Oregon
Kate Brown, Governor

Water Resources Department
North Mall Office Building
725 Summer St NE, Suite A
Salem, OR 97301
Phone (503) 986-0900
Fax (503) 986-0904
www.wrd.state.or.us

February 17, 2017

STEVE KASER WWC #1962
502 LEWIS STREET
SILVERTON, OREGON 97381

FINAL ORDER

Dear Mr. Kaser:

The Special Standards Request Form you submitted for owner: PORT OF TILLAMOOK BAY, Start Card number: 1033495 is hereby approved for the following: You may decommission this water supply well as described on your Special Standards Request Form and attachment. All other well decommissioning standards apply. A copy of your Special Standards Request Form is enclosed. ***A stipulation for this Special Standards Request approval is: the well shall be sealed with cement grout instead of bentonite tablets as requested.***

Verbal approval of this Special Standards Request was provided on February 6, 2017.

The Well Construction Standards serve to protect ground water resources. By approving and issuing this special construction standard the Oregon Water Resources Department is not representing that a well constructed in accordance with this condition will maintain structural integrity or that it meets engineering standards. The well constructor/or landowner is responsible for ensuring that a well is constructed in a manner that protects ground water resources as required under Oregon Administrative Rules 690-200 through 690-240.

If you have any questions concerning this letter, I may be contacted at (503) 986-0852, or by e-mail at Joel.W.Jeffery@oregon.gov.

Sincerely,

Joel Jeffery, Coordinator
Well Construction Program
Well Construction and Compliance Section

enclosure

cc: Barry Sanford, NW Region Well Inspector
File

This is a final order in other than contested case. This order is subject to judicial review under ORS 183.484. Any petition for judicial review must be filed within the 60 day time period specified by ORS 183.484(2). Pursuant to ORS 536.075 and OAR 137-004-0080 you may either petition for judicial review or petition the Director for reconsideration of this order. A petition for reconsideration may be granted or denied by the Director, and if no action is taken within 60 days following the date the petition was filed, the petition shall be deemed denied.

Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem Oregon 97301-1266
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Special Standards
Request Form

REQUEST FOR WRITTEN APPROVAL TO USE CONSTRUCTION METHODS NOT INCLUDED IN OREGON ADMINISTRATIVE RULES 690-200 THROUGH 690-240

Before the request can be considered, this form must be completed. Requests shall be submitted to the Well Construction Program Coordinator, Water Resources Department, 725 Summer Street NE, Suite A, Salem OR 97301-1266. Requests may also be considered by the appropriate Regional Manager.

Date of request: 2/1/2017 **Oral approval date (if applicable):** _____

Bonded Well Constructor (**name, license #, and mailing address**): _____

STEVE KASER LIC 1962 502 LEWIS STREET SILVERTON OREGON 97381

(1) Location of Well: NW 1/4 SW 1/4 Tax lot 600 Section 24,

Township 1 S, Range 10 W, TILLAMOOK County

Address at well site: _____

509 GOODSPEED ROAD TILLAMOOK OREGON 97141

(2) Start Card Number(s)(for work to be done): 1033495

(3) Name and Address of Land Owner: _____

PORT OF TILLAMOOK BAY 4000 BLIMP BLVD TILLAMOOK OREGON 97141

(4) Distance to the nearest septic tank, drainfield, closed sewage line (if water supply well)

UNKNOWN

(5) The unusual site conditions which necessitate this request: _____

SEE ATTACHED ADENDUM

(6) The proposed construction methods that the bonded well constructor believes will be adequate for this well: (attach additional pages if needed)

SEE ATTACHED ADENDUM

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(7) Diagram showing the pertinent features of the proposed well design and construction: (attach additional pages if needed)

PLEASE NOTE:

(1) The Well Construction Standards serve to protect ground water resources. By approving and issuing this special construction standard the Oregon Water Resources Department is not representing that a well constructed in accordance with this condition will maintain structural integrity or that it meets engineering standards. The well constructor/or landowner is responsible for ensuring that a well is constructed in a manner that protects ground water resources as required under Oregon Administrative Rules 690-200 through 690-240.

(2) If it should be determined at some future date that the well, due to its construction, is allowing ground water contamination, waste or loss of artesian pressure, the undersigned shall return to the site and rectify the problem.

(3) If oral approval was granted, a written request must be submitted to the Department either within three (3) working days of the date of oral approval or prior to the completion of the associated well work. Failure to submit a written request as described above may void prior oral approval.

I have read and understand the above information. I further attest that the information provided is accurate to the best of my knowledge.

Bonded Constructor Signature: Steve Kaser 1962

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CONSTRUCTION METHOD ADDENDUM FOR SPECIAL STANDARDS ON PORT OF TILLAMOOK WELL DECOMMISSIONING

START CARD NUMBER 1033495

WELL LOCATION: T1S R10W SEC 24 NW1/4 SW1/4 TAX LOT 600 TILLAMOOK COUNTY OREGON

STEVE KASER LIC. 1962

REASONS FOR SPECIAL STANDARDS REQUEST ON DECOM OF THIS WELL: The tax lot this well is on was once a farm. A dike was constructed holding back the Tillamook Bay waters protecting the farm from flooding. The property has been transferred to the Port of Tillamook. A request for bid was put out to return the property to its historic condition of being a wetland. The contract was awarded to Thompson Brothers Excavating. The decommissioning of this well was part of that contract. This is one of those situations where communication errors by all parties concerned led to the failure of this well to be decommissioned prior to the lowering of the dike permitting the property to once again become part of the tidal zone. As with most problems left unattended and put off, this well now has manifested itself into a huge and significantly more difficult decommissioning. This well now requires special consideration as to its decommissioning because of the well site being accessible only during times of low tides. This accessible period is estimated at best to be only 2-3 hours in duration during each tidal change. (Personal note: I have for years dug clams in the Tillamook Bay estuary and have seen firsthand how quickly the tides can come in. They are very unpredictable and follow their own schedule ignoring printed tide tables). As of this date the only equipment capable of accessing the well site during this low tide time period has to be track mounted.

SUGGESTED DECOM METHOD: Because of the tidal influence on this well as explained above I believe the simplest and quickest form of decommissioning this well is also the most logical approach to take. Doing so offers the highest opportunity for successful protection of the groundwater. The protection of the groundwater along with taking the safety of those performing the decommissioning into consideration begs for a method that has the best possible chance of being completed within a single 2-3-hour window of opportunity previously discussed. Therefore, it is my recommendation this well be decommissioned in place by placing ½" bentonite tablets from the estimated bottom hole depth of 94 feet up to a depth of 7 feet from land surface. From 7 feet to 2 feet below land surface a cement grout seal will be placed inside the casing. The casing will then be cut off two feet below land surface and covered with native soil.

ADDITIONAL COMMENTS: Taking everything into consideration ½" bentonite tablets will make a better seal than chips due to their uniform shape. Because they weigh more than chips they will fall quicker meaning less hydration as they drop through the water. ½" tablets weigh approximately 77 pounds per cubic foot as compared to 68 pounds for 3/8" chips and 64 pounds per cubic foot for ¾" chips and will provide a higher quality seal due to their higher weight per cubic foot. The tablets will be poured into the well at a rate of 2-3 minutes per 50 lbs., which is a full minute longer than the manufacturer's suggested rate of application The casing will be at a height of five feet above land surface during decommissioning allowing for the static to be stagnate at the reported +4 feet above land surface when tablets are poured into well. As a precaution against unforeseen circumstances causing the decommissioning to not be completed in one tidal change an 8" water tight well seal will be on site to cover the well until the next tidal change allows for the work to continue. It has been estimated that the average depth of the water at the well site during high tide is approximately 3 feet.

THOUGHTS ABOUT SEALING THIS WELL WITH CEMENT GROUT: The amount and type of equipment needed on site to pump a cement grout seal in this well brings with it serious time constraints and possibilities of not getting the well-sealed as successfully as using ½" bentonite tablets as described above. With only a 2-3-hour low tide window to move the required equipment and supplies an estimated 3-400 feet to the wellsite, set up pumping equipment, install tremme pipe, mix concrete grout and pump the well full to land surface; then securing everything back on

high ground before the tide turns leaves a very small window for successful completion. Estimating the amount of grout needed on site is also very problematic as we do not know anything about the well below ground other than it is 94 feet deep. There is a chance the cement grout would be washed away by groundwater movement before it can set up. Should this occur and given the well is a flowing well the chance of comingling of aquifers could be an issue. Additionally, perforating this well casing before backfilling is ill advised. With no well log we have no information as to the location of water bearing formations. Perforating a well with no prior knowledge of its initial construction or any alterations that may have been done creates the risk of compromising the adequate sealing of this well. If all the equipment used in this decommissioning is new, like new or well-maintained condition any breakdown or unforeseen happening could leave the decommissioning in an uncompleted compromised state. I feel it is absolutely necessary to keep the risks at the lowest possible level in the decommissioning of this well. Using bentonite tablets in the manner suggested eliminates any possibility of a compromised decommissioning. Should something cause the decommissioning to be suspended until the next tidal change. The decommissioning can then be resumed with no issues assuring the best possible result for the protection of the groundwater.

Steve Kaser

Lic 1962