

Installation of the precast concrete SorbtiveFILTER should conform in general to state highway, regional, or local specifications for the installation of precast manholes and/or vaults. Applicable OSHA safety requirements should be followed during all related activities. Selected sections of a general specification that are applicable are summarized in the following sections.

See ASTM specification C-891 “Installation of Underground Precast Concrete Utility Structures” for additional details.

Excavation

- Excavation and general site preparation for the installation of the SorbtiveFILTER should conform to state highway, regional or local specifications.
- Topsoil removed during the excavation should be stockpiled in designated areas and should not be mixed with subsoil or other materials.
- Erosion and sediment control practices should be implemented to the fullest extent possible per the regional or local requirements.
- The SorbtiveFILTER should not be installed on frozen ground.
- Excavation should extend a minimum of 12 inches (300mm) from the precast concrete surfaces, plus an allowance for shoring and bracing where required.
- If the bottom of the excavation provides an unsuitable foundation additional excavation may be required. In areas with a high water table, continuous dewatering may be required to ensure that the excavation is stable and free of water.
- Review the soil conditions to select the most appropriate base material.
- Verify the soil bearing capacity is adequate for the required load.
- Cover the excavation floor with 4 to 12 inches (100mm to 300mm) of bedding material, level and compact as needed.
- Verify the elevation against the precast structure’s dimensions, the invert elevations, and the site plans. Adjust the base aggregate, if necessary.

Installation of precast SorbtiveFILTER structures

- Use only proper lifting gear to handle and place all precast concrete sections.
- Set the base precast section of the SorbtiveFILTER on solid sub-grade.
- Verify the level and elevation of the base section before adding any precast riser sections.
- Ensure the precast keyway is clean and free of dirt, rocks, and water.
- For a watertight seal place the gasket material at the outer edge of the keyway and use side by side joints for splicing (unless a tongue and groove joint is being used, where it is placed in the groove),. Avoid corner splicing. Gaskets should remain continuous around corners.
- Set the additional precast riser section(s) on the precast base section, and continue with additional risers and grading rings as required.
- Install the inlet and outlet pipes to the SorbtiveFILTER structure in the areas provided or indicated. Do not install Sorbtive cartridges until the site is stabilized.

Backfilling

- Backfilling the SorbtiveFILTER structure should conform to state highway, regional or local specifications.

- Acceptable backfill materials are sand, pre gravel, crushed rock, approved native soil, or select well-graded material that is free of large rocks and not saturated with water.
- Add backfilling material in minimum 1 foot to 2 foot (300mm to 600mm) lifts evenly all around the structure, or in smaller lifts as may be necessitated by site specific soil and fill conditions. Do not backfill one side at a time, as this may compromise the structural integrity of the structure.
- Frozen fill material shall not be used as backfill.
- Compact each lift to minimize air voids and consequent settling.

Installation of SorbtiveFILTER Cartridges & SorbtiveBRICKS

After the entire underground SorbtiveFILTER structure has been fully ventilated descend into structure in accordance to local, state, federal and OSHA guidelines, as outlined in 29 CFR 1910.146.

SorbtiveFILTER Cartridges and SorbtiveBRICKS should be installed ONLY after the site has been fully stabilized, or if the inlet and outlet remains plugged and the entire system remain off-line to prevent excessive sedimentation.

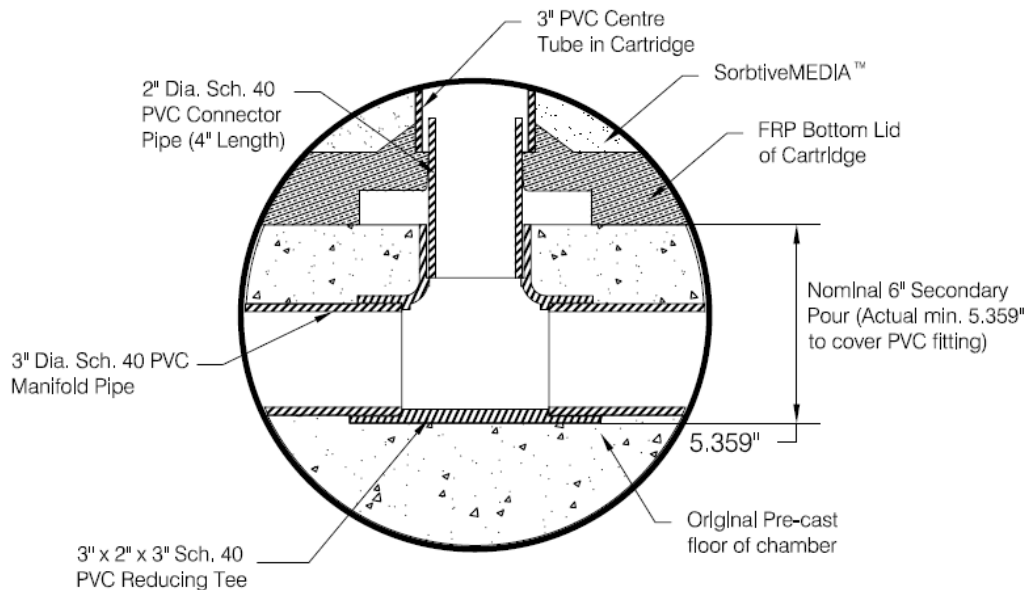
Prior to SorbtiveBRICK or SorbtiveFILTER cartridge installation, ensure all maintenance plugs located in each of the Under Drain Connection Ports have been removed and each SorbtiveBRICK drain port is free and clear of sediment and debris.

SorbtiveBRICK

- At grade, safely secure each SorbtiveBRICK using an appropriate sling and cable to a boom, crane, tripod or alternative device and lower it into the Cartridge Bay Chamber. Note: SorbtiveBRICKs can weigh approximately 50-pounds (23 kg) dry, requiring considerable attention to safe handling and attachment.
- Confirm each SorbtiveBRICK draindown port is clean and free of debris.
- Install each SorbtiveBRICK by seating it on the gasket in place on the wall and floor. Replace gasket if obvious signs of wear are apparent.
- Secure each SorbtiveBRICK in place using plastic tie-downs.

SorbtiveFILTER Cartridges

- SorbtiveFILTER Cartridges should generally be placed in a logical fashion, furthest away from the maintenance access first and working towards the maintenance access point last.
- At grade, attach an appropriate sling and cable to a boom, crane, tripod or alternative device to safely secure the pre-filled SorbtiveFILTER cartridges. SorbtiveFILTER cartridges are pre-filled with SorbtiveMEDIA. Note: cartridges can weigh approximately 150-pounds (70 kg) dry, requiring considerable attention to safe handling and attachment.
- Lower each SorbtiveMEDIA filled cartridge down into the Cartridge Bay through the manhole access or doors.
- Maneuver each cartridge into its place using a compact portable dolly or tripod to lift the cartridge above its Connector Pipe.
- Ensure each Underdrain Manifold Connection Port has a 2-inch diameter Sch. 40 PVC Connector Pipe inserted and sticking up, and is ready to accept the bottom of each cartridge via a slip fit. The bottom of each cartridge is designed to slip onto the connector with ease. Take care not to damage connections, and replace PVC connectors if required.
- Once a cartridge is suitably placed over its PVC Connector Pipe, slip the bottom of the cartridge onto the PVC Connector. If needed to facilitate an easier slip connection, apply a light coating of FDA approved silicone grease to the PVC Connector Pipe.



CARTRIDGE
CONNECTION DETAIL
(NOT TO SCALE)

- Once all SorbtiveBRICKs and SorbtiveFILTER cartridges are in place, inspect to ensure all tools have been removed, then exit the structure.
- Fully close all access covers or doors, and clean the job site if needed.