

Marshall Community Wastewater System

STEP System Operations and Alarm Procedures for Residents

(For immediate 24-hour response, call 707-254-1931)

STEP System Operations Overview

Nearly all residencies in the Marshall Community Wastewater System service area have an individual septic tank and pump unit located on or adjacent to the property. This is called a “STEP” system, which stands for Septic Tank Effluent Pump. All sewage from the house is collected in the septic tank, where solids settle and the liquid effluent is pumped into the community sewer system. The sewer system consists of 2-inch and 3-inch diameter pressure pipe (force main) that runs along the west edge of Highway 1 and terminates at the community leachfield site south of the Marshall Post Office. The solids that accumulate in the septic tank have to be pumped out every few years by a septic tank cleaning service. Our maintenance contractor will inspect the tanks once a year to see if it’s time to pump. The cost of pumping is the responsibility of each property owner.

Effluent Pump Operations - In most cases, the effluent pump is located in the second compartment of the septic tank. In some cases, the pump is located in a separate, smaller pump tank near the septic tank. The pump is activated automatically by a float control system, similar to a sump pump in a basement. The floats control when the pump will go on and off based on effluent levels in the tank. The water use and resulting sewage flows from the house will dictate how often the pump runs. Under normal conditions, the effluent pump will cycle on and off two to four times per day, running typically for about 5 to 10 minutes during each cycle. Higher water use and/or leaking plumbing fixtures will cause the pump to run longer and more frequently.

High Water Alarm and Emergency Storage - There is also a high water (alarm) float in the tank that registers an audio and visual alarm in case of high water conditions in the tank. The alarm float is set a few inches above the normal “Pump ON” level, and is triggered when the water rises above the normal level. This could be due to a pump failure, excessive inflow of water/sewage to the tank, a float or control panel malfunction, or power outage. Above the alarm float, the tank has storage capacity for about 100 to 150 gallons of sewage (depending on tank size), which allows time (a day or more) for the problem to be diagnosed and corrected before sewage would begin to back up into the plumbing drain from the house.

Control Panel - Each pump has a control panel located on the outside of the house, which contains the electrical components for the pump. The pump operates off of a dedicated electrical circuit separate from the house wiring. Some of the features of the control panel include: (a) a switch to change the pump from automatic to manual on/off operation; (b) digital meters that tally the number of pump cycles and the pump run time; and (c) an audio (loud horn sound) and visual alarm (red light). There is also an audio and visual alarm located inside the house.

Portable Generator Operation - Another key feature of the control system is an electrical transfer switch that allows the pump electrical circuit to be disconnected from PG&E service so the pump can be operated off of power from a portable generator that is plugged into the control panel. This is intended to be used in the event of an extended power outage. It allows the pump to be operated for a short period of time to drop the effluent level in the tank down to the low “Pump OFF” level. A portable generator is kept at the community wastewater treatment site for this purpose. This is for use only by the wastewater system maintenance contractor, who is properly skilled and trained in the equipment and workings of the STEP systems. It’s important to note that if there is a power outage, the system may not work properly. **CALL the maintenance contractor if there is a power outage over 6 hours. The alarm will not go off if there is no power.**

Note: The portable generator operation of STEP units is not intended to be carried out routinely by individual property owners or residents. However, with appropriate training and instruction, it may be possible and acceptable for individual property owners to utilize their own portable generator for temporary STEP pump operation during an extended power outage. A special training session by the maintenance contractor should be conducted for this purpose.

Instructions for Alarm Conditions

Following are instructions for residents in the event that the STEP pump alarm is observed.

What it Means:

If the STEP pump alarm goes off, the effluent level in the STEP tank has risen above the “Pump ON” level, which is normally due to one of the following factors:

- Pump failure
- Malfunction of the float switch
- Restriction in the discharge line or in the community force main
- Power outage

What to Do:

1. Call the system maintenance contractor (see contact information below) who has a 24-hour telephone service for emergency calls. Be prepared to provide the following information to the maintenance person or attendant taking the call:
 - Property address
 - Your name and phone number
 - How long the alarm has been sounding
 - Any other observations or situational information about the property, the conditions around the house, house occupancy, etc.

2. Answer questions and follow instructions (if any) from the maintenance person. There may be questions to help make a preliminary diagnosis of the problem or related to property access.
3. After the call to the maintenance contractor, disable the alarm by pushing the button on the outside of the control panel.
4. Curtail water use in the house and check for any leaking fixtures, especially toilets. Avoid the use of clothes washer, dishwasher and baths/showers until the problem is corrected and the pump system conditions return to normal.
5. Ensure access for the maintenance contractor, including opening gates, moving vehicles, and controlling animals, as necessary.
6. For Renters: In addition to the above, call property owner and/or property manager to advise them of the situation and for any additional instructions.

Instructions for Extended Power Outages

If there is a power outage, your STEP system may not work properly, and the alarm will not go off. A portable generator is kept at the community wastewater treatment site for use in an extended power outage. This is for use only by our maintenance contractor to activate individual STEP systems as needed.

1. Curtail water use in the house and check for any leaking fixtures, especially toilets. Avoid the use of clothes washer, dishwasher and baths/showers until the problem is corrected and the pump system conditions return to normal.
2. For some properties, water service will be disrupted without power. This will help safeguard overuse of the septic system.
3. Do not use bay water to flush toilets; salt water can upset/damage the ecological balance in the tank and, since your tank is concrete, it could have a corrosive effect on the tank.
4. Keep an eye on your tank lids. If you see any liquid starting to come up, call NSU asap.
5. Ensure unimpeded access to the tank and control panels for the maintenance contractor; this included opening gates, moving vehicles, and controlling animals, as necessary.
6. **CALL the maintenance contractor if you or renters remain at your residence throughout the extended power outage.** Our contractor will monitor the wastewater situation at individual properties and connect the mobile generator to STEP systems as needed. Alerting us will avoid unnecessary time and expense checking on vacant properties.

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Operation and Maintenance Contact Information

Natural Systems Utilities - CA, Inc. (NSU)

For immediate response, call their 24-hour number **707-254-1931**

Since this number may also be called for non-emergency questions, please specify if the call is urgent or not.