

## Chapter 13.25 CISTERN WATER SYSTEM REQUIREMENTS

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### [13.25.010](#) Authority.

The following Chapter is adopted per [Chapter 70.05 RCW](#) and [Chapter 19.27 RCW](#). ([Ord. 2011-006](#), 2011)

### [13.25.020](#) Applicability.

[Chapter 13.25 KCC](#) applies to all truck transportation of bulk potable water, and cistern system construction and maintenance in Kittitas County. ~~Cistern systems are only permissible as a water source for single dwelling unit residences upon a showing that no other potable water source is available upon the property as detailed in [Section 13.25.080 KCC](#).~~ No potable water hauling or cistern system shall be permitted for two or more dwelling units served by a common storage and piping system, and no potable water hauling or cistern system shall be permitted for any commercial use, including use of a single dwelling unit for day care, bed and breakfast, group home, hair stylist, food producer under a ~~WA Dept.~~ [Washington State Department](#) of Agriculture license, or other commercial use. An application for subdivision ~~shall cannot~~ use cisterns to demonstrate [suitable provision of water supply](#). ~~that appropriate provisions for potable water supplies are provided for.~~ ([Ord. 2011-006](#), 2011)

### [13.25.030](#) Licensing of Commercial Potable Water Haulers.

1. Initial License Requirements. All persons engaged in the commercial transporting of bulk potable water shall obtain a license from [Kittitas County Public Health Department \(KCPHD\)](#). In order to receive a license, the following shall be submitted to KCPHD:
  - a. A completed application and fee, including a notarized signed statement that:
    - i. The equipment to be used meets the requirements in this Section;
    - ii. The applicant understands and will comply with the treatment requirements in this Section; and
    - iii. The applicant understands that the source for all water ~~to be~~ delivered to water storage systems is a Group A [public](#) water system [in green or yellow operating permit status](#).
  - b. Proof of Insurance:
    - i. Commercial, ~~g~~General ~~l~~Liability and ~~a~~Auto ~~i~~Insurance in the amount of one million per incident and two million dollars aggregate. ~~e, e; and~~

- ~~ii. Pollution Liability Insurance in the amount of one million dollars per incident and two million aggregate.~~
  - c. A passing inspection by KCPHD of the equipment within 60 days ~~of prior to~~ the submission date of the completed **water hauler** application. A passing inspection includes but is not limited to: a passing water quality test after the initial holding tank disinfection, passing equipment test, and the ability to fill a truck container through an air gap or a backflow prevention device.
2. A license is not required of any person who performs labor or services under the direct supervision of a licensed potable water hauler, any private water system owner who performs work on the private water system serving his or her dwelling house, or any person who aids the owner with this work without compensation. However, persons exempt from licensing under this paragraph shall comply with all applicable sections of this chapter. For purposes of this Chapter, "direct supervision" means that a licensed potable water hauler instructs and controls the person claimed to be supervised and that the licensed water system contractor is responsible for the actions of that person and is reasonably available if and when ~~needed, needed,~~ even though such licensed potable water hauler may not be physically present at the work site.
  3. Every licensee shall maintain and submit to KCPHD such complete and accurate records as may be required for determining compliance with all applicable rules of this Chapter. ([Ord. 2011-006](#), 2011)

#### **13.25.040 Water Hauler Equipment and Treatment Requirements.**

All potable water haulers shall comply with the requirements of this rule, regardless of the licensing requirement in [Section 13.25.030 KCC](#).

1. Equipment.
  - a. The holding tank on the truck to be utilized shall only be used to transport potable water, and shall not have been used to transport any other substance. The holding tank shall not have been previously used to transport a noxious, hazardous, or a toxic substance or liquid;
  - b. Each holding tank shall display the name, water hauler license number and telephone number of the licensed water hauler;
  - c. The holding tank shall be completely enclosed and tightly sealed, with lockable hatches or lids. The inlet or opening to every holding tank shall be so constructed to prevent the entrance of insects, rodents or other foreign material that may cause contamination of water. With the exceptions of cleaning or filling the tank, the inlet openings shall be kept closed at all times;
  - d. All holding tanks shall be filled or emptied through an air gap or approved double-check valve assembly, in accordance with ~~Section 246-290-490 WAC~~ [WAC 246-290-490](#);
  - e. All equipment used in this distribution of water shall be clean and sanitary and protected from contamination at all times; and
  - f. Flexible connector ends shall be protected and capped at all times except during filling or emptying of the transportation equipment.
2. Initial Truck Disinfection.

- a. All equipment that is being used for the first time to transport potable water shall be disinfected using the procedures in this section.
  - b. The holding tank shall be scrubbed.
  - c. All rust and sediment shall be rinsed or flushed from the holding tank.
  - d. The holding tank shall be visually inspected to ensure that the tank is clean, in good condition and free of contaminants.
  - e. The holding tank shall be completely filled with water containing at least 50 parts per million (ppm) of chlorine (disinfection solution). The chlorine shall be added to the tank in proportion to the water in order to ensure adequate mixing.
  - f. The disinfection solution shall be held in the holding tank for at least twenty- four contiguous hours. All hoses, pumps and other equipment used in handling water shall be disinfected the same way.
  - g. It is the responsibility of the water hauler to ensure that the disinfecting solution is disposed of according to state and local waste disposal regulations.
  - h. Once the holding tank is empty of the initial disinfecting solution, the tank shall be refilled with the water to be transported and tested for coliform bacteria. If coliforms are present, the tank shall not be used unless the disinfection process is completed again, and the end test result is free of coliforms is produced.
3. Potable Water Treatment.
- a. Each tank load of water shall be dosed with a sufficient amount of chlorine to produce a minimum chlorine residual of two tenths parts per millionppm at delivery of the water and shall not exceed a maximum chlorine residual of four-one (4.0) parts per millionppm at delivery of the water.
  - b. A water hauler shall keep equipment to test the free residual of chlorine in the tank and shall test the tanks of water that are delivered. If less than two tenths ppm is detected then the hauler shall add sufficient chlorine to obtain the residual chlorine concentration required by Section 13.25.040 (3)(a) KCC.
4. Handling Equipment.
- a. All handling equipment used in the operation shall be stored off the ground at all times.
  - b. All handling equipment shall be thoroughly flushed, disinfected with the procedures in Section 13.25.040(2) KCC, and then flushed again with the source water prior to each use.
  - c. All hoses shall be capped at both ends when not in use.
  - d. All handling equipment shall be regularly inspected, and disinfected or replaced as needed.
  - e. All handling equipment shall be designed for potable water, and shall be capable of being disinfected.
5. Annual Inspection.
- a. All transportation equipment used in the distribution of water by licensed water haulers shall be inspected for compliance with this rule annually by KCPHD.
6. Records.
- a. Both the licensed water hauler and owner of the receiving cistern system shall keep a record of all deliveries of water. The records

shall be made available to KCPHD upon request. Records shall include:

- i. The quantity delivered per trip;
  - ii. The approved water source(s) used;
  - iii. Dates and times of delivery and free chlorine residual at point of delivery;
  - iv. The chlorine dose at the fill point and the free chlorine residual after filling; and
  - v. Any notes regarding the receiving cistern system.
- b. Licensed water haulers shall keep the following records in all trucks approved for water hauling at all times. The log shall include:
- i. A record of any current water in the tank, including the community Group A public water system where the water originated from, ~~where the water is going~~ the destination of the water, and the free chlorine residual directly after filling the tank;
  - ii. The date the truck, holding tank and handling equipment was last inspected by KCPHD; and
  - iii. The date the holding tank and handling equipment was last disinfected using the procedures in [Section 13.25.040\(2\) KCC](#), and the coliform test results after disinfection.
7. Ongoing Equipment Maintenance.
- a. The water contact surfaces and equipment shall be cleaned and disinfected:
    - i. Before it is put into use;
    - ii. When the system or any of its parts have been dismantled or replaced for purpose of repair, maintenance or alteration;
    - iii. Any time contamination is suspected; and
    - iv. ~~Yearly~~ Annually for license renewal.
8. Monthly Reporting Requirements.
- a. Every month, all licensed water haulers shall submit to KCPHD:
    - i. The passing results of a coliform test performed that month for each delivery vehicle used to transport water; and
    - ii. All delivery records maintained per [Section 13.25.040\(6\) KCC](#).
9. KCPHD may order any water hauler to cease water deliveries or the use of any water transportation equipment for violation of this rule or if KCPHD suspects contamination of the water hauling equipment or the hauled water. (~~Ord. 2011-006, 2011~~)

#### **13.25.050 Initial Potable Water Hauler License Period.**

The initial ~~L~~icense is valid for one year, and will automatically lapse at the end of the year unless the ~~w~~Water ~~h~~Hauler follows the ongoing license requirements in [Section 13.25.060 KCC](#). (~~Ord. 2011-006, 2011~~)(~~Ord. 2011-006, 2011~~)

#### **13.25.060 Ongoing Water Hauler License Requirements.**

In order to maintain a potable wWater hHauler ~~L~~icense, an ~~an annual~~ yearly renewal application, fee and passing ~~annual~~ inspections for all equipment shall be submitted to KCPHD. A passing inspection includes but is not limited to: a passing ~~water quality~~ water quality test ([Section 13.03.190 KCC](#))~~test~~ after the initial tank disinfection, passing equipment test, and the ability to fill a truck container through an air gap or a backflow prevention device. ([Ord. 2011-006](#), 2011)

### 13.25.070 Suspension, Revocation, and Denial of Water Hauler License.

1. KCPHD may suspend, revoke, or deny any potable water hauler license for violation of the requirements of this chapter.
2. Grounds for suspension, revocation, or denial of a potable water hauler's license shall include, but not be limited to:
  - a. A material misstatement or falsification of facts in the application for a license or obtaining a license through fraud or misrepresentation;
  - b. A material misstatement or falsification of facts in any records kept for the purposes of complying with Kittitas County Code;
  - c. A violation of the conditions of the potable water hauler's license;
  - d. A violation of any applicable rule of this chapter;
  - e. Failure to maintain a valid commercial ~~drivers~~driver's license;
  - f. Failure to maintain insurance as required under this rule;
  - g. Conviction in any criminal proceeding or failure to comply with a judgment or order that is issued by the court in any civil proceeding in connection with a private cistern system;
  - h. Aiding or abetting an unpermitted business or person to evade the requirements of this Chapter, allowing one's permit to be used by an unpermitted person, or acting as an agent, partner or associate of an unpermitted person with the intent to evade the provisions of this Chapter;
  - i. A demonstrated incompetency to act in the business or businesses for which a license is held; or
  - j. The transportation of water from a source other than a Group A public water system.
3. Upon the revocation, suspension, or denial of a license, the water hauler may appeal through the appeal process in Chapter 13.85 KCC. (Ord. 2011-006, 2011)

### 13.25.080 Cistern System: Source Requirements.

1. Prior to approval for an Adequate Water Supply Determination for a proposed cistern system, the applicant shall provide proof of the following:
  - a. A notarized statement that:
    - ~~i. There are no other potable water sources available on the property;~~
    - ~~ii. Water budget neutrality is not available for the property; or an application for water budget neutrality was submitted and no response was received approving water budget neutrality within 45 days; and~~
    - ~~iii.i. That t~~That the water to be transported to the cistern system shall originate from a community Group A public water system that is in green or yellow status with the Washington State~~state~~ Department of Health (DOH).
  - b. A letter from the water purveyor of the community Group A public water system in which the water purveyor:
    - i. Agrees to supply the minimum amount of water per month as determined in Section 13.25.090(1)(c) KCC; and

- ii. ~~Is capable of supplying water to cisterns because the water purveyor has either~~ Complies with WAC 246-291-107 regarding the expansion of place of service.:
    - 1. ~~Obtained an amendment to the water system plan which includes a change of service area from DOH Department of Health. The change of service area shall allow for the distribution of water to cisterns, and comply with Section 246-290-107 WAC regarding the expansion of place of use; or~~
    - 2. ~~Obtained a place of use amendment from Department of Ecology which allows the community Group A public water system to provide water to cisterns in the cistern location.~~
  - c. A Notice of an Alternative (Non-standard) Water Source is filed with the County Auditor's office for the property where the cistern system will be located. The Notice shall include the following details:
    - i. Potable water is supplied via a cistern system on the property;
    - ii. The number of people the dwelling unit is designed for;
    - iii. The gallons per day that will be available to each person;
    - iv. The estimated number of days between storage unit refills if the cistern system is used as designed and the dwelling unit is used as a primary residence; and
  - d. That the owner of the property is required to maintain the cistern according to the Operations and Maintenance Plan filed by the system operator with the County Auditor's office.
2. ~~Rainwater.~~ Rainwater is an acceptable supplemental source of water when the requirements in Section 13.25.080(1) KCC are met. Rainwater is not permitted as the sole water source for a property. (Ord. 2011-006, 2011)

### 13.25.090 Cistern System: Design and Treatment Requirements.

- 1. **Design Standards.**
  - a. All applications for an Adequate Water Supply Determination that includes a cistern system shall be submitted by a professional engineer and bear the engineer's seal and signature. This includes all rainwater components of a cistern water system.
  - b. The capacity of the booster pump and storage tank for the water system shall be adequate to meet the intended needs of the household and shall be designed by a licensed engineer.
  - a. ~~All applications for an Adequate Water Supply Determination that include a cistern system shall be submitted by a professional engineer and bear the engineer's seal and signature. This includes all rainwater components of a cistern water system.~~
  - b. ~~The capacity of the storage unit for the cistern water system shall be adequate to meet the intended needs of the household. No storage of less than two thousand five hundred gallons capacity per dwelling unit shall be installed.~~
  - c. The minimum amount of water that is needed by the dwelling unit on a monthly basis shall be calculated by the following formula: (the number of people the dwelling unit is designed for) x (75 gallons/day) x (30 days) using the formula found in Section

- 13.25.090(1)(c) KCC<sup>[HM1]</sup>. The minimum amount is not required to be delivered by truck to the dwelling ~~unit,unit~~; however, the water purveyor shall agree to provide at least that amount to the dwelling unit.
- d. Water obtained from cistern water systems shall be continuously treated as prescribed in Section 13.25.090(2) KCC.
  - e. Prior to approval of Adequate Water Supply Determination, an Operations and Maintenance Plan with specific schedules based on manufacturers' recommendations shall be recorded with the County Auditor by the applicant. The schedules shall include potable water quality testing, operations and maintenance, equipment testing, and equipment replacement.
  - f. Any rainwater components of the cistern water system shall be designed in accordance with all State ~~Department of Ecology and Health-local~~ policies, rules and regulations regarding rainwater use for potable water. Rainwater is a surface water for the purposes of determining treatment standards.
  - g. KCPHD may require outdoor signage denoting the location of the cistern ~~dependant~~dependent on where the cistern is located and other site specific factors.
2. **Potable Water Treatment Requirements.** Cistern water systems shall be provided with continuous treatment, as provided in this Section.
- a. All treatment systems and Operations and Maintenance Plans shall be submitted by a professional engineer and bear the engineer's seal and signature and conform to all applicable treatment standards necessary for potable water. Possible treatment systems may include, but are not limited to chlorination, iodination, ultraviolet, ozone, filtration or reverse osmosis. All water withdrawn from the cistern for use inside the dwelling shall be suitably treated.
  - b. All treatment systems shall ensure the protection of the health of the persons served by that system.
  - c. An owner of a cistern system that has treatment shall maintain a test kit or appropriate testing equipment to determine the treatment residuals and shall periodically test the water for residual levels after treatment has occurred. With all treatment systems, the owner shall also test for total coliforms on a ~~regular~~quarterly basis. <sup>[HM2]</sup> The testing schedules shall be documented in the Operations and Maintenance Plan recorded with the County Auditor.
3. **Signage Requirements.** In all situations where water is supplied from a cistern system, a permanent sign shall be posed in a prominent position inside the dwelling in close proximity to the main water faucet that:
- a. Describes the type of water source;
  - b. Describes the type of continuous treatment system; and
  - c. Warns users of the possible health risks.
4. **Record Keeping.** All owners of a cistern system shall keep the following records and submit the records to KCPHD yearly~~annually~~.
- a. Records of all maintenance performed on the cistern system, including the storage and treatment portions;
  - b. Records of the dates and results of all tests performed to determine treatment residuals and presence of any harmful contaminants such as coliforms.

- c. Records of all potable water deliveries, including the date, the water hauler who made the delivery, the amount of water delivered, the source of the water, and the chlorine residual in the storage unit after delivery.
- d. A ~~n annual~~ quarterly passing water quality test (see [Section 13.03.130 KCC](#)).

5. **Inspections.**

- a. Prior to use, a cistern system shall be inspected by KCPHD. At a minimum, the inspection will require:
  - i. ~~Submittal of a complete A~~ as-built drawing to are is complete and submitted to KCPHD;
  - ii. A passing water quality test (see [Section 13.03.130 KCC](#));
  - iii. A passing physical inspection of the system.; ~~and~~
  - ~~iv. That S~~ signage is present in the home.
- b. After the initial inspection, all cistern systems shall be inspected by KCPHD at time of sale. It is the responsibility of the owner of the cistern system to schedule the initial and time of sale inspections with KCPHD. Failure to obtain an inspection and pay the inspection fee may result in KCPHD closing the system from use. ([Ord. 2011-006](#), 2011)