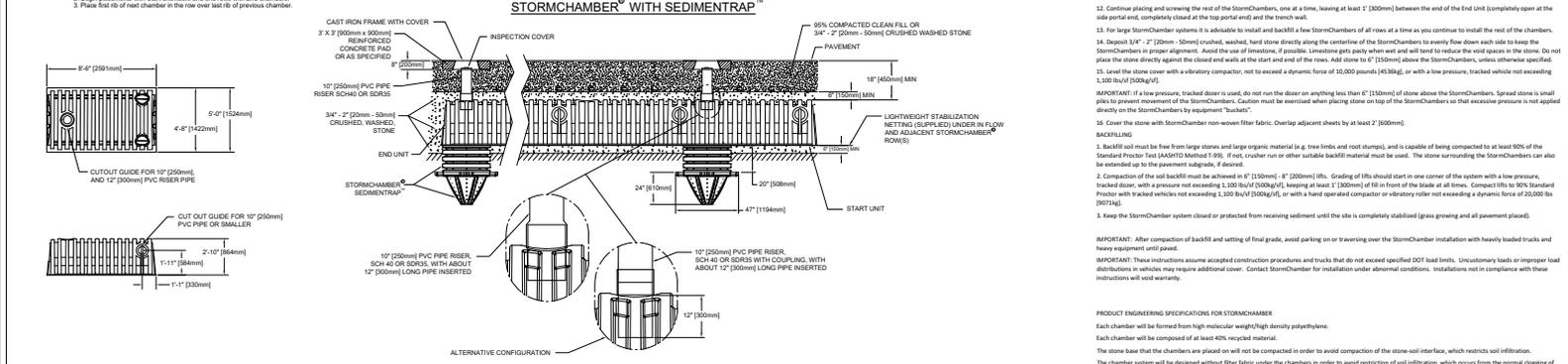
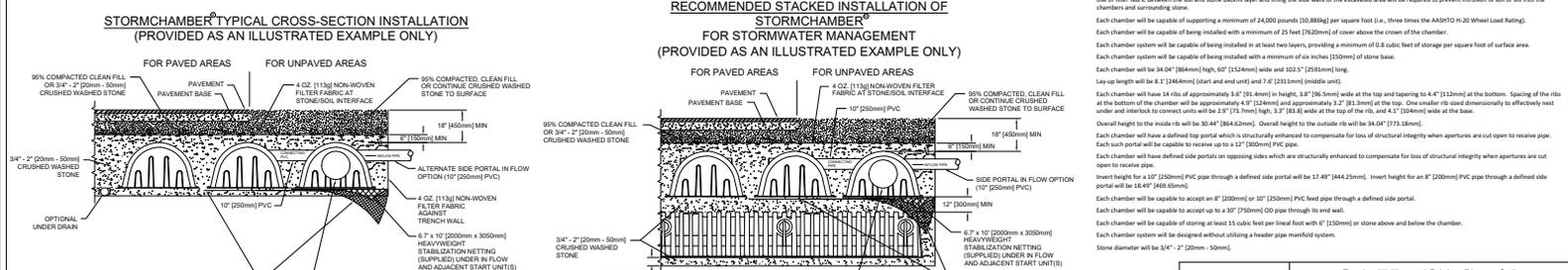


- INSTALLATION OF STORMCHAMBER SYSTEMS (as downloaded and printed from [www.stormchamber.com](http://www.stormchamber.com))
- #### TRENCH PREPARATION
- Do not excavate trench until dry weather is forecast long enough to allow at least coverage of the StormChamber system with filter fabric prior to raming.
  - Excavate to width and length sufficient to accommodate the number of StormChamber plus a minimum one foot border around the entire bed. The bottom of the bed must be level, unless otherwise specified.
  - Do not use heavy equipment on the excavated trench bed in order to avoid soil compaction.
  - Use of heavy equipment on the excavated trench bed can not be avoided, scarify the trench bottom and break up soil clumps and fill smooth before adding the stone base.
  - Line trench walls with a 4 ounce (113g) non-woven filter fabric such as M661 1420 or 1420E, Synthetic Industries 401, or AMCCO 4545 or 4515. Covering adjacent filter fabric by at least 2' (500mm). Do not place filter fabric under the StormChambers.
  - Unless otherwise specified, place 9" (230mm) of crushed, washed, 3/4" - 2" (20mm - 50mm) hard, non-calicheous stone on the bottom of the trench. The base must be level and at a 2% grade.
  - If it becomes impractical to level the stone base by hand, use a low pressure, tracked dozer, not exceeding 1,500 lbs/ft<sup>2</sup> (50kg/m<sup>2</sup>), maintaining at least 9" (230mm) of stone under the StormChamber.
- #### STORMCHAMBER INSTALLATION
- Verify quantities of StormChamber units and other materials that have arrived. If anything is damaged or missing please contact StormChamber immediately.
  - Start building the StormChamber system with the first Unit StormChamber at the inflow end of the StormChamber system. The Start Units are completely closed at the end with the two side portals.
  - Roll out rows of StormChamber light weight stabilization netting (provided with the StormChambers) parallel with the inflow and adjacent to the rows by approximately 1' (300mm). Keep the netting flat, if needed, straighten and fabric out.
  - Place one piece of the StormChamber heavy weight stabilization netting (provided with the StormChamber) under each StormChamber by overlapping inlet stone drain pipes. Cut a hole in the netting to fit snugly around the exposed top of the SedimentTrap. Place on top of the light weight netting and extend beyond all edges of the StormChamber. The purpose of heavy weight stabilization netting is to function as a "wash mat", preventing excavation of the underlying stone and soil, while allowing infiltration to occur.
  - Place the first Start StormChamber (completely closed at the end with the two side portals), spaced a minimum of 7' 3" (225mm) apart at the center line of the chamber row. Position the closed ends at least 1' (300mm) from the trench wall.
  - Cut open the side portal for the inflow stone drain pipes (size and location specified on the plan) and lateral connecting pipes between StormChamber Start Units (9" (230mm) or 12" (300mm) Schedule 40 SCH 40 SDR15 PVC (200mm) or 12" (300mm) HDPE with rib) and the stone base. Use a 4" or 6" or layflat size along the defined inlet/outlet circle. 12" (300mm) PVC pipe is the largest diameter pipe that can fit into the side portal. If the inflow stone drain pipe is specified to enter the closed end wall, place a piece of pipe against the end wall. Trace the diameter of the pipe on the end wall and cut the circle. The maximum pipe size that can be inserted into the opening, and insert the pipe.
  - If a cut extends more than 0.5' (13mm) beyond the intended diameter, place a piece of the StormChamber non-woven filter fabric over the hole, cut an "X" just short of the width of the opening, and insert the pipe.
  - Mark the midpoint of 9" (230mm) or 12" (300mm) PVC pipe and insert into the adjacent StormChamber Start Units where specified so that the marked midpoint is centered between the two adjacent StormChambers. Pipe length should be sufficient to extend 8" (200mm), 12" (300mm) into both adjacent StormChambers (about 4" (100mm)) in order to facilitate placement, install the lateral connecting pipes in the specified StormChambers before attaching the next StormChamber in the row.
  - If the location of row-connecting PVC pipes are not specified, add 8" (200mm) of PVC pipe to connect the inflow chamber and adjacent chamber(s) of the inflow row.
  - Place the first of a Middle Unit (completely open at side portal and partially open at top portal end) over the last rib of each of the Start Unit StormChambers.
  - Screw the StormChambers together at their base on both sides with regular 3" (75mm) dry wall screws. One screw on each side is sufficient to temporarily hold the StormChambers together until the stone is in place. The gap between the two StormChambers near their base must be closed enough to prevent stone from migrating into them to prevent potential surface subsidence.
  - Continue placing and securing the rest of the StormChambers, one at a time, leaving at least 1' (300mm) between the end of the End Unit (completely open) at the side portal end, and completely closed at the top portal end and the trench wall.
  - For large StormChamber systems it is advisable to install and backfill a few StormChambers of all rows at a time as you continue to install the side to the chambers.
  - Deposit 3/4" - 2" (20mm - 50mm) crushed, washed, hard stone directly along the centerline of the StormChambers to evenly flow down each side to keep the StormChambers in proper alignment. Avoid the use of limestone, if possible. Limestone gets puffy when wet and will tend to reduce the void spaces in the stone. Do not place the stone directly against the closed end wall at the start and end of the rows. Add stone to 1' (300mm) above the StormChambers, unless otherwise specified.
  - Level the stone cover with a vibratory compactor, not to exceed a dynamic force of 15,000 pounds (6,800kg), with a low pressure, tracked vehicle not exceeding 1,500 lbs/ft<sup>2</sup> (50kg/m<sup>2</sup>).
  - Asphalt or a top pressure, tracked dozer is used, do not run the dozer on anything less than 6" (150mm) of stone above the StormChambers. Spread stone not exceeding 300 lbs to prevent movement of the StormChambers. Caution must be exercised when placing stone on top of the StormChambers that excessive pressure is not applied directly to the StormChamber by equipment "bumping".
  - Cover the stone with StormChamber non-woven filter fabric. Overlap adjacent sheets by at least 2' (500mm).
- #### BACKFILL
- Backfill soil must be free from large stones and large organic material (e.g. tree limbs and root stumps), and is capable of being compacted to at least 90% of the Standard Proctor Test (ASTM D 1557). Backfill cruder run or other suitable backfill material must be used. The stone surrounding the StormChambers can also be extended up to the pavement subgrade, if desired.
  - Compaction of the soil backfill must be achieved in 8" (200mm), 8" (200mm) lifts. Grading of lifts should start in one corner of the system with a low pressure, tracked dozer, with a pressure not exceeding 1,500 lbs/ft<sup>2</sup> (50kg/m<sup>2</sup>), leaving a lift 1' (300mm) of fill or more at the inside of all lifts. Compact lifts to 90% Standard Proctor with a tracked vehicle not exceeding 1,500 lbs/ft<sup>2</sup> (50kg/m<sup>2</sup>), or with a hand operated compactor or vibratory roller not exceeding a dynamic force of 20,000 lbs (9,070kg).
  - Keep the StormChamber system closed or protected from receiving sediment until the site is completely stabilized (grass growing and all pavement placed).



- #### IMPORTANT:
- After completion of backfill and setting of final grade, avoid parking on or raving over the StormChamber installation with heavily loaded trucks and heavy equipment until paved.
- #### DISBURTS:
- These instructions assume accepted construction procedures and trucks that do not exceed specified DOT load limits. Unconventional loads or improper load distributions in vehicles may require additional cover. Contact StormChamber for installation under abnormal conditions. Installations not in compliance with these instructions will void warranty.
- #### PRODUCT ENGINEERING SPECIFICATIONS FOR STORMCHAMBER
- Each chamber will be composed of high molecular weight/high density polyethylene.
- Each chamber will be formed of at least 40% recycled material.
- The stone base that the chambers are placed on will not be compacted in order to avoid compaction of the stone-soil interface, which restricts soil infiltration. The chamber system will be designed without filter fabric under the chambers in order to avoid restriction of soil infiltration, which occurs from the normal clogging of the filter fabric from sediment and debris deposition.
- Use of filter fabric between the soil and stone base/5th layer and lining the side walls of the excavated area will be required to prevent intrusion of soil or silt into the chambers and surrounding stone.
- Each chamber will be capable of supporting a minimum of 24,000 pounds (10,886kg) per square foot (i.e., three times the AASHTO H-20 Wheel Load Rating).
- Each chamber will be capable of being installed with a minimum of 25 feet (7,620mm) of cover above the crown of the chamber.
- Each chamber system will be capable of being installed in at least two layers, providing a minimum of 0.8 cubic feet of storage per square foot of surface area.
- Each chamber system will be capable of being installed with a minimum of six inches (150mm) of stone base.
- Each chamber will be 38.04" (966mm) High, 60" (1524mm) wide and 102.5" (2603mm) long.
- Lay-up length will be 8' 2" (246mm) (Start and end units) and 7' 6" (231mm) (middle units).
- Each chamber will have 24 ribs of approximately 1.6" (41.27mm) in height, 3.8" (96.52mm) wide at the top and spacing to 4.4" (111.8mm) at the bottom. Spacing of the ribs at the bottom of the chamber will be approximately 4.7" (119.3mm) and approximately 3.2" (81.28mm) at the top. One smaller rib sized dimensionally to effectively meet under and interlock to connect units will be 2.9" (73.7mm) high, 3.3" (83.82mm) wide at the top of the rib, and 4.1" (104.14mm) wide at the base.
- Each chamber will have defined side portals on opposite sides which are structurally enhanced to compensate for loss of structural integrity when apertures are cut open to receive pipes.
- Each chamber will have a defined top portal which is structurally enhanced to compensate for loss of structural integrity when apertures are cut open to receive pipes.
- Each chamber will be capable to receive up to a 12" (300mm) PVC pipe.
- Insert height for a 12" (300mm) PVC pipe through a defined side portal will be 17.44" (442.25mm). Insert height for an 8" (200mm) PVC pipe through a defined side portal will be 18.49" (468.56mm).
- Each chamber will be capable to accept an 8" (200mm) or 10" (250mm) PVC bed pipe through a defined side portal.
- Each chamber will be capable to accept up to a 30" (762mm) OD pipe through its end wall.
- Each chamber will be capable of storing at least 15 cubic feet per linear foot of 6" (150mm) or stone above and below the chamber.
- Each chamber system will be designed without utilizing a header pipe manifold system.
- Stone diameter will be 3/4" - 2" (20mm - 50mm).



**STORMCHAMBER®**  
34" DESIGN DETAILS

For Availability and Pricing Please Call:  
**StormChamber**  
TOLL FREE: 1-877-426-9128  
email: info@stormchamber.com

DRAWING REVISION 11-02-10-14      NOT TO SCALE DRAWINGS