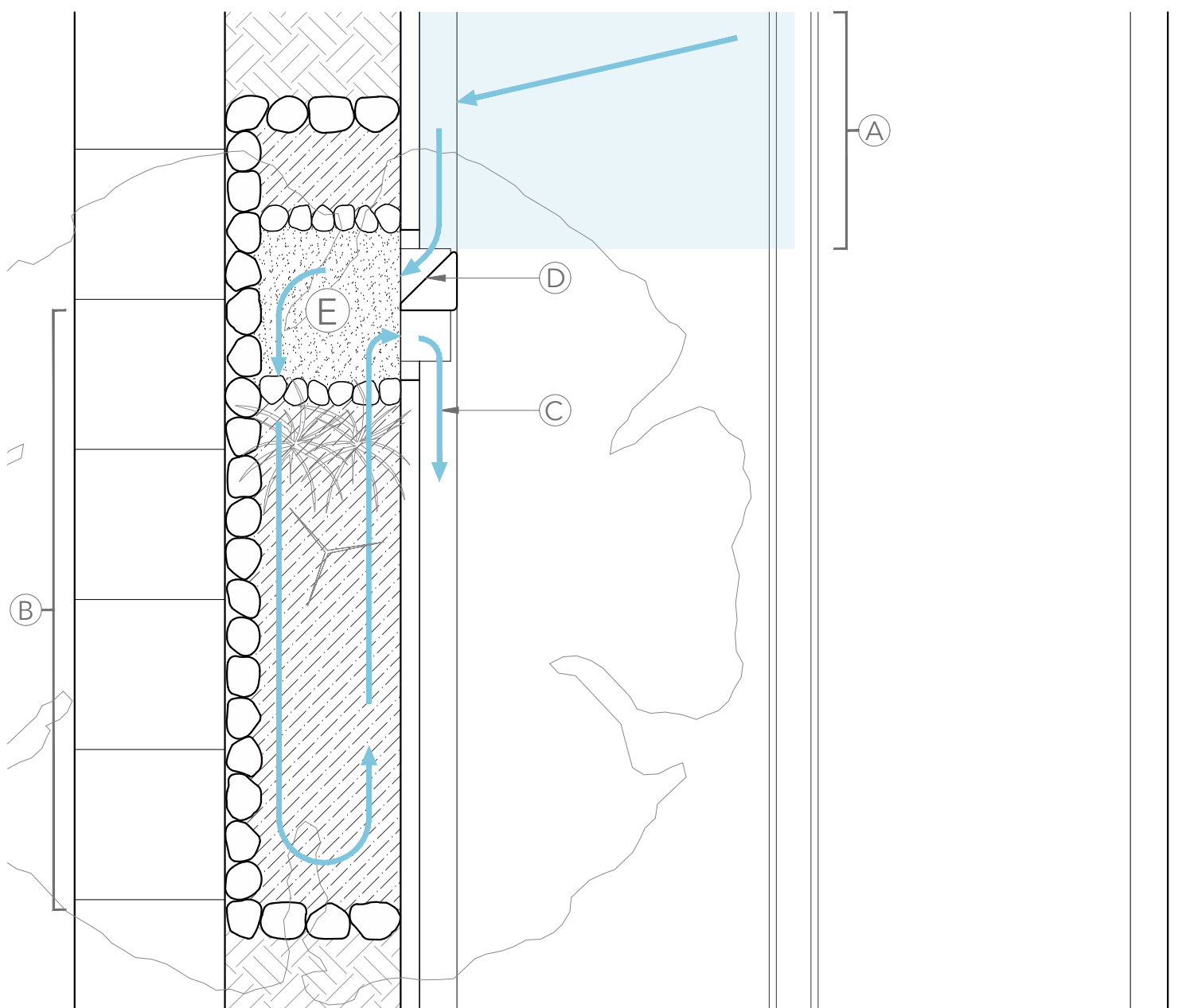
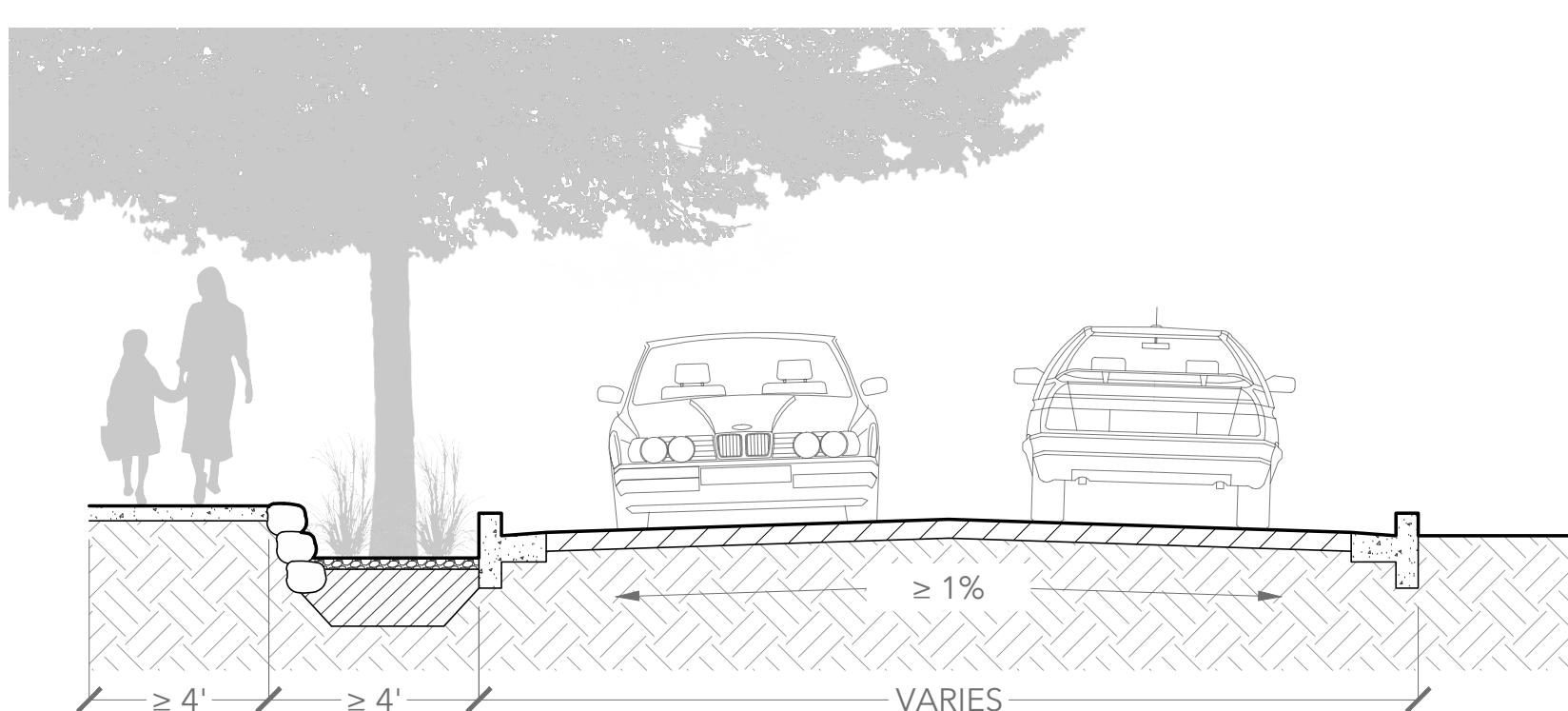




CONSTRUCTION NOTES:

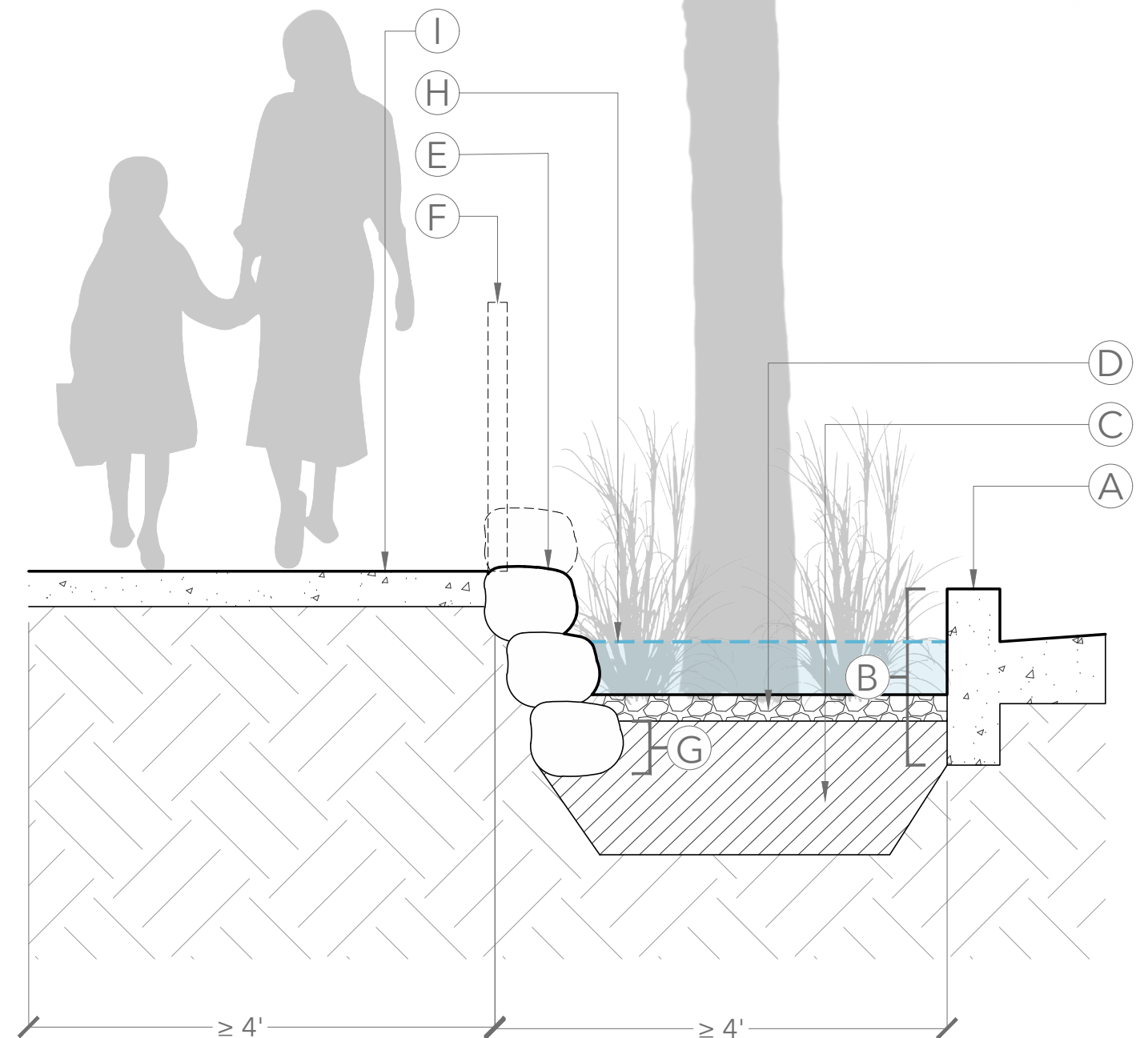
1. Ensure property ownership up to the street curb edge in the location of the proposed rain garden and identify any overhead or subsurface utilities (call 811 to request to locate for free) prior to excavation or tree selection.
2. Determine the dimensions of the proposed basin considering the space that can be compromised, volume of runoff and catchment opportunities, rooting volume needed for potential tree species, slope of street, and traffic ordinances governing speed, road width, visibility, pedestrian protections, etc.
3. Remove soil to a depth that allows for replacement with amended soil (e.g. compost), mulch (e.g. cobble), and sufficient pooling depth (see keyed note B on following page for recommended depths).
4. Amend soil to allowable depth (will depend on subsurface utilities and other infrastructure) to improve porosity and nutrient profile.
5. Build sediment trap and armor inside edge of the sidewalk with angular stone along entire length of basin so that runoff cannot flow/erode under the pathway. Sediment trap should be deeper than the basin by approximately 2"-4" in order to momentarily pool runoff long enough for suspended material (e.g. sand, debris) to settle in place before stormwater continues to fill the rest of the basin.
6. Plant vegetation according to shade, habitat, pollutant remediation goals, pooling and drought tolerance depths, and visibility standards for traffic.
7. Mulch the bottom of the basin (see keyed note D on following page for more information).
8. Cut the curb (to be completed by the City after rain garden inspection).
9. Irrigate, weed, and perform other maintenance as necessary to ensure functionality (e.g. sediment removal, plant health, etc). Check conditions periodically or after heavy storms and remove sediment once it has accumulated to 1/2 depth of sediment trap.

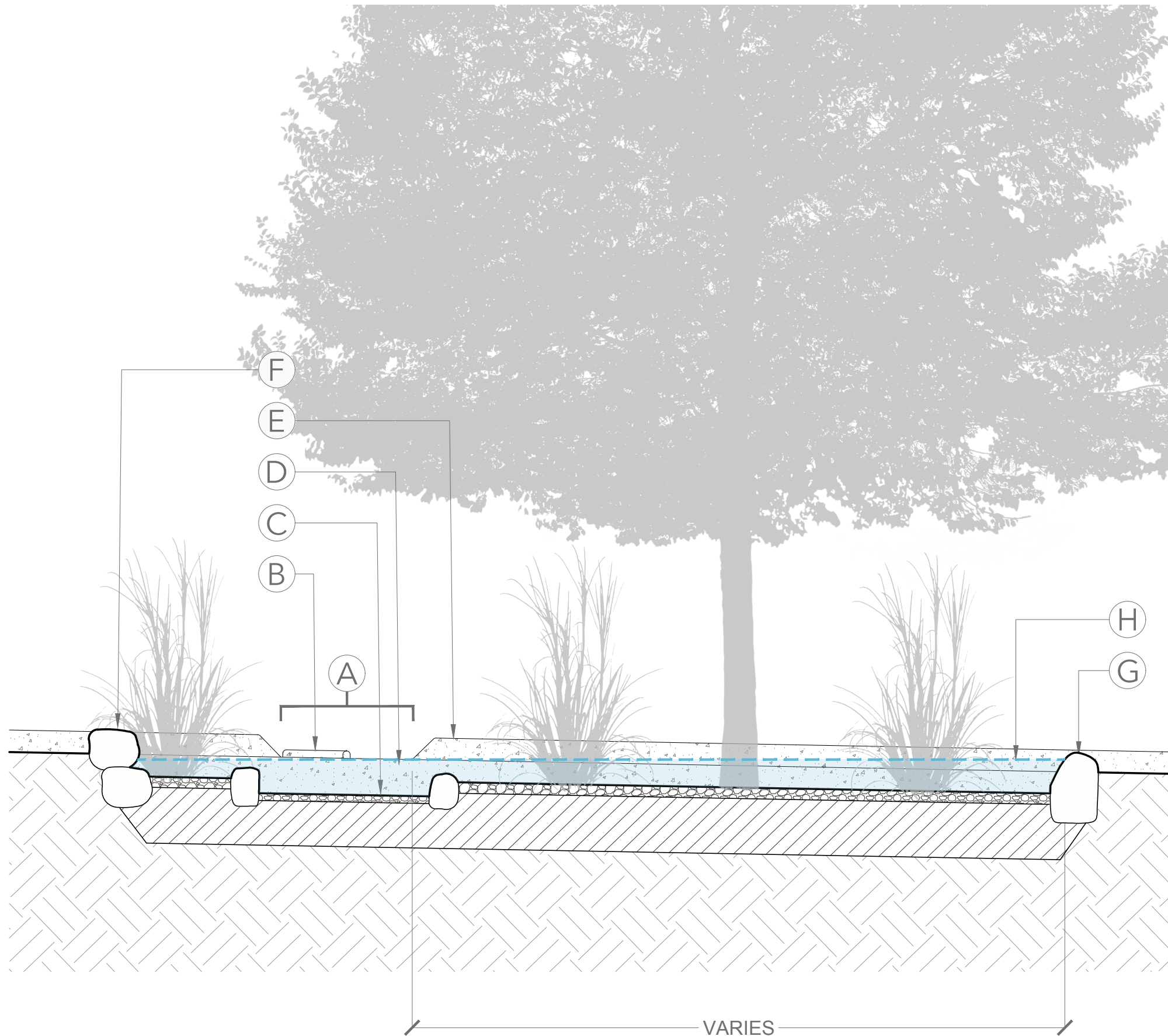
KEYED NOTES:

- (A) Impervious area draining runoff to rain garden.
- (B) Length of rain garden will vary depending on slope (consult table demonstrating relationship between slope, length of rain garden, and tree size/quantity found later on in this document).
- (C) Excess runoff continues to downslope rain garden or storm drain.
- (D) 2" high concrete deflector installed at center of curb cut inlet/outlet opening to direct water into basin.
- (E) Sediment trap (see page on sediment trap construction for more information).

KEYED NOTES:

- Ⓐ Standard curb and gutter.
- Ⓑ Excavated soil depth. Example: Removing 15" of soil below the top of curb (i.e. 9" below gutter at an adjacent point) will allow for replacement with 2" of compost, cobble hand-placed 3" high, and up to 4" of pooling depth near the inlet (pooling depth will vary throughout the rain garden depending on slope and length of the basin).
- Ⓒ Amended soil. Integrating 2" of compost into the top 6"-12" of underlaying soil is recommended to increase nutrient availability for plants and improve infiltration.
- Ⓓ 3" mulch layer. Cobble mulch is recommended, especially on steeper slopes, because it will not float/erode. However, large woodchips/bark are also an option for maintaining cooler soil temperatures and improving nutrient levels. If using a cobble mulch, consider seeding the area with low-growing, dense grass (e.g. blue grama, buffalo grass) or wildflowers before placing the stone to stabilize seed and enhance soil moisture for germination.
- Ⓔ Angular stone to protect sidewalk subgrade from erosive undercutting. Stone should be installed level with sidewalk grade or 3"-4" above. In areas with high pedestrian traffic, it is recommended to install stone above sidewalk grade or otherwise place a curb, railing, vegetation, or other markers to clearly indicate the edge of the basin.
- Ⓕ Optional handrail to protect pedestrians in high-traffic areas.
- Ⓖ Bottommost angular stone should be embedded at least 2" below mulch depth.
- Ⓗ Pooling depth (will be equal to gutter elevation at curb cut inlet).
- Ⓘ Sidewalk elevation must be $\geq$ top of curb elevation at parallel points to prevent flooding in undesired locations.





KEYED NOTES:

- Ⓐ Curb cut inlet/outlet. (18"-24" wide opening recommended, with edges cut at a 45° angle to protect pedestrians).
- Ⓑ 2" high cement deflector. Place in center of curb cut inlet/outlet opening so as not to raise pooling depth. If placed at the end of curb cut inlet/outlet opening, it will raise pooling depth by 2", which could cause flooding if the resulting changes to the slope and height of basin edges (especially the elevation of the downslope berm) are not carefully considered.
- Ⓒ Sediment trap. Approximate depth of 9" below gutter elevation is recommended. Sediment trap should be approximately 2"-4" deeper than the basin. Optional: 2" layer of size 3/4" gravel in bottom to reduce scour.
- Ⓓ Gutter elevation.
- Ⓔ Top of curb elevation.
- Ⓕ Upslope berm. Elevation must be equal to top of curb at adjacent point.
- Ⓖ Downslope berm. Elevation **must** exceed gutter elevation at the inlet by at least 2" to ensure that stormwater pools in the basin. Failure to maintain at least 2" of berm height above the gutter inlet elevation could result in stormwater flowing past the basin and transporting eroded material onto the street.
- Ⓗ Stormwater pooling depth. Pooling depth will always be equal to the gutter height at the curb cut inlet/outlet. If the bottom of the basin parallels the slope of the curb/gutter, then pooling depth will be greatest at the farthest point downslope of the inlet.

The length of the rain garden will be dictated by the slope of the curb/gutter, starting at the basin inlet.