In 1928, the Seattle School District purchased a site for what is now the Genesee Hill building in the Dover Addition of West Seattle. When the construction of the planned Dover School did not take place over the next 15 years, the district considered selling the property. This decision may have been reversed thanks to the actions of area parents, who as early as January 1945, expressed the need for a new school because of overcrowding at Jefferson, Lafayette, and Alki. Their complaints led to a meeting in November 1947 where the board agreed to construct a semi-permanent, expandable, and transportable building based on a design used in two other district schools (see Arbor Heights and Briarcliff). The school was slated to open with four rooms because future needs were not certain.

Work began in early June 1948 and was delayed on a number of occasions by the scarcity of building materials. Each room was constructed separately and linked by walled concrete hallways. Two special features were the use of Roman bricks and large, corner windows.

Beginning in September 1948, the 165 students in grades K–3 assigned to Genesee Hill School, named after the street it fronted, attended half-day classes at Jefferson School. Genesee Hill was finally ready to open at the beginning of the second semester of the 1948–49 school year.

A survey taken in spring 1949 showed that at least two more classrooms would be needed the following year. The need for additional space became even more desperate when an earthquake damaged the Lafayette School in April 1949. A 10-room addition was completed at Genesee Hill just three days after opening day of the 1949–50 school year. Lafayette pupils in grades 1–4, along with their principal, came to Genesee Hill for one year. Property to the east along 50th Avenue SW was added for a playground area. In September 1950, Genesee Hill was expanded to grades K–6 and had an enrollment of 479.

A second addition in 1953–54 included administrative offices, a teachers room, a lunchroom-auditorium and kitchen, and gymnasium.
Peak enrollment came in 1958–59 with 726 students. In September 1964, enrollment fell below 500 for the first time since the inaugural year. In the early 1970s, several portables were used in addition to the main building, although a boundary revision had sent 150 children to the new Schmitz Park School. In 1971, a double portable was added for use as a learning resource center. Five more portables were added in 1973 to house 60 students taking part in the school's new learning-language disability classes.

Some time before 1989, the students selected Dino as the nickname of the school mascot. A mural depicting different types of dinosaurs adorned the hallway wall.

In January 1988, the school board had to choose between Genesee Hill and Schmitz Park for closure. Genesee Hill was selected because of its small size, poor condition, and high cost of operation. That year enrollment stood at 223 students in grades K–3. The next year, with closure looming, enrollment dropped to just 131 students. After it closed, Genesee Hill’s boundaries were subsumed by Schmitz Park School. During the 1989–90 school year, Gatewood students were temporarily housed at Genesee Hill while their school was being renovated.

In September 1994, Alternative Elementary #4 moved to Genesee Hill from Boren as its enrollment was projected to increase from 70 to over 200. At that time, a new program called Huchoosedah was introduced within AE #4. Huchoosedah was said to be “the Salish word for ‘passing on cultural knowledge.’” Native-American students were recruited for this curriculum, and their numbers increased from 10 to 45. Subsequently Alternative Elementary #4 was renamed Pathfinder School.

Pathfinder School is an alternative school with a Native-American focus. Pathfinder practices an expeditionary learning approach in which classes embark on learning expeditions focused on an interdisciplinary theme or topic for six or more weeks. The 11 multigrade classes are organized into three halls: Earth, Wind, and Sky. Each class is a “clan” named for an animal. Thus a student will be in the Coyote Clan, rather than the 4th or 5th grade.