

PROPOSED BOULDER WALL RECONSTRUCTION

Construction Sequence and Scope of Work

1. Project Description

The proposed work consists of reconstructing the existing boulder wall and stabilizing the adjacent bank. The work will include pumping and cleaning the existing vault, filling the vault with 2A limestone, installing erosion-control fabric, providing drainage, and constructing a six-course boulder wall with 2B stone backfill.

The proposed construction sequence is as follows:

2. Construction Sequence

Step 1 – Pumping and Cleaning of Existing Vault

Prior to beginning wall reconstruction, all standing water shall be pumped from the existing vault. Accumulated silt, sediment, and debris shall be removed from the vault to provide a clean and stable area for placement of fill material.

All removed sediment and debris shall be disposed of in an appropriate manner.

Step 2 – Filling of Existing Vault

Following completion of the vault cleaning, the existing vault shall be filled with approximately 100 tons of 2A limestone.

The existing vault is approximately:

- 10 feet wide
- 35 feet long
- 5 feet deep

The 2A limestone shall be placed in 8 inch lifts and compacted as necessary to provide a stable foundation for the reconstructed boulder wall.

Step 3 – Installation of Erosion-Control Fabric

After the existing vault has been filled and the area has been brought to the proposed grade, erosion-control fabric shall be installed along the exposed slope of the bank.

The fabric shall extend over the slope in the area behind and beneath the proposed boulder wall. The purpose of the fabric is to provide additional protection against erosion and prevent further loss of soil and bank material.

The fabric shall be properly secured and installed in accordance with the manufacturer's recommendations.

Step 4 – Installation of Drainage System

Prior to placement of the boulders, a 6-inch drainage pipe shall be installed at the base of the slope behind the proposed wall.

The drain shall be positioned to collect and convey water from behind the wall and minimize the potential for water pressure and erosion behind the boulders.

The drainage pipe shall be surrounded and protected with clean drainage stone as appropriate.

Step 5 – Installation of Base Course

The first or base course of boulders shall be installed on the prepared foundation.

The base course shall be positioned approximately 1 foot behind the existing gas line to maintain clearance from the existing utility.

Boulders shall be selected and positioned to provide a stable, interlocking base. Larger and heavier boulders should be utilized in the base course where practical.

Following placement of the base course, the area behind the boulders shall be backfilled with 2B stone.

Care shall be taken during placement and compaction of the stone to avoid displacement or damage to the existing gas line and drainage system.

Step 6 – Installation of Second Boulder Course

The second course of boulders shall be placed directly above and behind the first course.

The second course shall be stepped back approximately 1.5 times of the boulder depth from the face of the first course. This setback will create a stepped-back configuration and improve the overall stability and appearance of the wall.

Following placement of the second course, the area behind the boulders shall be backfilled with 2B stone.

Step 7 – Installation of Remaining Boulder Courses

The same construction process shall continue for the remaining courses.

Each successive course shall be placed on top of the preceding course and stepped back to create a stable, stepped-wall configuration.

Each course shall be backfilled with 2B stone prior to placement of the next course.

The completed wall will consist of approximately six courses of boulders.

3. Final Wall Configuration

The completed boulder wall shall have a stepped-back profile, with each successive course set farther into the bank than the course below it.

The wall construction shall include:

- Approximately six courses of boulders
- 2A limestone used to fill the existing vault and establish the foundation
- Erosion-control fabric installed along the bank slope
- 6-inch drainage pipe installed at the base of the slope
- 2B stone used as drainage/backfill behind each boulder course
- Approximately 1-foot clearance from the existing gas line at the base course
- A stepped-back configuration to improve wall stability and reduce the potential for future erosion

4. General Construction Requirements

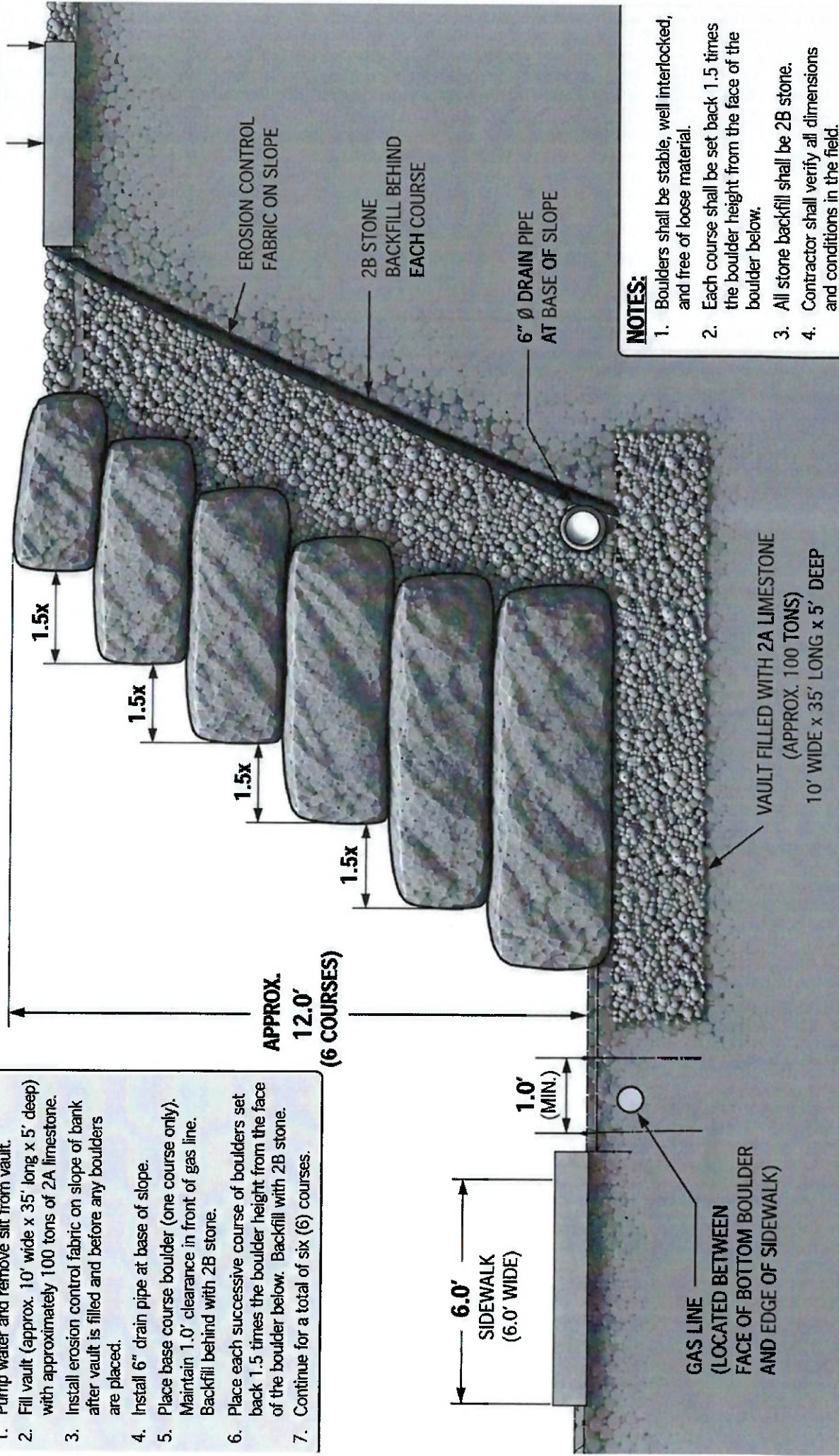
All boulders shall be placed to provide a stable, interlocking wall. Boulders should be positioned with their largest and most stable surfaces oriented to provide maximum contact with adjacent stones.

BOULDER WALL TYPICAL CROSS SECTION

NOT TO SCALE

CONSTRUCTION SEQUENCE

1. Pump water and remove silt from vault.
2. Fill vault (approx. 10' wide x 35' long x 5' deep) with approximately 100 tons of 2A limestone.
3. Install erosion control fabric on slope of bank after vault is filled and before any boulders are placed.
4. Install 6" drain pipe at base of slope.
5. Place base course boulder (one course only). Maintain 1.0' clearance in front of gas line. Backfill behind with 2B stone.
6. Place each successive course of boulders set back 1.5 times the boulder height from the face of the boulder below. Backfill with 2B stone.
7. Continue for a total of six (6) courses.



NOTES:

1. Boulders shall be stable, well interlocked, and free of loose material.
2. Each course shall be set back 1.5 times the boulder height from the face of the boulder below.
3. All stone backfill shall be 2B stone.
4. Contractor shall verify all dimensions and conditions in the field.