of slip on the underlying blind thrust, a handful of very minor faults above could be expected to slip small amounts.

The most conspicuous of these lesser faults manifests itself at the ground surface as a small 30-foot (10-meter) high wrinkle in the ground south of the high-rise district. Comprehensive studies of the escarpment for the Metropolitan Transit Authority's Red Line concluded that this very minor structure produces 20- to 32-inch (50 to 80-cm) high ruptures about every 2,800 to 3,900 years, probably in association with seismic rupture of the larger Elysian Park fault.[9] The question at hand is whether or not any small active faults exist on the BLC property.

2.0 METHODS

2.1 Introduction

Previous geotechnical investigations conducted for the District by others[10] have determined that the Belmont property is not within or near any Alquist-Priolo Earthquake Fault Zone. The nearest known active tectonic disruption of the ground surface is the Coyote Pass escarpment, 0.7 miles (1 km) south of the site. Old geologic maps show the site to be devoid of geologic faults, except for a small fault or flexure across the very northwestern corner of the site, near the intersection of Temple and Boylston Streets.[11] Investigation of the site by seismic reflection last year suggested the presence of several faults beneath the surface at the BLC.[12]

2.2 Exposing and Mapping the Strata and Faults at the Surface

To determine whether or not these inferred faults exist, ECI, with the assistance of the URS Corporation, excavated a series of shallow, 4 to 12-feet (1.2 to 3.7-meter) deep trenches across the BLC site. Analysis of soils or geologically young sediment atop the exposed rocks would have enabled us to assess the ages of any faults that we found in the bedrock.

ECI recorded in detail the strata, faults and other features on one side of each trench. For reference, we placed horizontal string lines along the wall to be mapped in each trench and marked 5-foot lengths, measuring from one end of the trench. ECI geologists then inspected the trench wall and mapped the locations of key layers at a scale of 1-to-60 (i.e., 1 inch on paper = 60 inches or 5 feet of the trench exposure). In critical places, such as where we wished to confirm or measure the orientation of a fault, we traced features across the floor of the trench or onto the opposite wall.

All the maps of the trench walls, referred to as trench logs, are included in Appendix B of this report. Each set of trench logs is prefaced by a short description of the reason the trench was cut, its length and other physical attributes, the nature of the strata exposed, and the nature of any faults discovered. The symbols used on the trench logs and maps are also explained in Appendix B. In addition, ECI photographed shallow trench wall exposures and primary fault zones. We prepared a mosaic of these photographs to create a photographic record of each trench. These are located on the compact disk (CD) in the back of the report.