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May 2, 2023

Rowan Percheron, LLC
1330 Post Oak Boulevard, Suite 1350
Houston, Texas 77056

Attn: Joel Zemanek
P: 231-463-6079
E: jzemanek@rowandigit.al

Re: Geotechnical Engineering Report
Percheron Data Center
Tower Road
Morrow County, Oregon
Terracon Project No. 82225118

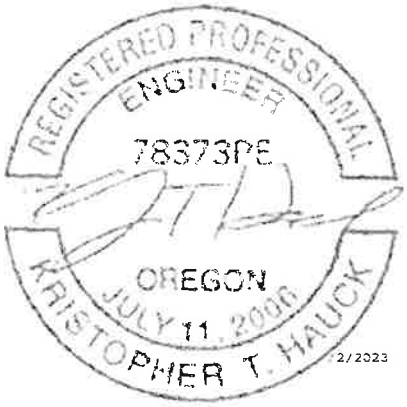
Dear Mr. Zemanek:

We have completed the scope of Geotechnical Engineering services for the above referenced project in general accordance with Terracon Proposal No. P82225118 dated February 6, 2023. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations and floor slabs for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,

Terracon



Ryan T. Houser, CEG
Project Geologist

Kristopher T. Hauck, P.E.
Senior Principal | Office Manager

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Note: This report was originally delivered in a web-based format. **Blue Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the terracon logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

Refer to each individual Attachment for a listing of contents.

Report Summary

Topic [1]	Overview Statement [2]
Project Description	Site consists of a single 275-acre parcel. Project consists of construction of four, 225,000-square-foot data center buildings, a power substation, security guard house, generator yards, retention ponds, and associated pavements.
Geotechnical Characterization	▪ **Data Center Building Area**: The surface soils underlying the data center area consisted of a thin mantle of rooted topsoil underlain by loose silty sand and silt soils up to about 15 feet below the ground surface (bgs). These soils are interpreted to be wind-blown (loess) deposits and are susceptible to collapse. The loess was generally underlain by dense to very dense cemented silty sand soils and basalt bedrock. Basalt bedrock was encountered in the data center building area at depths as shallow as 2 feet bgs. Perched groundwater was observed in one boring in the data center building area at a depth of about 22½ feet bgs. ▪ **Substation and Guard House Area:** The substation and guard house area was generally underlain by the same materials as described above, with the exception of one boring that did not encounter bedrock. In this boring (SS-3), subsurface materials consisted of loess extending to about 15 feet bgs, underlain by flood deposits consisting of silty sand, sand, and elastic silt to the full depth explored (61½ feet bgs). Groundwater was encountered in this area ranging from 6½ to 9½ feet bgs.
Loess Soils Collapse Risk	The near surface loess soils exhibit moderate risk collapsible and the deeper soils exhibit negligible to slight risk collapsible soils. The collapse of the "honeycomb" structure is typically instigated by wetting and loading or overstressing from the loading without wetting. Therefore, we recommend mitigation of the collapse risk by removing and replacing the shallow loess soils or performing ground improvement of these soils within the proposed building areas. Ground improvement is also recommended where total settlements for duct banks and utilities outside of the data center building pads must not exceed 1 inch.

Topic [1]	Overview Statement [2]
	We understand the data center pads will be developed by maintaining a building pad with 7 to 10 feet of excavatable material for installation of underground utilities (i.e. 7 to 10 foot separation from bedrock). Depending on finish grades, this likely will require removal of basalt bedrock, which was encountered as shallow as 2 feet bgs in our explorations. Amount of rock excavation is not known, since the grading plan is currently in development.
Earthwork	Much of the site surficial soils consist of low-density material, we expect significant shrinkage that should be accounted for in the grading planning from excavation to placement and compaction of the loess materials. The moisture content of the in-situ material is significantly below optimum moisture content and will require moisture conditioning in order to be able to be compacted in accordance with the compaction requirements. It is possible that a significant water import to the site will be needed.
Shallow Foundations	Shallow foundations can be used to support the structures following mitigation of the loess soils and/or ground improvements.
Deep Foundations	Cast-in-place reinforced concrete drilled shafts may be used to support the planned dead-end support structures for the substation.
Pavements	With a minimum of 12 inches of scarified and compacted subgrades prepared as noted in Earthwork, typical pavement section can be expected for this development.
General Comments	This section contains important information about the limitations of this geotechnical engineering report.

1. If the reader is reviewing this report as a pdf, the topics above can be used to access the appropriate section of the report by simply clicking on the topic itself.
2. This summary is for convenience only. It should be used in conjunction with the entire report for design purposes.