

The Terre Arch™ subsurface storage facility manages the storage of stormwater for:

1. Detention for controlled discharge through an outlet control structure
2. Infiltration to recharge the ground water.
3. Allows maximum use of land; HS-25 load rating allows any surface use with only minimum cover to bring to finished grade
4. Terre Arch™ maintains functionality when it contains “clean water”. Therefore, we urge the designer to place a Terre Kleen™ hydrodynamic device or Water-Quality-Treatment device in front of the Terre Arch™. Then sediment, oil sheen, litter, and debris can be removed to the maximum extent practicable.

Terre Arch™ is a precast concrete structure consisting of four connected parallel vaults that feature:

1. Modular roman arch design for maximum strength and durability; 5,000 psi and 100 year useful life.
2. 152 Ft² (8 feet by 19 feet) of useful arch and infiltration surface per lift.
3. 308 Ft³ of storage in customary installation (i.e. 6” stone bed and valleys between arches filled with stone to the top of the buttresses).
4. Maximum storage volume gravitated near the infiltration surface.
5. HS25 loading on the crown of the arch; without need for cover; direct access for heavy installation equipment, including stone filled dump truck. (Perimeter stone fill is required prior to access)
6. Less than 13,500 lbs. allowing shipment of 3 structures at a time.
7. Staged installation permits “just in time” placement from our trucks into the prepared pit by light crane or loader. (No on site storage)
8. Flat ends facilitate stability during installation; plastic structures require manual coupling and anchor to ground due to instability of structures during installation.
9. Ventilation and draining orifices to avoid air pockets and ponding of water.
10. Distribution openings in the legs of the arches to allow flow between all sections.
11. Minimal top-fill requirements allow for shallow detention structures; bed depths of 44 inches are common.
12. No concerns about misalignment due to excessive expansion and contraction due to temperature change.
13. Proven stability of structural shape due to concrete’s low creep and relaxation characteristics. (Typically not a concern for conventional concrete design, but a serious concern for plastic structures.) Grade subsidence is linked to Creep and Relaxation of plastics. The effect on shape change and stress reduction must be integral with the proper design of structural plastic structures.
14. No requirement for spacing between each structure as plastic structures require.
15. No requirement for load bearing stone between or above structure, as plastic structures require.
16. No requirement for geotextile separation layer below, around or on top of the structure as plastic structures require; no additional installation requirements or materials; and no possibility of blinding of geotextile which interferes with infiltration.
17. No minimum cover or fill requirements as plastic structures require, which minimum cover or fill requirements are 18”, 6” of which must be stone; in some instances plastic structures require 24” to 36” of cover for acceptable load rating