J-DRain® SWD
Site Water Drainage Composites

SYNTHETIC TURF

DESIGN GUIDELINE

PURPOSE: The purpose of this document is to provide all the necessary information and tools to lay out a drainage scheme for Synthetic Turf Fields.

COMPONENTS FOR PROPER FIELD DRAINAGE:

SIDELINE TRENCH: A trench that runs outside the perimeter of the field and collects excess field water collected by the lateral drains that are placed within the confines of the playing field. The side line trench moves the collected water to an adjacent storm sewer or to daylight.(See Fig. 1) A side line trench consists of a perforated pipe placed in a filter fabric lined trench and is filled with an open graded gravel. See Fig. 4 on next page to view the placement of the *Side Line Trench* on the playing field.

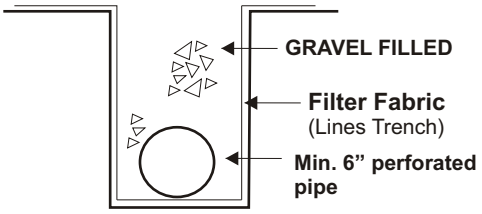

FIG. 1 Sideline Trench

LATERAL DRAINS: A Pre-fabricated Drainage Composite 1" in height and 12" in width that runs laterally across the field. *The Lateral Drains* collect rain water from the gravel fill and transfers it across the field to the Side Line Trench. The Drainage Composite rests on a filter fabric which has been placed over the compacted soil and slopes to the *Side Line Trench*. See Fig. 2.

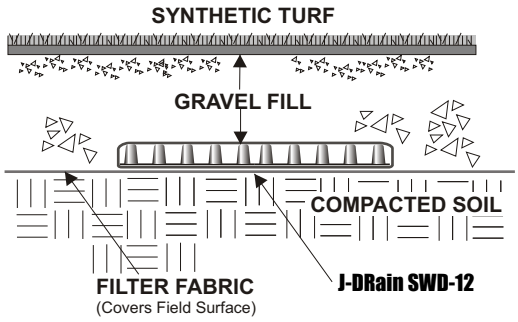

FIG. 2 Lateral Drain

TRANSITION: A *Lateral Drain* transitions to a *Sideline Trench* (See Fig 3) for the purpose of transferring collected water to the *Sideline Trench* for easy removal. A **J-DRain 12-4 End Out** is placed over the cut end of the **J-DRain SWD-12** Lateral Drain and is fitted to a 4" pipe to make connections to the *Side Line Trench* collection pipe as shown in Fig. 3.

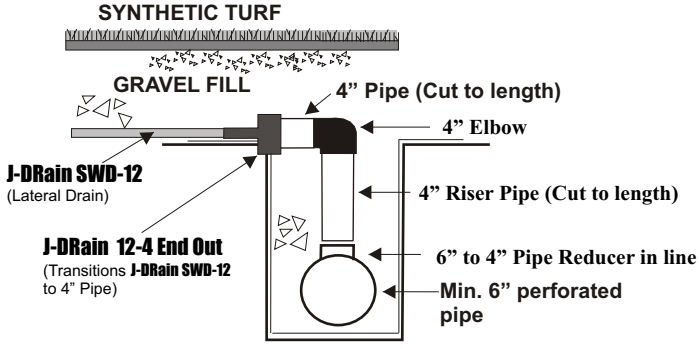

FIG. 3 Transition from Lateral Drain to Side Line Trench

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PH: (770) 442-1461 (800) 843-7951 FAX: (770)664-7951 E-MAIL: info@j-drain.com www.j-drain.com

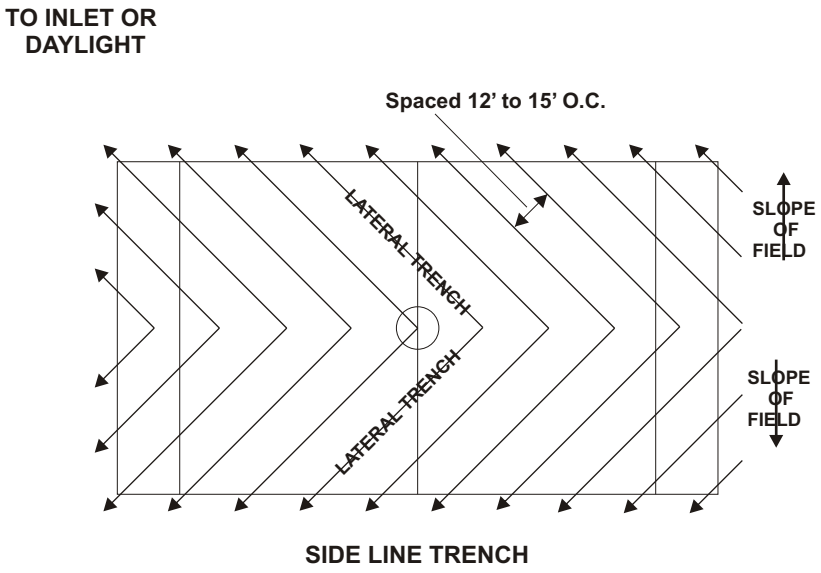

FIG. 4 Placing *Lateral Drains on field*

PROPER PLACEMENT OF SIDE LINE TRENCHES. *Side Line Trenches* connect all of the Lateral Drains on opposite sides of the field as seen in Fig. 6. *Lateral Drains* are connected to the Side Line Trenches as shown in Fig. 3. These trenches are sloped a min. .5% toward the corners. Collection Points occur in the field corners and the Side Line Drains. The Collection Points are then taken to daylight or a storm sewer as shown in Fig. 6.

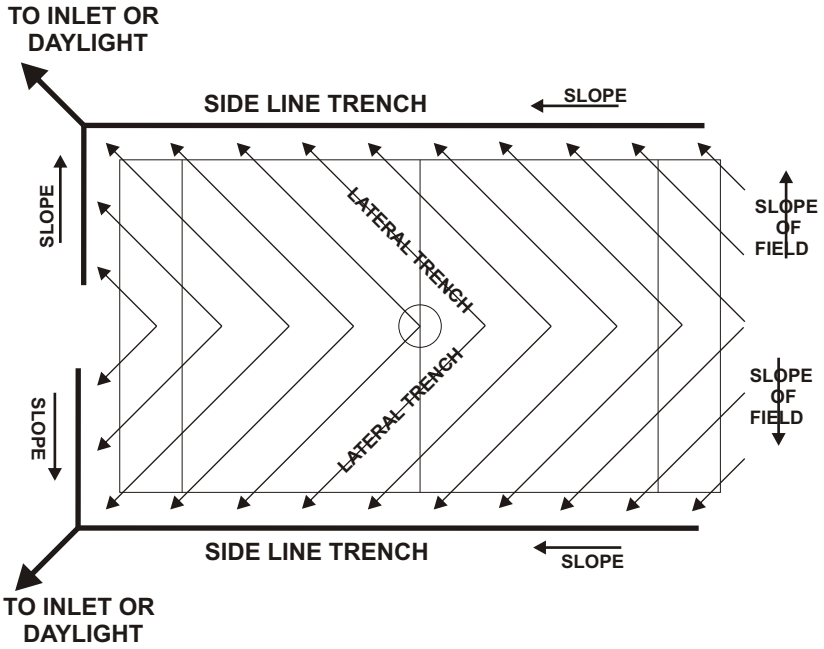

FIG. 6 Typical Field with *Side Line Trenches* and *Lateral Drains*

PROPER PLACEMENT OF LATERAL DRAINS. During the construction process, the field is generally sloped from the center of the field to the sidelines. After compaction, the field is covered with a filter fabric to maintain separation between the soil and the gravel fill. **J-DRain SWD-12** is then unrolled from the center of the field toward the sideline. (See Fig. 4) For optimum results the **J-DRain SWD-12** is placed at a 45 degree angel to the existing slope. (See Fig. 5) This is done so that the water flowing with the slope will intercept the *LateralDrain* and is then conveyed within the *Lateral Drain* toward the *Side Line Trench*.

NOTE:
Lateral Drains are spaced 12' to 15' O. C.

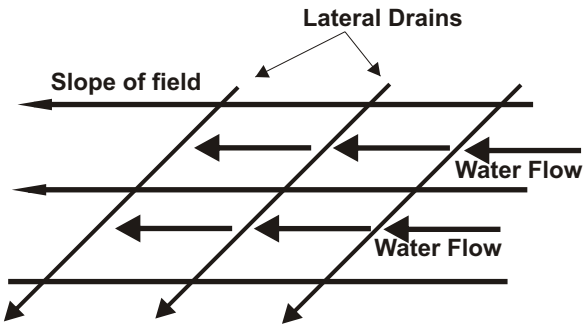

FIG. 5 Lateral Dains

Note: The drainage scheme can be mirrored if it is more convenient to have the collections points on opposite ends of the field. See Fig. 7

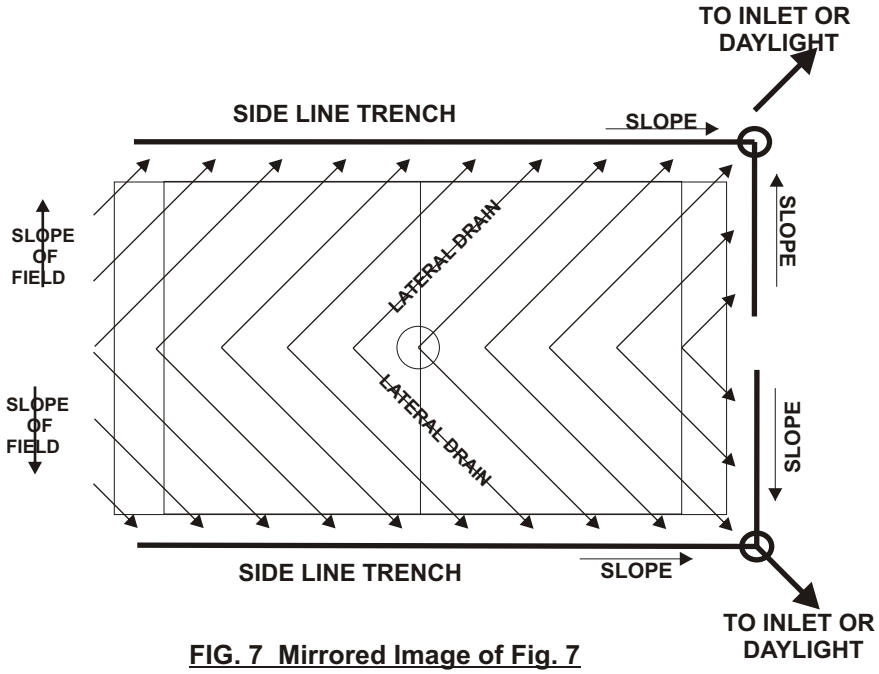

FIG. 7 Mirrored Image of Fig. 7

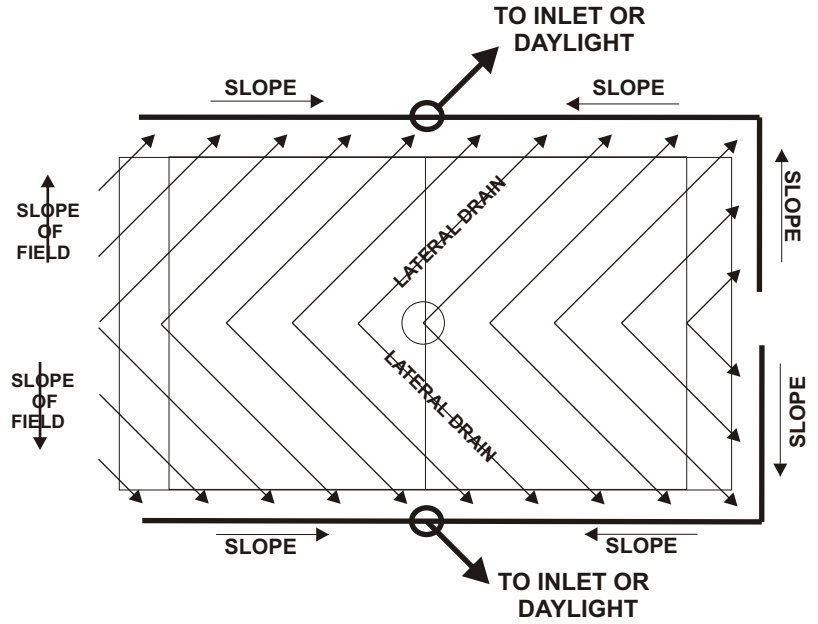

FIG. 8 MOVING COLLECTION TO CENTER OF SIDE LINE

J-DRain® SWD
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DESIGN ASSISTANCE

SYNTHETIC FIELDS

DESIGN ASSISTANCE: JDR Enterprises, Inc. will provide assistance free of charge for laying out your drainage scheme. Simply fill out the form below and mail, fax (770)664-7951 or e-mail (info@j-drain.com). Please furnish all of the following information:

1. Locate on plat below the slope of the field. Indicate if there is more than one slope as in a crowned field. Use arrows and list the amount of slope.
2. Locate the length and width of the playing area of the field. Draw on the plat below any additional areas along sideline that you wish to drain, i.e. player and coaching areas.
3. Locate all intended collection points along the side line.
4. Locate any underground obstructions.