

GeoVault®

Turnkey Vault and Manifold Solution

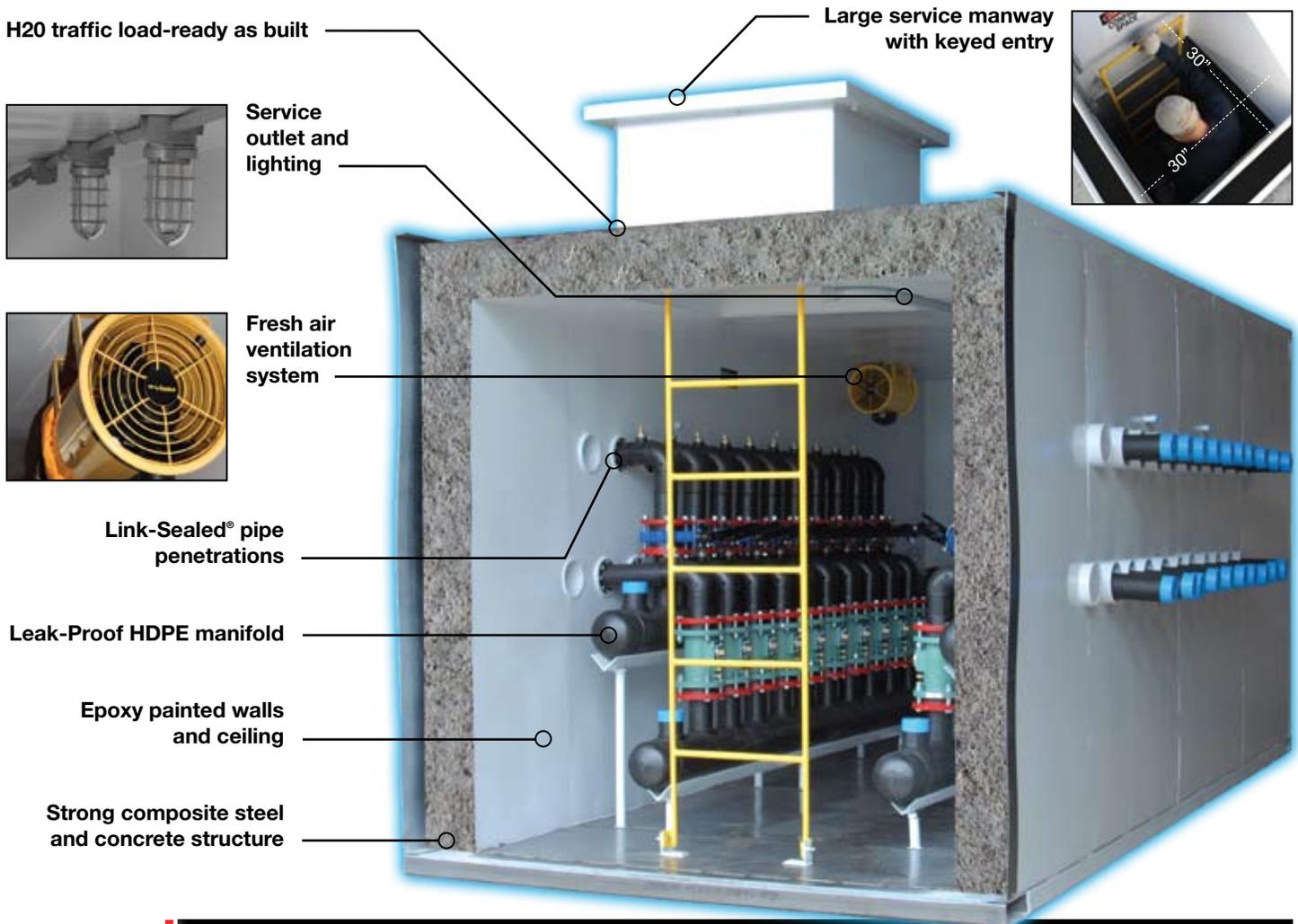
from GHP Systems, Inc.



The **GeoVault** is a complete turnkey vault and manifold solution, offered exclusively by GHP Systems, Inc., that utilizes the best in industry design, materials, workmanship and features. Engineered to be strong, leak-resistant, safe and economical, the **GeoVault** provides a lifetime of fail-safe service for your geothermal wellfield system.

GEOVAULT FEATURES

- Anti-Buoyant, leak-resistant design
- Quick, no-hassle installation
- Sump pump and pit
- Quality workmanship
- Many "Factory to Field" added features



1000 32nd Avenue
Brookings, SD 57006
888-447-7757

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Strong, Anti-Buoyant Structure and Leak-Resistant Design

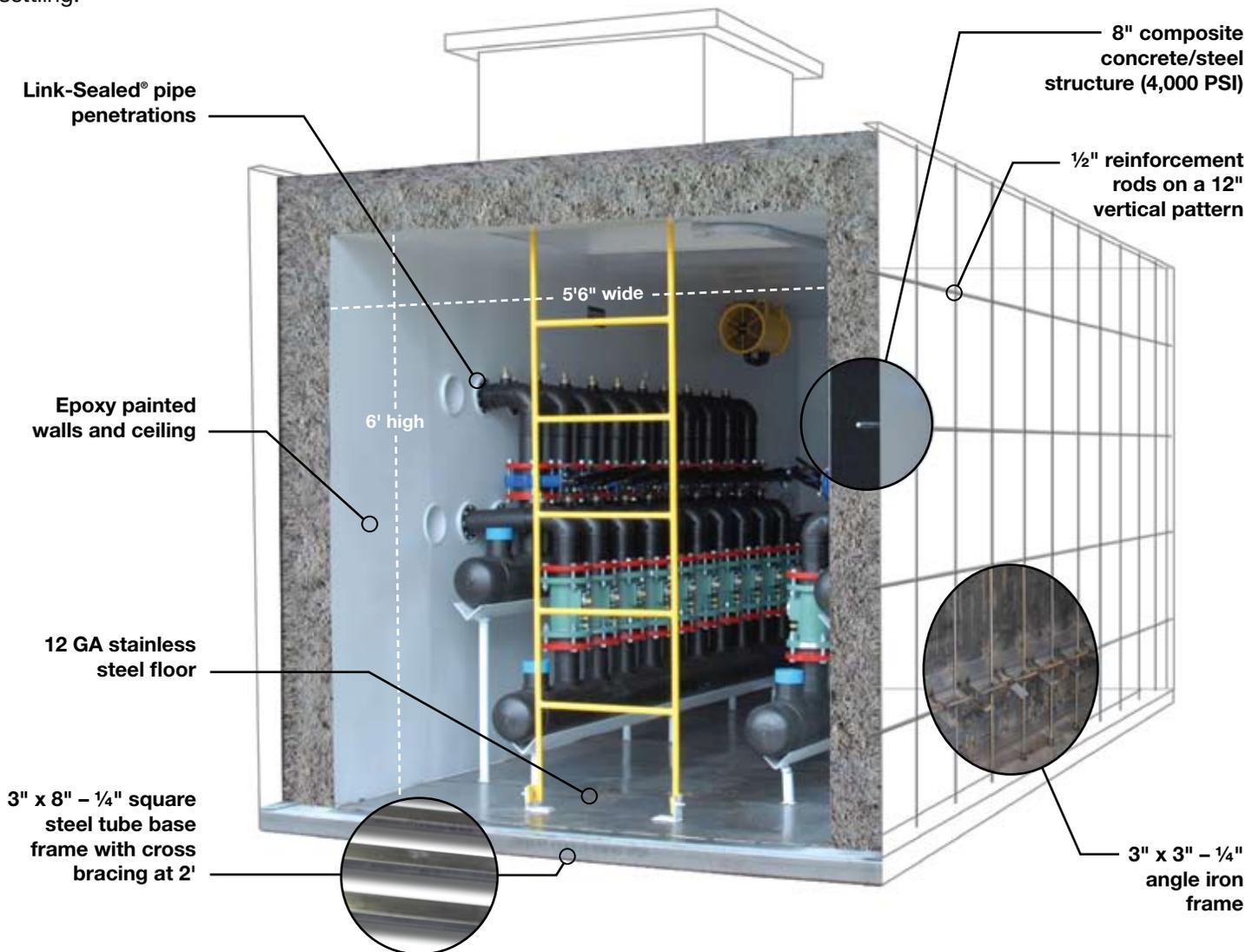
The **GeoVault**, built exclusively by GHP Systems, Inc., is an economical, tough and reliable vault designed exclusively for the commercial geothermal industry. It is a composite structure made of steel and concrete with an inner shell consisting of a heavy-duty steel frame and base.

The stainless steel floor of the **GeoVault** is constructed with a 12 GA sheet reinforced with a heavy-duty square steel tubing base which provides superior structural integrity. This large footprint inhibits any settling.

The walls and ceiling of the **GeoVault** are constructed for added strength beyond a standard concrete form: steel sheeting and reinforcement rods are placed in a crisscross pattern providing a form for the concrete, with angle iron throughout. This design minimizes the structure's weight for ease of transport and installation.

The entire interior of the **GeoVault** is continuously welded, so this completely enclosed steel tank is

highly leak-resistant to groundwater entry. This shell is then embedded in 8" of high-strength, reinforced concrete, which is poured on-site, making it extremely durable, anti-buoyant and leak-resistant in the field. Additionally, all HDPE pipe penetrations are Link-Sealed® and the sump pit insert and manhole are both securely bolted in place with gaskets.



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Large Manhole Meets H20 Traffic Load Rating as Built

The **GeoVault** meets H20 traffic load rating as built. No additional work is needed other than the concrete pour. It is often installed in parking lots, driveways or other areas that support traffic or service equipment activity.

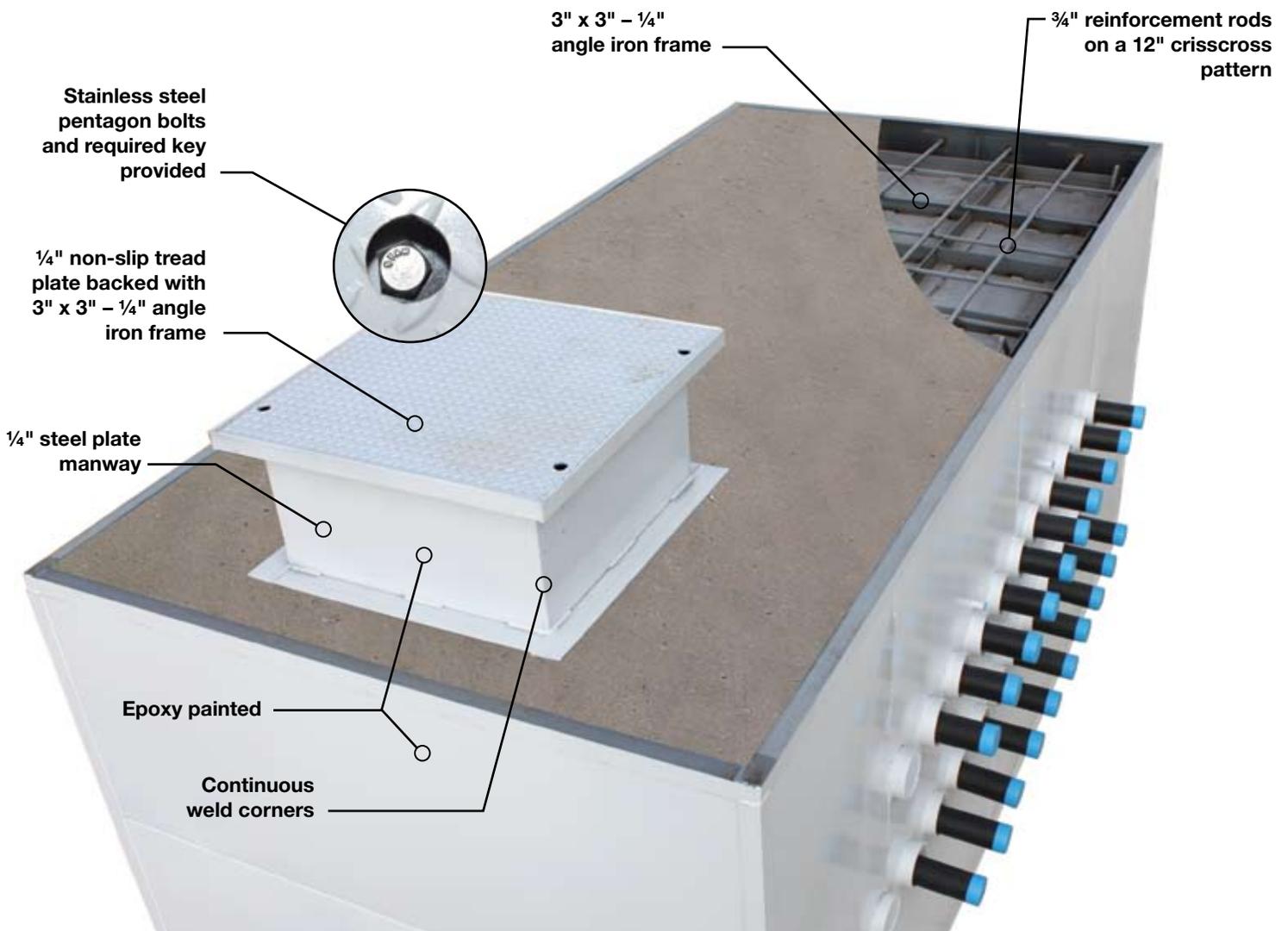
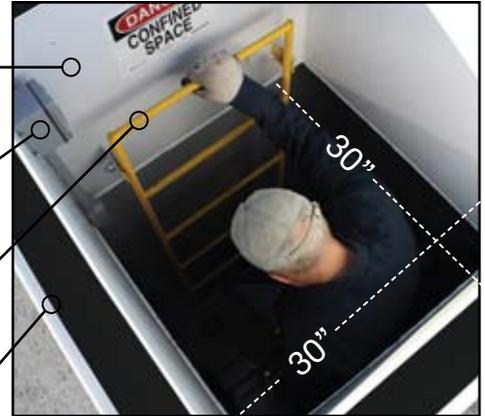
The manhole cover is gasketed and tamper-resistant keeping both moisture and intruders out. The sizeable manhole and unobstructed manway accommodate ease of entry and workspace. Additionally, a switch is mounted at the top of the manway to power lights and ventilation.

30" x 30" manhole

Convenient light/ventilation switch

OSHA-approved ladder

Waterproof gasket



Stainless steel pentagon bolts and required key provided

1/4" non-slip tread plate backed with 3" x 3" - 1/4" angle iron frame

1/4" steel plate manway

Epoxy painted

Continuous weld corners

3" x 3" - 1/4" angle iron frame

3/4" reinforcement rods on a 12" crisscross pattern



Leak-Proof HDPE Manifold with Heat-Fused, Pressure-Checked Connections

The **GeoVault** manifold is engineered and fabricated using the best in industry fabrication methods and components. High-density polyethylene (HDPE) pipe, joined together with heat fusion, is used for

all the circuit and main header piping. HDPE is tough, non-corrosive and produces an absolutely leak-proof (sealed) system.

All fabrication is performed and inspected by our experienced custom

fabrication personnel who are heat fusion certified. The manifold comes completely assembled, pressure-checked, mounted and stubbed out of the vault.

Manifold Features Allow for Ease of Installation and Servicing

The **GeoVault** manifold includes features and accurate built-in systems that allow you to carefully install, monitor and service your wellfield system. The circuit piping allows for optimum system control, balancing and pressure checking.



Main Temperature and Pressure Indicators

Temperature and pressure indicators are included on the mains, for a quick system check.

Fill Ports

Fill ports are provided for flushing/purging and filling the wellfield with its final solution.



Valved Mains

Valved mains provide complete system isolation from exterior main piping.



P/T Plugs

All circuits have P/T test plugs for pressure testing and measuring entering and exiting water temperatures.

Main Bypass

A valved bypass is provided between the manifold mains to accommodate flushing and purging.



Balancing/Isolation Valves

All combination balancing/isolation valves have a fixed port venture and tamper-resistant memory stops.



“Factory to Field” Standard Features

Our design and manufacturing approach goes beyond the factory and into the field. We develop innovative products and added features that make installation easier and faster, plus reduce costs.

We also understand how important safety is to the installation and maintenance of the geothermal system. Therefore, the **GeoVault** comes standard with an OSHA approved ladder, ventilation system, and service outlet and lighting.



Component Replacement

The GeoVault manifold design allows for all components to be replaced with minimal intrusion and no heat fusion repair.



Manifold Stand

A full-length manifold support channel provides stability and limits stress during transport.



Tracer Wire Conduit

A conduit is provided for tracer wire leads into the GeoVault.



Fresh Air Ventilation System

A ceiling-mounted ventilation blower and 8" ducting assist in ensuring fresh air is continuously available within the confined space.



Expansion Circuits and Sleeves

When possible, future expansion saddles with matching capped sleeves are provided.



Sump Pump and Pit

The GeoVault comes with a gasketed, bolt-in-place stainless steel sump pit and a Little Giant sump pump with mercury switch and a brass check valve.



Service Outlet and Lighting

The GeoVault includes a service outlet and interior lighting with a switch directly under the manhole for the safety and efficiency of maintenance personnel.

Quick, No-Hassle Installation

The **GeoVault** is shipped from the factory preformed for concrete pour with all reinforcement rods, manifolds and piping secured in place for easy installation.

Installation is a simple two-step process:

1. The **GeoVault** is set on an 18" level base of compacted pea gravel.
2. Concrete (supplied by the contractor) is then poured and vibrated into the vault form and screeded off the top.



Transport hooks are welded in for ease of loading and unloading.



A channel is provided to secure the shipping chains during transport.



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(605) 697-7869
(605) 697-9118 fax
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GHP Systems, Inc. is a leading manufacturer and supplier of commercial geothermal wellfield products and design services located in Brookings, SD. The company offers customers nationwide a comprehensive product line coupled with industry-leading design, materials and quality workmanship for a lifetime of fail-safe service for geothermal wellfield systems. **GHP Systems, Inc.** also manufactures proprietary, trademarked turnkey product solutions including **GeoVault**[®], **GeoHeader**[®] and **GeoManifold**[®].

