

PARKADE DRAINAGE TREATMENT SYSTEM

The purpose of this bulletin is to inform the property owner, contractor and designer of the building permit requirements for Parkade Drainage Treatment Systems.

"This information is provided for convenience only and is not in substitution of applicable City Bylaws or Provincial or Federal Codes or laws. You must satisfy yourself that any existing or proposed construction or other works complies with such Bylaws, Codes or other laws."

GUIDE OVERVIEW

Current BC Plumbing Code acceptable solutions need to be followed for typical covered parkade drainage systems. The following are compliant solutions for fixtures/systems draining to the sanitary Parkade Drainage Treatment System (PDTS):

- floor drains and catch basins in the parkade area
- car wash facilities in the parkade
- sprinkler room and mechanical room floor drains near the parkade

Optional fixtures/systems permitted to discharge to PDTS

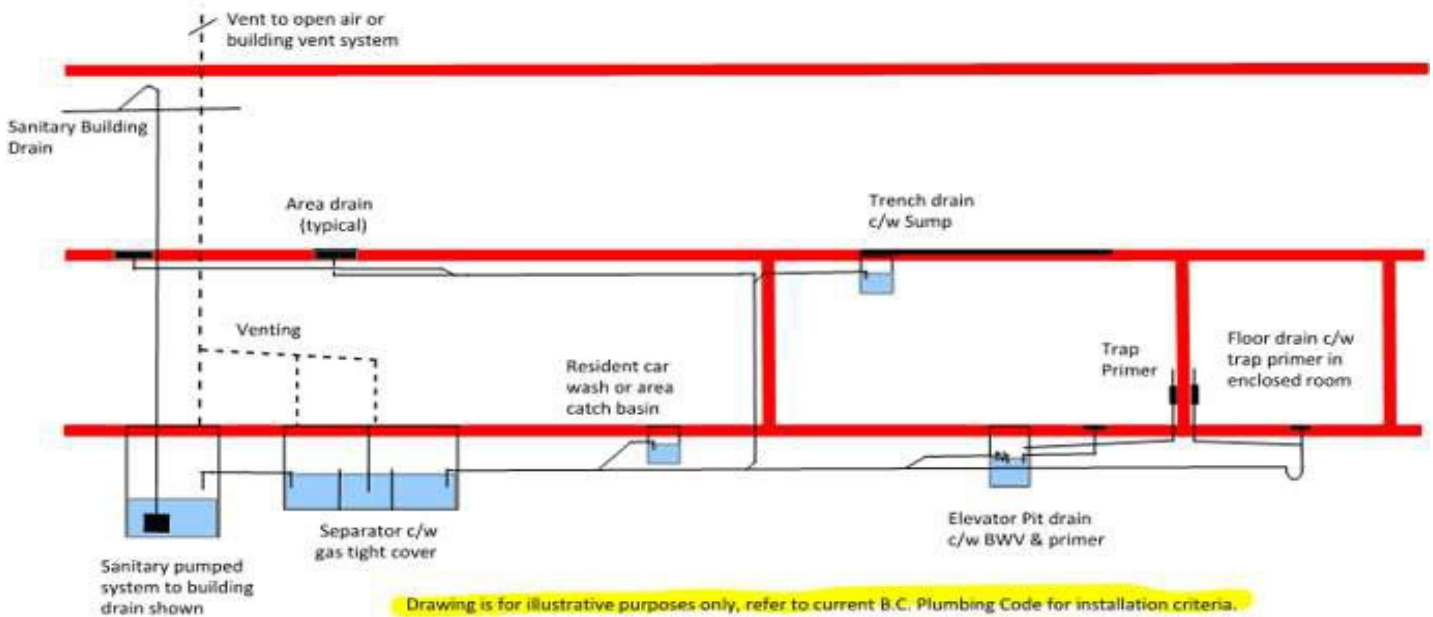
- backflow preventer drains
- condensate drains
- boiler room relief valves and drains
- clear-water waste
- fire pump test drains
- trench drains (parkade entrance)
- elevator pit drains complete with backwater valve (BWV)
- electrical pull pit drains (complete with sump and BWV) that are not for an oil transformer vault, a high voltage room or any dangerous or toxic chemicals
- small loading bay areas
- air shaft drain

Discharges from the following fixtures/systems are not permitted to drain to PDTS

- roof drains
- planter drains
- deck drains
- drain tile, subsoil drainage

- Solid waste room drains (garbage/organics/recycling)
- repair garages
- oil change facilities
- tire repair shops
- service bays/areas
- domestic sanitary waste, i.e: toilets/sinks/baths/showers, etc.
- black water waste (before or after treatment)

Main technical aspects of typical Parkade Drainage Treatment System



Main technical aspects of typical PDTs design

1. The Parkade Drainage Treatment System (PDTs) is a unique system designed to collect waste flows from parking level garages. The discharge from these covered parking areas are not storm water or clear-water wastes and therefore cannot be drained to the storm sewer system. Sanitary venting systems can be challenging in parkades, therefore the PDTs does not require or permit any vents upstream of the separator.
2. The PDTs separator shall be vented in accordance with the current BC Plumbing Code. If draining into a building drain, the separator fixture arm will require a vent. When draining into a pumped system, the pump chamber shall be vented as per the current BC Plumbing Code.
3. The PDTs shall drain to the sanitary drainage system. Where sanitary fixtures drain to a sanitary pumped sump that also serves the PDTs, a backwater valve shall be installed on the outlet piping of the PDTs separator.
4. The PDTs separator and its compartments shall be accessible for inspection, cleaning and maintenance as required.

5. A sand/grit interceptor may be required to be installed upstream of the PDTS when sediment may impair the system operation.
6. The PDTS separator lid shall have a gas-tight lid. The inlet and outlet piping shall have 90 degree elbow drop legs to provide a water seal, to within 8 inches off the bottom to prevent sewer gases from entering the building.
7. All drains within enclosed areas/rooms are to be provided with a P-trap and a reliable means to maintain the trap seal.
8. A permanent means of priming water shall be connected to the PDTS to maintain a water seal at the separator. Typical priming could be done through the elevator pit sump.
9. The minimum size of drainage on the inlet piping to the PDTS shall be 4 inches in diameter. When system flow rates exceed the design rate of the separator, flow restricting devices or other methods may be required.
10. Other design factors, materials and methods considered as good engineering practice, such as ASPE guidelines will be considered in place of the above.
11. Any piping or fixtures/systems penetrating a fire separation required to have a fire resistance rating shall be sealed by a firestop meeting the requirements of the BC Building Code.

Maintenance

Maintenance and servicing activities are critical for the effective and optimal operation of the Parkade Drainage Treatment System and are the responsibility of the property owner(s).

- Catch basins, sand traps, oil/grit separators, pumps and sumps must be inspected at an adequate frequency.
- Cleaning and removal of accumulated floatables such as oils and other hydrocarbons and solids such as grit, sand and garbage should occur prior to exceedance of the design capacity of each component of the Parkade Drainage Treatment System.
- The frequency of inspection, cleaning and removal of accumulated pollutants is dependent on the design of the system and the actual parking area uses and activities.
- The designer of the Parkade Drainage Treatment System or manufacturer or service providers of individual components can assist owners/stratas in determining the frequency of maintenance and servicing.

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