

Retaining walls

Job-site card · segmental block

Green Maestro

DRAFT v0.2 · pending installer review

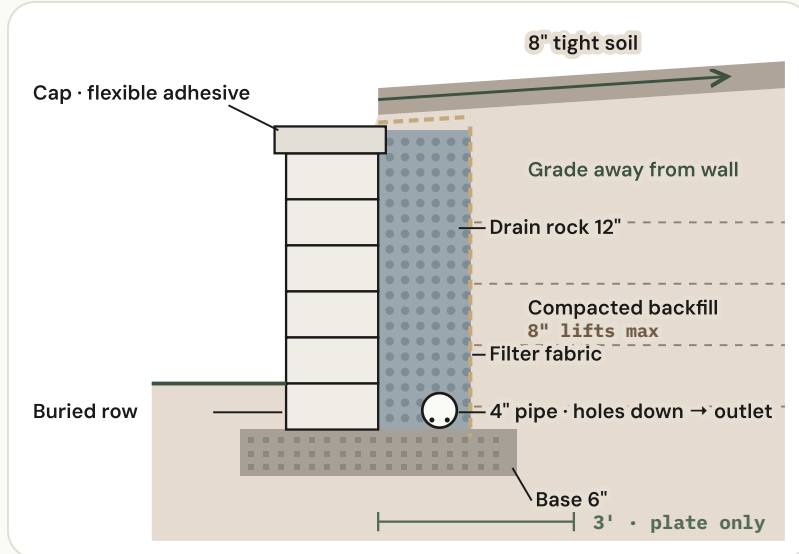


3 RULES

1 Water has to get out

2 The base is the boss

3 > 4' or weight above: engineer



5 NUMBERS

- 6"** crushed rock base, compacted in 2" layers
- 1** fully buried row, level both directions
- 12"** drain rock behind the block + 4" pipe with an outlet
- 8"** max per backfill lift · one row at a time
- > 4'** counting everything → engineer and permit

Trapped water = **double the push**. 3 × 10 ft wall:
≈1,900 lb drained, ≈3,800 lb soaked.

Stop: not a standard wall

Design visit · engineer · permit

- Over **4 ft** from the buried row to the cap (the base doesn't count). City of Snohomish: from **2 ft**.
- **Clay** or unconfirmed soil: use the manufacturer's lower limits.
- **Anything above** the wall: driveway, house, fence, patio or slope.
- **Water** shows up while digging, or a wetland, stream or steep slope is near.

6 STEPS

1 Before digging

- Count the whole wall
- Weight above? Design visit
- Decide where the water exits

✓ **Check:** Know where the water exits? If not, don't dig.

2 The base

- Remove topsoil, roots, mud
- ¾" crushed rock · never round gravel
- Start at the lowest point · full-block steps

✓ **Check:** Level on the base.

3 First row

- Fully buried
- String line on the back edge
- Fill and compact before continuing

✓ **Check:** Bubble centered ↔ and ↑.

4 Drainage

- Fabric against the soil
- 4" pipe holes down, with fall
- Outlet every 50' max

✓ **Check:** 12" with tape. Outlet marked.

5 Rows and backfill

- Sweep · pull forward · stagger
- Plate parallel to the wall
- Nothing heavy within 3'

✓ **Check:** Never more than one row unfilled.

6 Cap

- Fabric over the rock · 8" soil
- Flexible adhesive · never mortar
- Water test before leaving

✓ **Check:** Water comes out of the pipe.

THE 3 COSTLIEST MISTAKES

✗ Site soil against the block

✓ 12" of drain rock

✗ Pipe with no outlet fills like a tub

✓ Pipe with an outlet, every 50' max

✗ "I'll fix it in the second row"

✓ Level base and first row

SAFETY BEST PRACTICES

Educational content from the Manos de Oro program. Each Maestro is an independent contractor and manages the risks of their own work.

- Before digging: call **811** (free), 2 business days ahead, to have buried utilities marked
- Trenches **4 ft** or deeper: WA law calls for cave-in protection
- Cutting block **wet** or with a vacuum reduces silica dust
- Eye, hand and hearing protection when cutting and compacting