

January 6, 2021

Chelmsford Land Trust
 P. O. Box 216
 Chelmsford, MA 01824
 Attn: Mr. Dale Williams

Job No. 20337

Re: Retaining Wall Evaluation at the Site Known as Acton Road/Bartlett Street Intersection, Chelmsford, MA

Mr. Williams,

We visited the subject address on December 9, 2020 to observe the existing field stone retaining wall and area topography. We also reviewed the reconstruction bids received.

The existing field stone retaining wall ranges in height up to 5'-6" high. The original construction was well done and the wall had performed well for many decades. However, upgradient ground surface topography has allowed storm water to flow over and eventually through the wall unimpeded. In many areas, significant amounts of soil adjacent to the upgradient side of the wall eroded and flowed through the wall with the water run-off. This phenomenon dislodged numerous stones and caused sections of the wall to bow out or tip to the downgradient side.

It is our opinion that the existing wall should be dismantled and reconstructed in accordance with the attached drawing 20337-SK-01. The desire is to recreate the original appearance to the degree possible, specifically with only the top surface of the wall mortared. However, to assure integrity and for ease of construction the inner components of the wall should be secured with mortar. An experienced contractor can construct the wall in a manner that the downgradient exposed face inner mortared joints are not visible.

It is also important that the retained upgradient surface from the edge of Acton Road to the reconstructed retaining wall is finished graded in a way that storm water run-off flows away from the wall. This can be accomplished by slightly raising the elevation of the wall top and with a properly formed swale and/or semi-pervious surface material. The surface elevation of Acton Road should not be affected.

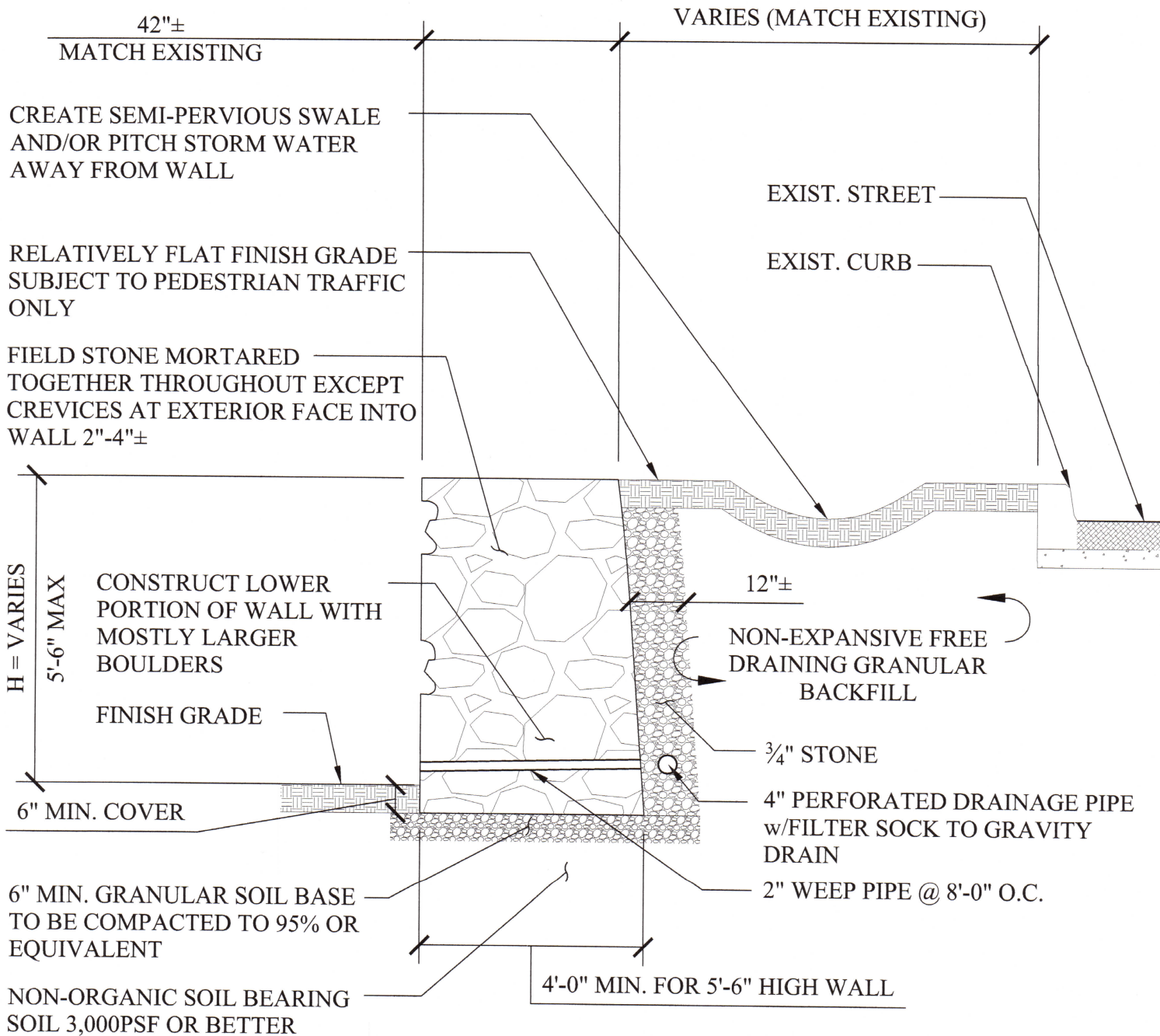
It is recommended that Phelan Engineering be employed to oversee construction to assure proper implementation. Please feel free to copy this letter to others as needed and call if you have any questions or comments.

Regards,



Paul A. Phelan, Jr., P.E.





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FIELD STONE RETAINING WALL GUIDELINES

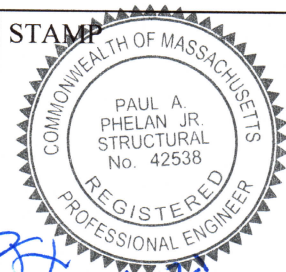
APPROX. SCALE: N.T.S.

SEE PHELAN ENGINEERING LETTER Lt. 20337.01 FOR MORE INFORMATION

**PHELAN
ENGINEERING**

76 CARLISLE ROAD
WESTFORD, MA
TEL. (978) 256-4014

STAMP



PROJECT

***STONE RETAINING WALL
CHELMSFORD LAND TRUST***

**ACTON ROAD
CHELMSFORD, MA**

SCALE: AS NOTED

DATE: 1/6/2021

DRAWING NUMBER

20337-SK-1