

January 31st, 2022

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Subject: Proposal for Jones Bend Road Slide Repair – Blount County, TN
GeoStabilization International - Vendor ID: 0000160610
TDOT Contract Number: 000000000000000000000066906
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 Jones Bend Road in Blount County, TN for the Blount County Highway Department (BCHD). The slide area is located at GPS Coordinate: 35.868531, -84.014686 (Figure 1).

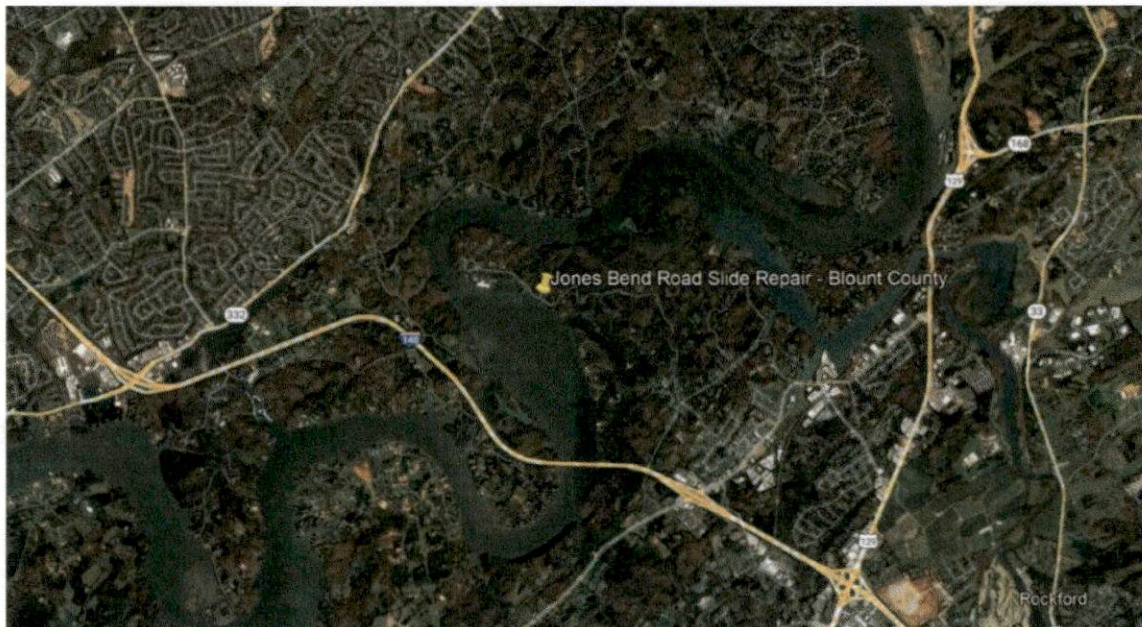


Figure 1 – Approximate location of project

PROJECT OVERVIEW

This proposal addresses installing a combination of Self-Drilling Soil Nails, Horizontal Drains, and Reinforced Shotcrete to provide stabilization for the slide area affecting Jones Bend Road in Blount County, TN. Existing conditions of this repair area, as of today's date, are shown in Figure 2 below. The proposed repair length was observed in the field by GSI at 151 LF.

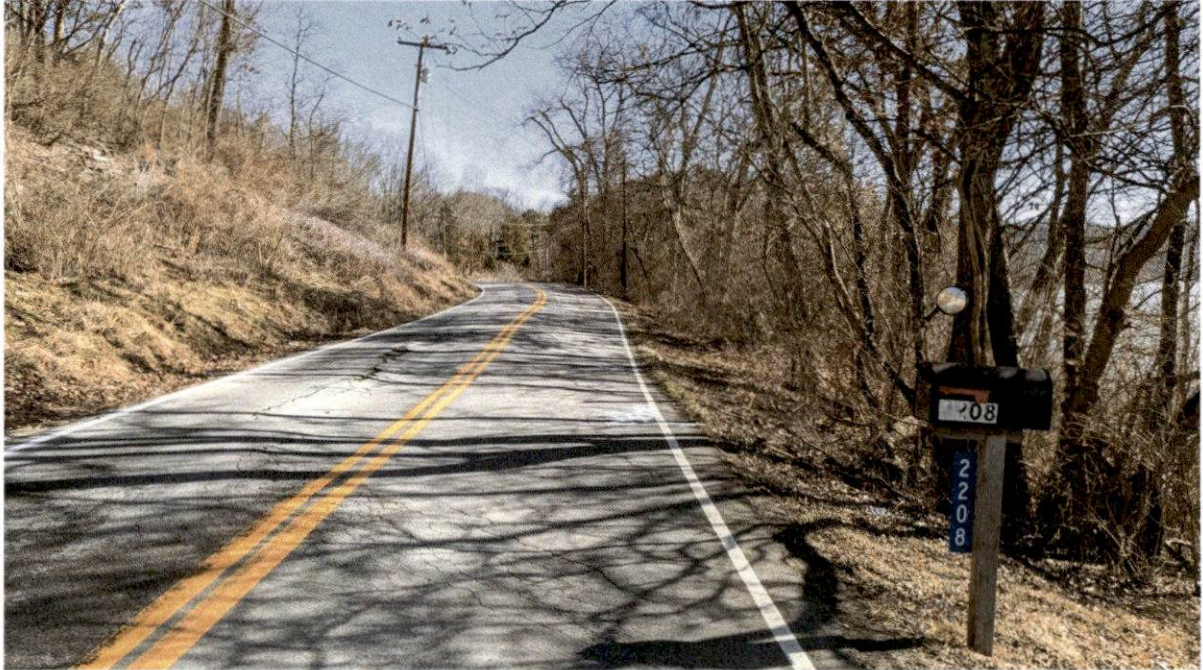


Figure 2 – Conditions along Jones Bend Road

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 starting approximately 3 to 4 feet from end of payment. 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 40-feet long into the excavated face to construct our typical soil nail wall, which will have a height of 12 feet. We will leave the nail ends protruding through the soil and cover the repair with 8-inch-thick steel reinforced shotcrete. 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. To prevent bench erosion over time, GSI recommends BCHD add a layer of riprap underlain by a geotextile fabric 3-feet thick tapering down to 1-foot thick at the base of our shotcrete wall.

GSI's repair will stabilize the road platform in its current geometry. However, the toe of the slope will continue to be susceptible to scour. Removal of material below our soil nail wall will destabilize the slope. It is imperative that the slope be armored against scour to maintain long-term stability of the roadway platform. GSI recommends BCHD install riprap underlain by a geotextile fabric at the toe of the slope. This project includes our seven-year warranty. However, the warranty will be voided if scour protection is not provided.

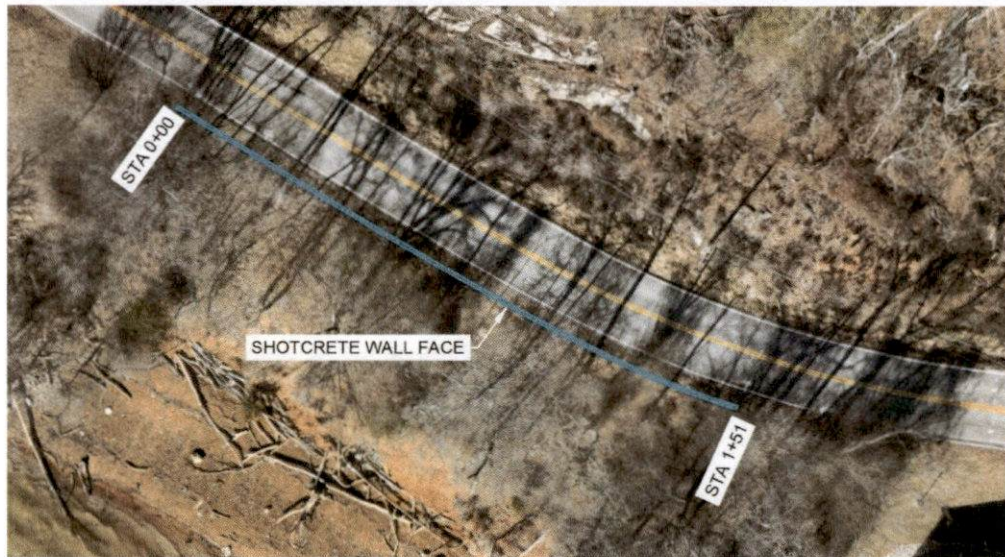
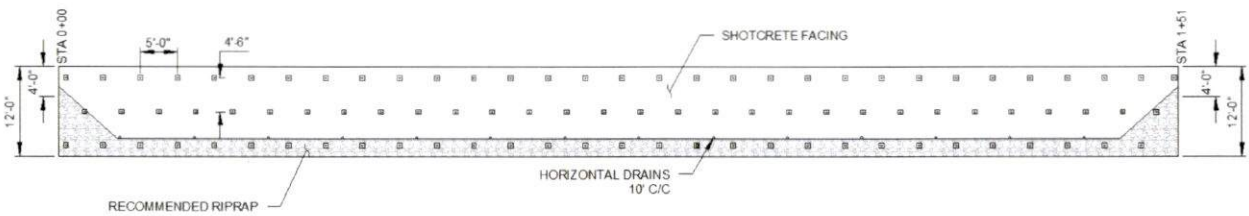


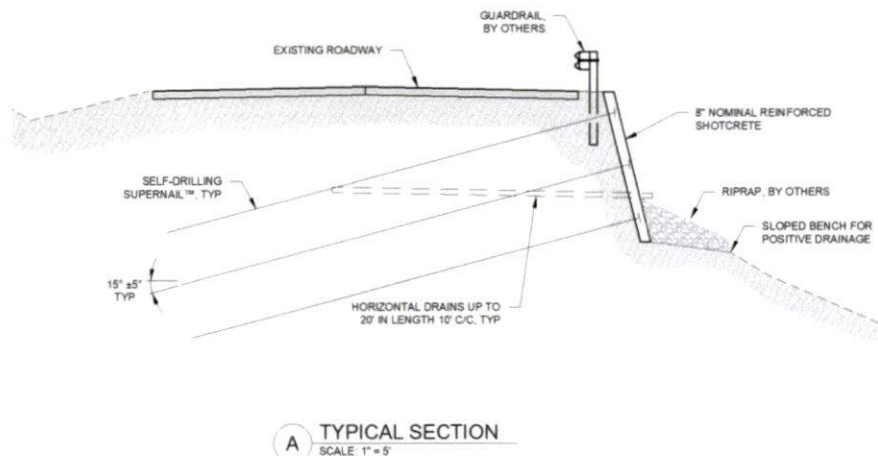
Figure 3 – Extents of repair area



A TYPICAL PROFILE
SCALE: 1:12

ESTIMATED QUANTITIES		
PAY ITEM	QTY	UNIT
UP TO 40' SOIL NAILS	91	EA
8" SHOTCRETE	1812	SF
20' HORIZONTAL DRAINS	280	LF

Figure 4 – Profile view of slope stabilization



A TYPICAL SECTION
SCALE: 1" = 5'

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 JONES BEND ROAD SLIDE REPAIR

Line #	Description	~ Qty	Unit	Unit Price	Total
17	Mobilization	1	LS	\$11,580.00	\$11,580.00
3	Nails, Self-Drilling Soil, up to 40 ft	91	EA	\$1,273.00	\$115,843.00
19	Shotcrete, Nominal 8-in Thickness	1812	SF	\$38.50	\$69,762.00
40	Soil Nail Proof and Verification Testing		EA	\$750.00	\$0.00
53	Horizontal Drains, 0 to 50 ft	280	LF	\$35.50	\$9,940.00
	Total				\$207,125.00

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.
 - It is recommended that BCHD add riprap 3 feet thick at the bottom of wall tapering to 1 foot thick, with underlain geotextile in addition to riprap protection of the cutbank lower on the slope.
- A supply of water suitable for construction use.
- 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.

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