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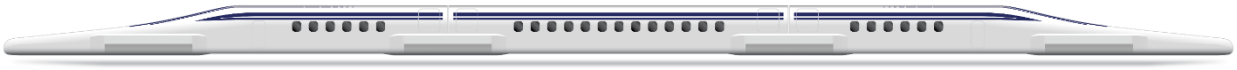

Exhibit J
Memorandum on Tunneling Impacts

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COMMUNICATION

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Subject: MDE Comment responses for Water Quality Certification (WQC) Package

Date: November 2, 2022

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1 COMMENT RESPONSES

1.1 MDE Comment #1

"The WQC Request should contain documentation on any potential adverse impacts to groundwater resources due to tunnel construction, including specific construction techniques or BMPs (Best management Practice) which may be utilized to minimize these impacts to ensure that the quality of groundwater is maintained."

1.1.1 GZ Response to Comment #1

Potential Adverse Impacts

Groundwater drawdown:

- *Potential Impacts: surface structures (settlement), sensitive environments (marshes, wetlands, etc.), groundwater wells*

Groundwater Quality Impact from Tunneling Operations

- *Potential Impacts: use of soil conditioners and aquatic toxicity, stirring contaminate plumes, sedimentation*

Industry Best Management Practices (BMP)

The presence of sensitive structures and environmental resources above the proposed MAGLEV alignment necessitates the selection of tunneling technology that is capable of not only excavating safely through the anticipated ground and groundwater conditions, but doing so in a manner that avoids and minimizes disruption to surface structures/activities and the environment.

Groundwater drawdown, which can result in soil consolidation and some surface settlements as well as adverse impacts to surface and subsurface groundwater resources, is addressed through selection of appropriate tunneling technology. Industry best management practice (BMP) is to minimize any impacts to groundwater quality and flow regime by minimizing groundwater drawdown, which is achieved through the use of so-called closed-face pressurized Tunnel Boring Machines (TBM) (e.g. Slurry TBM, Earth Pressure Balance (EPB) Machines). This technology is standard practice in the tunneling industry

worldwide in the last 20 years for tunnel projects in soft soils below the groundwater level, especially in urban environments. Such projects include the Clean Rivers Project in Washington D.C., the Outfall Tunnel in Los Angeles, CA, the Northgate Link in Seattle, WA, to name just a few in the US. As indicated in the DEIS Construction Planning Memorandum, appendix I of the BWRR WQC Submission, these are the selected tunneling technologies for the project. Furthermore, the selected tunnel linings will feature gasketed, pre-cast concrete segmental tunnel liners. Gasketed linings result in water tight tunnel envelopes that guarantee no groundwater infiltration into the tunnels meaning that no groundwater drawdown will occur thereby avoiding potential impacts.

During construction, soft ground pressurized face TBMs utilize various environmentally friendly foams and soil conditioners to plasticize/liquidize the excavated material in the excavation chamber and apply an active pressure at the tunnel face to balance the pressure ahead of the face and prevent groundwater inflow and ground loss. These conditioning agents are also used to minimize clogging of the machines by clays as well as wear and tear on the machine itself. These conditioning agents and foams have been carefully developed for environmental friendliness and to achieve practically no aquatic toxicity per Organisation for Economic Co-operation and Development (OECD) guidelines as well as rapid biodegradation. It is also recognized that the application of these additives, if used, is strictly limited to the tunneling face itself. Apart from a vast application nationally and internationally in environmentally protected areas, numerous local projects have used such environmentally sensitive tunneling technologies such as the majority of the tunnels recently constructed as part of the "Clean Rivers Project" for DC Water in Washington, DC.

1.2 MDE Comment #2

"The WQC Request should provide details on tunneling methodology and any potential impacts related to inadvertent returns ("frac-outs") during construction. A contingency plan and/or restoration plan will need to be developed for the project, especially in areas where sensitive resources could be impacted by frac-outs."

1.2.1 GZ Response to Comment #2

The tunneling methodologies to be employed for construction are Slurry-type and Earth Pressure Balance-Type Tunnel Boring Machines, as outlined in the DEIS Construction Planning Memorandum, appendix I of the BWRR WQC Submission. The machines are designed for the purpose of tunneling within the groundwater table and employ active face pressure and a gasketed pre-cast concrete segmental lining to prevent groundwater drawdown and avoid surface settlements. Such machines are outfitted with real-time monitoring tunneling face pressure sensors that continuously check and balance the active face pressure exerted by the machine to support the face with the hydrostatic pressure to prevent development of a blow-out (or "Frac-out") scenario. Such a plan will include monitoring of sensitive areas as well as contingency measures/plans to bring face pressures quickly back to pre-determined values. The generally deep depth of the tunnel alignment itself negates the likelihood of "blow-outs" occurring on account of the weight of overburden, overburden composition and hydraulic head upon the TBMs. The soils stratification and soils types are not prone to providing any paths for possible fluid migration to the surface. Also, the pressures employed are to balance hydrostatic heads and soil pressures and thus below pressure values that would be needed to "push" any returning fluids to the surface. Unlike in fracking operations the purpose of pressure balanced machines is to keep the soils and ground water at their in-situ conditions, and not to fracture (frac) the ground as is the intent and underlying principle in fracking operations that inherently requires very high fluid pressures. Further, the portals, which constitute the shallowest points of the tunnel alignment, are designed such that approximately one (1) tunnel diameter of ground cover is present; serving to minimize ground settlement and potential for blow-outs. If a minimum overburden cannot be maintained on account of alignment requirements, or soil conditions necessitate, ground improvement would be performed at the area(s) of concern prior to tunneling (e.g. jet grouting, deep soil mixing, ground freezing, etc.). These ground improvement methods solidify the ground to such an extent that any fluid migration to the surrounding ground and thus surface is strictly inhibited.

Concerns regarding the potential for surface disruptions and adverse impact to environmentally sensitive areas are typically addressed through a combination of robust contractual requirements and specifications. This includes identification of sensitive areas along the alignment and careful consideration of the local ground conditions in development of tunneling parameters and face pressure control by the TBM(s) as well as extensive surface monitoring. Such areas will be identified and highlighted in the project Geotechnical Baseline Reports (GBR) along with the corresponding construction considerations and possible mitigation. Additionally, the contractor will be required to develop a work plan, which will include prescribed actions to be taken in the event that the TBM monitoring, along with surface monitoring, indicate an increased likelihood for development of adverse conditions. In the event that such adverse conditions occur, the work plan will also include prescribed actions to be taken to remediate any impacted areas.