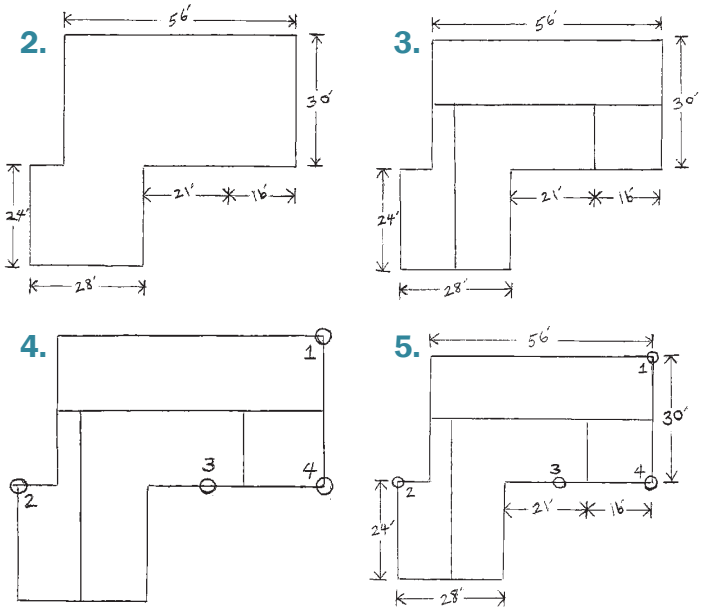
Stormwater & Rain Gardens

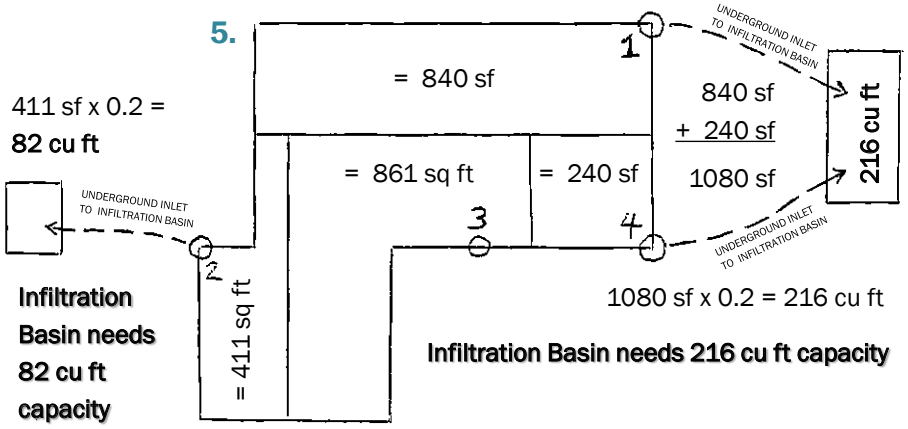
Becker Soil & Water Conservation District

Blue Thumb — Planting for Clean Water

Assess Your Site:

1. Map the Site Watershed using a Base Map or Site Plan
   - Draw Direction Arrows of Water Flow
   - Draw All Structures
   - Document Depressions or Vegetated Areas Where Water Naturally Collects
2. Draw All Footprints of Structures with Dimensions (include roof overhangs)
3. Draw in Rooflines Peaks (not valleys)
4. Draw in and Number Roof Gutter Downspout Locations
5. Calculate the Square Footage within Footprint that Flows to Each Downspout (Drainage Area)
6. Determine the Size & Depth of Rain Garden (Infiltration Basin) using the *Stormwater & Rain Garden Calculation Worksheet*
   - Sandy Loam: 6 to 12 inches
   - Silty Loam: 12 to 18 inches
   - Clayey Loam: 18 to 24 inches
   - Determine the Shape - Classic Rain Gardens are Round with Amoeba-like Extensions
   - Complex Shapes Create more Microhabitats for Plants and Wildlife





Important Measurements:

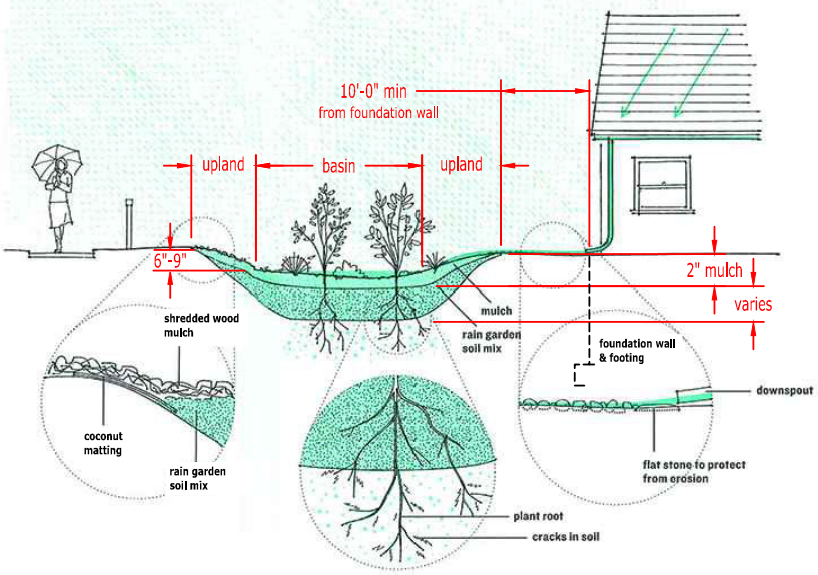
1. Allow for a Buffer Zone around Building Foundations and Septic Drainfields
   - Minimum of 10 FEET AWAY
   - 20 FEET is recommended on sites that have a basement or are prone to flooding
   - Infiltration of Water can cause Liquid Waste or Sewage to Rise to the Surface near Drainfields
2. Leave a 6-9 inch Depression from the Basin to Existing Ground
3. 2 inches Shredded Wood Mulch (not required, but recommened)

DOWNSPOUT BREAK DOWN

1.	15' x 56'	**= 840sf**	3.	39' x 14'	= 546 sf
				15' x 21'	= 315 sf
2.	24' x 14'	= 336sf			**= 861 sf**
	15' x 5'	= 75sf			
		= 411sf	4.	15' x 16'	**= 240 sf**

When Choosing Potential Sites for a Rain Garden AVOID Sites That Are:

1. Less than 10 FEET from a Building Foundation and Septic Drainfield
2. Shallow Water Table that is Less than 1 FOOT from the Bottom of the Rain Garden
3. In Poorly Draining Depressions
4. Over Utility Lines
5. On a Slope GREATER THAN 15%
6. Locations that are Higher than the Bottom of the Downspout
7. Under Trees that Don't Tolerate Flooding
8. Under Mature Trees Where Roots will Limit Rain Garden Size and Make Digging Difficult



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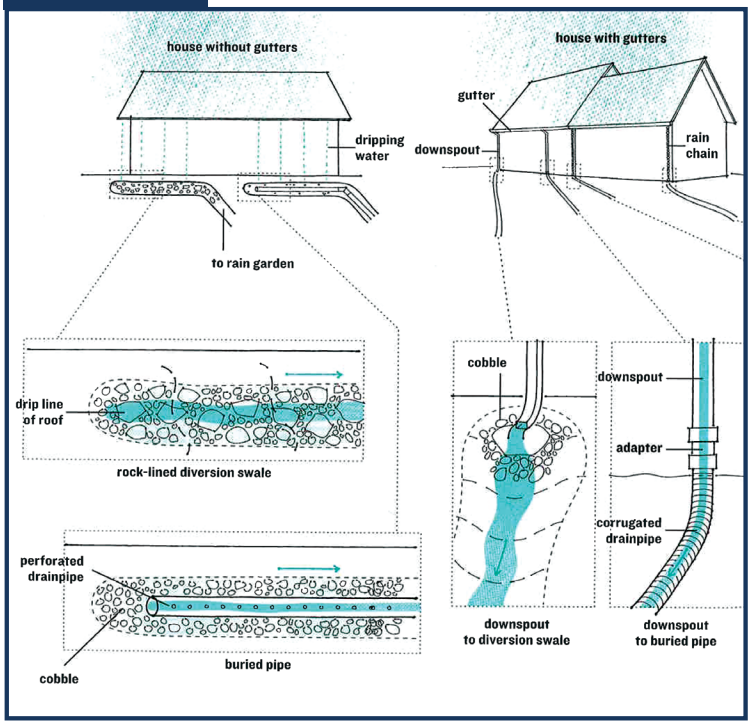
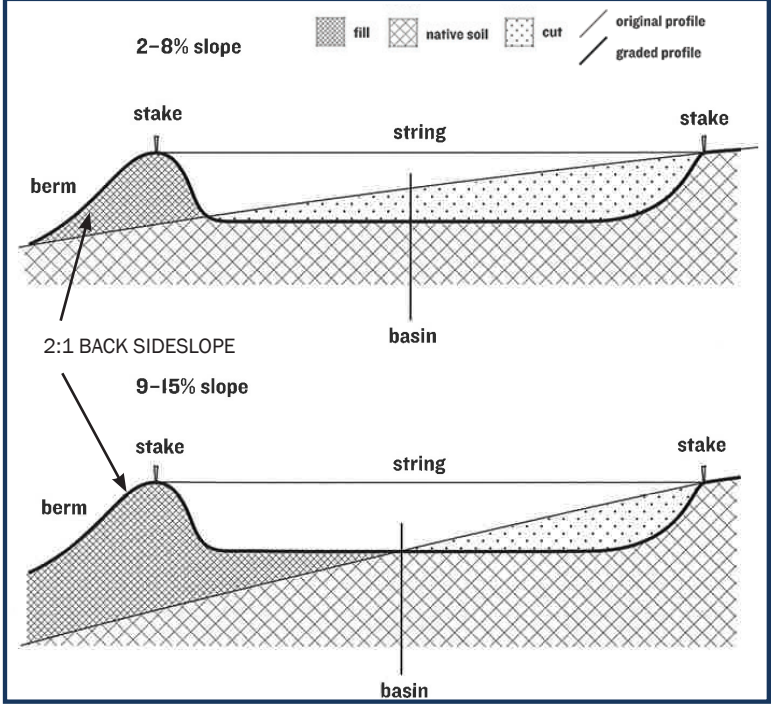
Getting Water Into the Rain Garden:

1. Sheet Flow over Land
2. Rock Lined or Vegetated Diversion Swale
   - 18 to 24 inches Wide - 2%-4% Slope
3. Buried Drain Pipe - Corrugated or PVC
   - At least 2% Slope, do not exceed 8% (cannot be Flat or Reverse Grade) Connect Directly to Downspout

INLET DETAIL

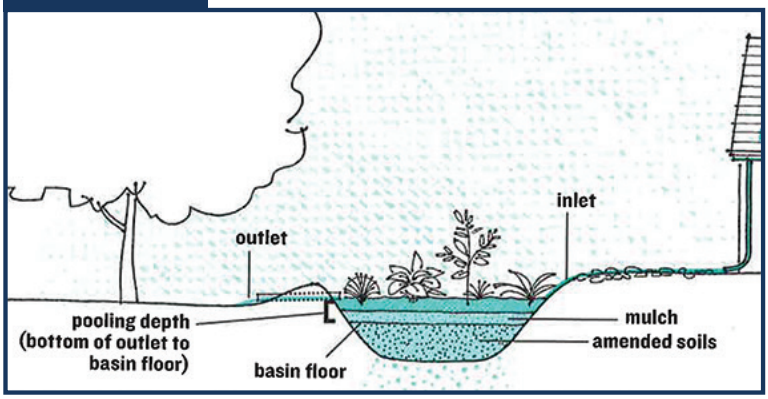


BERM DETAIL



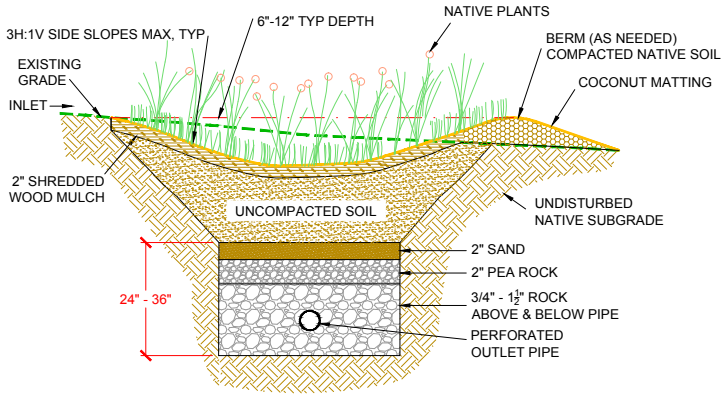
Getting Water Out Of the Rain Garden:
Pipe Outlet Options (outlets are optional)

ABOVE GROUND



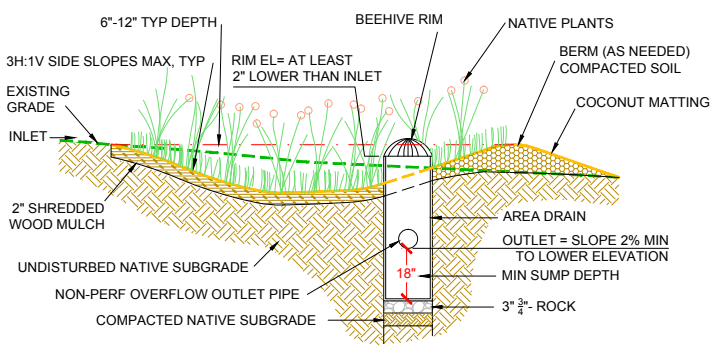
- Overflow Pipe Drains Above Ground Using Gravity (not to the neighbors land!)
- PVC Pipe (non-perf) - Top of Pipe is 6 inches from the Top of Berm
  Invert of Pipe is 6 to 9 inches from the Top of Basin

ROCK INLET



- ¾"-1½" Rock 6 inches Above & Below 4" to 8" Perforated Pipe
- 2-3 inches of Pea Rock
- 2-3 inches of Sand

SUB SURFACE DRAIN



- Drains Under Ground Using Sloped Pipe
- Vertical Pipe (Area Drain, non-perf) Extends Upward
- Top of Pipe at Least 2 inches Lower than Inlet