HANCOR SOLUTIONS TO MEET YOUR ON-SITE NEEDS

Properly performing on-site septic systems provide a critical health and safety function in many American homes. Hancor provides a wide range of gravelless products to provide the right solution for your construction needs.

THE IMPORTANCE OF SEPTIC SYSTEMS

In the U.S. today, most people enjoy the comforts and peace of mind that come from living in a house served by a public sanitary sewer system. However, it is estimated that 25% of the U.S. population live without access to a public sanitary sewer system. They depend upon on-site septic systems for the treatment and disposal of household sewage. Many of these systems consist of a septic tank and a soil absorption area where the effluent is leached into the soil.

A common component of all soil absorption lines and/or fields is a type of conduit that distributes the effluent throughout the soil. The soil has the function of absorbing and treating effluent. If the soil absorption system is designed properly, i.e. there is adequate soil absorption area for the flow of effluent created by the household, then the leach field will function indefinitely with little maintenance.

COMMONLY REFERRED-TO SPECIFICATIONS IN DESIGNING SEPTIC LEACH FIELDS:

- ASTM D5925 - Standard Practice for Preliminary Sizing and Delineation of Soil Absorption Field Areas for On-Site Septic Systems.
- ASTM D5921 - Standard Practice for Subsurface Site Characterization of Test Pits for On-Site Septic Systems.
BASIC TYPES OF SOIL ABSORPTION SYSTEMS

CONVENTIONAL PIPE AND GRAVEL SYSTEM

In the conventional pipe and gravel system, gravel is used to create an area with voids, which provides storage for the effluent. The gravel also protects the interface contact area of the soil. The gravel does not digest or eliminate the effluent. In fact, gravel causes a dynamic known as “masking” which blocks some effluent from leaching directly into the soil.

GRAVELLESS SYSTEMS

An increasingly-common type of soil absorption system is the gravelless system. This system incorporates pipe or structures in the soil absorption system that are wrapped with a filter fabric or sock. These commonly used gravelless systems include both plastic leaching chambers and Hancor gravelless pipe.
HANCOR GRAVELLESS PIPE FOR ON-SITE WASTEWATER DISPOSAL

Independent research proves it—Hancor Gravelless Pipe backfilled with native soil provides safe and effective septic tank effluent treatment in sites determined to be suitable by your local health department. It’s an excellent low-cost alternative to gravel filled leach field trenches and exceeds ASTM F667 specifications for large diameter pipe.

The research, conducted by the University of Minnesota, evaluated the “long-term acceptance rate” of fabric-covered corrugated pipe for eight different soil types. The pipe performed well in those soil types tested, except for fine gravel. (Gravel filled trenches would likely perform in a similar manner.)

Hydrophilic Geotextile is a spun-bonded nylon wrap that is overlapped and sonically welded to the pipe. It provides an excellent soil interface for passage of effluent into the soil. The valleys of the corrugations function as additional storage capacity, since the fabric bridges the corrugations and allows for the free movement of the effluent out and around the pipe.

Locating holes 60° off bottom center line creates additional sludge storage space.

Recommended trench width for the gravelless drainfield is 18" - 24". Tight soils may require a 24" wide trench to ensure proper backfill around the bottom and sides of the gravelless.
GEO-FLOW® PIPE—MORE EFFICIENT THAN CONVENTIONAL ON-SITE TREATMENT SYSTEMS

The GEO-flow system is dramatically more efficient than a conventional on-site wastewater system because its unique patented* design promotes an oxygen-rich environment for increased biomat activity.

UNIQUE THREE-STAGE SYSTEM

1. Hancor Corrugated HDPE Pipe helps cool the effluent as it passes through, aiding in the separation of foods, oils and greases from wastewater. The pipe provides additional treatment of solids which may escape the septic tank.

2. Symmetrical polypropylene grid creates a substrate for bacterial activity and assists to distribute effluent around the circumference of the pipe.

3. The special geotextile wrapping creates an additional layer for biomat activity, while utilizing capillary action to wick effluent into the surrounding soil.

GEO-flow’s lightweight design, and the fact that it’s gravelless, allow it to be delivered to and installed in areas where conventional pipe-and-gravel systems would be difficult to use.

*Patent #4909665

MORE FLEXIBLE THAN TRADITIONAL SYSTEMS

SMALLER FOOTPRINT AND MORE FLEXIBILITY THAN TRADITIONAL PIPE-AND-GRAVEL SYSTEMS

Because of its unique design and efficiency, many local Health Departments allow a smaller system footprint for GEO-flow than for conventional systems.* That means lower costs for both the installer and the property owner.

And the flexibility of GEO-flow Pipe allows it to be used in sloping and/or undulating terrain where conventional systems are especially difficult to install.

*Check your local Health Department for requirements in your area.
ON-SITE PLASTIC LEACHING CHAMBERS

ARC™ STANDARD LEACHING CHAMBER

The ARC septic leaching chamber can help you save labor, time on the job, and materials without sacrificing performance. Its sturdy design and lightweight plastic construction combine maximized infiltrative surface area and storage capacity with an improved structural design to handle most any conventional leach field system challenge. This allows for increased effluent dispersal performance and improved structural integrity. The ARC design features:

- Convenient five-foot lengths are lightweight and easy to handle
- Integral 20-degree articulation joint for all applications
- True corrugated chamber design for increased load bearing
- "Lock and Drop" joint provides a more positive connection during installation and backfill
- Increased plumbing option with Side Port Coupler component which snaps in place to allow side entry at any joint throughout the trench line
- Diamond plate texture increases slip resistance and enhances ease of installation
# ARC SPECIFICATIONS

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<tr>
<th></th>
<th>ARC 18</th>
<th>ARC 24</th>
<th>ARC 36</th>
<th>ARC 36 HC</th>
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<td><strong>Length</strong></td>
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<td>67&quot;</td>
<td>63&quot;</td>
<td>63&quot;</td>
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<td>60&quot;</td>
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<td>7.5&quot;</td>
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<td><strong>Overall Height</strong></td>
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<td>12&quot;</td>
<td>13&quot;</td>
<td>16&quot;</td>
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<td><strong>Overall Width</strong></td>
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<td>34.5&quot;</td>
<td>34.5&quot;</td>
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<td><strong>Capacity, ft³</strong></td>
<td>3.42 (25.6)</td>
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<td>8.0 (60.14)</td>
<td>10.7 (80.04)</td>
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<tr>
<td><strong>Pallet Quantity</strong></td>
<td>180 chambers</td>
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<td><strong>Van (Box Trailer) Quantity</strong></td>
<td>18 pallets</td>
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<td><strong>Flatbed Quantity</strong></td>
<td>16 pallets</td>
<td>15 pallets</td>
<td>22 pallets</td>
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**BIODIFFUSER™ LEACHING CHAMBERS**

The BioDiffuser plastic leaching chamber is a gravelless alternative for on-site septic leach field systems. BioDiffuser chambers provide maximum infiltrative surface areas while allowing effluent to flow in all directions.

This is achieved by combining the traditional, open bottom with a series of louvers along the sides. The louvers are designed to allow effluent to pass into the backfill while preventing the backfill from migrating into the chamber. BioDiffuser chambers are constructed of high density polyethylene which is inert to sewage.

BioDiffuser chambers provide maximum benefits to your project:

- Installation requires no stone or gravel
- Easily transported to the job site
- Sturdy injection molded HDPE design
- 45° angle sections available

**BIODIFFUSER SPECIFICATIONS**

<table>
<thead>
<tr>
<th></th>
<th>11&quot; Standard</th>
<th>16&quot; High Capacity</th>
<th>15&quot; Narrow</th>
<th>22&quot; Narrow</th>
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<tr>
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<td><strong>Side Wall Height</strong></td>
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<td>11.17&quot;</td>
<td>9.03&quot;</td>
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<tr>
<td><strong>Overall Height</strong></td>
<td>11&quot;</td>
<td>16&quot;</td>
<td>12&quot;</td>
<td>12&quot;</td>
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<tr>
<td><strong>Overall Width</strong></td>
<td>34&quot;</td>
<td>34&quot;</td>
<td>15&quot;</td>
<td>22&quot;</td>
</tr>
<tr>
<td>**Capacity, ft³</td>
<td>(gal)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>9.21</td>
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<td></td>
<td>(68.4)</td>
<td>(101.0)</td>
<td>(37.1)</td>
<td>(62.8)</td>
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<td><strong>Units/Pallet</strong></td>
<td>27 chambers</td>
<td>45 chambers</td>
<td>90 chambers</td>
<td>70 chambers</td>
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<td><strong>Truck Load Quantity</strong></td>
<td>39 pallets</td>
<td>21 pallets</td>
<td>14 pallets</td>
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*End Caps may reduce flated pallet quantity.*
CHAMBER ACCESSORIES

UNIVERSAL END CAPS
• One style fits both ends
• Easy to assemble
• No screws required
• Easy knockout holes

OPTIONAL SPLASH PLATES
• 6" x 8"
• 150 mil plastic splash plates

BIODIFFUSER ANGLE SECTION
• Accommodates 0° to 22° angles
• Universal left or right turns
• One-foot standard chamber extension

ARC SIDE PORT COUPLER
• Available for 24, 36 and 36HC
• Allows for side entry at any joint throughout the trench line
Environmental Solutions Smoothwall Pipe and 3000 Triplewall Pipe is made with recycled HDPE from post-consumer and industrial sources. All materials used, recycled and virgin HDPE resins alike, are tested in accordance with ASTM D3350 and meet or exceed all requirements. Environmental Solutions Smoothwall Pipe is made with a white high-density polyethylene layer around a black polyethylene core. 3000 Triplewall is co-extruded with a corrugated structural core, which is then extrusion laminated with a smooth white outer wall. These lightweight pipes offer excellent beam stiffness and are unaffected by extended exposure to the sun’s heat and ultraviolet radiation and are immune to freeze/thaw conditions and continuous subzero temperatures. In addition are corrosion resistant to acids, alkalies, and salts, and will not rust.

**A VERSATILE, FUNCTIONAL AND ECONOMICAL PIPE FOR A VARIETY OF APPLICATIONS:**

- Waste management absorption fields
- Golf course drainage
- Downspouts
- Sidewalk “culverts”
- Irrigation Ditch Enclosures
- Basement and foundation drainage
- Temporary plumbing
- Terrace risers
- Waterway Terracing

**NOMINAL DIAMETER, IN. (MM)**

<table>
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<tr>
<th>Nominal Pipe I.D., in. (mm)</th>
<th>3  (75)</th>
<th>4  (100)</th>
<th>6* (150)</th>
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<td>Approx. Pipe O.D., in. (mm)</td>
<td>3.25 (83)</td>
<td>4.215 (107)</td>
<td>6.275 (159)</td>
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<tr>
<td>SDR Rating</td>
<td>38</td>
<td>38</td>
<td>43</td>
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<tr>
<td>Pipe Stiffness PII (kPa)</td>
<td>19 (0.52)</td>
<td>11 (0.82)</td>
<td>8 (1.74)</td>
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</table>
| Perforations               | All diameters available with or without perforations.

*6” diameter available in Smoothwall only*
ADVANCEDGE® CURTAIN DRAINS

High water tables can cause flooding of the soil absorption septic system. Perimeter drains, also called curtain drains, are installed to prevent water seepage into the leach field area.

AdvanEDGE® pipe is panel-shaped, offered in 12” and 18” heights, and in coils up to 400 ft. The primary benefit of its panel design is quick drainage response after introduction of water, making it ideal for time-critical applications as opposed to 4” and gravel trench drains.

**ADVANCEDGE PIPE PERIMETER DRAIN**

The AdvanEDGE pipe’s increased contact area allows faster drainage than conventional pipe.

**WATER TABLE DRAINAGE IN SEPTIC SYSTEMS**