

July 5<sup>th</sup>, 2023

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**Subject: Proposal for Munsey Hatcher 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 proposal to provide permanent slope stabilization for the road platform located along Munsey Hatcher Road in Blount County, TN for the Blount County Highway Department (BCHD). The slide area is located at GPS Coordinate: 35.783532, -83.801516 (Figure 1).

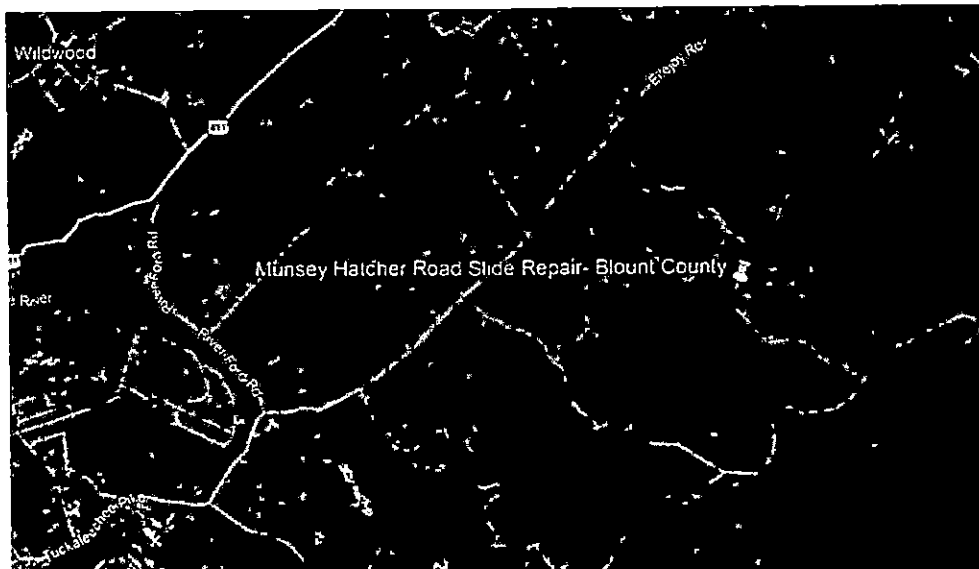


Figure 1 – Approximate location of project

### **PROJECT OVERVIEW**

This proposal addresses installing a combination of self-drilling soil nails, micropiles, shoulder buildout, reinforced shotcrete, Geosynthetically Confined Soil (GCS) wall construction, and horizontal drains to provide stabilization for the slide area affecting Munsey Hatcher Road in Blount County, TN. Existing conditions of this repair area, as of the site visit on 6/8/23, are shown in Figures 2 and 3 below. The proposed repair length was observed in the field at 288 LF.



Figure 2 – Conditions near the start of repair along Munsey Hatcher Road



Figure 3 – Conditions below Munsey Hatcher Road

## 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 20-feet long into the excavated face to construct our typical Y-Wall soil nail wall from STA 0+00 to 0+57 and 2+33 to 2+47, and a standard soil nail wall from STA 2+47 to 2+88, which will have a height of 12 feet. We will leave the nail ends protruding through the soil and cover the repair in these areas with 8-inch-thick steel reinforced shotcrete. Adding Shoulder Build-Up to a soil nail and shotcrete repair is what constitutes a “Y-Wall”.

From STA 0+57 to 2+33, the repair area will be covered with 6 inches of steel reinforced shotcrete on the backwall. GSI will install up to 20-ft vertical micropiles and tie into the shotcrete grade beam/micropile cap. The retaining wall facing elements, geosynthetic reinforcement fabric and stone backfill will be compacted in approximate 8-inch lifts (typical block height) over the micropile cap and mud-mat to construct the secondary wall with a height up to 12 feet. This will allow for road platform stability and shoulder build-out to provide adequate guardrail embedment material.

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.

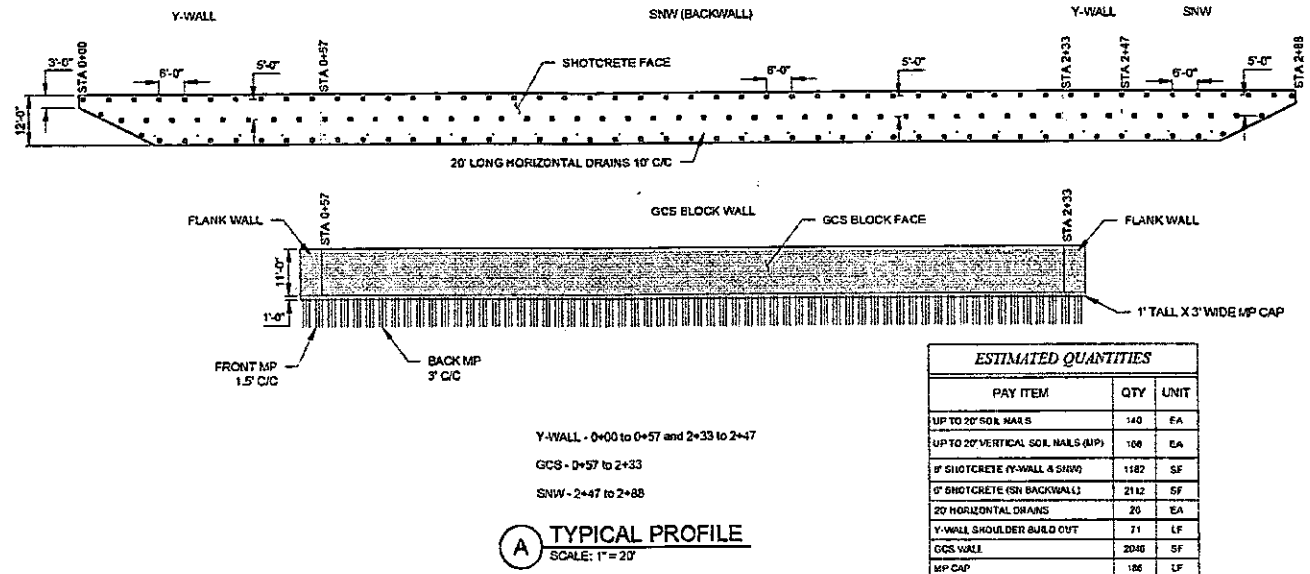


Figure 4 – Profile view of slope stabilization

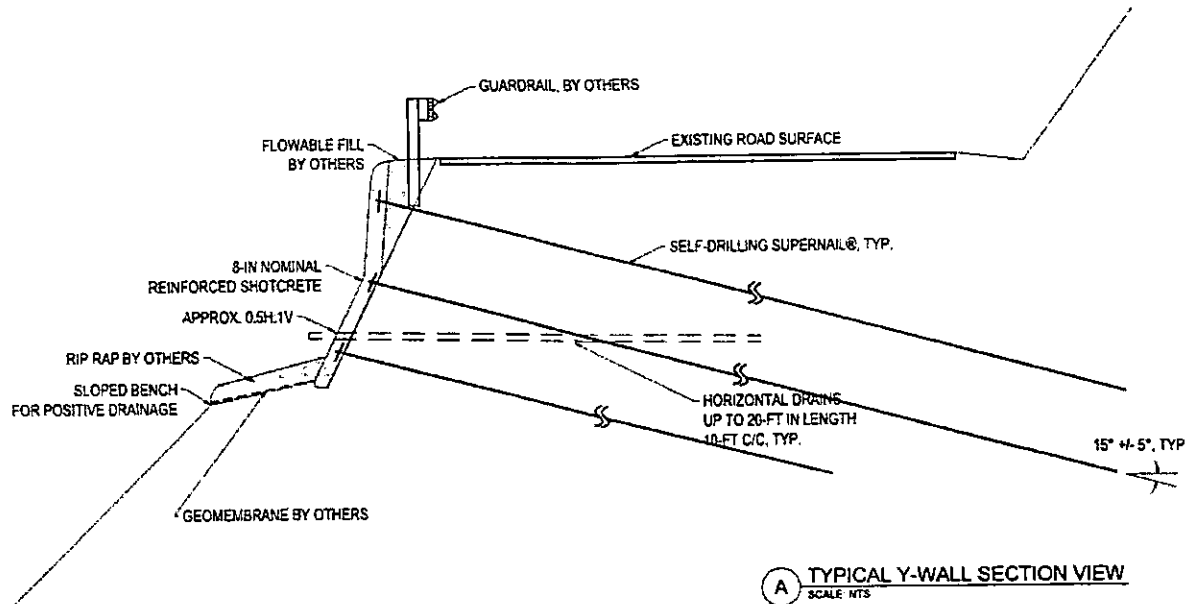


Figure 5 - Cross-Section of proposed slope stabilization for a Y-Wall  
(For illustration purposes only, nails may vary in length from what is shown above)

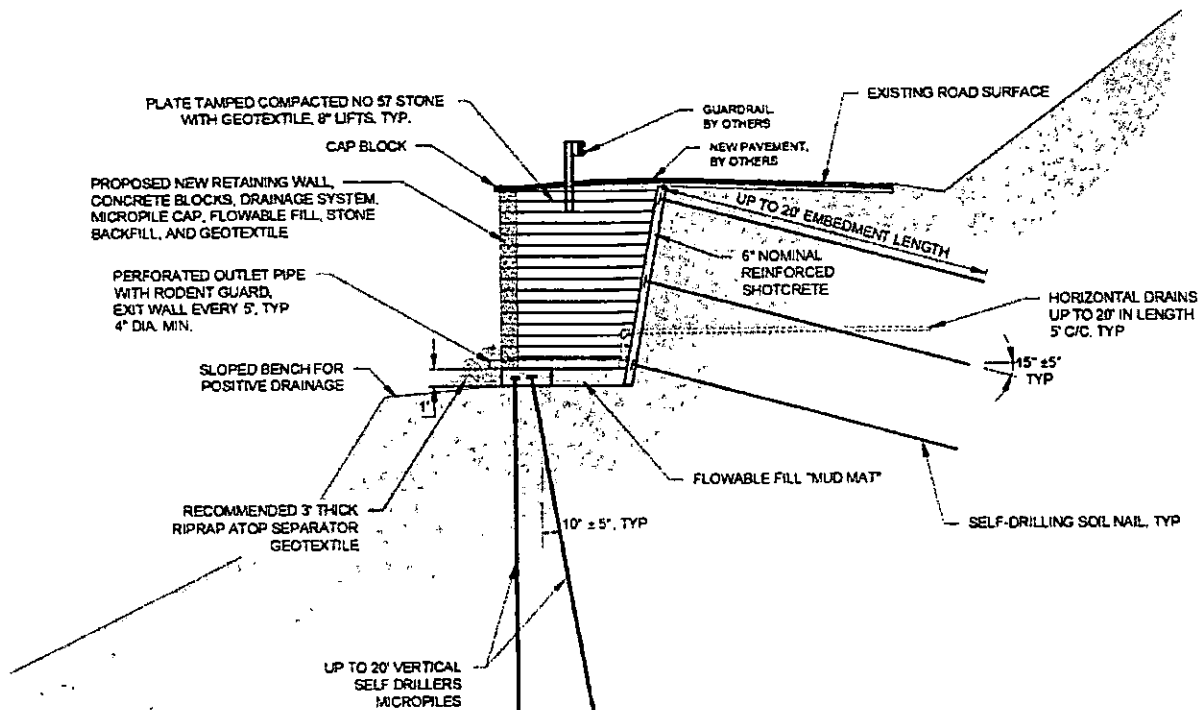


Figure 6 - Cross-Section of proposed slope stabilization for a GCS wall  
(For illustration purposes only, nails may vary in length from what is shown above)

**COST TABLE FOR MUNSEY HATCHER ROAD SLIDE REPAIR**

Line #	Description	~ Qty	Unit	Unit Price	Total
17	Primary Mobilization-Soil Nailing	1	EA	\$11,580.00	\$11,580.00
1	Nails, Self-Drilling, up to 20 ft	140	EA	\$722.00	\$101,080.00
1	Nails, Self-Drilling, up to 20 ft (Vertical/Micropiles)	186	EA	\$722.00	\$134,292.00
16	Shoulder Build-up, Road Service	71	LF	\$155.00	\$11,005.00
18	Shotcrete, Nominal 6-in thickness (std weather)	2112	SF	\$33.95	\$71,702.40
19	Shotcrete, Nominal 8-in thickness (std weather)	1182	SF	\$38.50	\$45,507.00
20	Shotcrete, Nominal 12-in thickness (std weather) - MP Cap	558	SF	\$50.80	\$28,346.40
37	Retaining Wall Facing Elements	2046	SF	\$48.00	\$98,208.00
38	Geosynthetic Reinforcement Fabric	2750	SY	\$2.00	\$5,500.00
53	Horizontal Drains, 0 to 50 ft	520	FT	\$35.30	\$18,356.00
	<b>Total</b>				<b>\$525,576.80</b>

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.

**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 12 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 (~ 21 CY flowable fill) material for the Shotcrete Y-Wall and Stone Backfill (~580 CY) for the GCS 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.**

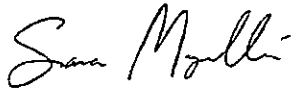
### SCHEDULE

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 4-5 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.

GeoStabilization International



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**MUNSEY HATCHER ROAD SLIP REPAIR**

GSI Work	525,576.80
Guardrail Installation	<u>35,000.00</u>
Total Project	<b>560,576.80</b>