



Hydraway 2000 Installation Instructions for NATURAL TURF Fields

For a successful installation of the Hydraway Drainage System, please review the following:

Existing Natural Turf Fields

- ◆ Hydraway is typically installed vertically for existing fields or to correct poorly draining areas.
- ◆ To decide how deep to trench the lines the following items need to be considered:
 1. Does the field have an existing irrigation system? If so, how deep are the lines? Can Hydraway be installed above the existing lines?
 2. Does the field manager plan on deep tine aeration? If yes, then Hydraway needs to be installed deep enough to avoid being damaged. Typically, the invert needs to be 15 inches deep this will leave enough room to avoid being punctured.
- ◆ Slope of Field.
 1. What is the slope of the field?
 2. The greater the slope, the faster the field drains. If the existing field has little or no slope then you should consider trenching on a slope of approx 0.1% minimum.
 3. Existing fields are typically drained to an existing area inlet, storm drain, ditch or stream.
 4. A new collector line is typically installed near the edges of the field. The collector pipe is typically a perforated or solid HDPE pipe. The size of the pipe is determined by the designer to accommodate the drainage.
- ◆ Spacing
 1. What is the field used for?
 2. Spacing on the drainage lines depends on the following factors:
 - What is the desired field "down" time?
 - What are the rain events, how much and how often?
 - Hydraway engineers can assist in the design of the drainage pattern based on these factors. A drain spacing of 15 feet center to center is typically used. The drain spacing should not exceed 20 feet.
- ◆ Drainage patterns
 1. Typically, fields such as football and soccer are crowned in the center and slope towards the side lines at 0.5% to 1.0% slope. A herringbone pattern is preferred since it will allow water to intersect the drain lines several times improving water collection.
 2. Fields such as baseball and softball have different slopes designed on the fields and need to be addressed differently than football and soccer fields.



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For a Successful Installation of the Hydraway Drainage System, please review the following:

New Natural Turf Fields

- ◆ New fields can have Hydraway installed both horizontally and vertically.
 1. If the field is a “high performance” *sand based* field, then horizontal installation is recommended. Sand based fields are typically an 80/20 combination. You will typically find these fields at Universities or at the Professional level. 6 or 12 inch wide Hydraway may be used for these applications.
- ◆ Most of the time 6 inch Hydraway is installed vertically.
 - After the field has been stripped and graded to the appropriate slope, the trenches can be excavated to follow the contour of the field.
- ◆ The depth of the trench depends on several factors:
 - Will the field have irrigation? If so, how deep are the irrigation lines?
 - Most of the time Hydraway will be trenched in below the irrigation lines. However, there are times when the designer wants the drainage system above the irrigation.

Backfill Material:

- ◆ Care should be taken on the choice of the backfill. The best backfill is “coarse” sand. Coarse sand is defined as USDA grade 2 to 5 mm. However, this may be difficult to find in some areas. If this is the case, resort to small “angular” gravel.

Trench Width:

- ◆ The typical trench width is between 2½ and 4 inches. Some companies use trenching equipment that can excavate narrower trenches.
- ◆ Hydraway should be placed in the center of the trench with the backfill material placed on both sides of the drain lines. This is important to keep the fines from the surrounding soils contaminating the system.

Grass Types

- ◆ Choosing the type of grass is typically dictated by the part of the country where the field is being installed.
 1. “Cool” season grasses such as Blue Grass or Fescue are typically found on fields in the mid to northern states.
 2. “Warm” season grasses such as Bermuda are typically found in mid to southern states.
 - ◆ The top dressing for the new trench lines backfilled with sand will be necessary with “cool” season types of grass. The root zone for “cool” season grasses need a modification done to the top 2 inches (minimum) to encourage proper growth. Typically, this modification consists of 80% sand and 20% organics.
 - ◆ Typically “warm” season grass such as Bermuda do not require top dressing as the roots grow very well in coarse sand.