



www.buechelstone.com

RETAINING WALL STONE INSTALLATION INSTRUCTIONS

PART 1 – GENERAL

Work Included:

All labor and material for the furnishing and installation of a natural stone retaining wall.

Related work:

Contractor shall include building into the stone wall, and materials furnished through other divisions such as site drain pipes or brackets and anchors as shown on plans, to provide a complete job.

System Description:

Stone retaining walls for landscaping purposes comprised of natural quarried stone laid dry or set in mortar. Structural requirements for walls supporting applied loads such as lateral soil loads from other structures shall be as shown on plans and engineered by an architect for approval.

Samples:

Provide samples of adequate size and quantity to represent the full range of color, texture, and other naturally occurring characteristics for approval.

Delivery, Storage, and Handling:

1. Stone shall be delivered on pallets.
2. General contractor shall provide a dry, stable roadway for removing pallets from truck.
3. Pallets shall be placed on level ground and shall not be stacked.
4. Contractor shall provide tarpaulin covering during inclement weather.

Site conditions:

Stone walls shall be constructed on a stable base as specified on the plans. Walls shall not be placed on frozen or mucky soil base.

Mortar Laid Walls:

Before commencing with work, tarpaulins shall be provided to protect newly laid masonry from damage by inclement weather. This protection shall be placed and removed as required. Ambient temperature shall be 40 degrees F or above while masonry is being erected. When ambient temperature falls below 50 degrees the mortar mixing water shall be heated.

PART 2 – PRODUCTS

Acceptable Manufacturers:

Buechel Stone Corp
W3639 Hwy H
Chilton, WI 53014-9643
PH# 800.236.4473
FAX# 920.849.8229

Buechel Stone Corp.
N4399 Hwy 175 S.
Fond du Lac, WI 54937-9266
PH# 920.922.4790
FAX# 920.922.5298

Materials:

1. a. Wall stone shall be (insert stone type i.e. Chilton 8” wall stone, Fond du Lac Random wall stone, etc.).
b. Flexural strength (PSU) 1360 (wet) and 1980 (dry) per ASTM C880-87 test.
2. If wall is a mortar laid wall:
 - a. Mortar mix: ASTM C-270-73 Type S
 - b. Sand: ASTM C144-70
 - c. Hydrated lime: ASTM C207-49
 - d. Portland cement: ASTM C-150 73a
 - e. Masonry cement: ASTM C91-71 Type II
3. If wall is a Dry Laid Wall:
 - a. Base: use ¾” to minus gravel
 - b. Fill behind wall to be ¾” clear-chipped gravel

PART 3 – EXECUTION

Inspection:

Before work progresses, verify that base material or structure complies with specifications on the plans. If stone is to be laid against a structural backer, verify that backing is plumb and that all bearing surfaces are level. For mortar laid walls, base must extend below frost line. For loose laid walls, base may not be required to extend below frost. Verify with supervising architect.

Preparation:

1. Stone, geo-textiles, anchors, etc. must be cleaned of loose rust, ice or other foreign matter before incorporation into the walls.
2. For mortar walls: ties, anchors, lintels, etc. must be cleaned of loose rust, ice or other foreign matter before incorporation into the wall.

Installation:

1. General:
 - a. For a dry laid stone wall: erect with an approximant ½” setback for every 6” of rise. It is recommended to use higher rise stones at the base to add stability. These are to be set in a band course where one lineal course will be the same/similar rise as the stones allowing +/- ½”. Care shall be taken not to stack head joints. Walls that are higher than 30” may need bond stones or deadmen to tie the wall into the retained soil.
 - b. For a mortar set wall: lay stone with completely filled mortar bed and joints.
 - c. Do not furrow bed joint.

2. Pattern Bond:

- a. Lay stone in random lengths taking care to avoid vertical joints by overlapping each joint a minimum of 4" with the stone above.
- b. Uniformly distribute color range of stone over total area of work.

3. Jointing work (if mortar laid wall):

- a. Where fresh masonry joins partially set masonry.
 1. Remove loose stone and mortar.
 2. Clean stone of dust and debris.
- b. Toothing is not permitted.

4. Joints (if mortar laid wall):

- a. Tool joints when thumb-print hard.
- b. Trowel strike or concave-tool exterior joints below grade.
- c. Retempering mortar is not permitted.

5. Drainage:

- a. Provide weep holes in masonry set walls, at head joints of first course. Other dewatering measures may be required where wet soil conditions occur.
- b. Protect weep holes and area above from mortar droppings.
- c. If wall is dry laid, provide ¾" clear chipped gravel, backfilled course by course. Install a 4" diameter perforated PVC drain tile behind wall base.

6. Expansion Joints (if mortar laid walls):

- a. Provide joints as shown on plans.
- b. Keep joints clean and free of debris.
- c. Expansion joints are generally not required for dry laid walls.

Cleaning:

1. On mortar laid walls, cut out and repoint any defective joints.
2. Do not use cleaning agents on stonework. Clean stone masonry with stiff nylon brush and clean water only.
3. Contractor shall clean site of stone chips, mortar droppings, etc.
4. If further information is needed on cleaning stonework, go to www.buechelstone.com.

Protection:

Contractor shall protect surrounding areas and surfaces during construction. Contractor shall limit area of activity to the construction limits shown on the plans.