

# Penniman Retaining Wall

## Discussion of Options & Common Priorities

Presented December 20, 2022



# Proposed Objectives for the Meeting

- Review Resident Priorities (aka “Must Have” List)
- Review City Priorities
- Have an Open Discussion
- Discuss Priorities that may conflict with each other
- Share ideas to find a common solution

## Resident Priorities (In No Particular Order)

- Keep the sidewalk in the same location (along ROW)
- Existing Trees are not to be removed
- Access steps must be included
- Handrails are acceptable, but only when necessary
- Retaining wall must stay in the same location behind the curb
- Wall material must include natural elements
- Wall must be built of a long-lasting material (min 50-year life cycle)

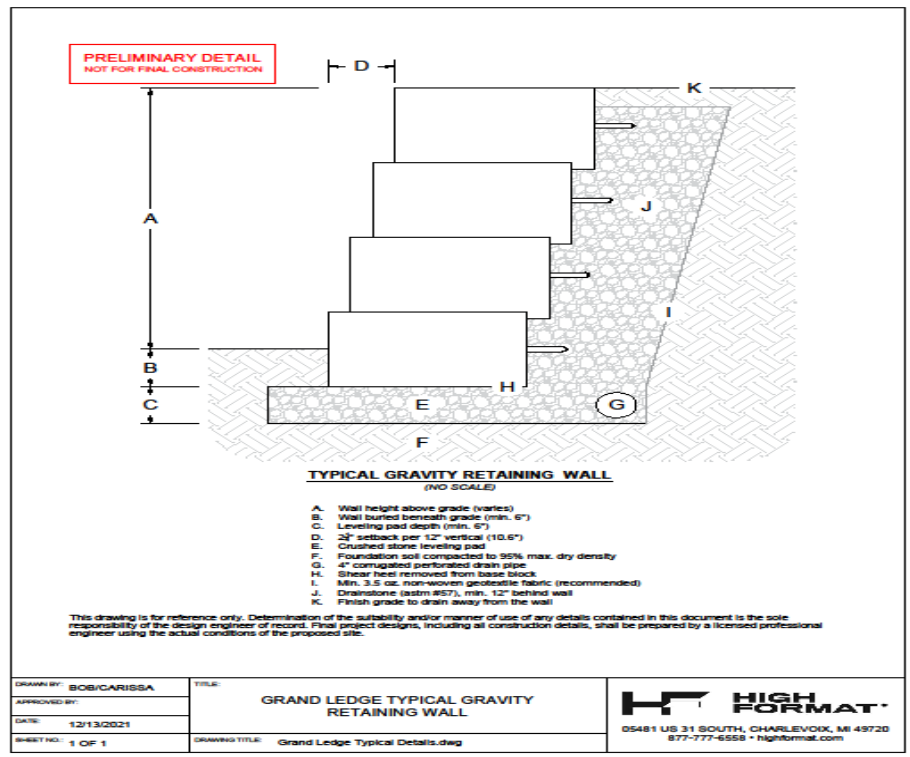
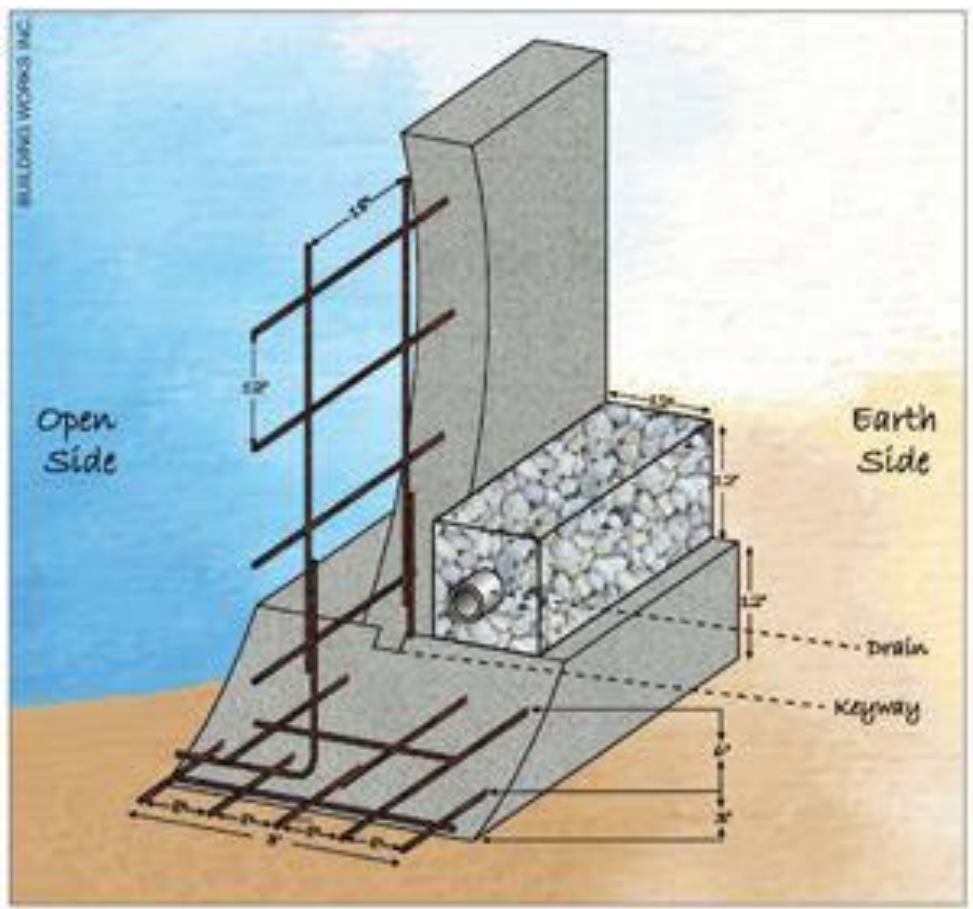
## Resident Priorities (In No Particular Order, continued)

- No guardrails or fences or manmade visual obstructions along the top of the wall or along the sidewalk
- No tiers or stepped/terraced wall
- Wall must look nice and be attractive
- Wall must be low maintenance, be easily maintained, when necessary, ideally the design must prevent weed growth at back of curb and be accessible
- Wall must have a uniform consistent look throughout the single continuous wall

# City Priorities

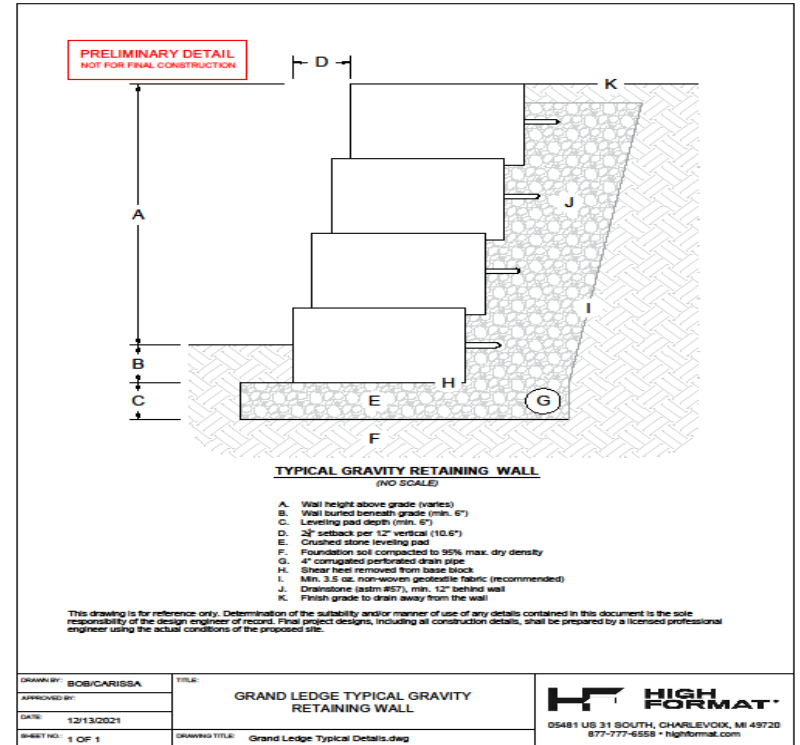
- Safety, including meeting current building codes
- Minimize disturbance and minimize work on private property
- Minimize long-term maintenance requirements
- Longevity of wall and salt tolerance/resistance
- Preference for a modular, gravity wall
- Overall cost
- Aesthetically pleasing

# Poured Wall vs. Gravity Wall



# Typical Gravity Wall Installation Detail

- Requires significant excavation
- Requires stone base
- Requires drainage system
- Four-foot min area of impact from curb



# Installation Observations from Ann Arbor Tr Wall Replacement





- Drainage Pipe behind Wall – Ann Arbor Tr Example



# Grand Ledge Wall Type

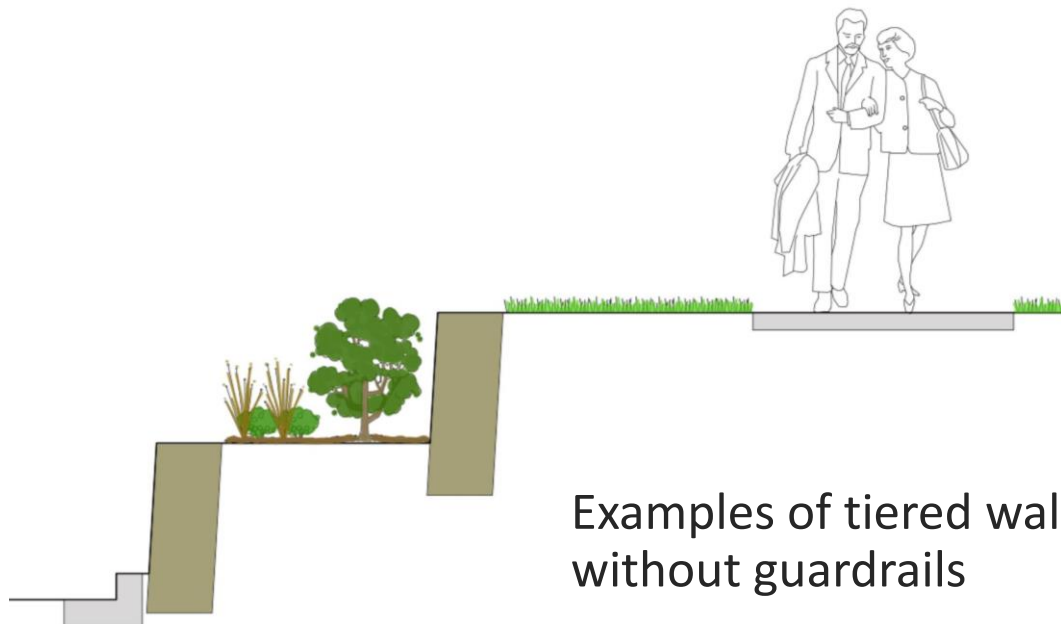
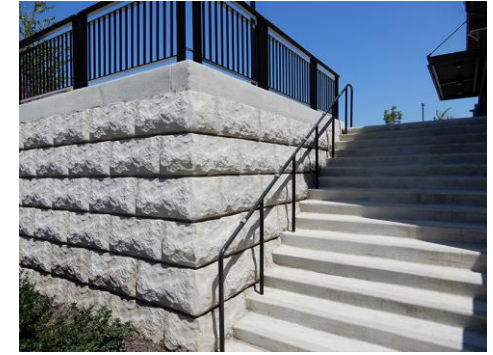
- Intended for linear applications
- Long term durability
- Natural look with salt resistance
- 3', 4', 5' and 6' lengths
- 20 inches deep, 12 inches tall – very solid
- Weight of 650 to 1300 lbs for each block depending on size

# Existing Trees

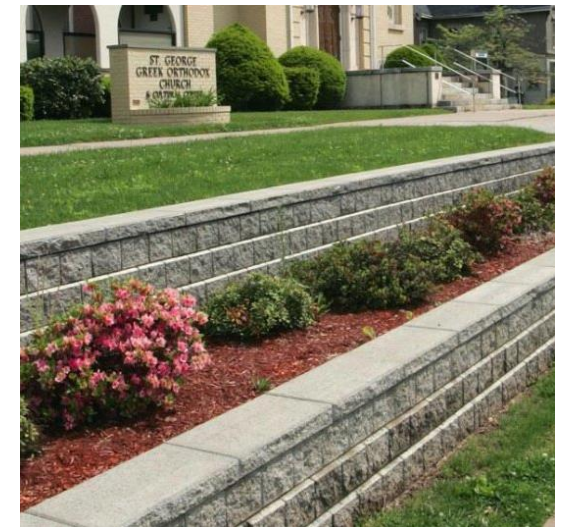
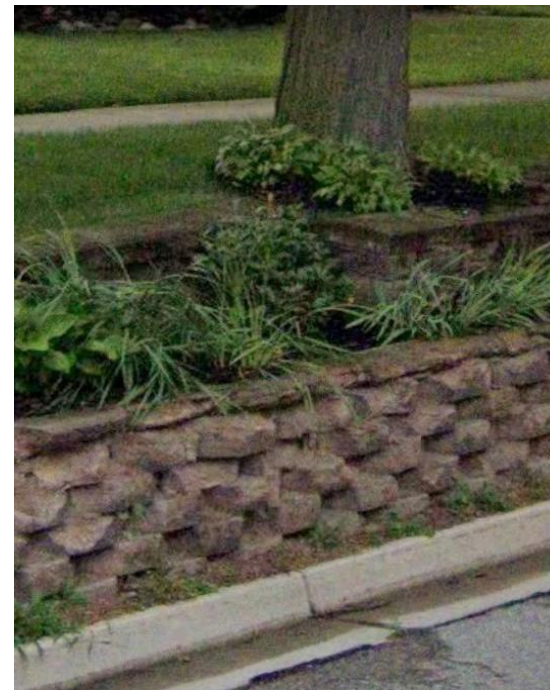
- Many of them are mature
- Tree at 954 is outside the 4' installation zone
- Tree(s) at 968 & 974 are “barely” outside installation zone and risks significant root damage during installation
- Trees at 994 & 1012 are within the 4' installation zone
- Smaller trees at 1050 can be easily transplanted

# Tiered Walls

- Walls with more than a 30" drop require guardrails
- Walls with less than a 30" drop do not require guardrails
- A tall wall that is split into tiered sections can eliminate the need for guardrails

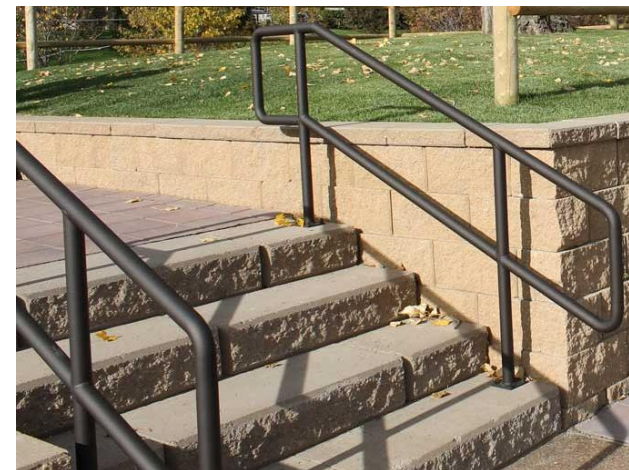


Examples of tiered walls without guardrails



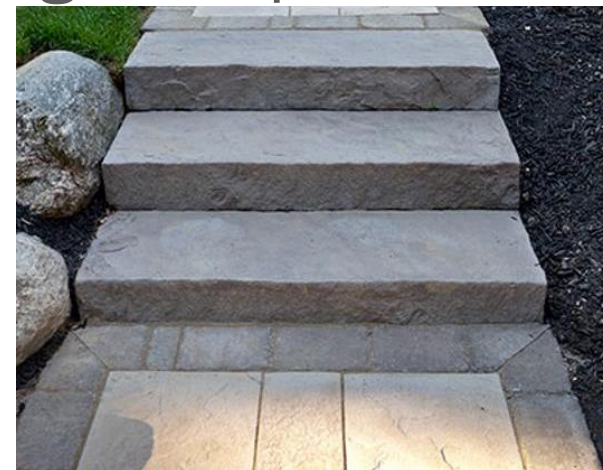
# Stairs and Handrails

- Handrails are required on all stairs with four risers or more
- Stairs could be located directly in front of house to line up with walkway, or located at property line and be shared by neighbors
- Locating stairs at property lines can reduce the number of staircases needed, and have less obtrusive handrails in the front yard
- Handrails are located 34”-38” above nosing of step



Example staircase with four risers, requiring handrail

Example staircase with three risers, no handrail required



## Scenario Discussions....if we \_\_\_\_\_, then \_\_\_\_\_

- If we want to keep all the existing trees, then we cannot use the Grand Ledge wall type used on Ann Arbor Tr.
- If we want to avoid using tiered walls, then guardrail would be required.
- If we use taller walls with four or more steps, then handrails would be required.