



ADDENDUM No. 1

Geotechnical Peer Review for Upper River Gorge Drive, Aetna Mountain

CONTRACT NUMBER T-18-001

- 1) The RFQ Section 1.2 indicates that the Geotechnical Peer Review is to determine if the proposed improvements "are in general conformance with applicable local, state and federal codes, and all related geotechnical codes and technical standards" and later, in Section 1.3.B "whether the geotechnical design shown on the plans and specifications generally does or does not conform to the geotechnical requirements of the Tennessee Building Code and applicable codes". Can you provide a list of the specific codes and regulations that are to be compared against the proposed design?

Response: Relevant code for the Reinforced Soil Slopes (RSS) is the: U.S. Department of Transportation Publication No. FHWA-NHI-10-024 Federal Highway Administration FHWA GEC 011 November 2009 "Design and Construction of Mechanically stabilized Earth Walls and Reinforces Soil Slopes – Volume I and II".

Relevant code for the Soil Nail Walls is the U.S. Department of Transportation Publication No. FHWA-NHI-14-007 Federal Highway Administration FHWA GEC 007 February 2015 "Soil Nail Walls Reference Manual".

The Tennessee Building Code is not applicable for this roadway construction, geotechnical design and standard factors of safety for the Soil Nail and RSS systems are in accordance with the FHWA manuals cited above.

- 2) Given that this is a roadway design, is it also applicable to include a determination as to if the geotechnical design conforms to the **TDOT Geotechnical Manual (version 2.0, Rev 10/15/2016)** as well as **TDOT Special Provision 624 - Retaining Walls (SP624)**

Response: The FHWA manuals identified in response one were used for the design of the RSS and soil nail walls. The cited TDOT manuals refer to the FHWA manuals for design methodology.

- 3) Can you provide the total number of geotechnical borings, geotechnical reports and pages of calculations that will be provided for review?

Response: The phase I Geotechnical Engineering subsurface program consisted of (37) borings and (2) electrical resistivity lines included within the report prepared by Terracon Consultants, LLC. The phase 2 subsurface program consisted of performing a seismic refraction survey to evaluate the underlying rock profiles. ECS Southeast, LLP performed (23) survey lines at designated locations and presented their findings in a report. To support the RSS and ground improvement of one of the systems, 6 additional borings are currently being advanced by Tri-State Drilling in the vicinity of the planned RSS. The soil nail wall calculations package consists of 213 pages and the RSS package consists of 125 pages.

- 4) What firm(s) completed the geotechnical evaluations and recommendations for retaining structures and/or slope stabilization?

Response: Chazen Engineering Consultants completed the design for the RSS systems and GeoServices LLC supporting Rembco Geotechnical Contractors Inc. designed the Soil Nail Walls.

- 5) Are the retaining structures/slope stabilization measures currently designed and developed as construction plans and technical specifications?

Response: Yes, they have been developed with a Design-Build construction mindset. The applicant has selected Rembco as the contractor and has advanced the drawings to permit level with them as part of the design team. Short form specifications have been included on the drawings.

- 6) Will any of the geotechnical stabilization measures be addressed after the construction contract is let, through a design-build approach?

Response: No, the contractor (Rembco) was involved in the preparation of the permit set. All methods for geotechnical stabilization have been included in the permit drawings, however, when unforeseen conditions arise, they will be evaluated by the design team on a case by case basis.

- 7) If the answer to Question 6 is "yes", will the Geotechnical Review Firm be retained to evaluate the contractor's design?

Response: No, the design is included in the provided documents for your review.

- 8) Will there be a detailed topographic plan available of the roadway area, and the slopes extending above and below the roadway?

Response: Yes, full profiles and topography are included in the design package.

- 9) Will the review include only geotechnical data, or will a complete roadway plan set with cross-sections showing cut and fill slopes (and where the proposed 2H: 1V slopes would daylight), and the location and design of retaining structures be provided for review?

Response: The complete roadway plan set will be provided for a comprehensive review and to provide context. We ask that review comments be limited to the projects Geotechnical Engineering aspects only.

- 10) How many retaining walls (and what type) and how many reinforced slopes are included in the

Response: There is approximately 85,000 sf of soil nail reinforced wall/slopes and eight reinforced soil slopes totaling approximately 30,000 sf.

- 11) Will the review need to consider the proximity to, and potential for excavation or blasting related damage to known caverns (such as Raccoon Mountain Caverns)?

Response: No, the roadway alignment at the summit is approximately 5,000 feet from the caverns.

Rock cutting is limited to the summit area. If necessary, blasting will meet all state and local standards. Blasting will also be less than the blast levels currently reported and recorded by the APAC Mid-South Aggregates Quarry.

- 12) There are several existing waterways that will be crossed. Will the design include bridges, culverts or both? Is review of those structures included in this scope?

Response: The design of the drainage features at the existing waterways are concrete culverts. Designs are included; however, the scope of this review should be limited to geotechnical considerations (review of the pipe penetrations and interaction with the geotechnical aspects of the project).

- 13) Regarding Question 5 above, in addition to crossing existing waterways, there are also "open and closed drainage systems to convey stormwater run-off down the mountain to the appropriate discharge point". If the drainage systems are undersized or improperly designed, there is the potential for erosion or scour that could create stability issues. Does the scope of work include evaluating the sizing of bridges/culverts/storm drains, and the scour protection provided where the conveyance systems discharge storm run-off?

Response: The Stormwater portion of this project has received approval from the City Land Development Office (LDO). This scope of your work should not include any analysis of Stormwater, except as described in the response to No. 12 above.

- 14) Will the location of all proposed utilities be shown, along with how any anchoring or reinforcement system for walls would be positioned in proximity to those features?

Response: Yes, roadway cross sections have been provided for review. All utilities have been installed under the "uphill" road bed and have been located outside/away from reinforcing zones.

- 15) Is it correct to assume that the selected firm would not be responsible for reviewing CGP or ARAP permit applications, or compliance with the Hamilton County LID or Chattanooga rainwater capture regulations?

Response: Yes, the review should be limited to geotechnical concerns only. All other reviews will be provided by LDO.

- 16) Item 1.7 in the RFQ states "It is the intent that this contract not last more than a total of 60 days from....". However, Item 3.7 states "The end of the Contract shall be approximately twelve (3) months after Notice of Award for the CEI Services". Please clarify the intended length of the contract, and if the Geotechnical Design Review Engineer will have any role during the CEI phase of the project.

Response: The following schedule will occur after selection.

- 1. Presentation from Design/Build team**
- 2. 3-week review of documents and response to comments from design team.**
- 3. Presentation/Discussion with design team /CDOT.**

The total length of the contract is not intended to extend beyond 60 days.

17) If Item 1.7 is correct, there is a short schedule for review of documents, and a response. Can that schedule be extended given that this is a very complex project?

Response: Timing is critical in order to stay ahead of construction. If additional time is needed, please indicate in the RFQ submittal how much time is being requested.