



BROCHURE # 52

RESIDENTIAL DISPERSION TRENCH

What is a dispersion trench?

A dispersion trench is a stormwater facility designed to receive stormwater runoff and disperse it evenly through vegetated areas on your project site. Dispersion trench, downspout splash blocks and rock pads are dispersion devices for stormwater mitigation BMPs, particularly for full dispersion (BMP T5.30) and downspout dispersion (BMP T5.10B).

Where can a dispersion trench be located?

- A dispersion trench should be located a minimum of 10' from building foundation.
- The minimum distance from the bottom of the trench to hardpan or seasonal high-water table is one foot.
- A vegetated flowpath (dispersing stormwater to vegetated area):
 - Provide at least 25 feet between the outlet of the trench and any property line, structure, stream wetland, or impervious surface.
 - Provide at least 50 feet between the outlet of the trench to slope steeper than 15%, unless approved by geo professionals
- Dispersion trench must be oriented parallel to topographic contours, with a level bottom.
- Setbacks:
 - If downhill from a drainfield or reserve drainfield, provide at least 30 feet; if uphill from a drainfield or reserve drainfield, provide at least 10 feet.
 - 10 feet from any structure and property line

What are the dimensions of a typical dispersion trench?

- Width: Dispersion trenches are typically 2 feet wide
 - Depth: 18 inches deep
 - Length: The length is determined by the amount of impervious area being directed to it. A dispersion trench must be:
 - 10 feet of length for every 700 square feet of roof area drained. For example, a 2,100 square foot roof needs a dispersion trench of 30 feet long.
- The maximum length for any dispersion trench is 50 feet. Large structures may use more than one trench to drain different sections of roof area.

What is a Catch Basin (CB) and what type can I use?

A catch basin is a part of the dispersion trench, typically placed in the middle that is used to catch debris from stormwater runoff. What types of CBs to use for your residential project:

A black manufactured ADS catch basin, with a minimum diameter of 24 inches (sump liner). ADS pipe with a poured concrete bottom is not allowed

- A fiberglass septic tank riser with a welded bottom (do not use for commercial)
- A concrete Type 1 or Type 30 catch basin.

What type of pipe needs to be used in the dispersion trench?

Perforated Polyvinyl Chloride (PVC) pipe with a minimum diameter of 4 inches.

What type of rock needs to be used in the dispersion trench?

The rock required to be used in the trench is *round washed rock*, $\frac{3}{4}$ "- $1\frac{1}{2}$ " in diameter.

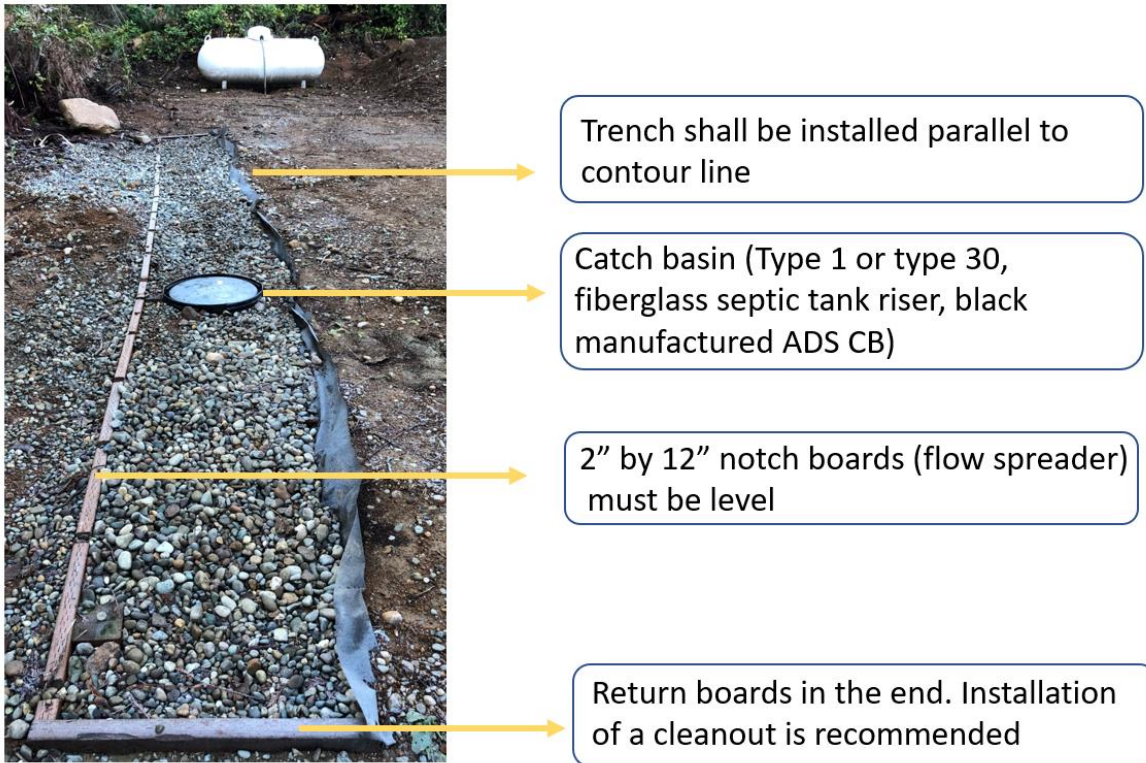
How deep in the rock must the drain lines be placed?

The perforated PVC pipe should be located a minimum of 6" above the bottom of the trench and a minimum of 12" below the top of the trench.

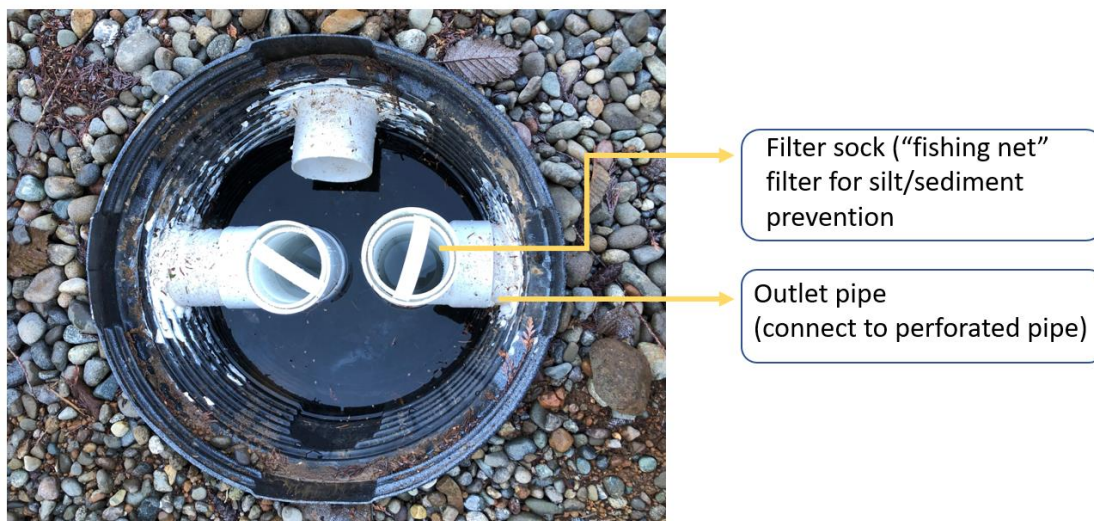
Is a weir board required?

Yes. The 2x12 V-notch weir board allows the dispersion trench to discharge in an even flow path preventing release at a concentrated discharge point.

What does a dispersion trench look like?

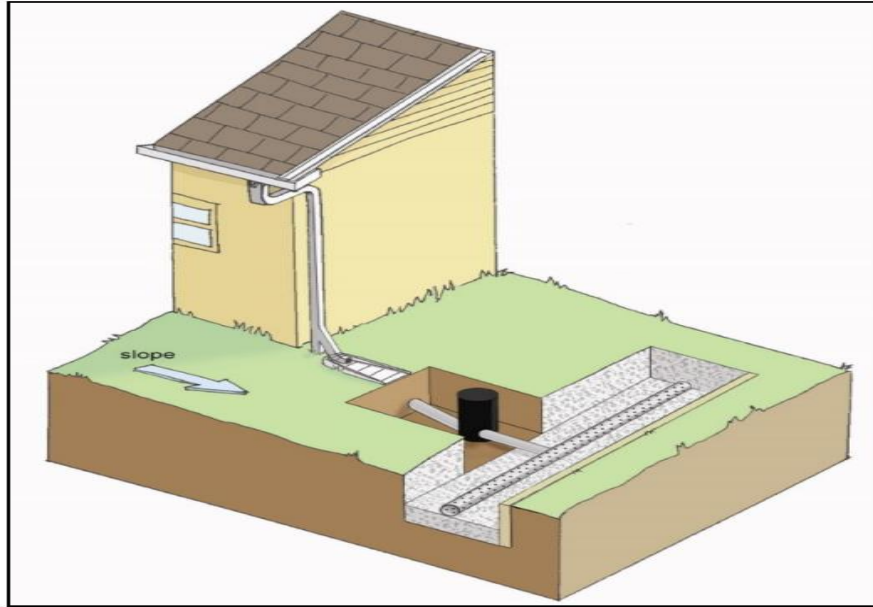


A typical dispersion trench

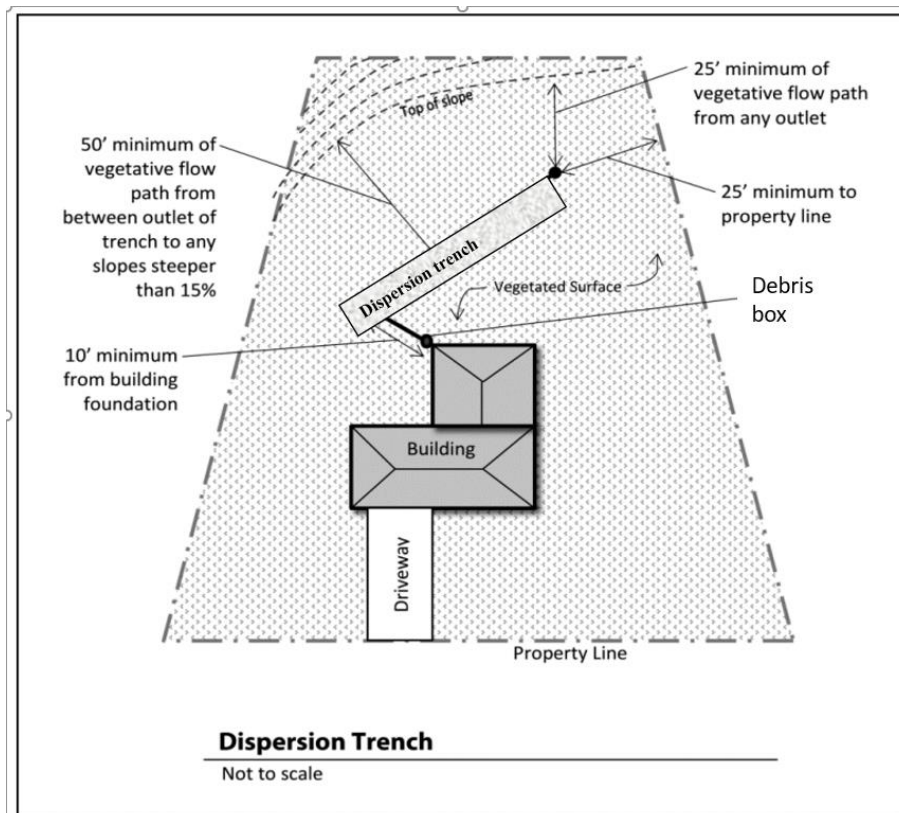


Closeup view of the catch basin

Where is a dispersion trench typically located?



Dispersion trench with length less than 10 feet



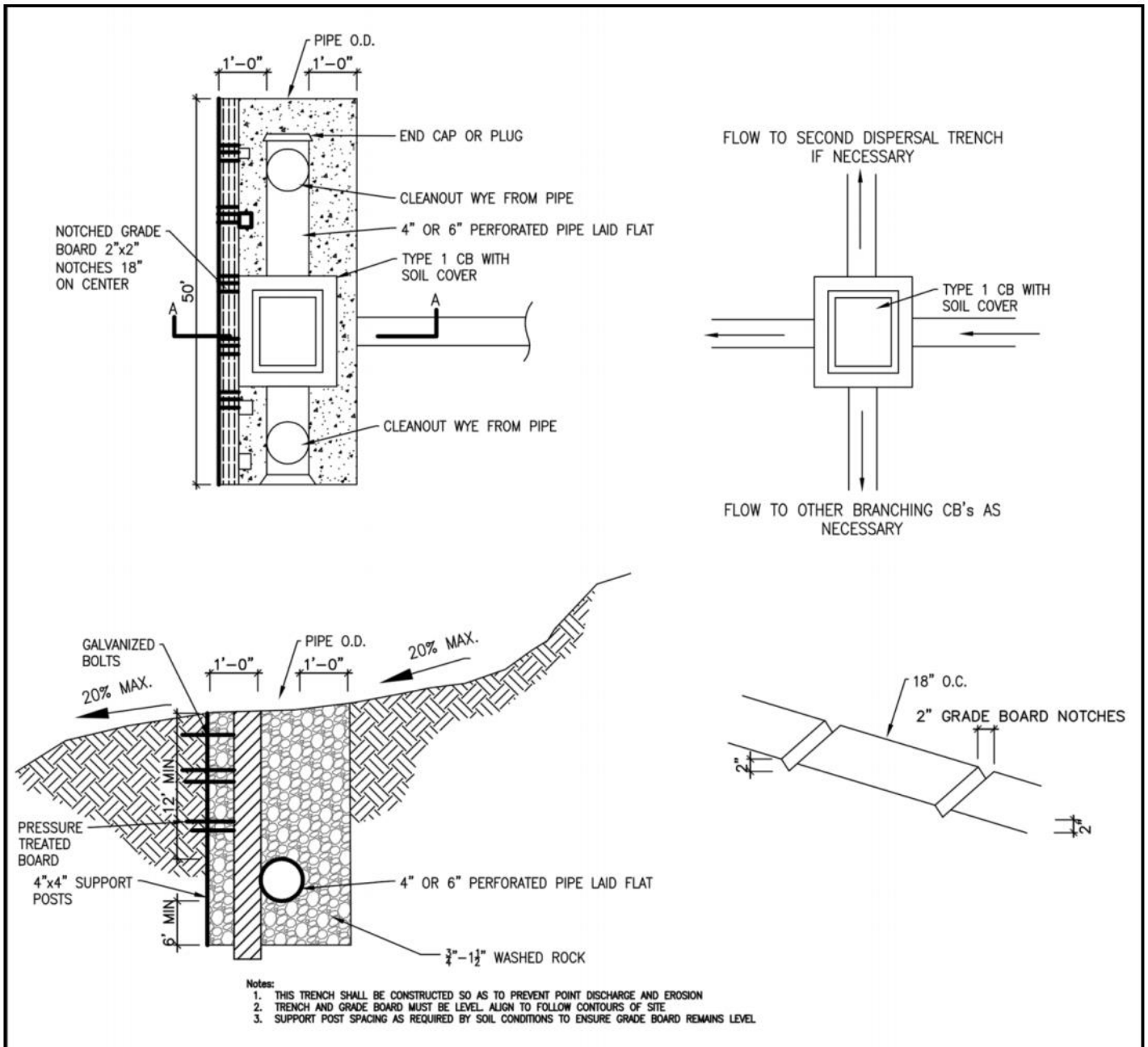
Source and credits: Clark County, Community Development, modified from Stormwater Manual from Department of Ecology (2014 SWMMWW)

More details and specifications

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