Document Reviewed:
Revised Mine Remediation Plan, Mine Filling at Streets of West Pryor, Lee's Summit, Missouri, prepared for: Streets of West Pryor, LLC, prepared by: Geotechnology, Inc., signed and sealed, dated May 6, 2021 Geotechnology Project No. J035637.02.

Notes:
Previous document versions which were reviewed include the following Geotechnology documents:
Revised Mine Mitigation Study (dated 2/12/21)
Long Term Monitoring Plan (dated 4/5/21)
Mine Action Response Plan (dated 4/8/21).

There are revisions and new content compared to the previous versions listed above, including the following:

1) Section 2.2 Stability Analysis (pdf page 16) and Appendix C (pdf page 152), a new Mine Stability Calculation was provided which consists of computation of an estimated stress zone of influence due to a 10-foot wide structure spread footing at a depth of 3 feet below ground, considering the depth and thickness of the geologic strata and the depth to the underground mine space. The report text indicates that:

   "Assuming a minimum of 55 feet of overburden and a maximum footing dimension of 10 feet, impact on the mine space is not anticipated. With the application of engineering controls, the surface over the mine is viable for development."

   Comment: The stress zone of influence analysis as provided is very generic and doesn't appear to model the planned development, which to my understanding consists of a multi-story hotel building(s) and numerous multi-story residential buildings situated close together. I'm not clear on Geotechnology's intent in providing this analysis. Not really a comment that they need to address.

2) Section 5.0 Mine Access (pdf page 20), this section was expanded to include discussion of access to the underground mine, and coordination with the operator of the quarry north of I-470 (Star Excavation), including precluding mine entry when there is blasting ongoing at the quarry, and conditions for long-term mine access.

   Comment: I had previously provided, in response to a request from Ryan Elam, suggested criteria for the permanent long-term access portal to underground mine spaces, they were as follows:

   a) Secured against unauthorized access.
   b) Monitored/inspected at regular intervals for security, safety & integrity.
   c) Of sufficient diameter to accommodate whatever personnel, materials and equipment would be anticipated to use the access and safely perform inspections – such as safety equipment, survey/monitoring/inspection equipment, inflatable boats, and other equipment and materials.

d) Regulated as a permit-required confined space in accordance with the OSHA Standard in 29 CFR 1910.146 per the Permit Required Confined Space Program (https://labor.mo.gov/DLS/workplaceSafety/confined_spaces).

4) New Section 6.0 Long Term Monitoring Plan (LTMP) and new Appendix J in the Plan.

Comments:

a) Section 2.2 Survey Network Location, 2nd paragraph (pdf page 269) includes recommendations regarding sequencing of baseline surveys and issuance of building permits and certificates of occupancy. The City should review and comment (if necessary) on these recommendations in relation to the City's building and occupancy permitting processes.

b) Section 2.4 Monitoring Frequencies (pdf page 269): this section recommends reading frequency of the settlement monitoring points at two-month intervals during the duration of surface construction, and then post-construction at three-month intervals for one year, then twice per year thereafter depending on evaluation of the settlement data.

Regarding reports, I interpret this to mean that a survey report will be submitted once each round of survey is completed, and each report will include time-history graphs (the time history graphs were added from the previous version of the mitigation plan).

5) New Section 7.0 Mine Action Response Plan (MARP) and new Appendix K in the Plan.

Comments:

a) Section 3.0 Settlement Monitoring, table of Settlement Magnitude / Action Required: The table includes "trigger points" in the form of various magnitudes of settlement, and required actions including increasing the monitoring frequency and adding underground observations. The text following the table indicates that:

"…the magnitude of trigger levels is reflective of an atypical settlement due to routine construction. These trigger levels and associated action requirements are subject to change based on observed conditions during construction, mine inspection observations, and survey data."

The application of the trigger point magnitudes of settlement is not clear to me; for example, the table recommends that for overall settlement up to 3", the monitoring frequency should be increased to monthly (from every two months for the duration of surface construction). I think we should request clarification from the Developer on how to interpret this table.
Further, the magnitudes of overall settlement seem quite large to me given the proposed structure and foundation types. I recommend we request clarification from the Devleoper on the basis for the settlement magnitudes.

6) New Section 8.0 Mine Entry Safety Plan and new Appendix L in the Plan.

Comments:

a) Section 4.3.1 Mine Access (pdf page 290): See the Item 2 above regarding the mine access portal.

No further comments on Section 8 and Appendix L.