurs naturally but at a lower concentration.¶
- (20) "Continuing Education" means that education required as a condition of licensure under ORS 537.747, to maintain the skills necessary for the protection of groundwater, the health and general welfare of the citizens of Oregon and the competent practice of the construction, alteration, abandonment, conversion, and maintenance of water supply wells, monitoring wells, and geotechnical holes.¶
- (21) "Continuing Education Committee" means the Well Constructor Continuing Education Committee authorized under Chapter 496, Oregon Laws 2001 (ORS 537.765).¶
- (22) "Continuing Education Course" means a formal offering of instruction or information to licensees that provide continuing education credits.¶
- (23) "Continuing Education Credit" (CEC) means a minimum of 50 minutes of instruction or information approved by the Continuing Education Committee.¶
- (24) "Converting" a well means changing the use of an existing well or hole not previously used to either withdraw or monitor water such that the well or hole can be used to either withdraw or monitor water.¶
- (25) "Deepening a well" means extending the well bore of an existing well through previously undisturbed native material. Deepening is a type of alteration.¶
- (26) "Department" means the Oregon Water Resources Department.¶
- (27) "Director" means the Director of the Department or the Director's authorized representatives.¶
- (28) "Documentation of Completion" means written evidence or documentation demonstrating attendance and completion of a continuing education course, including but not limited to: a certificate of completion, diploma, transcript, certified class roster, or other documentation as approved by the Continuing Education Committee.¶
- (29) "Dug Well" means a well in which the excavation is made by the use of digging equipment such as backhoes, clam shell buckets, or sand buckets. (See Hand dug well).¶
- (30) "Excavation" means a free-standing cavity with greater width than depth constructed in the earth's surface which has a primary purpose other than seeking water or water quality monitoring.¶
- (31) "Figure", when used herein, refers to an illustration and is made a part of the primary article and section by reference.¶
- (32) "Filter Pack" means the granular material placed in the annular space between the well screen and the borehole.¶
- (33) "Filter Pack Seal" means the fine grained sand or dry bentonite which is placed in the annulus above the filter pack and prevents grout infiltration into the filter pack.¶
- (34) "Geologic Formation" means an igneous, sedimentary or metamorphic material that is relatively homogeneous and is sufficiently recognized as to be distinguished from the adjacent material. The term is synonymous with "formation".¶
- (35) "Geologist" means an individual registered by the State of Oregon to practice geology.¶
- (36) "Geotechnical hole" means a hole constructed to collect or evaluate subsurface data or information, monitor movement of landslide features, or to stabilize or dewater landslide features. "Geotechnical hole" includes closed loop ground source heat pump borings. Geotechnical holes are not monitoring wells or water supply wells as defined below. Various classes and examples of geotechnical holes are listed in OAR 690-240-0035(6)-(9).¶
- (37) "Grout" means approved cement, concrete or bentonite sealing material used to fill an annular space of a well or to abandon a well.¶
- (38) "Grout Pipe" means a pipe which is used to place grout at the bottom of the sealing interval of a well.¶
- (39) "Hand dug well" means a well in which the excavation is only made by the use of picks, shovels, spades, or other similar hand operated implements. (See Dug Well).¶
- (40) "Hazardous Materials Training" means training as defined by OAR 437-002-0100 Adoption by Reference Subdivision H Hazardous Materials 1910.120 Hazardous Waste Operations and Emergency Response.¶
- (41) "Hazardous Waste" means a substance as defined by ORS 466.005.¶
- (42) "Health Hazard" means a condition where there are sufficient concentrations of biological, chemical, or physical, including radiological, contaminants in the water that are likely to cause human illness, disorders, or disability. These include, but are not limited to naturally occurring substances, pathogenic viruses, bacteria, parasites, toxic chemicals, and radioactive isotopes. Sufficient concentrations of a contaminant include but are not limited to contaminant levels set by the Oregon Department of Environmental Quality and Oregon Health Division.¶
- (43) "Health Threat" means a condition where there is an impending health hazard. The threat may be posed by, but not limited to: a conduit for contamination, or a well affecting migration of a contaminant plume, or the use of contaminated water. A well in which the construction is not verified by a monitoring well report or geophysical techniques may be considered a conduit for contamination in certain circumstances. Those circumstances include,

but are not limited to: an unused and neglected well or a well for which no surface seal was required. A well in which the casing seal, filter pack seal, or watertight cap has failed, or was inadequately installed may be considered a conduit for contamination. ¶

(44) "Horizontal Well" means a well that intentionally deviates more than 20 degrees from true vertical at any point. ¶

(45) "Hydrologic Cycle" is the general pattern of water movement by evaporation from sea to atmosphere, by precipitation onto land, and by return to sea under influence of gravity. ¶

(46) "Jetted Well" means a well in which the drillhole excavation is made by the use of a high velocity jet of water. ¶

(47) "Leakage" means movement of surface and/ or subsurface water around the well casing or seal. ¶

(48) "Monitoring Well" means a well designed and constructed to determine the physical (including water level), chemical, biological, or radiological properties of groundwater. ¶

(49) "Monitoring Well Constructor" means any person who has a current ~~water monitoring well constructor's license with a monitoring well endorsement issued in accordance with ORS 537.747(3).~~ ¶

(50) "Monitoring Well Constructor's License" means a Water Well Constructor's License with a monitoring well endorsement issued in accordance with ORS 537.747(3); or with a monitoring well temporary authorization endorsement issued in accordance with ORS 537.747 (3), Section 1, Chapter 142, Oregon Laws 2019, and Section 1, Chapter 626, Oregon Laws 2019. ¶

(51) "Monitoring Well Drilling Machine" means any driving, jetting, percussion, rotary, boring, auguring, digging, or other equipment used in the construction, alteration, or abandonment of monitoring wells. ¶

(52) "Order" means any action satisfying the definition given in ORS Chapter 183 or any other action so designated in ORS 537.505 to 537.795. ¶

(53) "Other Hole" means a hole other than a water supply well, monitoring well, or geotechnical hole, however constructed, in naturally occurring or artificially emplaced earth materials through which groundwater can become contaminated. Holes constructed under ORS Chapters 517, 520, and 522 are not subject to these rules. Examples of other holes are listed in OAR 690-240-0030. ¶

(54) "Perched Groundwater" means groundwater held above the regional or main water table by a less permeable underlying earth or rock material. (Figure 240-1). ¶

(55) "Permeability" means the ability of material to transmit fluid, usually described in units of gallons per day per square foot of cross-section area. It is related to the effectiveness with which pore spaces transmit fluids. ¶

(56) "Person" includes individuals, corporations, associations, firms, partnerships, joint stock companies, public and municipal corporations, political subdivisions, the state and any agencies thereof, and the Federal Government and any agencies thereof. ¶

(57) "Petcock Valve" is a valve used to contain pressure which when opened will drain the line or pipe. ¶

(58) "Petroleum" means gasoline, crude oil, fuel oil, diesel oil, lubricating oil, oil sludge, oil refuse, and crude oil fractions and refined petroleum fractions, including gasoline, kerosene, heating oils, diesel fuels, and any other petroleum-related product or waste or fraction thereof that is liquid at a temperature of 60 degrees Fahrenheit and a pressure of 14.7 pounds per square inch absolute. "Petroleum" does not include any substance identified as a hazardous waste under 40 CFR Part 261. ¶

(59) "Piezometer" means a type of monitoring well designed solely to obtain groundwater levels. Piezometers are prohibited in areas of known or reasonably suspected contamination. This term is synonymous with observation well. ¶

(60) "Porosity" means the ratio of the volume of voids in the geologic formation being drilled to the overall volume of the material without regard to size, shape, interconnection, or arrangement of openings. ¶

(61) "Potable Water" means water which is sufficiently free from biological, chemical, physical, or radiological impurities so that users thereof will not be exposed to or threatened with exposure to disease or harmful physiological effects. ¶

(62) "Potentiometric Surface" means the level to which water will rise in tightly cased wells. (Figure 240-1). ¶

(63) "Pressure Grouting" means a process by which grout is confined within the drillhole or casing by the use of retaining plugs or packers and by which sufficient pressure is applied to drive the grout slurry into the annular space or zone to be grouted. ¶

(64) "Professional" means a person licensed or registered by the State of Oregon to construct monitoring wells, water supply wells, or practice geology or civil engineering. All licenses and registrations must be valid at the time of monitoring well, water supply well or geotechnical hole construction, alteration or abandonment as required by these rules. ¶

(65) "Public-at-Large" means a person not actively engaged in the well industry. ¶

(66) "Refusal to Renew" means a provision in an order, or as allowed by ORS 537.747, that prohibits renewal of a well constructor's license, for a specified term not to exceed one year from the expiration date of the current license. ¶

- (67) "Remediation Well" means a well used for extracting contaminated groundwater from an aquifer. This term is synonymous with "extraction well" and "recovery well". ¶
- (68) "Respondent" means the person against whom an enforcement action is taken. ¶
- (69) "Responsible Party" means the person or agency that is in charge of construction or maintenance, or the landowner of record and is either in violation as specified in a notice of violation or who may benefit from that violation. ¶
- (70) "Rough Drilling Log" means a record kept on the well site of the information needed to complete the well report for the well being constructed. ¶
- (71) "Revoke" means termination of a well constructor's license. ¶
- (72) "Sand" means a material having a prevalent grain size ranging from 2 millimeters to 0.06 millimeters. ¶
- (73) "Silt" means an unconsolidated sediment composed predominantly of particles between 0.06 mm and 0.002 mm in diameter. ¶
- (74) "Slope Stability Geotechnical Hole" means a geotechnical hole excavated, drilled or bored for studying and/or monitoring movement of landslide features, including water levels, or other mass-wasting features to detect zones of movement and establish whether movement is constant, accelerating, or responding to remedial measures. Hole(s) excavated, drilled or bored for the purpose of slope remediation or stabilization shall be considered a slope stability geotechnical hole. Slope stability geotechnical holes are not monitoring wells, piezometers, or water supply wells. ¶
- (75) "Sponsor" means an institution, professional organization, individual, or business that offers continuing education courses to licensees. This term is synonymous with provider. ¶
- (76) "Static Water Level" means the stabilized level or elevation of water surface in a well not being pumped. ¶
- (77) "Sump" means a hole dug to a depth of ten feet or less with a diameter greater than ten feet in which groundwater is sought or encountered. ¶
- (78) "Suspension" means the temporary removal of the privilege to construct wells under an existing license for a period of time not to exceed one year. ¶
- (79) "Unconsolidated Formation" means naturally occurring, loosely cemented, or poorly indurated materials including clay, sand, silt, and gravel. ¶
- (80) "Underground Injection" means the emplacement or discharge of fluids to the subsurface. ¶
- (81) "Underground Injection System" means a well, improved sump, sewage drain hole, subsurface fluid distribution system, or other system or groundwater point source used for the emplacement or discharge of fluids. ¶
- (82) "Upper Oversize Drillhole" means that part of the well bore extending from land surface to the bottom of the surface seal interval. ¶
- (83) "Violation" means an infraction of any statute, rule, standard, order, license, compliance schedule, or any part thereof and includes both acts and omissions. ¶
- (84) "Water Supply Well" means a well, other than a monitoring well, that is used to beneficially withdraw or beneficially inject groundwater. Water supply wells include, but are not limited to, community, dewatering, domestic, irrigation, industrial, municipal, and aquifer storage and recovery wells. ¶
- (85) "Water Supply Well Constructor" means any person who has a current water supply well constructor's license with a water supply well endorsement issued in accordance with ORS 537.747(3). ¶
- (86) "Water Supply Well Constructor's License" means a Water Well Constructor's License with a water supply well endorsement issued in accordance with ORS 537.747(3); or with a water supply well temporary authorization endorsement issued in accordance with ORS 537.747 (3), Section 1, Chapter 142, Oregon Laws 2019, and Section 1, Chapter 626, Oregon Laws 2019. ¶
- (87) "Water Table" means the upper surface of an unconfined water body, the surface of which is at atmospheric pressure and fluctuates seasonally. The water table is defined by the levels at which water stands in wells that penetrate the water body. (See Figure 240-1). ¶
- (88) "Water Well Constructor's License" means a license to construct, alter, deepen, abandon or convert wells issued in accordance with ORS 537.747(3). Endorsements are issued to the license and are specific to the type of well a constructor is qualified to construct, alter, deepen, abandon or convert. ¶
- (89) "Well" means any artificial opening or artificially altered natural opening, however made, by which groundwater is sought or through which groundwater flows under natural pressure, or is artificially withdrawn or injected. This definition shall not include a natural spring, or wells drilled for the purpose of exploration or production of oil or gas. Prospecting or exploration for geothermal resources as defined in ORS 522.005 or production of geothermal resources derived from a depth greater than 2,000 feet as defined in ORS 522.055 is regulated by the Department of Geology and Mineral Industries. ¶
- (90) "Wet Soil Monitoring Hole" means a shallow geotechnical hole set vertically in the ground and constructed to a depth of three and one-half feet or less for studying and/or monitoring the upper portion of the shallowest water-bearing unit within and immediately below the surface soil horizon. ¶

[ED. NOTE: Figures referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505--537.795-537.795, ORS 536.027, ORS 536.900, ORS 537.992, Or Laws 2019, ch 142, Or Laws 2019, ch 626

Statutes/Other Implemented: ORS 536.090, ORS 537.505--537.795, ORS 536.900, ORS 537.992, Or Laws 2019, ch 142, Or Laws 2019, ch 626

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

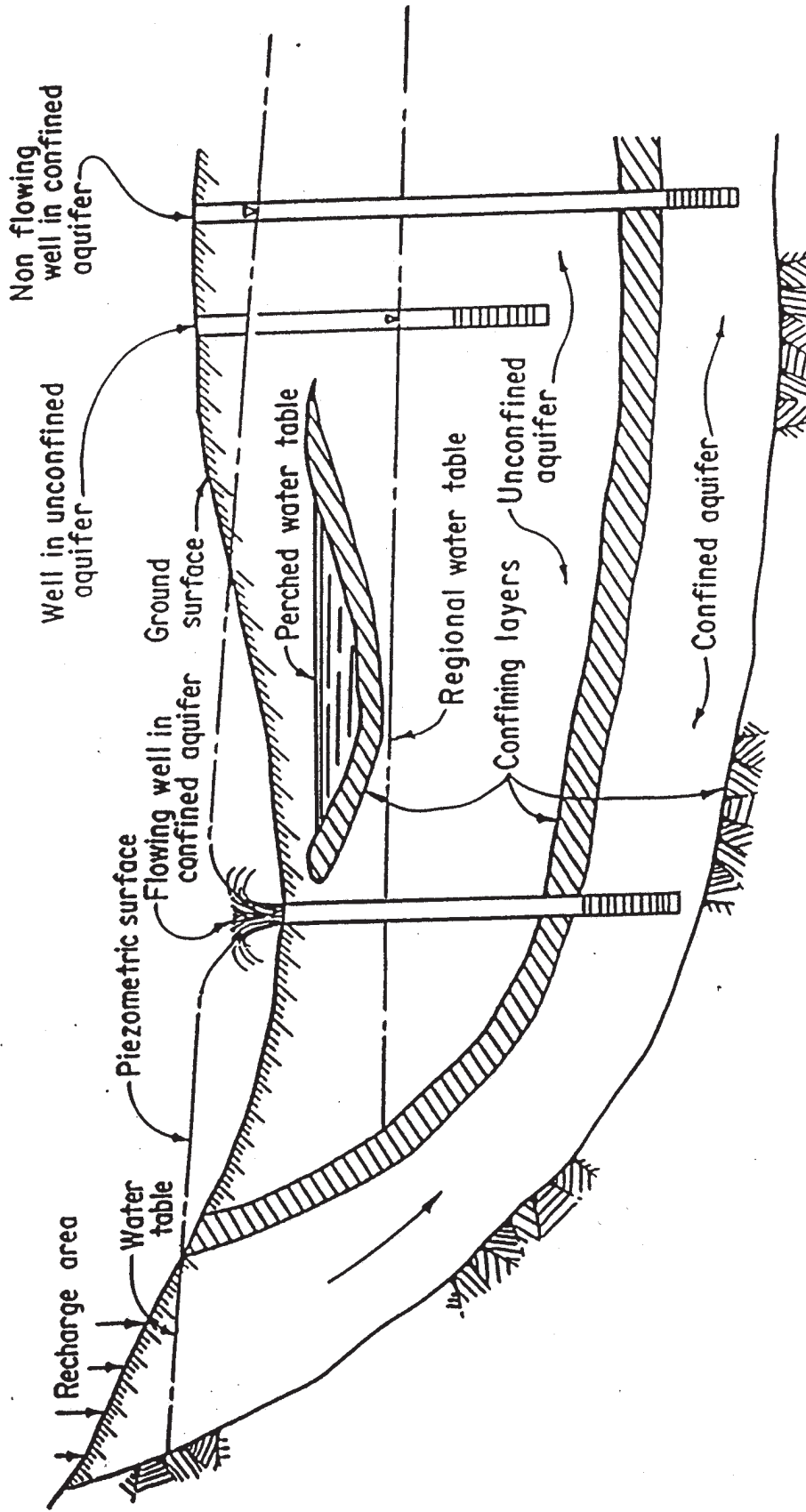


FIGURE 1-2.—Types of aquifers. 103-D-1401.

AMEND: 690-240-0024

RULE SUMMARY: Deletes reference to Appendices, which was removed during a prior rulemaking and no longer exist.

CHANGES TO RULE:

690-240-0024

Well Identification Label ¶¶

(1) Within 30 days of completion of well construction, conversion, or alteration, the constructor shall permanently affix a well identification label to the wellhead in an accessible and visible location in the following manner:¶¶

(a) For above ground completions:¶¶

~~(A) Labels shall be at least six inches above ground surface and shall be permanently attached to the outside of the protective casing using a stainless steel band, stainless steel rivets, or screws.¶¶~~

(b) For flush grade completions:¶¶

(A) Rivet or bolt the label to the inside of the monument skirting; or¶¶

(B) Band or strap the label to the well casing; or¶¶

(C) Insert the strap or band into the concrete in the bottom of the vault.¶¶

(2) Identification labels may not be attached to pumps, pump equipment, water delivery lines, or well caps.¶¶

(3) The identification label number shall be recorded on the well report at the time the report is submitted.¶¶

(4) The well identification label shall be attached in such a manner as to be easily readable upon inspection.¶¶

(5) Identification labels shall be furnished by the Department.¶¶

(6) If a well identification label is already affixed to an existing well that is being altered, converted, or abandoned, the constructor shall record the identification label number on the well report.¶¶

(7) When a well that has a well identification label on it is permanently abandoned, the well identification label shall be destroyed. The well identification label shall not be reused.¶¶

[ED. NOTE: Appendices referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505—~~537.795~~—537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505—~~537.795~~—537.795, ORS 536.900, ORS 537.992

AMEND: 690-240-0026

RULE SUMMARY: Deletes reference to Appendix 240-1, which was removed during a prior rulemaking and no longer exists.

CHANGES TO RULE:

690-240-0026

Well Identification Label Maintenance ¶

The well identification label shall not be removed from the wellhead and shall be maintained by the land owner in an accessible location and in a readable condition. ~~See Appendix 240-1 for well identification label placement instructions.~~¶

[ED. NOTE: Appendices referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505–537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505–537.795, ORS 536.900, ORS 537.992

AMEND: 690-240-0060

RULE SUMMARY: Amends rule so that it correctly identifies information that will be provided on well constructors license examination, consistent with ORS 537.750.

CHANGES TO RULE:

690-240-0060

Monitoring Well Constructor License Examination ¶

(1) The Water Resources Department administers the written examination required under ORS 537.747. Separate examinations are administered for each license endorsement. The Department schedules the examination on the second Monday during the months of January, April, July and October. Examinees must pay a \$20 exam fee. Special accommodations may be given to those individuals who cannot attend the regularly scheduled examination dates. Requests shall be considered on a case-by-case basis. The examination tests the applicant's knowledge of:¶

(a) Oregon laws and administrative rules on the use of ground water, monitoring well constructor licensing requirements, basic information on hydrogeology, the construction of monitoring wells and/or geotechnical holes, and the preparing and filing of Start Cards and Monitoring Well Reports;¶

(b) Hydrogeology, the occurrence and movement of ground water and contaminants, and the design, construction and development of monitoring wells; and¶

(c) Types, uses, and maintenance of drilling tools and equipment, drilling problems and corrective procedures, repair of faulty monitoring wells, sealing of monitoring wells, and safety rules and practices.¶

(2) An applicant who fails to pass an endorsement examination may retake an examination for the same endorsement after three months and the payment of another examination fee.¶

(3) Passing examination scores are valid for three years from the date of the examination.

Statutory/Other Authority: ORS 536.090, ORS 537.505–537.795–537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505–537.795, ORS 536.900, ORS 537.992

AMEND: 690-240-0065

RULE SUMMARY: Rule Summary: Amends rule name to add temporary authorization for monitoring well construction licensing to conform with statute (Or Laws 2019, ch 142; Or Laws 2019, ch 626); amends rule requirements regarding monitoring well construction licensing to conform with statute (Or Laws 2021, ch 610); amends rule to conform with statute (Or Laws 2019, ch 142; Or Laws 2019, ch 626) by adding temporary licensing requirements for monitoring well construction; modifies experience requirement for clarity.

CHANGES TO RULE:

690-240-0065

Monitoring Well Constructor License, Experience Requirements ~~and~~, Trainee Card ~~and~~ Temporary Authorization

(1) License. To qualify for a Monitoring Well Constructor's License, a person shall:

(a) Be at least 18 years old;

(b) Pass a written examination;

(c) Have a minimum of one year experience, during the previous 36-month period, in monitoring well construction, alteration, or abandonment. This experience shall include the operation of well drilling machinery for monitoring well construction, alteration, conversion, or abandonment on a minimum of fifteen monitoring wells or a demonstration of equivalent experience in the operation of well drilling machinery. The following are acceptable as evidence of experience:

(A) Monitoring well reports or rough well logs with applicant's name entered for each of the 15 wells. The name, address and telephone number of the person responsible for the construction of each monitoring well shall be included on each report or log;

(B) Income tax returns showing source of drilling income for a period of time, or worker's compensation account information or the equivalent may be established to satisfy the one year of active construction requirement;

(C) Any other evidence the Director may deem suitable;

(D) A license held in another state shall not substitute for required evidence of experience.

(d) Pay a license fee.

(e) Provide evidence of welding proficiency. Acceptable evidence of welding proficiency includes:

(A) A copy of an arc welding certificate from a nationally recognized welding organization. Acceptable organizations include, but are not limited to, American Welding Society, American Petroleum Institute, American Society of Mechanical Engineers, and the United States Military; or

(B) A copy of an official transcript or other official written documentation from a community college that demonstrates a passing grade in an arc welding training course; or

(C) Official written documentation from a university, welding school, trade school, technical institute, or nationally recognized welding organization that demonstrates that the applicant has received a passing grade in an arc welding training course or has otherwise completed professional welding training; or

(D) Written documentation from a certified welding instructor or certified welding inspector, providing proof that the applicant has successfully completed arc welding tests to demonstrate proficiency at welding steel casing joints as required in OAR 690-210-0200.

(f) Applicants that hold a current Oregon water supply well constructor's license are not required to provide evidence of welding proficiency to obtain a monitoring well endorsement.

(2) Trainee. If an applicant passes the written Monitoring Well Constructor's License examination, but cannot meet the experience requirement the Commission may issue a trainee card. To qualify for a Monitoring Well Constructor Trainee Card, a person must:

(a) Be at least 18 years old;

(b) Pass a written examination; and

(c) Be supervised by a person who holds a valid Monitoring Well Constructor's License.

(3) Trainee Card. A Trainee Card is valid for three (3) years from the date the examination was passed.

(4) Supervision. Supervision as it relates to any person who holds a Monitoring Well Constructor Trainee Card:

(a) A Trainee may operate a cable tool monitoring well drilling machine without a licensed Monitoring Well Constructor physically present at the well site only if:

(A) The licensed constructor can reach the well site within two hours if so requested by an authorized representative of the Department; and

(B) The licensed constructor has signed the rough drilling log within eight working hours prior to the

representative's visit.¶

(b) A licensed Monitoring Well Constructor must physically be on the site at all times when a cable tool drilling machine is:¶

(A) Drilling within a flowing artesian well;¶

(B) Setting or advancing casing;¶

(C) Setting liner;¶

(D) Perforating casing;¶

(E) Setting well screens;¶

(F) Placing packers;¶

(G) Drilling into, through, or below ground water suspected or known to be contaminated; and¶

(H) Placing casing seals.¶

(c) A Monitoring Well Constructor trainee may operate a non-cable tool monitoring well drilling machine without a licensed Monitoring Well Constructor physically present at the well site only during removal of the drill stem from the monitoring well.¶

(d) Activities under subsection (3)(c) of this rule shall proceed only if:¶

(A) The licensed Monitoring Well Constructor can reach the site within one hour if so requested by an authorized representative of the Department; and¶

(B) The licensed Monitoring Well Constructor has signed the rough drilling log within eight working hours prior to the representative's visit.¶

(e) An authorized representative of the Department in whose jurisdiction the monitoring well is being constructed has the authority to:¶

(A) Grant an extension to the time limits stated above when a request, showing good cause, is received from the bonded constructor in advance for each particular well; and¶

(B) Place additional restrictions on the trainee, including requiring the constructor to be on the site at all times while the drilling machine is operating, when the Department representative determines that either the drilling environment or the knowledge and/or experience of the trainee warrant closer supervision.¶

(f) For a Monitoring Well Constructor trainee to operate a monitoring well drilling machine without a licensed Monitoring Well Constructor present, the trainee's card must be endorsed with the name of the bonded Monitoring Well Constructor responsible for the construction of the monitoring well.¶

(5) Monitoring Well Constructor's License Temporary Authorization Endorsement. A person that is the spouse of a member of the Armed Forces of the United States through marriage or domestic partnership, whose spouse is stationed in this state, may apply for a Monitoring Well Constructor's License Temporary Authorization Endorsement.¶

(a) Application for a monitoring well constructor's license temporary authorization endorsement must include the following:¶

(A) Completed and signed application form including evidence the person is 18 years of age or older;¶

(B) Examination fee;¶

(C) A copy of a marriage certificate, domestic partnership registration, or other official evidence of legal union and an attestation that said union is valid and in effect;¶

(D) A copy of the spouse or domestic partner's assignment to an Oregon duty station by official active duty military order;¶

(E) Official verification of the applicant's current authorization to provide monitoring well constructor services in another state along with the Department's "good standing" form;¶

(F) A completed comparison form as provided by the Department, outlining the out-of-state licensing authority's authorization requirements; and¶

(G) Official notification from the Department that applicant has passed the monitoring well constructors license examination.¶

(b) The Department will review the application for a Monitoring Well Constructor's License Temporary Authorization Endorsement once all materials are submitted. A Monitoring Well Constructor's License Temporary Authorization Endorsement shall be issued if the Department determines:¶

(A) Applicant is eligible to apply;¶

(B) The Out-of-state authorization is current;¶

(C) The Out-of-state licensing authority's licensing requirements are substantially similar to the Department's requirements;¶

(D) The good standing form is complete;¶

(E) The applicant has passed the written exam; and¶

(F) The license fee is paid.¶

(c) A temporary authorization endorsement issued by the Department is valid until the earliest of:¶

(A) Two (2) years after the date of issuance;¶

- (B) The date the spouse's term of military service ends.
- (C) The date the persons out-of-state authorization expires.
- (d) Temporary authorizations are not renewable. The holder of an expired temporary authorization may not continue to provide services for the construction, alteration, conversion, or abandonment of monitoring wells after expiration unless the person obtains a Monitoring Well Constructor's License under subsection one (1) of this rule.
- (e) The Department shall report annually to the State Legislature about temporary authorization endorsements as required in Section 1, Chapter 626, Oregon Laws 2019.
- (6) Other supervision requirements for persons not licensed or permitted to construct monitoring wells, or who do not hold a Monitoring Well Constructor trainee card:
- (a) Persons who are in the act of constructing, altering, converting or abandoning monitoring wells must be supervised by a licensed Monitoring Well Constructor who is physically present at the well site at all times during construction, alteration, conversion, or abandonment activity.
- (b) The supervising Monitoring Well Constructor is responsible for all applicable statutes and rules in construction, alteration, conversion, or abandonment of the monitoring well.
- (6Z) Persons who satisfy all requirements of ORS 537.747(3) shall be issued a Monitoring Well Constructor's License. The responsibilities for issuing and securing a Monitoring Well Constructor's License or trainee card are listed in subsections (a) and (b) of this section.
- (a) The Monitoring Well Constructor's License applicant is responsible for:
- (A) Completing an application or renewal form for a new or renewed license or trainee card;
- (B) Submitting the application or renewal form to the Water Resources Department along with the required fees;
- (C) Carrying the license or trainee card whenever constructing, altering, converting, or abandoning any monitoring well; and
- (D) Providing the Water Resources Department, within 30 days, notification of any change of mailing address.
- (E) Providing the Water Resources Department documentation satisfying the continuing education requirements set forth in OAR 690-240-0200 through 690-240-0280.
- (b) The Water Resources Department is responsible for:
- (A) Designing and providing Monitoring Well Constructor license(s) and trainee cards;
- (B) Designing and providing application forms and renewal forms for licenses and application forms for trainee cards;
- (C) Processing applications and renewals for licenses and applications for trainee cards; and
- (D) Returning incomplete application and renewal forms to applicants for completion.
- (E) Sending new and renewed licenses to applicants who have completed the application or renewal form and submitted the required fee. This does not preclude refusal to renew as outlined in OAR 690-240-0070(4).
- (78) Bonded Monitoring Well Constructor. For a person to possess a bonded Monitoring Well Constructor's License, the person shall provide to the Department a properly executed Water Well Constructor's Bond or Irrevocable Letter of Credit. The Water Resources Department shall indicate on the constructor's license a bonded classification.
- (82) Representatives of the Water Resources Department may ask anyone constructing, altering, or abandoning a monitoring well to present their license or trainee card as proof of eligibility to construct, alter, convert, or abandon monitoring wells in the State of Oregon. Licensed individuals shall display their license or trainee card and photo identification when they are requested to do so by Water Resources Department personnel or other agency personnel to whom monitoring well regulation has been delegated.
- Statutory/Other Authority: ORS 536.090, ORS 537.505--537.795, ORS 536.027, ORS 537.992, ORS 106.340, ORS 536.900, Or Laws 2019, ch 142, Or Laws 2019, ch 626, Or Laws 2021, ch 610
- Statutes/Other Implemented: ORS 536.090, ORS 537.505--537.795, ORS 537.992, ORS 106.340, ORS 536.900, Or Laws 2019, ch 142, Or Laws 2019, ch 626, Or Laws 2021, ch 610

AMEND: 690-240-0210

RULE SUMMARY: Amends rule by removing outdated rule implementation date.

CHANGES TO RULE:

690-240-0210

Continuing Education Requirement ¶

(1) ~~As of June 30, 2005, e~~ Each individual licensed under ORS 537.747 is required to obtain a minimum of 14 continuing education credits (CECs) during each licensing period regardless of the number of licenses or endorsements held. Continuing education credits may be obtained through clinics, schools, professional organizations, seminars, lectures or other continuing education courses that relate to the practice of well construction and are approved by the Continuing Education Committee.¶

(2) A minimum of two (2) CECs shall pertain to ground water and well construction statutes under ORS 537.505 to 537.795 and 537.992, and administrative rules under OAR 690-200 through 690-240 during each licensing period.¶

(3) A maximum of eight (8) CECs may be obtained through approved safety/first aid/CPR/Hazardous Materials courses during each licensing period. Of the eight (8) CECs, a maximum of four (4) CECs may be obtained through Hazardous Materials training courses and a maximum of four (4) CECs may be obtained through safety/first aid/CPR courses.¶

(4) Exhibitions shall count as one (1) CEC per approved exhibition attended and shall not exceed two (2) CECs per licensing period.¶

(5) Licensees may count approved CECs accumulated after January 1, 2002, for their first license renewal that requires CECs.

Statutory/Other Authority: ~~ORS 537,742.992, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 536.090~~

Statutes/Other Implemented: ORS 537,742.992, ORS 537.505-537.795, ORS 536.900, ORS 536.090

AMEND: 690-240-0340

RULE SUMMARY: Amends rule by adding signature requirement for clarity.

CHANGES TO RULE:

690-240-0340

Landowner Well Construction Permit, Fee and Bond ¶

(1) The Water Resources Commission requires a permit, permit fee, and bond or irrevocable letter of credit, for each monitoring well constructed, altered, converted, or abandoned by a landowner, unless the landowner is a licensed and bonded Monitoring Well Constructor. The landowner permit and bond shall be obtained prior to beginning work on a well. ¶

(2) To receive a Landowner Well permit, a person must submit the following to the Director: ¶

(a) A completed application form provided by the Commission, containing, as a minimum: ¶

(A) The property owner's name, address and telephone number; ¶

(B) The surety company's name, address and telephone number; ¶

(C) The proposed location of the well by township, range, section, tax-lot number if assigned, and street address; ¶

(D) The proposed use of the monitor well; and ¶

(E) The type of proposed work; and ¶

(F) Well design plan on form approved by the Department. ¶

(b) A properly executed Landowner's Water Well Bond or Irrevocable Letter of Credit in the amount specified under ORS 537.753 to the State of Oregon; and ¶

(c) A permit fee in the amount specified under ORS 537.753. ¶

(3) Only the owner of record, a member of the immediate family of the owner of record, or a full time employee of the owner of record, (whose main duties are other than the construction of wells), may operate a well drilling machine under a landowner's permit. ¶

(4) A landowner permit issued pursuant to these rules shall expire six months from the date of issuance. ¶

~~(a)~~ A monitor well report shall be submitted within 30 days of expiration of the landowner permit, or within 30 days of completion of the well, whichever occurs first. The report shall be certified as correct by signature of the landowner constructing the monitoring well. ¶

(5) If the landowner permit expires, a landowner may reapply for a new landowner permit by complying with the requirements described in sections (1), (2) and (3) of this rule. ¶

(6) The Department may deny a landowner permit if it is determined that the construction, alteration, abandonment, or conversion of the proposed well is a health threat, a health hazard, a source of contamination, or a source of waste of the ground water resource.

Statutory/Other Authority: ~~ORS 183, 536, 537, 540~~ ORS 536.027, ORS 537.505-537.795, ORS 536.090, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ~~HB 2296A (2017)~~ ORS 536.090, ORS 536.900, ORS 537.992

AMEND: 690-240-0375

RULE SUMMARY: Amends rule regarding information required on start cards for monitoring well construction to conform with statute (Or Laws 2021, ch 610).

CHANGES TO RULE:

690-240-0375

Monitoring Well Construction Notice Required (Start Card) ¶

- (1) Each bonded Monitoring Well Constructor licensed to operate in the State of Oregon and each landowner holding a landowner's permit shall provide ~~notice~~ start card as required in ORS 537.762 before commencing the construction, alteration, or abandonment of any monitoring well or conversion of any other hole, geotechnical hole, or water supply well to a monitoring well. The start card shall contain the following information: ¶
- (a) ~~Name and mailing, telephone number, electronic mail address and post-office address of the landowner; of the well; ¶~~
- (b) ~~Street address of the well; ¶~~
- (c) ~~The approximate location of the monitoring well; and ¶~~
- (d) ~~The proposed depth, diameter, and purpose or use if the well is new, altered, or converted. If property does not have an address, then the street address nearest to the proposed well; ¶~~
- (c) The approximate location of the monitoring well by county tax lot number, township, range, section and nearest quarter-quarter section; ¶
- (d) The latitude and longitude of the well as established by a global positioning system; ¶
- (e) The proposed depth and diameter of the well; ¶
- (f) The proposed purpose or use of the groundwater from the proposed well if the well is new, altered, or converted; ¶
- (g) The time frame proposed for beginning and completing the construction, alteration, abandonment or conversion; ¶
- (h) The time frame proposed for annular seal placement. If the actual date of seal placement is not the date proposed on the start card, the licensed or permitted person shall notify the department of the change at least four (4) hours before placing the seal. Notification shall be submitted: ¶
- (A) Electronically by department approved methods; or ¶
- (B) By mail, or hand delivery, to the region office where the well to be drilled, altered, converted, or abandoned is located. If this method is used, then the notification must be on a department approved notification form and received by the region office at least four (4) hours prior to placing the seal; or ¶
- (C) By electronic mail. If notification is sent by electronic mail, then the electronic mail shall include a completed copy of a department approved notification form. If department approved notification form is not attached to the electronic mail, then original notification form must be submitted to the Department within three (3) working days of the date of electronic mail notification. ¶
- (i) The well identification label number, if assigned; ¶
- (j) The water right application, permit or certificate number, if applicable; ¶
- (k) The original well log number, if applicable; ¶
- (l) The type of work proposed; ¶
- (m) Notification of any need for special standards; ¶
- (n) The signature and license number, if applicable, of the bonded and licensed or permitted person who would undertake the work; ¶
- (o) For an existing well, the current purpose or use of the well and the existing depth and diameter of the well. ¶
- (2) In addition to the information required pursuant to OAR 690-240-0375(1)(a)-(d), a start card may also contain information regarding the type of proposed alteration. ¶
- (3) Forms for making these reports and submitting fees shall be furnished by the Department. ¶
- (4) OAR 690-240-0340 shall apply to landowners who construct, alter, convert, or abandon a monitoring well. ¶
- (5) On the day that work on the well commences, the licensed or permitted person shall, before commencing work, notify the department that the work is about to commence. Notification shall be submitted: ¶
- (a) Electronically by department approved methods; or ¶
- (b) By mail, or hand delivery, to the region office where the well to be drilled, altered, converted, or abandoned is located. If this method is used, then the notification must be on a department approved notification form and received by the region office prior to beginning construction, alteration, conversion, or abandonment work; or ¶
- (c) By electronic mail. If notification is sent by electronic mail, then the electronic mail shall include a completed copy of a department approved notification form. If department approved notification form is not attached to the electronic mail, then original notification form must be submitted to the Department within three (3) working days

of the date of electronic mail notification.

Statutory/Other Authority: ORS 536.090, ~~ORS 537.505--537.795~~, ORS 536.090, ORS 536.027, Or Laws 2021, ch 610, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ~~ORS 537.505--537.795~~, ORS 536.090, Or Laws 2021, ch 610, ORS 537.992

AMEND: 690-240-0385

RULE SUMMARY: Amends rule regarding start card reporting requirements for monitoring well construction to conform with statute (Or Laws 2021, ch 610); amends rule figure with updated figure; amends rule table by updating table name and rule label.

CHANGES TO RULE:

690-240-0385

Start Card Reporting Requirements ¶

(1) The start card notification required in ORS 537.762 shall be submitted to the Department's region office within which the monitor well is being constructed, altered converted or abandoned using one of the following methods: ¶

(a) Start cards submitted electronically shall be transmitted by a Department-approved method and shall be submitted not earlier than 60 days and not later than three (3) calendar days (72 hours) before beginning construction, alteration, conversion or abandonment work of any monitor well. ¶

(b) By regular mail ~~so that it is received by the Department~~ not earlier than 60 days and not later than three (3) calendar days (72 hours) prior to commencement of work; or ¶

(c) By hand delivery, during regular office hours, not earlier than 60 days and not later than three (3) calendar days (72 hours) before beginning the construction, alteration, conversion or abandonment work on any monitoring well; or ¶

(d) By facsimile transmission (FAX) not earlier than 60 days and not later than three (3) calendar days (72 hours) before beginning the construction, alteration, conversion or abandonment work on any monitoring well. If this method is used, a legible copy of the start card shall also be mailed or delivered to the appropriate OWRD region office ~~no later than the day work is commenced.~~ not earlier than 60 days and not later than three (3) calendar days (72 hours) before the day work begins. ¶

(e) Start cards may not be submitted earlier than 60 days or later than three (3) calendar days (72 hours) before beginning construction, alteration, conversion or abandonment work on any monitor well except as specified in Section (3) of this rule. ¶

(2) The fee required under ORS 537.762(5) for the construction of a new well, deepening of an existing well, conversion of a water supply well, geotechnical hole or other hole shall be submitted to the Department's Salem office with a duplicate copy of the start card. A duplicate start card is not required if the start card fee is included with a start card submitted electronically under Section (1)(a) of this rule. ¶

(3) ~~If a start card has been filed under section (1) and (2) of this rule and~~ The requirement in subsection (1) of this section that a licensed or permitted person must submit a start card not less than three calendar days (72 hours) before beginning work on a well does not apply: ¶

(a) ~~To a second or additional wells are required~~ monitor well drilled on the same or a contiguous tax lot and for the same landowner, then and for which a valid unexpired start card has been submitted pursuant to this section, if a start cards for the second or additional wells shall be monitor well is filed not later than the day the work begins on the monitor well begins. ¶

(b) During water emergencies or casing height adjustments, if a start card is submitted before work begins. ¶

(4) The Director or region office may provide an alternate means of a start card notification. If an alternative means of notification is used, the start card shall be ~~mailed or delivered to the region~~ received by the Department's Salem office within one week of beginning work on the monitoring well. A Monitoring Well Constructor whose license has been restricted by order shall provide notice as stipulated in the order. ¶

(5) Once received by the Department, the start card shall be confidential for a period of one year after it is received or until the monitoring well report required by OAR 690-240-0395 is received, whichever is shorter. ¶

(6) The start card may be used in an administrative enforcement action at any time, including the period of confidentiality. Once the start card is used for enforcement reasons, it is no longer confidential. ¶

NOTE: Region office fax and telephone numbers are listed in Table 240-2. Water Resources Department Regional boundaries are shown in Figure 240-2. ¶

ED. NOTE: Tables and Figures referenced are available from the agency. ¶

(7) A separate start card and fee, if necessary, is required for each well that is constructed, altered, abandoned, or converted. This requirement includes unsuccessful wells and wells exempt from appropriation permit requirements under ORS 537.545. ¶

(8) Effective July 1, 2024, start cards shall be submitted to the department by electronic means unless prior written approval is received to submit paper start cards. ¶

(9) A start card expires if construction, alteration, abandonment or conversion of a well does not begin on or

before 60 days after submission of the start card. If a start card expires, a new start card and fee must be submitted in compliance with ORS 537.762 and these rules before construction, alteration, abandonment or conversion of the well may occur. If a start card is withdrawn before expiring, the licensed or permitted person that submitted the start card may request that the fee paid for the withdrawn start card be transferred to a new start card. ¶

(10) For good cause shown, start cards may be extended in exigent circumstances one time for up to 30 calendar days with prior department approval. Requests for extension shall be submitted: ¶

(a) In writing on a department approved form prior to expiration of the start card. The form shall include: ¶

(A) The start card number; ¶

(B) A description of the circumstances that warrant extension of the start card; ¶

(C) Date of request; ¶

(D) Driller name and license number; ¶

(E) Owner name and contact information. ¶

(b) Electronically by department approved methods. ¶

(c) For the purposes of this rule, "good cause" means the exigent circumstances are due to circumstances beyond the reasonable control of the requester. ¶

[NOTE: Region office fax and telephone numbers are listed in Table 240-2. Water Resources Department Regional boundaries are shown in Figure 240-2.]

Statutory/Other Authority: ORS 536.090, ORS 537.505–537.795, ORS 536.027, ORS 536.900, ORS 537.992, Or Laws 2021, ch 610

Statutes/Other Implemented: ~~Stats. Implemented~~ ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992, Or Laws 2021, ch 610

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

OAR 690-240-0385

Table 240-2

**WATER RESOURCES DEPARTMENT
CHAPTER 690
DIVISION 240
CONSTRUCTION, MAINTENANCE, ALTERATION, CONVERSION AND
ABANDONMENT OF MONITORING WELLS, GEOTECHNICAL HOLES AND
OTHER HOLES IN OREGON**

Table 240-2

Region Office Phone and Fax Numbers

Region	Office Location	Phone Number	Fax Number
Eastern	Baker City	541-523-8224	541-550-3898
North Central	Pendleton	541-278-5456	541-278-0287
Northwest	Salem	503-986-0893	503-986-0903
South Central	Bend	541-306-6885	541-388-5101
Southwest	Medford	541-774-6880	503-774-6187

Notes:

1. Fax numbers are subject to change.
2. A current version of this table is available from the Water Resources Department's Salem office.
3. See Figure 240-2 for a map of region boundaries.

District Offices

- 1 Tillamook
- 2 Eugene
- 3 The Dalles
- 4 Canyon City
- 5 Pendleton
- 6 La Grande
- 7 Enterprise
- 8 Baker City
- 9 Vale
- 10 Burns
- 11 Bend
- 12 Lakeview
- 13 Medford
- 14 Grants Pass
- 15 Roseburg
- 16 Salem
- 17 Klamath Falls
- 18 Hillsboro
- 20 Clackamas
- 21 Condon
- 22 Salem
- 23 Milton-Freewater
- 24 Bend

District office
 Region office
 District boundary
 Region boundary
 County boundary

Miles
 0 10 20 30 40 50

OREGON

 WATER RESOURCES
 DEPARTMENT
 State of Oregon
Water Resources Department
 7925 Summer Street NE, Suite A
 Salem, Oregon 97301-1266
 (503) 986-0900
www.oregon.gov/OWRD

Regions and Watermaster Districts 2022

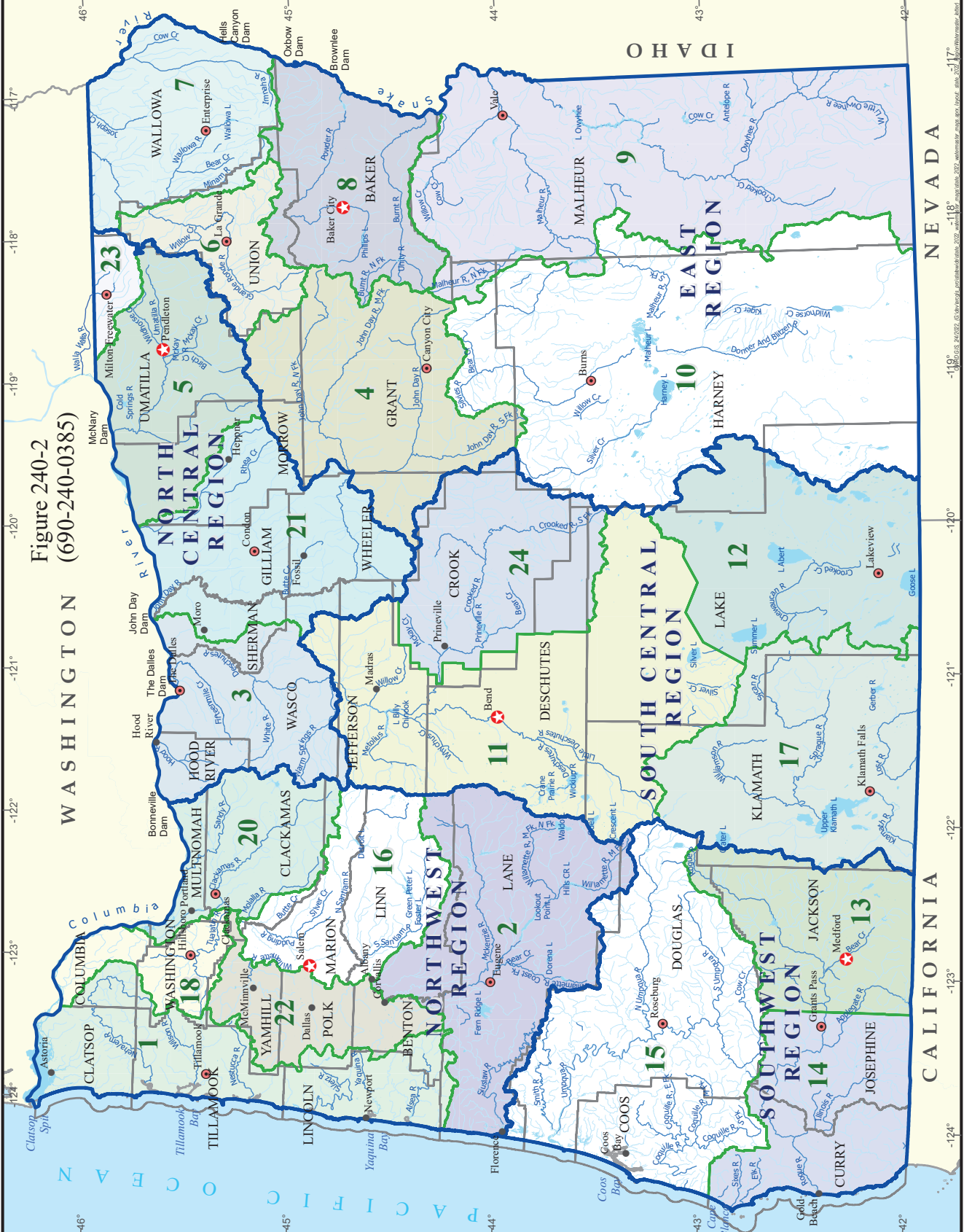


Figure 240-2
(690-240-0385)

117° 118° 119° 120° 121° 122° 123° 124°
 42° 43° 44° 45° 46°

AMEND: 690-240-0395

RULE SUMMARY: Amends rule regarding monitoring well reporting requirements to conform with statute (Or Laws 2021, ch 610); amends rule language for clarity.

CHANGES TO RULE:

690-240-0395

Monitoring Well Report Required (Monitoring Well Log) ¶

(1) A monitoring well report shall be prepared for each monitoring well constructed, altered, converted, or abandoned including unsuccessful monitoring wells. The log shall be certified as correct by signature of the Monitoring Well Constructor constructing the monitoring well. The completed log shall also be certified by the bonded Monitoring Well Constructor responsible for construction of the monitoring well. A monitoring well report must be submitted by each bonded constructor (if drilling responsibility is shifted to a different bonded constructor), showing the work performed by each bonded constructor. ¶

(2) ~~The log~~ Well Reports may be submitted electronically by a Department-approved method. Well reports submitted on paper shall be prepared in triplicate on forms furnished or previously approved in writing by the Water Resources Department. The original shall be furnished to the Director, the first copy shall be retained by the Monitoring Well Constructor, and the second copy shall be given to the customer who contracted for the construction of the monitoring well. ¶

(3) The bonded Monitoring Well Constructor shall file the certified monitoring well log report with the ~~Director~~ Water Resources Department within 30 days after the completion of the construction, alteration, conversion, or abandonment of the monitoring well. ¶

(4) The trainee or Monitoring Well Constructor operating the monitoring well drilling machine shall maintain a rough log of all geologic strata encountered and all materials used in the construction of the monitoring well. This log shall be available for inspection by the ~~Watermaster~~ well inspector or other authorized agent of the Water Resources Department or other delegated agency representative at any time before the monitoring well report is received by the Department. The rough drilling log shall be in handwritten or electronic form, or a voice recording. ¶

(5) In the event a constructor leaves any drilling equipment or other tools in a monitoring well this fact shall be entered on the monitoring well report. ¶

(6) A copy of any special authorizations or special standards issued by the Director shall be attached to the monitoring well report. ¶

(7) The report of monitoring well construction required in section (1) of this rule shall be submitted electronically by a Department-approved method or recorded on a form provided or previously approved in writing by the Department. The form shall include, as a minimum, the following: ¶

(a) ~~Name and Address of Landowner;~~ ¶

~~(b) post-office address of the well owner;~~ ¶

(b) Name and license number, if applicable, of the licensed or permitted person performing the work; ¶

(c) Name and license number, if applicable, of the licensed or permitted person responsible for the work; ¶

(d) Name of any person that assisted with the work; ¶

(e) Started/Completed date; ¶

(ef) Location of the well by county, Township, Range, Section, tax lot number, if assigned, street address, or nearest address, and either the nearest 1/4, 1/4 section or, and Latitude and Longitude as established by a global positioning system (GPS); ¶

(dg) Start card number; ¶

(eh) Well identification label number (well tag number); ¶

(fi) Type of well; ¶

(j) Use of well; ¶

(gk) Type of work; ¶

(h) Type and amount of sealant; Depth drilled and completed depth; ¶

(m) Diameter of boreholes; ¶

(n) Type, size, and amount of casing and where placed in the well; ¶

(o) Number and location of perforations or screens; ¶

(p) Type and amount of seal material used and measured weight of the grout slurry as required in OAR 690-240-0475(2)(g); ¶

(iq) Temperature of water; ¶

(j) the groundwater encountered; ¶

(r) Thickness of aquifers; ¶

(s) Total dissolved solids (TDS);¶

(k) Map showing location of monitoring well on site, must be ~~attached~~included with the electronically filed well report or attached to the submitted paper well report and shall include an approximate scale and a north arrow; and¶

(u) Such additional information as required by the Department.¶

(8) Effective July 1, 2024, well reports shall be submitted to the department by electronic means unless prior written approval is received to submit paper well reports.

Statutory/Other Authority: ORS 536.090, ORS 537.505–537.795–537.795, ORS 536.027, ORS 536.900, ORS 537.992, Or Laws 2021, ch 610

Statutes/Other Implemented: ORS 536.090, ORS 537.505–537.795, ORS 536.900, ORS 537.992, Or Laws 2021, ch 610

AMEND: 690-240-0410

RULE SUMMARY: Amends rule by removing reference to non-applicable appendix.

CHANGES TO RULE:

690-240-0410

Monitoring Well Construction: General ¶

- (1) Monitoring well components, including well screens, casings and annular sealant should be selected based on known site characteristics to ensure the well will last for the duration of the monitoring program.¶
- (2) No monitoring well shall be used for domestic, public water supply, industrial, commercial, or agricultural purposes unless it meets the minimum construction standards for water supply wells, OAR 690-200 to 690-230.¶
- (3) No completed monitoring well shall interconnect aquifers, including low yielding aquifers.¶
- (4) The start card number shall be permanently attached, stamped or engraved on the outer well casing or permanent protective well cover, not on a removable cap.¶
- (5) No monitoring well shall be constructed as a multiple completion well without prior special standard approval as specified in OAR 690-240-0006.¶
- (6) Horizontal wells shall only be constructed with prior special standard approval only as specified in OAR 690-240-0006.¶
- (7) The borehole diameter shall be at least four inches larger than the nominal casing diameter except as noted in OAR 690-240-0525 concerning piezometers. If the monitoring well is constructed using a hollow stem auger drilling machine, the inside diameter of the auger must be at least four inches larger than the nominal diameter of the casing to be installed, except as noted in OAR 690-240-0525 concerning piezometers.¶
- (8) Materials which foster or promote undesirable organic growth or have the potential to degrade water quality shall not be employed in the construction of the monitoring well.¶
- (9) After completion, the landowner is responsible for maintaining the well in an approved condition. If the well is damaged, the well protection system and casing shall be restored as prescribed by these rules. If the well is damaged beyond repair, the well shall be properly abandoned in accordance with OAR 690-240-0510.¶
- (10) A well identification label shall be attached to every new well and to every altered or repaired well that does not already have a label. The label must be easily visible on the outside of the casing on an above grade completion and inside the vault of a flush grade monument. ~~(See Appendix 1)~~ In cases where a geotechnical hole or other hole is converted into a monitor well, a well identification label must be attached to the completed well in the same fashion as required for a new or altered well.¶
- (11) Any deviation from these rules requires special standard approval as specified under OAR 690-240-0006.¶

[ED. NOTE: Appendices referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505--537.795, ORS 536.900, ORS 536.027, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505--537.795, ORS 536.900, ORS 537.992

AMEND: 690-240-0560

RULE SUMMARY: Amends rule to reference Table 240-4; amends rule table by updating rule label.

CHANGES TO RULE:

690-240-0560

Investigation of Alleged Violations ¶¶

(1) The Water Resources Director, upon the Director's own initiative, or upon complaint alleging violation of statutes, standards or rules governing licensing of Monitoring Well Constructors and/or, construction, alteration, conversion, maintenance, or abandonment of monitoring wells, geotechnical holes or other holes may cause an investigation to determine whether a violation has occurred. If the investigation indicates that a violation has occurred, the Director shall notify the persons believed responsible for the violation including but not limited to:¶¶

(a) Any Monitoring Well Constructor involved;¶¶

(b) The landowner, if the violation involves construction, alteration, conversion, maintenance, operation or abandonment of a well, geotechnical hole, or other hole;¶¶

(c) The agency that has been delegated authority over a particular class of wells, geotechnical holes, or other holes and/or¶¶

(d) Any registered geologist or civil engineer in construction, alteration, or abandonment of a geotechnical hole.¶¶

(2) Enforcement and civil penalty assessment for "other than well constructors" is described in OAR 690-260.¶¶

(3) See Table 240-4 for a description of the well construction enforcement process.

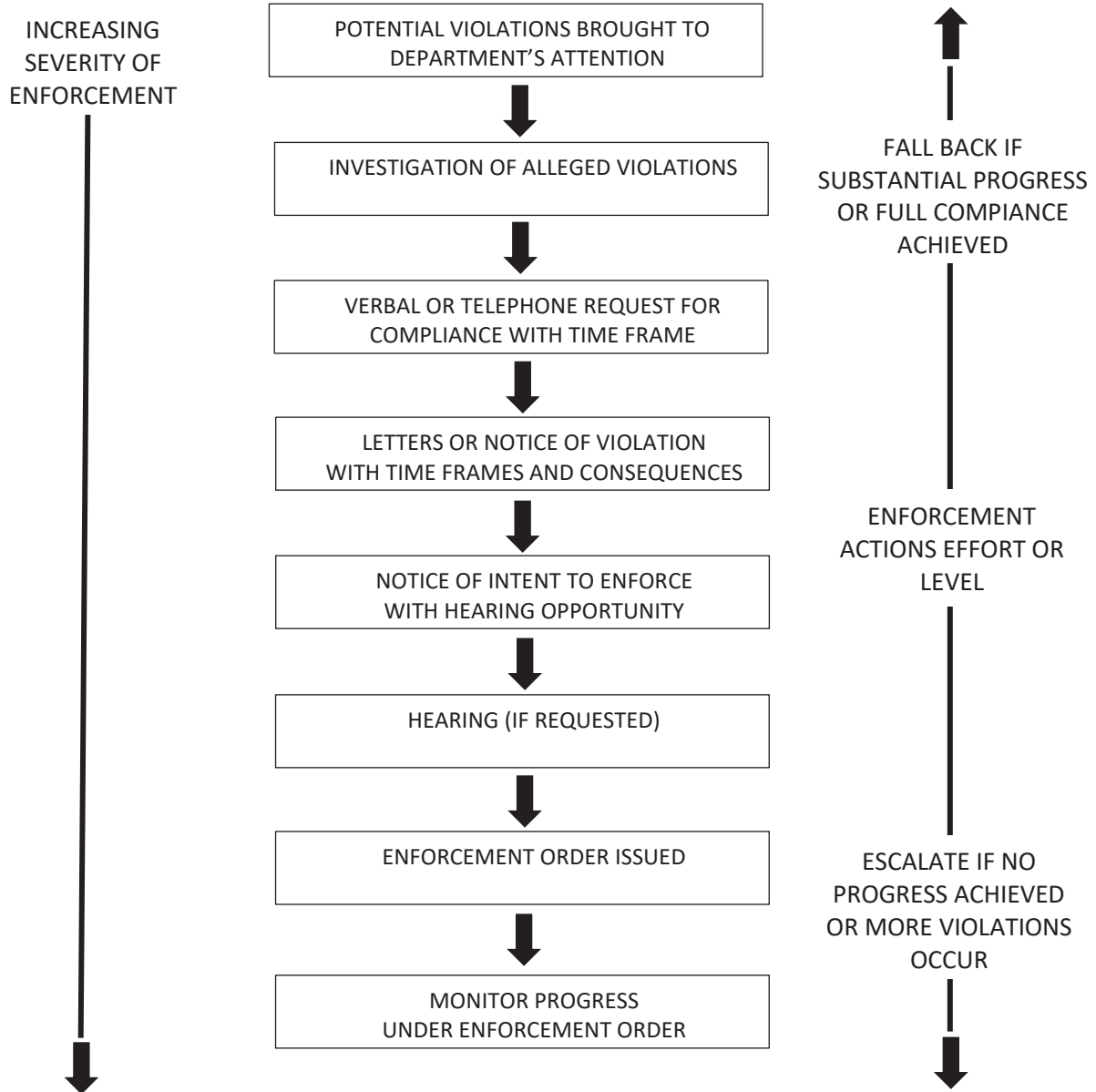
Statutory/Other Authority: ORS 536.090, ORS 537.505--537.7952, ORS 536.027, ORS 536.900, ORS 537.992, ORS 183.310-183.550

Statutes/Other Implemented: ORS 536.090, ORS 537.505--537.7952, ORS 536.900, ORS 537.992, ORS 183.310-183.550

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

EXAMPLE OF WELL ENFORCEMENT PROCESS
(690-240-0560, 690-240-0580)

Table 240-4



It is desirable to achieve compliance at the lowest possible level of enforcement. Escalation of enforcement can be expected if compliance does not result at the next lower level. Reduction of enforcement effort can be expected if substantial progress toward compliance is achieved.

AMEND: 690-240-0580

RULE SUMMARY: Amends rule to capture full scope of work performed by licensed well constructors and for consistency with other rule divisions governing well construction and with ORS 537; amends rule to reference Table 240-4; amends rule table by updating rule label.

CHANGES TO RULE:

690-240-0580

Enforcement Actions ¶¶

(1) If, after notice and opportunity for hearing under ORS 183.310 to 183.550 the Director determines that one or more violations have occurred, the Director may impose one or more of the following:¶¶

(a) Provide a specified time for remedy;¶¶

(b) Assess a civil penalty in accordance with the schedule of civil penalties in OAR 690-240-0640;¶¶

(c) Suspend, revoke, or refuse to renew the license(s) when one or more persons responsible for the violation hold a Monitoring Well Constructor's License;¶¶

(d) Require that a person whose license has been refused renewal pass the Monitoring Well Constructor's License examination before a new license is issued or the current license is renewed;¶¶

(e) Impose any reasonable conditions on the Monitoring Well Constructor's License to ensure correction of the violation and future compliance with the law. These conditions may include but are not limited to:¶¶

(A) Fulfilling any outstanding obligations which are the result of administrative action before the constructor can offer any services or construct, alter, convert, or abandon any monitoring well;¶¶

(B) Requiring additional advance notice to be given to the Department of construction, alteration, conversion, or abandonment of any monitoring well;¶¶

(C) Requiring a seal placement notice be given to the Department up to 72 hours in advance of placing the seal; or¶¶

(D) Any other conditions the Director deems appropriate.¶¶

(f) Order the landowner to repair or meet other conditions on use of the well, or order discontinuance of the use and order proper abandonment pursuant to ORS 537.775;¶¶

(g) Make demand on the Water Well Constructor's bond or the Landowner's Water Well Bond. This may occur only if the Director has given the notice required in OAR 690-240-0560 to the persons responsible for the violation within three years after the date the monitoring well report is filed with the Department. If no monitoring well report has been filed, the three year limitation shall not apply until such time as a well report is filed; or¶¶

(h) Take any other action authorized by law.¶¶

(2) An order may specify a schedule of escalating or cumulative sanctions to be assessed on specified dates until the violation has been satisfactorily corrected.¶¶

(3) Any Monitoring Well Constructor whose license is suspended or revoked shall not contract for well construction services or operate well drilling machines in the State of Oregon during the suspension or revocation period.¶¶

(4) See Table 240-4 for a description of the well construction enforcement process.

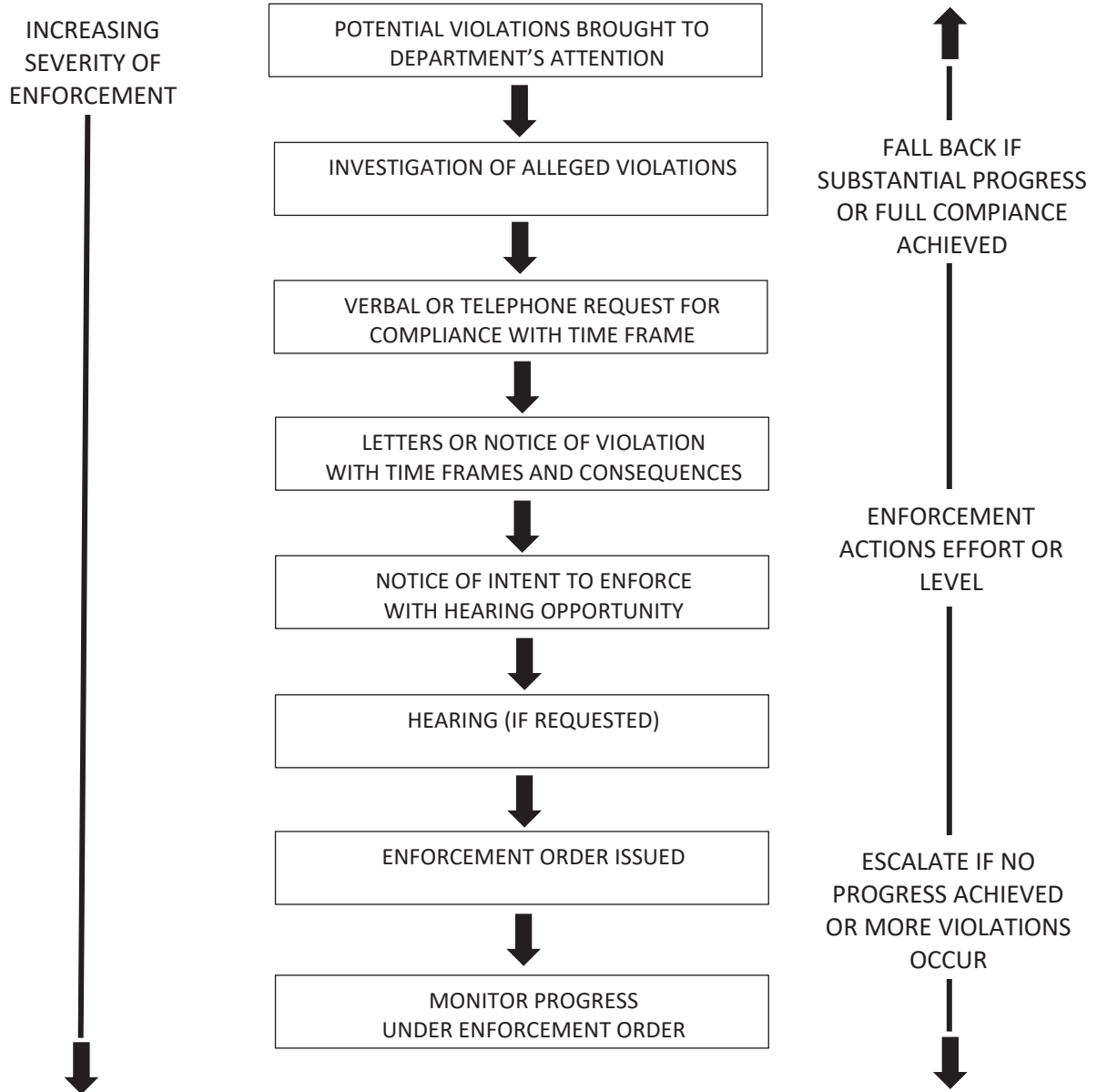
Statutory/Other Authority: ORS 536.090, ORS 537.505--537.795, ORS 536.900, ORS 536.027, ORS 537.992, ORS 183.310-183.550

Statutes/Other Implemented: ORS 536.090, ORS 537.505--~~537.795~~-537.795, ORS 536.900, ORS 537.992, ORS 183.310-183.550

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

EXAMPLE OF WELL ENFORCEMENT PROCESS
(690-240-0560, 690-240-0580)

Table 240-4



It is desirable to achieve compliance at the lowest possible level of enforcement. Escalation of enforcement can be expected if compliance does not result at the next lower level. Reduction of enforcement effort can be expected if substantial progress toward compliance is achieved.

AMEND: 690-240-0640

RULE SUMMARY: Amends rule by increasing lowest civil penalty amounts for both minor violations and major violations to be consistent with penalties for other than well constructors, as authorized by ORS 537.992. Table 240-3 has been amended so that it is consistent with requirements in ORS 537.762 and with proposed rule change.

CHANGES TO RULE:

690-240-0640

Schedule of Civil Penalties ¶

(1) The amount of civil penalty shall be determined consistent with the following schedule:¶

(a) Not less than ~~\$250~~ nor more than \$250 for each occurrence defined in these rules as a minor violation;¶

(b) Not less than ~~\$5200~~ nor more than \$1,000 for each occurrence defined in these rules as a major violation;¶

(c) First occurrence, in a calendar year, of a missing or late start card fee shall be \$150;¶

(d) Second occurrence, in a calendar year, of a missing or late start card fee shall be \$250; and¶

(e) Third, and each subsequent, occurrence, in a calendar year, of a missing or late start card fee shall be \$250 and may include suspension of the Monitoring Well Constructor's License, and any other action authorized by law.¶

(2) For purposes of assessing a civil penalty, the start card fee referred to in subsections (1)(c), (d), and (e) of this rule shall not be considered late if it is received in the Salem office of the Water Resources Department within five days of the receipt of the start card, provided the start card was submitted in a timely manner as ~~defined~~ described in ORS 537.762 and AR 690-240-0375.¶

(3) Table 240-3 lists minor violations related to monitoring well construction and geotechnical holes. All other violations are declared to be major.¶

[ED. NOTE: Tables referenced are available from the agency.]

Statutory/Other Authority: ~~ORS 536.090, 7.992, ORS 537.505--537.795, ORS 536.027, ORS 183, ORS 536.900,~~
ORS 537.992

Statutes/Other Implemented: ~~ORS 536.090, 7.992, ORS 537.505--537.795, ORS 183, ORS 536.900, ORS~~
537.992

RULE ATTACHMENTS DO NOT SHOW CHANGES. PLEASE CONTACT AGENCY REGARDING CHANGES.

OAR 690-240-0640

Table 240-3

WATER RESOURCES DEPARTMENT

CHAPTER 690

DIVISION 240

MINOR WELL CONSTRUCTION VIOLATIONS

TABLE 240-3

<u>Oregon Statute Reference</u>	<u>Value Assignment</u>	<u>Title</u>
ORS 537.762	Minor	REPORT OF COMMENCEMENT OF CONSTRUCTION; COMMENCEMENT OF WORK NOTIFICATION; OR SEAL PLACEMENT DATE CHANGE NOTIFICATION
ORS 537.765	Minor	WELL REPORT
ORS 537.789	Minor	WELL IDENTIFICATION NUMBER
<u>Administrative Rule Reference</u>	<u>Value Assignment</u>	<u>Title</u>
690-240-0024	Minor	WELL IDENTIFICATION LABEL
690-240-0026	Minor	WELL IDENTIFICATION LABEL MAINTENANCE
690-240-0355	Minor	MONITORING WELL DRILLING MACHINES
690-240-0375	Minor	MONITORING WELL CONSTRUCTION NOTICE REQUIRED (START CARD)
690-240-0385	Minor	START CARD REPORTING REQUIREMENTS
690-240-0395	Minor	MONITORING WELL REPORT REQUIRED (WELL LOG)
690-240-0395(7)(i)	Minor	WATER TEMPERATURE
690-240-0410(4)	Minor	MONITORING WELL CONSTRUCTION (START CARD NUMBER)

AMEND: 690-260-0030

RULE SUMMARY: Amends rule regarding notice of violation requirements to conform with statute (Or Laws 2022, ch 52).

CHANGES TO RULE:

690-260-0030

Notice of Violation ¶

The responsible party shall be notified of a violation within ~~five~~10 business days of confirmation by the Director of the violation. Notice of the violation occurs when the Department has either delivered the notice of violation in person or mailed the notice to the responsible party by certified or registered mail. Notice may be given, if reasonably possible, by personal delivery to the responsible party. The notice shall include the statute, rule, order, permit condition or standard violated; the date the violation occurred; and a specified time for correction. If the violation is not corrected within the time given in the notice, a civil penalty and damages related to enforcement may be imposed.

Statutory/Other Authority: ORS 540, Or Laws 2022, ch 52, ORS 183, ORS 536.027, ORS 536.900-536.935, ORS 537.505-537.795, ORS 537.992

Statutes/Other Implemented: ORS 540, Or Laws 2022, ch 52, ORS 536.900-536.935, ORS 537.505-537.795, ORS 537.992

AMEND: 690-260-0040

RULE SUMMARY: Amends rule regarding Class III violation classification to conform with statute (Or Laws 2021, ch 610).

CHANGES TO RULE:

690-260-0040

Classification of Violations ¶

(1) Violations are classified as follows:¶

(a) Class I - Violations of the terms or conditions of a permit, certificate or license issued under ORS 536 to 543; Violation of ORS 537.130 or 537.535; Violation of ORS 540.045, 210, 320, 340, 435, 710, 720; or rules adopted under ORS 540.145;¶

(b) Class II - Violation of ORS 540.310, 330, and 730;¶

(c) Class III - Violation of any rule or order of the Water Resources Commission that pertains to well maintenance; violation of ORS 537.545(5); and violation of ORS 540.440.¶

(2) Violations shall be further divided into major, moderate, and minor categories as follows:¶

(a) MAJOR is when substantial harm to other water rights, minimum flows, instream water rights, the public health or safety, or other water-based resources is immediate or imminent;¶

(b) MODERATE is when substantial harm is not immediate or imminent, but could occur if left uncorrected;¶

(c) MINOR is when no substantial harm is apparent.

Statutory/Other Authority: ORS 540, Or Laws 2021, ch 610, ORS 537.505-537.795, ORS 537.992, ORS 536.027, ORS 536.900-536.935, ORS 183

Statutes/Other Implemented: ORS 540, Or Laws 2021, ch 610, ORS 537.505-537.795, ORS 537.992, ORS 536.900-536.935

AMEND: 690-260-0060

RULE SUMMARY: Amends rule regarding notice of violation requirements to conform with statute (Or Laws 2022, ch 52)

CHANGES TO RULE:

690-260-0060

Notice of Assessment of Civil Penalty ¶¶

(1) Persons or agencies who have received a notice of violation, as prescribed in OAR 690-260-0030, and have not corrected the violation within the time specified in the notice or have been previously served a notice for a similar violation may be assessed a civil penalty. A notice of assessment of civil penalty shall be delivered either in person or sent by certified or registered mail to the responsible party.¶¶

(2) The notice shall include the following:¶¶

(a) A reference to the particular sections of the statute, rule, order, permit condition or standard involved;¶¶

(b) A short and plain statement of the matters asserted or charged;¶¶

(c) A statement of the amount of the penalty or penalties imposed; and¶¶

(d) A statement of the right of the person to request a hearing.¶¶

(3) In cases of continuing violations, each occurrence of substantially the same activity and each day's continuance of a violation after the responsible party has been notified is a separate and distinct violation, but not for purposes of the ~~five~~10 business day notice requirement. A civil penalty may be imposed for each day of violation of ORS 537.130, 537.535, 540.045, 540.310, 540.330, 540.710, 540.720, or 540.730. Such violations include, but are not limited to, the following:¶¶

(a) Using water without a water right permit, certificate, order or claim of appropriation;¶¶

(b) Failure to maintain a well and well equipment as required in OAR 690, division 215;¶¶

(c) Failure to maintain a headgate, valve or measuring device as required by the watermaster;¶¶

(d) Failure to install and maintain a measuring device(s) above and/or below a reservoir as required by the watermaster;¶¶

(e) Tampering with a headgate following regulation by the watermaster;¶¶

(f) Illegal or unauthorized use or storage of water; or¶¶

(g) Interfering with the diversion and distribution works of another.

Statutory/Other Authority: ORS 540, Or Laws 2021, ch 610, ORS 183, ORS 536.027, ORS 536.900-536.935, ORS 537.505-537.795, ORS 537.992

Statutes/Other Implemented: ORS 540, Or Laws 2021, ch 610, ORS 536.900-536.935, ORS 537.505-537.795, ORS 537.992

Notice of Proposed Rulemaking (Well Construction) Public Comments Received & OWRD Response

Proposed Rule	Comment	Response	Name/Affiliation
690-205-0200	<p>The alternative notifications allowed for day of drilling and seal placement changes need to be modified to remove the usps mail option (draft rule 690-205-200).</p> <p>It seems impossible for a driller to use the usps to meet this requirement and overly burdensome for the department to implement. How can someone send a letter in the mail days in advance and know when the OWRD will receive it? How will OWRD time stamp the mail to ensure the date and time the mailed notice is received.</p> <p>The alternative options of email and hand delivery seem more than adequate. Creating a Snail mail notification option seems to be direct conflict with the intent of modernization associated with HB-2145 and should be removed.</p>	<p>The Department considered the public comment in this matter and decided to leave the draft rule language in-place. This decision is based on the fact that there are a number of licensed well constructors that are not located near a region office, therefore making it impossible to comply with the hand delivery option. In addition, the Department is also aware that some licensed well constructors do not own computers, and instead choose to work with the Department by mail. Because of these issues and the desire to be responsive to the needs of the well construction community, the ability to send notification by mail will remain an option.</p>	<p>Cara Lewis (received via email 4/21/23)</p>
690-240-0375	<p>The day of seal placement notification is not possible for monitoring well constructors. In many cases a monitoring well constructor will be drilling borings for a project and the consultant determines that they would like the</p>	<p>The date of seal placement notification is a statutory requirement (ORS 537.762). In order to simplify the notification process, the Department has created an online application that can be</p>	<p>Chuck Fobert Western States Drilling (received orally at 4/29/23 public hearing)</p>

Notice of Proposed Rulemaking (Well Construction) Public Comments Received & OWRD Response			
Proposed Rule	Comment	Response	Name/Affiliation
	boring turned into a well. In these cases, the driller would not be able to comply with the notice requirements due to the change in type of work associated with monitoring well construction.	used by well constructors to easily provide the required notification. The draft rules also allow for notification by e-mail, hand delivery, or mail.	
690-240-0065	It is very rare that a monitoring well constructor needs to weld. Monitoring wells are typically constructed with screw coupled PVC or stainless steel. Because of this, it does not seem reasonable for a monitoring well constructor applicant to need to provide evidence of welding proficiency. It does seem reasonable for water supply well constructors, but not monitoring well constructors.	Oregon Revised Statute (ORS) 537.747 requires that all well constructor license applicants provide evidence of welding proficiency in order to obtain a license. If House Bill (HB) 3343A, currently making its way through the legislature, is successfully passed and signed by the Governor, then the Department will have the ability to determine which license types will need to provide evidence of welding proficiency. If HB 3343A is not successfully passed, however, then the welding proficiency requirement for monitoring well constructor license applicants will need to remain in-place.	Chuck Fobert Western States Drilling (received orally at 4/29/23 public hearing)
690-240-0065 and 690-205-0020	<u>690-210-0200</u> Steel Casing Joints	The Department considered this comment and determined that it is a reasonable change that will improve the well construction rules by	Matthew Walter, Welding Department Lead, Klamath Community College (received via email 5/2/23)

Notice of Proposed Rulemaking (Well Construction) Public Comments Received & OWRD Response

Proposed Rule	Comment	Response	Name/Affiliation
	<p>All steel casing joints shall be welded or thread coupled and shall be water tight. If welded casing joints are used, the weld shall be a full penetrating weld at least equal in thickness to the wall thickness of the casing. Welded casing joints shall have a tensile strength equal to or greater than that of the casing.</p> <p>Statutory/Other Authority: ORS 183, 536, 537 & 540</p> <p>History: WRD 7-2001, f. & cert. ef. 11-15-01 WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-061-0016 WRD 9-1978, f. 12-12-78, ef. 1-1-79</p> <p>The statement above is the key to this debate, and I assume the reasoning behind rule changes.</p> <p>To meet OWRD’s “welded casing joint” requirement a welder would have to show proficiency in performing this joint. This would require the welder to make a similar weld coupon that meets the demands of 690-210-0200. This weld</p>	<p>adding an additional option for well constructor license applicants to prove welding proficiency. The option will allow applicants to submit a copy of an American Welding Society D1.1 structural welding certificate for steel with a test in the 2G horizontal position.</p>	

<p align="center">Notice of Proposed Rulemaking (Well Construction) Public Comments Received & OWRD Response</p>			
Proposed Rule	Comment	Response	Name/Affiliation
	<p>coupon would have to be witnessed and verified by a third party (a Certified Inspector or Instructor). Some form of standard (possible AWS D1.1) would need to be adhered to so both the welder and the inspector know what an acceptable weld is.</p> <p>This full penetration pipe weld takes a high level of skill that requires many hours of practice. Few students would reach this skill level in a general welding course.</p> <p>A college counselor reading your proposed rules would not need to direct a student to anything more than a general welding program. A pipe welding program typically has a longer duration and higher fee schedule.</p> <p>If your rule changes don't specifically state that an applicant must perform a weld proficiency test that meets the requirement in 690-210-0200 most likely “Welded Casing Joints” will be substandard.</p>		
690-240-0065(1)(e)	With respect to proposed rule OAR 690-240-0065(1)(e), which lists the requirements for providing evidence of	Oregon Revised Statute (ORS) 537.747 requires that all well constructor license applicants	Greg Kupillas, Chair,

<p align="center">Notice of Proposed Rulemaking (Well Construction) Public Comments Received & OWRD Response</p>			
Proposed Rule	Comment	Response	Name/Affiliation
	<p>welding proficiency to obtain a Monitoring Well Constructor License: We support HB 3343 currently under consideration by the Oregon Legislature that, when approved, will give the Oregon Water Resources Department (Department) the ability to specify the type of well for which the evidence of welding proficiency will be required. Further, we understand that, in consideration of the fact that the vast majority of monitoring wells are constructed without the need to weld casing, the Department will, upon the passage of HB 3343, delete Section 690-240-0065(1)(e) from the proposed well construction rules, thereby removing the requirement for those seeking a Monitoring Well Constructor License to provide evidence of welding proficiency.</p>	<p>provide evidence of welding proficiency in order to obtain a license. If House Bill (HB) 3343A, currently making its way through the legislature, is successfully passed and signed by the Governor, then the Department will have the ability to determine which license types will need to provide evidence of welding proficiency. If HB 3343A is not successfully passed, however, then the welding proficiency requirement for monitoring well constructor license applicants will need to remain in-place.</p>	<p>Oregon Ground Water Association Government Affairs Committee (received via email 5/2/23)</p>
690-240-0065(1)(f)	<p>We understand that elimination of 690-240-0065(1)(e) will also affect 690-240-0065(1)(f), which states that applicants who hold a current Oregon Water Supply Well Constructor license are not required to provide evidence of welding</p>	<p>If the welding proficiency requirement in Oregon Administrative Rule (OAR) 690-240-0065 is removed based on passage of HB 3343A, then OAR 690-240-0065(1)(f) in the draft proposed rules will also be removed.</p>	<p>Greg Kupillas, Chair, Oregon Ground Water Association Government Affairs Committee (received via email 5/2/23)</p>

Notice of Proposed Rulemaking (Well Construction) Public Comments Received & OWRD Response			
Proposed Rule	Comment	Response	Name/Affiliation
	proficiency to obtain a Monitoring Well Constructor license. With elimination of 690-240-0065(1)(e), proposed 690-240-0065(1)(f) will become ineffective and may also be removed.		
690-205-0020(1)(f)	With respect to proposed OAR 690-205-0020(1)(f), which states that applicants who hold a current Oregon Monitoring Well Constructor license are not required to provide evidence of welding proficiency to obtain a Water Supply Well Constructor license: We acknowledge that this rule is not consistent with the intent of the legislation behind these rule changes (HB 2145), which was to require, upon adoption of these proposed rules, all applicants seeking a Water Supply Well Constructor license to provide evidence of welding proficiency. We understand that the Department wishes to remove this rule, and we would support that action.	If the welding proficiency requirement in Oregon Administrative Rule (OAR) 690-240-0065 is removed based on passage of HB 3343A, then OAR 690-205-0020(1)(f) in the draft proposed rules will also be removed.	Greg Kupillas, Chair, Oregon Ground Water Association Government Affairs Committee (received via email 5/2/23)
690-205-0200(1)(h), 690-205-0200(5), 690-240-0375(1)(h),	With respect to requirements in the proposed rules for notification of time of commencement of work on the well or	The day of drilling and seal placement notifications are a statutory requirement (ORS	Greg Kupillas, Chair,

Notice of Proposed Rulemaking (Well Construction) Public Comments Received & OWRD Response			
Proposed Rule	Comment	Response	Name/Affiliation
690-240-0375(5)	time of well seal placement (see OARs 690-205-0200(1)(h), 690-205-0020(5), 690-240-0375(1)(h), and 690-240-0375(5)), we would like to state our concerns that the electronic methods of communication currently approved by the Department may not allow for timely notification under circumstances when a well constructor is working in a remote area with limited internet or cell service. In order to reduce down-time that might be required to travel to an area with adequate internet or cell service to make the required notification, we request that the Department consider adopting means to accept notifications by text or cell phone.	537.762). In order to simplify the notification process, the Department has created an online application that can be used by well constructors to easily provide the required notification either on a computer, or on a smart phone. The draft rules also allow for notification by e-mail, hand delivery, or mail. These options will provide licensed drillers with reasonable alternatives when computers are not available.	Oregon Ground Water Association Government Affairs Committee (received via email 5/2/23)
690-205-0200(1)(h), 690-205-0200(5), 690-240-0375(1)(h), 690-240-0375(5)	With respect to the day of drilling and seal placement notification requirements, the Ground Water Advisory Committee recommended that the Department continue to work with the drilling community to explore day of drilling or seal placement notification opportunities that include text messaging or voice mail	The notification issue was discussed in great detail during the rulemaking meetings and the Department determined that notification by voice mail or text does not meet the recordkeeping and tracking needs of the program due to the unavailability of program staff to monitor phone lines and process	Ground Water Advisory Committee (GWAC) (received orally at 5/2/23 GWAC meeting)

**Notice of Proposed Rulemaking (Well Construction)
Public Comments Received & OWRD Response**

Proposed Rule	Comment	Response	Name/Affiliation
	with the regional well inspector when drilling in areas that lack internet access.	incoming communications data so that time and date information can be collected and field staff notified in a timely manner so that they can arrange their schedules to be present during the work associated with the notifications. The Department understands that this topic is of interest to the well drilling industry, and we will continue to monitor the effectiveness of available notification tools in an effort to see if there are other notification options that may be acceptable in the future.	

**WRC June 16, 2023
Item H – Attachment 4**

**Water Resources Department
Chapter 690
Division 190**

EXEMPT GROUNDWATER USE RECORDING REQUIREMENTS

690-190-0005 Purpose and Applicability

(1) These rules describe the requirements under which the Oregon Water Resources Department will administer and enforce the provisions of ORS 537.545 relating to the recording of exempt groundwater use. Moneys from fees collected and deposited to the credit of the Water Resources Department Water Right Operating Fund shall be used for the purpose of evaluating groundwater supplies, conducting groundwater studies, carrying out groundwater monitoring, processing groundwater data and the administration and enforcement of ORS 537.545 and these rules.

(2) These rules apply to:

(a) Any water supply well constructor or permitted landowner with a landowner permit and bond that constructs a well ~~owner of land on which a well is completed after July 22, 2009~~ to allow groundwater use for purposes that are exempt under ORS 537.545.

(b) Each new well that is completed or existing well that is converted to allow groundwater use for purposes that are exempt under ORS 537.545. This includes wells that are drilled to replace an existing well.

(3) These rules do not apply to:

(a) A well that is repaired, deepened, or altered.

(b) A water supply well that is permanently abandoned pursuant to OAR 690-220 within 30 days of well completion.

Statutory/Other Authority: ORS 536.027, ORS 536.900, ORS 537.505-537.795, ORS 537.992, 2021 OL Ch. 610

Statutes/Other Implemented: ORS ~~537.545~~, 536.900, 537.505-537.795, 537.992, 2021 OL Ch. 610

History: WRD 6-2009, f. & cert. ef. 11-23-09

690-190-0010 Definitions

- (1) “Converting” has the same meaning as defined in ORS 537.515(3).
- (2) “Department” means the Oregon Water Resources Department.
- (3) “Director” means the Director of the Oregon Water Resources Department.
- (4) “Recording” means the filing of a map locating any new or converted well that is completed to allow groundwater use for purposes that are exempt under ORS 537.545, and the fee, in the amount established under 537.545, for each new or converted well that is completed.
- (5) “Landowner” means the owner of land at the time a well(s) subject to these rules is completed.
- (6) “Well Completion” means the end of construction date reported on the water supply well report.
- (7) “Well Identification Number” means the stamped well number on the stainless steel label that is attached to the well.

(8) "Water Supply Well Constructor" means any person who has a current water supply well constructor's license with a water supply well endorsement issued in accordance with ORS 537.747(3) or with a water supply well temporary authorization endorsement issued in accordance with ORS 537.747 (3), Section 1, Chapter 142, Oregon Laws 2019, and Section 1, Chapter 626, Oregon Laws 2019-

Statutory/Other Authority: ORS 536.027, ORS 537.505-537.795, 2019 OL Ch. 142, 2019 OL Ch. 626

Statutes/Other Implemented: ORS ~~537.545~~, 537.505-537.795, 2019 OL Ch. 142, 2019 OL Ch. 626

History:

WRD 6-2009, f. & cert. ef. 11-23-09

690-190-0100 Recording Requirements

The person licensed under ORS 537.747 or permitted under ORS 537.753 (4) landowner that constructs a well to allow groundwater use for a purpose that is exempt under ORS 537.545 (1) shall submit the following to the Department, along with the well report required by ORS 537.765, no later than 30 days after well completion:

- (1) A tax lot map showing the location of the completed well on the property, that includes:
 - (a) A map reference number (Township, Range and Section).
 - (b) Location of the completed well by the latitude and longitude as established by a global positioning system or with distances (north/south and east/west) indicated from an identified property boundary, property corner or survey corner. Multiple wells may be shown on one tax lot map.
 - (c) Location of well(s) in relation to nearest driveway, access road and permanent structures.
 - (d) The direction of north marked on the map.
 - (e) Well Identification Number for each completed well.
 - (f) Street address of the completed well if available.
- (2) A map submitted under a Department-approved electronic mapping program satisfies the requirements under section (1).
- (3) An exempt groundwater use recording fee in the amount established under ORS 537.545.

Statutory/Other Authority: ORS 536.027, ORS 536.900, ORs 537.505-537.795, ORS 537.992, 2021 OL Ch. 610

Statutes/Other Implemented: ORS ~~537.545~~, 536.900, ORS 537.505-537.795, ORS 537.992, 2021 OL Ch. 610

History:

WRD 6-2009, f. & cert. ef. 11-23-09

690-190-0200 Compliance and Enforcement

(1) If the Department determines that a water supply well constructor or permitted landowner has not met the requirements of these rules, the Department shall notify the water supply well constructor or permitted landowner of the specific nature of the requirements that have not been met.

(2) The Department shall, within ~~60~~120 days of receipt of the map and fee, notify the water supply well constructor or permitted landowner of the recording requirements that have not been met.

(3) Failure to meet the requirements of these rules may result in formal enforcement action(s). This action(s) may include:

(a) Establishing a specified time for bringing the water supply well constructor or permitted landowner into compliance,

(b) Assessment of a civil penalty following procedures outlined in OAR 690-225 rules for water supply well constructors and OAR 690-260 rules for permitted landowners. Violations under these rules are considered ~~as~~ Class III Minor violations for permitted landowners and Minor violations for water supply well constructors, or

(c) Any other action authorized by law.

Statutory/Other Authority: ORS 536.027, ORS 536.900, ORS 537.505-537.795, ORS 537.992, 2021 OL Ch. 610

Statutes/Other Implemented: ORS ~~537.545~~, 536.900, ORS 537.505-537.795, ORS 537.992, 2021 OL Ch. 610

History:

WRD 6-2009, f. & cert. ef. 11-23-09

Water Resources Department
Chapter 690
Division 200
WATER SUPPLY WELL CONSTRUCTION STANDARDS: INTRODUCTION,
GENERAL STANDARDS, AND DEFINITIONS

690-200-0005 **Basis for Regulatory Authority**

(1) The right to reasonable control of the ground waters of the State of Oregon has been declared to belong to the public. Through the provisions of the Ground Water Act of 1955, ORS 537.505 to 537.795, the Water Resources Commission has been charged with the administration of the rights of appropriation and use of the ground water resources of the state and the prevention of waste and contamination of ground water. This is primarily accomplished by the licensing of well constructors and the promulgation of rules governing well construction, alteration, abandonment, conversion, maintenance, and use. Ultimately the landowner of the property where the well is constructed is responsible for the condition, use, maintenance of setbacks, and abandonment of the well.

(2) The following rules apply to all wells which are constructed for the purpose of locating or obtaining water as defined in ORS 537.515(9) with the following exceptions:

(a) The construction, maintenance, conversion, and abandonment of monitoring wells, geotechnical holes, and other holes are regulated under OAR 690-240;

(b) Holes constructed under ORS Chapters 517, 520, 522, and rules promulgated from those statutes, are the responsibility of the Oregon Department of Geologic and Mineral Industries and are not subject to these rules. These include, but are not limited to, holes constructed for the purposes of exploring for, or producing, petroleum, minerals, or geothermal resources; and

(c) Underground Injection Systems, which are regulated by the Oregon Department of Environmental Quality under OAR 468B.

NOTE: Table 200-1 lists common subsurface borings and indicates which administrative rule governs the construction, conversion, maintenance, alteration, and abandonment of the boring.
~~[Table not included. See ED. NOTE.]~~

(3) When natural flow of water occurs in holes not regulated under these rules, the Water Resources Commission may regulate under separate rules or statutes to protect the ground water from contamination or waste;

(4) In addition to regulating new well construction, alteration, abandonment, conversion, and maintenance actions, the Water Resources Commission may impose conditions upon the use of any existing water supply well as may be necessary to prevent waste, undue interference with other wells or contamination. When necessary, the Commission may order discontinuance of use, repair, temporary, or permanent abandonment of any well to accomplish the same objectives.

(5) Except for the Commission's power to adopt rules, the Commission may delegate to the Water Resources Director the exercise or discharge in the Commission's name of any power, duty or function of whatever character, vested in or imposed by law upon the Commission. The official act of the Director acting in the Commission's name and by the Commission's authority shall be considered to be an official act of the Commission. The Commission delegates to the Director full authority to act in the Commission's name where that delegation is reflected in these rules.

(6) Under the provisions of ORS 537.780, the Commission is authorized to adopt such procedural rules and regulations as deemed necessary to carry out its function in compliance with the Ground Water Act of 1955. In fulfillment of these responsibilities and to ensure the preservation of the public welfare, safety, and health, the Commission has established these rules and regulations as the minimum standards for the construction, alteration, conversion, abandonment and maintenance of water supply wells in Oregon.

(7) The rules and regulations set forth herein shall become effective upon adoption by the Commission.

~~[ED. NOTE: To view attachments referenced in rule text, click here to view rule.]~~

Statutory/Other Authority: ORS 536.027, ORS 536.090, [ORS 536.900](#), ORS 537.505-537.795, [ORS 537.992](#)

Statutes/Other Implemented: ORS 536.090, [ORS 536.900](#), ORS 537.505-537.795, [ORS 537.992](#)

WRD 6-2018, minor correction filed 06/22/2018, effective 06/22/2018

WRD 5-2016, f. & cert. ef. 9-6-16

WRD 3-2014, f. & cert. ef. 11-25-14

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 7-1988, f. & cert. ef. 6-29-88

Renumbered from 690-060-0005 by WRD 13-1986, f. 10-7-86, ef. 11-1-86

WRD 9-1978, f. 12-12-78, ef. 1-1-79

WRD 3, f. & ef. 2-18-77

**WATER RESOURCES DEPARTMENT
CHAPTER 690**

WATER SUPPLY WELL CONSTRUCTION STANDARDS

TABLE 200-1

WHICH STANDARDS APPLY?

The Department regulates the construction of borings through which groundwater may become contaminated. The type of boring (and its purpose) will determine which set of regulations apply. Questions often arise as to how a certain boring is to be regulated. In general, if the purpose of a boring is to seek water then it is considered a well. The table below lists common types of holes and the standards that apply. This is not a complete list of borings and there are other types of borings regulated by other agencies. Contact the Water Resources Department if you have any questions.

The general standards and their Oregon Administrative Rule reference are:

- Water Supply Wells OAR 690-200 through 690-235
- Monitoring Wells OAR 690-240
- Other Holes OAR 690-240-0030
- Geotechnical Holes OAR 690-240-0035 through 690-240-0049

Description of Boring:	Standards that Apply
Air Sparging Well	Monitoring Well
Aquifer Storage and Recovery Well	Water Supply Well
Cathodic Protection Hole	Geotechnical Hole
Community Well	Water Supply Well
Construction Hole	Other Hole
Dewatering Well	Water Supply Well
Domestic Well	Water Supply Well
Drive Point (Core holes)	Geotechnical Hole
Drive Point Well (Dewatering)	Water Supply Well
Drive Point Well (Water Sampling)	Monitoring Well
Drive Point Well (Water Supply)	Water Supply Well
Dry (Disposal) Well	Other Hole
Elevator Shaft	Other Hole
Extraction Well	Monitoring Well
Gas Migration Hole	Geotechnical Hole
Geothermal Well	Water Supply Well
Gravel Pit	Other Hole
Heat Exchange Hole (Closed Loop)	Geotechnical Hole
Heat Exchange Hole (Open Loop)	Water Supply Well
Horizontal Drain (Slope Stability)	Geotechnical Hole
Horizontal Well (Monitoring)	Monitoring Well
Horizontal Well (Water Supply)	Water Supply Well
Inclinometer	Geotechnical Hole
Industrial Well	Water Supply Well

OAR 690-200-0005

Table 200-1

Injection Well (Water)	Water Supply Well
Injection Well (Remediation) (>72 Hours)	Monitoring Well
Injection Well (Remediation) (<12 Hours)	Geotechnical Hole
Irrigation Well	Water Supply Well
Monitoring Well	Monitoring Well
Municipal Well	Water Supply Well
Observation Hole	Monitoring Well
Permeability Test Hole	Geotechnical Hole
Piezometer (Electric)	Geotechnical Hole
Piezometer (Pneumatic)	Geotechnical Hole
Piezometer Well	Monitoring Well
Piling Hole	Other Hole
Post Hole	Other Hole
Power Pole Hole	Other Hole
Public Supply Well	Water Supply Well
Remediation Or Recovery Well	Monitoring Well/Water Supply Well
Rock Boring (<10 Feet)	Other Hole
Rock Boring (>10 Feet)	Geotechnical Hole
Seismic Shot Hole	Geotechnical Hole
Slope Stability Hole	Geotechnical Hole
Soil Boring (<10 Feet) (geophysical borings)	Other Hole
Soil Boring (>10 Feet) (geophysical borings)	Geotechnical Hole
Soil Vapor Hole	Geotechnical Hole
Sparging Well	Monitoring Well
Storm Water Disposal	Other Hole
Sump	Other Hole (if < 10 ft. deep and > 10 ft. dia.)
Temporary Monitoring Well (<12 Hours)	Geotechnical Hole
Temporary Monitoring Well (>12 Hours)	Monitoring Well
Trench	Other Hole
Underground Storage Tank (UST) Pit	Other Hole
Vapor Extraction Hole	Geotechnical Hole
Wetland Delineation Hole	Other Hole
Wet Soil Monitoring Hole	Geotechnical Hole

690-200-0020 General Statement About the Standards

(1) The rules and regulations set forth herein provide the minimum standards for the construction, conversion, alteration, maintenance, and abandonment of water supply wells. After the effective date of adoption of these rules and regulations, no water supply well shall be constructed, altered, converted, or abandoned contrary to the provisions of these rules and regulations without prior approval from the Water Resources Department. Violation of these standards may result in enforcement under OAR chapter 690, division 225, including suspension or revocation of a constructor's license, imposition of civil penalties on the landowner or constructor, action on a bond, or other sanctions authorized by law.

(2) Every well shall be designed and constructed to adapt to the existing local geologic and ground water conditions at the well site and shall fully utilize every natural protection to the ground water supply. If prior to or during construction the well constructor becomes aware that specific site conditions will not allow adherence to the following minimum well standards, the constructor shall request and obtain written approval from the Director to use alternative construction methods, materials or standards. The request shall be in writing and submitted to the Director as described in OAR 690-200-0021. Special standard approval from the Director must be obtained prior to completion of the well.

(3) Certain wells constructed under these rules may be suitable for use as public, community, municipal, or public utility supplies. Regulations administered by other agencies may apply in addition to those in this chapter (see Appendix [200-1](#)).

~~[ED. NOTE: Appendices referenced are available from the agency.]~~

~~[ED. NOTE: To view attachments referenced in rule text, click here to view rule.]~~

Statutory/Other Authority: ORS 536.027, ORS 536.090, ORS 537.505-537.795, [ORS 536.900](#), [ORS 537.992](#)

Statutory/Other Implemented: ORS 536.090, ORS 537.505-537.795, [ORS 536.900](#), [ORS 537.992](#)

History:

WRD 5-2015, f. & cert. ef. 7-1-15

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 7-1988, f. & cert. ef. 6-29-88

WRD 13-1986, f. 10-7-86, cert. ef. 11-1-86, Renumbered from 690-060-0008 & 690-060-0040

WRD 9-1978, f. 12-12-78, cert. ef. 1-1-79

APPENDIX 200-1**Additional Requirements by Other State Agencies of Oregon**

In the administration of ORS 537.505 to 537.795, the Director of the Water Resources Department has statutory authority under the provisions of ORS 537.780 "to prescribe and enforce general standards for the construction and maintenance of wells and their casings, fittings, valves, and pumps..." Other agencies of the state have statutory responsibilities that relate either directly or indirectly to the construction and operation of public water supply systems and their source of water supply. These agencies and their responsibilities are listed as follows:

<p>OREGON HEALTH AUTHORITY 800 NE Oregon Street Portland, OR 97232 (serving more than three single residents) https://www.oregon.gov/oha/pages/index.aspx</p>	<p>ORS Chapter 448</p>	<p>Municipal Water Supply Systems Public Water Supply Systems Community Water Supply Systems Source Water Protection</p>
<p>BUILDING CODES DIVISION 1535 Edgewater NW Salem, OR 97304-4635 https://www.oregon.gov/bcd/pages/index.aspx</p>	<p>ORS Chapter 446</p>	<p>Electrical and Plumbing for all Commercial Enterprises Mobile Home Park Water Supply Systems</p>
<p>OREGON PUBLIC UTILITY COMMISSION 201 High St SE #100 Salem, OR 97301 https://www.oregon.gov/puc/pages/default.aspx</p>	<p>ORS Chapter 757</p>	<p>Private Owners (water supply systems, 200 homes or more)</p>
<p>DEPARTMENT OF ENVIRONMENTAL QUALITY 700 NE Multnomah St Portland, OR 97232 https://www.oregon.gov/deq/pages/index.aspx</p>	<p>ORS Chapter 468</p>	<p>Water Quality Monitoring Underground Injection Systems Source Water Protection</p>
<p>SECRETARY OF STATE CORPORATION DIVISION Oregon Business Registry 255 Capitol St NE Salem OR 97310 https://secure.sos.state.or.us/cbrmanager/index.action#stay</p>		<p>Business Registry for Water Districts</p>

APPENDIX 200-1- CONTINUED

All wells constructed in Oregon, including those to serve as a source of ground water to municipal, community, public, or public utility water supply systems, must be constructed in accordance with the rules and regulations prescribing general standards for the construction and maintenance of wells in Oregon (OAR 690 Divisions 205, 210, 215, 220, and 240). Additional construction standards for water supply systems may be required by the above listed agencies. Such rules and regulations generally include the source of water supply to the systems and may affect well construction requirements. Copies of the various agency rules may be obtained by contacting the responsible agency. Well constructors planning to construct a well as a source of water supply for any of the above systems are advised to contact the responsible agency prior to the beginning of well construction.

690-200-0021 Special Standards

(1) Site conditions may require specific design, construction, and abandonment procedures to adapt to the existing local geologic and ground water conditions to fully utilize every natural protection to the state's ground water. Specific site conditions may require different design, construction, setback, or abandonment standards than required by the Water Supply Well construction rules. Alternative technologies or methods not addressed in these rules may also exist which could be effectively utilized in the construction or abandonment of a water supply well. Prior to the completion of the well, a bonded constructor must request and receive approval from the Department to use methods or materials that do not meet the water supply well construction standards. The Department may approve such requests either orally or in writing. If oral approval is granted, the written request must be submitted to the Department within three working days of the date of the oral approval. Failure to submit a written request as described above may void the prior oral approval. The proposed methods or materials shall provide at least the same level of resource protection as that which is provided by these rules.

(2) The written request for special standards shall include:

(a) Name, license number and signature of the bonded well constructor;

(b) Location of the well by county, township, range, section, tax-lot (if assigned), ~~and either the 1/4, 1/4 section, and/or~~ Latitude and Longitude as established by a global positioning system;

(c) Name and address of landowner;

(d) Address of the project/well site;

(e) Type of work;

(f) The distance to the nearest ~~well and~~ septic tank, ~~or~~ drainfield, closed sewage line, and closed storm drainage system;

(g) The reasons(s) that conformance to the rules and regulations for water supply wells cannot be met;

(h) A diagram and written description showing the proposed water supply well design, construction, or abandonment;

(i) A site map showing the relationship of the well to any existing septic tank, drainfield systems, closed sewage line, and closed storm drainage system, if the request is to place a well within the minimum setbacks described in OAR 690-210-0030;

(j) The well identification number, if assigned; ~~and~~

(k) The start card number; and

(1) Any associated well report numbers if special standard request is for alteration or abandonment.

Statutory/Other Authority: ORS 536.027, ORS 536.090, ORS 536.900, ORS 537.505-537.795, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 536.900, ORS 537.505-537.795, ORS 537.992

History:

Renumbered from 690-210-0015 by WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

690-200-0027 Restrictions on Water Supply Well Construction and Use in Critical Groundwater Areas or Areas Withdrawn by Commission Order

(1) The use of ground water is restricted in Critical Ground Water Areas or Withdrawal Areas established by Commission Order, under ORS 537.735 and 536.410. Before constructing a water supply well, the constructor shall determine whether the proposed well site is within a Critical Ground Water or Withdrawal Area. (Refer to Figure 200-1.)

(2) If the water supply well is within a Critical Ground Water or Withdrawal Area, the constructor shall contact the watermaster for the county where the water supply well is to be constructed for more information. (Refer to Table 200-2.)

(3) Construction of water supply wells in violation of a critical ground water or withdrawal order are subject to enforcement action as described in OAR 690, division 225.

~~[ED. NOTE: Tables and Figures referenced are available from the agency.]~~

Statutory/Other Authority: ORS 536.027, ORS 536.090, ORS 536.410, ORS 537.505-537.795

Statutes/Other Implemented: ORS 536.090, ORS 536.410, ORS 537.505-537.795

History:

WRD 7-2001, f. & cert. ef. 11-15-01






WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

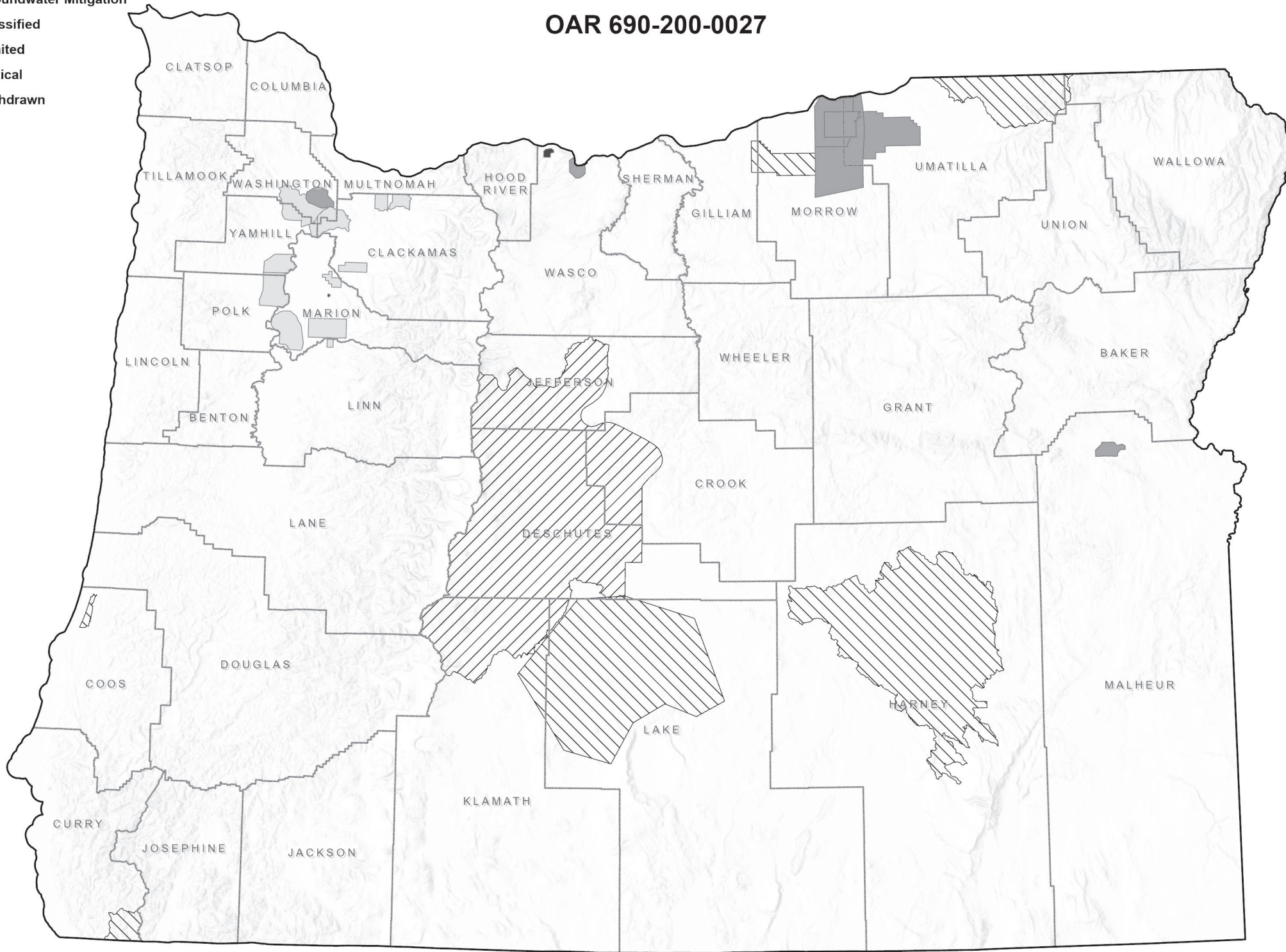
WRD 7-1988, f. & cert. ef. 6-29-88

SPECIAL GROUNDWATER CONTROL AREAS

OAR 690-200-0027

Groundwater Restricted Areas

-  Groundwater Mitigation
-  Classified
-  Limited
-  Critical
-  Withdrawn



**WATER RESOURCES DEPARTMENT
CHAPTER 690
DIVISION 200
WATER SUPPLY WELL CONSTRUCTION STANDARDS**

**Table 200-2
(OAR 690-200) Watermaster
Office Phone Numbers**

District	Watermaster Office	Phone Number
1	Tillamook	503-815-1967
2	Eugene	541-682-3620
3	The Dalles	541-506-2652
4	Canyon City	541-575-0119
5	Pendleton	541-278-5456
6	La Grande	541-963-1031
7	Enterprise	541-398-8172
8	Baker City	541-523-8224
9	Vale	541-473-5130
10	Burns	541-573-2591
11	Bend	541-306-6885
12	Lakeview	541-947-6038
13	Medford	541-774-6880
14	Grants Pass	541-476-1288
15	Roseburg	541-440-4255
16	Salem	971-719-6262
17	Klamath Falls	541-883-4182
18	Hillsboro	503-846-7780
20	Clackamas	503-312-1743
21	Condon	541-384-4207
22	Salem	503-508-2394
23	Milton-Freewater	541-371-0818
24	Bend	541-639-4109

Notes:

1. Watermaster phone numbers are subject to change.
2. A current version of this table is available from the Water Resources Department's Salem office.

690-200-0028 Designated Special Area Standards

(1) Special Area Standards for the Construction and Alteration of Water Supply Wells in the Lakeview Area.

(a) As used in this rule and illustrated in Figure 200-3, “The Lakeview Area” includes the area located in Sections 4, 5, 8 and 9 of Township 39 South, Range 20 East of the Willamette Meridian, Lake County, Oregon. Beginning at a point on the West line of Section 4, said point bears South 1 40’ 45” East — 2245.31 feet from the Northwest Corner of Section 4; thence South 89 54’ 45” East — 1907.04 feet to the West right of way line of the Fremont Logging Road; thence South 39 26’ 40” East along the West right of way line of the Fremont Logging Road — 3095.16 feet; thence South 1 53’ 14” East — 617.32 feet to the South line of Section 4; thence continuing in Section 9 — South 00 13’ 8” West parallel to the North South centerline of Section 9 - 2649.14 feet to the East West centerline of Section 9; thence South 89 45’ 31” West along the East West centerline of Section 9 — 3782.55 feet more or less to the West line of Section 9; thence West along the East West centerline of Section 8 — 1320.00 feet more or less to the center East 1/16 corner of Section 8; thence North 2640.00 feet more or less to the East 1/16 corner common to Sections 5 and 8; thence North 1 41’ 33” West — 2630.48 feet more or less to the center East 1/16 corner of Section 5; thence North 1 40’ 45” West — 410.32 feet; thence South 59 54’ 45” East — 1307.02 feet more or less to the point of beginning.

(b) Any new, altered, deepened or converted well in the sedimentary units (clay, sand, silt, gravel) in the Lakeview Area shall be cased and sealed according to OAR 690, division 210 with the following additional requirements:

(A) Unperforated casing and seal shall extend from land surface to a depth of 250 feet below land surface; and

(B) Perforated casing may extend below the seal.

(c) Liner installed in any new, altered, deepened or converted well in the sedimentary units (clay, sand, silt, gravel) in the Lakeview Area shall not extend more than 10 feet above the bottom of the unperforated casing.

(d) Alternatives to the special area standards shall be approved only if it can be demonstrated that the alternative techniques proposed to be used are as effective as the techniques required in subsection (1)(b) and (1)(c) above. Such alternatives require prior written approval by the Department and follow-up testing as may be required by the Department.

(e) Except as they may conflict with subsection (1)(b) and (1)(c), all other provisions of Oregon Administrative Rules for Well Construction and Maintenance Standards apply.

(f) This rule is applicable to wells for which construction, alteration, deepening or conversion began on or after April 1, 2004.

(g) This special area standard may be revised at a future date when additional information and

analysis is provided from other agencies including the Oregon Department of Environmental Quality.

(2) Special Area Standards for the Construction, Conversion and Maintenance of Water Supply Wells for the “Petes Mountain Area”, Clackamas County.

(a) As used in this rule and illustrated in Figure 200-4, “The Petes Mountain Area” includes the area located in Sections 28, 29, 32, 33 and 34 Township 2 South, Range 1 East, Willamette Meridian; and Sections 2, 3, 4, 5, 9, 10, 11, 15 and 16, Township 3 South, Range 1 East, Willamette Meridian. Beginning at the intersection of SW Ek Road and SW Stafford Road (T.2 S., R.1 E., Sec. 29); thence southerly along SW Stafford Road to SW Mountain Road; thence southerly along SW Mountain Road to SW Hoffman Road; thence easterly along SW Hoffman Road to the intersection of SW Hoffman Road, SW Petes Mountain Road and SW Riverwood Drive; thence due east to the Willamette River; thence northerly along the Willamette River to the mouth of the Tualatin River; thence northwesterly along the Tualatin River to SW Borland Road (a.k.a. Willamette Falls Drive); thence northwesterly along SW Borland Road to SW Ek Road; thence westerly along SW Ek Road to SW Stafford Road, to the point of beginning.

(b) All new, altered, deepened or converted wells constructed in the Petes Mountain Area shall be cased and sealed in accordance with OAR 690, Division 210 with the following additional requirements:

(A) All new wells shall have a nominal minimum well casing diameter of at least 6 inches.

(B) All wells shall have a minimum 3/4-inch diameter dedicated measuring tube installed at the time of pump installation, pump repair or pump replacement (See Figure 200-5 and OAR 690-215-0200).

(C) Alternatives to the special area standards shall be approved only if it can be demonstrated that the alternative techniques proposed to be used are as effective as the techniques required in subsection (2)(b) above. Such alternatives require prior written approval by the Department. In addition, follow-up testing may be required by the Department to insure the effectiveness of the alternative technique.

(D) Except as they may conflict with subsection (2)(b), all other provisions of Oregon Administrative Rules for Well Construction and Maintenance Standards apply.

(E) This rule is applicable to wells for which pump installation, repair or replacement began on or after July 1, 2008.

(F) This special area standard may be revised at a future date when additional information and analysis is provided from other agencies including the Oregon Department of Environmental Quality.

(3) Special Area Standards for the Construction, Conversion and Maintenance of Water Supply Wells for the “Eola Hills Ground Water Limited Area,” Polk and Yamhill Counties.

(a) As used in this rule and illustrated in Figure 200-7, “The Eola Hills Ground Water Limited Area” includes all or portions of Sections 4 through 9, 16 through 21, and 29 through 32, Township 6 South, Range 3 West, Willamette Meridian; Sections 3 through 10, 15 through 22, 28, 29 and 30, Township 7 South, Range 3 West, Willamette Meridian; Sections 1 through 5, 8 through 17, 20 through 29, and 32 through 36, Township 6 South, Range 4 West, Willamette Meridian; and Sections 1 through 30, Township 7 South, Range 4 West, Willamette Meridian. The boundary of the Eola Hills area is as follows: Beginning at the intersection of the south line of Township 5 South and U.S. Highway 99W, thence east along the township line to the Willamette River, thence southerly to Oregon State Highway 22, thence westerly to U.S. Highway 99W, thence northerly along Hwy 99W to the point of beginning.

(b) All new, altered, deepened or converted wells constructed in the Eola Hills Ground Water Limited Area shall be cased and sealed in accordance with OAR 690, Division 210 with the following additional requirements:

(A) All new wells shall have a nominal minimum well casing diameter of at least 6 inches.

(B) 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 (See Figure 200-5 and OAR 690-215-0200).

(C) All new and deepened wells developing water from basalt in the Eola Hills Ground Water Limited Area shall be limited to one aquifer and shall be continuously cased and continuously sealed to within 100 feet of the bottom of the hole.

(c) Alternatives to the special area standards shall be approved only if it can be demonstrated that the alternative techniques proposed to be used are as effective as the techniques required in subsection (3)(b) above. Such alternatives require prior written approval by the Department. In addition, follow-up testing may be required by the Department to insure the effectiveness of the alternative technique.

(d) Except as they may conflict with subsection (3)(b), all other provisions of Oregon Administrative Rules for Well Construction and Maintenance Standards apply.

(e) This rule is applicable to wells for which pump installation, repair or replacement began on or after July 1, 2008.

(4) Special Area Standards for New, Altered, Deepened or Converted Water Supply Wells in the “Mosier Area,” Wasco County.

(a) As used in this rule and illustrated in Figure 200-8, the “Mosier Area” includes the area located in Section 36 Township 3 North, Range 11 East, Willamette Meridian; and Sections 31, 32, 33 and 34 Township 3 North, Range 12 East, Willamette Meridian; and Sections 1, 2, 3, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35 and 36 Township 2 North, Range 11 East, Willamette Meridian; and Sections 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23,

27, 28, 29, 30, 31, 32 and 33 Township 2 North, Range 12 East, Willamette Meridian. Beginning at a point of intersection of the Wasco County, Hood River County, State of Oregon and State of Washington lines; thence south along the Wasco and Hood River County line to the Southwest corner of Section 34, Township 2 North, Range 11 East of the Willamette Meridian; thence east to the Southeast corner of Section 32, Township 2 North, Range 12 East of the Willamette Meridian; thence north to the East 1/4 corner of Section 32; thence east to the Southeast corner of the SW1/4 of the NW1/4 of Section 33; thence north to the Southeast corner of the NW1/4 of the NW1/4 of Section 33; thence east to the Southeast corner of the NE1/4 of the NW1/4 of Section 33; thence north to the North 1/4 corner of Section 33; thence east to the Southeast corner of the SW1/4 of the SE1/4 of Section 28; thence north to the Southeast corner of the NW1/4 of the SE1/4 of Section 28; thence east to Southeast corner of the NW1/4 of the SW1/4 of Section 27; thence north to the Southeast corner of the SW1/4 of the NW1/4 of Section 27; thence east to the Center 1/4 corner of Section 27; thence north to Southeast corner of the NE1/4 of the NW1/4 of Section 27; thence east to the Southeast corner of the NW1/4 of the NE1/4 of Section 27; thence north to the Northeast corner of the NW1/4 of the NE1/4 of Section 27; thence east to the SE corner of section 22; thence north to the East 1/4 corner of Section 22; thence east to the Center 1/4 of Section 23; thence north to the Southeast corner of the NE1/4 of the NW1/4 of Section 23; thence east to the Southeast corner of the NE1/4 of the NE1/4 of Section 23; thence north to the Northwest corner of Section 24; thence east to the North 1/4 corner of Section 24; thence north to the North 1/4 corner of Section 13; thence west to the Northeast corner of Section 15; thence north to the Oregon and Washington State line; thence west along the Oregon-Washington State line to the point of beginning.

(b) Well constructors shall provide at least 10 calendar days notice to the Department prior to the start of construction, alteration, deepening or conversion on any new or existing well in the “Mosier Area”, in one of two ways:

(A) A Start Card submitted electronically at least ten (10) calendar days prior to the start of construction, alteration, deepening or conversion; or

(B) A Start Card mailed, faxed or hand delivered and received by the Department in Salem at least ten (10) calendar days prior to the start of construction, alteration, deepening or conversion.

(c) In cases where the additional notice requirement cannot be met the well constructor shall notify the Department by fax, telephone or e-mail prior to the start of construction, alteration, deepening or conversion. Department approval is required to proceed. Approval shall be either, verbal, written or electronic.

(d) All new and deepened water supply wells developing water from the Columbia River Basalt Group in the “Mosier Area”, as described in (a) above, shall be limited to one aquifer and shall be constructed in accordance with OAR 690, division 210 with the following additional requirements:

(A) All new wells shall have a nominal minimum well casing diameter of at least 6 inches.

(B) The well constructor shall provide the following information to the Department so that a case and seal depth can be determined. The well shall not be permanently cased and sealed prior to consultation with the Department:

(i) A rough log that describes the kind and nature of the material in each formation penetrated, with at least one entry for each change of formation, the thickness of aquifers and available static water level measurements; and

(ii) Such additional information as required by the Department.

(e) Alternatives to the special area standards shall be approved only if it can be demonstrated that the alternative techniques proposed to be used are as effective as the techniques required in (d) above. Such alternatives require prior written approval by the Department. In addition, follow-up testing may be required by the Department to ensure the effectiveness of the alternative technique.

(f) 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 (See Figure 200-5 and OAR 690-215-0200).

(g) Except as they may conflict with (d) above, all other provisions of Oregon Administrative Rules for Well Construction and Maintenance Standards apply.

~~[ED. NOTE: Exhibits referenced are available from the agency.]~~

~~[ED. NOTE: To view attachments referenced in rule text, click here to view rule.]~~

Statutory/Other Authority: ORS 183, ~~537.780~~, ORS 536.027, ORS 536.090, ORS 536.900, ORS 537.505-537.795, ORS 537.992, ORS 540

Statutes/Other Implemented: ORS 183, ORS 536.090, ORS 536.900, ORS 537.505-537.795, ORS 537.992, ORS 540

History:

WRD 5-2016, f. & cert. ef. 9-6-16

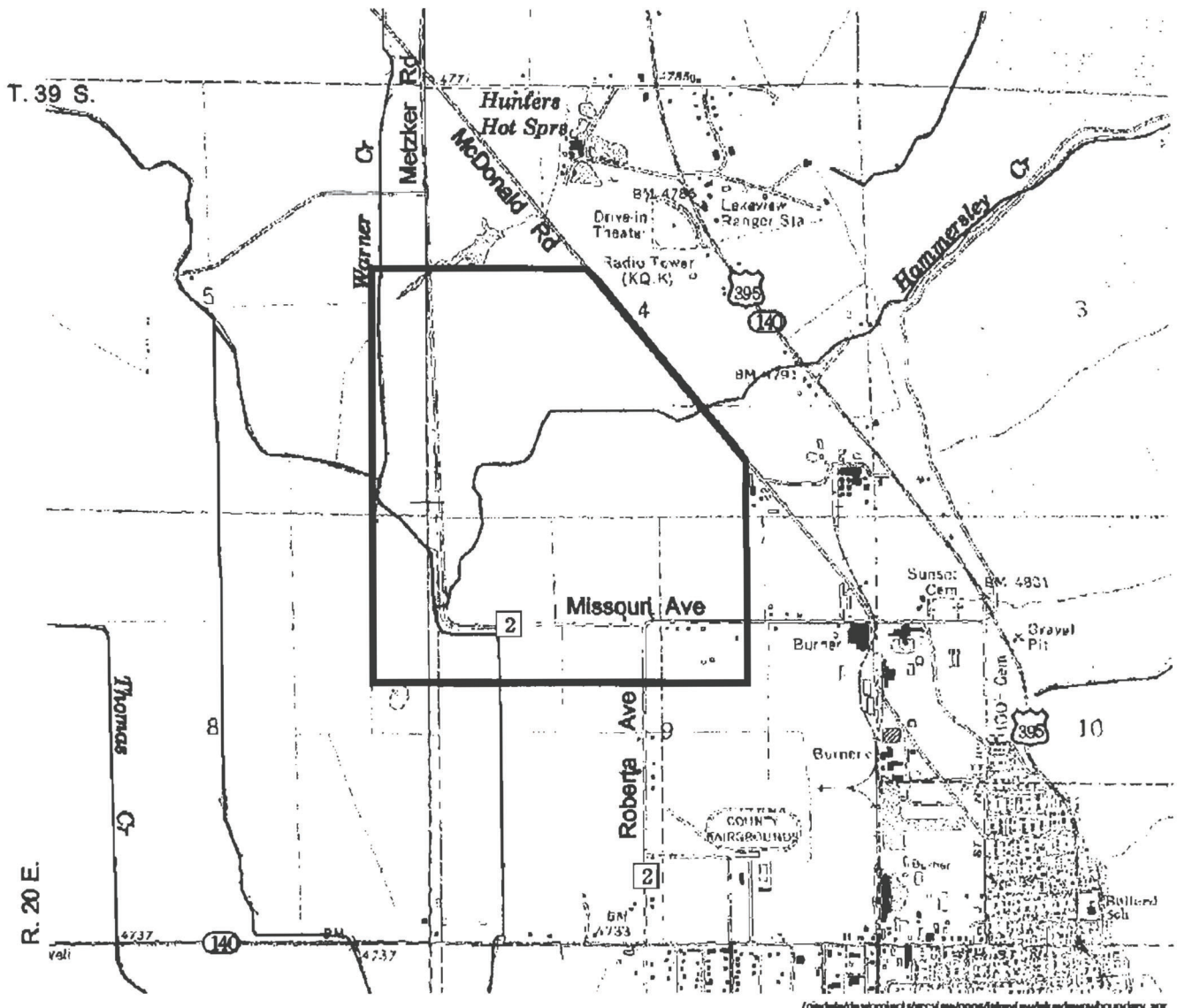
WRD 5-2015, f. & cert. ef. 7-1-15

WRD 2-2008, f. 6-18-08, cert. ef. 7-1-08

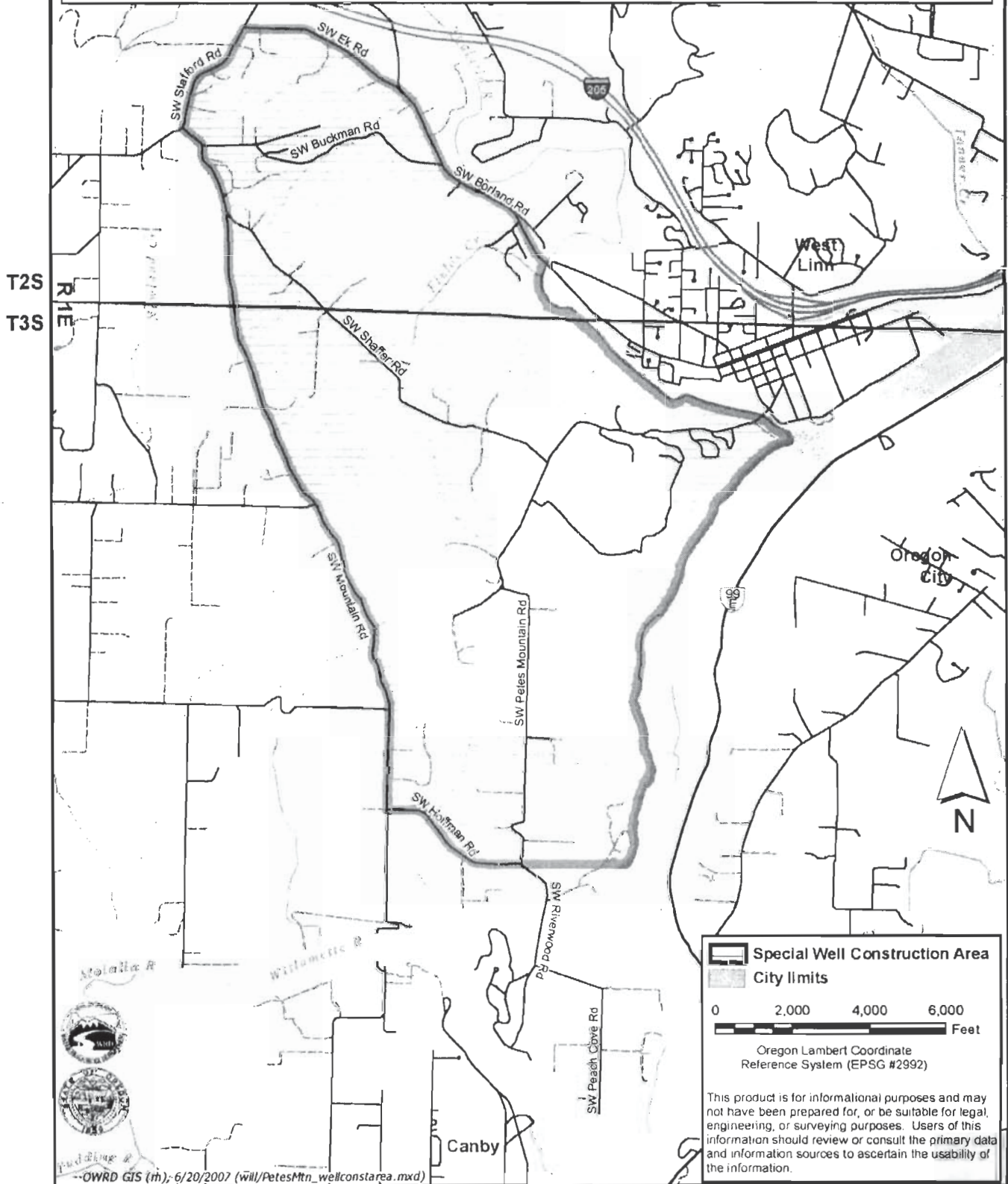
WRD 2-2004, f. & cert. ef. 4-1-04

FIGURE 200-3

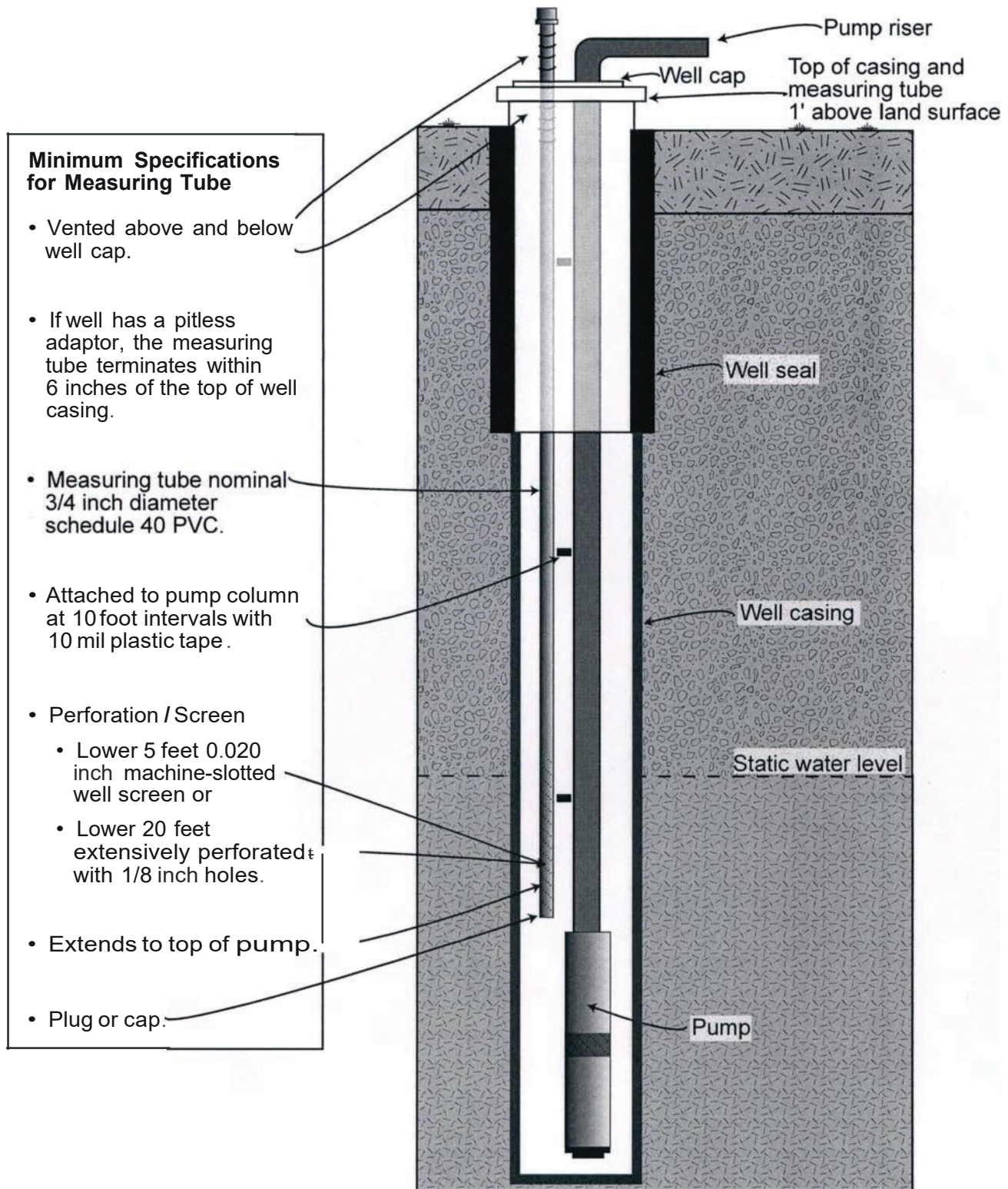
Special Area Standards
"Lakeview Area"
OAR 690-200-0028



Special Area Standards: Petes Mountain Area



Measuring Tube Diagram and Specifications

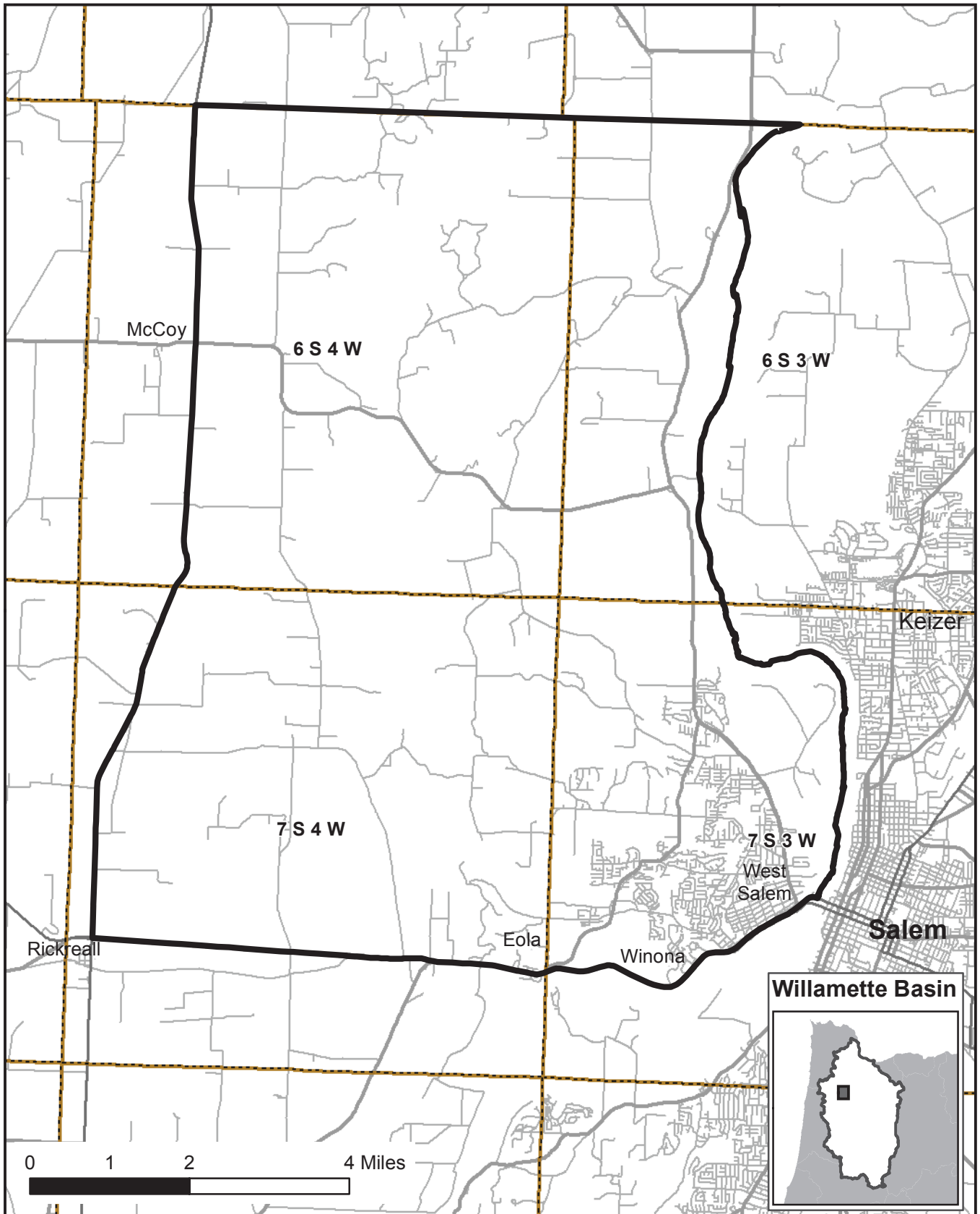


This diagram details the minimum standards for a dedicated measuring tube. A measuring tube may be constructed in a manner that exceeds these standards without prior Department approval. The dedicated measuring tube shall not be reduced in size over the length of the pipe and shall remain free from wires or any other obstruction.

Eola Hills Groundwater Limited Area

Special Area Standards


OAR 690-200-0028, 690-215-0201



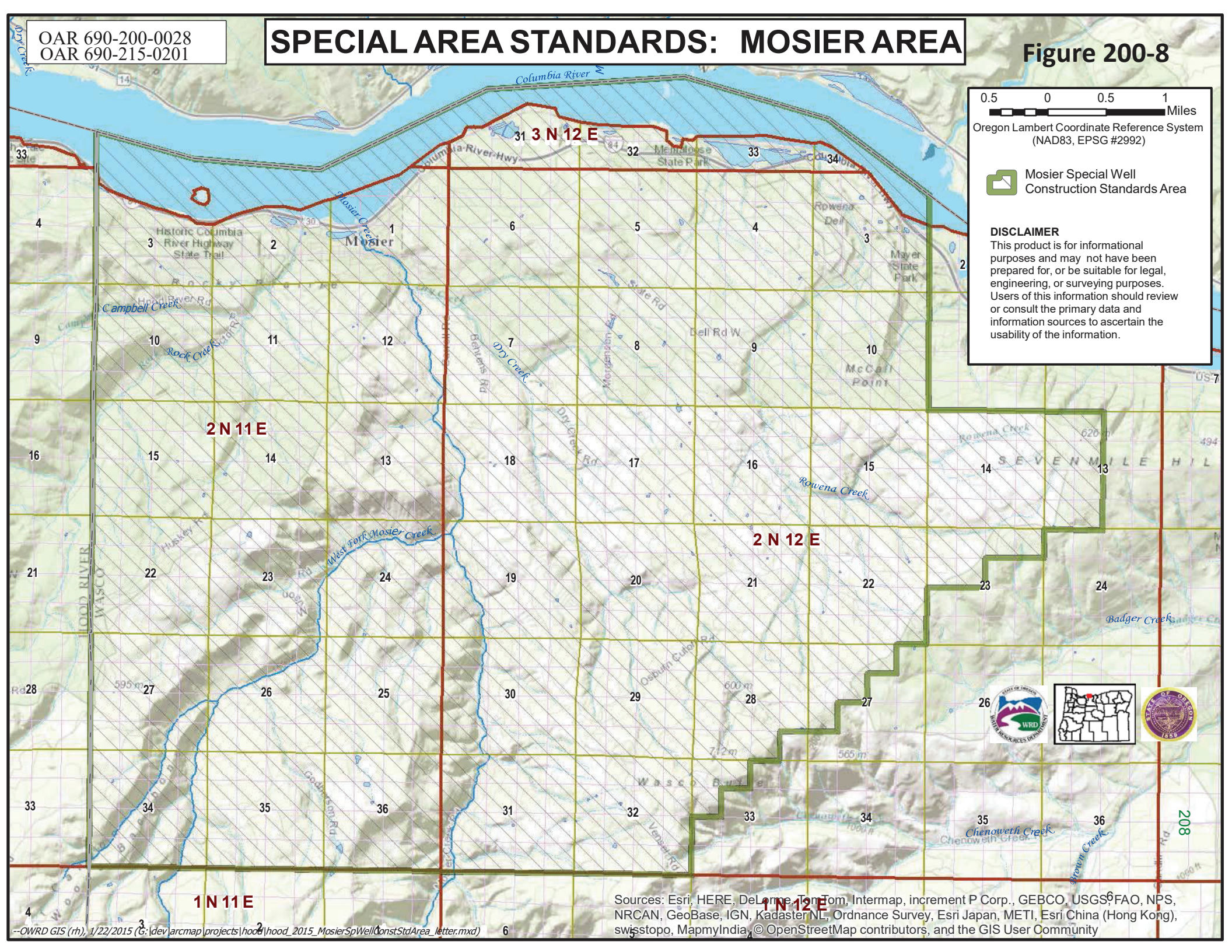
SPECIAL AREA STANDARDS: MOSIER AREA

Figure 200-8

0.5 0 0.5 1 Miles
Oregon Lambert Coordinate Reference System
(NAD83, EPSG #2992)

 Mosier Special Well Construction Standards Area

DISCLAIMER
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



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690-200-0046 Perched Ground Water

Wells drawing water from perched zones must be constructed to prevent the waste of this type of ground water. (See Figure 200-2)

~~[ED. NOTE: Figures referenced are available from the agency.]~~

Statutory/Other Authority: ORS 183, ~~536, 537, 540~~, ORS 536.027, ORS 536.900, ORS 537.505-537.795, ORS 537.992, ORS 540

Statutes/Other Implemented: ORS 183, ~~536, 537, 540~~, ORS 536.900, ORS 537.505-537.795, ORS 537.992, ORS 540

History:

Renumbered from 690-210-0090 by WRD 7-2001, f. & cert. ef. 11-15-01

WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-061-0059

WRD 9-1978, f. 12-12-78, ef. 1-1-79

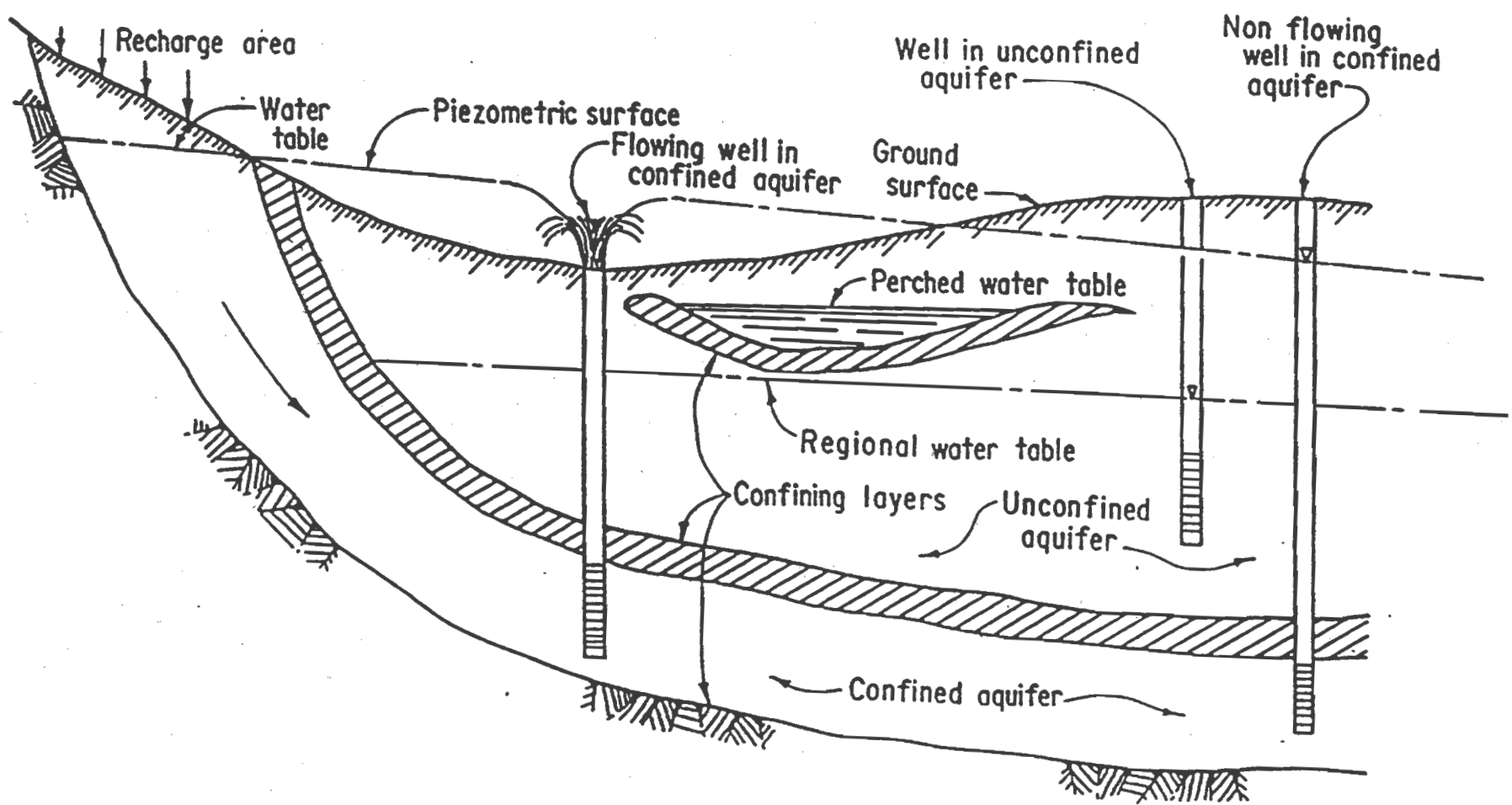


FIGURE 1-2.—Types of aquifers. 103-D-1401.

690-200-0050 Definitions

The Water Resources Commission uses the definitions of the words listed below in the administration and enforcement of Oregon's Ground Water Law and the Rules and Regulations for the Construction and Alteration of Wells. No other definitions of these same words apply:

- (1) "Abandonment, Permanent" means to remove a well from service by completely filling it in such a manner that vertical movement of water within the well bore and within the annular space surrounding the well casing, is effectively and permanently prevented. If a portion of a well is to be abandoned in order to prevent commingling, waste, or loss of artesian pressure, the abandonment shall conform with the requirements of OAR chapter 690, division 220 for water supply wells. This term is synonymous with "decommission."
- (2) "Abandonment, Temporary" means to remove a drilling machine from a well site after completing or altering a well provided the well is not immediately put into service, or to remove a well from service with the intent of using it in the future.
- (3) "Access Port" means a minimum 1/2-inch tapped hole and plug, a 1/2-inch capped pipe welded onto the casing in the upper portion of a water supply well, or a dedicated measuring tube to permit unobstructed entry to determine the water level in the well at any time.
- (4) "Air Gap" means a complete physical break between the outlet end of the discharge pipe or other conduit and the discharged substance. The break shall be at least twice the inside diameter of the pipe or conduit. (Back-siphon prevention)
- (5) "Airline" means a water level measuring device consisting of a pressure gauge attached to an airtight line or pipe of known length, within the water supply well bore, extending from land surface to below the pumping level. The device will allow the water level to be computed by measuring the stable air pressure remaining in the line after completely purging water from within the line.
- (6) "Air/Vacuum Relief Valve" means a device to automatically relieve or break vacuum. (Back-siphon prevention).
- (7) "Altering a Well" means the deepening, hydrofracturing, re-casing, perforating, re-perforating, installation of packers or seals, and any other material change in the design or construction of a well. Material changes include but are not limited to casing installation or modification including casing extensions, installation or modification of liner pipe, reaming or under reaming of the borehole, pitless unit installation or re-sealing except for re-sealing performed during pitless adapter installation.
- (8) "Annular Space" means the space between the drillhole wall and the outer well casing.
- (9) "Aquifer" means a geologic formation, group of formations, or part of a formation that contains saturated and permeable material capable of transmitting water in sufficient quantity to

supply wells or springs and that contains water that is similar throughout in characteristics such as potentiometric head, chemistry, and temperature (see Figure 200-2).

(10) "Artesian Aquifer" means a confined aquifer in which groundwater is under sufficient head to rise above the level at which it was first encountered, whether or not the water flows at land surface. If the water level stands above land surface, the well is a flowing artesian well (see Figure 200-2).

(11) "Artesian Water Supply Well" means a water supply well in which groundwater is under sufficient pressure to rise above the level at which it was first encountered, whether or not the water flows at land surface. If the water level stands above land surface the well is a flowing artesian water supply well.

(12) "Automatic Low-Pressure Drain" means a self-activating device designed and constructed to intercept incidental leakage and drain that portion of an irrigation pipeline or any other method of conveyance whose contents could potentially enter the water supply when operation of the irrigation system pumping plant fails or is shut down. (Back-siphon prevention).

(13) "Back-Siphon Prevention Device" means a safety device used to prevent water pollution or contamination by preventing flow of a mixture of water and/or chemicals in the opposite direction of that intended. (Back-siphon prevention)

(14) "Bored Well" means a well constructed with the use of earth augers turned either by hand or by power equipment.

(15) "Buried Slab Type Well" means a dug well in which well casing is used to case the upper hole. A slab, sealed with cement grout, is placed between the upper hole and lower drillhole, and the remainder of the annulus is filled with concrete.

(16) "Casing" means the outer tubing, pipe, or conduit, welded or thread coupled, and installed in the borehole during or after drilling to support the sides of the well and prevent caving. Casing can be used, in conjunction with proper seal placement, to shut off water, gas, or contaminated fluids from entering the hole, and to prevent waste of groundwater.

(17) "Casing Seal" means the water tight seal established in the well bore between the well casing and the drillhole wall to prevent the inflow and movement of surface water or shallow groundwater in the well annulus, or to prevent the outflow or movement of water under artesian or hydrostatic pressures. This term is synonymous with "annular seal" or "surface seal"

(18) "Check Valve" means a certified device designed and constructed to close a water supply pipeline, chemical injection line, or other conduit in a chemigation system to prevent reverse flow in that line. (Back-siphon prevention).

(19) "Chemigation" means the method of applying agricultural chemicals and fertilizer through an irrigation system.

- (20) "Clay" means a fine-grained, inorganic material having plastic properties and with a predominant grain size of less than 0.002 mm.
- (21) "Commission" means the Oregon Water Resources Commission.
- (22) "Committee" means the Oregon Ground Water Advisory Committee created by ORS 536.090.
- (23) "Community Well" means a water supply well, whether publicly or privately owned, which serves or is intended to serve more than three connections for residences or other connections for the purpose of supplying water for drinking, culinary, or household uses.
- (24) "Confined Animal Feeding or Holding Area" means the concentrated confined feeding or holding of animals or poultry, including but not limited to horse, cattle, sheep, swine, and dairy confinement areas, slaughterhouse or shipping terminal holding pens where the animal waste is allowed to build up on the ground. Pastures and areas adjacent to buildings where animals and animal waste is confined by a physical barrier such as concrete are exempt.
- (25) "Confining Interval" means a low permeability material such as clay or solid, unfractured, consolidated rock immediately overlying an artesian (confined) aquifer (see Figure 200-2).
- (26) "Consolidated Formation" means materials that have become firm through natural rock-forming processes. It includes, but is not limited to, such materials as basalt, sandstone, shale, hard claystone, and granite.
- (27) "Contamination" means an impairment of water quality by chemicals, radionuclides, biologic organisms or other extraneous matter whether or not it affects the potential or intended beneficial use of water.
- (28) "Continuing Education" means that education required as a condition of licensure under ORS 537.747, to maintain the skills necessary for the protection of groundwater, the health and general welfare of the citizens of Oregon and the competent practice of the construction, alteration, abandonment, conversion, and maintenance of water supply wells, monitoring wells, and geotechnical holes.
- (29) "Continuing Education Committee" means the Well Constructor Continuing Education Committee authorized under Chapter 496, Oregon Laws 2001 (ORS 537.765).
- (30) "Continuing Education Course" means a formal offering of instruction or information to licensee's that provides continuing education credits.
- (31) "Continuing Education Credit" (CEC) means a minimum of 50 minutes of instruction or information approved by the Continuing Education Committee.

(32) "Converting" a well means changing the use of an existing well or hole not previously used to either withdraw or monitor water such that the well or hole can be used to either withdraw or monitor water.

(33) "Deepening a well" means extending the well bore of an existing well through previously undisturbed native material. Deepening is a type of alteration.

(34) "Department" means the Oregon Water Resources Department.

(35) "Director" means the Director of the Department or the Director's authorized representatives.

(36) "Documentation of Completion" means written evidence or documentation demonstrating attendance and completion of a continuing education course, including but not limited to: a certificate of completion, diploma, transcript, certified class roster, or other documentation as approved by the Continuing Education Committee.

(37) "Domestic Well" means a water supply well used to serve no more than three residences for the purpose of supplying water for drinking, culinary, or household uses, and which is not used as a public water supply.

(38) "Drawdown" means the difference in vertical distance between the pumping level and the static water level in a well.

(39) "Drive Point Well" means a well constructed by driving into the ground a well-point fitted to the end of a pipe section or series of pipe sections.

(40) "Dug Well" means a well in which the excavation is made by the use of digging equipment such as backhoes, clam shell buckets, or sand buckets. (See Hand dug well).

(41) "Excavation" means a free-standing cavity with greater width than depth constructed in the earth's surface which has a primary purpose other than seeking water or water quality monitoring.

(42) "Figure", when used herein, refers to an illustration and is made a part of the primary article and section by reference.

(43) "Filter Pack Well" means a well in which the area immediately surrounding the well screen or perforated pipe within the water-producing zone is filled with graded granular material.

(44) "Geologic Formation" means an igneous, sedimentary, or metamorphic material that is relatively homogeneous and is sufficiently recognized as to be distinguished from the adjacent material. The term is synonymous with "formation."

(45) "Geologist" means an individual registered by the State of Oregon to practice geology.

(46) "Geotechnical hole" means a hole constructed to collect or evaluate subsurface data or information, monitor movement of landslide features, or to stabilize or dewater landslide features. Geotechnical holes are not monitoring wells or water supply wells as defined below. Various classes and examples of geotechnical holes are listed in OAR 690-240-0035(6)-(9).

(47) "Grout" means approved cement, concrete, or bentonite sealing material used to fill an annular space of a well or to abandon a well.

(48) "Grout Pipe" means a pipe which is used to place grout at the bottom of the sealing interval of a well.

(49) "Hand dug well" means a well in which the excavation is only made by the use of picks, shovels, spades, or other similar hand operated implements. (See Dug Well).

(50) "Hazardous Materials Training" means training as defined by OAR 437-002-0100 Adoption by Reference Subdivision H Hazardous Materials 1910.120 Hazardous Waste Operations and Emergency Response.

(51) "Hazardous Waste" means a substance as defined by ORS 466.005.

(52) "Hazardous Waste Disposal Site" means a geographical site in which or upon which hazardous waste is disposed.

(53) "Hazardous Waste Storage Site" means the geographical site upon which hazardous waste is stored.

(54) "Hazardous Waste Treatment Site" means the geographical site upon which or a facility in which hazardous waste is treated.

(55) "Health Hazard" means a condition where there are sufficient concentrations of biological, chemical, or physical, including radiological, contaminants in the water that are likely to cause human illness, disorders, or disability. These include but are not limited to, naturally occurring substances, pathogenic viruses, bacteria, parasites, toxic chemicals, and radioactive isotopes. Sufficient concentrations of a contaminant include but are not limited to contaminant levels set by the Oregon Department of Environmental Quality and Oregon Health Division.

(56) "Health Threat" means a condition where there is an impending health hazard. The threat may be posed by, but not limited to: a conduit for contamination, or a well affecting migration of a contaminant plume, or the use of contaminated water. A well in which the construction is not verified by a water supply well report or geophysical techniques may be considered a conduit for contamination in certain circumstances. Those circumstances include, but are not limited to: an unused and neglected well or a well for which no surface seal was required. A well in which the casing seal, sanitary seal, or watertight cap has failed, or was inadequately installed may be considered a conduit for contamination.

- (57) "Horizontal Well" means a well that intentionally deviates more than 20 degrees from true vertical at any point.
- (58) "Hydrofracturing" means the use of high pressure liquid, sand, packers or other material to open or widen fractures in consolidated formations for the purpose of increasing well yield.
- (59) "Hydrologic Cycle" is the general pattern of water movement by evaporation from sea to atmosphere, by precipitation onto land, and by return to sea under influence of gravity.
- (60) "Inspection Port" means an orifice or other viewing device from which the low-pressure drain and check valve may be observed.
- (61) "Jetted Well" means a well in which the drillhole excavation is made by the use of a high velocity jet of water.
- (62) "Leakage" means movement of surface and/ or subsurface water around the well casing or seal.
- (63) "Liner Pipe" means the inner tubing, pipe, or conduit installed inside the well casing or lower well bore. The liner pipe is used to protect against caving formations and is not permanently affixed to the drillhole wall or casing.
- (64) "Lower Drillhole" means that part of the well bore extending below the casing seal interval in a well.
- (65) "Mineralized Water" means any naturally occurring groundwater containing an amount of dissolved chemical constituents limiting the beneficial uses to which the water may be applied.
- (66) "Monitoring Well" means a well designed and constructed to determine the physical (including water level), chemical, biological, or radiological properties of groundwater.
- (67) "Monitoring Well Constructor" means any person who has a current ~~water well constructor's license with a~~ monitoring well ~~constructor's license~~endorsement issued in accordance with ORS 537.747(3).
- (68) "Monitoring Well Constructor's License" means a Water Well Constructor's License with a monitoring well endorsement issued in accordance with ORS 537.747(3) or with a monitoring well temporary authorization endorsement issued in accordance with ORS 537.747 (3), Section 1, Chapter 142, Oregon Laws 2019, and Section 1, Chapter 626, Oregon Laws 2019.
- (69) "Municipal or Quasi-Municipal Well" means a water supply well owned by a municipality or nonprofit corporation that may be used as a community or public water supply.
- (70) "Order" means any action satisfying the definition given in ORS Chapter 183 or any other action so designated in ORS 537.505 to 537.795.

(71) "Other Hole" means a hole other than a water supply well, a monitoring well, or geotechnical hole, however constructed, in naturally occurring or artificially emplaced earth materials, through which groundwater can become contaminated. Holes constructed under ORS Chapters 517, 520, and 522 are not subject to these rules. Other holes are regulated under OAR 690-240. Examples of other holes are listed in 690-240-0030.

(72) "Perched Groundwater" means groundwater held above the regional or main water table by a less permeable underlying earth or rock material (see Figure 200-2).

(73) "Permeability" means the ability of material to transmit fluid, usually described in units of gallons per day per square foot of cross-section area. It is related to the effectiveness with which pore spaces transmit fluids.

(74) "Person" includes individuals, corporations, associations, firms, partnerships, joint stock companies, public and municipal corporations, political subdivisions, the state and any agencies thereof, and the Federal Government and any agencies thereof.

(75) "Petcock Valve" is a valve used to contain pressure which when opened will drain the line or pipe.

(76) "Petroleum" means gasoline, crude oil, fuel oil, diesel oil, lubricating oil, oil sludge, oil refuse, and crude oil fractions and refined petroleum fractions, including gasoline, kerosene, heating oils, diesel fuels, and any other petroleum-related product or waste or fraction thereof that is liquid at a temperature of 60 degrees Fahrenheit and a pressure of 14.7 pounds per square inch absolute. "Petroleum" does not include any substance identified as a hazardous waste under 40 CFR Part 261.

(77) "Piezometer" means a type of monitoring well designed solely to obtain groundwater levels. Piezometers are prohibited in areas of known or reasonably suspected contamination. This term is synonymous with "observation well"(See OAR 690-240).

(78) "Pitless Adapter" means a commercially manufactured device designed for attachment to one or more openings through a well casing, which will permit water service pipes to pass through the wall of a well casing or extension thereof and prevent entrance of contaminants into the well or groundwater. (Note: Unhydrated bentonite shall be installed at least one and one-half inches thick around the casing in any disturbed seal interval during pitless adapter installation).

(79) "Pitless Unit" means a commercially manufactured assembly which extends the upper end of the well casing to above grade, constructed and installed so as to prevent the entrance of contaminants into the well and to protect the groundwater supply, conduct water from the well, and provide full access to the well and water system parts therein. (Note: Unhydrated bentonite shall be installed at least one and one-half inches thick around the casing in any disturbed seal interval during pitless unit installation).

(80) "Porosity" means the ratio of the volume of voids in the geologic formation being drilled to the overall volume of the material without regard to size, shape, interconnection, or arrangement of openings.

(81) "Potable Water" means water which is sufficiently free from biological, chemical, physical, or radiological impurities so that users thereof will not be exposed to or threatened with exposure to disease or harmful physiological effects.

(82) "Potentiometric Surface" means the level to which water will rise in tightly cased artesian wells (see Figure 200-2).

(83) "Pressure Grouting" means a process by which grout is confined within the drillhole or casing by the use of retaining plugs or packers and by which sufficient pressure is applied to drive the grout slurry into the annular space or zone to be grouted.

(84) "Professional" means any person licensed or registered by the State of Oregon to construct monitoring wells, water supply wells, or practice geology or civil engineering.

(85) "Public-at-Large" means a person not actively engaged in the well industry.

(86) "Public Water System" means 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 ten or more individuals per day. Public water system also means 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. A public water system is either a "Community Water System," a "Transient Non-Community Water System," a "Non-Transient Non-Community Water System" or a "State Regulated Water System."

(87) "Public Well" means a water supply well, whether publicly or privately owned, other than a municipal well, where water is provided for or is available through the single user for public consumption. This includes, but is not limited to, a school, a farm labor camp, an industrial establishment, a recreational facility, a restaurant, a motel, or a group care home.

(88) "Pumping Level" means the level of the water surface in a well while it is being pumped or bailed.

(89) "Pump Test" means the procedure involving pumping water for a specified period of time to determine the yield characteristics of an aquifer.

(90) "Refusal to Renew" means a provision in an order, or as allowed by ORS 537.747, that prohibits renewal of a well constructor's license, for a specified term not to exceed one year from the expiration date of the current license.

- (91) "Remediation Well" means a well used for extracting contaminants and/or contaminated groundwater from an aquifer. This term is synonymous with "extraction well" and "recovery well."
- (92) "Respondent" means the person against whom an enforcement action is taken.
- (93) "Responsible Party" means the person or agency that is in charge of construction or maintenance and is either in violation as specified in a notice of violation or who may benefit from that violation.
- (94) "Rough Drilling Log" means a record kept on the well site of the information needed to complete the well report for the well being constructed.
- (95) "Revoke" means termination of a well constructor's license.
- (96) "Sand" means a material having a prevalent grain size ranging from 2 millimeters to 0.06 millimeters.
- (97) "Sanitary Seal" means a tight fitting properly sized threaded, welded, or gasketed cap placed on the top of the permanent well casing to prevent entry of water and foreign material.
- (98) "Sealant": See Grout.
- (99) "Silt" means an unconsolidated sediment composed predominantly of particles between 0.06 mm and 0.002mm in diameter.
- (100) "Slope Stability Geotechnical Hole" means a geotechnical hole excavated, drilled or bored for studying and/or monitoring movement of landslide features, including water levels, or other mass-wasting features to detect zones of movement and establish whether movement is constant, accelerating, or responding to remedial measures. Hole(s) excavated, drilled or bored for the purpose of slope remediation or stabilization shall be considered a slope stability geotechnical hole. Slope stability geotechnical holes are not monitoring wells, piezometers, or water supply wells.
- (101) "Sponsor" means an institution, professional organization, individual, or business that offers continuing education courses to licensees. This term is synonymous with provider.
- (102) "Static Water Level" means the stabilized level or elevation of water surface in a well not being pumped.
- (103) "Sump" means a hole dug to a depth of ten feet or less with a diameter greater than ten feet in which groundwater is sought or encountered.
- (104) "Suspension" means the temporary removal of the privilege to construct wells under an existing license for a period of time not to exceed one year.

(105) "System Interlock" means an interlocking mechanism used to link irrigation pumps and chemical injection units, other pumps, or supply tanks so designed that in the event of irrigation pump malfunction or failure, shutdown of the chemical injection units will occur. (Back-siphon prevention).

(106) "Unconsolidated Formation" means naturally occurring, loosely cemented, or poorly indurated materials including clay, sand, silt, and gravel.

(107) "Underground Injection" means the emplacement or discharge of fluids to the subsurface.

(108) "Underground Injection System" means a well, improved sump, sewage drain hole, subsurface fluid distribution system, or other system or groundwater point source used for the emplacement or discharge of fluids.

(109) "Upper Oversize Drillhole" means that part of the well bore extending from land surface to the bottom of the surface seal interval.

(110) "Violation" means an infraction of any statute, rule, standard, order, license, compliance schedule, or any part thereof and includes both acts and omissions.

(111) "Water Supply Well" means a well, other than a monitoring well, that is used to beneficially withdraw or beneficially inject ground or surface water. Water supply wells include, but are not limited to, community, dewatering, domestic, irrigation, industrial, municipal, and aquifer storage and recovery wells.

(112) "Water Supply Well Constructor" means any person who has a current water supply well constructor's license ~~with a water supply well endorsement issued in accordance with ORS 537.747(3)~~.

(113) "Water Supply Well Constructor's License" means a Water Well Constructor's License with a water supply well endorsement issued in accordance with ORS 537.747(3) or with a water supply well temporary authorization endorsement issued in accordance with ORS 537.747(3), Section 1, Chapter 142, Oregon Laws 2019, and Section 1, Chapter 626, Oregon Laws 2019.

(114) "Water Supply Well Drilling Machine" means any power-driven driving, jetting, percussion, rotary, boring, digging, augering machine, or other equipment used in the construction or alteration of water supply wells.

(115) "Water Table" means the upper surface of an unconfined water body, the surface of which is at atmospheric pressure and fluctuates seasonally. The water table is defined by the levels at which water stands in wells that penetrate the water body (see Figure 200-2).

(116) "Water Well Constructor's License" means a license to construct, alter, deepen, abandon or convert wells issued in accordance with ORS 537.747(3). Endorsements are issued to the license and are specific to the type of well a constructor is qualified to construct, alter, deepen, abandon or convert.

(117) "Well" means any artificial opening or artificially altered natural opening, however made, by which groundwater is sought or through which groundwater flows under natural pressure, or is artificially withdrawn or injected. This definition shall not include a natural spring, or wells drilled for the purpose of exploration or production of oil or gas. Prospecting or exploration for geothermal resources as defined in ORS 522.005 or production of geothermal resources derived from a depth greater than 2,000 feet as defined in 522.055 is regulated by the Department of Geology and Mineral Industries.

(118) "Wet Soil Monitoring Hole" means a shallow geotechnical hole set vertically in the ground and constructed to a depth of three and one-half feet or less for studying and/or monitoring the upper portion of the shallowest water-bearing unit within and immediately below the surface soil horizon.

~~[ED. NOTE: Figures referenced are available from the agency]~~

Statutory/Other Authority: ORS 536.027, ORS 536.090, ORS 537.505-537.795, [2019 OL Ch. 142](#), [2019 OL Ch. 626](#).

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, [2019 OL Ch. 142](#), [2019 OL Ch. 626](#)

History:

WRD 5-2016, f. & cert. ef. 9-6-16

WRD 5-2015, f. & cert. ef. 7-1-15

WRD 3-2008, f. 12-22-08, cert. ef. 1-2-09

WRD 2-2008, f. 6-18-08, cert. ef. 7-1-08

WRD 2-2006, f. & cert. ef. 6-20-06

WRD 4-2004, f. & cert. ef. 6-15-04

WRD 1-2003, f. & cert. ef. 3-14-03

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 2-1995, f. 5-17-95, cert. ef. 7-1-95

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 1-1991, f. & cert. ef. 2-8-91

WRD 21-1990, f. & cert. ef. 12-14-90

WRD 7-1988, f. & cert. ef. 6-29-88

WRD 13-1986, f. 10-7-86, cert. ef. 11-1-86, Renumbered from 690-060-0050 & 690-064-0000

WRD 12-1982, f. & cert. ef. 12-14-82

WRD 9-1978, f. 12-12-78, cert. ef. 1-1-79

WRD 9, f. & cert. ef. 12-9-77

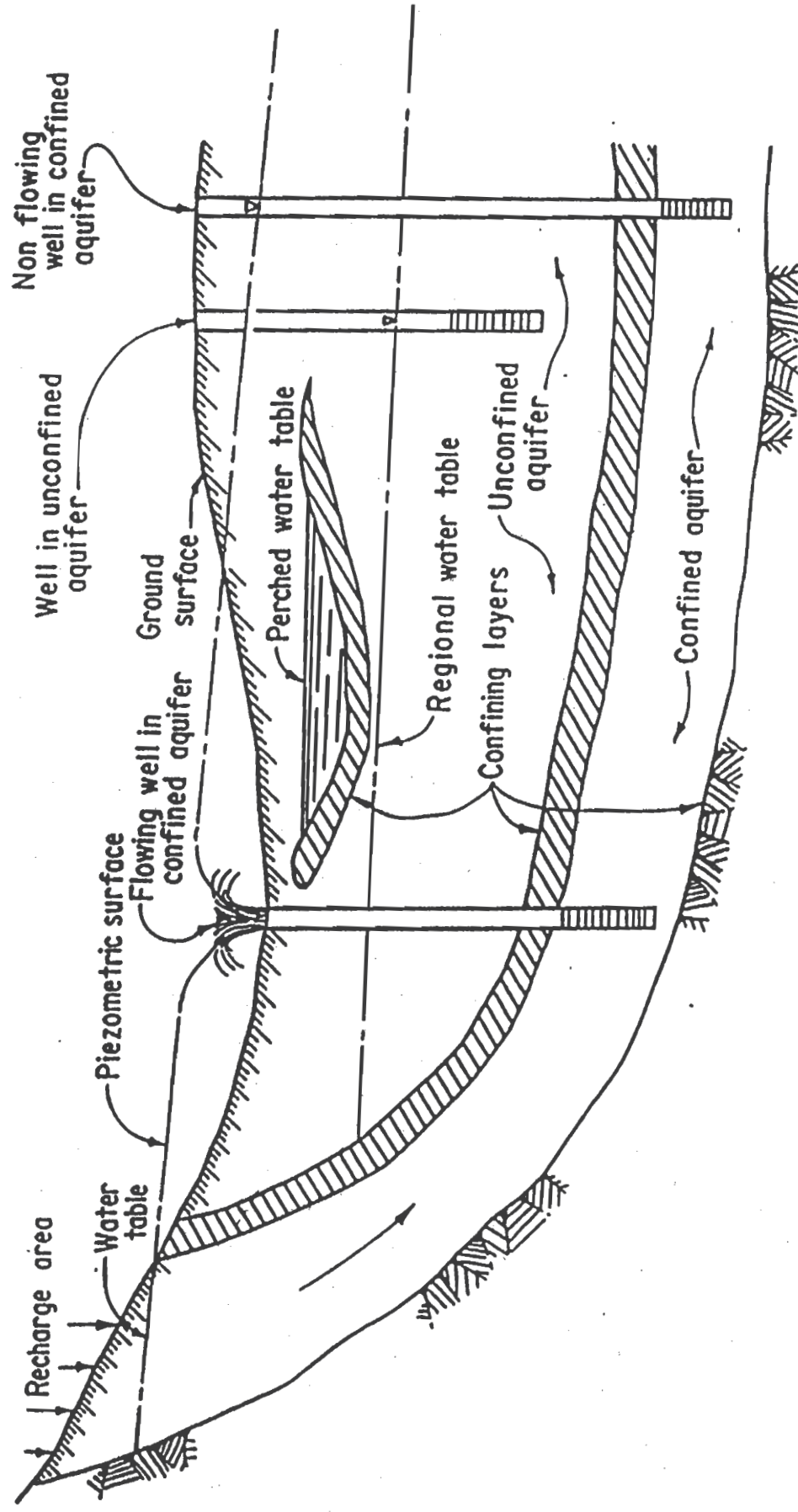


FIGURE 1-2.—Types of aquifers. 103-D-1401.

**Water Resources Department
Chapter 690
Division 205**

WATER SUPPLY WELL CONSTRUCTION: STANDARDS AND LICENSING

690-205-0010 Water Supply Well Constructor License Examination

(1) The Water Resources Department administers the written examination required under ORS 537.747. Separate examinations are administered for each license endorsement. The Department schedules the examination on the second Monday during the months of January, April, July and October. Examinees must pay a \$20.00 exam fee. Special accommodations may be given to those individuals who cannot attend the regularly scheduled examination dates. Requests shall be considered on a case-by-case basis. The examination tests the applicant's knowledge of:

(a) Oregon laws and administrative rules on the use of ground water, water supply well constructor licensing requirements, basic information on hydrogeology, the construction of water supply wells, and the preparing and filing of Start Cards and Water Supply Well Reports;

(b) Hydrogeology, the occurrence and movement of ground water, and the design, construction and development of water supply wells; and

(c) Types, uses, and maintenance of drilling tools and equipment, drilling problems and corrective procedures, repair of faulty water supply wells, sealing of water supply wells, and safety rules and practices.

(2) An applicant who fails to pass an endorsement examination may retake an examination for the same endorsement after three months and the payment of another examination fee.

(3) Passing examination scores are valid for three years from the date of the examination.

Statutory/Other Authority: ORS 536.027, ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 2-2006, f. & cert. ef. 6-20-06

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 7-1988, f. & cert. ef. 6-29-88

690-205-0020 Water Supply Well Constructor's License, Experience Requirements, ~~and~~ Trainee Card and Temporary Authorization

(1) License. To qualify for a Water Supply Well Constructor's License, a person shall:

(a) Be at least 18 years old;

(b) Pass a written examination;

(c) Have a minimum of one year experience, during the previous ~~36-month~~36-month period, in water supply well construction, conversion, alteration, or abandonment. This experience shall include the operation of well drilling machinery for water supply well construction, alteration, conversion, or abandonment on a minimum of fifteen water supply wells or a demonstration of equivalent experience in the operation of well drilling machinery. The following are acceptable as evidence of experience:

(A) Water supply well reports, or rough well logs with applicants' name entered, for each of the 15 wells. The name, address, and telephone number of the person responsible for the construction of each well shall be included on each report or log.

(B) Income tax returns showing source of drilling income for a period of time, or worker's compensation account information or the equivalent may be established to satisfy the one year of active construction requirement.

(C) Any other evidence the Director may deem suitable.

(D) A license held in another state shall not substitute for required evidence of experience.

(d) Pay a license fee.

(e) Provide evidence of welding proficiency. The following options will satisfy the evidence of welding proficiency requirement:

(A) A copy of an arc welding certificate from a nationally recognized welding organization. Acceptable organizations include, but are not limited to, American Welding Society, American Petroleum Institute, American Society of Mechanical Engineers, and the United States Military; or

(B) A copy of an official transcript or other official written documentation from a community college that demonstrates a passing grade in an arc welding training course; or

(C) Official written documentation from a university, welding school, trade school, technical institute, or nationally recognized welding organization that demonstrates that the applicant has received a passing grade in an arc welding training course or has otherwise completed professional welding training; or

(D) Written documentation from a certified welding instructor or certified welding inspector, providing proof that the applicant has successfully completed arc welding tests to demonstrate proficiency at welding steel casing joints as required in OAR 690-210-0200; or

(E) A copy of an American Welding Society D1.1 structural welding certificate for steel with a test in the 2G horizontal position.

(f) Applicants that hold a current Oregon monitoring well constructor's license are not required to provide evidence of welding proficiency to obtain a water supply well endorsement.

(2) Trainee. If an applicant passes the written Water Supply Well Constructor's License examination, but cannot meet the experience requirement, the Commission may issue a trainee card. To qualify for a Water Supply Well Constructor Trainee Card, a person must:

- (a) Be at least 18 years old;
- (b) Pass a written examination; and
- (c) Be supervised by a person who holds a valid Water Supply Well Constructor's License.

(3) Trainee card. A trainee card is valid for three (3) years from the date the examination was passed.

(4) Supervision. Supervision as it relates to any person who holds a Water Supply Well Constructor Trainee Card:

(a) A trainee may operate a cable tool drilling machine without a licensed Water Supply Well Constructor physically present at the well site only if:

(A) The licensed constructor can reach the well site within two hours if ~~so~~ requested by an authorized representative of the Department; and

(B) The licensed constructor has signed the rough drilling log within eight working hours prior to the representative's visit.

(b) A licensed Water Supply Well Constructor must physically be on the site at all times when a cable tool drilling machine is:

- (A) Drilling within a flowing artesian well;
- (B) Setting or advancing casing;
- (C) Setting liner;
- (D) Perforating casing;

(E) Setting well screens;

(F) Placing packers;

(G) Placing casing seals;

(c) A Water Supply Well Constructor trainee may operate a non-cable tool water supply well drilling machine without a licensed Water Supply Well Constructor physically present at the well site only during the following events:

(A) Air test or pump test of the well;

(B) Gravel packing operations;

(C) Developing a completed well;

(D) Removal of the drill stem from the well.

(d) Activities under subsection (4)(c)(A)–(D) of this rule shall proceed only if:

(A) The licensed Water Supply Well Constructor can reach the site within one hour if ~~so~~ requested by an authorized representative of the Department; and

(B) The licensed Water Supply Well Constructor has signed the rough drilling log within eight working hours prior to the representative's visit.

(e) An authorized representative of the Department in whose jurisdiction the water supply well is being constructed has the authority to:

(A) Grant an extension to the time limits stated above when a request, showing good cause, is received from the bonded constructor in advance for each particular well; and

(B) Place additional restrictions on the trainee, including requiring the constructor to be on the site at all times while the drilling machine is operating, when the authorized Department representative determines that either the drilling environment or the knowledge and/or experience of the trainee warrant closer supervision.

(f) For a Water Supply Well Constructor Trainee to operate a water supply well drilling machine without a licensed Water Supply Well Constructor present, the trainee's card must be endorsed with the name of the bonded Water Supply Well Constructor responsible for the construction of the water supply well.

(5) Water Supply Well Constructor's License Temporary Authorization Endorsement. A person that is the spouse of a member of the Armed Forces of the United States through marriage or domestic partnership, whose spouse is stationed in this state, may apply for a Water Supply Well Constructor's License Temporary Authorization Endorsement.

(a) Application for a water supply well constructor's license temporary authorization endorsement must include the following:

(A) Completed and signed application form including evidence the person is 18 years of age or older;

(B) Examination fee;

(C) A copy of a marriage certificate, domestic partnership registration, or other official evidence of legal union and an attestation that said union is valid and in effect;

(D) A copy of the spouse or domestic partner's assignment to an Oregon duty station by official active duty military order;

(E) Official verification of the applicant's current authorization to provide water supply well constructor services in another state along with the Department's "good standing" form;

(F) A completed comparison form as provided by the Department, outlining the out-of-state licensing authority's authorization requirements; and

(G) Official notification from the Department that applicant has passed the water supply well constructors license examination.

(b) The Department will review the application for a Water Supply Well Constructor's License Temporary Authorization Endorsement once all materials are submitted. A Water Supply Well Constructor's License Temporary Authorization Endorsement shall be issued if the Department determines:

(A) Applicant is eligible to apply;

(B) The Out-of-state authorization is current;

(C) The Out-of-state licensing authority's licensing requirements are substantially similar to the Department's requirements;

(D) The good standing form is complete;

(E) The applicant has passed the written exam; and

(F) The license fee is paid.

(c) A temporary authorization endorsement issued by the Department is valid until the earliest of:

(A) Two (2) years after the date of issuance;

(B) The date the spouse's term of military service ends;

(C) The date the persons out-of-state authorization expires.

(d) Temporary authorizations are not renewable. The holder of an expired temporary authorization may not continue to provide services for the construction, alteration, conversion, or abandonment of water supply wells after expiration unless the person obtains a Water Supply Well Constructor's License under subsection one (1) of this rule.

(e) The Department shall report annually to the State Legislature about temporary authorization endorsements as required in Section 1, Chapter 626, Oregon Laws 2019.

~~(65)~~ Other supervision requirements for persons not licensed or permitted to construct water supply wells, or who do not hold a Water Supply Well Constructor Trainee Card:

(a) Persons who are in the act of constructing, altering, converting or abandoning water supply wells must be supervised by a licensed Water Supply Well Constructor who is physically present at the well site at all times during construction, alteration, conversion, or abandonment activity.

(b) The supervising Water Supply Well Constructor is responsible for all applicable statutes and rules in construction, alteration, conversion, or abandonment of the water supply well.

~~(76)~~ Persons who satisfy all requirements of ORS 537.747(3) shall be issued a Water Supply Well Constructor's License. The responsibilities for issuing and securing a Water Supply Well Constructor's License or trainee card are listed in subsections (a) and (b) of this section.

(a) The Water Supply Well Constructor's License applicant is responsible for:

(A) Completing an application or renewal form for a new or renewed license or trainee card;

(B) Submitting the application or renewal form to the Water Resources Department along with the required fees;

(C) Carrying the license or trainee card whenever constructing, altering, converting, or abandoning any water supply well; and

(D) Providing the Water Resources Department, within 30 days, notification of any change of mailing address.

(E) Providing the Water Resources Department documentation satisfying the continuing education requirements set forth in OAR 690-205-0035 through 690-205-0120.

(b) The Water Resources Department is responsible for:

(A) Designing and providing Water Supply Well Constructor license(s) and trainee cards;

- (B) Designing and providing application forms and renewal forms for licenses and application forms for trainee cards;
- (C) Processing applications and renewals for licenses and applications for trainee cards;
- (D) Returning incomplete application and renewal forms to applicants for completion; and
- (E) Sending new and renewed licenses to applicants who have completed the application or renewal form and submitted the required fee. This does not preclude refusal to renew as outlined in OAR 690-205-0025(4).

(87) Bonded Water Supply Well Constructor. For a person to possess a bonded Water Supply Well Constructor's License, the person must provide to the Department a properly executed Water Well Constructor's Bond or Irrevocable Letter of Credit. The Water Resources Department shall indicate on the constructor's license a bonded classification.

(98) Representatives of the Water Resources Department may ask anyone constructing, altering, or abandoning a water supply well to present their license or trainee card as proof of eligibility to construct, alter, convert, or abandon water supply wells in the State of Oregon. Licensed individuals shall display their license or trainee card and photo identification when they are requested to do so by Water Resources Department personnel.

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, [ORS 536.900](#), [ORS 536.027](#), [ORS 106.340](#), [ORS 537.992](#), [Or Laws 2019, ch 142](#), [Or Laws 2019, ch 626](#), [Or Laws 2021, ch 610](#)

Statutes/Other Implemented: ORS 536.090, ORS 537.505 - 537.795, [ORS 536.900](#), [ORS 106.340](#), [ORS 537.992](#), [Or Laws 2019, ch 142](#), [Or Laws 2019, ch 626](#), [Or Laws 2021, ch 610](#)

History:

WRD 2-2006, f. & cert. ef. 6-20-06

WRD 1-2003, f. & cert. ef. 3-14-03

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 7-1988, f. & cert. ef. 6-29-88

690-205-0045**Continuing Education Requirement**

- (1) ~~As of June 30, 2005, e~~Each individual licensed under ORS 537.747 is required to obtain a minimum of 14 continuing education credits (CECs) during each licensing period regardless of the number of licenses or endorsements held. Continuing education credits may be obtained through clinics, schools, professional organizations, seminars, lectures or other continuing education courses that relate to the practice of well construction and are approved by the Continuing Education Committee.
- (2) A minimum of two (2) CECs shall pertain to ground water and well construction statutes under ORS 537.505 to 537.795 and 537.992, and administrative rules under OAR 690-200 through 690-240 during each licensing period.
- (3) A maximum of eight (8) CECs may be obtained through approved safety/first aid/CPR/Hazardous Materials courses during each licensing period. Of the eight (8) CECs, a maximum of four (4) CECs may be obtained through Hazardous Materials training courses and a maximum of four (4) CECs may be obtained through safety/first aid/CPR courses.
- (4) Exhibitions shall count as one (1) CEC per approved exhibition attended and shall not exceed two (2) CECs per licensing period.
- (5) Licensees may count approved CECs accumulated after January 1, 2002, for their first license renewal that requires CECs.

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 536.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 536.992

History:

WRD 1-2003, f. & cert. ef. 3-14-03

690-205-0175 Landowner Well Construction Permit, Fee and Bond

(1) The Water Resources Commission requires a permit, permit fee, and bond or irrevocable letter of credit, for each water supply well constructed, altered, converted, or abandoned by a landowner, unless the landowner is a licensed and bonded Water Supply Well Constructor. The landowner permit and bond shall be obtained prior to beginning work on a well.

(2) To receive a Landowner Well permit, a person must submit the following to the Director:

(a) A completed application form provided by the Commission, containing:

(A) The property owner's name, address and telephone number;

(B) The surety company's name, address and telephone number;

(C) The proposed location of the well by township, range, section, tax-lot number if assigned, and street address;

(D) The proposed use of the water supply well; and

(E) The type of proposed work; and

(F) Well design plan on form approved by the Department.

(b) A properly executed Landowner's Water Well Bond or Irrevocable Letter of Credit in the amount specified under ORS 537.753 to the State of Oregon; and

(c) A permit fee in the amount specified under ORS 537.753.

(3) Only the owner of record, a member of the immediate family of the owner of record, or a full time employee of the owner of record, (whose main duties are other than the construction of wells), may operate a well drilling machine under a landowner's permit.

(4) A landowner permit issued pursuant to these rules shall expire six months from the date of issuance.

(a) A water well report shall be submitted within 30 days of expiration of the landowner permit, or within 30 days of completion of the well, whichever occurs first. The report shall be certified as correct by signature of the landowner constructing the water supply well.

(5) If the landowner permit expires, a landowner may reapply for a new landowner permit by complying with the requirements described in sections (1), (2) and (3) of this rule.

(6) The Department may deny a landowner permit if it is determined that the construction, alteration, abandonment, or conversion of the proposed well is a health threat, a health hazard, a source of contamination, or a source of waste of the ground water resource.

Statutory/Other Authority: ORS 183, ~~536, 537~~, ORS 540, ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 183, ~~536, 537~~, ORS 540, ~~HB 2296A(2017)~~ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 7-2017, amend filed 12/18/2017, effective 01/01/2018

WRD 2-2006, f. & cert. ef. 6-20-06

WRD 4-2004, f. & cert. ef. 6-15-04

WRD 1-2003, f. & cert. ef. 3-14-03, Renumbered from 690-205-0050

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 7-1988, f. & cert. ef. 6-29-88

WRD 13-1986, f. 10-7-86, cert. ef. 11-1-86, Renumbered from 690-010-0026

WRD 3-1983, f. & cert. ef. 4-28-83

690-205-0200 Water Supply Well Construction Notice Required (Start Card)

(1) Each bonded Water Supply Well Constructor licensed to operate in the State of Oregon and each landowner holding a landowner's permit shall provide ~~notice~~ start card as required in ORS 537.762 before commencing the construction, alteration, or abandonment of any water supply well or conversion of any monitoring well, geotechnical hole, or other hole to a water supply well. The start card shall contain the following information:

(a) ~~Name-, telephone number, electronic mail address and mailing post-office~~ name, telephone number, electronic mail address and mailing post-office address of the ~~landowner~~ owner of the well;

(b) Street address of the well. If property does not have an address, then the street address nearest to the proposed well;

(c) The approximate location of the water supply well by county tax lot number, township, range, section and nearest quarter-quarter section; ~~and~~

(d) The latitude and longitude of the well as established by a global positioning system;

~~(de)~~ The proposed depth, and diameter of the well;

(f) The proposed, and purpose or use of the groundwater from the proposed well if the well is new, altered, or converted;

(g) The time frame proposed for beginning and completing the construction, alteration, abandonment or conversion;

(h) The time frame proposed for annular seal placement. If the actual date of seal placement is not the date proposed on the start card, the licensed or permitted person shall notify the department of the change at least four (4) hours before placing the seal. Notification shall be submitted:

(A) Electronically by department approved methods; or

(B) By mail, or hand, delivery to the region office where the well to be drilled, altered, converted, or abandoned is located. If this method is used, then the notification must be on a department approved notification form and received by the region office at least four (4) hours prior to placing the seal; or

(C) By electronic mail. If notification is sent by electronic mail, then the electronic mail shall include a completed copy of a department approved notification form. If department approved notification form is not attached to the electronic mail, then original notification form must be submitted to the Department within three (3) working days of the date of electronic mail notification.

(i) The well identification label number, if assigned;

(j) The water right application, permit or certificate number, if applicable;

(k) The original well log number, if applicable;

(l) The type of work proposed;

(m) Notification of any need for special standards;

(n) The signature and license number, if applicable, of the bonded and licensed or permitted person who would undertake the work;

(o) For an existing well, the current purpose or use of the well and the existing depth and diameter of the well.

(2) In addition to the information required pursuant to OAR 690-205-0200(1)(a)–(d), a start card may also contain information regarding the type of proposed alteration.

(3) Forms for making these reports and submitting fees shall be furnished by the Department.

(4) Landowners who construct, alter, convert, or abandon a water supply well shall also comply with OAR 690-205-0175.

(5) On the day that work on the well commences, the licensed or permitted person shall, before commencing work, notify the department that the work is about to commence. Notification shall be submitted:

(a) Electronically by department approved methods; or

(b) By mail, or hand delivery, to the region office where the well to be drilled, altered, converted, or abandoned is located. If this method is used, then the notification must be on a department approved notification form and received by the region office prior to beginning construction, alteration, conversion, or abandonment work; or

(c) By electronic mail. If notification is sent by electronic mail, then the electronic mail shall include a completed copy of a department approved notification form. If department approved notification form is not attached to the electronic mail, then original notification form must be submitted to the Department within three (3) working days of the date of electronic mail notification.

[ED. NOTE: Forms Tables and Figures referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992, Or Laws 2021, ch 610

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992, Or Laws 2021, ch 610

History:

WRD 3-2008, f. 12-22-08, cert. ef. 1-2-09
WRD 2-2006, f. & cert. ef. 6-20-06
WRD 4-2004, f. & cert. ef. 6-15-04
WRD 1-2003, f. & cert. ef. 3-14-03, Renumbered from 690-205-0070
WRD 2-2002, f. & cert. ef. 9-6-02
WRD 7-2001, f. & cert. ef. 11-15-01
WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94
WRD 10-1989, f. & cert. ef. 11-20-89
WRD 7-1989(Temp), f. & cert. ef. 9-29-89
WRD 7-1988, f. & cert. ef. 6-29-88
WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-010-0035
WRD 3-1983, f. & ef. 4-28-83
WRD 3, f. & ef. 2-18-77

690-205-0205 Start Card Reporting Requirements

(1) The start card notification required in ORS 537.762 shall be submitted to the Department's region office (Figure 2051) within which the water supply well is being constructed, altered converted or abandoned using one of the following methods:

(a) Start cards submitted electronically shall be transmitted by a Department-approved method and shall be submitted not earlier than 60 days and not later than three (3) calendar days (72 hours) before beginning construction, alteration, conversion or abandonment work on any water supply well.

(b) By regular mail so that it is received by the Department not earlier than 60 days and not later than three (3) calendar days (72 hours) prior to commencement of work; or

(c) By hand delivery, during regular office hours, not earlier than 60 days and not later than three (3) calendar days (72 hours) before beginning the construction, alteration, conversion or abandonment work on any water supply well; or

(d) By facsimile transmission (FAX) (Table 205-1) not earlier than 60 days and not later than three (3) calendar days (72 hours) before beginning the construction, alteration, conversion or abandonment work on any water supply well. If this method is used, a legible copy of the start card shall also be mailed, or delivered to the appropriate OWRD region office not earlier than 60 days and not later than three (3) calendar days (72 hours) before the day work begins.

(e) Start cards may not be submitted earlier than 60 days or later than three (3) calendar days (72 hours) before beginning construction, alteration, conversion or abandonment work on any water supply well except as specified in Section (3) of this rule.

(2) The fee required under ORS 537.762(5) for the construction of a new well, deepening of an existing well, conversion of a monitoring well, geotechnical hole, or other hole shall be submitted to the Department's Salem office with a duplicate copy of the start card. A duplicate start card is not required if the start card fee is included with a start card submitted electronically under Section (1)(a) of this rule.

~~(3) If a start card has been filed under section (1) and (2) of this rule and additional wells are required on the same or contiguous tax lot and for the same landowner, then start cards for the additional wells shall be filed no later than the day work begins. The requirement in subsection (1) of this section that a licensed or permitted person must submit a start card not less than three calendar days (72 hours) before beginning work on a well does not apply:~~

~~(a) To a second or additional water well drilled on the same or a contiguous tax lot for the same landowner and for which a valid unexpired start card has been submitted pursuant to this section, if a start card for the second or additional water well is filed not later than the day the work on the water well begins;~~

~~(b) During water emergencies or casing height adjustments, if a start card is submitted before work begins.~~

(4) The Director or region office may provide ~~an alternative~~¹⁵~~alternative~~^{ive} means of a start card notification. If an alternative means of notification is used, the start card shall be received by the Department's Salem office~~mailed or delivered to the region office~~ within one week of beginning work on the water supply well. A Water Supply Well Constructor whose license has been restricted by order shall provide notice as stipulated in the order.

(5) Once received by the Department, the start card shall be confidential for a period of one year after it is received or until the water supply well report required by OAR 690-205-0210 is received, whichever is shorter.

(6) The start card may be used in an administrative enforcement action at any time, including the period of confidentiality. Once the start card is used for enforcement reasons, it is no longer confidential.

(7) A separate start card and fee, if necessary, is required for each well that is constructed, altered, abandoned, or converted. This requirement includes unsuccessful wells and wells exempt from appropriation permit requirements under ORS 537.545.

(8) Effective July 1, 2024, start cards shall be submitted to the department by electronic means unless prior written approval is received to submit paper start cards.

(9) A start card expires if construction, alteration, abandonment or conversion of a well does not begin on or before 60 days after submission of the start card. If a start card expires, a new start card and fee must be submitted in compliance with ORS 537.762 and these rules before construction, alteration, abandonment or conversion of the well may occur. If a start card is withdrawn before expiring, the licensed or permitted person that submitted the start card may request that the fee paid for the withdrawn start card be transferred to a new start card.

(10) For good cause shown, start cards may be extended in exigent circumstances one time for up to 30 calendar days with prior department approval. Requests for extension shall be submitted:

(a) In writing on a department approved form prior to expiration of the start card. The form shall include:

(A) The start card number;

(B) A description of the circumstances that warrant extension of the start card;

(C) Date of request;

(D) Driller name and license number;

(E) Owner name and contact information.

(b) Electronically by department approved methods.

(c) For the purposes of this rule, “good cause” means the exigent circumstances are due to circumstances beyond the reasonable control of the requester.

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 537.992,
Or Laws 2021, ch 610

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992,
Or Laws 221, ch 610

History:

WRD 3-2008, f. 12-22-08, cert. ef. 1-2-09

WATER RESOURCES DEPARTMENT
CONSTRUCTION, MAINTENANCE, ALTERATION, CONVERSION AND
ABANDONMENT OF MONITORING WELLS, GEOTECHNICAL HOLES AN
OTHER HOLES IN OREGON

Table 205-1
(690-205-0205)

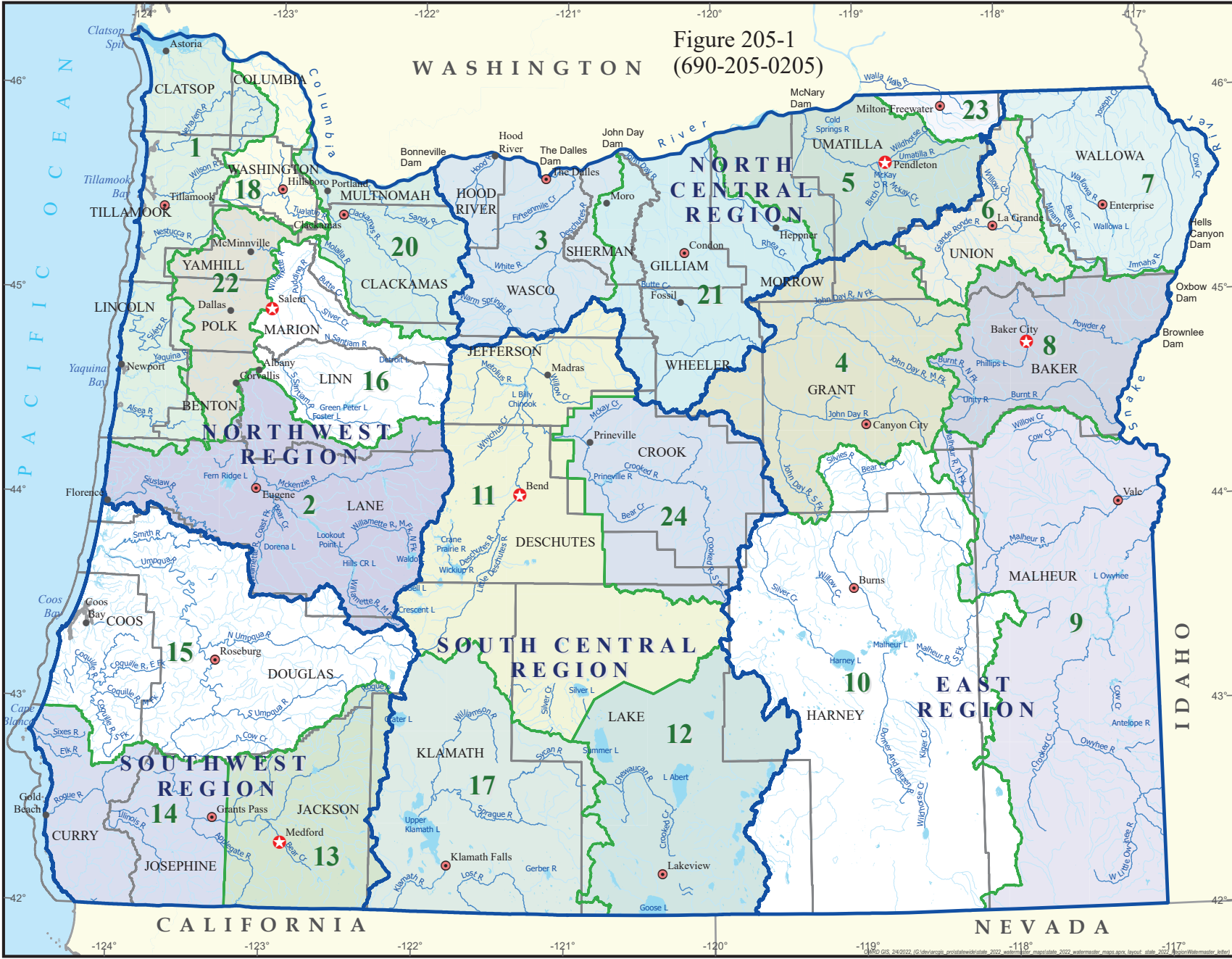
Region Office Phone and Fax Numbers

Region	Office Location	Phone Number	Fax Number
Eastern	Baker City	541-523-8224	541-550-3898
North Central	Pendleton	541-278-5456	541-278-0287
Northwest	Salem	503-986-0893	503-986-0903
South Central	Bend	541-306-6885	541-388-5101
Southwest	Medford	541-774-6880	503-774-6187

Notes:

1. Fax numbers are subject to change.
2. A current version of this table is available from the Water Resources Department's Salem office.
3. See Figure 205-1 for a map of region boundaries.

Figure 205-1
(690-205-0205)



- District Offices**
- 1 Tillamook
 - 2 Eugene
 - 3 The Dalles
 - 4 Canyon City
 - 5 Pendleton
 - 6 La Grande
 - 7 Enterprise
 - 8 Baker City
 - 9 Vale
 - 10 Burns
 - 11 Bend
 - 12 Lakeview
 - 13 Medford
 - 14 Grants Pass
 - 15 Roseburg
 - 16 Salem
 - 17 Klamath Falls
 - 18 Hillsboro
 - 20 Clackamas
 - 21 Condon
 - 22 Salem
 - 23 Milton-Freewater
 - 24 Bend

- District office
- Region office
- District boundary
- Region boundary
- County boundary

0 10 20 30 40 50 Miles

OREGON

WATER RESOURCES DEPARTMENT

State of Oregon
Water Resources Department
 725 Summer Street NE, Suite A
 Salem, Oregon 97301-1266
 (503)986-0900
www.oregon.gov/OWRD

Regions and Watermaster Districts 2022

2022 GIS 2/4/2022 (G:\data\gis\prod\dist\dist_2022_watermaster.mxd) 2022 watermaster.mxd.aprx layout state 2022 10:20:10 AM

690-205-0210 Well Report Required (Water Supply Well Log)

(1) A water well report (water well log) shall be prepared for each water supply well constructed, altered, converted, or abandoned. This requirement includes unsuccessful wells and wells exempt from appropriation permit requirements under ORS 537.545. The log shall be certified as correct by signature of the Water Supply Well Constructor constructing the water supply well. The completed log shall also be certified by the bonded Water Supply Well Constructor responsible for construction of the well. A water well report must be submitted by each bonded constructor (if drilling responsibility is shifted to a different bonded constructor), showing the work performed by each bonded constructor.

(2) Well Reports may be submitted electronically by a Department-approved method. Well reports submitted on paper~~The log~~ shall be prepared in triplicate on forms furnished or previously approved in writing by the Water Resources Department. The original shall be furnished to the Director, the first copy shall be retained by the Water Supply Well Constructor, and the second copy shall be given to the customer who contracted for the construction of the water supply well.

(3) The bonded Water Supply Well Constructor shall file the certified water well ~~log~~report with the ~~Director~~Water Resources Department within 30 days after the completion of the construction, alteration, conversion or abandonment of the water supply well.

(4) The trainee or Water Supply Well Constructor operating the water supply well drilling machine shall maintain a rough log of all geologic strata encountered and all materials used in the construction of the water supply well. This log shall be available for inspection by the Watermaster~~well inspector~~, or other authorized agent of the Water Resources Department at any time before the water well report is received by the Department. The rough drilling log shall be in handwritten or electronic form, or a voice recording.

(5) In the event a constructor leaves any drilling equipment or other tools in a water supply well, this fact shall be entered on the water well report.

(6) A copy of any special authorizations or special standards issued by the Director shall be attached to the water supply well report.

(7) The report of water well construction required in section (1) of this rule shall be submitted electronically by a Department-approved method or recorded on a form provided or previously approved in writing by the Department. The form shall include, as a minimum, the following:

(a) Name and post-office Address of the Landowner~~well owner~~;

(b) Name and license number, if applicable, of the licensed or permitted person performing the work;

(c) Name and license number, if applicable, of the licensed or permitted person responsible for the work;

(d) Name of any person that assisted with the work;

(e) Started/Completed date;

(f) Location of the well by county, Township, Range, Section, tax lot number, if assigned, street address, or nearest address, ~~and either~~ the nearest 1/4, 1/4 section, ~~or~~ and Latitude and Longitude as established by a global positioning system (GPS);

(g) Start card number;

(h) Well identification label number (well tag number);

(i) Type of well;

(j) Use of well;

(k) Type of work;

(l) Depth drilled and completed depth;

(m) Diameter of boreholes;

(n) Type, size, and amount of casing and where placed in the well;

(o) Type and amount of seal material used and where placed;

(p) Number and location of perforations or screens;

(q) Temperature of the groundwater encountered;

(r) Thickness of aquifers;

(s) Total dissolved solids (TDS); and

(t) Such additional information as required by the Department.

(8) Effective July 1, 2024, well reports shall be submitted to the department by electronic means unless prior written approval is received to submit paper well reports.

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, Or Laws 2021, ch 610, ORS 536.027, ORS 537.992, ORS 536.900

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, Or Laws 2021, ch 610, ORS 537.992, ORS 536.900

History:

WRD 5-2016, f. & cert. ef. 9-6-16

WRD 2-2006, f. & cert. ef. 6-20-06
WRD 4-2004, f. & cert. ef. 6-15-04
WRD 1-2003, f. & cert. ef. 3-14-03, Renumbered from 690-205-0080
WRD 7-2001, f. & cert. ef. 11-15-01
WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94
WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-010-0040
WRD 3-1983, f. & ef. 4-28-83
WRD 3, f. & ef. 2-18-77

**Water Resources Department
Chapter 690
Division 210
WELL CONSTRUCTION STANDARDS**

690-210-0130 Sealing of Wells in Unconsolidated Formations Without Significant Clay Beds

Water supply wells drilled into unconsolidated water-bearing strata overlain by unconsolidated materials, such as sand, silt, or gravel, without significant clay beds, shall have a watertight, unperforated well casing extending to a minimum of eighteen feet below land surface. An upper oversized drillhole, four inches greater in diameter than the nominal diameter of the casing, shall be constructed to a minimum depth of 18 feet. To prevent caving, a temporary surface casing, at least 18 feet in length, shall be used throughout the construction of the annular seal space. The annular space between the permanent well casing and the upper, oversized drillhole shall be completely full of grout in accordance with OAR 690-210-0310 thru 690-210-0360 after the permanent well casing is set into final position. The temporary surface casing shall be removed from the well as the annular space is filled. (See Figure 210-2)

~~[ED. NOTE: Figures referenced are available from the agency.]~~

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 5-2015, f. & cert. ef. 7-1-15

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

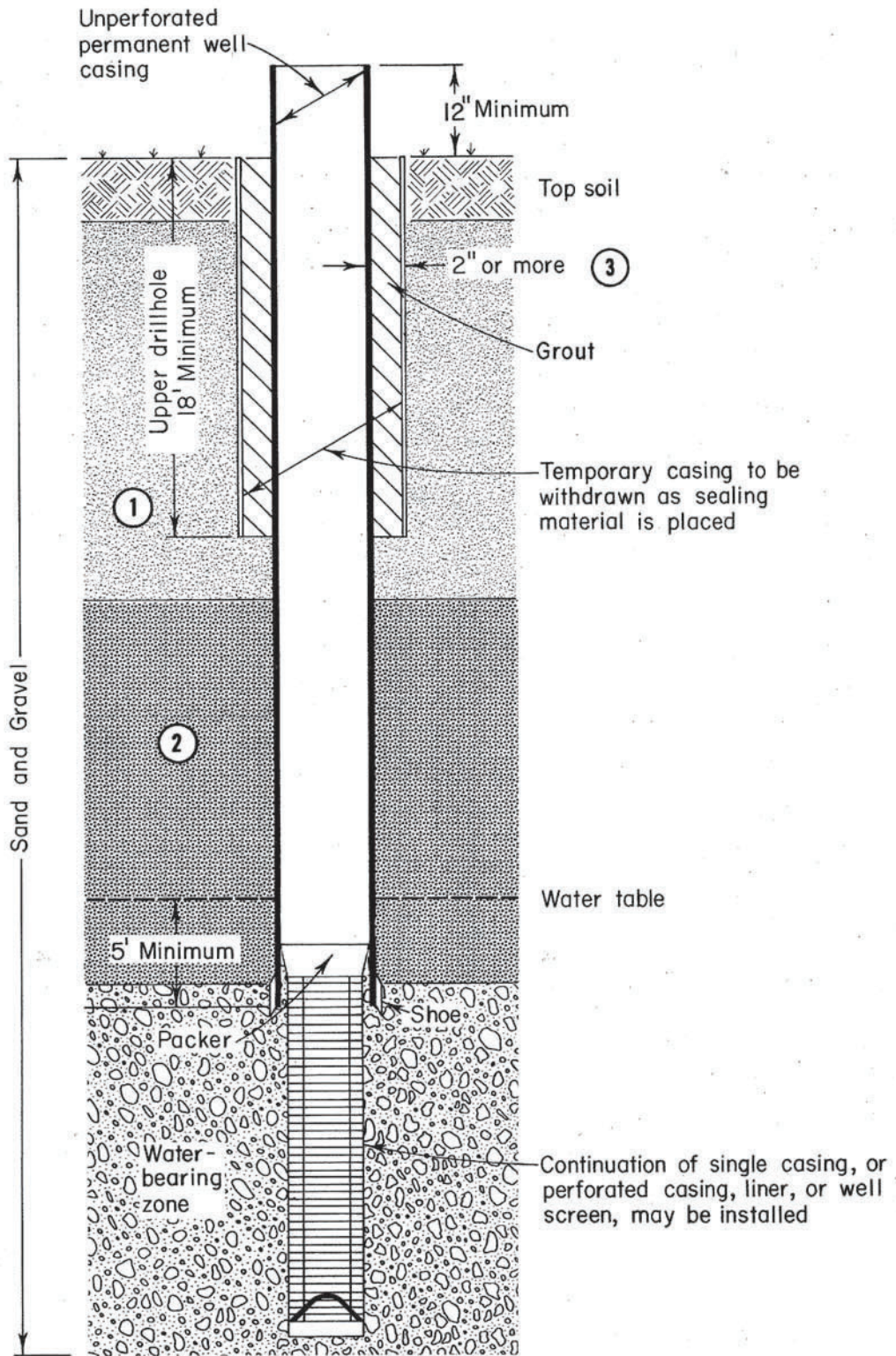
WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-061-0126

WRD 9-1978, f. 12-12-78, ef. 1-1-79

SEALING OF WATER SUPPLY WELLS IN UNCONSOLIDATED FORMATIONS WITHOUT SIGNIFICANT CLAY BEDS (OAR 690-210-0130) 245

Overlying Material - Sand and Gravel without Clay

Water-bearing Formation - Sand and Gravel or Similar



- ① Upper oversize drillhole and annular seal must extend to a depth of at least 18 feet.
- ② Unperforated watertight well casing must extend at least 5 feet below the water table and to a minimum depth of 18 feet.
- ③ Annular sealing space requirements are based on nominal casing sizes

690-210-0140**Sealing of Water Supply Wells in Unconsolidated Formations with Significant Clay Beds**

Water supply wells drilled into water-bearing intervals overlain by unconsolidated deposits of clay, or sand and gravel in which significant interbeds of clay are present, shall have a watertight, nonperforated, permanent well casing extending at least five feet into the clay interval overlying the water-bearing zone. In all cases, an upper oversize drillhole, at least four inches greater in diameter than the nominal diameter of the permanent well casing shall be constructed to this same depth. In the event that the subsurface materials penetrated by the upper drillhole cave, or tend to cave, an outer, temporary surface casing shall be used to case out caving materials throughout the construction of the oversize drillhole. If the clay interval is 13 feet or less below land surface, the watertight, nonperforated well casing and the upper, oversize drillhole shall extend to a minimum depth of 18 feet below land surface. If necessary to complete the well, the single, permanent well casing may be extended below the required sealing depth prior to sealing the well with grout. If preferred, a smaller diameter casing, liner, or well screen may be installed. The annular space between the permanent well casing and the upper, oversize drillhole shall be completely filled with grout in accordance with OAR 690-210-0310 through 690-210-0360 after the permanent well casing is set into final position. The temporary surface casing shall be removed from the well as the annular space is filled. (See Figure 210-3).

~~[ED. NOTE: Figures referenced are available from the agency.]~~

Statutory/Other Authority: ORS 536.090, ORS 537.505 – 537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS ~~183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 5-2016, f. & cert. ef. 9-6-16

WRD 5-2015, f. & cert. ef. 7-1-15

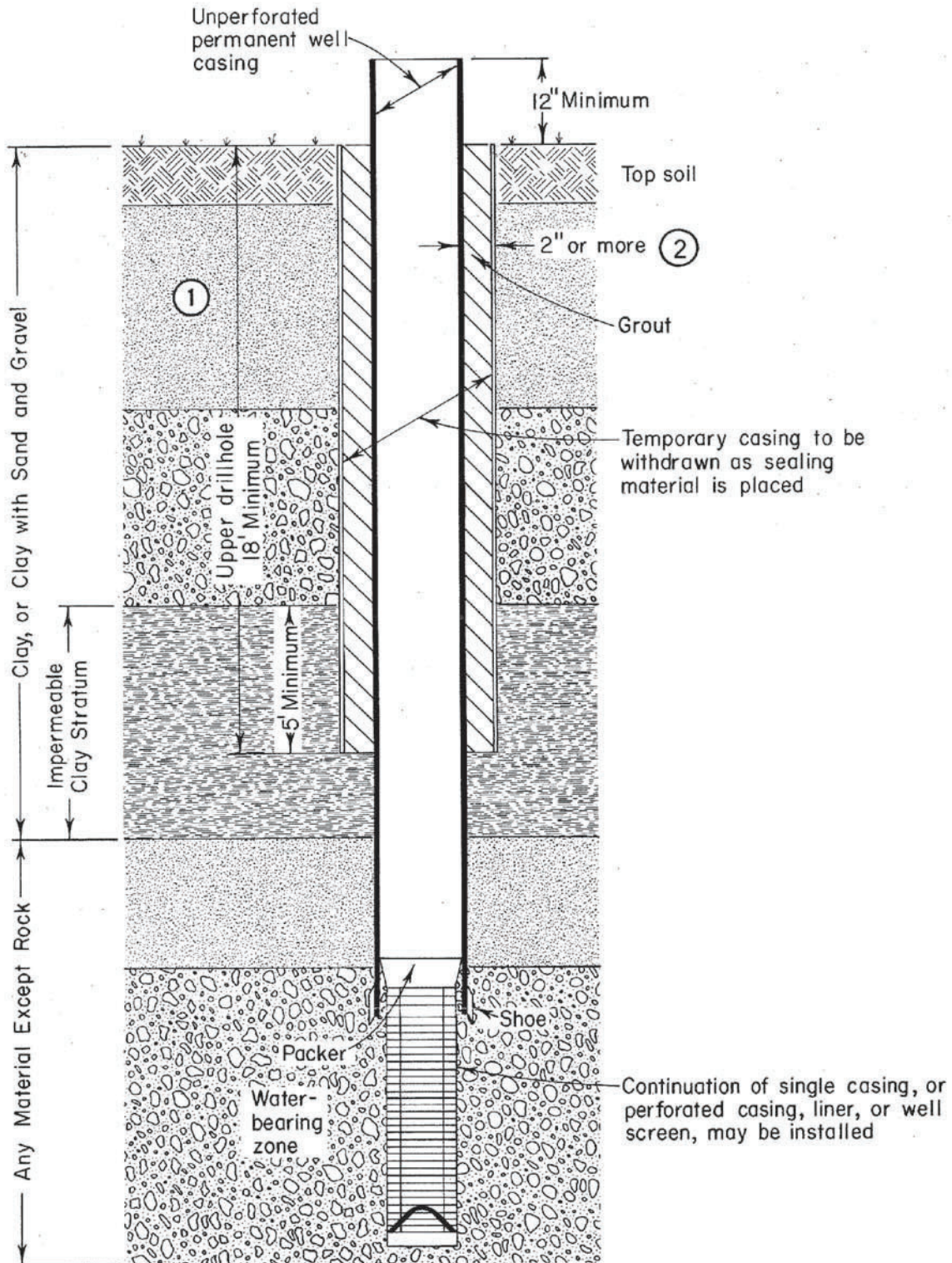
WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 9-1978, f. 12-12-78, ef. 1-1-79, Renumbered from 690-061-0131

SEALING OF WATER SUPPLY WELLS IN UNCONSOLIDATED FORMATIONS WITH SIGNIFICANT CLAY BEDS (OAR 690-210-0140)

Overlying Material – Clay, or Sand and Gravel with Interbedded Clay
Water-bearing Formation – Any Material Except Rock



- ① Unperforated well casing and annular seal must extend at least 5 feet into impermeable stratum, and must extend at least 18 feet below land surface.
- ② 1" or more if cement grout is placed by grouting method A, B, or D. Annular sealing space requirements are based on nominal casing sizes

690-210-0150 Sealing of Water Supply Wells in Consolidated Formations

(1) Water supply wells drilled into a water-bearing rock formation overlain by clay, silt, sand, gravel, cobbles, or similar materials, shall be constructed in accordance with one of the following methods:

(a) Method 1 (Continuous Seal):

(A) An upper oversize drillhole, at least four inches greater in diameter than the nominal diameter of the permanent well casing to be installed, shall extend from land surface to at least five feet into solid, unfractured, consolidated rock overlying the water-bearing rock formation below a depth of 13 feet. Unperforated permanent well casing shall extend to this same depth.

(B) The annular space between the permanent well casing and the drillhole wall within the consolidated rock formation shall be filled with grout using an approved grout placement method.

(C) The upper annular space between the permanent well casing and the drillhole wall shall be filled with grout using an approved grout placement method from land surface to at least five feet into a clay interval below a depth of 13 feet.

(D) The annular space between the upper and lower sealing intervals shall be filled with grout using an approved grout placement method.

(E) A smaller diameter liner pipe or well screen may be installed to complete the well.

(F) If cement grout is placed by a suitable method from the bottom of the permanent well casing to land surface (Methods A, B, D, Appendix 210-3), the upper drillhole shall be at least two inches larger than the nominal diameter of the permanent well casing. (See Figure 210-4);

(b) Method 2 (Step-Down Casing/Inner Casing):

(A) An upper oversize drillhole, at least four inches greater in diameter than the upper permanent well casing to be installed, shall extend from land surface to at least five feet into a clay interval below a depth of 13 feet. If no clay interval is present, then the upper oversize drillhole shall extend to a minimum depth of 18 feet below land surface. In the event that the subsurface materials penetrated by the upper oversize drillhole cave, or tend to cave, an outer temporary surface casing at least 18 feet in length shall be used throughout the construction of the upper oversize drillhole to prevent caving.

(B) The upper Unperforated, permanent well casing shall be unperforated and shall extend to, and be driven into, solid, unfractured, consolidated rock overlying the water-bearing rock formation.

(C) A lower drillhole, at least as large as the inside diameter of the upper permanent well casing, shall be constructed at least five feet into solid unfractured consolidated rock overlying the water-bearing rock formation.

(D) A smaller diameter steel well casing, at least two inches smaller in diameter than the diameter of the upper permanent well casing, shall extend at least five feet into solid unfractured consolidated rock overlying the water-bearing rock formation and at least eight feet into the upper permanent well casing.

(E) The annular space between the upper oversize drillhole and the upper permanent well casing shall be completely filled with grout using an approved grout placement method after the upper permanent well casing is set into final position; and the annular space between the smaller diameter lower permanent well casing and the lower drillhole, shall be completely filled with cement grout using an approved grout placement method after the upper permanent well casing and the lower permanent well casing are set into final position. The lower annular seal shall extend at least eight feet into the upper permanent well casing (See Figure 210-5);

(c) Method 3 (Under-Reaming):

(A) An upper oversize drillhole, at least four inches greater in diameter than the permanent well casing to be installed, shall extend from land surface to at least five feet into a clay interval below a depth of 13 feet. If no clay interval is present, then the upper oversize drillhole shall extend to a minimum depth of 18 feet below land surface. In the event that the subsurface materials penetrated by the upper oversize drillhole cave, or tend to cave, an outer temporary surface casing at least 18 feet in length shall be used throughout the construction of the upper oversize drillhole to prevent caving.

(B) A lower drillhole, at least two inches greater in diameter than the diameter of the permanent well casing to be installed, shall be constructed at least fifteen feet into solid, unfractured, consolidated rock overlying the water-bearing rock formation by under-reaming methods.

(C) Unperforated, permanent well casing shall extend to and be driven into solid, unfractured, consolidated rock overlying the water-bearing rock formation at the bottom of the under-reamed section following placement of the casing seal material.

(D) The annular space between the upper oversize drillhole and the permanent well casing shall be filled with cement grout using Method C or unhydrated bentonite. The annular space between the lower under-reamed drillhole and the permanent well casing shall be completely filled with cement grout applied under pressure in accordance with grout placement Method A, B, or D, in Appendix 210-3. See Figure 210-6.

(E) Casing seals may not be placed in unconsolidated formation materials using the under-reaming method.

(2) In all cases, (Methods 1, 2, or 3, above), if materials penetrated by the upper oversize drillhole cave, or tend to cave, an outer temporary surface casing shall be used to case out all

caving material throughout construction of the oversize drillhole. The temporary surface casing shall be withdrawn as the annular space is filled with grout.

[~~ED. NOTE: Figures and Appendices referenced are available from the agency.~~]

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS ~~183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 4-2018, minor correction filed 06/22/2018, effective 06/22/2018

WRD 5-2016, f. & cert. ef. 9-6-16

WRD 5-2015, f. & cert. ef. 7-1-15

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 7-1988, f. & cert. ef. 6-29-88

WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-061-0136

WRD 9-1978, f. 12-12-78, ef. 1-1-79

**WATER RESOURCES DEPARTMENT
CHAPTER 690
DIVISION 210
WELL CONSTRUCTION STANDARDS**

APPENDIX 210-3

I. Recommended Methods of Placement of Cement Grout

Method A - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. A well casing with a float shoe at its lower end shall be placed in the well and suspended slightly above the point of bearing. A grout pipe shall be run inside the casing to the check valve. The grout pipe shall be connected to a suitable pump and water or drilling fluid shall first be circulated to clear the annular space. Grout shall be pumped through the grout pipe until clean grout completely fills the interval to be sealed. The grout pipe shall then be removed and the cement allowed to set. (See Figure 210-1)

Method B - Grout shall be placed by pumping or air pressure injection through a grout pipe installed inside the casing from the casing head to a point five (5) feet above the bottom of the casing. The grout pipe shall extend through an airtight sealed cap on the head of the well casing. The casing head shall be equipped with a relief valve and the grout pipe shall be equipped at the top with a valve permitting injection. The lower end of the grout pipe and the casing shall be open. Clean water shall be injected down the grout pipe until it returns through the casing head's relief valve. The relief valve is then closed and injection of water is continued to clean the hole until it flows from the bore hole outside the casing that is to be grouted in place. Without significant interruption, grout shall be substituted to water and, in a continuous manner, injected down the grout pipe until it returns to the surface outside of the casing. A small amount of water may be used to flush the grout pipe, but the pressure should remain constant on the inside of the grout pipe and the inside of the casing until the grout has set. Pressure shall be maintained for at least twenty-four (24) hours, or until such time as a sample of the grout indicates a satisfactory set. Cement grout shall be used for this procedure with a minimum annular space of one (1) inch completely surrounding the casing. (See Figure 210-1)

Method C - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. The well casing shall be firmly seated at the bottom of the drillhole. A grout pipe shall be run to the bottom of the hole through the annular space between the casing and the well bore. After water or any other drilling fluid has been circulated in the annular space sufficiently to clear obstructions, the grout pipe shall be connected to a suitable pump and grout shall be pumped through the grout pipe until clean grout is circulated to land surface, or until grout completely fills the interval to be sealed. The lower end of the grout pipe shall remain submerged in grout while grout is being placed. The grout pipe shall be withdrawn before the initial set of the grout. (See Figure 210-1)

Method D - The well bore shall be plugged with a drillable plug or bridge at the lowest point to

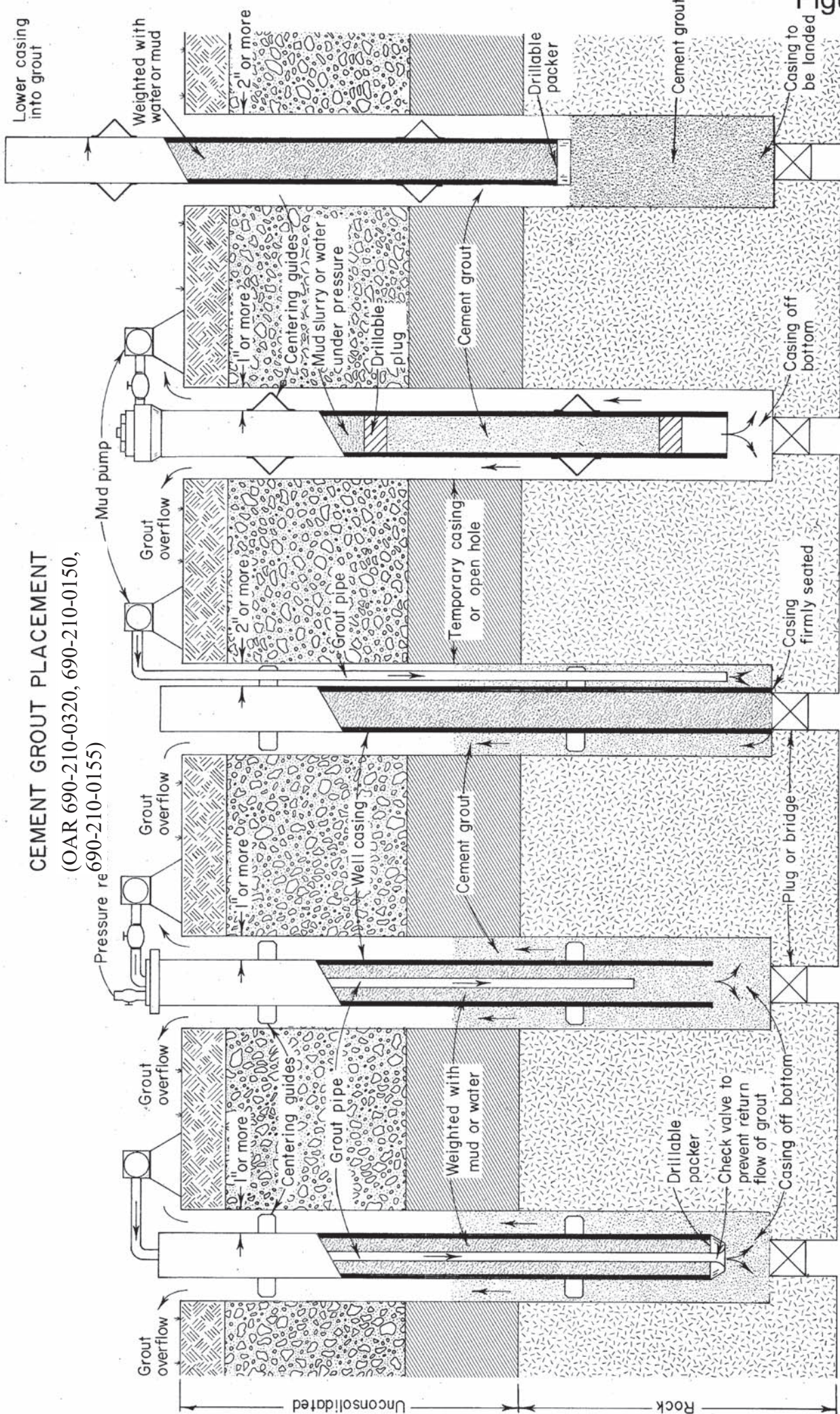
be sealed. After the casing is run and landed, a casing plug, having a length greater than the diameter of the casing, shall be placed in the casing. If the drillhole is free of mud or water, this lower separation plug may be eliminated. A measured amount of cement grout necessary to completely fill the annular space of the interval to be grouted is pumped or placed by bailer in the casing. A second casing plug, having a length greater than the diameter of the casing, shall be placed in the casing above the grout. The casing shall then be capped with a pressure cap and shut-off valve, and shall be connected to a suitable pump. The casing shall then be raised far enough above the point of bearing to clear the first separation plug. Water or drilling mud shall then be pumped under pressure into the casing forcing the grout and upper casing plug down the casing. The position of the plug must be known at all times. A small amount of grout may remain in the lower end of the casing. When the plug reaches the point desired above the bottom of the casing, the pump shall be stopped and the casing seated. (See Figure 210-1)

Method E - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. A sufficient amount of cement grout to completely fill the interval of the well to be sealed shall be placed at the bottom of the drillhole by pump bailer or grout pipe. The well casing shall have centering guides attached at appropriate intervals to keep the casing centered in the bore hole. The bottom of the well casing shall be fitted with a tight drillable plug and shall be lowered into the drillhole forcing the grout upward into the annular space. Gravity installation without the aid of a grout pipe shall not be used. In no instance shall this method be used deeper than thirty (30) feet and in no case for a municipal, community, or public water supply well. (See Figure 210-1)

CEMENT GROUT PLACEMENT

(OAR 690-210-0320, 690-210-0150,

690-210-0155)



METHOD E

METHOD D

METHOD C

METHOD B

METHOD A

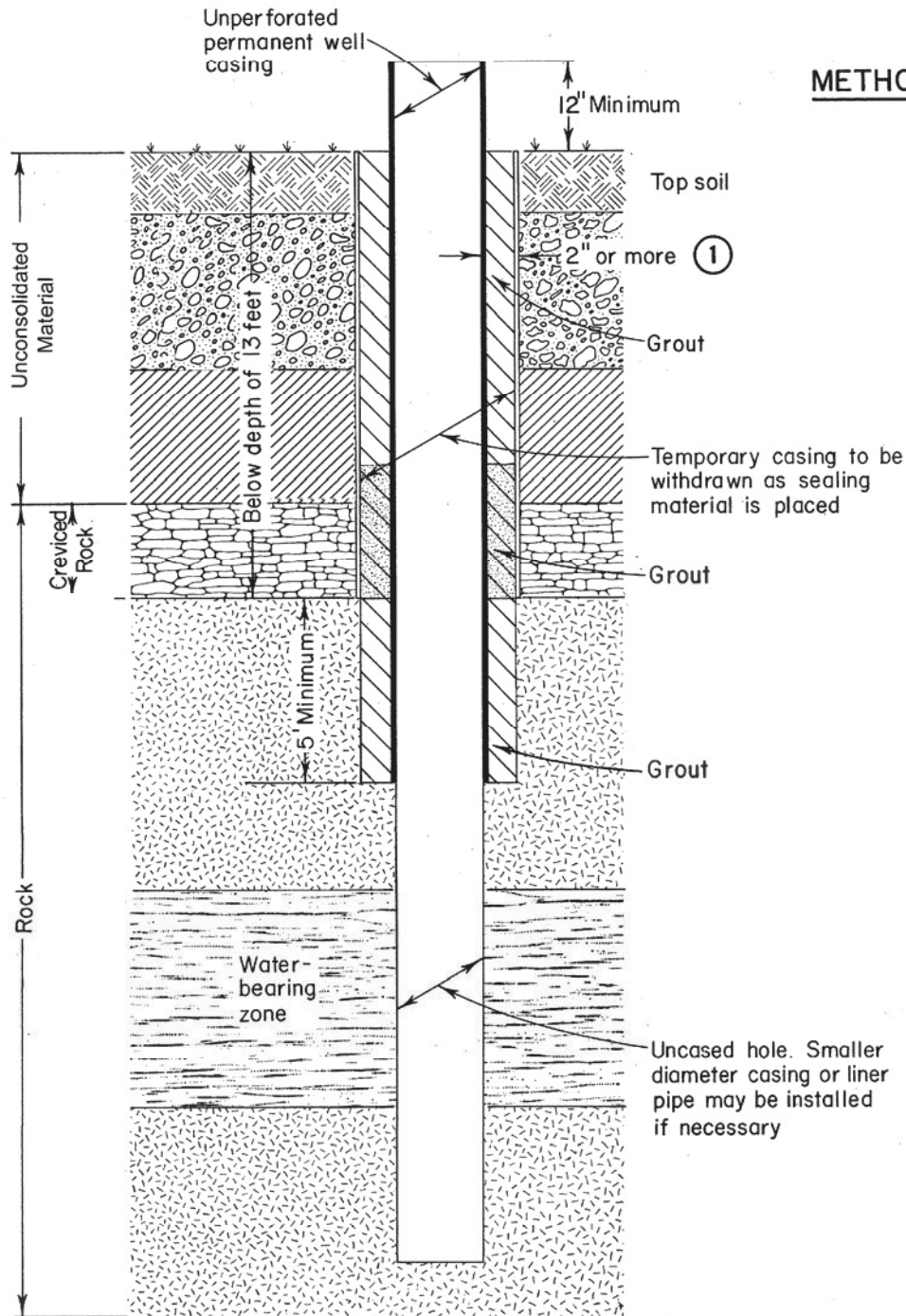
Water-bearing Formation — Rock

Figure 210-4

SEALING OF WATER SUPPLY WELLS
IN CONSOLIDATED FORMATIONS
(OAR 690-210-0150)

Overlying Material - Unconsolidated Material

Water-bearing Formation - Rock

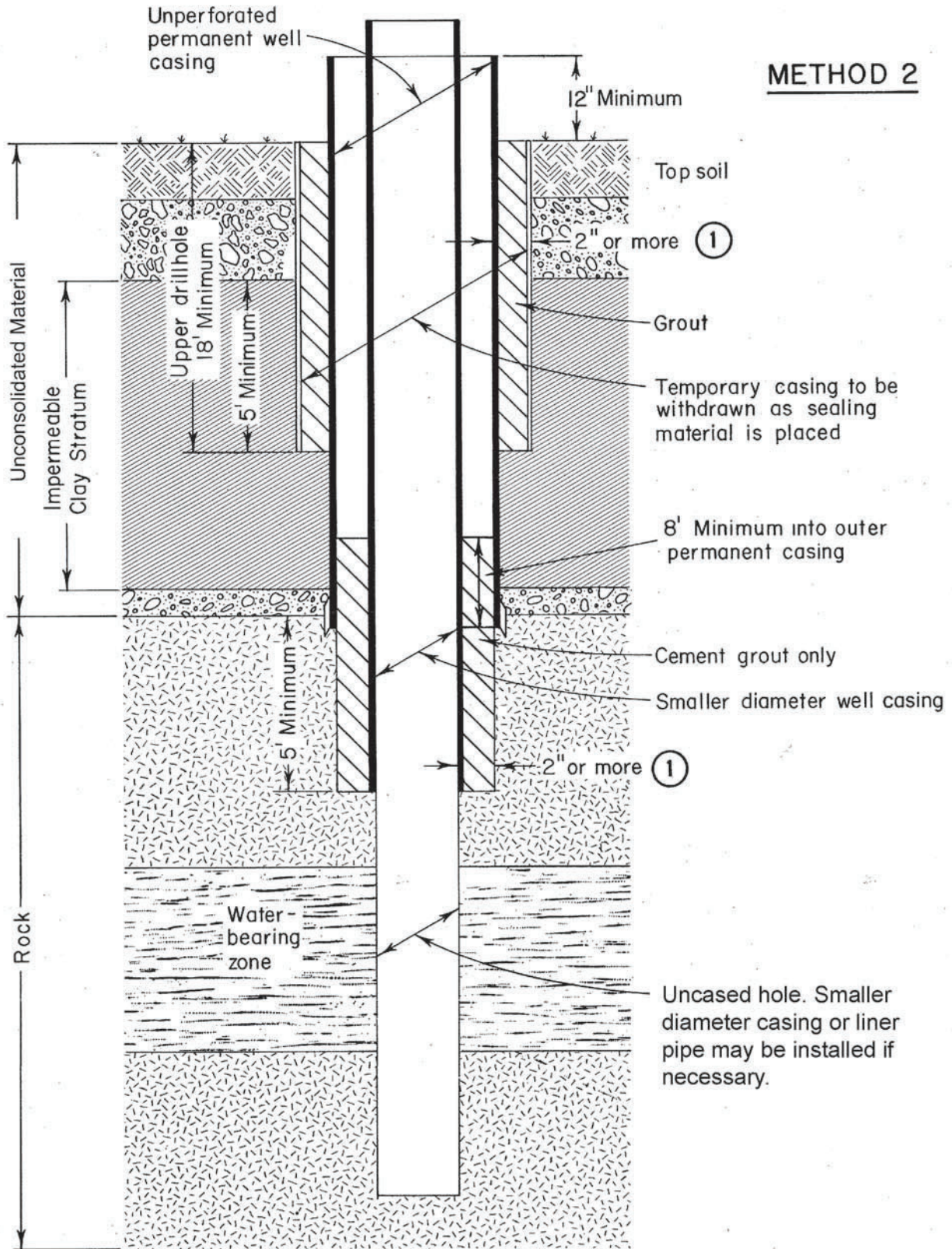


① 1" or more if cement grout is placed by grouting method A, B, or D. Annular sealing space requirements are based on nominal casing sizes.

SEALING OF WATER SUPPLY WELLS
IN CONSOLIDATED FORMATIONS
(OAR 690-210-0150)

Overlying Material - Unconsolidated Material

Water-bearing Formation - Rock



① 1" or more if cement grout is placed by grouting method A, B, or D. Annular sealing space requirements are based on nominal casing sizes.

Water-bearing Formation — Rock

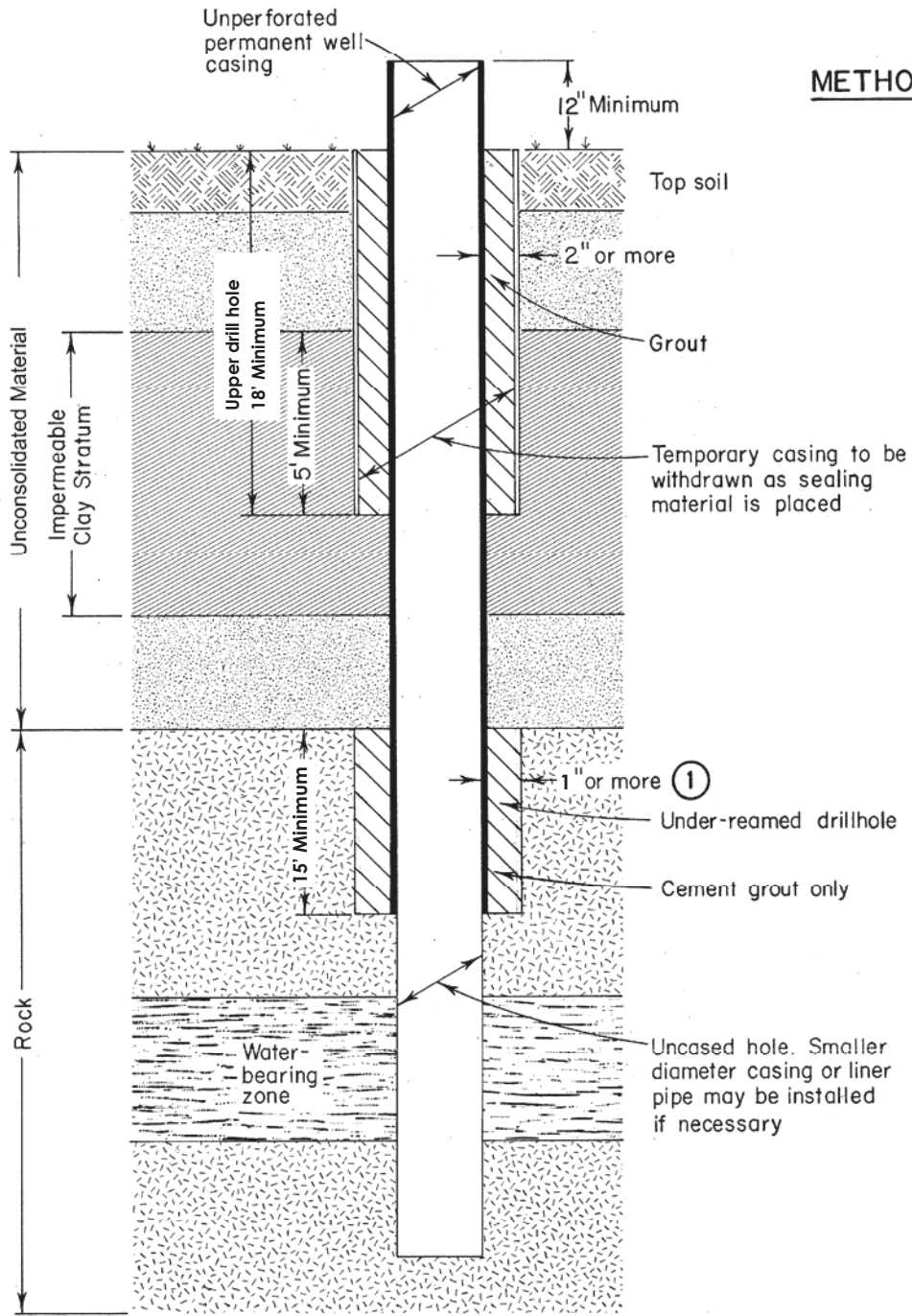
Figure 210-6

SEALING OF WATER SUPPLY WELLS
IN CONSOLIDATED FORMATIONS
(OAR 690-210-0150)

Overlying Material - Unconsolidated Material

Water-bearing Formation - Rock

METHOD 3



① 1" or more if cement grout is placed by grouting method A, B, or D. Annular sealing space requirements are based on nominal casing sizes.

690-210-0155 Additional Standards for Artesian Water Supply Wells

(1) Water supply wells penetrating into an artesian aquifer shall have an upper oversize drillhole at least four inches greater in diameter than the nominal diameter of the permanent well casing to be installed. Watertight unperforated casing shall extend and be sealed at least five feet into the confining interval immediately overlying the artesian water-bearing zone. In all cases, a minimum of 18 feet of casing and casing seal will be required. If cement grout is placed by a suitable method from the bottom of the casing (Methods A, B, or D, in Appendix 210-3 and Figure 210-1), the diameter of the upper oversize drillhole shall be at least two inches larger than the nominal diameter of the permanent well casing.

(2) To complete the well, inner casing, liner, or a well screen may be installed. When artesian pressures are encountered in the absence of a confining interval, casing and casing seal requirements shall be determined by the Director upon written application. In the alternative, the person constructing the well may construct the well in conformance with the minimum standards for artesian wells with a confining interval, set forth in section (1) of this rule.

(3) If an artesian water supply well flows at land surface, the well shall be equipped with a control valve and a watertight mechanical cap, threaded or welded, so that all flow of water from the well can be completely stopped.

(4) All flowing artesian wells shall be equipped with a pressure gauge placed on a dead- end line. A petcock valve shall be placed between the gauge and well casing. (See Figure 210-7).

(5) All flowing artesian water supply wells shall be tested for artesian shut-in pressure in pounds per square inch and rate of flow in cubic feet per second, or gallons per minute, under free discharge conditions. This data shall be reported on the well report.

~~[ED. NOTE: Figures & Appendices referenced are available from the agency.]~~

Statutory/Other Authority: ~~ORS 183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ~~ORS 183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 5-2016, f. & cert. ef. 9-6-16

WRD 5-2015, f. & cert. ef. 7-1-15

WRD 7-2001, f. & cert. ef. 11-15-01, Renumbered from 690-210-0120

WRD 13-1986, f. 10-7-86, cert. ef. 11-1-86, Renumbered from 690-061-0156, 690-061-0161, 690-061-0166, 690-061-0171 & 690-061-0176

WRD 9-1978, f. 12-12-78, cert. ef. 1-1-79

**WATER RESOURCES DEPARTMENT
CHAPTER 690
DIVISION 210
WELL CONSTRUCTION STANDARDS**

APPENDIX 210-3

I. Recommended Methods of Placement of Cement Grout

Method A - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. A well casing with a float shoe at its lower end shall be placed in the well and suspended slightly above the point of bearing. A grout pipe shall be run inside the casing to the check valve. The grout pipe shall be connected to a suitable pump and water or drilling fluid shall first be circulated to clear the annular space. Grout shall be pumped through the grout pipe until clean grout completely fills the interval to be sealed. The grout pipe shall then be removed and the cement allowed to set. (See Figure 210-1)

Method B - Grout shall be placed by pumping or air pressure injection through a grout pipe installed inside the casing from the casing head to a point five (5) feet above the bottom of the casing. The grout pipe shall extend through an airtight sealed cap on the head of the well casing. The casing head shall be equipped with a relief valve and the grout pipe shall be equipped at the top with a valve permitting injection. The lower end of the grout pipe and the casing shall be open. Clean water shall be injected down the grout pipe until it returns through the casing head's relief valve. The relief valve is then closed and injection of water is continued to clean the hole until it flows from the bore hole outside the casing that is to be grouted in place. Without significant interruption, grout shall be substituted to water and, in a continuous manner, injected down the grout pipe until it returns to the surface outside of the casing. A small amount of water may be used to flush the grout pipe, but the pressure should remain constant on the inside of the grout pipe and the inside of the casing until the grout has set. Pressure shall be maintained for at least twenty-four (24) hours, or until such time as a sample of the grout indicates a satisfactory set. Cement grout shall be used for this procedure with a minimum annular space of one (1) inch completely surrounding the casing. (See Figure 210-1)

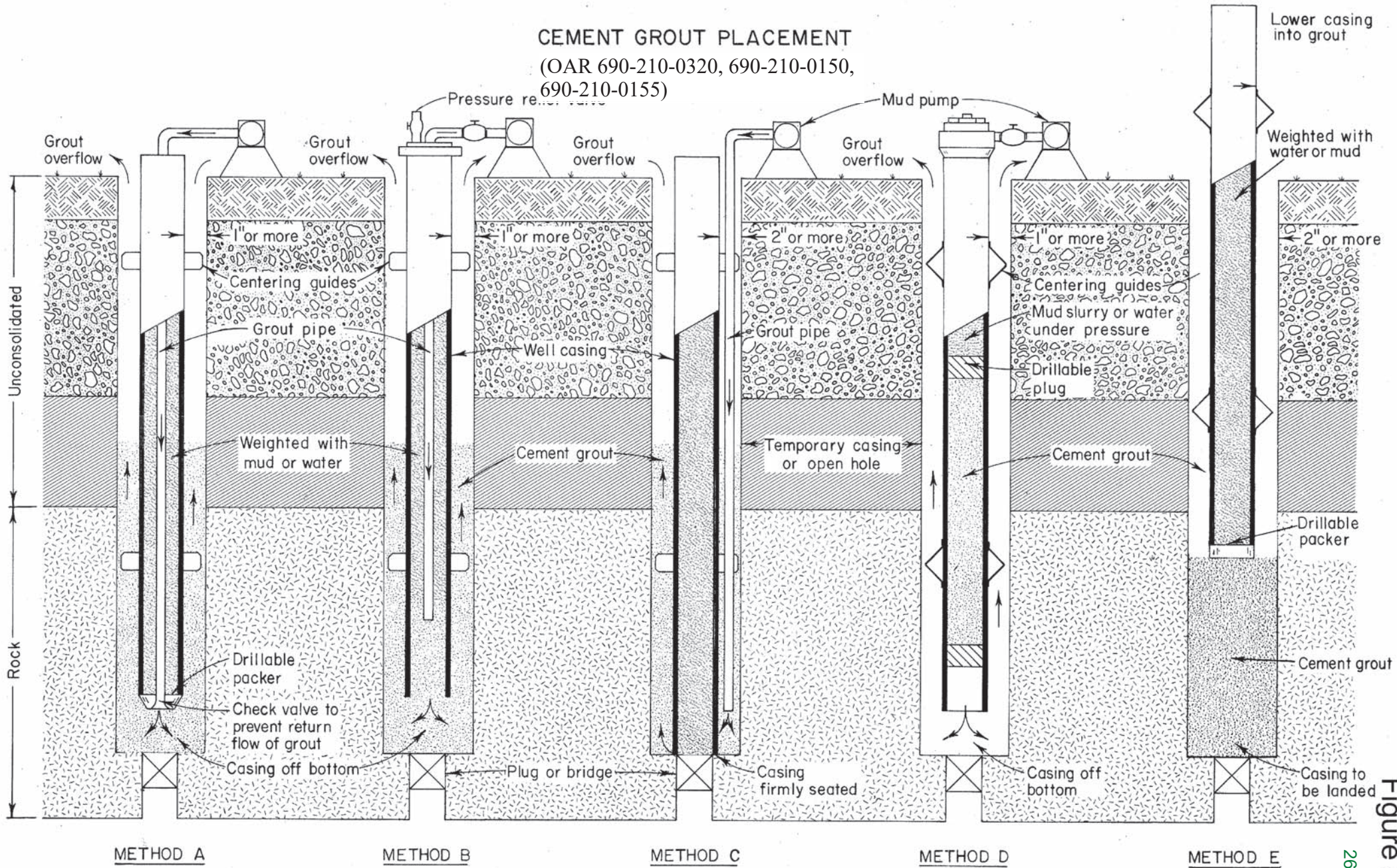
Method C - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. The well casing shall be firmly seated at the bottom of the drillhole. A grout pipe shall be run to the bottom of the hole through the annular space between the casing and the well bore. After water or any other drilling fluid has been circulated in the annular space sufficiently to clear obstructions, the grout pipe shall be connected to a suitable pump and grout shall be pumped through the grout pipe until clean grout is circulated to land surface, or until grout completely fills the interval to be sealed. The lower end of the grout pipe shall remain submerged in grout while grout is being placed. The grout pipe shall be withdrawn before the initial set of the grout. (See Figure 210-1)

Method D - The well bore shall be plugged with a drillable plug or bridge at the lowest point to

be sealed. After the casing is run and landed, a casing plug, having a length greater than the diameter of the casing, shall be placed in the casing. If the drillhole is free of mud or water, this lower separation plug may be eliminated. A measured amount of cement grout necessary to completely fill the annular space of the interval to be grouted is pumped or placed by bailer in the casing. A second casing plug, having a length greater than the diameter of the casing, shall be placed in the casing above the grout. The casing shall then be capped with a pressure cap and shut-off valve, and shall be connected to a suitable pump. The casing shall then be raised far enough above the point of bearing to clear the first separation plug. Water or drilling mud shall then be pumped under pressure into the casing forcing the grout and upper casing plug down the casing. The position of the plug must be known at all times. A small amount of grout may remain in the lower end of the casing. When the plug reaches the point desired above the bottom of the casing, the pump shall be stopped and the casing seated. (See Figure 210-1)

Method E - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. A sufficient amount of cement grout to completely fill the interval of the well to be sealed shall be placed at the bottom of the drillhole by pump bailer or grout pipe. The well casing shall have centering guides attached at appropriate intervals to keep the casing centered in the bore hole. The bottom of the well casing shall be fitted with a tight drillable plug and shall be lowered into the drillhole forcing the grout upward into the annular space. Gravity installation without the aid of a grout pipe shall not be used. In no instance shall this method be used deeper than thirty (30) feet and in no case for a municipal, community, or public water supply well. (See Figure 210-1)

CEMENT GROUT PLACEMENT
(OAR 690-210-0320, 690-210-0150,
690-210-0155)



METHOD A

METHOD B

METHOD C

METHOD D

METHOD E

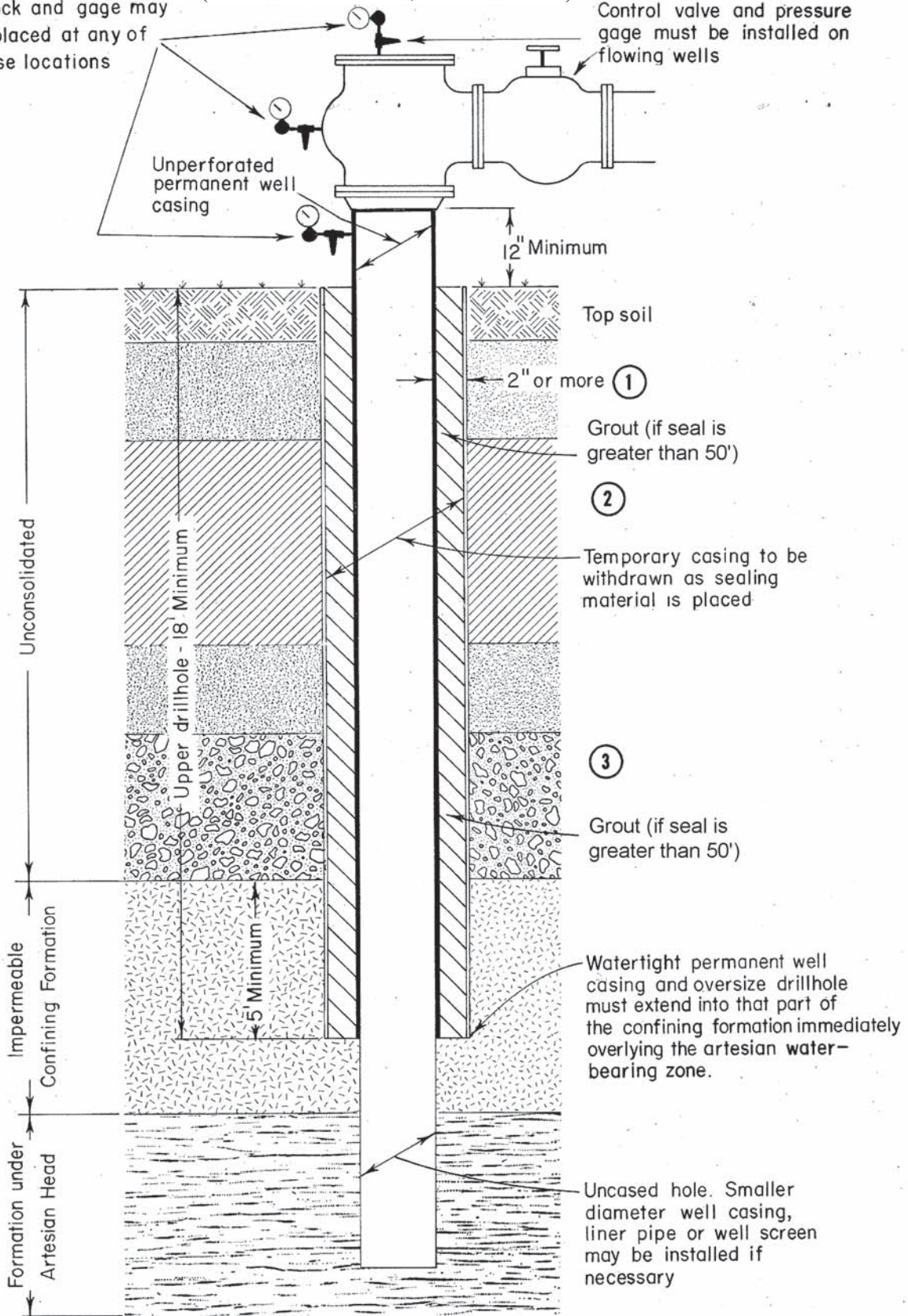
SEALING OF AN ARTESIAN WELL

(OAR 690-210-0155, 690-215-0070)

NOTE:

Petcock and gage may be placed at any of these locations

Control valve and pressure gage must be installed on flowing wells



- ① 1" or more if cement grout is placed by grouting method A, B, or D. Annular sealing space requirements are based on nominal casing sizes.
- ② Well must not be constructed in a manner that will allow water from an artesian zone to commingle with other confined or unconfined water-bearing zones.
- ③ Must be completed with the seals, packers, or casing necessary to eliminate subsurface or surface leakage.

690-210-0160 Additional Standards for Filter Pack Wells with Surface Casing

If a permanent surface casing is installed in the construction of a filter pack well, a watertight, welded, steel plate at least 3/16 of an inch in thickness shall be installed between the inner production casing and the outer surface casing at the well head. A watertight fill port with threaded cap may be installed for the purpose of placing additional filter pack material in the well. (See Figure 210-8.)

~~[ED. NOTE: Figures referenced are available from the agency.]~~

Statutory/Other Authority: ORS 536.090, [ORS 537.505-537.795](#), [ORS 536.027](#), [ORS 536.900](#), [ORS 537.992](#)

Statutory/Other Implemented: [ORS 536.090](#), [ORS 537.505-537.795](#), [ORS 536.900](#), [ORS 537.992](#)

History:

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

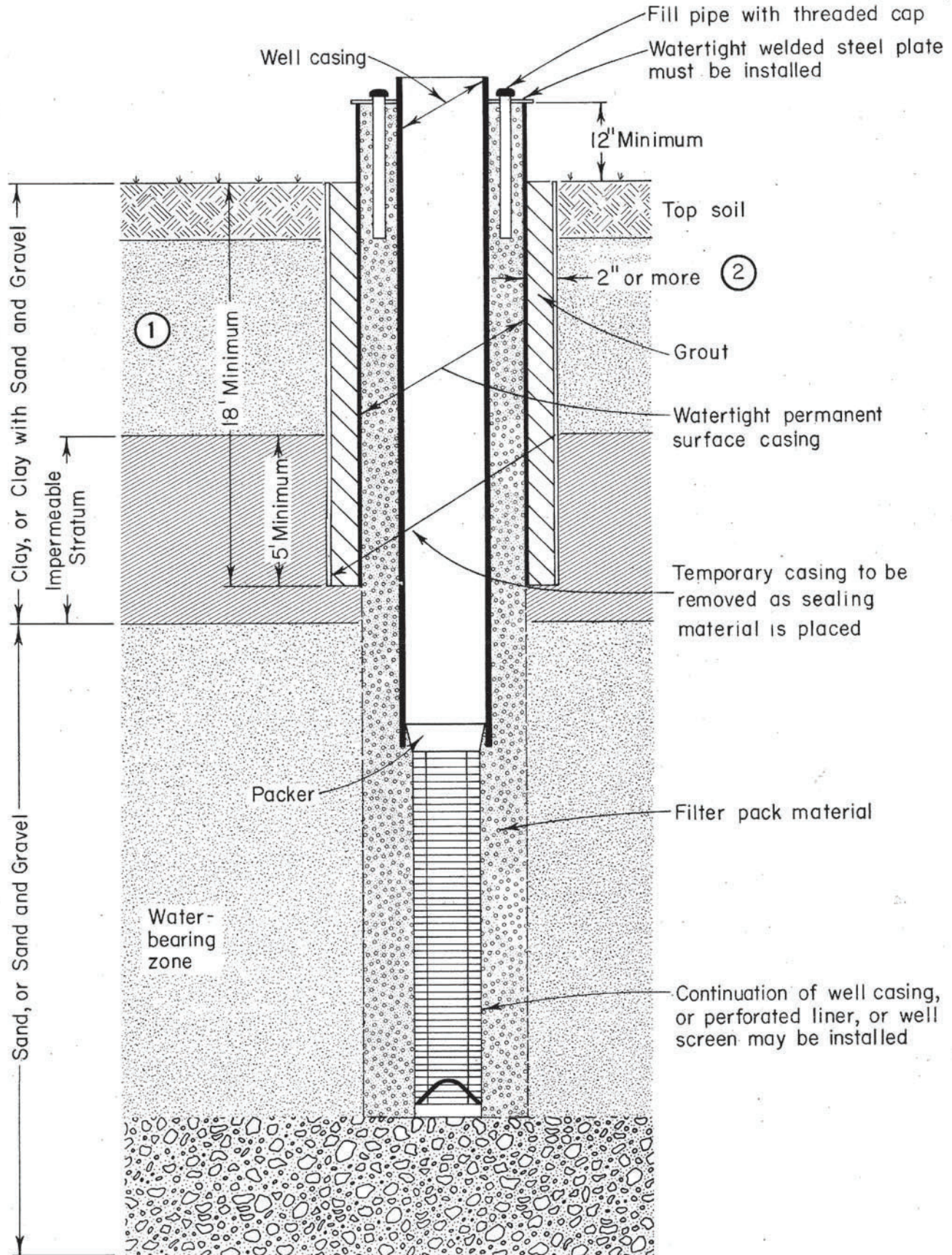
WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-061-0141

WRD 9-1978, f. 12-12-78, ef. 1-1-79

SEALING OF A FILTER PACKED WELL WITH SURFACE CASING

263

(OAR 690-210-0160)



① Minimum of 18 feet provided that the impermeable stratum is at or near land surface.

② Annular sealing space requirements are based on nominal casing size.

690-210-0170 Additional Standards for Filter Pack Wells without Surface Casing

If a permanent surface casing is not installed in the construction of a filter pack well, and filler tubes are to be used, an oversize well bore having a nominal diameter of at least eight inches greater than the nominal diameter of the permanent well casing shall be constructed. If filler tubes are not to be used, an oversize well bore having a nominal diameter of at least four inches greater than the nominal diameter of the permanent well casing shall be constructed. A suitable plug shall be installed in the annular space between the filter pack material and the grout seal. A watertight fill pipe with threaded cap may be installed for the purpose of placing additional filter pack material in the well. The outside diameter of the fill pipe shall not exceed one-half the thickness of the grout seal surrounding the permanent well casing and shall be centered in the annular space. (See Figure 210-9.)

~~[ED. NOTE: Figures referenced are available from the agency.]~~

Statutory/Other Authority: ORS 536.090, [ORS 537.505-537.795](#), [ORS 536.027](#), [ORS 536.900](#), [ORS 537.992](#)

Statutory/Other Implemented: [ORS 536.090](#), [ORS 537.505-537.795](#), [ORS 536.900](#), [ORS 537.992](#)

History:

WRD 7-2001, f. & cert. ef. 11-15-01

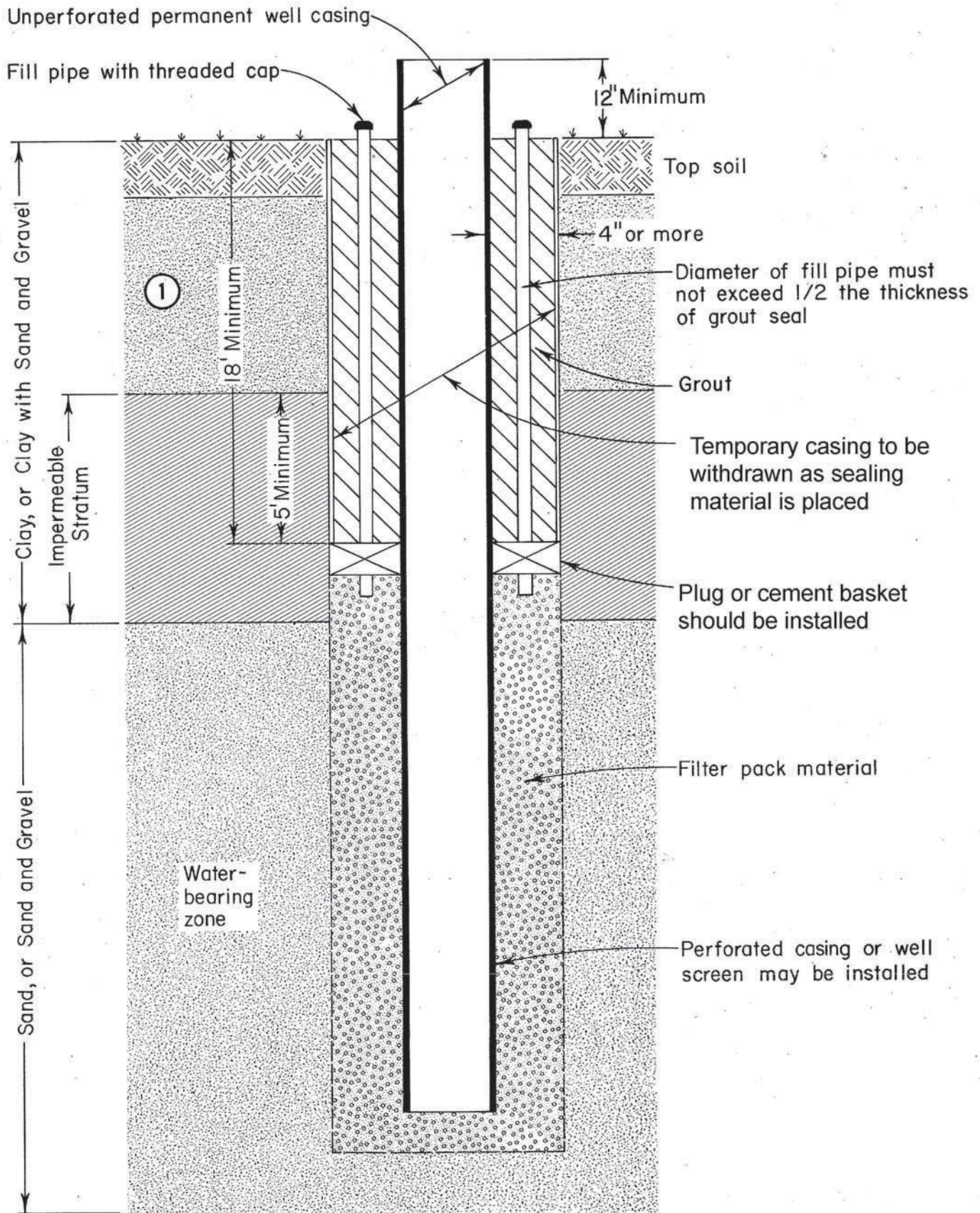
WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-061-0146

WRD 9-1978, f. 12-12-78, ef. 1-1-79

SEALING OF A FILTER-PACKED WELL WITHOUT SURFACE CASING

(OAR 690-210-0170)



① Minimum of 18 feet provided that the impermeable stratum is at or near land surface.

690-210-0180 Additional Standards for Driven or Jetted Wells

All drive point wells or jetted wells shall have nonperforated, watertight casing meeting the minimum specifications shown in Table 210-1 and extending a minimum distance of 18 feet below land surface. Drive casing greater than 3-1/2 inches shall comply with the minimum specifications in OAR 690-210-0190. An upper drillhole at least four inches greater in nominal diameter than the permanent casing shall extend at least 18 feet below land surface. The annular space shall be filled with grout. If temporary casing is used during construction, it must be removed during placement of the grout. (See Figure 210-10.)

~~[ED. NOTE: Tables and Figures referenced are available from the agency.]~~

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutory/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 7-1988, f. & cert. ef. 6-29-88

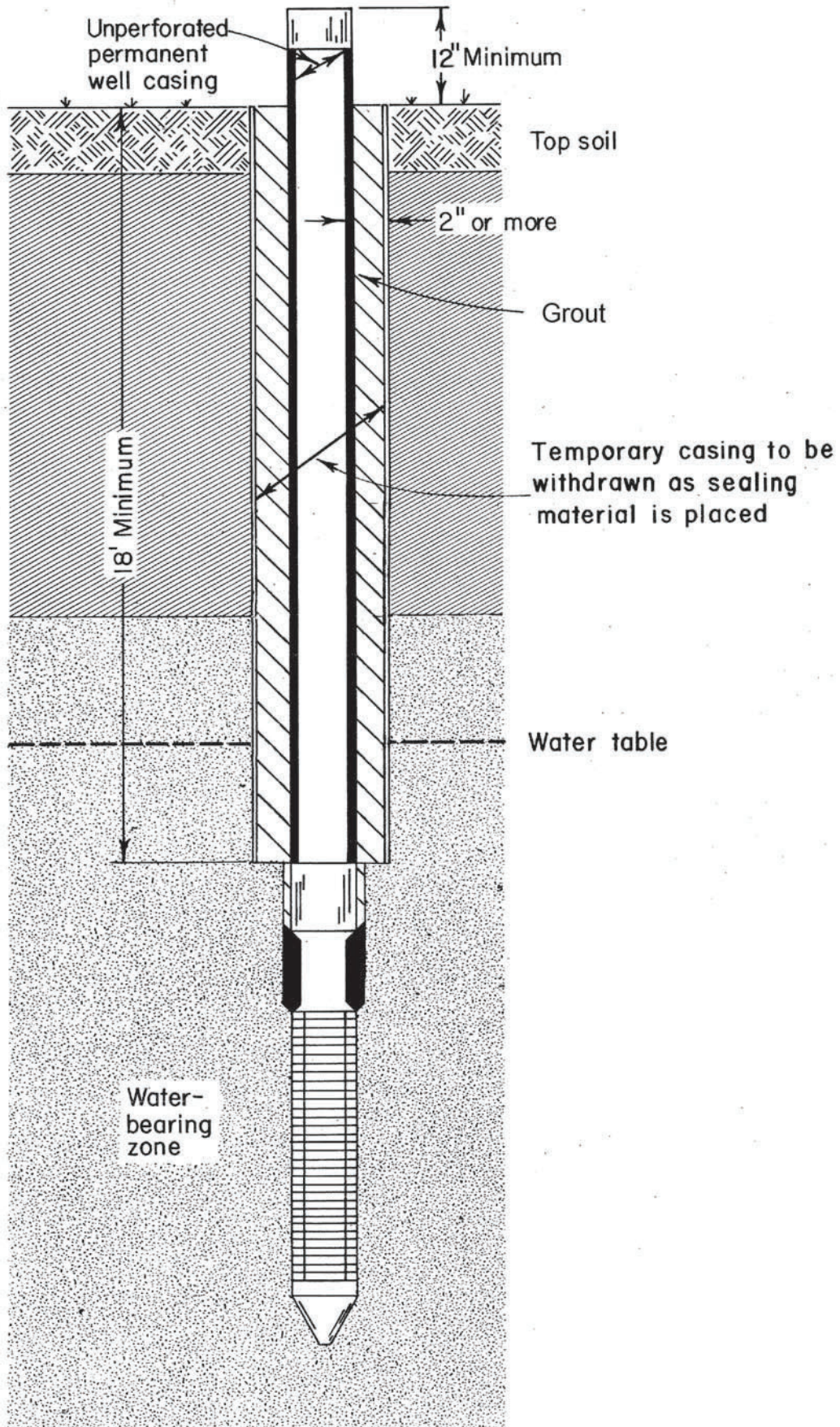
WRD 13-1986, f. 10-7-86, cert. ef. 11-1-86, Renumbered from 690-061-0186 & 690-061-0191

WRD 9-1978, f. 12-12-78, cert. ef. 1-1-79

TABLE 210-1
(690-210-0180)
(Specifications for Drive Pipe)

Nominal Size (inches)	Outside Diameter (inches)	Wall Thickness (inches)	Weight Per Foot (pounds)
1-1/2	1.900	0.145	2.72
2	2.375	0.154	3.65
2-1/2	2.875	0.203	5.79
3	3.500	0.216	7.58
3-1/2	4.000	0.226	9.11

SEALING OF A DRIVEN OR JETTED WELL (OAR 690-210-0180)



690-210-0190 Steel Casing

(1) All steel casing installed shall be in new or like new condition, being free of pits or breaks, and shall meet or exceed the minimum American Society for Testing Materials (ASTM A-53A or B) specifications for steel pipe, for the sizes as set out in Table 210-2.

(2) All steel casing having a diameter larger than 20 inches shall have a wall thickness of at least 0.375 inch.

(3) Steel casing installed in a well greater than a nominal diameter of ten inches, having a wall thickness of 0.250 inch and meeting or exceeding ASTM A-53 A or B specifications must not exceed the following depth limitations (Diameter — Maximum Depth, respectively):

(a) 12 inches — 500 feet;

(b) 14 — 16 inches — 250 feet;

(c) 18 — 20 inches — 100 feet.

(4) Steel casings of other ASTM specifications shall not be used without written permission of the Director. A written request to use casing of other specifications shall be submitted to the Director. This request shall include a description of the casing specifications and the reason for its use.

(5) See Table 210-3 for capacity of drillhole or casing.

~~[ED. NOTE: Tables & Publications referenced are available from the agency.]~~

~~[ED. NOTE: To view attachments referenced in rule text, click here to view rule.]~~

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutory/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 5-2015, f. & cert. ef. 7-1-15

WRD 7-2001, f. & cert. ef. 11-15-11

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 7-1988, f. & cert. ef. 6-29-88

WRD 13-1986, f. 10-7-86, cert. ef. 11-1-86, Renumbered from 690-061-0006

WRD 9-1978, f. 12-12-78, cert. ef. 1-1-79

**OREGON ADMINISTRATIVE RULES
WATER RESOURCES DEPARTMENT
CHAPTER 690, DIVISION 210
WELL CONSTRUCTION STANDARDS**

TABLE 210-2

(Minimum specifications for steel well casing)

Nominal Size (inches)	Outside Diameter (inches)	Wall Thickness (inches)	Weight Per Foot (pounds)
2	2.375	.154	3.65
2-1/2	2.875	.203	5.79
3	3.500	.216	7.58
3-1/2	4.000	.226	9.11
4	4.500	.237	10.79
5	5.563	.244	13.70
6	6.625	.250	17.02
8	8.625	.250	22.36
10	10.750	.250	28.04
*12	12.750	.312	41.45
*14	14.000	.312	45.68
*16	16.000	.312	52.27
*18	18.000	.375	70.59
*20	20.000	.375	78.60

* Note: Steel casing installed in a well greater than a nominal diameter of ten (10) inches, having a wall thickness of .250 inch and meeting ASTM A-53 A or B specifications must not exceed the following depth limitations (Diameter - Maximum Depth, respectively):

1. 12 inches - 500 feet
2. 14 - 16 inches - 250 feet
3. 18 - 20 inches - 100 feet

Table 210-3
Capacity of Drillhole or Casing
OAR 690-210-0190

Nominal Size (in inches)	Gallons per Linear Foot
2	0.163
4	0.653
5	1.020
6	1.469
7	1.999
8	2.611
9	3.305
10	4.080
11	4.937
12	5.875
14	7.997
16	10.445
18	13.219
20	16.320
24	23.501

690-210-0220**Plastic Casing Joints**

All plastic casing joints shall be watertight. Either "bell" type, threaded, or coupling hubs are approved. Hub couplings shall be of material meeting the specifications for plastic casings as set forth in OAR 690-210-0210. Joints shall be made by solvent cement in accordance with manufacturer's directions. Newly assembled joints require careful handling until the initial set has taken place, which varies with the temperature and the pipe size. The recommended initial set times are from manufacturer's recommendations (See Table 210-4).

~~[ED. NOTE: Tables referenced are available from the agency.]~~

Statutory/Other Authority: ORS 536.027, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS ~~183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 5-2015, f. & cert. ef. 7-1-15

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 7-1988, f. & cert. ef. 6-29-88

WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-061-0036

WRD 9-1978, f. 12-12-78, ef. 1-1-79

OAR 690-210-0220

Table 210-4
Set time for plastic casing joints

Temperature Range During Initial Set Time	Set Time for Various Pipe Sizes In Hours					
	3"	4"	6"	8"	10"	12"
60 F - 100 F	1/2	1/2	1/2	3/4	3/4	1
40 F - 60 F	2	2	4	4	4	4
0 F - 40 F	6	6	8	10	12	12

NOTE: After the initial set, the joints will withstand the stress of a normal installation. However, considerable care should be employed in handling the string.

690-210-0230 Inner Casing

Inner casing installed into a well must meet the minimum requirements of well casing (OAR 690-210-0190). The space between the two well casings shall be sealed so as to prevent the movement of water between the two casings. Inner casing installed in a well shall extend or telescope at least eight feet into the lower end of the well casing. The inner casing must be centered and must be a minimum of one inch smaller in diameter than the outer casing if an under reaming method system is used. If other methods are used, the inner casing must be a minimum of two inches smaller in diameter than the outer casing. The grout must be placed in a positive manner in accordance with method A, B, D, or E (see Appendix 210-3).

~~[ED. NOTE: Appendices referenced are available from the agency.]~~

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS ~~183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 5-2015, f. & cert. ef. 7-1-15

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 13-1986, f. 10-7-86, cert. ef. 11-1-86, Renumbered from 690-061-0231

WRD 9-1978, f. 12-12-78, cert. ef. 1-1-79

**WATER RESOURCES DEPARTMENT
CHAPTER 690
DIVISION 210
WELL CONSTRUCTION STANDARDS**

APPENDIX 210-3

I. Recommended Methods of Placement of Cement Grout

Method A - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. A well casing with a float shoe at its lower end shall be placed in the well and suspended slightly above the point of bearing. A grout pipe shall be run inside the casing to the check valve. The grout pipe shall be connected to a suitable pump and water or drilling fluid shall first be circulated to clear the annular space. Grout shall be pumped through the grout pipe until clean grout completely fills the interval to be sealed. The grout pipe shall then be removed and the cement allowed to set. (See Figure 210-1)

Method B - Grout shall be placed by pumping or air pressure injection through a grout pipe installed inside the casing from the casing head to a point five (5) feet above the bottom of the casing. The grout pipe shall extend through an airtight sealed cap on the head of the well casing. The casing head shall be equipped with a relief valve and the grout pipe shall be equipped at the top with a valve permitting injection. The lower end of the grout pipe and the casing shall be open. Clean water shall be injected down the grout pipe until it returns through the casing head's relief valve. The relief valve is then closed and injection of water is continued to clean the hole until it flows from the bore hole outside the casing that is to be grouted in place. Without significant interruption, grout shall be substituted to water and, in a continuous manner, injected down the grout pipe until it returns to the surface outside of the casing. A small amount of water may be used to flush the grout pipe, but the pressure should remain constant on the inside of the grout pipe and the inside of the casing until the grout has set. Pressure shall be maintained for at least twenty-four (24) hours, or until such time as a sample of the grout indicates a satisfactory set. Cement grout shall be used for this procedure with a minimum annular space of one (1) inch completely surrounding the casing. (See Figure 210-1)

Method C - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. The well casing shall be firmly seated at the bottom of the drillhole. A grout pipe shall be run to the bottom of the hole through the annular space between the casing and the well bore. After water or any other drilling fluid has been circulated in the annular space sufficiently to clear obstructions, the grout pipe shall be connected to a suitable pump and grout shall be pumped through the grout pipe until clean grout is circulated to land surface, or until grout completely fills the interval to be sealed. The lower end of the grout pipe shall remain submerged in grout while grout is being placed. The grout pipe shall be withdrawn before the initial set of the grout. (See Figure 210-1)

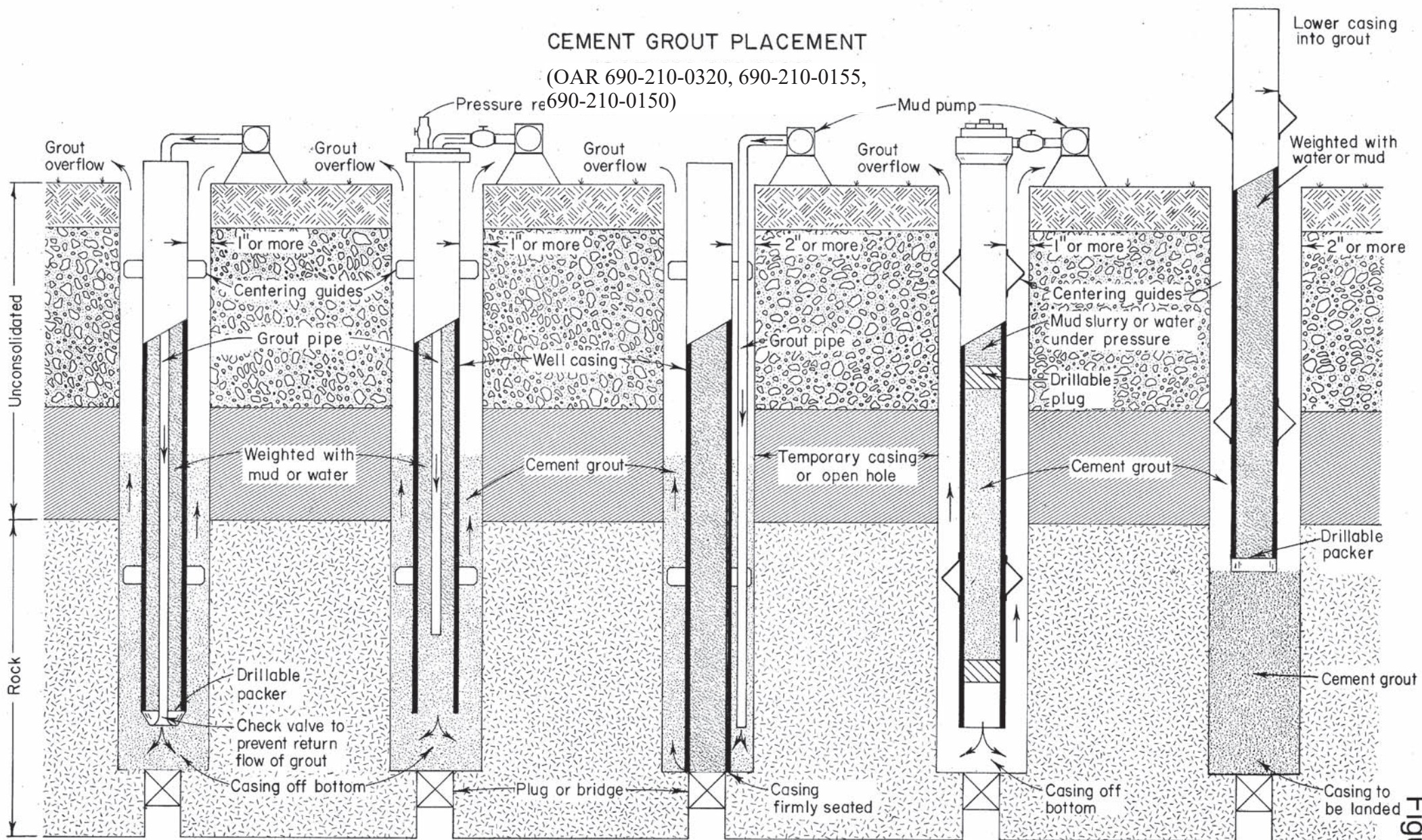
Method D - The well bore shall be plugged with a drillable plug or bridge at the lowest point to

be sealed. After the casing is run and landed, a casing plug, having a length greater than the diameter of the casing, shall be placed in the casing. If the drillhole is free of mud or water, this lower separation plug may be eliminated. A measured amount of cement grout necessary to completely fill the annular space of the interval to be grouted is pumped or placed by bailer in the casing. A second casing plug, having a length greater than the diameter of the casing, shall be placed in the casing above the grout. The casing shall then be capped with a pressure cap and shut-off valve, and shall be connected to a suitable pump. The casing shall then be raised far enough above the point of bearing to clear the first separation plug. Water or drilling mud shall then be pumped under pressure into the casing forcing the grout and upper casing plug down the casing. The position of the plug must be known at all times. A small amount of grout may remain in the lower end of the casing. When the plug reaches the point desired above the bottom of the casing, the pump shall be stopped and the casing seated. (See Figure 210-1)

Method E - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. A sufficient amount of cement grout to completely fill the interval of the well to be sealed shall be placed at the bottom of the drillhole by pump bailer or grout pipe. The well casing shall have centering guides attached at appropriate intervals to keep the casing centered in the bore hole. The bottom of the well casing shall be fitted with a tight drillable plug and shall be lowered into the drillhole forcing the grout upward into the annular space. Gravity installation without the aid of a grout pipe shall not be used. In no instance shall this method be used deeper than thirty (30) feet and in no case for a municipal, community, or public water supply well. (See Figure 210-1)

CEMENT GROUT PLACEMENT

(OAR 690-210-0320, 690-210-0155, 690-210-0150)



METHOD A

METHOD B

METHOD C

METHOD D

METHOD E

Figure 210-1

690-210-0240 Casing Shall be Centered

In all instances, casings shall be centered in sealed intervals. Casing centralizers may be used to ensure centering. When sealing a well by Method E, casing centralizers shall be used. (See Figure 210-11, ~~1986~~).

[~~ED. NOTE: Figures referenced are available from the agency.~~]

Statutory/Other Authority: ~~ORS 183, 536, 537, 540~~ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

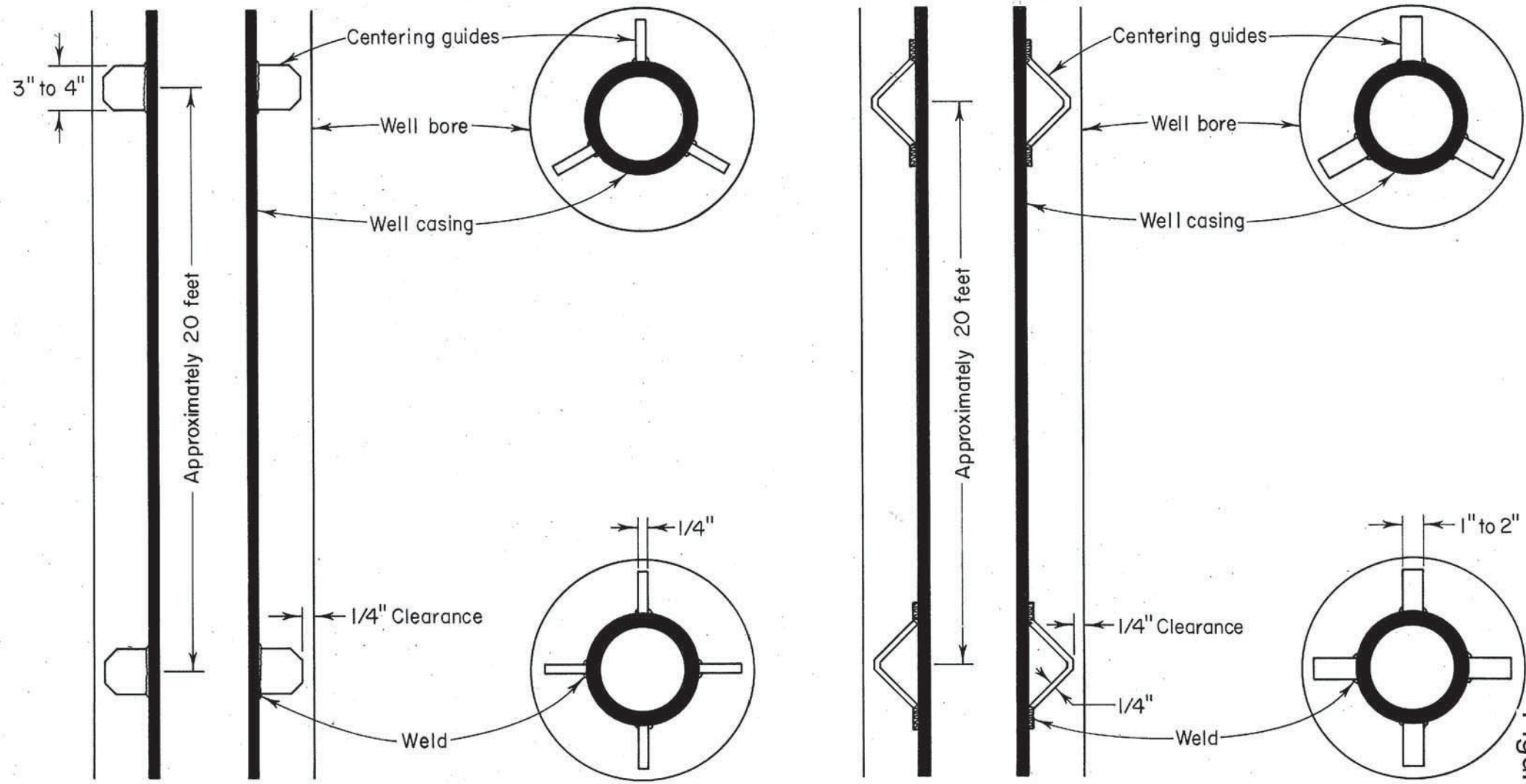
Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 13-1986, f. 10-7-86, ef. 11-1-86

RECOMMENDED USE OF CENTERING GUIDES
(OAR 690-210-0240)



NOTE: Well casing, to be sealed into an oversize drillhole, should be equipped with a series of centering guides to insure proper centering of casing. Guides should be evenly spaced in groups of 3 or 4, and attached to the casing.

690-210-0270 Pitless Well Adapters and Units

Surface seal requirements for well casing set forth herein shall also apply when a pitless adapter or unit is installed in a well. The seal shall cover that interval occupied by the pitless case from the point of casing connection to land surface. A cement grout seal shall not be allowed within the pitless unit or pitless adaptor sealing interval. The pitless adapter or unit sealing interval shall be sealed with unhydrated bentonite as described in OAR 690-210-0330 and 690-210-0340. The pitless adapter or unit, including the cap or cover, pitless case and other attachments, shall be designed and constructed to be watertight to prevent the entrance of contaminants into the well from surface or near-surface sources. Pitless units shall be vented to the atmosphere. Refer to OAR 690-210-0210 if the pitless adaptor or unit is to be used in conjunction with PVC casing. NOTE: Prior to installing pitless well adapters or units on public, community, municipal, or public utility water supply wells, contact the Department of Human Resources. (See references to Health Division regulation in Appendix 210-1).

~~[ED. NOTE: The Appendices referenced are available from the agency.]~~

~~[ED. NOTE: To view attachments referenced in rule text, click here to view rule.]~~

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS ~~183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 5-2015, f. & cert. ef. 7-1-15

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 7-1988, f. & cert. ef. 6-29-88

WRD 13-1986, f. 10-7-86, cert. ef. 11-1-86, Renumbered from 690-061-0051

WRD 9-1978, f. 12-12-78, cert. ef. 1-1-79

APPENDIX 210-1**Additional Requirements by Other State Agencies of Oregon**

In the administration of ORS 537.505 to 537.795, the Director of the Water Resources Department has statutory authority under the provisions of ORS 537.780 "to prescribe and enforce general standards for the construction and maintenance of wells and their casings, fittings, valves, and pumps..." Other agencies of the state have statutory responsibilities that relate either directly or indirectly to the construction and operation of public water supply systems and their source of water supply. These agencies and their responsibilities are listed as follows:

<p>OREGON HEALTH AUTHORITY 800 NE Oregon Street Portland, OR 97232 (serving more than three single residents) https://www.oregon.gov/oha/pages/index.aspx</p>	<p>ORS Chapter 448</p>	<p>Municipal Water Supply Systems Public Water Supply Systems Community Water Supply Systems Source Water Protection</p>
<p>BUILDING CODES DIVISION 1535 Edgewater NW Salem, OR 97304-4635 https://www.oregon.gov/bcd/pages/index.aspx</p>	<p>ORS Chapter 446</p>	<p>Electrical and Plumbing for all Commercial Enterprises Mobile Home Park Water Supply Systems</p>
<p>OREGON PUBLIC UTILITY COMMISSION 201 High St SE #100 Salem, OR 97301 https://www.oregon.gov/puc/pages/default.aspx</p>	<p>ORS Chapter 757</p>	<p>Private Owners (water supply systems, 200 homes or more)</p>
<p>DEPARTMENT OF ENVIRONMENTAL QUALITY 700 NE Multnomah St Portland, OR 97232 https://www.oregon.gov/deq/pages/index.aspx</p>	<p>ORS Chapter 468</p>	<p>Water Quality Monitoring Underground Injection Systems Source Water Protection</p>
<p>SECRETARY OF STATE CORPORATION DIVISION Oregon Business Registry 255 Capitol St NE Salem OR 97310 https://secure.sos.state.or.us/cbrmanager/index.action#stay</p>		<p>Business Registry for Water Districts</p>

APPENDIX 210-1- CONTINUED

All wells constructed in Oregon, including those to serve as a source of ground water to municipal, community, public, or public utility water supply systems, must be constructed in accordance with the rules and regulations prescribing general standards for the construction and maintenance of wells in Oregon (OAR 690 Divisions 205, 210, 215, 220, and 240). Additional construction standards for water supply systems may be required by the above listed agencies. Such rules and regulations generally include the source of water supply to the systems and may affect well construction requirements. Copies of the various agency rules may be obtained by contacting the responsible agency. Well constructors planning to construct a well as a source of water supply for any of the above systems are advised to contact the responsible agency prior to the beginning of well construction.

690-210-0280 Access Ports, Dedicated Measuring Tubes and Airlines

(1) All water supply wells , including wells that have been temporarily removed from service, temporarily abandoned due to a recess in construction, or temporarily abandoned before commencing service, shall be properly covered and shall be equipped with a usable access port with a minimum diameter of 1/2- inch for the purpose of determining the water level in the well at any time.

(2) Access ports shall be installed prior to the Water Supply Well Constructor removing the well drilling machine from the well site.

(3) Dedicated measuring tubes that meet the requirements of OAR 690-215-0060 are recommended to be installed on all water supply wells at the time of pump installation, pump repair, or pump replacement. Where required, dedicated measuring tubes shall be a minimum of 3/4-inch diameter schedule 40 PVC extending to the top of the pump (See Figure 200-5). The 3/4-inch diameter dedicated measuring tube may be reduced in size to 1/2-inch where it goes through the watertight well cap, but shall not be reduced in size over the length of the pipe.

(4) An airline is not a substitute for a required dedicated measuring tube and, if installed, must enter the well in a location other than the access port.

(5) Access ports, dedicated measuring tubes or airlines on all water supply wells shall be capped and be a minimum of twelve inches above finished ground surface or pumphouse floor (See Figures 210-12) ~~(See Figure and 200-5).~~

(6) Access ports, airlines and dedicated measuring tubes on all water supply wells shall be maintained by the landowner in a condition that will prevent contamination of the groundwater resource, and shall remain free from wire or other obstruction.

~~[ED. NOTE: Figures referenced are available from the agency.]~~

~~[ED. NOTE: To view attachments referenced in rule text, click here to view rule.]~~

Statutory/Other Authority: ORS 536.090, [ORS 537.505-537.795](#), [ORS 536.027](#), [ORS 536.900](#), [ORS 537.992](#)

Statutes/Other Implemented: [ORS 536.090](#), [ORS 537.505-537.795](#), [ORS 536.900](#), [ORS 537.992](#)

History:

WRD 5-2016, f. & cert. ef. 9-6-16

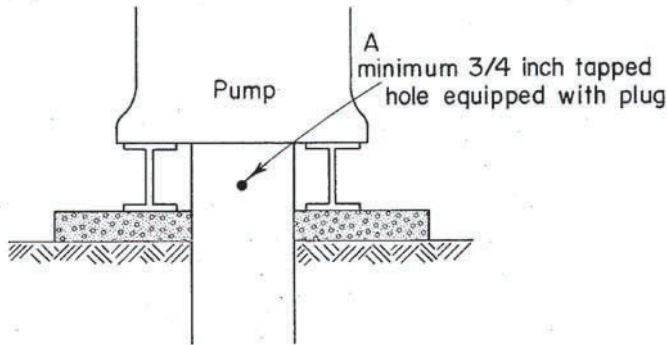
WRD 2-2008, f. 6-18-08, cert. ef. 7-1-08

WRD 7-2001, f. & cert. ef. 11-15-01

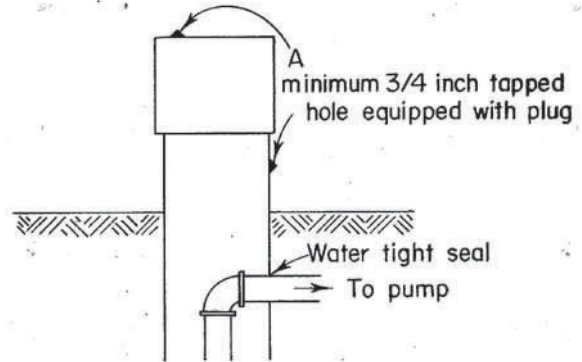
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WRD 13-1986, f. 10-7-86, ef. 11-1-86

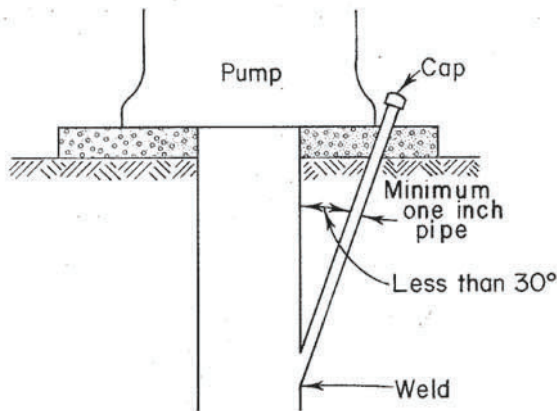
SUGGESTED METHODS OF INSTALLING
ACCESS PORTS, PRESSURE GAUGES, AND AIR LINES
FOR MEASURING WATER LEVELS IN WELLS
(OAR 690-210-0280)



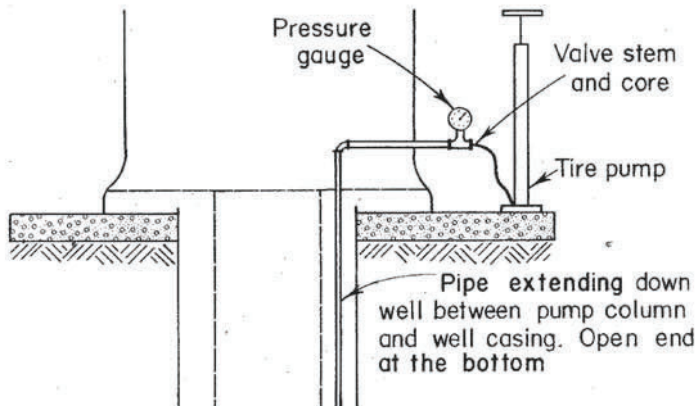
ACCESS PORT FOR MEASURING DEVICE



ACCESS PORT FOR MEASURING DEVICE



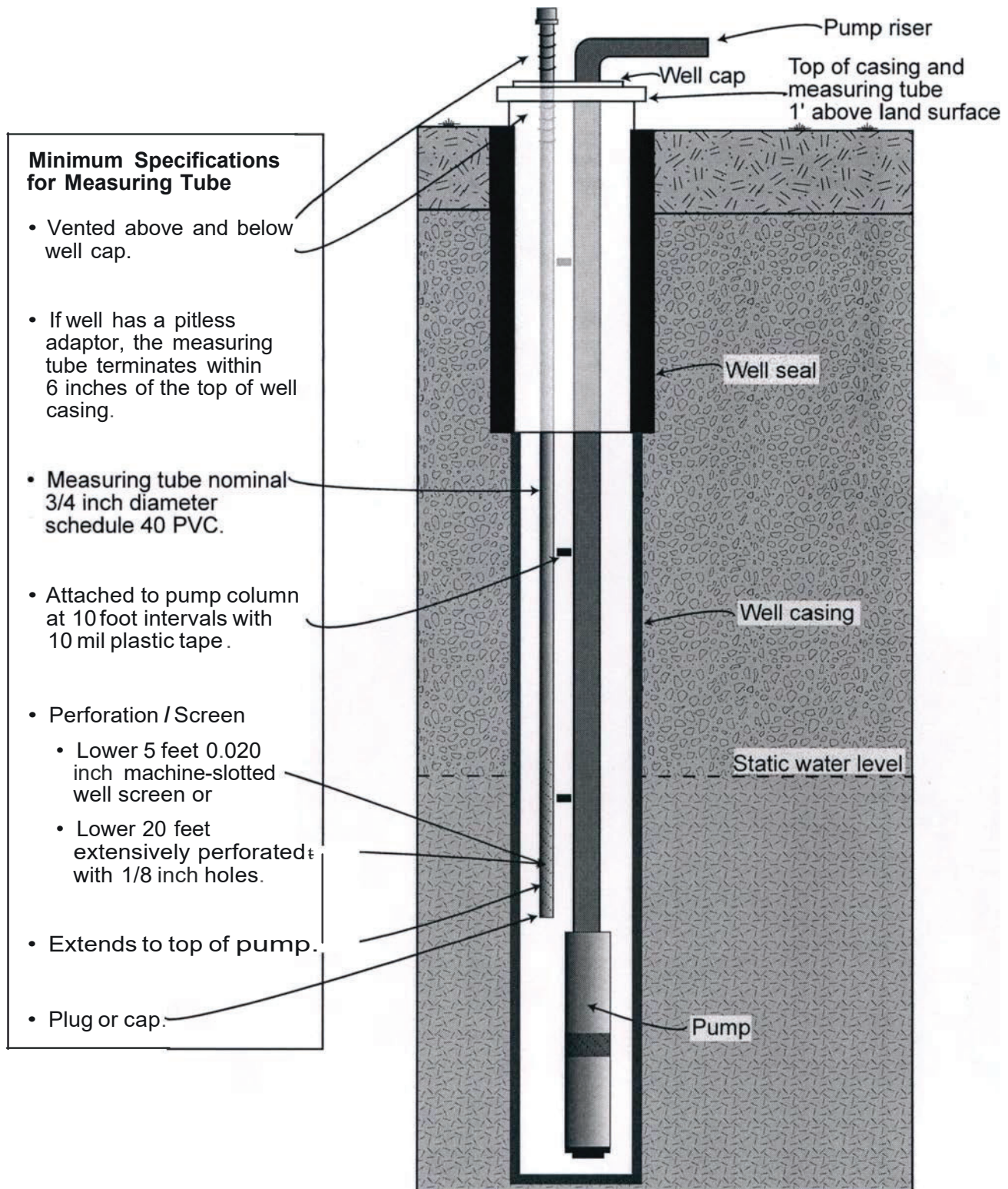
ACCESS PORT FOR MEASURING DEVICE



AIR LINE INSTALLATION

An air line installation is recommended where the water level lies at a considerable depth below land surface. The amount of air pressure that can be built up inside the air line will be equal to the depth of water standing above the bottom of the air line. The exact depth to the bottom of the air line is required to obtain an accurate measurement of the water level in the well. One pound per square inch pressure equals 2.31 feet of water.

Measuring Tube Diagram and Specifications



This diagram details the minimum standards for a dedicated measuring tube. A measuring tube may be constructed in a manner that exceeds these standards without prior Department approval. The dedicated measuring tube shall not be reduced in size over the length of the pipe and shall remain free from wires or any other obstruction.

690-210-0290 Liner Pipe

Liner pipe installed through caving formations and installed without driving, may be of lighter weight than specified by Table 210-2 under OAR 690-210-0190. Such lightweight pipe shall have a wall thickness equal to or greater than 0.188 inch. All liner pipe shall be of steel, in new or like new condition, being free of pits or breaks; or shall be of polymerized vinyl chloride (PVC) type 1220 or 1120 and SDR 26 (Class 160) or greater wall thickness. Liner pipe installed in a well shall extend or telescope at least eight feet into the lower end of the well casing. In the event that more than one string of liner pipe is installed, each string shall extend or telescope at least eight feet into the adjacent larger diameter liner pipe. Liner pipe shall be removable. Liner pipe may be welded or hooked onto the permanent well casing but shall not be permanently fixed to a well casing or borehole wall using packers or grout which would prohibit the liner's removal. (See Inner Casing, OAR 690-210-0230.)

Statutory/Other Authority: ORS 536.090, [ORS 537.505-537.795](#), [ORS 536.027](#), [ORS 536.900](#), [ORS 537.992](#)

Statutes/Other Implemented: [ORS 536.090](#), [ORS 537.505-537.795](#), [ORS 536.900](#), [ORS 537.992](#)

History:

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 7-1988, f. & cert. ef. 6-29-88

WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-061-0011

WRD 9-1978, f. 12-12-78, ef. 1-1-79

**OREGON ADMINISTRATIVE RULES
WATER RESOURCES DEPARTMENT
CHAPTER 690, DIVISION 210
WELL CONSTRUCTION STANDARDS**

TABLE 210-2

(Minimum specifications for steel well casing)

Nominal Size (inches)	Outside Diameter (inches)	Wall Thickness (inches)	Weight Per Foot (pounds)
2	2.375	.154	3.65
2-1/2	2.875	.203	5.79
3	3.500	.216	7.58
3-1/2	4.000	.226	9.11
4	4.500	.237	10.79
5	5.563	.244	13.70
6	6.625	.250	17.02
8	8.625	.250	22.36
10	10.750	.250	28.04
*12	12.750	.312	41.45
*14	14.000	.312	45.68
*16	16.000	.312	52.27
*18	18.000	.375	70.59
*20	20.000	.375	78.60

* Note: Steel casing installed in a well greater than a nominal diameter of ten (10) inches, having a wall thickness of .250 inch and meeting ASTM A-53 A or B specifications must not exceed the following depth limitations (Diameter - Maximum Depth, respectively):

1. 12 inches - 500 feet
2. 14 - 16 inches - 250 feet
3. 18 - 20 inches - 100 feet

690-210-0320 Methods of Placement of Cement Grout or Concrete

Cement grout or concrete used as a sealing material in a well shall be placed or forced upward from the bottom to completely fill the annular space to be grouted and shall be placed in one continuous operation without significant interruption. If temporary outer surface casing is used in the construction of the well, it shall be withdrawn as the grout or concrete is placed. (For acceptable methods of placement, see Appendix 210-3 and Figure 210-1, ~~1986~~).

~~[ED. NOTE: Figures and Appendices referenced are available from the agency.]~~

~~[ED. NOTE: To view attachments referenced in rule text, click here to view rule.]~~

Statutory/Other Authority: ~~ORS 183, 536, 537, 540~~ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ~~ORS 183, 536, 537, 540~~ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 1-2017, f. & cert. ef. 2-16-17

WRD 5-2016, f. & cert. ef. 9-6-16

WRD 5-2015, f. & cert. ef. 7-1-15

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 7-1988, f. & cert. ef. 6-29-88

WRD 13-1986, f. 10-7-86, cert. ef. 11-1-86, Renumbered from 690-061-0021 & 690-061-0096

WRD 9-1978, f. 12-12-78, cert. ef. 1-1-79

**WATER RESOURCES DEPARTMENT
CHAPTER 690
DIVISION 210
WELL CONSTRUCTION STANDARDS**

APPENDIX 210-3

I. Recommended Methods of Placement of Cement Grout

Method A - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. A well casing with a float shoe at its lower end shall be placed in the well and suspended slightly above the point of bearing. A grout pipe shall be run inside the casing to the check valve. The grout pipe shall be connected to a suitable pump and water or drilling fluid shall first be circulated to clear the annular space. Grout shall be pumped through the grout pipe until clean grout completely fills the interval to be sealed. The grout pipe shall then be removed and the cement allowed to set. (See Figure 210-1)

Method B - Grout shall be placed by pumping or air pressure injection through a grout pipe installed inside the casing from the casing head to a point five (5) feet above the bottom of the casing. The grout pipe shall extend through an airtight sealed cap on the head of the well casing. The casing head shall be equipped with a relief valve and the grout pipe shall be equipped at the top with a valve permitting injection. The lower end of the grout pipe and the casing shall be open. Clean water shall be injected down the grout pipe until it returns through the casing head's relief valve. The relief valve is then closed and injection of water is continued to clean the hole until it flows from the bore hole outside the casing that is to be grouted in place. Without significant interruption, grout shall be substituted to water and, in a continuous manner, injected down the grout pipe until it returns to the surface outside of the casing. A small amount of water may be used to flush the grout pipe, but the pressure should remain constant on the inside of the grout pipe and the inside of the casing until the grout has set. Pressure shall be maintained for at least twenty-four (24) hours, or until such time as a sample of the grout indicates a satisfactory set. Cement grout shall be used for this procedure with a minimum annular space of one (1) inch completely surrounding the casing. (See Figure 210-1)

Method C - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. The well casing shall be firmly seated at the bottom of the drillhole. A grout pipe shall be run to the bottom of the hole through the annular space between the casing and the well bore. After water or any other drilling fluid has been circulated in the annular space sufficiently to clear obstructions, the grout pipe shall be connected to a suitable pump and grout shall be pumped through the grout pipe until clean grout is circulated to land surface, or until grout completely fills the interval to be sealed. The lower end of the grout pipe shall remain submerged in grout while grout is being placed. The grout pipe shall be withdrawn before the initial set of the grout. (See Figure 210-1)

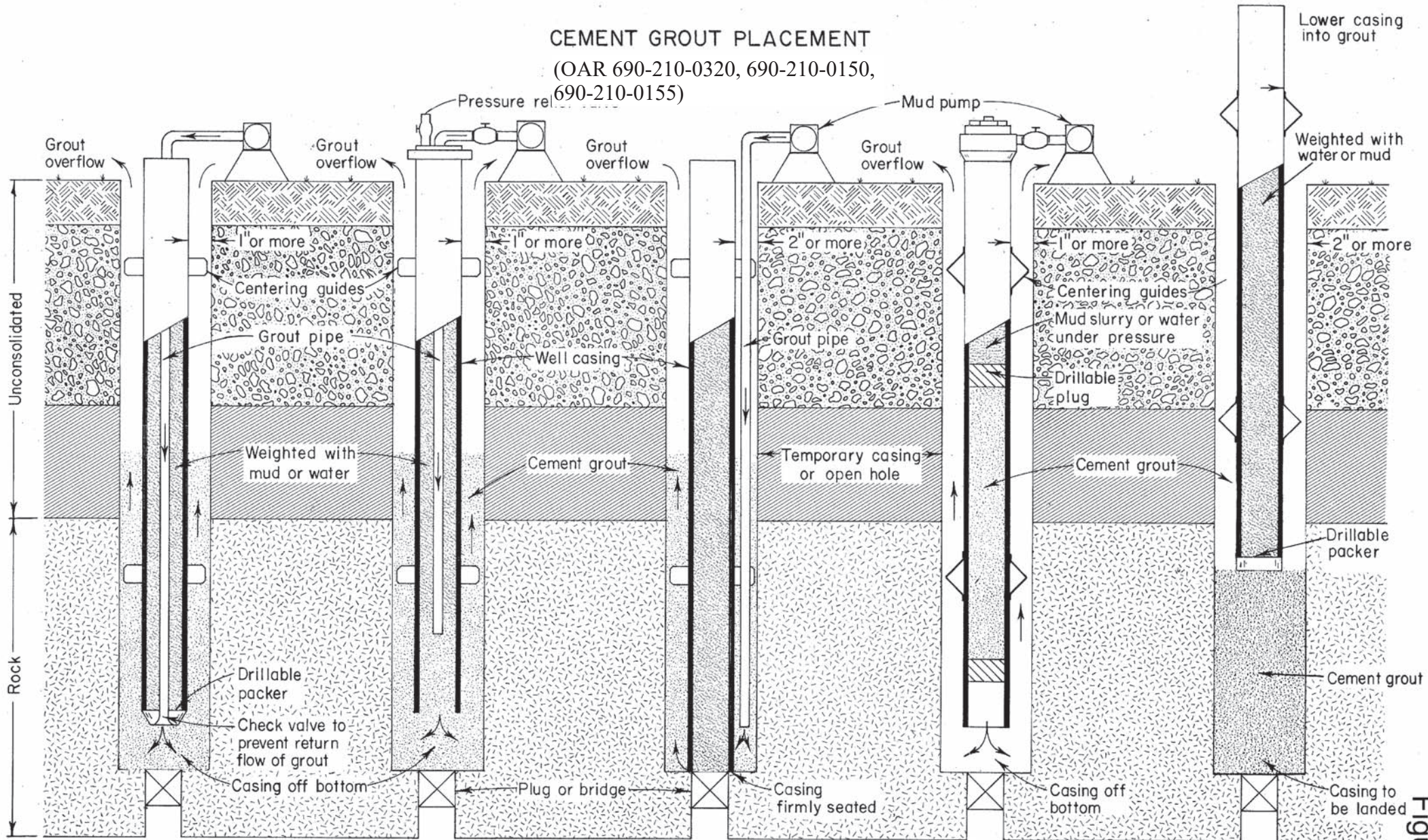
Method D - The well bore shall be plugged with a drillable plug or bridge at the lowest point to

be sealed. After the casing is run and landed, a casing plug, having a length greater than the diameter of the casing, shall be placed in the casing. If the drillhole is free of mud or water, this lower separation plug may be eliminated. A measured amount of cement grout necessary to completely fill the annular space of the interval to be grouted is pumped or placed by bailer in the casing. A second casing plug, having a length greater than the diameter of the casing, shall be placed in the casing above the grout. The casing shall then be capped with a pressure cap and shut-off valve, and shall be connected to a suitable pump. The casing shall then be raised far enough above the point of bearing to clear the first separation plug. Water or drilling mud shall then be pumped under pressure into the casing forcing the grout and upper casing plug down the casing. The position of the plug must be known at all times. A small amount of grout may remain in the lower end of the casing. When the plug reaches the point desired above the bottom of the casing, the pump shall be stopped and the casing seated. (See Figure 210-1)

Method E - The well bore shall be plugged with a drillable plug or bridge at the lowest point to be sealed. A sufficient amount of cement grout to completely fill the interval of the well to be sealed shall be placed at the bottom of the drillhole by pump bailer or grout pipe. The well casing shall have centering guides attached at appropriate intervals to keep the casing centered in the bore hole. The bottom of the well casing shall be fitted with a tight drillable plug and shall be lowered into the drillhole forcing the grout upward into the annular space. Gravity installation without the aid of a grout pipe shall not be used. In no instance shall this method be used deeper than thirty (30) feet and in no case for a municipal, community, or public water supply well. (See Figure 210-1)

CEMENT GROUT PLACEMENT

(OAR 690-210-0320, 690-210-0150, 690-210-0155)



METHOD A

METHOD B

METHOD C

METHOD D

METHOD E

690-210-0380 Disinfection of a Well

Prior to or after being placed in the well, pumping equipment, sand, gravel and well casing shall be thoroughly hosed or sluiced with water, and shall be disinfected with a solution containing at least 50 parts per million chlorine. All water introduced into a well during construction shall be clean and potable. Upon completion, the well and its equipment, including the interior of the well casing, shall be thoroughly swabbed and cleaned to remove all of the oil, grease, and foreign substances. The well and its equipment shall be disinfected by thoroughly agitating and mixing in the well a solution containing enough chlorine to leave a residual of 25 parts per million throughout the well after a period of 24 hours. Disinfection should also occur following the installation of pumping equipment. (See Chart Recommendations for Disinfection of Wells, Appendix 210-2).

NOTE: Other public agencies may have jurisdiction over the discharge of chlorine in certain areas. The constructor should contact the Oregon Department of Environmental Quality or the appropriate city public works department for further information.

~~[ED. NOTE: Appendices referenced are available from the agency.]~~

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS ~~183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 5-2015, f. & cert. ef. 7-1-15

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 7-1988, f. & cert. ef. 6-29-88

WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-061-0116

WRD 9-1978, f. 12-12-78, ef. 1-1-79

APPENDIX 210-2

I. Recommendations For Disinfection of Wells

Every newly constructed, altered, or repaired well should be assumed to be contaminated by micro-organisms. Before the initiation of use, each well must be thoroughly and carefully cleaned and treated to ensure that all disease carrying organisms are eliminated. Care should be exercised to make certain that all areas of the well come into contact with a solution containing enough available chlorine to completely destroy all harmful bacteria. An initial chlorine concentration of 50 parts per million (ppm) with a residual chlorine requirement of 25 ppm after 24 hours is considered adequate for this purpose. Either domestic laundry bleaches containing sodium hypochlorite, such as Clorox or Purex, or calcium hypochlorite in powder or tablet form (Olin HTH) may be used.

Hypochlorite solutions should be thoroughly mixed throughout the well either by the use of drilling tools, a pump, or by placing a calculated number of HTH tablets at regular intervals on a nylon string and dissolving them in places throughout the well. In all cases, the well casing and pump column standing above the water table should be thoroughly cleaned of all grease and oil and should be carefully washed down with the hypochlorite solution.

The well should be allowed to remain undisturbed after the treatment for a period of 24 hours. Then it is recommended that the well be tested for residual chlorine (at least 25 ppm must remain). After successful treatment, all water remaining in the well and supply system should be run to waste and a sample of fresh water from the well tested by the local county sanitarian for bacteriological purity.

SOLUTIONS CONTAINING HYPOCHLORITES

Laundry Bleach

Common domestic laundry bleaches contain from 5.25 percent to 6.00 percent sodium hypochlorite. These amounts are equivalent to approximately 2.5 percent available chlorine or about 25,000 ppm as originally purchased. A one gallon container of liquid bleach mixed with 500 gallons of water will dilute the original solution to approximately 50 ppm available chlorine.

High-Test Hypochlorite Compounds

Calcium hypochlorite (Olin HTH) in powder or tablet form contains about 50 percent active chlorine. One ounce of dry HTH powder mixed with 75 gallons of water will result in a solution containing approximately 50 ppm available chlorine. Eight tablets $\frac{1}{8}$ oz. each) of HTH are equivalent to one ounce of dry powder or granules.

APPENDIX 210-2 Continued

QUALITY OF HYPOCHLORITE NEEDED TO PROVIDE 50 PPM ACTIVE CHLORINE IN WELL WATER

(1) If using liquid bleaches, the following formula is applicable:

$$\frac{\text{Feet of water in well} \times \text{Gallons per foot}}{62} = \text{Pints of bleach needed}$$

Feet of water = Total depth of well minus static water level multiplied by gallons per foot (See Table II).

(2) If using HTH compounds, the following formula is applicable:

$$\frac{\text{Feet of water} \times \text{Gallons per foot}}{75} = \text{Ounces HTH needed}$$

(3) If HTH tablets are used:

$$\frac{\text{Feet of water} \times \text{Gallons per foot}}{9} = \text{Number of 1/8 oz. tablets needed}$$

690-210-0400 Construction of Dug Wells

Dug wells that are 21 feet or less in depth shall be sealed with grout from land surface to within three feet of the bottom of the well. Dug wells greater than 21 feet in depth shall be sealed with grout from land surface to a depth of at least 18 feet below land surface. In all cases a watertight surface curbing shall extend from a minimum of 12 inches above land surface and continue the entire length of the sealed interval. Open wells, sometimes called sumps, which exceed ten feet in average diameter and are dug to a depth of ten feet or less are exempt from these construction requirements, but are subject to all the requirements covering the use of ground water (water right application). [\(See Figure 210-13\).](#)

Statutory/Other Authority: ~~ORS 183, 536, 537, 540~~[536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992](#)

Statutes/Other Implemented: ~~ORS 183, 536, 537, 540~~[536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992](#)

History:

WRD 5-2015, f. & cert. ef. 7-1-15

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-061-0196

WRD 9-1978, f. 12-12-78, ef. 1-1-79

SEALING OF DUG WELLS (OAR 690-210-0400, 0410, 0420)

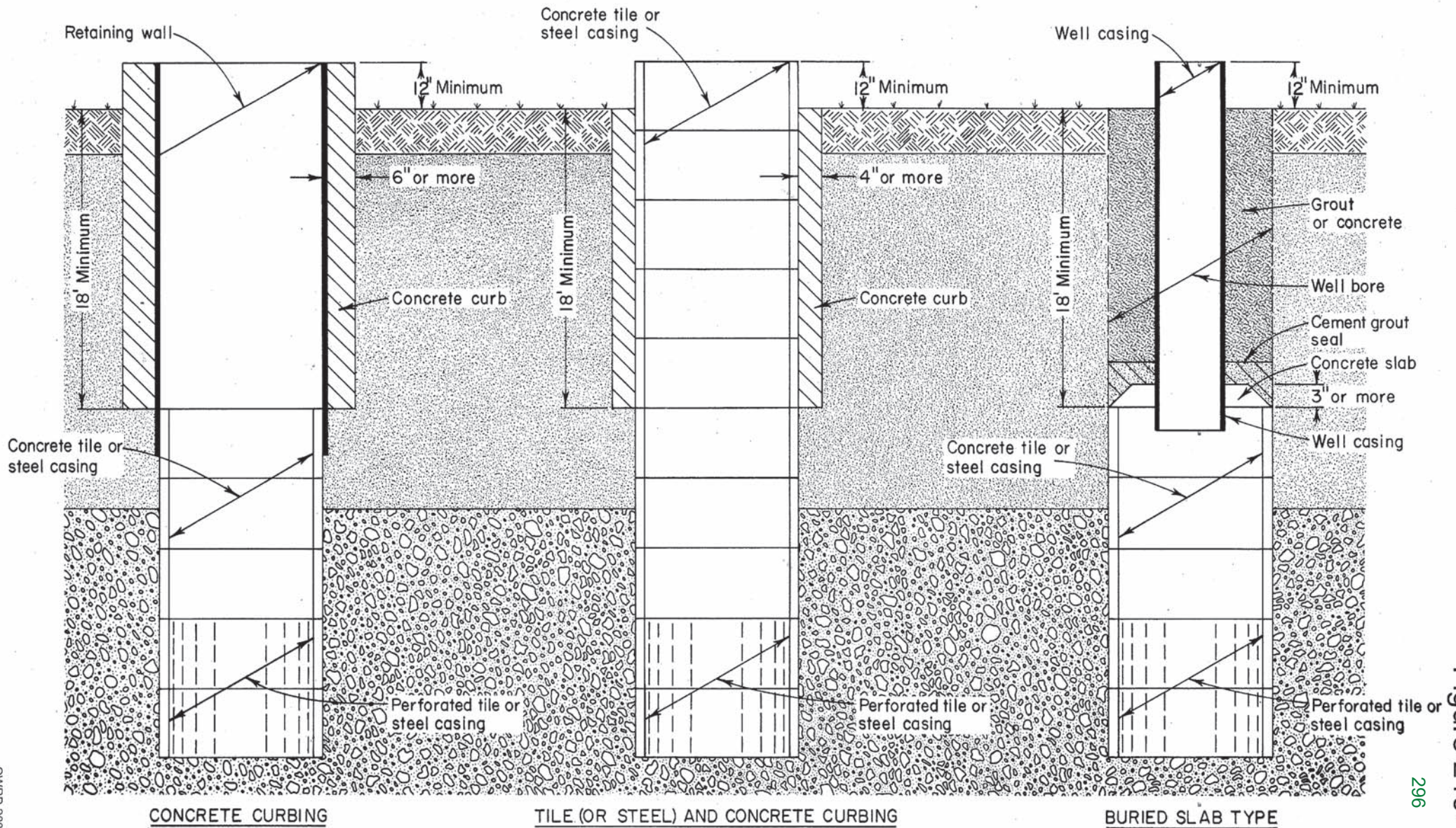


Figure 210-13

690-210-0410 Buried Slab Construction

In a buried slab type well, the slab shall be at least 18 feet below land surface and shall be at least three inches in thickness. The slab shall be reinforced to withstand all stresses. The slab shall be sealed with cement grout at least one foot thick, and the well bore backfilled with grout in accordance with OAR 690-210-0300 through 690-210-0360. (See Figure 210-13).

~~[ED. NOTE: Figures referenced are available from the agency.]~~

Statutory/Other Authority: ~~ORS 183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ~~ORS 183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 5-2015, f. & cert. ef. 7-1-15

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-061-0206

WRD 9-1978, f. 12-12-78, ef. 1-1-79

SEALING OF DUG WELLS (OAR 690-210-0400, 0410, 0420)

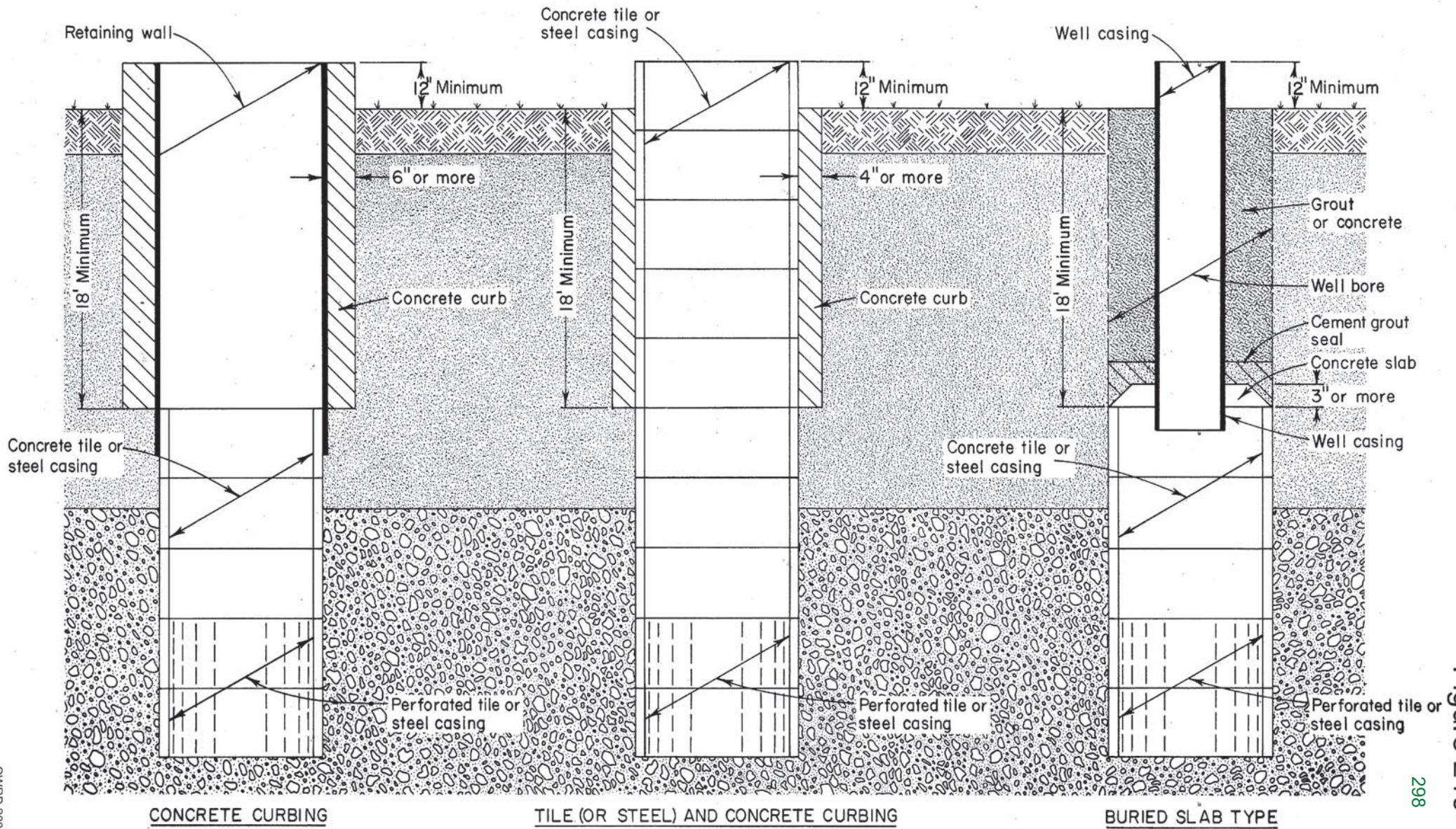


Figure 210-13

690-210-0420 Surface Curbing

(1) The surface curbing required in OAR 690-210-0400 shall be of concrete, concrete tile, or steel. If concrete is used, the concrete wall thickness shall not be less than six inches. In the case of buried slab type wells, well casing meeting the minimum specifications given in 690-210-0190 through 690-210-0220 shall be used. (See Figure 210-13.)

(2) If precast concrete tile or steel casing is used for the surface curbing, the well diameter to the bottom of the surface curbing shall be eight inches greater than the outside diameter of the tile or steel, and the annular space shall be completely filled with grout in accordance with OAR 690-210-0310 through 690-210-0340. (See Figure 210-13).

~~[ED. NOTE: Figures referenced are available from the agency.]~~

Statutory/Other Authority: ~~ORS 183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ~~ORS 183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 5-2015, f. & cert. ef. 7-1-15

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-061-0201

WRD 9-1978, f. 12-12-78, ef. 1-1-79

SEALING OF DUG WELLS (OAR 690-210-0400, 0410, 0420)

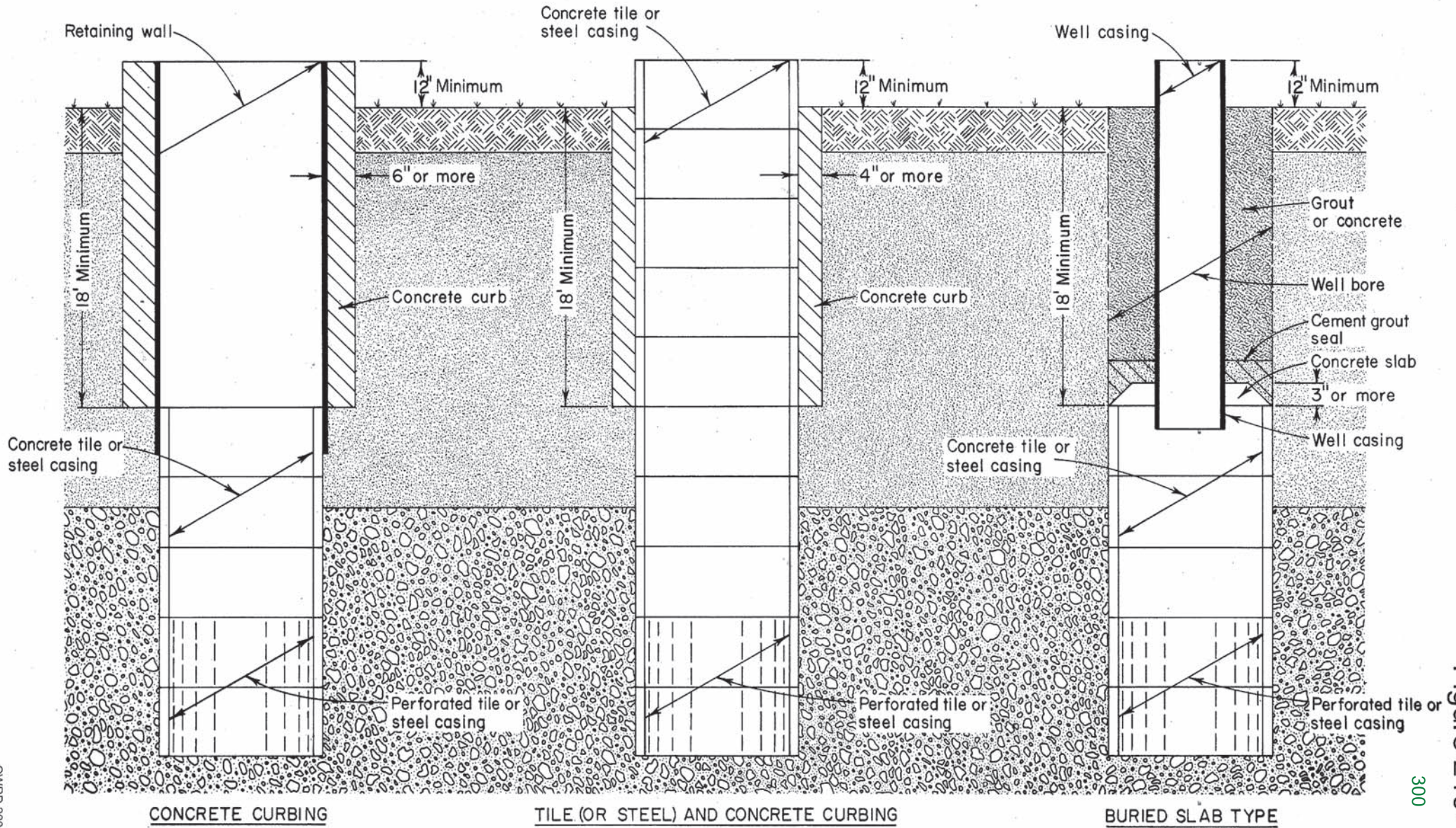


Figure 210-13

**Water Resources Department
Chapter 690
Division 215
MAINTENANCE, REPAIR AND DEEPENING OF WATER SUPPLY WELLS**

690-215-0005 Prevention of Groundwater Contamination, Health Hazard, and Waste

(1) The landowner of the property on which the water supply well is constructed is ultimately responsible for the maintenance and use of the water supply well. All water supply wells should be disinfected following the installation of pumping equipment. Refer to OAR 690-210-0380, Appendix [210-2](#) for recommendations on well disinfection.

(2) The landowner shall maintain all water supply wells in a condition where they are not a health threat, a health hazard, a source of contamination or a source of waste of the ground water resource by allowing loss of artesian pressure or commingling of aquifers. A pitless adapter may be attached to the casing to transmit water from the well into the delivery pipeline. The pitless adapter shall be installed in such a manner as to prevent the contamination of the ground water resource. The landowner is responsible to assure that the space between the side of the well borehole and the well casing is sealed as required by OAR 690-215-0025.

(3) If, in the opinion of the Director, a water supply well is a health threat, a health hazard, a source of contamination, or a source of waste of the ground water resource, the Director may order discontinuance of, or impose conditions upon, the use of the water supply well. In addition, the Director may order that the well be repaired or permanently abandoned in accordance with OAR chapter 690, divisions 215 and 220 of the Standards for Construction and Maintenance of Water Supply Wells in the State of Oregon.

~~[ED. NOTE: Appendices referenced are available from the agency.]~~

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, [ORS 536.900](#), [ORS 536.027](#), [ORS 537.992](#)

Statutory/Other Implemented: [ORS 536.090](#), [ORS 537.505-537.795](#), [ORS 536.900](#), [ORS 537.992](#)

History:

WRD 3-2008, f. 12-22-08, cert. ef. 1-2-09

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 21-1990, f. & cert. ef. 12-14-90

WRD 7-1988, f. & cert. ef. 6-29-88

WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-062-0005

WRD 3-1983, f. & ef. 4-28-83

WRD 9-1978, f. 12-12-78, ef. 1-1-79

WRD 3, f. & ef. 2-18-77

APPENDIX 210-2

I. Recommendations For Disinfection of Wells

Every newly constructed, altered, or repaired well should be assumed to be contaminated by micro-organisms. Before the initiation of use, each well must be thoroughly and carefully cleaned and treated to ensure that all disease carrying organisms are eliminated. Care should be exercised to make certain that all areas of the well come into contact with a solution containing enough available chlorine to completely destroy all harmful bacteria. An initial chlorine concentration of 50 parts per million (ppm) with a residual chlorine requirement of 25 ppm after 24 hours is considered adequate for this purpose. Either domestic laundry bleaches containing sodium hypochlorite, such as Clorox or Purex, or calcium hypochlorite in powder or tablet form (Olin HTH) may be used.

Hypochlorite solutions should be thoroughly mixed throughout the well either by the use of drilling tools, a pump, or by placing a calculated number of HTH tablets at regular intervals on a nylon string and dissolving them in places throughout the well. In all cases, the well casing and pump column standing above the water table should be thoroughly cleaned of all grease and oil and should be carefully washed down with the hypochlorite solution.

The well should be allowed to remain undisturbed after the treatment for a period of 24 hours. Then it is recommended that the well be tested for residual chlorine (at least 25 ppm must remain). After successful treatment, all water remaining in the well and supply system should be run to waste and a sample of fresh water from the well tested by the local county sanitarian for bacteriological purity.

SOLUTIONS CONTAINING HYPOCHLORITES

Laundry Bleach

Common domestic laundry bleaches contain from 5.25 percent to 6.00 percent sodium hypochlorite. These amounts are equivalent to approximately 2.5 percent available chlorine or about 25,000 ppm as originally purchased. A one gallon container of liquid bleach mixed with 500 gallons of water will dilute the original solution to approximately 50 ppm available chlorine.

High-Test Hypochlorite Compounds

Calcium hypochlorite (Olin HTH) in powder or tablet form contains about 50 percent active chlorine. One ounce of dry HTH powder mixed with 75 gallons of water will result in a solution containing approximately 50 ppm available chlorine. Eight tablets $\frac{1}{8}$ oz. each) of HTH are equivalent to one ounce of dry powder or granules.

APPENDIX 210-2 Continued**QUALITY OF HYPOCHLORITE NEEDED TO PROVIDE
50 PPM ACTIVE CHLORINE IN WELL WATER**

(1) If using liquid bleaches, the following formula is applicable:

$$\frac{\text{Feet of water in well} \times \text{Gallons per foot}}{62} = \text{Pints of bleach needed}$$

Feet of water = Total depth of well minus static water level multiplied by gallons per foot (See Table II).

(2) If using HTH compounds, the following formula is applicable:

$$\frac{\text{Feet of water} \times \text{Gallons per foot}}{75} = \text{Ounces HTH needed}$$

(3) If HTH tablets are used:

$$\frac{\text{Feet of water} \times \text{Gallons per foot}}{9} = \text{Number of 1/8 oz. tablets needed}$$

**690-215-0017 Down Well Continuous Water Treatment and Back-Siphon
Prevention Devices**

(1) The following definitions apply solely to OAR 690-215-0017:

(a) "Backflow" means the flow of a mixture of water, fertilizer and/or chemicals in the opposite direction of that intended.

(b) "Backpressure" means an elevation of pressure downstream of the distribution system that would cause, or tend to cause, water to flow opposite of its intended direction.

(c) "Back-siphonage" means a drop in distribution system pressure below atmospheric pressure (partial vacuum), that would cause, or tend to cause, water to flow opposite of its intended direction.

(d) "Reduced Pressure Principle Backflow Prevention Assembly (RP)" means an assembly containing two independently acting approved check valves, together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. The unit shall include properly located resilient seated test cocks and tightly closing resilient seated shutoff valves at each end of the assembly. This assembly is designed to protect against a non-health hazard or a health hazard.

(e) "University of Southern California, Foundation for Cross-Connection Control and Hydraulic Research (USC FCCCHR)" is an agency that conducts laboratory and field tests to evaluate and grant "Certificates of Approval" to backflow prevention assemblies meeting approved standards.

(2) If a chemical is used to treat well water, it shall not be allowed to come into contact with the inside of the well casing above the water level. Down well treatment of well water will only be allowed if a commercial water treatment system is used. Delivery pipes or tubes designed for use with the treatment chemicals shall be used to place the chemicals into the water in the well. This rule does not apply when disinfecting the well and the pumping equipment.

(3) Only chemicals approved by the National Sanitation Foundation to treat drinking water may be allowed to enter a well. In no event shall agricultural chemicals or fertilizers be allowed to enter a well.

(4) Back-siphon prevention devices shall be installed on any irrigation system connected to a groundwater source when chemicals or fertilizers are applied through the system. The landowner or other responsible party shall ensure that back-siphon prevention devices are installed and function properly prior to the irrigation system being used for the application of chemicals or fertilizers. (See Figure 215-1 and Figure 215-2.) The landowner or other responsible party shall test the devices at the time of installation and prior to the first use of each calendar year to ensure that the devices are installed and function properly. The Department may require the landowner or other responsible party to submit a copy of the back-siphon prevention device test results for review. The installation of chemical or fertilizer injection equipment into an irrigation system connected to a groundwater source shall not result in contamination of the groundwater resource.

(a) Irrigation systems with a mainline diameter 4-inches or greater shall contain:

(A) An automatic low-pressure drain or similar device approved by the Water Resources Department which shall:

(i) Be installed between the irrigation pump and the irrigation mainline check valve at the lowest point of the horizontal water supply mainline;

(ii) Be designed to drain all incidental leakage from the check valve out of the irrigation mainline before that leakage enters the groundwater supply;

(iii) Be at least 3/4 inch in diameter with a closing pressure of not less than 5 psi;

(iv) Use a corrosion-resistant tube, pipe, or similar conduit that is sloped to discharge the solution a distance of at least 20 feet away and down-gradient from the irrigation groundwater source and any other water sources. At the discharge point there shall be an air gap between the discharge pipe and the discharged solution. The air gap shall be a minimum of six inches;

(v) Not have any valves located on the outlet side of the drain tube; and

(vi) Have a dam, collection reservoir or similar means to prevent the discharged solution from pooling and draining back toward the groundwater source.

(B) An inspection port or direct access point which shall:

(i) Be located on top of the mainline between the irrigation pump and the irrigation mainline check valve, directly overhead of the low-pressure drain; and

(ii) Have a minimum diameter opening of four inches from which the check valves and low-pressure drain shall be visible. If a four-inch inspection port or direct access point is not possible, a proposed alternative access system may be submitted for review and approval by the Department.

(C) An irrigation mainline check valve which shall:

(i) Consist of at least a single check valve;

(ii) Be located in the irrigation mainline between the irrigation pump and the point of chemical or fertilizer injection into the irrigation mainline, and downstream from the vacuum relief valve and automatic low-pressure drain;

(iii) Be of heavy-duty construction with all materials being compatible with and resistant to any chemicals or fluids that it is expected to come into contact with;

(iv) Be resistant to corrosion or protected to resist corrosion;

- (v) Be spring-loaded and provide and maintain a watertight seal against backflow;
 - (vi) Be labeled with the following information: manufacturer's name and model number, working pressure in pounds per square inch (psi), maximum flow rate, and direction of flow;
 - (vii) Not consist of metal-to-metal seal surfaces; and
 - (viii) Be designed and rated for pressures expected to be encountered, including those caused by pumping, water hammers, back-pressure, or other sources. Installation, operation, maintenance and testing shall be according to design and manufacturer's specifications and recommendations.
- (D) An air/vacuum relief valve which shall:
- (i) Be located on top of the horizontal irrigation mainline between the irrigation pump and the irrigation mainline check valve; and
 - (ii) Have a total (individually or combined) orifice size of at least 3/4-inch diameter for a 4-inch pipe, a 1-inch diameter for a 5- to 8-inch pipe, a 2-inch diameter for 9- to 18-inch pipe, and a 3-inch diameter for a 19-inch and greater pipe.
- (E) An automatic, quick-closing chemical injection line check valve which shall:
- (i) Be attached to the irrigation mainline or located between the chemical injection unit and the point of chemical or other fluid injection into the irrigation mainline;
 - (ii) Be made of material that is compatible with and resistant to any chemicals or fluids to be injected;
 - (iii) Prevent backflow of irrigation water into the chemical injection line; and
 - (iv) Prevent siphoning or seepage from the chemical supply tank when the irrigation system is either automatically or manually shut down.
- (F) A system interlock which shall: mechanically or electrically connect the water supply pump and the chemical injection unit for the purpose of automatically shutting down the chemical injection unit in the event of water supply pump shutdown or failure. The landowner or other responsible party shall demonstrate system interlock operation if requested by the Department.
- (G) An emergency shut-off that can be operated manually by the landowner or other responsible party so that the irrigation system or the chemical injection unit can be shut down in the event it becomes necessary.
- (H) A pressure switch that will stop the chemical injection unit when the water pressure decreases to the point where chemical or fertilizer distribution is adversely affected.

(b) Irrigation systems with a mainline diameter less than 4-inches shall contain:

(A) A lead free reduced pressure principle backflow prevention assembly (RP) which shall:

(i) Be approved by the University of Southern California, Foundation for Cross-Connection Control and Hydraulic Research, or other equivalent testing laboratory;

(ii) Be installed horizontal unless they are specifically approved for vertical installation;

(iii) Be located in the irrigation mainline between the irrigation pump and the point of chemical or fertilizer injection into the irrigation mainline;

(iv) Be of heavy-duty construction with all materials compatible with and resistant to any chemicals or fluids that it is expected to come into contact with;

(v) Be resistant to corrosion or protected to resist corrosion;

(vi) Provide and maintain a watertight seal against reverse flow;

(vii) Be labeled with the following information: manufacturer's name and model number, working pressure in pounds per square inch (psi), maximum flow rate, and direction of flow;

(viii) Not consist of metal-to-metal seal surfaces;

(ix) Be designed and rated for pressures expected to be encountered, including those caused by pumping, water hammers, back-pressure, or other sources. Installation, operation, maintenance and testing shall be according to design and manufacturer's specifications and recommendations; and

(x) Include an approved air gap and drain line. The diameter of the drain line shall be at least as large as the mainline diameter. The drain line shall be sloped in such a manner as to drain all incidental leakage a distance of at least 20 feet away and down-gradient from the irrigation groundwater source and the RP assembly. The air gap shall be a minimum of one and one-half times the diameter of the mainline. The outlet side of the drain line shall have a dam, collection reservoir or similar means to prevent the discharged solution from pooling and draining back toward the groundwater source.

(B) An automatic, quick-closing chemical injection line check valve which shall:

(i) Be attached to the irrigation mainline or located between the chemical injection unit and the point of chemical or fertilizer injection into the irrigation mainline;

(ii) Be made of material that is compatible with and resistant to any chemicals or fluids to be injected;

(iii) Prevent backflow of irrigation water into the chemical injection line; and

(iv) Prevent siphoning or seepage from the chemical supply tank when the irrigation system is either automatically or manually shut down.

(C) A system interlock which shall: mechanically or electrically connect the water supply pump and the chemical injection unit for the purpose of automatically shutting down the chemical injection unit in the event of water supply pump shutdown or failure. The landowner or other responsible party shall demonstrate system interlock operation if requested by the Department.

(D) An emergency shut-off that can be operated manually by the landowner or other responsible party so that the irrigation system or the chemical injection unit can be shut down in the event it becomes necessary.

(E) A pressure switch that will stop the chemical injection unit when the water pressure decreases to the point where chemical or fertilizer distribution is adversely affected.

(c) The Director may allow modifications or changes in materials, design, or technology in lieu of that specified herein. Requests for modifications or changes shall be in writing, detailing the current or proposed system and the desired changes, and shall include component specifications, a detailed drawing of the proposed system, and the system's uses. Once installed, the modified system shall provide at least as much protection to the groundwater resource as that provided by the devices required in this regulation;

(d) The injection of chemicals or fertilizers into an irrigation system connected to a groundwater source shall not occur within ten feet from a wellhead.

(e) An additional vacuum relief valve may be installed downstream of the irrigation mainline check valve to prevent potential collapse of the irrigation mainline in the event of rapid mainline drainage.

(f) The landowner or other responsible party shall ensure that additional inspections and testing of approved back-siphon prevention devices are conducted:

(A) At the time of any repair or relocation;

(B) More frequently than annually for back-siphon prevention devices that repeatedly fail; or

(C) After a backflow incident.

(g) These regulations are in addition to equipment requirements for chemical application under the Federal Insecticide, Fungicide and Rodenticide Act, and are not intended to replace those regulations;

(h) Irrigation systems that are subject to OAR 690-215-0017(4) and are connected to:

(A) A public water system, shall also comply with Oregon Health Authority cross-connection control requirements in OAR Chapter 333 and backflow prevention requirements in the Oregon

Plumbing Specialty Code. Contact the Oregon Health Authority and the Oregon Building Codes Division for more information;

(B) A private water system, shall also meet the backflow prevention requirements in the Oregon Plumbing Specialty Code. Contact the Oregon Building Codes Division for more information.

(i) Before each chemical application, the treatment site and surrounding area should be assessed to determine if the application will endanger or be a potential hazard to workers, bystanders, domestic animals, fish or wildlife, ground or surface water, or neighboring crops.

(5) Back-siphon prevention devices found not to be functioning properly shall be either repaired or replaced. Repair or replacement shall take place prior to the irrigation system being used for the application of chemicals or fertilizers.

(6) Bypass piping installed around approved back-siphon prevention devices must be equipped with approved back-siphon prevention devices and must:

(a) Afford at least the same level of protection as the approved back-siphon prevention devices being bypassed; and

(b) Comply with all other requirements.

(7) The landowner or other responsible party shall provide access and clearance for required operation, testing, maintenance, and repair of back-siphon prevention devices.

(8) In cold climate areas, back-siphon prevention devices shall be protected from freezing.

(9) Back-siphon prevention devices shall:

(a) Not be located in any area containing fumes that are toxic, poisonous, or corrosive;

(b) Be installed in a manner that precludes the possibility of continuous submersion of back-siphon prevention devices; and

(c) Be installed in a manner that precludes the possibility of any submersion of the air/vacuum relief valve.

(10) The Director may require a landowner or other responsible party to install a back-siphon prevention device on any water supply well, including wells which are exempted by ORS 537.545. The Director also may require a landowner or other responsible party to install a back-siphon prevention device as a condition of a water right permit. When required to be installed:

(a) Back-siphon prevention devices shall be specifically designed and manufactured to prevent backflow, back-siphonage, backpressure, siphoning, seepage, suction, or leakage and shall prevent used, unclean, polluted, or contaminated water, mixtures, or substances from entering the groundwater resource;

(b) The landowner or other responsible party shall test the back-siphon prevention devices at the time of installation and once per calendar year to ensure that they are functioning properly;

(c) The Department may require the landowner or other responsible party to test the back-siphon prevention devices more frequently than annually to ensure that they are functioning properly;
and

(d) The Department may require the landowner or other responsible party to submit a copy of the back-siphon prevention device test results for review.

(11) Whenever the Director deems it appropriate, the Department may investigate alleged violation of statutes, standards or rules governing back-siphon prevention devices to determine whether a violation has occurred. Violations of OAR 690-215-0017 may be administered under ORS 536.900(1)(b), 537.990(3), or OAR Chapter 690, Division 260, as appropriate to gain compliance.

(12) Additional Oregon Health Authority standards apply to wells used for public water systems. See OAR Chapter 333 or contact the Oregon Health Authority for more information.

(13) Additional requirements in the Oregon Plumbing Specialty Code apply to wells used for public or private water systems. Contact the Oregon Building Codes Division for more information.

~~[ED. NOTE: Figures referenced are available from the agency.]~~

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 3-2018, amend filed 05/02/2018, effective 05/02/2018

WRD 3-2017, f. & cert. ef. 8-25-17

WRD 7-2001, f. & cert. ef. 11-15-01

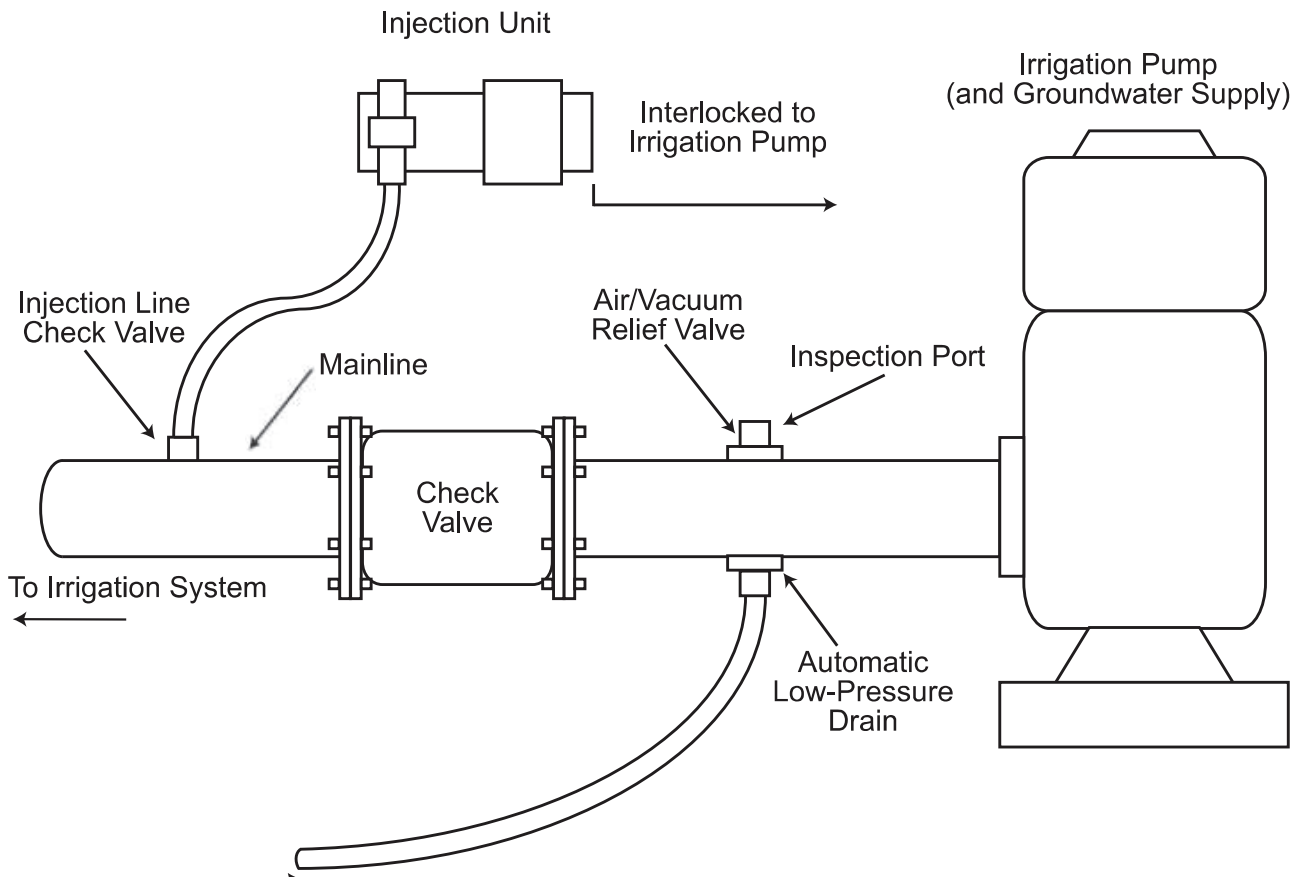
WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 1-1991, f. & cert. ef. 2-8-91

WRD 7-1988, f. & cert. ef. 6-29-88

Backflow Prevention Device

Figure 215-1

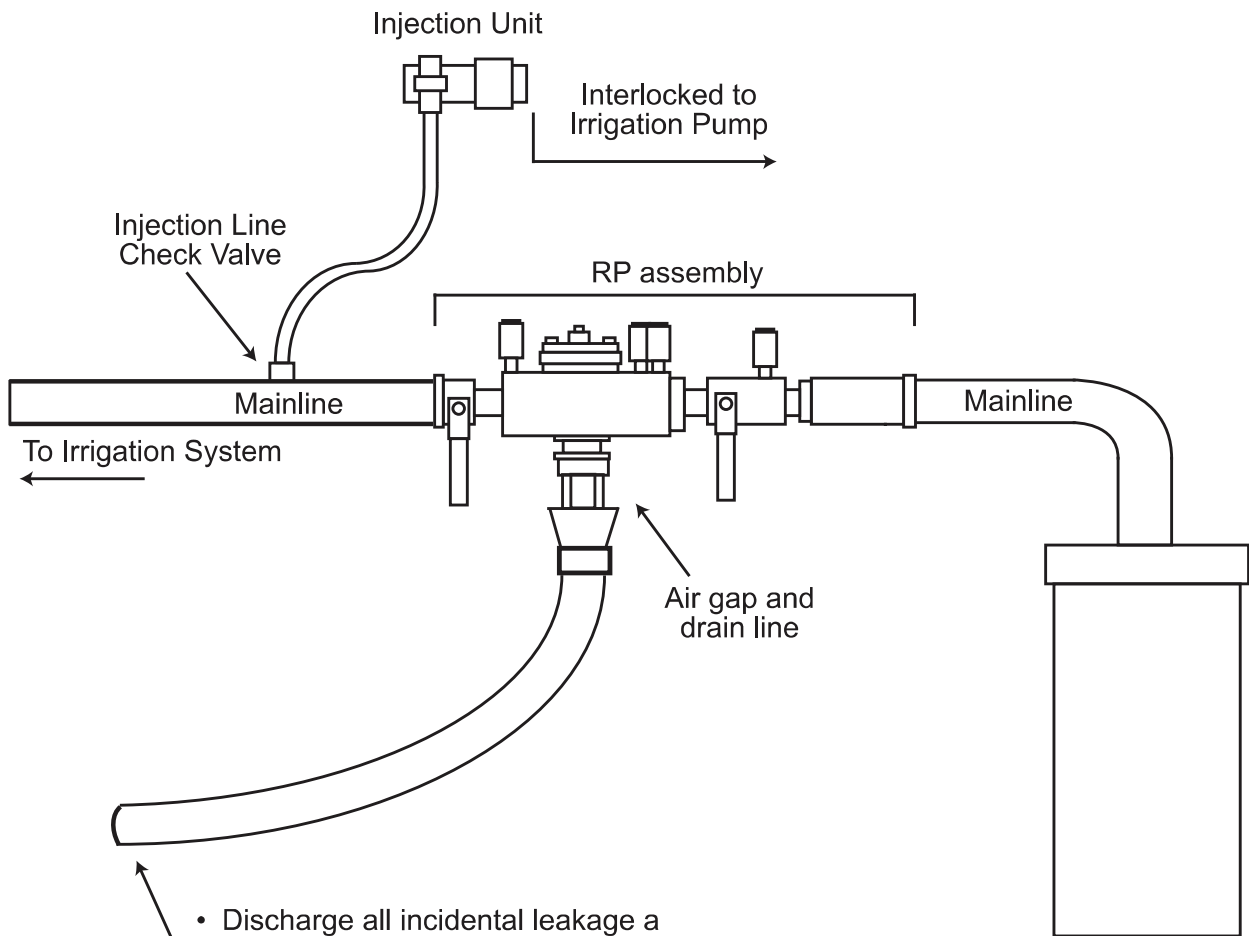


- Discharge solution a distance of at least 20 feet away and down-gradient from water source
- Maintain an air gap between end of discharge pipe and the discharged solution
- Chemical or fertilizer injection shall not occur within ten feet from a wellhead

Backflow prevention device using check valve with vacuum relief and low pressure drain.

Backflow Prevention Device

Figure 215-2



- Discharge all incidental leakage a distance of at least 20 feet away and down-gradient from water source
- Maintain an air gap between end of discharge pipe and the discharged solution
- Chemical or fertilizer injection shall not occur within ten feet from a wellhead

Backflow prevention device using a reduced pressure principle backflow prevention assembly (RP).

690-215-0055 Well Identification Label Maintenance

The well identification label shall not be removed from the wellhead and shall be maintained by the landowner in an accessible location and in a readable condition. See OAR 690-200-0048 for well identification label placement methods and instructions.

~~[ED. NOTE: Appendices referenced are available from the agency.]~~

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 5-2016, f. & cert. ef. 9-6-16

WRD 7-2001, f. & cert. ef. 11-15-01

690-215-0060 Access Ports, Dedicated Measuring Tubes and Airlines

- (1) All water supply wells, including wells that have been temporarily removed from service, temporarily abandoned due to a recess in construction, or temporarily abandoned before commencing service, shall be properly covered and shall be equipped with a usable access port with a minimum diameter of 1/2-inch for the purpose of determining the water level in the well at any time.
- (2) Dedicated measuring tubes are recommended to be installed on all water supply wells at the time of pump installation, pump repair, or pump replacement. Where required, dedicated measuring tubes shall be a minimum of 3/4-inch diameter schedule 40 PVC extending to the top of the pump. The 3/4-inch diameter dedicated measuring tube may be reduced in size to 1/2-inch where it goes through the watertight well cap, but shall not be reduced in size over the length of the pipe. Dedicated measuring tubes shall be vented above and below the well cap and shall be attached to the pump column at 10 foot intervals with 10 mil plastic tape. The lower five feet of the dedicated measuring tube shall be either 0.020 inch machine slotted well screen or the lower 20 feet of the dedicated measuring tube shall be extensively perforated with 1/8 inch holes. Dedicated measuring tubes shall be plugged or capped at the bottom (See Figure 200-5) and shall remain free from wire or other obstruction.
- (3) An airline is not a substitute for a required dedicated measuring tube and, if installed, must enter the well in a location other than the access port.
- (4) Access ports, dedicated measuring tubes or airlines on all water supply wells shall be capped and a minimum of twelve inches above finished ground surface or pumphouse floor. If the well has a pitless adaptor then the dedicated measuring tube shall terminate within six inches of the top of the well casing.
- (5) Access ports, airlines and dedicated measuring tubes on all water supply wells shall be maintained by the landowner in a condition that will prevent contamination of the groundwater resource.

Statutes/Other Implemented: ~~ORS 183, 536, 537, 540~~ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutory/Other Authority: ORS 536.090, ORS 537.505-637.795, ORS 536.900, ORS 537.992

History:

WRD 5-2016, f. & cert. ef. 9-6-16

WRD 2-2008, f. 6-18-08, cert. ef. 7-1-08

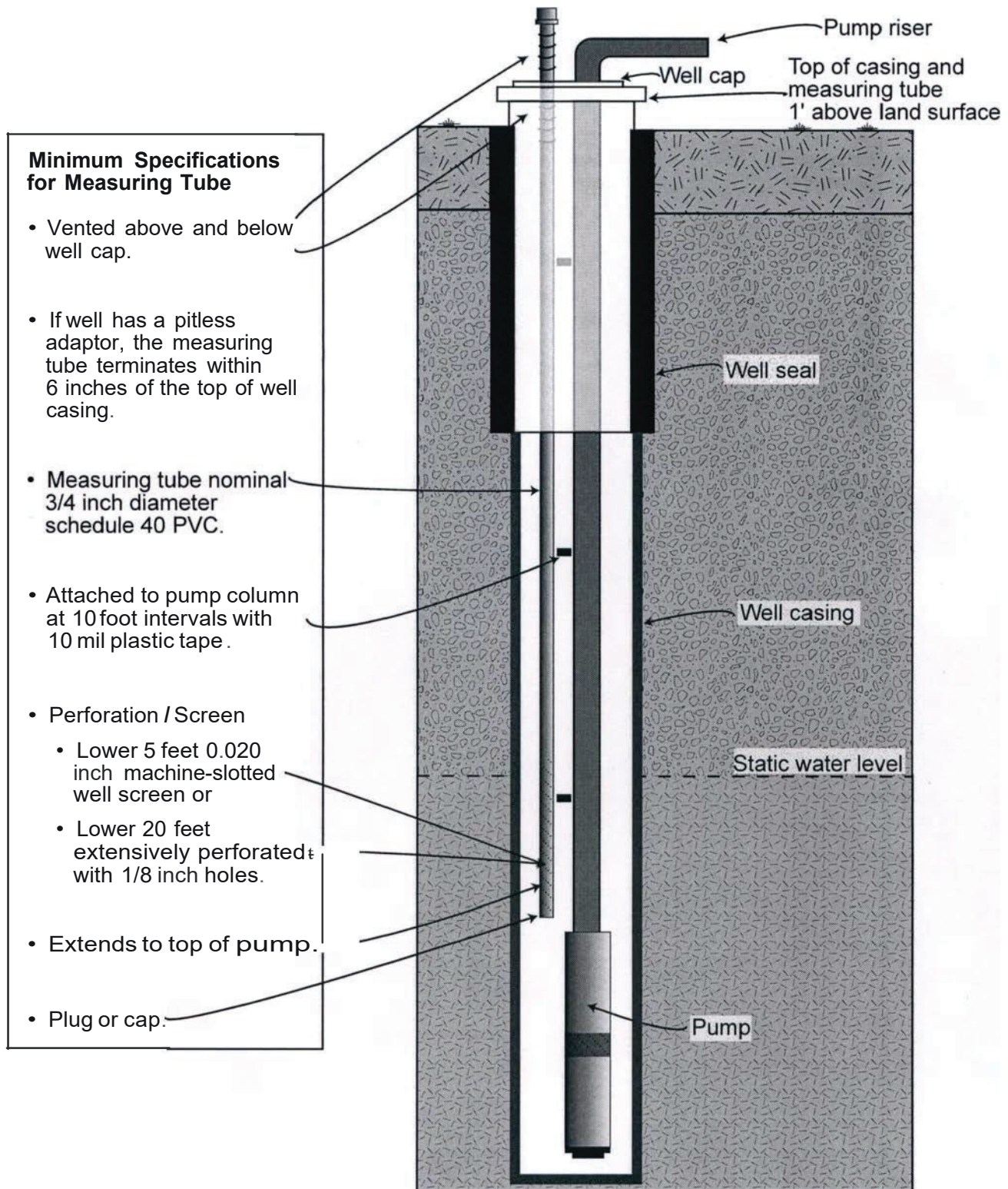
WRD 7-2001, f. & cert. ef. 11-15-01

WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-062-0015

WRD 9-1978, f. 12-12-78, ef. 1-1-79

WRD 3, f. & ef. 2-18-77

Measuring Tube Diagram and Specifications



This diagram details the minimum standards for a dedicated measuring tube. A measuring tube may be constructed in a manner that exceeds these standards without prior Department approval. The dedicated measuring tube shall not be reduced in size over the length of the pipe and shall remain free from wires or any other obstruction.

690-215-0070 Pressure Gauge

The pressure gauge and petcock valve required by OAR 690-210-0155 shall be maintained so that the artesian pressure can be accurately determined at any time. (See Figure 210-7.)

~~[ED. NOTE: Figures referenced are available from the agency.]~~

Statutes/Other Implemented: ~~ORS 183, 536, 537, 540~~ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992, ORS 540.045

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 537.992, ORS 540.045

History:

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 13-1986, f. 10-7-86, ef. 11-1-86, Renumbered from 690-062-0020

WRD 9-1978, f. 12-12-78, ef. 1-1-79

WRD 3, f. & ef. 2-18-77

690-215-02010

Dedicated Measuring Tube

A dedicated measuring tube as described in 690-215-0060 shall be installed in any water supply well at the time of pump installation, pump repair or pump replacement in the following areas (See Figures 200-4, 200-5, 200-7 and 200-8):

(1) Petes Mountain Area of Clackamas County (See OAR 690-200-0028(2));

(2) Eola Hills Ground Water Limited Area of Polk and Yamhill Counties (See OAR 690-200-0028(3));

(3) "Mosier Area" Special Area Standards area of Wasco County (See OAR 690-200-0028(4)).

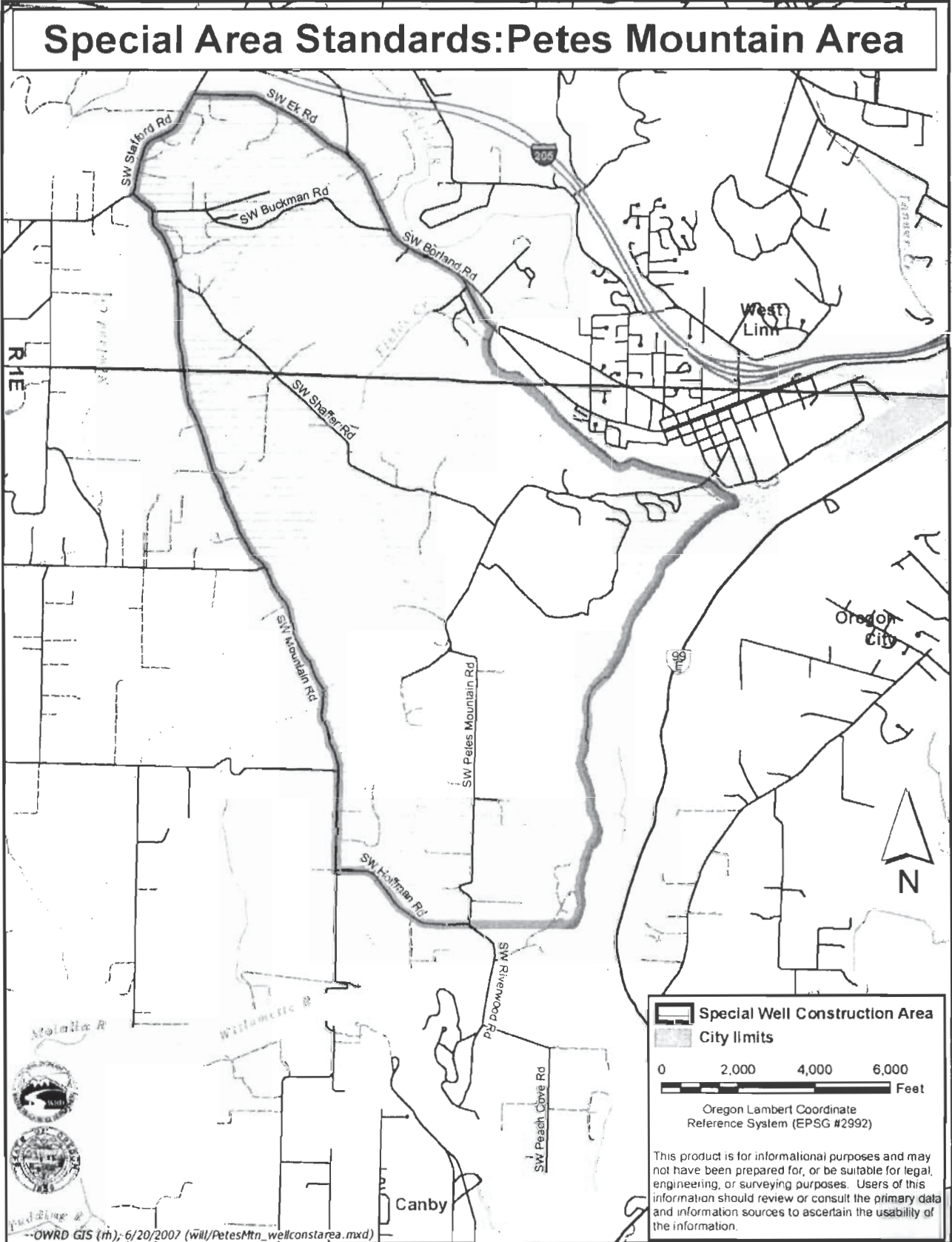
Stat. Auth.: ORS 536.027, ORS 536.090, ORS 536.900, ORS 537.505-537.795, ORS 537.992

Stats. Implemented: ORS 536.090, ORS 536.900, ORS 537.505-537.795, ORS 537.992

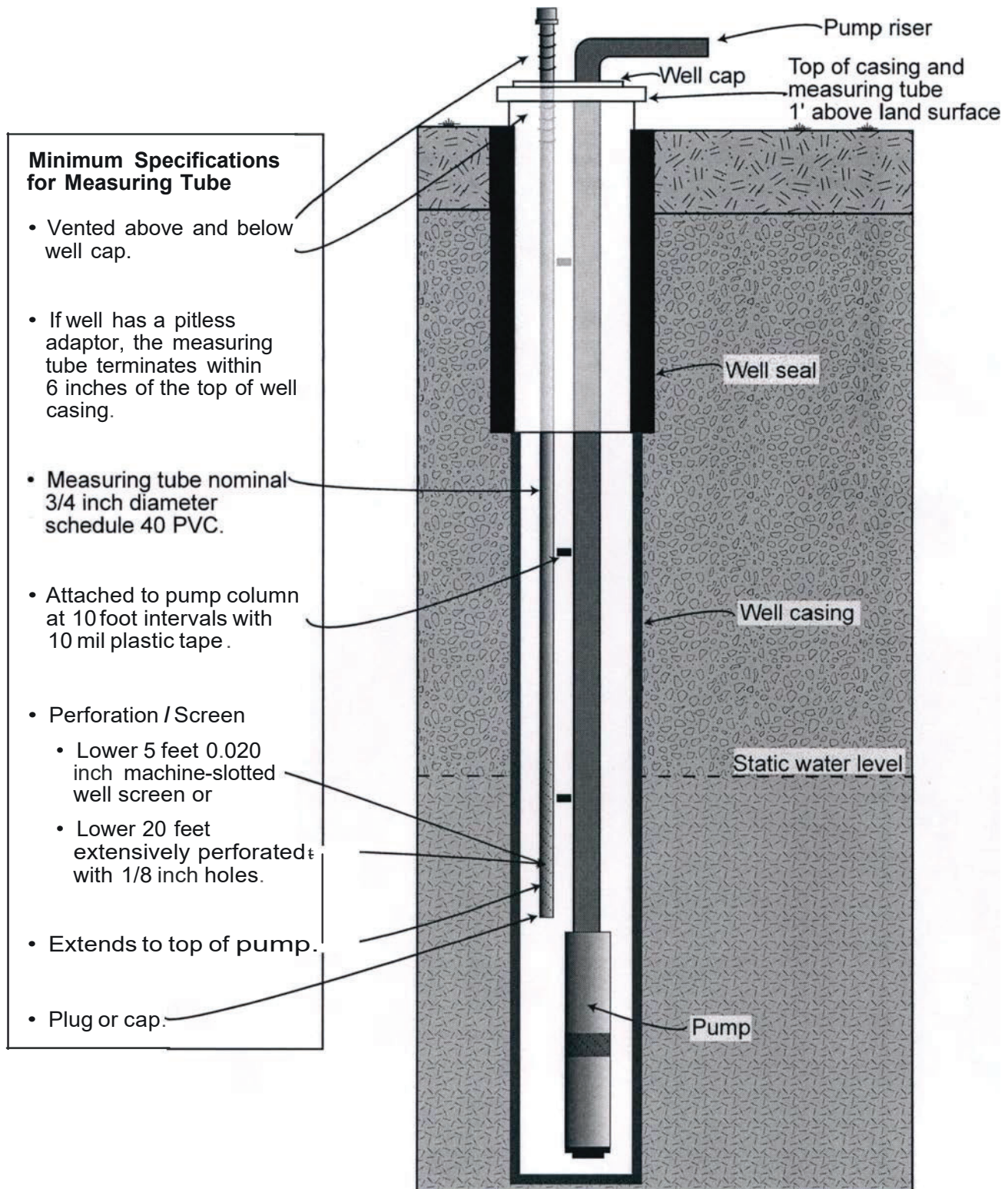
Hist.: WRD May-2008 cert. & f. ef. 7-1-08; WRD 7-2015 cert. & f. ef. 7-1-15

690-200-0028, 690-215-0201

Figure 200-4



Measuring Tube Diagram and Specifications

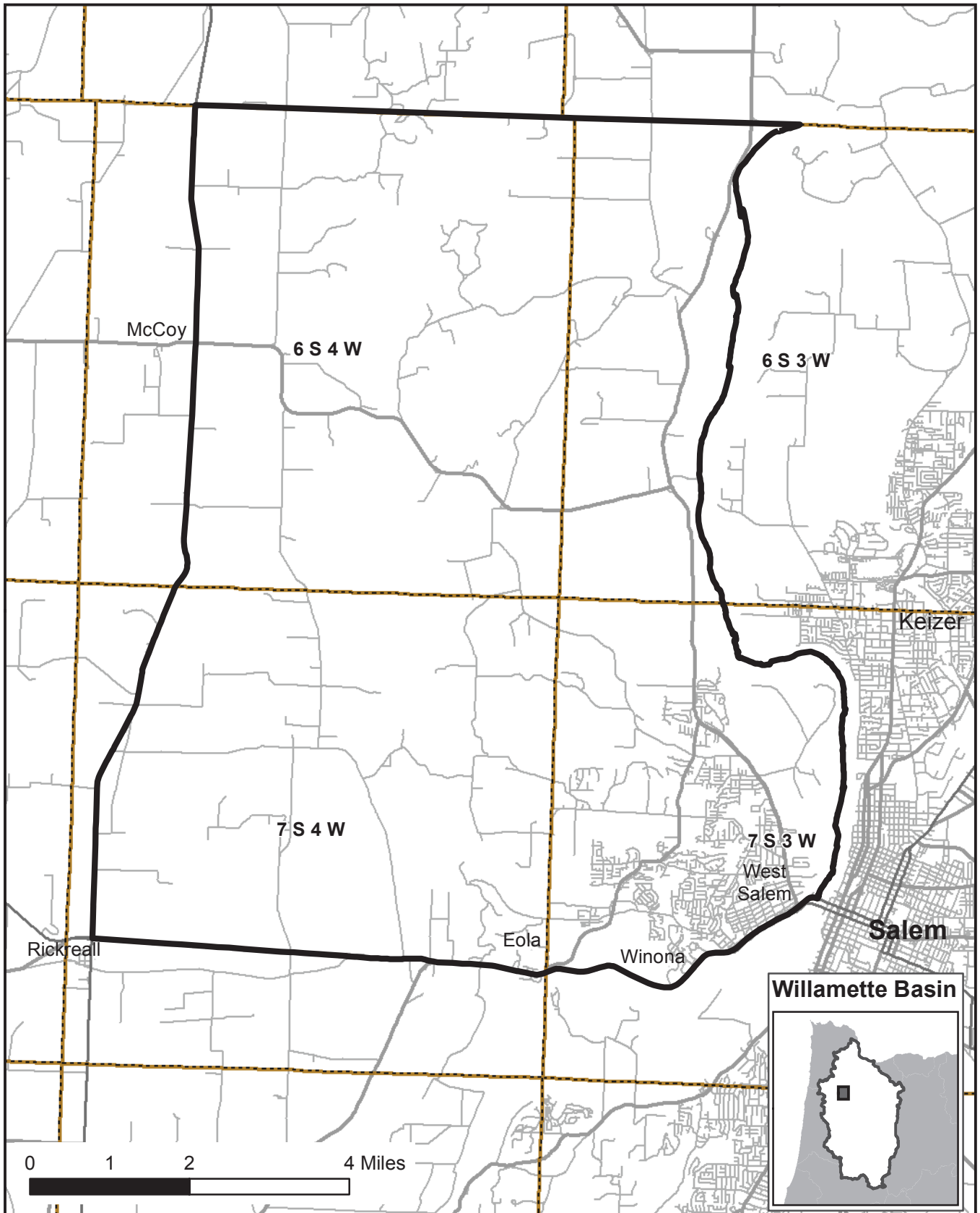


This diagram details the minimum standards for a dedicated measuring tube. A measuring tube may be constructed in a manner that exceeds these standards without prior Department approval. The dedicated measuring tube shall not be reduced in size over the length of the pipe and shall remain free from wires or any other obstruction.

Eola Hills Groundwater Limited Area

Special Area Standards


OAR 690-200-0028, 690-215-0201



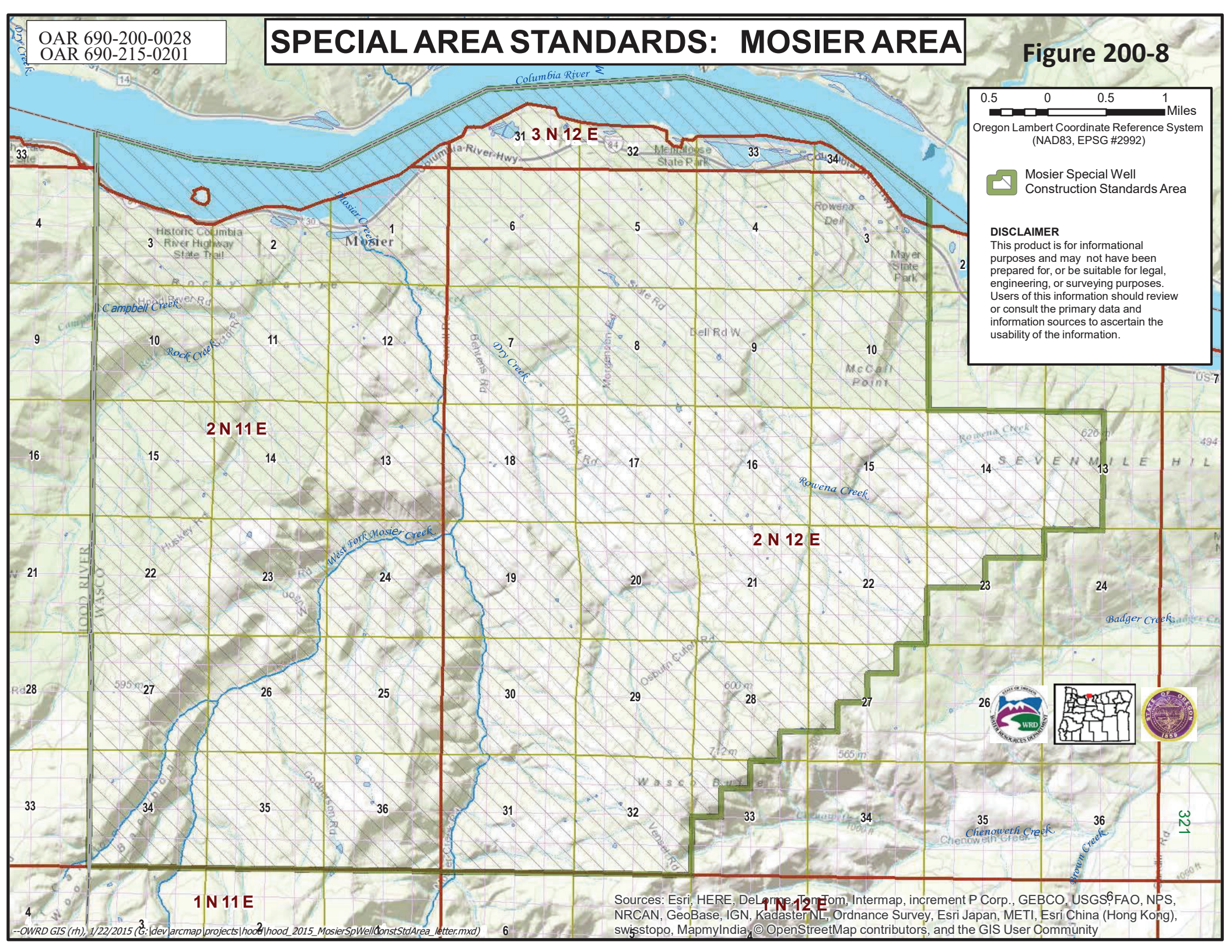
SPECIAL AREA STANDARDS: MOSIER AREA

Figure 200-8

0.5 0 0.5 1 Miles
Oregon Lambert Coordinate Reference System
(NAD83, EPSG #2992)

 Mosier Special Well Construction Standards Area

DISCLAIMER
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



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**Water Resources Department
Chapter 690
Division 225
ENFORCEMENT ~~(SEE FIGURE 225-1)~~**

690-225-0020 Investigation of Alleged Violations

(1) The Water Resources Director, upon the Director's own initiative, or upon complaint alleging violation of statutes, standards or rules governing construction, alteration, conversion, or abandonment of wells may cause an investigation to determine whether a violation has occurred. If the investigation indicates that a violation has occurred, the Director shall notify the persons believed responsible for the violation including but not limited to:

- (a) Any Water Supply Well Constructor involved; or
 - (b) The landowner, if the violation involves construction, alteration, operation, or abandonment of a well.
- (2) Enforcement and civil penalty assessment for “other than well constructors” is described in OAR 690-260.

(3) See Table 225-2 for a description of the well construction enforcement process.

Statutory/Other Authority: ORS ~~183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 537.992, ORS 536.027, ORS 183, ORS 536.900

Statutes/Other Implemented: ORS ~~183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 537.992, ORS 183, ORS 536.900

History:

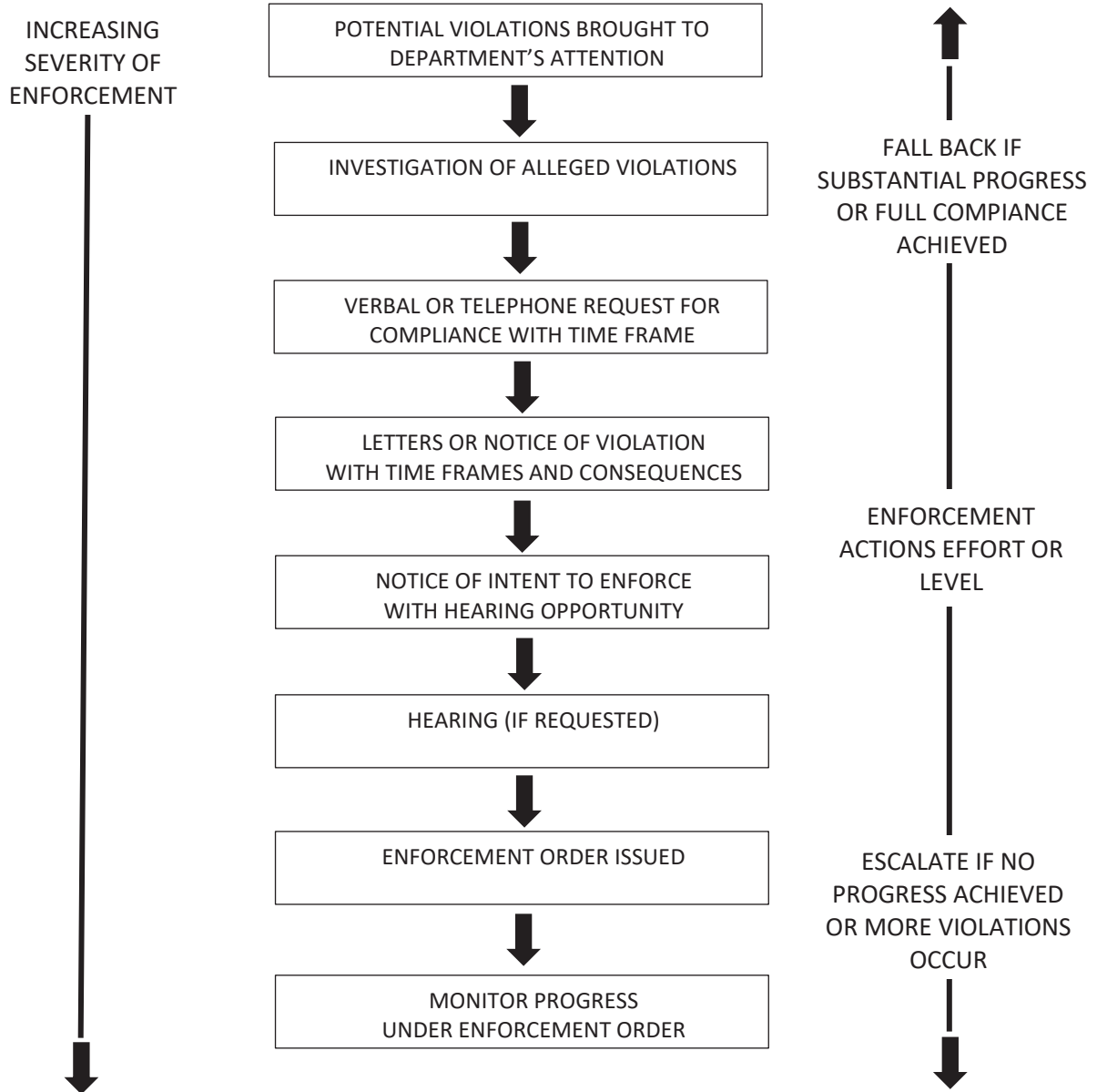
WRD 2-2006, f. & cert. ef. 6-20-06

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 13-1986, f. 10-7-86, ef. 11-1-86

EXAMPLE OF WELL ENFORCEMENT PROCESS
(690-225-0020, 690-225-0030)

Table 225-2



It is desirable to achieve compliance at the lowest possible level of enforcement. Escalation of enforcement can be expected if compliance does not result at the next lower level. Reduction of enforcement effort can be expected if substantial progress toward compliance is achieved.

690-225-0030 Enforcement Actions

(1) If, after notice and opportunity for hearing under ORS 183.310 to 183.550 the Director determines that one or more violations have occurred, the Director may ~~impose~~take one or more of the following actions:

(a) Provide a specified time for remedy;

(b) Assess a civil penalty in accordance with the schedule of civil penalties in OAR 690-225-0110;

(c) Suspend, revoke, or refuse to renew the licenses when one or more persons responsible for the violation hold a Water Supply Well Constructor's License;

(d) Require that a person whose license has been refused renewal pass the Water Supply Well Constructor's License examination before a new license is issued;

(e) Impose any reasonable conditions on the Water Supply Well Constructor's License to insure correction of the violation and future compliance with the law. These conditions may include but are not limited to:

(A) Fulfilling any outstanding obligations which are the result of administrative action before the constructor can offer any services or construct, alter, convert, or abandon any well;

(B) Requiring additional advance notice to be given to the Department of construction, alteration, conversion, or abandonment of any well;

(C) Requiring a seal placement notice be given to the Department 24 hours in advance of placing the seal; or

(D) Any other conditions the Director feels are appropriate.

(f) Order the landowner to repair or meet other conditions on use of the well, or order discontinuance of use and proper abandonment pursuant to ORS 537.775;

(g) Make demand on the Water Well Constructor's Bond or on the Landowner's Water Well Bond. This may occur only if the Director has given the notice required in OAR 690-225-0020 to the persons responsible for the violation within three years after the date the well report is filed with the Department. If no well report has been filed, the three-year limitation shall not apply until such time as a well report is filed;

(h) Take any other action authorized by law.

(2) An order may specify a schedule of escalating or cumulative sanctions to be assessed on specified dates until satisfactory correction of the violation has been completed.

(3) Any Water Supply Well Constructor whose license is suspended or revoked shall not contract for well construction services or operate well drilling machines in the State of Oregon during the suspension or revocation period.

(4) See Table 225-2 for a description of the well construction enforcement process.

Statutory/Other Authority: ORS ~~183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 183.310-183.550, ORS 537.992, ORS 536.027, ORS 536.900

Statutes/Other Implemented: ORS ~~183, 536, 537, 540~~536.090, ORS 537.505-537.795, ORS 183.310-183.550, ORS 537.992, ORS 536.900

History:

WRD 2-2006, f. & cert. ef. 6-20-06

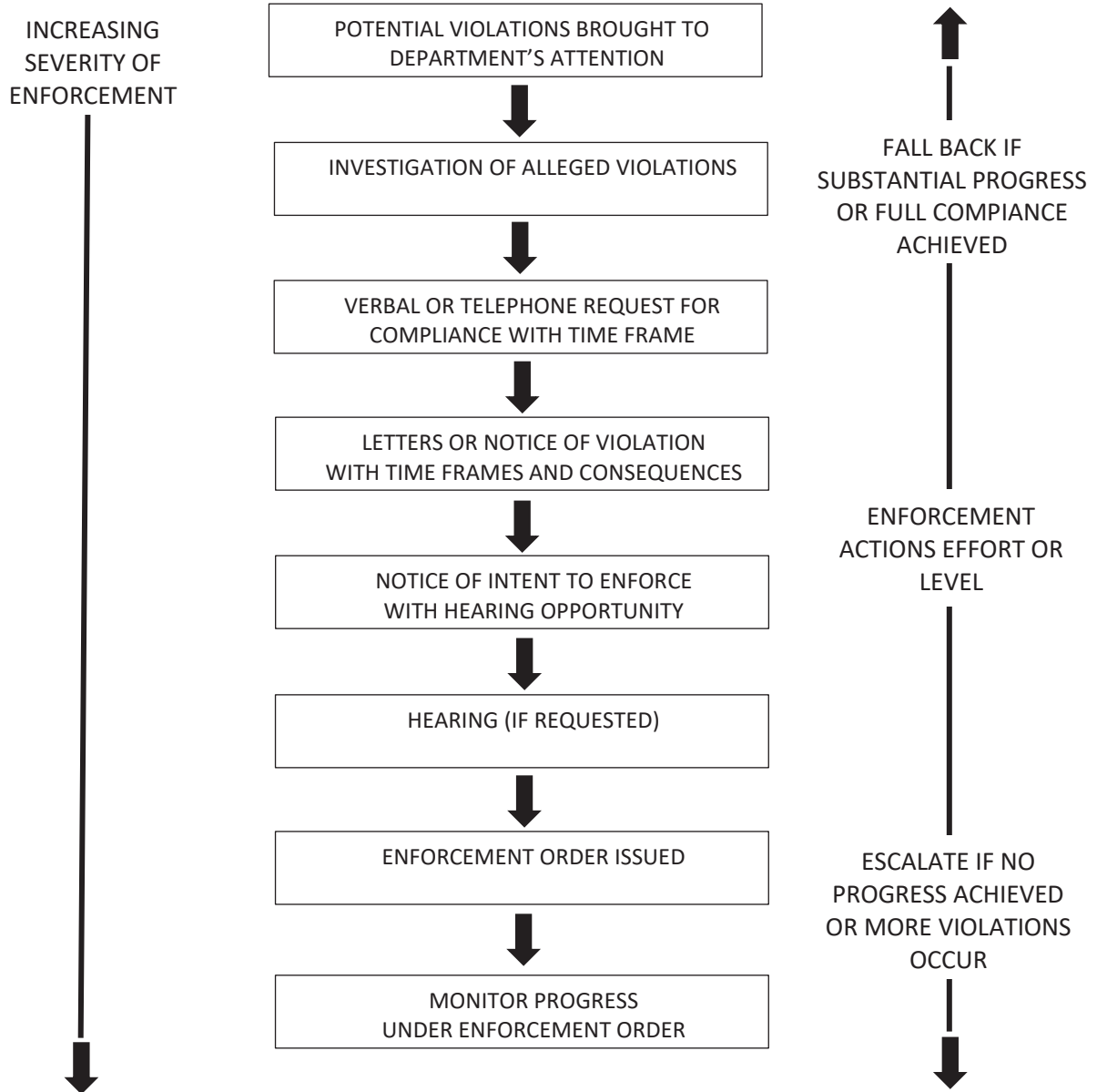
WRD 7-2001, f. & cert. ef. 11-15-01

WRD 7-1988, f. & cert. ef. 6-29-88

WRD 13-1986, f. 10-7-86, ef. 11-1-86

EXAMPLE OF WELL ENFORCEMENT PROCESS
(690-225-0020, 690-225-0030)

Table 225-2



It is desirable to achieve compliance at the lowest possible level of enforcement. Escalation of enforcement can be expected if compliance does not result at the next lower level. Reduction of enforcement effort can be expected if substantial progress toward compliance is achieved.

690-225-0110 Schedule of Civil Penalties

(1) The amount of civil penalty shall be determined consistent with the following schedule:

(a) Not less than ~~\$2550~~ nor more than \$250 for each occurrence defined in these rules as a minor violation;

(b) Not less than ~~\$50200~~ nor more than \$1,000 for each occurrence defined in these rules as a major violation;

(c) First occurrence, in a calendar year, of a missing or late start card fee shall be \$150;

(d) Second occurrence, in a calendar year, of a missing or late start card fee shall be \$250;

(e) Third, and each subsequent, occurrence, in a calendar year, of a missing or late start card fee shall be \$250 and may include suspension of the Water Supply Well Constructor's license, and any other action authorized by law.

~~(f) First occurrence, in a calendar year, of a missing or late exempt ground water use map or recording fee shall be \$150;~~

~~(g) Second occurrence, in a calendar year, of a missing or late exempt ground water use map or recording fee shall be \$250;~~

~~(h) Third, and each subsequent, occurrence, in a calendar year, of a missing or late exempt ground water use map or recording fee shall be \$250 and may include suspension of the Water Supply Well Constructor's license, and any other action authorized by law.~~

(2) For purposes of assessing a civil penalty, the start card fee referred to in subsections (1)(c), (d), and (e) of this rule shall not be considered late if it is received in the Salem office of the Water Resources Department within five days of the receipt of the start card, provided the start card was submitted in a timely manner as described in ORS 537.762 and OAR 690-205-0200.

~~(3) For purposes of assessing a civil penalty, the exempt ground water use recording fee referred to in subsections (1)(f), (g), and (h) of this rule shall not be considered late if it is received in the Salem office of the Water Resources Department within five days of the receipt of the water supply Well rReport, provided the wWell Rreport was submitted in a timely manner as described in ORS 537.765 and OAR 690-205-0210.~~

~~(43)~~ Table 225-1 lists minor violations of well construction standards. All other violations are declared to be major.

~~[ED. NOTE: Tables referenced are available from the agency.]~~

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.900, Or Laws 2021, ch 610, ORS 537.992, ORS 183, ORS 536.027

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, Or Laws 2021, ch 610, ORS 537.992, ORS 183

History:

WRD 2-2006, f. & cert. ef. 6-20-06

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 10-1989, f. & cert. ef. 11-20-89

WRD 7-1989(Temp), f. & cert. ef. 9-29-89

WRD 7-1988, f. & cert. ef. 6-29-88

WRD 13-1986, f. 10-7-86, ef. 11-1-86

**TABLE 225-1
(690-225-0110)**

**MINOR WELL CONSTRUCTION
VIOLATIONS**

Oregon Statute Reference	Value Assignment	Title
ORS 537.762	Minor	REPORT OF COMMENCEMENT OF CONSTRUCTION; COMMENCEMENT OF WORK NOTIFICATION; OR SEAL PLACEMENT DATE CHANGE NOTIFICATION
ORS 537.765	Minor	WELL REPORT
ORS 537.789	Minor	WELL IDENTIFICATION NUMBER
ORS 537.545 (5)	Minor	EXEMPT GROUNDWATER USE MAP OR RECORDING FEE
Administrative Rule Reference	Value Assignment	Title
690-190-0100	Minor	EXEMPT GROUNDWATER USE MAP OR RECORDING FEE
690-200-0048	Minor	WELL IDENTIFICATION LABEL
690-205-0185	Minor	WATER SUPPLY WELL DRILLING MACHINES
690-205-0200	Minor	WATER SUPPLY WELL CONSTRUCTION NOTICE REQUIRED (START CARD)
690-205-0205	Minor	START CARD REPORTING REQUIREMENTS
690-205-0210	Minor	WELL REPORT REQUIRED (WATER SUPPLY WELL LOG)
690-210-0270	Minor	PITLESS WELL ADAPTERS AND UNITS
690-210-0280	Minor	ACCESS PORTS AND AIRLINES
690-210-0290	Minor	LINER PIPE
690-210-0370	Minor	WELL TEST
690-215-0055	Minor	WELL IDENTIFICATION LABEL MAINTENANCE
690-230-0050	Minor	DESCRIPTION OF PROPOSED WELL USE (START CARD)
690-230-0060	Minor	IDENTIFICATION OF INTENDED WELL USE (WELL LOG)
690-230-0080	Minor	PUMP TESTING OF LOW-TEMPERATURE GEOTHERMAL INJECTION WELLS WITH AN ANTICIPATED INJECTION RATE OF LESS THAN 15,000 GALLONS PER DAY
690-230-0090	Minor	WATER TEMPERATURE MEASUREMENT

Water Resources Department
Chapter 690
Division 240
CONSTRUCTION, MAINTENANCE, ALTERATION, CONVERSION AND
ABANDONMENT OF MONITORING WELLS, GEOTECHNICAL HOLES AND
OTHER HOLES IN OREGON

690-240-0005 Introduction

- (1) Monitoring wells and geotechnical holes drilled to allow ground water and geologic determinations are constructed in a variety of environments and under a variety of conditions. Improper construction, maintenance, operation, and abandonment can allow deterioration of ground water quality and supply. Although enforcement actions may be exercised against other parties, the landowner of the property where the monitoring well or geotechnical hole is constructed is ultimately responsible for the condition, use, maintenance, conversion, and abandonment of the monitoring well, or geotechnical hole.
- (2) Holes other than monitoring wells, water supply wells, or geotechnical holes which are drilled, excavated, or otherwise constructed in the earth's surface can also provide an avenue for deterioration of ground water quality. Improper construction, maintenance, use, and abandonment of other holes can pose a significant risk to ground water. Table 240-1 lists common subsurface borings and indicates which administrative rule governs the construction, conversion, maintenance, alteration, and abandonment of the boring.
- (3) Ground water problems are difficult, expensive, and time consuming to correct. The Water Resources Commission (Commission) has been authorized to develop standards for wells drilled for the purpose of monitoring ground water in order to protect the state's ground waters. The Commission has also been authorized to develop standards for other holes through which ground water may become contaminated. The rules set forth herein are adopted to provide that protection. Their purpose is to prevent and eliminate ground water contamination, waste, and loss of artesian pressure.
- (4) The Commission may develop additional rules as needed prescribing standards for the construction, operation, maintenance, and abandonment of other specific types of wells and holes to protect ground water.
- (5) Except for the Commission's power to adopt rules, the Commission may delegate to the Water Resources Director the exercise or discharge in the Commission's name of any power, duty or function of whatever character, vested in or imposed by law upon the Commission. The official act of the Director acting in the Commission's name and by the Commission's authority shall be considered to be an official act of the Commission. The Commission delegates to the Director full authority to act in the Commission's name where that delegation is reflected in these rules.
- (6) Under the provisions of ORS 537.780, the Commission is authorized to adopt such procedural rules and regulations as deemed necessary to carry out its function in compliance with

the Ground Water Act of 1955. In fulfillment of these responsibilities and to ensure the preservation of the public welfare, safety, and health, the Commission has established these rules and regulations as the minimum standards for the construction, alteration, abandonment, conversion, and maintenance of monitoring wells in Oregon.

(7) Monitoring wells are wells as defined in ORS 537.515(9). A license and licensing fee, bond, examination, well report, and start card are required for construction, conversion, alteration, or abandonment of a monitoring well. In addition, a start card fee is required for new construction, deepening a well, and conversion.

(8) To protect the ground water resource, the Commission has the authority to regulate geotechnical holes under ORS 537.780(1)(c)(A). Construction of geotechnical holes requires either a Water Supply Well Constructor or Monitoring Well Constructor's License or Oregon registration as a geologist or civil engineer. If any one of the criteria in OAR 690-240-0035(2)(a)–(d) is met, a geotechnical hole report must be submitted.

(9) To protect the ground water resource, the Commission has the authority, under ORS 537.780(1)(c)(A), to regulate any hole through which ground water may be contaminated. Construction of holes other than water supply wells and monitoring wells does not require a license and licensing fee, bond, examination, well report, start card, and start card fee.

(10) Holes constructed under ORS Chapters 517, 520, and 522, and rules promulgated from those statutes, are the responsibility of the Oregon Department of Geology and Mineral Industries and are not subject to these rules. These include, but are not limited to, holes constructed for the purposes of exploring for, or producing, petroleum, minerals, or geothermal resources.

(11) The rules and regulations set forth herein shall become effective upon adoption by the Water Resources Commission.

(12) Under no circumstances shall a monitoring well, piezometer, geotechnical hole, or other hole be constructed in a manner that allows commingling or leakage of ground water by gravity flow or artesian pressure from one aquifer to another. (See definition of aquifer.)

(13) The rules and regulations set forth herein provide the minimum standards for the construction, conversion, alteration, maintenance, and abandonment of monitoring wells, geotechnical holes, and other holes. After the effective date of adoption of these rules and regulations, no monitoring well, geotechnical hole, or other hole shall be constructed, altered, converted, or abandoned contrary to the provisions of these rules and regulations without prior approval from the Water Resources Department. Violation of these standards may result in enforcement under OAR chapter 690, division 240, including suspension or revocation of a constructor's license, imposition of civil penalties on the landowner or constructor, action on a bond, or other sanctions authorized by law.

~~[ED. NOTE: Tables referenced are available from the agency.]~~

~~[ED. NOTE: To view attachments referenced in rule text, click here to view rule.]~~

Statutory/Other Authority: ORS 536.027, ORS 537.505-537.795, ORS 536.900, ORS 536.027,
ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 1-2017, f. & cert. ef. 2-16-17

WRD 5-2016, f. & cert. ef. 9-6-16

WRD 5-2015, f. & cert. ef. 7-1-15

WRD 3-2014, f. & cert. ef. 11-25-14

WRD 2-2006, f. & cert. ef. 6-20-06

WRD 4-2004, f. & cert. ef. 6-15-04

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 2-1995, f. 5-17-95, cert. ef. 7-1-95

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 14-1990, f. & cert. ef. 8-9-90

**WATER RESOURCES DEPARTMENT
CHAPTER 690
DIVISION 240
CONSTRUCTION, MAINTENANCE, ALTERATION, CONVERSION AND
ABANDONMENT OF MONITORING WELLS, GEOTECHNICAL HOLES AND OTHER
HOLES IN OREGON**

TABLE 240-1**Which standards apply?**

The Department regulates the construction of borings through which groundwater may become contaminated. The type of boring (and its purpose) will determine which set of regulations apply. Questions often arise as to how a certain boring is to be regulated. In general, if the purpose of a boring is to seek water then it is considered a well. The table below lists common types of holes and the standards that apply. This is not a complete list of borings and there are other types of borings regulated by other agencies. Contact the Water Resources Department if you have any questions.

The general standards and their Oregon Administrative Rule reference are:

Water Supply Wells	OAR 690-200 through 690-235
Monitoring Wells	OAR 690-240
Other Holes	OAR 690-240-0030
Geotechnical Holes	OAR 690-240-0035 through 690-240-0049

Description of Boring	Standards that Apply
Air Sparging Well	Monitoring Wells
Aquifer Storage and Recovery Well	Water Supply Wells
Cathodic Protection Hole	Geotechnical Holes
Community Well	Water Supply Wells
Construction Hole	Other Holes
Dewatering Well	Water Supply Wells
Domestic Well	Water Supply Wells
Drive Point (Core holes)	Geotechnical Holes
Drive Point Well (Dewatering)	Water Supply Wells
Drive Point Well (Water Sampling)	Monitoring Wells
Drive Point Well (Water Supply)	Water Supply Wells
Dry (Disposal) Well	Other Holes
Elevator Shaft	Other Holes
Extraction Well	Monitoring Wells
Gas Migration Hole	Geotechnical Holes
Geothermal Well	Water Supply Wells
Gravel Pit	Other Holes
Heat Exchange Hole (Closed Loop)	Geotechnical Holes
Heat Exchange Hole (Open Loop)	Water Supply Wells
Horizontal Drain (Slope Stability)	Geotechnical Holes
Horizontal Well (Monitoring)	Monitoring Wells
Horizontal Well (Water Supply)	Water Supply Wells

Inclinometer	Geotechnical Holes
Industrial Well	Water Supply Wells
Injection Well (Water)	Water Supply Wells
Injection Well (Remediation) (>72 Hours)	Monitoring Wells
Injection Well (Remediation) (<72 Hours)	Geotechnical Holes
Irrigation Well	Water Supply Wells
Monitoring Well	Monitoring Wells
Municipal Well	Water Supply Wells
Observation Hole	Monitoring Wells
Permeability Test Hole	Geotechnical Holes
Piezometer (Electric)	Geotechnical Holes
Piezometer (Pneumatic)	Geotechnical Holes
Piezometer Well	Monitoring Wells
Piling Hole	Other Holes
Post Hole	Other Holes
Power Pole Hole	Other Holes
Public Supply Well	Water Supply Wells
Remediation Or Recovery Well	Monitoring Well/Water Supply Wells
Rock Boring (<10 Feet)	Other Holes
Rock Boring (>10 Feet)	Geotechnical Holes
Seismic Shot Hole	Geotechnical Holes
Slope Stability Hole	Geotechnical Holes
Soil Boring (<10 Feet)(geophysical borings)	Other Holes
Soil Boring (>10 Feet)(geophysical borings)	Geotechnical Holes
Soil Vapor Hole	Geotechnical Holes
Sparging Well	Monitoring Wells
Storm Water Disposal	Other Holes
Sump	Other Holes (if < 10 ft. deep and > 10 ft. dia.)
Temporary Monitoring Well (<72 Hours)	Geotechnical Holes
Temporary Monitoring Well (>72 Hours)	Monitoring Wells
Trench	Other Holes
Underground Storage Tank (UST) Pit	Other Holes
Vapor Extraction Hole	Geotechnical Holes
Wetland Delineation Hole	Other Holes
Wet Soil Monitoring Hole	Geotechnical Holes

690-240-0006 Special Standards

(1) Site conditions may require specific design, construction, and abandonment procedures to adapt to the existing local geologic and ground water conditions to fully utilize every natural protection to the state's ground water. Specific site conditions may require different design, construction, setback, or abandonment standards than required by the Monitor Well or Geotechnical Hole construction rules. Alternative technologies or methods not addressed in these rules may also exist which could be effectively utilized in the construction or abandonment of a monitoring well or geotechnical hole. Prior to the completion of the well, a bonded constructor must request and receive approval from the Department to use methods or materials that do not meet the monitoring well or geotechnical hole construction standards. The Department may approve such requests either orally or in writing. If oral approval is granted, the written request must be submitted to the Department within three working days of the date of the oral approval. Failure to submit a written request as described above may void the prior oral approval. The proposed methods or materials shall provide at least the same level of resource protection as that which is provided by these rules.

(2) The written request for special standards shall include:

(a) Name, license number and signature of the bonded well constructor;

(b) Location of the well by county, township, range, section, tax-lot (if assigned), ~~and either the 1/4, 1/4 section, and~~ ~~or~~ Latitude and Longitude as established by a global positioning system;

(c) Name and address of landowner;

(d) Address of the project/well site;

(e) Type of work;

(f) The reasons(s) that conformance to the rules and regulations for monitoring wells or geotechnical holes cannot be met;

(g) A diagram and written description showing the proposed monitoring well or geotechnical hole's design, construction, or abandonment;

(h) The well identification number, if assigned; ~~and~~

(i) The start card number;

(j) If the request is to abandon a monitoring well in-place, then the most current water quality analytical data shall also be provided;

(k) Oregon Department of Environmental Quality site or facility identification number and no further action (NFA) decision, if applicable; and

(1) Any associated well report numbers if special standard request is for alteration or abandonment.

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 636.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

Renumbered from 690-240-0140 by WRD 7-2001, f. & cert. ef. 11-15-01

WRD 2-1995, f. 5-17-95, cert. ef. 7-1-95

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 14-1990, f. & cert. ef. 8-9-90

690-240-0010 Definitions

The following definitions apply to terms as used in monitoring well, geotechnical hole and other hole rules, OAR 690-240-0005 to 690-240-0640. No other definitions of these same words apply:

- (1) "Abandonment, Permanent" means to remove all or any portion of a monitoring well from service by filling it in such a manner that vertical movement of water within the well bore and within the annular space surrounding the well casing is effectively and permanently prevented. This term is synonymous with "decommission".
- (2) "Abandonment, Temporary" means to remove a drilling machine from a well site after completing or altering a well provided the well is not immediately put into service, or to remove a well from service with the intent of using it in the future.
- (3) "Altering a Well" means the deepening, re-casing, perforating, re-perforating, installation of packers or seals, and other material changes in the design or construction of a well. Material changes include but are not limited to the installation or modification of well casing including casing extensions, or installation or modification of liner pipe, or under reaming of the borehole.
- (4) "Annular Space" means the space between the drillhole wall and the outer well casing.
- (5) "Aquifer" means a geologic formation, group of formations, or part of a formation that contains saturated and permeable material capable of transmitting water in sufficient quantity to supply wells or springs and that contains water that is similar throughout in characteristics such as potentiometric head, chemistry, and temperature. (Figure 240-1)
- (6) "Area of Known or Reasonably Suspected Contamination" means a site that is currently under investigation by the Oregon Department of Environmental Quality, U.S. Environmental Protection Agency, or other state or federal agency for the presence of contaminants, or a site where a prudent person would suspect contamination after conducting an appropriate inquiry consistent with good commercial or customary practice as to the nature of the property.
- (7) "Artesian Aquifer" means a confined aquifer in which groundwater is under sufficient head to rise above the level at which it was first encountered whether or not the water flows at land surface. If the water level stands above land surface the well is a flowing artesian well. (Figure 240-1).
- (8) "Artesian Monitoring Well" means a monitoring well in which groundwater is under sufficient pressure to rise above the level at which it was first encountered, whether or not the water flows at land surface. If the water level stands above land surface the well is a flowing artesian monitoring well.
- (9) "Bored Well" means a well constructed with the use of earth augers turned either by hand or by power equipment.

(10) "Casing" means the outer tubing, pipe, or conduit, welded or thread coupled, and installed in the borehole during or after drilling to support the sides of the well and prevent caving. Casing can be used, in conjunction with proper seal placement, to shut off water, gas, or contaminated fluids from entering the hole, and to prevent waste of groundwater.

(11) "Casing Seal" means the water tight seal established in the well bore between the well casing and the drillhole wall, above the filter pack seal, to prevent the inflow and movement of surface water or shallow groundwater in the well annulus, or to prevent the outflow or movement of water under artesian or hydrostatic pressures. This term is synonymous with "annular seal" or "surface seal".

(12) "Civil Engineer" means an individual registered by the State of Oregon to practice civil engineering.

(13) "Clay" means a fine-grained, inorganic material having plastic properties and with a predominant grain size of less than 0.002 mm.

(14) "Closed Loop Ground Source Heat Pump Boring" means a geotechnical hole, cased or uncased, constructed for the purpose of installing a closed loop heat exchange system for a ground source heat pump.

(15) "Commission" means the Oregon Water Resources Commission.

(16) "Committee" means the Oregon Ground Water Advisory Committee created by ORS 536.090.

(17) "Confining Interval " means a low permeability material such as clay or solid, unfractured, consolidated rock immediately overlying an artesian (confined) aquifer. (Figure 240-1)

(18) "Consolidated Formation" means materials that have become firm through natural rock-forming processes. It includes, but is not limited to, materials such as basalt, sandstone, shale, hard claystone, and granite.

(19) "Contamination" means any chemical, ion, radionuclide, synthetic organic compound, microorganism, waste or other substance that does not occur naturally in groundwater or that occurs naturally but at a lower concentration.

(20) "Continuing Education" means that education required as a condition of licensure under ORS 537.747, to maintain the skills necessary for the protection of groundwater, the health and general welfare of the citizens of Oregon and the competent practice of the construction, alteration, abandonment, conversion, and maintenance of water supply wells, monitoring wells, and geotechnical holes.

(21) "Continuing Education Committee" means the Well Constructor Continuing Education Committee authorized under Chapter 496, Oregon Laws 2001 (ORS 537.765).

(22) "Continuing Education Course" means a formal offering of instruction or information to licensees that provide continuing education credits.

(23) "Continuing Education Credit" (CEC) means a minimum of 50 minutes of instruction or information approved by the Continuing Education Committee.

(24) "Converting" a well means changing the use of an existing well or hole not previously used to either withdraw or monitor water such that the well or hole can be used to either withdraw or monitor water.

(25) "Deepening a well" means extending the well bore of an existing well through previously undisturbed native material. Deepening is a type of alteration.

(26) "Department" means the Oregon Water Resources Department.

(27) "Director" means the Director of the Department or the Director's authorized representatives.

(28) "Documentation of Completion" means written evidence or documentation demonstrating attendance and completion of a continuing education course, including but not limited to: a certificate of completion, diploma, transcript, certified class roster, or other documentation as approved by the Continuing Education Committee.

(29) "Dug Well" means a well in which the excavation is made by the use of digging equipment such as backhoes, clam shell buckets, or sand buckets. (See Hand dug well)

(30) "Excavation" means a free-standing cavity with greater width than depth constructed in the earth's surface which has a primary purpose other than seeking water or water quality monitoring.

(31) "Figure", when used herein, refers to an illustration and is made a part of the primary article and section by reference.

(32) "Filter Pack" means the granular material placed in the annular space between the well screen and the borehole.

(33) "Filter Pack Seal" means the fine grained sand or dry bentonite which is placed in the annulus above the filter pack and prevents grout infiltration into the filter pack.

(34) "Geologic Formation" means an igneous, sedimentary or metamorphic material that is relatively homogeneous and is sufficiently recognized as to be distinguished from the adjacent material. The term is synonymous with "formation".

(35) "Geologist" means an individual registered by the State of Oregon to practice geology.

- (36) "Geotechnical hole" means a hole constructed to collect or evaluate subsurface data or information, monitor movement of landslide features, or to stabilize or dewater landslide features. "Geotechnical hole" includes closed loop ground source heat pump borings. Geotechnical holes are not monitoring wells or water supply wells as defined below. Various classes and examples of geotechnical holes are listed in OAR 690-240-0035(6)–(9)
- (37) "Grout" means approved cement, concrete or bentonite sealing material used to fill an annular space of a well or to abandon a well.
- (38) "Grout Pipe" means a pipe which is used to place grout at the bottom of the sealing interval of a well.
- (39) "Hand dug well" means a well in which the excavation is only made by the use of picks, shovels, spades, or other similar hand operated implements. (See Dug Well)
- (40) "Hazardous Materials Training" means training as defined by OAR 437-002-0100 Adoption by Reference Subdivision H Hazardous Materials 1910.120 Hazardous Waste Operations and Emergency Response.
- (41) "Hazardous Waste" means a substance as defined by ORS 466.005.
- (42) "Health Hazard" means a condition where there are sufficient concentrations of biological, chemical, or physical, including radiological, contaminants in the water that are likely to cause human illness, disorders, or disability. These include, but are not limited to naturally occurring substances, pathogenic viruses, bacteria, parasites, toxic chemicals, and radioactive isotopes. Sufficient concentrations of a contaminant include but are not limited to contaminant levels set by the Oregon Department of Environmental Quality and Oregon Health Division.
- (43) "Health Threat" means a condition where there is an impending health hazard. The threat may be posed by, but not limited to: a conduit for contamination, or a well affecting migration of a contaminant plume, or the use of contaminated water. A well in which the construction is not verified by a monitoring well report or geophysical techniques may be considered a conduit for contamination in certain circumstances. Those circumstances include, but are not limited to: an unused and neglected well or a well for which no surface seal was required. A well in which the casing seal, filter pack seal, or watertight cap has failed, or was inadequately installed may be considered a conduit for contamination.
- (44) "Horizontal Well" means a well that intentionally deviates more than 20 degrees from true vertical at any point.
- (45) "Hydrologic Cycle" is the general pattern of water movement by evaporation from sea to atmosphere, by precipitation onto land, and by return to sea under influence of gravity.
- (46) "Jetted Well" means a well in which the drillhole excavation is made by the use of a high velocity jet of water.

(47) "Leakage" means movement of surface and/ or subsurface water around the well casing or seal.

(48) "Monitoring Well" means a well designed and constructed to determine the physical (including water level), chemical, biological, or radiological properties of groundwater.

(49) "Monitoring Well Constructor" means any person who has a current ~~water well constructor's license with a~~ monitoring well constructor's license endorsement issued in accordance with ORS 537.747(3).

(50) "Monitoring Well Constructor's License" means a Water Well Constructor's License with a monitoring well endorsement issued in accordance with ORS 537.747(3) or with a monitoring well temporary authorization endorsement issued in accordance with ORS 537.747 (3), Section 1, Chapter 142, Oregon Laws 2019, and Section 1, Chapter 626, Oregon Laws 2019.

(51) "Monitoring Well Drilling Machine" means any driving, jetting, percussion, rotary, boring, auguring, digging, or other equipment used in the construction, alteration, or abandonment of monitoring wells.

(52) "Order" means any action satisfying the definition given in ORS Chapter 183 or any other action so designated in ORS 537.505 to 537.795.

(53) "Other Hole" means a hole other than a water supply well, monitoring well, or geotechnical hole, however constructed, in naturally occurring or artificially emplaced earth materials through which groundwater can become contaminated. Holes constructed under ORS Chapters 517, 520, and 522 are not subject to these rules. Examples of other holes are listed in OAR 690-240-0030.

(54) "Perched Groundwater" means groundwater held above the regional or main water table by a less permeable underlying earth or rock material. (Figure 240-1)

(55) "Permeability" means the ability of material to transmit fluid, usually described in units of gallons per day per square foot of cross-section area. It is related to the effectiveness with which pore spaces transmit fluids.

(56) "Person" includes individuals, corporations, associations, firms, partnerships, joint stock companies, public and municipal corporations, political subdivisions, the state and any agencies thereof, and the Federal Government and any agencies thereof.

(57) "Petcock Valve" is a valve used to contain pressure which when opened will drain the line or pipe.

(58) "Petroleum" means gasoline, crude oil, fuel oil, diesel oil, lubricating oil, oil sludge, oil refuse, and crude oil fractions and refined petroleum fractions, including gasoline, kerosene, heating oils, diesel fuels, and any other petroleum-related product or waste or fraction thereof that is liquid at a temperature of 60 degrees Fahrenheit and a pressure of 14.7 pounds per square

inch absolute. "Petroleum" does not include any substance identified as a hazardous waste under 40 CFR Part 261.

(59) "Piezometer" means a type of monitoring well designed solely to obtain groundwater levels. Piezometers are prohibited in areas of known or reasonably suspected contamination. This term is synonymous with observation well.

(60) "Porosity" means the ratio of the volume of voids in the geologic formation being drilled to the overall volume of the material without regard to size, shape, interconnection, or arrangement of openings.

(61) "Potable Water" means water which is sufficiently free from biological, chemical, physical, or radiological impurities so that users thereof will not be exposed to or threatened with exposure to disease or harmful physiological effects.

(62) "Potentiometric Surface" means the level to which water will rise in tightly cased wells. (Figure 240-1).

(63) "Pressure Grouting" means a process by which grout is confined within the drillhole or casing by the use of retaining plugs or packers and by which sufficient pressure is applied to drive the grout slurry into the annular space or zone to be grouted.

(64) "Professional" means a person licensed or registered by the State of Oregon to construct monitoring wells, water supply wells, or practice geology or civil engineering. All licenses and registrations must be valid at the time of monitoring well, water supply well or geotechnical hole construction, alteration or abandonment as required by these rules.

(65) "Public-at-Large" means a person not actively engaged in the well industry.

(66) "Refusal to Renew" means a provision in an order, or as allowed by ORS 537.747, that prohibits renewal of a well constructor's license, for a specified term not to exceed one year from the expiration date of the current license.

(67) "Remediation Well" means a well used for extracting contaminated groundwater from an aquifer. This term is synonymous with "extraction well" and "recovery well".

(68) "Respondent" means the person against whom an enforcement action is taken.

(69) "Responsible Party" means the person or agency that is in charge of construction or maintenance, or the landowner of record and is either in violation as specified in a notice of violation or who may benefit from that violation.

(70) "Rough Drilling Log" means a record kept on the well site of the information needed to complete the well report for the well being constructed.

(71) "Revoke" means termination of a well constructor's license.

(72) "Sand" means a material having a prevalent grain size ranging from 2 millimeters to 0.06 millimeters.

(73) "Silt" means an unconsolidated sediment composed predominantly of particles between 0.06 mm and 0.002 mm in diameter.

(74) "Slope Stability Geotechnical Hole" means a geotechnical hole excavated, drilled or bored for studying and/or monitoring movement of landslide features, including water levels, or other mass-wasting features to detect zones of movement and establish whether movement is constant, accelerating, or responding to remedial measures. Hole(s) excavated, drilled or bored for the purpose of slope remediation or stabilization shall be considered a slope stability geotechnical hole. Slope stability geotechnical holes are not monitoring wells, piezometers, or water supply wells.

(75) "Sponsor" means an institution, professional organization, individual, or business that offers continuing education courses to licensees. This term is synonymous with provider.

(76) "Static Water Level" means the stabilized level or elevation of water surface in a well not being pumped.

(77) "Sump" means a hole dug to a depth of ten feet or less with a diameter greater than ten feet in which groundwater is sought or encountered.

(78) "Suspension" means the temporary removal of the privilege to construct wells under an existing license for a period of time not to exceed one year.

(79) "Unconsolidated Formation" means naturally occurring, loosely cemented, or poorly indurated materials including clay, sand, silt, and gravel.

(80) "Underground Injection" means the emplacement or discharge of fluids to the subsurface.

(81) "Underground Injection System" means a well, improved sump, sewage drain hole, subsurface fluid distribution system, or other system or groundwater point source used for the emplacement or discharge of fluids.

(82) "Upper Oversize Drillhole" means that part of the well bore extending from land surface to the bottom of the surface seal interval.

(83) "Violation" means an infraction of any statute, rule, standard, order, license, compliance schedule, or any part thereof and includes both acts and omissions.

(84) "Water Supply Well" means a well, other than a monitoring well, that is used to beneficially withdraw or beneficially inject groundwater. Water supply wells include, but are not limited to, community, dewatering, domestic, irrigation, industrial, municipal, and aquifer storage and recovery wells.

(85) "Water Supply Well Constructor" means any person who has a current water supply well constructor's license ~~with a water supply well endorsement issued in accordance with ORS 537.747(3).~~

(86) "Water Supply Well Constructor's License" means a Water Well Constructor's License with a water supply well endorsement issued in accordance with ORS 537.747(3) or with a water supply well temporary authorization endorsement issued in accordance with ORS 537.747 (3), Section 1, Chapter 142, Oregon Laws 2019, and Section 1, Chapter 626, Oregon Laws 2019.

(87) "Water Table" means the upper surface of an unconfined water body, the surface of which is at atmospheric pressure and fluctuates seasonally. The water table is defined by the levels at which water stands in wells that penetrate the water body. (See Figure 240-1)

(88) "Water Well Constructor's License" means a license to construct, alter, deepen, abandon or convert wells issued in accordance with ORS 537.747(3). Endorsements are issued to the license and are specific to the type of well a constructor is qualified to construct, alter, deepen, abandon or convert.

(89) "Well" means any artificial opening or artificially altered natural opening, however made, by which groundwater is sought or through which groundwater flows under natural pressure, or is artificially withdrawn or injected. This definition shall not include a natural spring, or wells drilled for the purpose of exploration or production of oil or gas. Prospecting or exploration for geothermal resources as defined in ORS 522.005 or production of geothermal resources derived from a depth greater than 2,000 feet as defined in ORS 522.055 is regulated by the Department of Geology and Mineral Industries.

(90) "Wet Soil Monitoring Hole" means a shallow geotechnical hole set vertically in the ground and constructed to a depth of three and one-half feet or less for studying and/or monitoring the upper portion of the shallowest water-bearing unit within and immediately below the surface soil horizon.

~~[ED. NOTE: Figures referenced are available from the agency.]~~

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992, Or Laws 2019, ch 142, Or Laws 2019, ch 626

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992, Or Laws 2019, ch 142, Or Laws 2019, ch 626

History:

WRD 5-2016, f. & cert. ef. 9-6-16

WRD 2-2012, f. & cert. ef. 2-2-12

WRD 3-2008, f. 12-22-08, cert. ef. 1-2-09

WRD 2-2006, f. & cert. ef. 6-20-06

WRD 4-2004, f. & cert. ef. 6-15-04

WRD 1-2003, f. & cert. ef. 3-14-03

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 2-1995, f. 5-17-95, cert. ef. 7-1-95

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94
WRD 14-1990, f. & cert. ef. 8-9-90

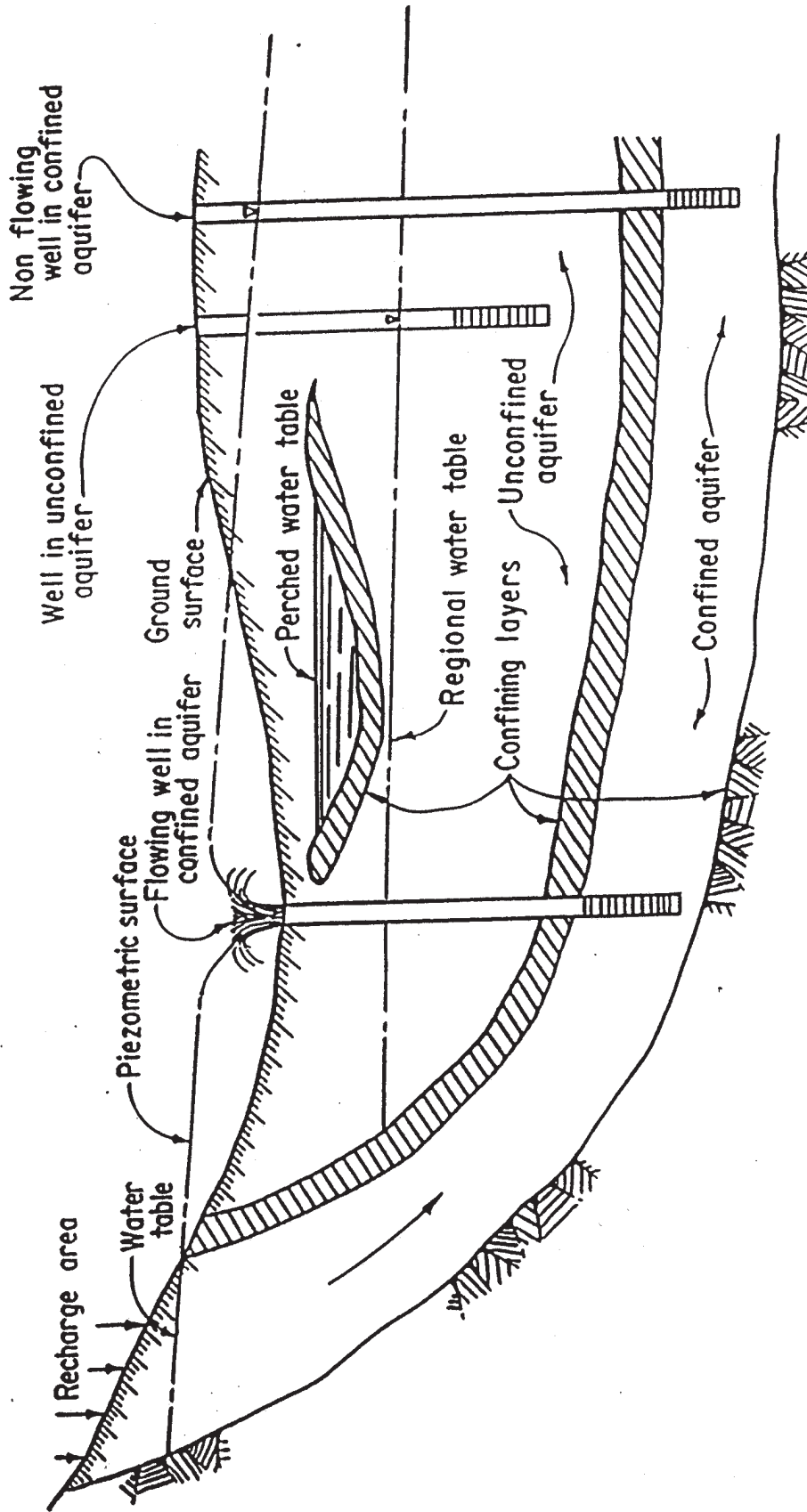


FIGURE 1-2.—Types of aquifers. 103-D-1401.

690-240-0024 Well Identification Label

(1) Within 30 days of completion of well construction, conversion, or alteration, the constructor shall permanently affix a well identification label to the wellhead in an accessible and visible location in the following manner:

(a) For above ground completions, ~~the~~

~~(A) Labels~~ shall be at least six inches above ground surface and shall be permanently attached to the outside of the protective casing using a stainless steel band, stainless steel rivets, or screws.

(b) For flush grade completions:

(A) Rivet or bolt the label to the inside of the monument skirting; or

(B) Band or strap the label to the well casing; or

(C) Insert the strap or band into the concrete in the bottom of the vault.

(2) Identification labels may not be attached to pumps, pump equipment, water delivery lines, or well caps.

(3) The identification label number shall be recorded on the well report at the time the report is submitted.

(4) The well identification label shall be attached in such a manner as to be easily readable upon inspection.

(5) Identification labels shall be furnished by the Department.

(6) If a well identification label is already affixed to an existing well that is being altered, converted, or abandoned, the constructor shall record the identification label number on the well report.

(7) When a well that has a well identification label on it is permanently abandoned, the well identification label shall be destroyed. The well identification label shall not be reused.

~~[ED. NOTE: Appendices referenced are available from the agency.]~~

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 5-2016, f. & cert. ef. 9-6-16

WRD 7-2001, f. & cert. ef. 11-15-01

690-240-0026 Well Identification Label Maintenance

The well identification label shall not be removed from the wellhead and shall be maintained by the land owner in an accessible location and in a readable condition. ~~See Appendix 240-1 for well identification label placement instructions.~~
~~[ED. NOTE: Appendices referenced are available from the agency.]~~

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 7-2001, f. & cert. ef. 11-15-01

690-240-0060

Monitoring Well Constructor License Examination

(1) The Water Resources Department administers the written examination required under ORS 537.747. Separate examinations are administered for each license endorsement. The Department schedules the examination on the second Monday during the months of January, April, July and October. Examinees must pay a \$20 exam fee. Special accommodations may be given to those individuals who cannot attend the regularly scheduled examination dates. Requests shall be considered on a case-by-case basis. The examination tests the applicant's knowledge of:

(a) Oregon laws and administrative rules on the use of ground water, monitoring well constructor licensing requirements, [basic information on hydrogeology](#), the construction of monitoring wells and/or geotechnical holes, and the preparing and filing of Start Cards and Monitoring Well Reports;

(b) Hydrogeology, the occurrence and movement of ground water and contaminants, and the design, construction and development of monitoring wells; and

(c) Types, uses, and maintenance of drilling tools and equipment, drilling problems and corrective procedures, repair of faulty monitoring wells, sealing of monitoring wells, and safety rules and practices.

(2) An applicant who fails to pass an endorsement examination may retake an examination for the same endorsement after three months and the payment of another examination fee.

(3) Passing examination scores are valid for three years from the date of the examination.

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, [ORS 536.027](#), [ORS 536.900](#), [ORS 537.992](#)

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, [ORS 536.900](#), [ORS 537.992](#)

History:

WRD 2-2006, f. & cert. ef. 6-20-06

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 14-1990, f. & cert. ef. 8-9-90

690-240-0065 Monitoring Well Constructor License, Experience Requirements, ~~and~~ Trainee Card and Temporary Authorization

(1) License. To qualify for a Monitoring Well Constructor's License, a person shall:

(a) Be at least 18 years old;

(b) Pass a written examination;

(c) Have a minimum of one year experience, during the previous 36-month period, in monitoring well construction, alteration, or abandonment. This experience shall include the operation of well drilling machinery for monitoring well construction, alteration, conversion, or abandonment on a minimum of fifteen monitoring wells or a demonstration of equivalent experience in the operation of well drilling machinery. The following are acceptable as evidence of experience:

(A) Monitoring well reports or rough well logs with applicant's name entered for each of the 15 wells. The name, address and telephone number of the person responsible for the construction of each monitoring well shall be included on each report or log;

(B) Income tax returns showing source of drilling income for a period of time, or worker's compensation account information or the equivalent may be established to satisfy the one year of active construction requirement;

(C) Any other evidence the Director may deem suitable;

(D) A license held in another state shall not substitute for required evidence of experience.

(d) Pay a license fee.

(e) Provide evidence of welding proficiency. The following options will satisfy the evidence of welding proficiency requirement:

(A) A copy of an arc welding certificate from a nationally recognized welding organization. Acceptable organizations include, but are not limited to, American Welding Society, American Petroleum Institute, American Society of Mechanical Engineers, and the United States Military; or

(B) A copy of an official transcript or other official written documentation from a community college that demonstrates a passing grade in an arc welding training course; or

(C) Official written documentation from a university, welding school, trade school, technical institute, or nationally recognized welding organization that demonstrates that the applicant has received a passing grade in an arc welding training course or has otherwise completed professional welding training; or

(D) Written documentation from a certified welding instructor or certified welding inspector, providing proof that the applicant has successfully completed arc welding tests to demonstrate proficiency at welding steel casing joints as required in OAR 690-210-0200; or;

(E) A copy of an American Welding Society D1.1 structural welding certificate for steel with a test in the 2G horizontal position.

(f) Applicants that hold a current Oregon water supply well constructor's license are not required to provide evidence of welding proficiency to obtain a monitoring well endorsement.

(2) Trainee. If an applicant passes the written Monitoring Well Constructor's License examination, but cannot meet the experience requirement the Commission may issue a trainee card. To qualify for a Monitoring Well Constructor Trainee Card, a person must:

- (a) Be at least 18 years old;
- (b) Pass a written examination; and
- (c) Be supervised by a person who holds a valid Monitoring Well Constructor's License.

(3) Trainee Card. A Trainee Card is valid for three (3) years from the date the examination was passed.

(4) Supervision. Supervision as it relates to any person who holds a Monitoring Well Constructor Trainee Card:

(a) A Trainee may operate a cable tool monitoring well drilling machine without a licensed Monitoring Well Constructor physically present at the well site only if:

- (A) The licensed constructor can reach the well site within two hours if so requested by an authorized representative of the Department; and
- (B) The licensed constructor has signed the rough drilling log within eight working hours prior to the representative's visit.

(b) A licensed Monitoring Well Constructor must physically be on the site at all times when a cable tool drilling machine is:

- (A) Drilling within a flowing artesian well;
- (B) Setting or advancing casing;
- (C) Setting liner;
- (D) Perforating casing;

(E) Setting well screens;

(F) Placing packers;

(G) Drilling into, through, or below ground water suspected or known to be contaminated; and

(H) Placing casing seals.

(c) A Monitoring Well Constructor trainee may operate a non-cable tool monitoring well drilling machine without a licensed Monitoring Well Constructor physically present at the well site only during removal of the drill stem from the monitoring well.

(d) Activities under subsection (3)(c) of this rule shall proceed only if:

(A) The licensed Monitoring Well Constructor can reach the site within one hour if so requested by an authorized representative of the Department; and

(B) The licensed Monitoring Well Constructor has signed the rough drilling log within eight working hours prior to the representative's visit.

(e) An authorized representative of the Department in whose jurisdiction the monitoring well is being constructed has the authority to:

(A) Grant an extension to the time limits stated above when a request, showing good cause, is received from the bonded constructor in advance for each particular well; and

(B) Place additional restrictions on the trainee, including requiring the constructor to be on the site at all times while the drilling machine is operating, when the Department representative determines that either the drilling environment or the knowledge and/or experience of the trainee warrant closer supervision.

(f) For a Monitoring Well Constructor trainee to operate a monitoring well drilling machine without a licensed Monitoring Well Constructor present, the trainee's card must be endorsed with the name of the bonded Monitoring Well Constructor responsible for the construction of the monitoring well.

(5) Monitoring Well Constructor's License Temporary Authorization Endorsement. A person that is the spouse of a member of the Armed Forces of the United States through marriage or domestic partnership, whose spouse is stationed in this state, may apply for a Monitoring Well Constructor's License Temporary Authorization Endorsement.

(a) Application for a monitoring well constructor's license temporary authorization endorsement must include the following:

(A) Completed and signed application form including evidence the person is 18 years of age or older;

(B) Examination fee;

(C) A copy of a marriage certificate, domestic partnership registration, or other official evidence of legal union and an attestation that said union is valid and in effect;

(D) A copy of the spouse or domestic partner's assignment to an Oregon duty station by official active duty military order;

(E) Official verification of the applicant's current authorization to provide monitoring well constructor services in another state along with the Department's "good standing" form;

(F) A completed comparison form as provided by the Department, outlining the out-of-state licensing authority's authorization requirements; and

(G) Official notification from the Department that applicant has passed the monitoring well constructors license examination.

(b) The Department will review the application for a Monitoring Well Constructor's License Temporary Authorization Endorsement once all materials are submitted. A Monitoring Well Constructor's License Temporary Authorization Endorsement shall be issued if the Department determines:

(A) Applicant is eligible to apply;

(B) The Out-of-state authorization is current;

(C) The Out-of-state licensing authority's licensing requirements are substantially similar to the Department's requirements;

(D) The good standing form is complete;

(F) The applicant has passed the written exam; and

(G) The license fee is paid.

(c) A temporary authorization endorsement issued by the Department is valid until the earliest of:

(A) Two (2) years after the date of issuance;

(B) The date the spouse's term of military service ends;

(C) The date the persons out-of-state authorization expires.

(d) Temporary authorizations are not renewable. The holder of an expired temporary authorization may not continue to provide services for the construction, alteration, conversion, or

abandonment of monitoring wells after expiration unless the person obtains a Monitoring Well Constructor's License under subsection one (1) of this rule.

(e) The Department shall report annually to the State Legislature about temporary authorization endorsements as required in Section 1, Chapter 626, Oregon Laws 2019.

(6) Other supervision requirements for persons not licensed or permitted to construct monitoring wells, or who do not hold a Monitoring Well Constructor trainee card:

(a) Persons who are in the act of constructing, altering, converting or abandoning monitoring wells must be supervised by a licensed Monitoring Well Constructor who is physically present at the well site at all times during construction, alteration, conversion, or abandonment activity.

(b) The supervising Monitoring Well Constructor is responsible for all applicable statutes and rules in construction, alteration, conversion, or abandonment of the monitoring well.

(7) Persons who satisfy all requirements of ORS 537.747(3) shall be issued a Monitoring Well Constructor's License. The responsibilities for issuing and securing a Monitoring Well Constructor's License or trainee card are listed in subsections (a) and (b) of this section.

(a) The Monitoring Well Constructor's License applicant is responsible for:

(A) Completing an application or renewal form for a new or renewed license or trainee card;

(B) Submitting the application or renewal form to the Water Resources Department along with the required fees;

(C) Carrying the license or trainee card whenever constructing, altering, converting, or abandoning any monitoring well; and

(D) Providing the Water Resources Department, within 30 days, notification of any change of mailing address.

(E) Providing the Water Resources Department documentation satisfying the continuing education requirements set forth in OAR 690-240-0200 through 690-240-0280.

(b) The Water Resources Department is responsible for:

(A) Designing and providing Monitoring Well Constructor license(s) and trainee cards;

(B) Designing and providing application forms and renewal forms for licenses and application forms for trainee cards;

(C) Processing applications and renewals for licenses and applications for trainee cards; and

(D) Returning incomplete application and renewal forms to applicants for completion.

(E) Sending new and renewed licenses to applicants who have completed the application or renewal form and submitted the required fee. This does not preclude refusal to renew as outlined in OAR 690-240-0070(4).

(8) Bonded Monitoring Well Constructor. For a person to possess a bonded Monitoring Well Constructor's License, the person shall provide to the Department a properly executed Water Well Constructor's Bond or Irrevocable Letter of Credit. The Water Resources Department shall indicate on the constructor's license a bonded classification.

(9) Representatives of the Water Resources Department may ask anyone constructing, altering, or abandoning a monitoring well to present their license or trainee card as proof of eligibility to construct, alter, convert, or abandon monitoring wells in the State of Oregon. Licensed individuals shall display their license or trainee card and photo identification when they are requested to do so by Water Resources Department personnel or other agency personnel to whom monitoring well regulation has been delegated.

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 537.992, ORS 106.340, ORS 536.900, Or Laws 2019, ch 142, Or Laws 2019, ch 626, Or Laws 2021, ch 610

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 537.992, ORS 106.340, ORS 536.900, Or Laws 2019, ch 142, Or Laws 2019, ch 626, Or Laws 2021, ch 610

History:

WRD 2-2006, f. & cert. ef. 6-20-06

WRD 1-2003, f. & cert. ef. 3-14-03

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 14-1990, f. & cert. ef. 8-9-90

690-240-0210 Continuing Education Requirement

- (1) ~~As of June 30, 2005, e~~Each individual licensed under ORS 537.747 is required to obtain a minimum of 14 continuing education credits (CECs) during each licensing period regardless of the number of licenses or endorsements held. Continuing education credits may be obtained through clinics, schools, professional organizations, seminars, lectures or other continuing education courses that relate to the practice of well construction and are approved by the Continuing Education Committee.
- (2) A minimum of two (2) CECs shall pertain to ground water and well construction statutes under ORS 537.505 to 537.795 and 537.992, and administrative rules under OAR 690-200 through 690-240 during each licensing period.
- (3) A maximum of eight (8) CECs may be obtained through approved safety/first aid/CPR/Hazardous Materials courses during each licensing period. Of the eight (8) CECs, a maximum of four (4) CECs may be obtained through Hazardous Materials training courses and a maximum of four (4) CECs may be obtained through safety/first aid/CPR courses.
- (4) Exhibitions shall count as one (1) CEC per approved exhibition attended and shall not exceed two (2) CECs per licensing period.
- (5) Licensees may count approved CECs accumulated after January 1, 2002, for their first license renewal that requires CECs.

Statutory/Other Authority: ~~ORS 537,742.992, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 536.090~~

Statutes/Other Implemented: ~~ORS 537,742.992, ORS 537.505-537.795, ORS 536.900, ORS 536.090~~

History:

WRD 1-2003, f. & cert. ef. 3-14-03

690-240-0340 Landowner Well Construction Permit, Fee and Bond

- (1) The Water Resources Commission requires a permit, permit fee, and bond or irrevocable letter of credit, for each monitoring well constructed, altered, converted, or abandoned by a landowner, unless the landowner is a licensed and bonded Monitoring Well Constructor. The landowner permit and bond shall be obtained prior to beginning work on a well.
- (2) To receive a Landowner Well permit, a person must submit the following to the Director:
- (a) A completed application form provided by the Commission, containing, as a minimum:
- (A) The property owner's name, address and telephone number;
- (B) The surety company's name, address and telephone number;
- (C) The proposed location of the well by township, range, section, tax-lot number if assigned, and street address;
- (D) The proposed use of the monitor well; and
- (E) The type of proposed work; and
- (F) Well design plan on form approved by the Department.
- (b) A properly executed Landowner's Water Well Bond or Irrevocable Letter of Credit in the amount specified under ORS 537.753 to the State of Oregon; and
- (c) A permit fee in the amount specified under ORS 537.753.
- (3) Only the owner of record, a member of the immediate family of the owner of record, or a full time employee of the owner of record, (whose main duties are other than the construction of wells), may operate a well drilling machine under a landowner's permit.
- (4) A landowner permit issued pursuant to these rules shall expire six months from the date of issuance. ~~(a)~~ A monitor well report shall be submitted within 30 days of expiration of the landowner permit, or within 30 days of completion of the well, whichever occurs first. The report shall be certified as correct by signature of the landowner constructing the monitoring well.
- (5) If the landowner permit expires, a landowner may reapply for a new landowner permit by complying with the requirements described in sections (1), (2) and (3) of this rule.
- (6) The Department may deny a landowner permit if it is determined that the construction, alteration, abandonment, or conversion of the proposed well is a health threat, a health hazard, a source of contamination, or a source of waste of the ground water resource.

Statutory/Other Authority: ~~ORS 183, 536, 537, 540~~ORS 536.027, ORS 537.505-537.795, ORS 536.090, ORS 536.900, ORS 537.992

Statutes/Other Implemented: ~~HB 2296A (2017)~~ORS 536.090, ORS 536.900, ORS 537.992

History:

WRD 7-2017, amend filed 12/18/2017, effective 01/01/2018

WRD 2-2006, f. & cert. ef. 6-20-06

WRD 4-2004, f. & cert. ef. 6-15-04

WRD 1-2003, f. & cert. ef. 3-14-03, Renumbered from 690-240-0082

WRD 2-2002, f. & cert. ef. 9-6-02

WRD 7-2001, f. & cert. ef. 11-15-01

690-240-0375 Monitoring Well Construction Notice Required (Start Card)

(1) Each bonded Monitoring Well Constructor licensed to operate in the State of Oregon and each landowner holding a landowner's permit shall provide ~~notice~~ start card as required in ORS 537.762 before commencing the construction, alteration, or abandonment of any monitoring well or conversion of any other hole, geotechnical hole, or water supply well to a monitoring well. The start card shall contain the following information:

- (a) Name, telephone number, electronic mail address and ~~mailing~~post-office address of the ~~landowner~~owner of the well;
- (b) Street address of the well. If property does not have an address, then the street address nearest to the proposed well;
- (c) The approximate location of the monitoring well by county tax lot number, township, range, section and nearest quarter-quarter section; ~~and~~
- (d) The latitude and longitude of the well as established by a global positioning system;
- (~~e~~) The proposed depth, and diameter of the well;
- (f) The proposed, and purpose or use of the groundwater from the proposed well if the well is new, altered, or converted;
- (g) The time frame proposed for beginning and completing the construction, alteration, abandonment or conversion;
- (h) The time frame proposed for annular seal placement. If the actual date of seal placement is not the date proposed on the start card, the licensed or permitted person shall notify the department of the change at least four (4) hours before placing the seal. Notification shall be submitted;
- (A) Electronically by department approved methods; or
- (B) By mail, or hand delivery, to the region office where the well to be drilled, altered, converted, or abandoned is located. If this method is used, then the notification must be on a department approved notification form and received by the region office at least four (4) hours prior to placing the seal; or
- (C) By electronic mail. If notification is sent by electronic mail, then the electronic mail shall include a completed copy of a department approved notification form. If department approved notification form is not attached to the electronic mail, then original notification form must be submitted to the Department within three (3) working days of the date of electronic mail notification.
- (i) The well identification label number, if assigned;

(j) The water right application, permit or certificate number, if applicable;

(k) The original well log number, if applicable;

(l) The type of work proposed;

(m) Notification of any need for special standards;

(n) The signature and license number, if applicable, of the bonded and licensed or permitted person who would undertake the work;

(o) For an existing well, the current purpose or use of the well and the existing depth and diameter of the well.

(2) In addition to the information required pursuant to OAR 690-240-0375(1)(a)–(~~do~~), a start card may also contain information regarding the type of proposed alteration.

(3) Forms for making these reports and submitting fees shall be furnished by the Department.

(4) OAR 690-240-0340 shall apply to landowners who construct, alter, convert, or abandon a monitoring well.

(5) On the day that work on the well commences, the licensed or permitted person shall, before commencing work, notify the department that the work is about to commence. Notification shall be submitted:

(a) Electronically by department approved methods; or

(b) By mail, or hand delivery, to the region office where the well to be drilled, altered, converted, or abandoned is located. If this method is used, then the notification must be on a department approved notification form and received by the region office prior to beginning construction, alteration, conversion, or abandonment work; or

(c) By electronic mail. If notification is sent by electronic mail, then the electronic mail shall include a completed copy of a department approved notification form. If department approved notification form is not attached to the electronic mail, then original notification form must be submitted to the Department within three (3) working days of the date of electronic mail notification.

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.090, ORS 536.027, Or Laws 2021, ch 610, ORs 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.090, Or Laws 2021, ch 610, ORs 537.992

History:

WRD 3-2008, f. 12-22-08, cert. ef. 1-2-09

WRD 2-2006, f. & cert. ef. 6-20-06
WRD 4-2004, f. & cert. ef. 6-15-04
WRD 1-2003, f. & cert. ef. 3-14-03, Renumbered from 690-240-0090
WRD 2-2002, f. & cert. ef. 9-6-02
WRD 7-2001, f. & cert. ef. 11-15-01
WRD 2-1995, f. 5-17-95, cert. ef. 7-1-95
WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94
WRD 14-1990, f. & cert. ef. 8-9-90

690-240-0385 Start Card Reporting Requirements

(1) The start card notification required in ORS 537.762 shall be submitted to the Department's region office within which the monitor well is being constructed, altered converted or abandoned using one of the following methods:

- (a) Start cards submitted electronically shall be transmitted by a Department-approved method and shall be submitted not earlier than 60 days and not later than three (3) calendar days (72 hours) before beginning construction, alteration, conversion or abandonment work of any monitor well.
- (b) By regular mail so that it is received by the Department not earlier than 60 days and not later than three (3) calendar days (72 hours) prior to commencement of work; or
- (c) By hand delivery, during regular office hours, not earlier than 60 days and not later than three (3) calendar days (72 hours) before beginning the construction, alteration, conversion or abandonment work on any monitoring well; or
- (d) By facsimile transmission (FAX) not earlier than 60 days and not later than three (3) calendar days (72 hours) before beginning the construction, alteration, conversion or abandonment work on any monitoring well. If this method is used, a legible copy of the start card shall also be mailed or delivered to the appropriate OWRD region office not earlier than 60 days and not later than three (3) calendar days (72 hours) before the day work begins.
- (e) Start cards may not be submitted earlier than 60 days or later than three (3) calendar days (72 hours) before beginning construction, alteration, conversion or abandonment work on any monitor well except as specified in Section (3) of this rule.

(2) The fee required under ORS 537.762(5) for the construction of a new well, deepening of an existing well, conversion of a water supply well, geotechnical hole or other hole shall be submitted to the Department's Salem office with a duplicate copy of the start card. A duplicate start card is not required if the start card fee is included with a start card submitted electronically under Section (1)(a) of this rule.

(3) If a start card has been filed under section (1) and (2) of this rule and The requirement in subsection (1) of this section that a licensed or permitted person must submit a start card not less than three calendar days (72 hours) before beginning work on a well does not apply:

(a) To a second or additional wells are required monitor well drilled on the same or a contiguous tax lot and for the same landowner, then and for which a valid unexpired start card has been submitted pursuant to this section, if a start card for the second or additional wells shall be monitor well is filed not later than the day the work begins on the monitor well begins.

(b) During water emergencies or casing height adjustments, if a start card is submitted before work begins.

(4) The Director or region office may provide an alternate means of a start card-notification. If an alternative means of notification is used, the start card shall be mailed or delivered to the region received by the Department's Salem office within one week of beginning work on the monitoring well. A Monitoring Well Constructor whose license has been restricted by order shall provide notice as stipulated in the order.

(5) Once received by the Department, the start card shall be confidential for a period of one year after it is received or until the monitoring well report required by OAR 690-240-0395 is received, whichever is shorter.

(6) The start card may be used in an administrative enforcement action at any time, including the period of confidentiality. Once the start card is used for enforcement reasons, it is no longer confidential.

(7) A separate start card and fee, if necessary, is required for each well that is constructed, altered, abandoned, or converted. This requirement includes unsuccessful wells and wells exempt from appropriation permit requirements under ORS 537.545.

(8) Effective July 1, 2024, start cards shall be submitted to the department by electronic means unless prior written approval is received to submit paper start cards.

(9) A start card expires if construction, alteration, abandonment or conversion of a well does not begin on or before 60 days after submission of the start card. If a start card expires, a new start card and fee must be submitted in compliance with ORS 537.762 and these rules before construction, alteration, abandonment or conversion of the well may occur. If a start card is withdrawn before expiring, the licensed or permitted person that submitted the start card may request that the fee paid for the withdrawn start card be transferred to a new start card.

(10) For good cause shown, start cards may be extended in exigent circumstances one time for up to 30 calendar days with prior department approval. Requests for extension shall be submitted:

(a) In writing on a department approved form prior to expiration of the start card. The form shall include:

(A) The start card number;

(B) A description of the circumstances that warrant extension of the start card;

(C) Date of request;

(D) Driller name and license number;

(E) Owner name and contact information.

(b) Electronically by department approved methods.

(c) For the purposes of this rule, “good cause” means the exigent circumstances are due to circumstances beyond the reasonable control of the requester.

NOTE: Region office fax and telephone numbers are listed in Table 240-2. Water Resources Department Regional boundaries are shown in Figure 240-2.

~~ED. NOTE: Tables and Figures referenced are available from the agency.~~

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992, Or Laws 2021, ch 610

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992, Or Laws 2021, ch 610

History:

WRD 3-2008, f. 12-22-08, cert. ef. 1-2-09

OAR 690-240-0385

Table 240-2

**WATER RESOURCES DEPARTMENT
CHAPTER 690
DIVISION 240
CONSTRUCTION, MAINTENANCE, ALTERATION, CONVERSION AND
ABANDONMENT OF MONITORING WELLS, GEOTECHNICAL HOLES AND
OTHER HOLES IN OREGON**

Table 240-2

Region Office Phone and Fax Numbers

Region	Office Location	Phone Number	Fax Number
Eastern	Baker City	541-523-8224	541-550-3898
North Central	Pendleton	541-278-5456	541-278-0287
Northwest	Salem	503-986-0893	503-986-0903
South Central	Bend	541-306-6885	541-388-5101
Southwest	Medford	541-774-6880	503-774-6187

Notes:

1. Fax numbers are subject to change.
2. A current version of this table is available from the Water Resources Department's Salem office.
3. See Figure 240-2 for a map of region boundaries.

District Offices

- 1 Tillamook
- 2 Eugene
- 3 The Dalles
- 4 Canyon City
- 5 Pendleton
- 6 La Grande
- 7 Enterprise
- 8 Baker City
- 9 Vale
- 10 Burns
- 11 Bend
- 12 Lakeview
- 13 Medford
- 14 Grants Pass
- 15 Roseburg
- 16 Salem
- 17 Klamath Falls
- 18 Hillsboro
- 20 Clackamas
- 21 Condon
- 22 Salem
- 23 Milton-Freewater
- 24 Bend

- District office
- Region office
- District boundary
- Region boundary
- County boundary

0 10 20 30 40 50 Miles

OREGON

WATER RESOURCES DEPARTMENT
 State of Oregon
Water Resources Department
 7925 Summer Street NE, Suite A
 Salem, Oregon 97301-1266
 (503) 986-0900
www.oregon.gov/OWRD

Regions and Watermaster Districts 2022

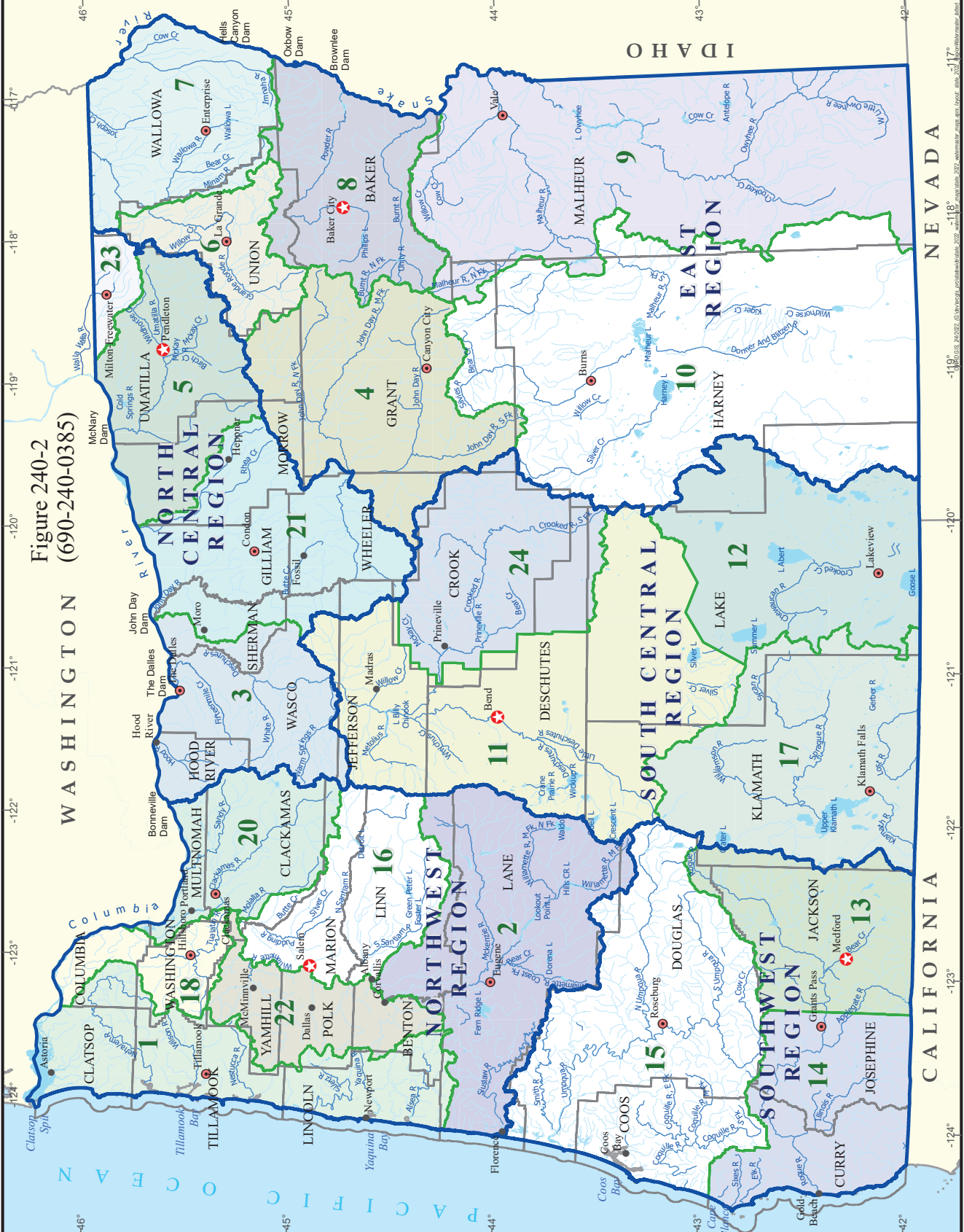


Figure 240-2
(690-240-0385)

690-240-0395

Monitoring Well Report Required (Monitoring Well Log)

(1) A monitoring well report shall be prepared for each monitoring well constructed, altered, converted, or abandoned including unsuccessful monitoring wells. The log shall be certified as correct by signature of the Monitoring Well Constructor constructing the monitoring well. The completed log shall also be certified by the bonded Monitoring Well Constructor responsible for construction of the monitoring well. A monitoring well report must be submitted by each bonded constructor (if drilling responsibility is shifted to a different bonded constructor), showing the work performed by each bonded constructor.

(2) Well Reports may be submitted electronically by a Department-approved method. Well reports submitted on paper~~The log~~ shall be prepared in triplicate on forms furnished or previously approved in writing by the Water Resources Department. The original shall be furnished to the Director, the first copy shall be retained by the Monitoring Well Constructor, and the second copy shall be given to the customer who contracted for the construction of the monitoring well.

(3) The bonded Monitoring Well Constructor shall file the certified monitoring well ~~log~~report with the ~~Director~~Water Resources Department within 30 days after the completion of the construction, alteration, conversion, or abandonment of the monitoring well.

(4) The trainee or Monitoring Well Constructor operating the monitoring well drilling machine shall maintain a rough log of all geologic strata encountered and all materials used in the construction of the monitoring well. This log shall be available for inspection by the ~~Watermaster~~well inspector or other authorized agent of the Water Resources Department or other delegated agency representative at any time before the monitoring well report is received by the Department. The rough drilling log shall be in handwritten or electronic form, or a voice recording.

(5) In the event a constructor leaves any drilling equipment or other tools in a monitoring well this fact shall be entered on the monitoring well report.

(6) A copy of any special authorizations or special standards issued by the Director shall be attached to the monitoring well report.

(7) The report of monitoring well construction required in section (1) of this rule shall be submitted electronically by a Department-approved method or recorded on a form provided or previously approved in writing by the Department. The form shall include, as a minimum, the following:

(a) Name and post-office ~~A~~address of the well owner~~Landowner~~;

(b) Name and license number, if applicable, of the licensed or permitted person performing the work;

(c) Name and license number, if applicable, of the licensed or permitted person responsible

for the work;

(d) Name of any person that assisted with the work;

(be) Started/Completed date;

(ef) Location of the well by county, Township, Range, Section, tax lot number, if assigned, street address, or nearest address, ~~and either the~~ nearest 1/4, 1/4 section, ~~or~~ and Latitude and Longitude as established by a global positioning system (GPS);

(dg) Start card number;

(eh) Well identification label number (well tag number);

(i) Type of well;

(fj) Use of well;

(gk) Type of work;

(l) Depth drilled and completed depth;

(m) Diameter of boreholes;

(n) Type, size, and amount of casing and where placed in the well;

(o) Number and location of perforations or screens;

(hp) Type and amount of sealant material used and measured weight of the grout slurry as required in OAR 690-240-0475(2)(g);

(iq) Temperature of the groundwater encountered;

(r) Thickness of aquifers;

(js) Total dissolved solids (TDS);

(kt) Map showing location of monitoring well on site, must be included with the electronically filed well report or attached to the submitted paper well report and shall include an approximate scale and a north arrow; and

(lu) Such additional information as required by the Department.

(8) Effective July 1, 2024, well reports shall be submitted to the department by electronic means unless prior written approval is received to submit paper well reports.

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992, Or Laws 2021, ch 610

Statutes/Other Implemented: ORS 536.090, ORS 505-537.795, ORS 536.900, ORS 537.992, Or Laws 2021, ch 610

History:

WRD 5-2016, f. & cert. ef. 9-6-16

WRD 2-2006, f. & cert. ef. 6-20-06

WRD 4-2004, f. & cert. ef. 6-15-04

WRD 1-2003, f. & cert. ef. 3-14-03, Renumbered from 690-240-0095

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 14-1990, f. & cert. ef. 8-9-90

690-240-0410 Monitoring Well Construction: General

- (1) Monitoring well components, including well screens, casings and annular sealant should be selected based on known site characteristics to ensure the well will last for the duration of the monitoring program.
- (2) No monitoring well shall be used for domestic, public water supply, industrial, commercial, or agricultural purposes unless it meets the minimum construction standards for water supply wells, OAR 690-200 to 690-230.
- (3) No completed monitoring well shall interconnect aquifers, including low yielding aquifers.
- (4) The start card number shall be permanently attached, stamped or engraved on the outer well casing or permanent protective well cover, not on a removable cap.
- (5) No monitoring well shall be constructed as a multiple completion well without prior special standard approval as specified in OAR 690-240-0006.
- (6) Horizontal wells shall only be constructed with prior special standard approval only as specified in OAR 690-240-0006.
- (7) The borehole diameter shall be at least four inches larger than the nominal casing diameter except as noted in OAR 690-240-0525 concerning piezometers. If the monitoring well is constructed using a hollow stem auger drilling machine, the inside diameter of the auger must be at least four inches larger than the nominal diameter of the casing to be installed, except as noted in OAR 690-240-0525 concerning piezometers.
- (8) Materials which foster or promote undesirable organic growth or have the potential to degrade water quality shall not be employed in the construction of the monitoring well.
- (9) After completion, the landowner is responsible for maintaining the well in an approved condition. If the well is damaged, the well protection system and casing shall be restored as prescribed by these rules. If the well is damaged beyond repair, the well shall be properly abandoned in accordance with OAR 690-240-0510.
- (10) A well identification label shall be attached to every new well and to every altered or repaired well that does not already have a label. The label must be easily visible on the outside of the casing on an above grade completion and inside the vault of a flush grade monument. (See Appendix 1) In cases where a geotechnical hole or other hole is converted into a monitor well, a well identification label must be attached to the completed well in the same fashion as required for a new or altered well.
- (11) Any deviation from these rules requires special standard approval as specified under OAR 690-240-0006.

[ED. NOTE: Appendices referenced are available from the agency.]

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 536.027, ORS 537.992

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992

History:

WRD 1-2003, f. & cert. ef. 3-14-03, Renumbered from 690-240-0100

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 2-1995, f. 5-17-95, cert. ef. 7-1-95

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 14-1990, f. & cert. ef. 8-9-90

690-240-0560 Investigation of Alleged Violations

(1) The Water Resources Director, upon the Director's own initiative, or upon complaint alleging violation of statutes, standards or rules governing licensing of Monitoring Well Constructors and/or, construction, alteration, conversion, maintenance, or abandonment of monitoring wells, geotechnical holes or other holes may cause an investigation to determine whether a violation has occurred. If the investigation indicates that a violation has occurred, the Director shall notify the persons believed responsible for the violation including but not limited to:

- (a) Any Monitoring Well Constructor involved;
 - (b) The landowner, if the violation involves construction, alteration, conversion, maintenance, operation or abandonment of a well, geotechnical hole, or other hole;
 - (c) The agency that has been delegated authority over a particular class of wells, geotechnical holes, or other holes and/or
 - (d) Any registered geologist or civil engineer in construction, alteration, or abandonment of a geotechnical hole.
- (2) Enforcement and civil penalty assessment for "other than well constructors" is described in OAR 690-260.

(3) See Table 240-4 for a description of the well construction enforcement process.

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.027, ORS 536.900, ORS 537.992, ORS 183.310-183.550

Statutes/Other Implemented: ORS 536.900, ORS 537.505-537.795, ORS 536.900, ORS 537.992, ORS 183.310-183.550

History:

WRD 2-2006, f. & cert. ef. 6-20-06

WRD 1-2003, f. & cert. ef. 3-14-03, Renumbered from 690-240-0150

WRD 7-2001, f. & cert. ef. 11-15-01

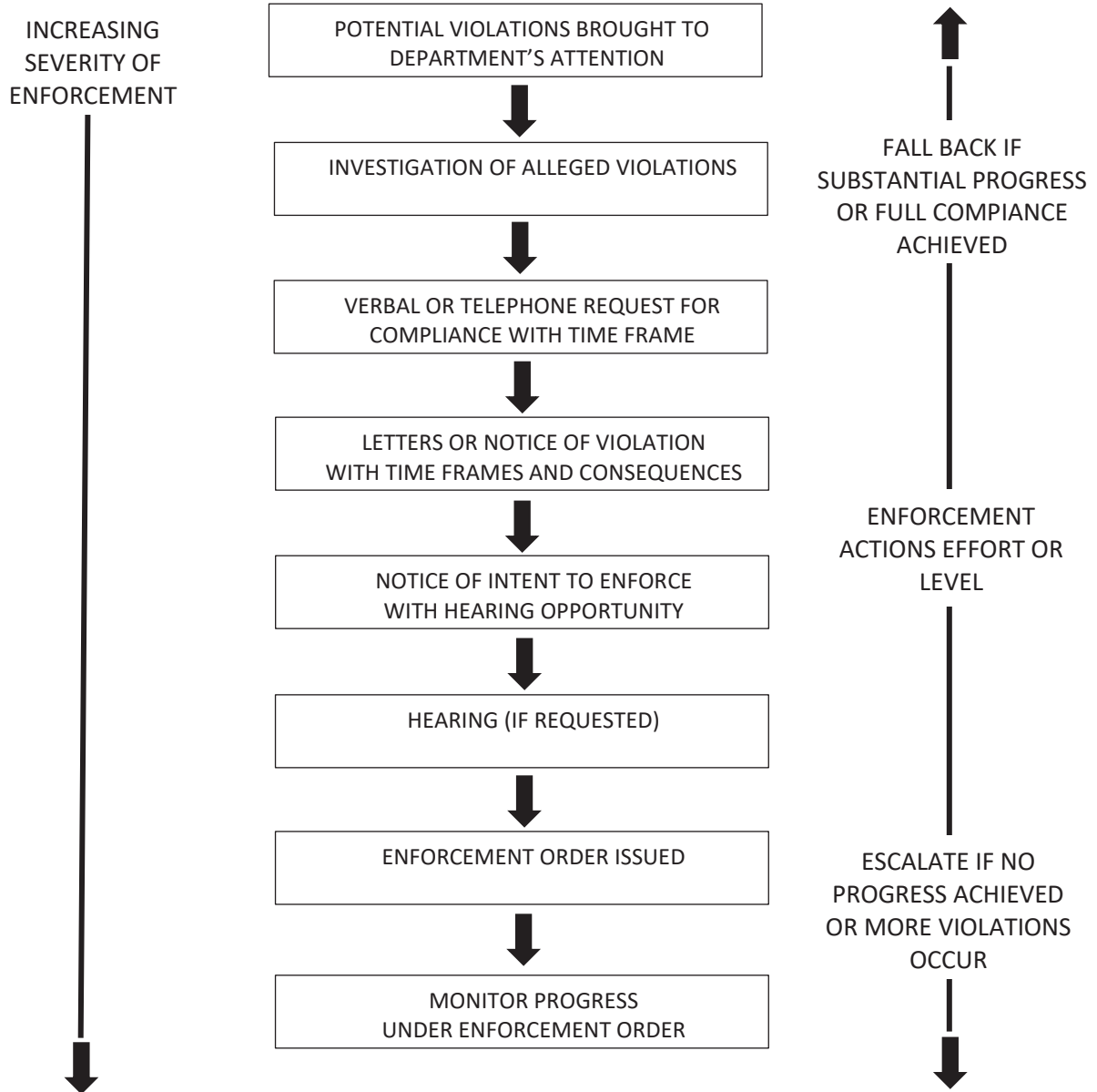
WRD 2-1995, f. 5-17-95, cert. ef. 7-1-95

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 14-1990, f. & cert. ef. 8-9-90

EXAMPLE OF WELL ENFORCEMENT PROCESS
(690-240-0560, 690-240-0580)

Table 240-4



It is desirable to achieve compliance at the lowest possible level of enforcement. Escalation of enforcement can be expected if compliance does not result at the next lower level. Reduction of enforcement effort can be expected if substantial progress toward compliance is achieved.

690-240-0580 Enforcement Actions

(1) If, after notice and opportunity for hearing under ORS 183.310 to 183.550 the Director determines that one or more violations have occurred, the Director may impose one or more of the following:

- (a) Provide a specified time for remedy;
 - (b) Assess a civil penalty in accordance with the schedule of civil penalties in OAR 690-240-0640;
 - (c) Suspend, revoke, or refuse to renew the license(s) when one or more persons responsible for the violation hold a Monitoring Well Constructor's License;
 - (d) Require that a person whose license has been refused renewal pass the Monitoring Well Constructor's License examination before a new license is issued or the current license is renewed;
 - (e) Impose any reasonable conditions on the Monitoring Well Constructor's License to ensure correction of the violation and future compliance with the law. These conditions may include but are not limited to:
 - (A) Fulfilling any outstanding obligations which are the result of administrative action before the constructor can offer any services or construct, alter, convert, or abandon any monitoring well;
 - (B) Requiring additional advance notice to be given to the Department of construction, alteration, conversion, or abandonment of any monitoring well;
 - (C) Requiring a seal placement notice be given to the Department up to 72 hours in advance of placing the seal; or
 - (D) Any other conditions the Director deems appropriate.
 - (f) Order the landowner to repair or meet other conditions on use of the well, or order discontinuance of the use and order proper abandonment pursuant to ORS 537.775;
 - (g) Make demand on the Water Well Constructor's bond or the Landowner's Water Well Bond. This may occur only if the Director has given the notice required in OAR 690-240-0560 to the persons responsible for the violation within three years after the date the monitoring well report is filed with the Department. If no monitoring well report has been filed, the three year limitation shall not apply until such time as a well report is filed; or
 - (h) Take any other action authorized by law.
- (2) An order may specify a schedule of escalating or cumulative sanctions to be assessed on specified dates until the violation has been satisfactorily corrected.

(3) Any Monitoring Well Constructor whose license is suspended or revoked shall not contract for well construction services or operate well drilling machines in the State of Oregon during the suspension or revocation period.

(4) See Table 240-4 for a description of the well construction enforcement process.

Statutory/Other Authority: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 536.027, ORS 537.992, ORS 183.310-183.550

Statutes/Other Implemented: ORS 536.090, ORS 537.505-537.795, ORS 536.900, ORS 537.992, ORS 183.310-183.550

History:

WRD 2-2006, f. & cert. ef. 6-20-06

WRD 1-2003, f. & cert. ef. 3-14-03, Renumbered from 690-240-0155

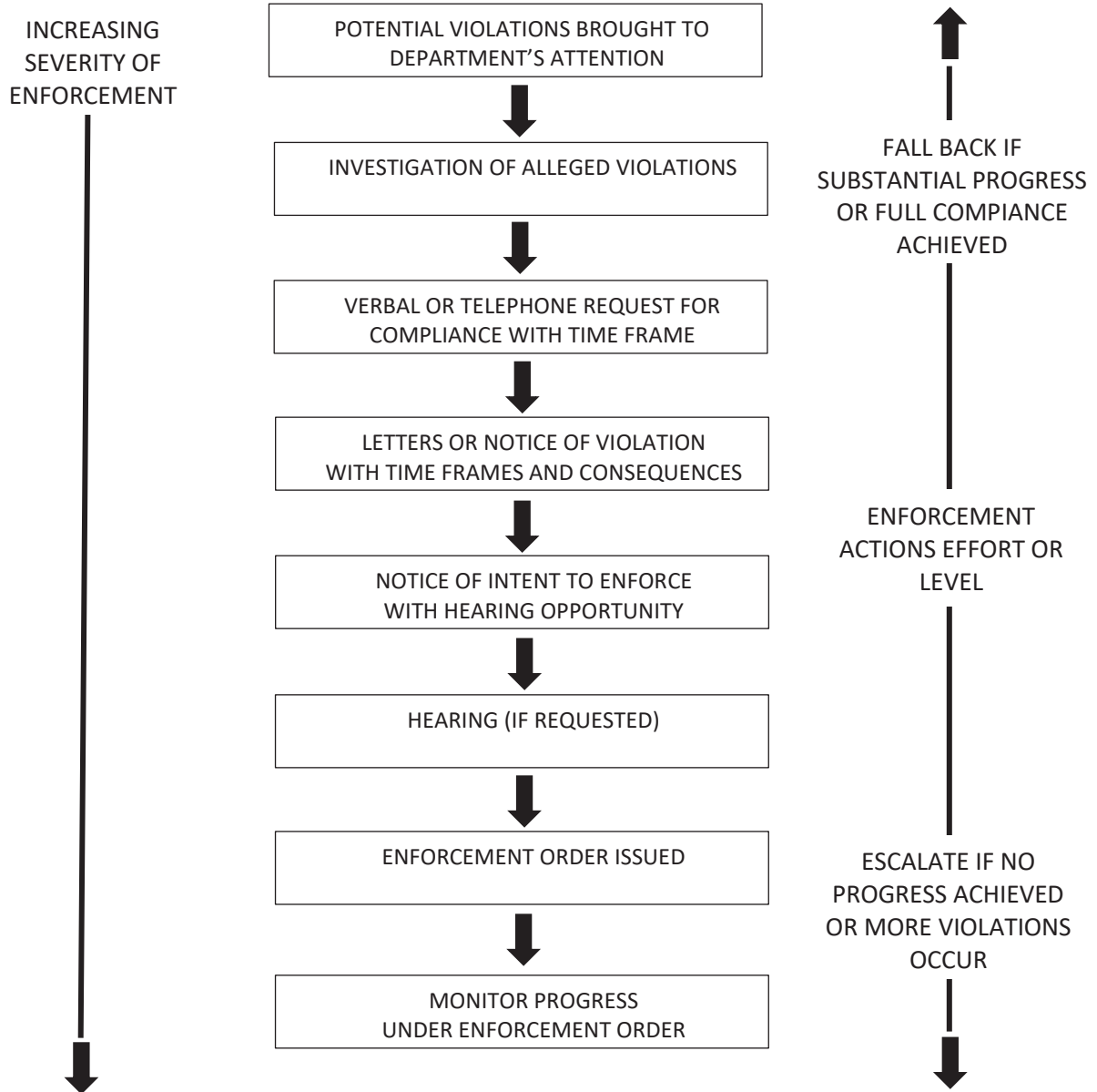
WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 14-1990, f. & cert. ef. 8-9-90

EXAMPLE OF WELL ENFORCEMENT PROCESS
(690-240-0560, 690-240-0580)

Table 240-4



It is desirable to achieve compliance at the lowest possible level of enforcement. Escalation of enforcement can be expected if compliance does not result at the next lower level. Reduction of enforcement effort can be expected if substantial progress toward compliance is achieved.

690-240-0640 Schedule of Civil Penalties

(1) The amount of civil penalty shall be determined consistent with the following schedule:

(a) Not less than ~~\$25-50~~ nor more than \$250 for each occurrence defined in these rules as a minor violation;

(b) Not less than ~~\$50-200~~ nor more than \$1,000 for each occurrence defined in these rules as a major violation;

(c) First occurrence, in a calendar year, of a missing or late start card fee shall be \$150;

(d) Second occurrence, in a calendar year, of a missing or late start card fee shall be \$250; and

(e) Third, and each subsequent, occurrence, in a calendar year, of a missing or late start card fee shall be \$250 and may include suspension of the Monitoring Well Constructor's License, and any other action authorized by law.

(2) For purposes of assessing a civil penalty, the start card fee referred to in subsections (1)(c), (d), and (e) of this rule shall not be considered late if it is received in the Salem office of the Water Resources Department within five days of the receipt of the start card, provided the start card was submitted in a timely manner as ~~defined~~ described in ORS 537.762 and OAR 690-240-0375.

(3) Table 240-3 lists minor violations related to monitoring well construction and geotechnical holes. All other violations are declared to be major.

~~[ED. NOTE: Tables referenced are available from the agency.]~~

Statutory/Other Authority: ~~ORS 536.090~~ORS 537.992, ORS 537.505-537.795, ORS 536.027, ORS 183, ORS 536.900

Statutes/Other Implemented: ~~ORS 536.090~~ORS 537.992, ORS 537.505-537.795, ORS 183, ORS 536.900

History:

WRD 2-2006, f. & cert. ef. 6-20-06

WRD 1-2003, f. & cert. ef. 3-14-03, Renumbered from 690-240-0180

WRD 7-2001, f. & cert. ef. 11-15-01

WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

WRD 14-1990, f. & cert. ef. 8-9-90

OAR 690-240-0640

Table 240-3

WATER RESOURCES DEPARTMENT

CHAPTER 690

DIVISION 240

MINOR WELL CONSTRUCTION VIOLATIONS

TABLE 240-3

<u>Oregon Statute Reference</u>	<u>Value Assignment</u>	<u>Title</u>
ORS 537.762	Minor	REPORT OF COMMENCEMENT OF CONSTRUCTION; COMMENCEMENT OF WORK NOTIFICATION; OR SEAL PLACEMENT DATE CHANGE NOTIFICATION
ORS 537.765	Minor	WELL REPORT
ORS 537.789	Minor	WELL IDENTIFICATION NUMBER
<u>Administrative Rule Reference</u>	<u>Value Assignment</u>	<u>Title</u>
690-240-0024	Minor	WELL IDENTIFICATION LABEL
690-240-0026	Minor	WELL IDENTIFICATION LABEL MAINTENANCE
690-240-0355	Minor	MONITORING WELL DRILLING MACHINES
690-240-0375	Minor	MONITORING WELL CONSTRUCTION NOTICE REQUIRED (START CARD)
690-240-0385	Minor	START CARD REPORTING REQUIREMENTS
690-240-0395	Minor	MONITORING WELL REPORT REQUIRED (WELL LOG)
690-240-0395(7)(i)	Minor	WATER TEMPERATURE
690-240-0410(4)	Minor	MONITORING WELL CONSTRUCTION (START CARD NUMBER)

**Water Resources Department
Chapter 690
Division 260**

CIVIL PENALTY ASSESSMENT FOR OTHER THAN WELL CONSTRUCTORS

690-260-0030 Notice of Violation

The responsible party shall be notified of a violation within ~~five~~10 business days of confirmation by the Director of the violation. Notice of the violation occurs when the Department has either delivered the notice of violation in person or mailed the notice to the responsible party by certified or registered mail. Notice may be given, if reasonably possible, by personal delivery to the responsible party. The notice shall include the statute, rule, order, permit condition or standard violated; the date the violation occurred; and a specified time for correction. If the violation is not corrected within the time given in the notice, a civil penalty and damages related to enforcement may be imposed.

Statutory/Other Authority: ORS 540, Or Laws 2022, ch 52, ORS 183, ORS 536.027, ORS 536.900-536.935, ORS 537.505-537.795, ORS 537.992

Statutes/Other Implemented: ORS 540, Or Laws 2022, ch 52, ORS 536.900-536.935, ORS 537.505-537.795, ORS 537.992

History:

WRD 5-1990, f. & cert. ef. 5-15-90

690-260-0040 Classification of Violations

(1) Violations are classified as follows:

(a) Class I — Violations of the terms or conditions of a permit, certificate or license issued under ORS 536 to 543; Violation of ORS 537.130 or 537.535; Violation of ORS 540.045, 210, 320, 340, 435, 710, 720; or rules adopted under ORS 540.145;

(b) Class II — Violation of ORS 540.310, 330, and 730;

(c) Class III — Violation of any rule or order of the Water Resources Commission that pertains to well maintenance; violation of ORS 537.545(5); and violation of ORS 540.440.

(2) Violations shall be further divided into major, moderate, and minor categories as follows:

(a) MAJOR is when substantial harm to other water rights, minimum flows, instream water rights, the public health or safety, or other water-based resources is immediate or imminent;

(b) MODERATE is when substantial harm is not immediate or imminent, but could occur if left uncorrected;

(c) MINOR is when no substantial harm is apparent.

Statutory/Other Authority: ORS 540, Or Laws 2021, ch 610, ORS 537.505-537.795, ORS 537.992, ORS 536.027, ORS 536.900-536.935, ORS 183

Statutes/Other Implemented: ORS 540, Or Laws 2021, ch 610, ORS 537.505-537.795, ORS 537.992, ORS 536.900-536.935

History:

WRD 5-1990, f. & cert. ef. 5-15-90

690-260-0060 Notice of Assessment of Civil Penalty

(1) Persons or agencies who have received a notice of violation, as prescribed in OAR 690-260-0030, and have not corrected the violation within the time specified in the notice or have been previously served a notice for a similar violation may be assessed a civil penalty. A notice of assessment of civil penalty shall be delivered either in person or sent by certified or registered mail to the responsible party.

(2) The notice shall include the following:

(a) A reference to the particular sections of the statute, rule, order, permit condition or standard involved;

(b) A short and plain statement of the matters asserted or charged;

(c) A statement of the amount of the penalty or penalties imposed; and

(d) A statement of the right of the person to request a hearing.

(3) In cases of continuing violations, each occurrence of substantially the same activity and each day's continuance of a violation after the responsible party has been notified is a separate and distinct violation, but not for purposes of the ~~five~~10 business day notice requirement. A civil penalty may be imposed for each day of violation of ORS 537.130, 537.535, 540.045, 540.310, 540.330, 540.710, 540.720, or 540.730. Such violations include, but are not limited to, the following:

(a) Using water without a water right permit, certificate, order or claim of appropriation;

(b) Failure to maintain a well and well equipment as required in OAR 690, division 215;

(c) Failure to maintain a headgate, valve or measuring device as required by the watermaster;

(d) Failure to install and maintain a measuring device(s) above and/or below a reservoir as required by the watermaster;

(e) Tampering with a headgate following regulation by the watermaster;

(f) Illegal or unauthorized use or storage of water; or

(g) Interfering with the diversion and distribution works of another.

Statutory/Other Authority: [ORS 540](#), [Or Laws 2021, ch 610](#), [ORS 183](#), [ORS 536.027](#), [ORS 536.900-536.935](#), [ORS 537.505-537.795](#), [ORS 537.992](#)

Statutes/Other Implemented: [ORS 540](#), [Or Laws 2021, ch 610](#), [ORS 536.900-536.935](#), [ORS 537.505-537.795](#), [ORS 537.992](#)

History:

WRD 5-1990, f. & cert. ef. 5-15-90