## Exhibit I

Building/Gorge Wall Evaluation, Temporary Shoring, and Retaining Wall to Remain

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#### BUILDING/GORGE WALL EVALUATION, TEMPORARY SHORING, AND RETAINING WALL TO REMAIN

The stability of the Genesee River gorge wall at Beebee Station is a critical element to the project. Because of the environmental conditions inside the existing buildings, the amount of building debris between the buildings and the gorge wall, the nature of the buildings west walls built into the gorge wall, and the harsh terrain, neither a full condition assessment nor horizontal borings to determine of the actual proximity of the gorge rock wall was feasible at the time of contract document development.

The contractor is responsible to perform a rock face stability assessment after the existing buildings have been remediated/abated and demolished to expose the rock face or a point (i.e. leave last two bays against wall to remain) to safely allow such geotechnical investigation and condition assessment of existing walls and rock face by a Licensed Structural Engineer and/or Geotechnical Engineer or Engineering Geologist, experienced with rock face stability, rock support design, and installation. Upon assessment the contractor will be able to determine the specific requirements of slope stabilization based on actual conditions observed at the time of demolition.

- 1. The contractor shall prepare detailed designs, analyses, Construction drawings and specifications for the areas requiring rock support and/or overcut, or retaining walls so that the gorge wall is left in a stable condition following the work. The designs shall be in accordance with all applicable criteria and standards cited the Project's technical Specifications and industry standards. Geotechnical and structural details related to slope stability which are included in the Project Specification documents are typical details provided as reference only and are not to be used for Construction. The contractor shall provide a site-specific design for temporary and permanent slope stability utilizing existing stable rock face, on-site structures to remain with additional permanent support elements as required by Contractors Engineer. Sculpted and stained shotcrete facing, lag anchors, or other means and methods shall be proposed by the Contractor for temporary and permanent slope/wall stabilization. The Contractor's design shall be prepared, stamped and sealed by a professional engineer licensed in New York State.
- 2. A copy of previous geotechnical engineering reports and investigations completed for the contract documents is included in the Specification book. The Contractor is required to conduct his own geotechnical investigations as required to plan his work and complete the design.
- 3. Temporary excavation support required during construction shall be designed for short-term loading due to earth pressures, groundwater pressures, surcharge pressures, and construction equipment loading. Detailed design of the temporary decking, sheeting, and bracing and other elements shall be prepared by the Contractor. The apparent earth pressure diagrams shall be developed based on the type of earth-retaining structure to be used, actual surface topography, and site-specific soil, rock, and groundwater conditions as determined by the Contractor. Groundwater loading shall be developed based on the construction procedures and site-specific groundwater conditions. Surcharge pressures due to structures, construction materials, and equipment point, line and area loads shall be considered.

- 4. In addition to the general requirements for support of excavation, the Contractor shall indicate special requirements for the installation and removal of temporary bracing systems that relate to the designs of underpinning and protection walls, such as levels of bracing tiers, the maximum distances of excavation below an installed brace, and the amount of preloading. However, the detailed design of the temporary bracing system shall be the responsibility of the contractor, based on the overall criteria stated in the documents.
- 5. Monitoring of existing structures, roads, and utilities. The design shall provide that adjacent structures and utilities are protected against damage due to the construction of the temporary and permanent work. Limiting values of movement (horizontal and vertical) and distortion on each building, structure, road, and utility within the zone of influence of the work shall be established by the Contractor's Engineer following a pre-construction survey and building condition survey.
- 6. As part of the design of all permanent structures, a system of construction monitoring shall be established to include the following, at a minimum:
  - a. Measurement of ground water levels and ground water pressure;
  - b. Monitoring of settlement of the permanent structures and surrounding area both during and after construction. In all cases, monitoring shall be initiated well in advance of demolition/construction to establish baseline readings; and measurement of lateral movement of excavation support walls and permanent structures.
  - c. All other monitoring requirements deemed necessary by the Contractor's Engineer to protect existing structures, roads, and utilities.

### DEMOLITION SEQUENCE OPTIONS FOR SLOPE STABILITY

The following demolition sequences are options proposed by the Owner's Engineers Geotechnical Engineer:

# Option A – Reinforce and Tie-back Existing Building Walls to Minimize Soil / Rock Excavation

- 1. Cast or shotcrete new temporary or permanent walls over existing walls between building floors prior to any building demolition.
- 2. Install rock bolts / temporary or permanent tiebacks on a grid pattern.
- 3. Demolish building without damaging the tieback walls.
- 4. Implement final grading plan.

# *Option B – Excavate and Expose Rock Face and Demolish Structures in Steps, Top to Bottom*

- 1. Excavate soil to expose rock face next to the uppermost building.
- 2. Install rock support as required in field.
- 3. Demolish uppermost building.
- 4. Repeat to bottom.
- 5. Implement final grading plan.