

January 10th, 2022 – REV 01

Chico C.E. Messer, P.E.
Assistant Highway Superintendent/Engineer
Blount County
1227 MacArthur Road
Maryville, TN 37804

Email: cmesser@blounttn.org
Mobile: (865) 221 - 2091

Subject: Proposal for Nebo Road Slide Repair – Blount County, TN
GeoStabilization International - Vendor ID: 0000160610
TDOT Contract Number: 0000000000000000000066906
Title: SWC 191 - Slope Stabilization Services

Chico Messer:

GeoStabilization International® (GSI) is pleased to offer this revised proposal to provide permanent slope stabilization for the road platform located along Nebo Road in Blount County, TN for the Blount County Highway Department (BCHD). The slide area is located at GPS Coordinate: 35.729960, -83.843230 (Figure 1).

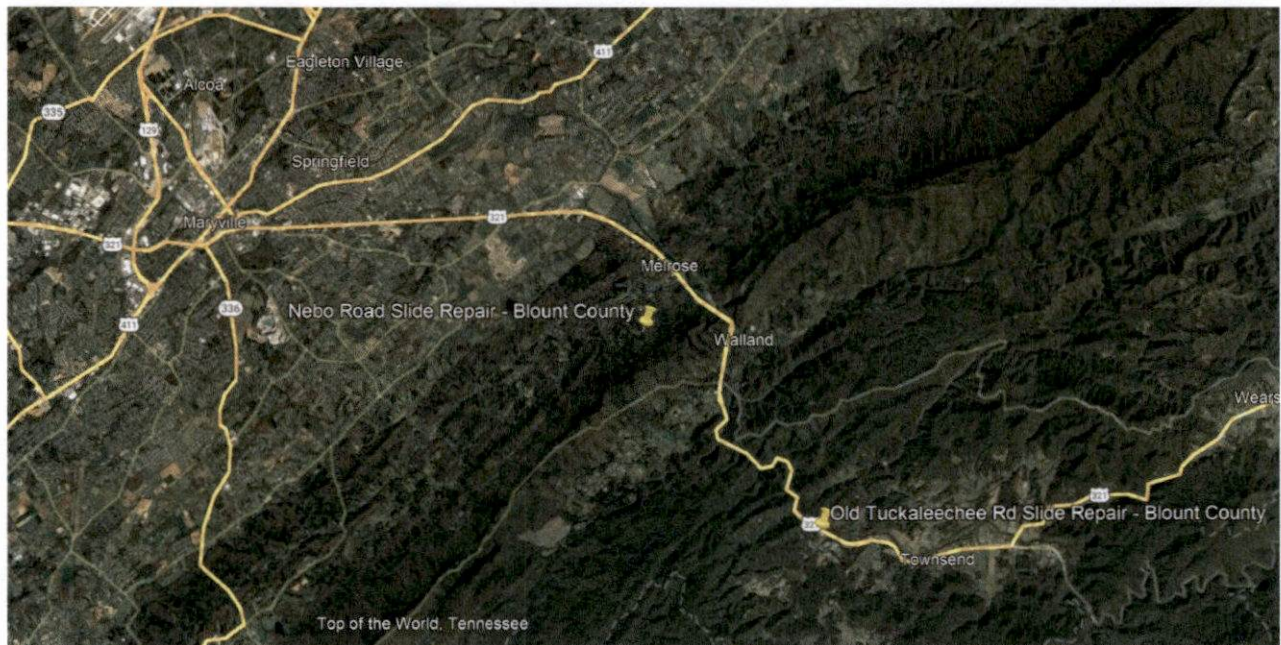


Figure 1 – Approximate location of project

PROJECT OVERVIEW

This proposal addresses installing a combination of Self-Drilling Soil Nails, Horizontal Drains, Y-Wall Construction, Shotcrete and Shoulder Build-Up to provide stabilization for the slide area affecting Nebo Road in Blount County, TN. GSI visited the site on January 9, 2023 and since last visiting the site in August of 2022, conditions have extended past the original repair length of 93 LF to a new repair length of 348 LF.



Figure 2 – Conditions along Nebo Road in August 2022



Figure 3 - Existing conditions along Nebo Road as of January 2023,
past the end of the August 2022 repair

RESOURCES

Items to be Provided By BCHD:

- Right-of-way space where available to receive and unload materials shipped by GSI, and an area to park our equipment.
- Installation/Removal of Guardrail if required.
- Erosion Control, Vegetation / Tree Removal, Clearing, Grubbing, Excavation, Temporary Access Construction Roads, & haul off along Work Area as directed by GSI. The excavation will have a slope slightly steeper than a 0.5H:1V for up to a 10 foot slope distance for shotcrete areas and will be daylighted to provide positive drainage away from the road.
- A supply of water suitable for construction use.
- Backfill (~ 65 CY flowable fill) material for the Shotcrete Y-Wall.
- The resulting disturbed soil areas should be seeded and covered with straw matting by BCHD or others.
- Once the slide area has been stabilized, BCHD should assess milling, pavement resurfacing, and first phase and permanent striping in the repair area.
- Traffic Control and Traffic Control Barriers

Our equipment is mounted on trackhoes allowing the work to be accomplished from the roadway platform. This work zone shall be provided and protected by BCHD forces. We will park our equipment off the road and near the site during non-working hours.

NOTE: IF GSI IS REQUESTED TO COORDINATE OR IMPLEMENT WORK OUTSIDE OF OUR CONTRACT PAY ITEMS, GSI WILL BILL PER OUR CONTRACT AT COST PLUS 15%. INVOICE FROM SUBCONTRACTOR WILL BE SHOWN ALONG WITH GSI MARKUP.

SCHEDULE

Barring unforeseen delays, GSI work is based on BCHD maintaining the entire road closed for the duration of the project, and this project should take approximately three to four (3 - 4) weeks to complete. The schedule is based on GSI working 5 day work weeks during daylight hours for the slide repair, and Monday – Friday. Saturday work can be arranged upon request.

OTHER

Our price also includes design and we will supply a Tennessee P.E. stamped typical section. Our work also carries a **seven-year warranty** commencing after GSI project completion for permanent installation. This warranty is void absent GSI receiving mutually agreed project payment. If at any point within the warranty period the repaired section becomes unstable, GSI will, in a timely manner, remedy the situation with a design/construction solution at no cost to the owner. This warranty does not cover work completed by others or shallow surface erosion problems that may develop in the future. Exceptions to the warranty include catastrophic seismic, weather, or other events outside reasonable accounting in design (including earthquakes and weather events exceeding expectation for the region) or further construction by third parties that destabilizes the repair (including utility trenches dug into or through any soil nails, deep excavations in the area, etc). Extreme storm water volumes may cause erosion which could undermine the repaired area which may void this warranty. After such an event these areas should be checked for erosion.

If you have any questions please feel free to contact me at the 928.221.4343 or via e-mail at sara.magallon@gsi.us.

GeoStabilization International



Sara Magallón, M.S.
Associate Project Development Engineer
sara.magallon@gsi.us | 928.221.4343



Scott Embry, M.S., P.E.
Project Development Engineer
scott.embry@gsi.us | 615.556.2308



RESOURCES

Items to be Provided By BCHD:

- Right-of-way space where available to receive and unload materials shipped by GSI, and an area to park our equipment.
- Installation/Removal of Guardrail if required.
- Erosion Control, Vegetation / Tree Removal, Clearing, Grubbing, Excavation, Temporary Access Construction Roads, & haul off along Work Area as directed by GSI. The excavation will have a slope slightly steeper than a 0.5H:1V for up to a 10 foot slope distance for shotcrete areas and will be daylighted to provide positive drainage away from the road.
- A supply of water suitable for construction use.
- Backfill (~ 60 CY flowable fill) material for the Shotcrete Y-Wall.
- The resulting disturbed soil areas should be seeded and covered with straw matting by BCHD or others.
- Once the slide area has been stabilized, BCHD should assess milling, pavement resurfacing, and first phase and permanent striping in the repair area.
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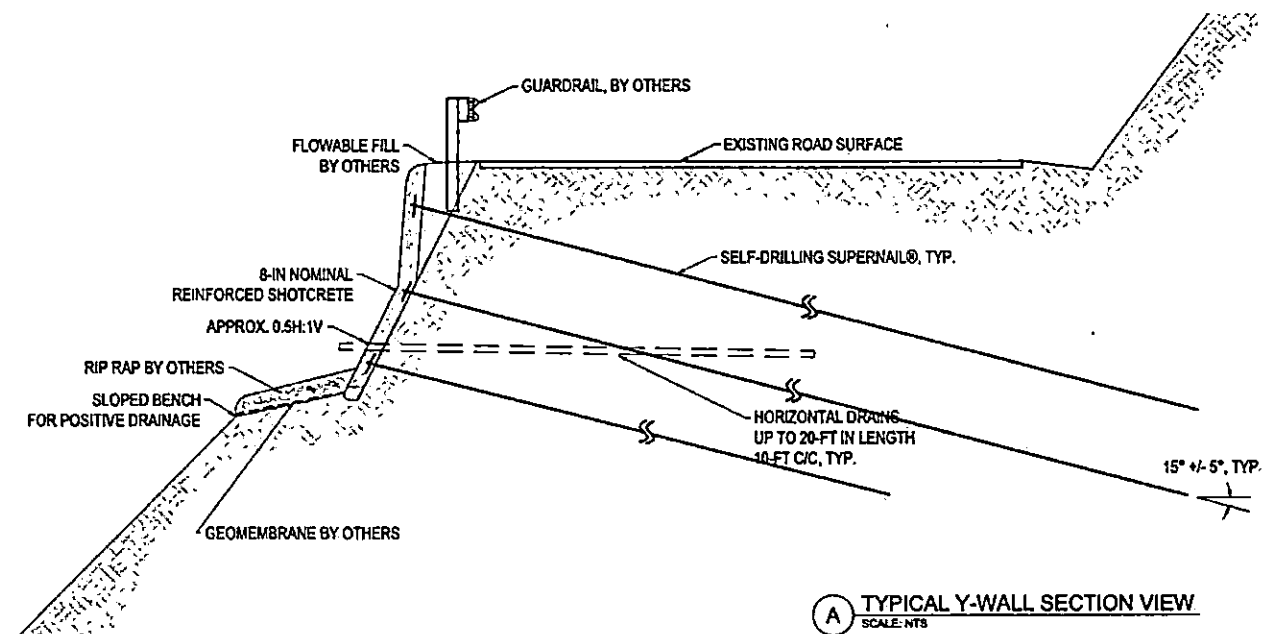


Figure 5 - Cross-Section of proposed slope stabilization
(For illustration purposes only, nails may vary in length from what is shown above)

COST TABLE FOR NEBO ROAD SLIDE REPAIR

Line #	Description	~ Qty	Unit	Unit Price	Total
17	Mobilization	1	LS	\$ 11,580.00	\$ 11,580.00
1	Nails, Self-Drilling Soil, up to 20 ft	171	EA	\$ 722.00	\$ 123,462.00
2	Nails, Self-Drilling Soil, up to 30 ft	87	EA	\$ 979.00	\$ 85,173.00
16	Shoulder Build-up, Road Service	348	LF	\$ 155.00	\$ 53,940.00
19	Shotcrete, Nominal 8-in Thickness	3431	SF	\$ 38.50	\$ 132,093.50
40	Soil Nail Proof and Verification Testing		EA	\$ 750.00	\$ -
53	Horizontal Drains, 0 to 50 ft	680	LF	\$ 35.50	\$ 24,140.00
	Total				\$ 430,388.50

BCHD will need to provide the items listed below in the yellow highlighted area under Resources. The excavation for the slide repair will be performed by a BCHD approved excavation contractor from the road platform. It is anticipated that BCHD will need to shut down the entire road for the proposed repair. GSI will work with excavation contractor to achieve the appropriate slope geometry for the repair area.

SLIDE REPAIR

BCHD or a BCHD approved excavation contractor shall prepare the slope by excavating and steepening the face of the existing slope to an approximate 0.5H:1V slope or steeper. The excavation shall be performed in multiple 4–5-foot lifts from the roadway platform. GSI will then install Horizontal Self-Drilling Nails, up to 30- and 20-feet long into the excavated face to construct our typical Y-Wall soil nail wall, which will have a height of 10 feet. We will leave the nail ends protruding through the soil and cover the repair with 8-inch-thick steel reinforced shotcrete. Shoulder Build-Up will also be installed for the entire length of the repair. Adding Shoulder Build-Up to a soil nail and shotcrete repair is what constitutes a “Y-Wall”. We will install horizontal drains on an approximate 10-foot center spacing and as necessary to control ground water along the entire length of the repair.

As discussed in the field, the road platform will be 21 ft and our repair will include a 3 ft build-up for the installation of guardrail.

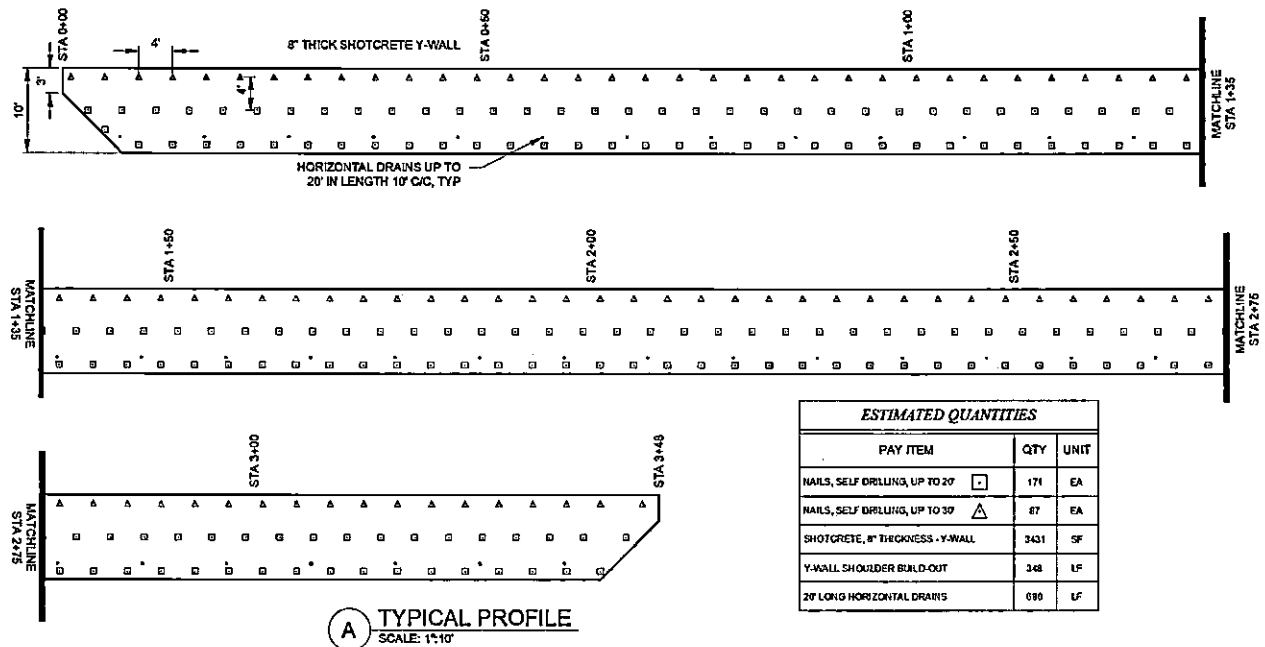


Figure 4 – Profile view of slope stabilization