

## COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT WATER QUALITY CONTROL DIVISION

## Suggested Practices for Wastewater Treatment Septic Systems

The Water Quality Control Division (the Division) at the Colorado Department of Public Health and Environment regulates the discharge of wastewater from all septic systems in Colorado with design capacities greater than 2,000 gallons per day. Under Regulation No. 61, *Colorado Discharge Permit System Regulations,* owners or operators of septic systems rated above 2,000 gallons per day are required to obtain a wastewater discharge permit from the WQCD. Discharge permit application forms are available for download at: http://www.cdphe.state.co.us/wg/PermitsUnit/landD/index.html.

This guidance document provides suggested practices for properly operating and maintaining septic systems in order to comply with typical requirements of a septic system discharge permit. The document is not all inclusive and should be used only as a guide in meeting the Division's compliance expectations.

## **Suggested Practices:**

- Properly operate and manage the wastewater treatment system at no greater than its maximum treatment capacity. Ensure that average influent flow to the septic system, does not exceed system's design "average daily flow." Ensure the maximum daily flow does not exceed the system's design "maximum daily flow." Keep a logbook to demonstrate the average and maximum daily flows for each month of operation.
- Maintain a logbook to demonstrate proper operation and maintenance of all facilities and systems of treatment and control.
- Inspect the scum level and sludge level in each septic tank in order to know when the particular septic tank needs to be pumped. Know the distance from the bottom of the septic tank to the bottom of the outlet baffle in a single cell tank or to the bottom of the pass through opening in a divided septic tank.
  - In a single cell septic tank:
    - If the bottom of the scum mat is within three inches of the bottom of the outlet baffle, the scum is to be removed.
    - If the distance from the bottom of the outlet baffle to the top of the sludge is 12 inches, the sludge is to be removed.
  - In a divided septic tank that has a pass through opening, the scum is to be removed when the level is within 3 inches of the bottom of the opening. If pass through occurs via an "L" shaped pipe, scum is to be removed when the level is within three inches of the top of the tank.
  - In a divided septic tank, if the distance from the bottom of the pass-through opening is 12 inches or less the sludge is to be pumped immediately.
- Do NOT wash out or disinfect the septic tank after removing the contents of the septic tank. It is recommended that a small residual of sludge be left in the tank for seeding purposes. The scum and sludge are to be removed and disposed in accordance with applicable regulations of any state or federal agency having jurisdiction.
- If the treatment system has a grease trap, properly inspect and maintain the trap. Grease coming from a

kitchen in a restaurant or cafeteria is not allowed to flow directly into the septic tank. The discharge from a garbage disposal should not pass through a grease trap.

- In general, the addition of chemicals to a septic tank is not recommended. Small amounts of household chemicals are not considered harmful. Moderation is essential to avoid adverse impacts upon the septic tank sludge and upon the soil of the leachfield.
- Do NOT send the flow from roof drains, foundation drains or other sources of drainage to the septic tank or the leachfield.
- Avoid sending paper towels, newspaper, wrapping paper, rags and sticks to the septic tanks. Waste brines
  from household water softener units have no adverse effect on the action of the septic tank, but may cause a
  slight shortening of the life of a disposal field installed in clay type soil. If the permittee is not certain of the soil
  type, it is recommended the waste brine be disposed in a different manner than flushing it into the septic
  system. Brine disposal must also be done in accordance with applicable federal, state and local requirements.
- Make every effort to prevent hazardous waste, toxic waste or septage from entering the wastewater treatment facility.
- Inspect leachfields on a regular basis. Determine the water level in "inspection pipes". Record the depth of the water level in the pipes. If the water level rises in successive readings, it is suggestive that leachfield may not be draining as designed. Also, inspect for any seeps coming from the sides of the leachfield or ponding on top of the filed. Should either situation occur, it is indicative that the leachfield has failed and repairs need to be initiated as quickly as possible. Maintain a log of the inspection dates and the name of the person performing inspection.
- Inspect manholes on a periodic basis to ensure that snowmelt and sheet flow from rainstorms is not flowing into the manhole. Maintain a log of the inspection dates and the name of the person performing inspection.
- If the facility has a lift station, perform an inspection on a routine basis of the lift station and the pumps contained therein. Maintain a log of any problems and repairs have been made, including a description of the repair, the date the repair(s) were made and the person or entity that made the repair.
- Calibrate the flow measuring device (and sensor) on an annual basis. Maintain a "report form" to present the
  results of the flow accuracy verification testing. The report form may be required to be submitted to the Division
  within twenty-eight days after accuracy testing/verification. It is suggested that the report form provide the date
  and name of the person(s) making the accuracy Check/Calculation for the influent/effluent flow meter. The
  report form is to contain the date and time of the test, the air and water temperatures, the method of measuring
  actual flow into/out of the facility, the amount of gallons measured by meter, plus a calculation or a computer
  print out demonstrating conformance to the "within 10% of actual flow" requirement. Perform a minimum of one
  annual on-site flow verification during one of the winter months, when the outside temperature is at or near
  freezing. During the next year, perform a minimum of one annual on-site flow verification on alternating
  years and alternating seasons.
- Maintain a log to document the description of any operational problems with the facility during the year, such as power outages, failures of mechanical components, overflows, flow meter problems, lagoon fences, etc. Include any preventive maintenance activities undertaken during the year such as removal of sludge from the cells, and repairs made to the facility.
- Verify the elevation of measuring mark on the monitoring wells. The elevations are to be referenced to local benchmarks. The Division may request drawings illustrating the location and elevation of the bench mark(s) plus the elevation of the measuring mark on each of the monitoring wells be submitted after completion of the survey. The elevation of the measuring marks for each monitoring well should be re-surveyed on an annual

basis or after any mishap/alteration that would result in an elevation change at the measuring mark. Include all of this information a logbook.

• Proper and timely completion and submission of the Discharge Monitoring Reporting Forms (DMR) should be done on a monthly/quarterly basis, or as required in the permit. Keep a logbook with all required DMR forms required under the permit.