

Wood River Village Subdivision

Sewer Connections and Feasibility



COMMUNITY
DEVELOPMENT

Definitions

Wood River Village: A community in Bend located South of Reed Market Road, West of Brookwood Boulevard, and East of the Deschutes River. This area has the City of Bend's only vacuum sewer system.

Vacuum sewer: A sewer system, manufactured by AirVac, that functions on vacuum instead of a standard gravity or pressure system - it utilizes vacuum to pull sewer from each individual lot to a pump station. Each lot uses a gravity service that follows into a small pit. The pit contains a valve that opens when the pit fills. When the valve opens, because of the system has a vacuum, it sucks everything out of the pit and into the mains. Eventually the vacuum will pull everything down to the pump station and pump it out to a gravity main elsewhere in the City's system. If you have too many connections to a valve pit or have too much sewer flow to a valve pit, the valve pit is opening more often, reducing the vacuum in the mainline system. With reduced vacuum, you reduce the system's ability to move the sewer to the station and cause the pumps in the pump station to run more frequently (adding to the maintenance and reducing the lifespan of the pumps).

Higher Density: Construction of anything other than single family homes. Development of duplexes, triplexes and four-plexes. Accessory Dwelling Units (ADUs) are typically not considered higher density.

Higher Density Development Overview

When higher density is proposed, the vacuum systems must be reviewed for capacity as required under the Bend Development Code prior to construction permitting. Per the requirements of the system's manufacturer, AirVac, only **2.5 sewer lateral connections (average)** are permitted to any single vacuum pit.

Connection Options:

- 1 valve pit can serve two single family homes
- 1 valve pit can serve a single triplex
- 2 valve pits are required for a single four plex

An Accessory Dwelling Unit (ADU) can be considered $\frac{1}{2}$ a connection, but generally a new valve pit is not required for ADU construction. This would be at the discretion of the City Engineer based on size of the ADU and plumbing fixtures as to whether a situation with 2 single family homes, each having separate ADUs, would compromise the valve pit.

If a lot does not have a connection, or is adding density to a lot, it overwhelms the existing valve pit. A new valve pit installation or lateral will be required at the expense of the developer prior to occupancy.

Subdivisions / Partitions Process

In order to complete a partition/subdivision (land use application), the following procedures are set forth:

Step 1: Submit a sewer model analysis to the City of Bend. Go to the Online Permit Center Portal, click Engineering & Agreements, then select the Sewer Water Analysis application type and add Wood River Village to the description field.

Step 2: Call 811 "Call before you Dig" for a utility locate before or immediately after the submittal of the sewer model analysis application. Provide 811 information on your property location and that they are to mark existing underground utilities in front of the property. Identify with 811 that it is needed within 1 week as the City's Utility department may dig/pot hole around the sewer valve pits.

Step 3: A sewer report will be prepared by the City and provided to the applicant.

Step 4: A fee will be assessed for each new parcel to contribute to the sewer pump upgrade at the time of land use application.

Step 5: Improvements to your lot

Step 5a: If it is found that there are sewer connections available, the land use condition for partitioning/subdividing the land will have the applicant obtain a right of way permit and install a new sewer service to the property prior to final plat recording.

Step 5b: If it is found that there are no sewer connections available, a new sewer valve pit will need to be installed. Upon submitting your application to the City's Planning Department, a condition will be made prior to final plat recording that a new valve pit and sewer services be installed with an Infrastructure permit. The applicant shall hire a professional engineer to prepare a construction plan set for construction.

Step 6: Installation requirements for Airvac sewer systems must be done per manufacturer instructions. Installation of the sewer service within private property shall be done under a City of Bend plumbing permit, complying with all applicable Plumbing Codes. An air intake assembly (required on vacuum systems – see FAQ below) must be constructed as part of the system and the requirements for the air intake can vary depending on its location.

Frequently Asked Questions

- Why can't I connect into an existing sewer valve pit if it is next to my property?
Valve pits are designed by the AirVac Manufacturer to have a maximum number of connections. If there are no connection ports available, or the flow into the pits exceed the manufacturer's recommendation, the lot must either install a new valve pit or go to the next available valve pit that has capacity. The location of the connection and the valve pit availability is at the discretion of the City Engineer.
- Why does the City need me to submit a sewer model analysis?
Upon receiving an application, the City of Bend verifies the number of existing sewer services at the valve pit(s) within the vicinity of the property. The Utility Department will either excavate/pot hole around the valve pit(s) or use cameras to determine the availability of service connections.
- Why is the City assessing fees for the sewer pump upgrades?
The vacuum pumps were originally sized to function for the sewer demand produced by the original number of lots approved when the subdivision was created. With residents wanting to partition lots and increase density, sewer demands have increased deeming the original pumps insufficient.
- What are the pipes that come up in my yard?
Sometimes the City and manufacturer refers to these as candy canes because they bend over at the top (looking like oversized candy canes) to ensure rain/snow does not enter into the open pipe. Don't pull them out. These are vents that are required for the valve pit to function. Every time the valve in the pit opens, it needs air for the vacuum to pull the waste into the underground piped sewer system. If the system doesn't get air, either it will try to pull air from your house's private plumbing or, worst case scenario, can collapse the pit.
- Why only 2.5 average connections per valve pit?
AirVac recommends approximately 3 gallons per minute (gpm), providing approximately 22 minutes of storage in the pit. If too much flow enters into the valve pit, the valve closes less which means the system cannot maintain a vacuum in the system. If there is no vacuum, the sewer doesn't discharge to the station.