

Installation Instructions for EZflow Systems in British Columbia, Canada



Installation Instructions

The instructions for installation of EZflow products are given below. This product must be installed in accordance with the appropriate regulations and codes.

In cases where linear footage required is not in multiples of 10, the installer may (a) reduce the product to needed length and refasten netting to the pipe or, (b) use an additional 5 or 10 feet of product to exceed the required trench length.

GRAVITY SUBSURFACE EFFLUENT DISPERSAL

1. Installation for effluent dispersal purposes is to be performed by authorized persons only. Authorized installer must be familiar with these EZflow installation procedures or seek instruction from an EZflow representative.
2. The EZflow 1201P is 30 cm (12 inches) in diameter by 3.0 meters (10 feet) long. Eht EPS bundle contains a 10 cm (4 inch) perforated pipe surrounded by EPS aggregate and is held together with polyethylene netting.
3. The 1201P is to be installed in at least a 30 cm (12 inch) wide trench.

Site Criteria

The site shall meet the requirements of the most current BC Ministry of Health Planning Sewerage Systems Standard Practices Manual & applicable Appendices in regard to:

1. Site and soils
2. Slope
3. Vertical & horizontal separation distances.

Location of Onsite Systems

1. All components of the subsurface effluent dispersal and treatment system shall be located so as to meet the horizontal and vertical separation distances and other criteria per the requirements of the noted Standard Practices Manual.
2. Subsurface effluent dispersal systems shall be installed meeting unsaturated vertical and horizontal separation requirements for the effluent type.

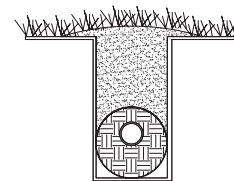
Trench Sizing

1. Information obtained during the soil and site evaluation and the results of the site/soils report will provide the soil effluent loading and linear loading rates.
2. The effluent loading rate is selected, from the applicable table in Standard Practices Manual based upon soil texture identified in the soil report or percolation rate.
3. Trench infiltrative bottom area = Daily wastewater flow rate ~ soil effluent loading rate.

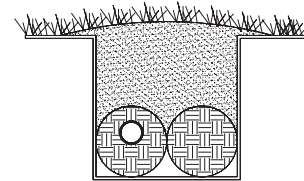
EXAMPLE: Type 1 Gravity Trench

- a. Assume the identified soil texture found to be a loam, with a maximum effluent loading rate of 20 Lpd/m² (0.4 gpd/ft²).
- b. Assume the residence to be 3 bedrooms with an estimated minimum daily sewage flow of 1363 litres (300 Imperial gallons).
- c. Total required trench absorption area (ft) = 300 gal. ~ 0.4 gpd/ft² = 750 ft².
- d. Total length of EZflow = 750 ft divided by 1, 2, or 3, depending on chosen trench width below.

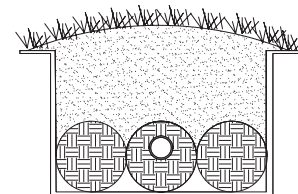
1201P System
12" Trench = 750 linear feet



1202H System
24" Trench = 325 linear feet



1203H System
36" Trench = 250 linear feet



Trench Dimensions

1. The 1201P absorption trenches shall be installed in a minimum 30 cm (12 inches) wide trench and not greater than 90 cm (36 inches) wide.
2. Trench spacing shall be not less than 1.8 meters (6 ft.) from centre line to centre line.

Trench Design Criteria

1. Trench bottom to be level across the width.
2. Trench length to have a nominal level variation along the flow path not greater than 0.15%.
3. Trench length to be oriented parallel with contour (perpendicular to slope).
4. Trenches to have a long aspect ratio (long and narrow).

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Trench Construction

1. After the authorized person has determined sizing, and layout for the **EZflow** system, stake or mark the location of trenches and lines.
2. Be careful to determine correct tank, invert pipe, header line or distribution box, and trench bottom elevations before installation of **EZflow** bundles.
3. The bottom of the outlet of the septic tank, supplying effluent to the pipe, must be a minimum of one inch above the top of the **EZflow** EPS Aggregate bundle.
4. The proper elevation of the solid PVC effluent pipe going to each trench should be determined to insure compliance with the required trench bottom depth as determined by the authorized person and/or plans.
5. A distribution box, or where the system is under pressure, either a header or combination of a distribution box or header, shall be installed to distribute the effluent uniformly throughout the effluent pipe.
6. Where distribution boxes are used a watertight access shall be provided, located no greater than 15 cm (6 inches) below grade and shall be:
 - a. Watertight
 - b. Structurally sound
 - c. Provide for even flow to laterals (adjustable flow levelers recommended)
 - d. Placed on a compacted level 2.5 cm (1 inch) sand bed or other approved bedding material
7. On sloping sites, as slope increases, trench spacing is increased as per *Standard Practices Manual*.
8. Excavate level and flat trenches to depth required by the authorized person and/or plans.
9. The bottom of the trenches shall have a maximum slope of 10 cm per 30 m (4 in. per 100 ft.).
10. Trenches are to be constructed in a manner that does not compromise the original soil structure by smearing or compaction of soil surfaces.
11. If smearing or glazing of trench sidewalls and bottom has occurred it is recommended that these soil surfaces be raked or scarified as remediation.
12. Remove **EZflow** bundles from the plastic stretch wrap prior to placing bundles in the trench (es). Remove any plastic bags that may have fallen into the trench before the system is covered.
13. Place the 1201P bundle into the excavated trench.

14. Standard manufactured fittings compatible with the pipe shall be used to connect all pipes within the effluent disposal field.
15. Perforated pipe, in the EPS aggregate bundles, are joined end to end with a manufacturer approved internal pipe coupler.
16. **EZflow** EPS bundles are flexible and can fit in curved trenches as may be necessary to avoid trees, boulders or other obstacles.
17. The **EZflow** EPS Aggregate bundle shall be covered with untreated or unfinished building paper or other manufacturer approved cover material before backfilling.
18. Soil cover over 1201P EPS bundle shall not be less than 15 cm (6 inches).
19. Soil backfill is to be slightly crowned to allow for settling.
20. Repeat steps 8 thru 19 for each required trench.
21. The dispersal field surface area shall be graded so that water can drain away.
22. A vegetative cover should be established over the dispersal field area.
23. Do not allow cars, trucks or snowmobiles to drive or park over any part of the dispersal trench area.

Pressure Dispersal

1. The 1201P may be used as aggregate in pressure dispersal trench systems.
2. After trenches have been excavated, the pvc pressure pipe is placed into the 10 cm (4 in.) perforated pipe within the EPS bundle.

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Bed Subsurface Pressure Dispersal

1. Subsurface pressure dispersal beds may be constructed using the 1201P.
2. The PVC pressure pipe is placed into the 10 cm (4 in.) perforated pipe within the EPS aggregate bundle.
3. Additional EPS bundles without pipe shall be placed side by side in the bed adjacent to bundles with pressure pipe. The number of bundles will depend on the lineal footage required and the width of the bed to be constructed.
4. Bed dimensions shall not be greater than 30.5 meters (100 ft.) in length and 4 meters (13 ft.) in width.
5. Discharge lateral spacing shall be not less than 90 cm (3 ft.) and not greater than 120 cm (4 ft.).
6. Bed outer edge to be not less than 45 cm (18 inches) from centre of discharge lateral pipes.
7. Care should be taken to prevent heavy machinery from damaging the bed during backfilling.

Mound Dispersal Systems

1. The 1201P may be used as synthetic aggregate in subsurface dispersal trenches in mound systems.
2. Construct mound as specified in *Standard Practices Manual* & applicable *Appendices*.
3. After laying out distribution grid in the sand fill area, dig required trenches and layout pressure distribution pipe.
3. The pressure pipe is then placed into the 10 cm (4 in.) perforated pipe within the 1201P EPS bundle.
4. Finish mound construction per *Standard Practices Manual* & applicable *Appendices*

Alternating Dispersal Systems

1. The 1201P may be used as synthetic aggregate in alternating dispersal systems.
 2. Dispersal can be by gravity or pressure distribution.
 3. Construction shall follow the criteria in *BC Ministry of Health Planning Sewerage Systems Standard Practices Manual* & applicable *Appendices*
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