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HAYDEN FLOUR MILL & SILOS

Survey Number: **HPS-193**
Year Built: **1918; 1951**
Architectural Style: **Industrial - Flour Mill**

"We must find the best way to link Town Lake with downtown -
and right now the development of the mill and silos can do just that."
- Tempe Mayor Hugh Hallman

[letter to Historic Preservation Commission - .pdf]

HISTORY + CONTEXT

The community held its breath the afternoon of October 1, 2002, as a three-alarm fire burned one of Tempe's oldest landmarks; the Hayden Flour Mill. That a blaze that took 100 firefighters many hours to contain did not destroy this community cultural resource is best explained by understanding its

construction.

The Hayden Flour Mill is the oldest cast-in-place, reinforced concrete building in Tempe. The technology used at the mill developed in response to the 1906 San Francisco earthquake and fire. Although reinforced concrete had been used on the West Coast during the last quarter of the nineteenth century, in 1906 it was still in the early stages of development. After the success of this technology in 1906, architects worked to improve its ability to withstand seismic forces. By 1918, they were erring on the side of safety, and today the mill stands in testimony to this conservative engineering.

The daylight-construction method used at the mill developed in response to the propensity of mill facilities everywhere to spontaneously combust. Before building codes existed, insurance companies underwriting various milling industries insisted their policy holders take steps to reduce the risks of explosion and fire inherent in milling. The daylight-construction method improved mill safety by specifying a high ratio of window to wall area along with large, unobstructed, structural bays to facilitate cross ventilation.

The existing mill began operations on July 10, 1918, and was built by prominent valley concrete contractor, J. C. Steele. Constructed of cast-in-place concrete post, beam and integral slab construction, the structure is the largest known construction effort in Steele's career, and an excellent example of the daylight construction technique.

On October 10, 1984, upon completion of a substantive review, the Keeper determined the Hayden Flour Mill eligible for listing on the National Register of Historic Places at the State Level of Significance. The Hayden Flour Mill & Silos remain today with their original integrity only slightly modified over the years to accommodate the evolution of complex milling practices.

The Hayden Flour Mill was the larger of two such mills in the state until April 01, 1998, when Bay State Milling stopped operation ending the longest run of continuous use for an industrial building in the Valley.

Association with events significant to broad patterns of history:
From the start of operations in 1874, the Hayden mill became one of the most widely known institutions in the Arizona Territory. In early territorial days the product of this mill was carried in freight wagons and by pack-trains to most of the mining camps and military posts in the Territory and its output was estimated in millions of dollars. Army and government contracts running into hundreds of thousands of dollars were filled from this mill and Hayden Flour was known in every town and mining camp in Arizona. The Salt River Pima Indians grew wheat which they brought to the mill by horseback, and Hayden established trading posts on the Gila River Indian Reservation to supply the mill. Hayden Mills flour sacks were an important source of children's clothing for many pioneer families. The mill, along with Hayden's store, warehouses, blacksmith shop, and ferry, became the trade center for the south side of the Salt River Valley.

For fifty years this location was the site of water-powered grain milling. A contract for electrification of the mill was approved by the Board of Governors of the Salt River Project Water Users Association on Thursday, June 7, 1923. On February 6, 1924, SRP began installing a 11,000 volt electric line along First Street at the Tempe Milling Company's plant to replace the water power which had operated the mill for half a century.

The Hayden Flour Mill was the larger of two such mills that existed in the state in 1981, when Bay State Milling took over operations and expanded production capacity. Bay State withdrew from retailing, becoming a "destination miller" to provide specially milled flour direct to wholesale bakers. The 4000-100 weight capacity pneumatically operated mill remained an important component of the local economy up until April 1, 1998, when Bay State Milling stopped operations.

Association with lives of persons significant in our past:
Charles Trumbull Hayden (1825-1900) is generally credited with being the founder of Tempe. He was the first to establish commerce and industry in the area, which made permanent settlement possible. When Hayden heard that settlers were building a canal on the south side of the Salt River, he brought his wagons up from Tucson and offered much needed tools and supplies for the workers. On November 17, 1870, he gave notice of the formation of the Hayden Milling and Farming Ditch Company, and recorded his claim to portions of Section 15, stating work had begun on the project.

On December 6, 1870, the Hardy Irrigating Canal Company was formed by Swilling and others to provide water for other farming ventures south of the river, which by their prosperity would come to ensure the success of Hayden's flouring mill operation. This company was quickly reorganized as the Tempe Irrigating Canal Company, which, when meeting on April 28, 1871, shareholder Jack Swilling moved to grant 2,000 inches of water or 17 shares stock to anyone building a grist mill. Hayden accepted and began his preparations for construction of a flour mill to be powered by an extension of the Kirkland McKinney Ditch. In 1872 he opened a store and laid the foundation for a flour mill. A canal was extended along the base of Tempe Butte to bring water to the mill to turn the grind stones.

On May 30, 1874, the Tucson newspaper, Arizona Citizen, reported "Judge Hayden has completed a flouring mill at his ferry on Salt River".

Charles Trumbull Hayden was involved in the development of the community in many ways. He was a director of the Tempe Irrigating Canal Company, a member of the Maricopa County Board of Supervisors from 1880 to 1882, a trustee of Tempe School District No. 3 in 1884, and president of the Territorial Normal School Board of Education from 1885 to 1888. Charles Hayden married Sallie Calvert Davis in Nevada City, California, on October 4, 1876. They had one son, Carl Trumbull Hayden, who would later serve as Arizona's longtime Congressman and Senator, and three daughters; Sally, Anna, and Mary.

On June 11, 1915, Carl Trumbull Hayden (1877-1972), C. G. Jones, and F. A. Van Ritten incorporated the

Tempe Milling Company to continue operation of the Hayden Flour Mill. On February 19, 1912, Carl Hayden became Arizona's first Member of the House of Representatives where he served until March 4, 1927, when he began service in the U. S. Senate. Re-elected in 1932, 1938, 1944, 1950, 1956, and 1962, he did not seek re-election in 1968, and retired to Tempe in 1969.

On January 07, 1981, Hayden C. Hayden, grandson of Charles Trumbull Hayden, sold the flour mill to Bay State Milling Company of Quincy Massachusetts, concluding three generations of Hayden family involvement in this landmark business.

Distinctive characteristics of a type, period, or method of construction:
The original 1874 adobe mill burned on July 8, 1895, and a second mill built on the site, also constructed of adobe, burned on July 10, 1917. The completely destroyed structure was rebuilt in 1918. The 1918 mill exists with its original integrity only slightly modified.

The existing three and four-story rectangular brick and reinforced concrete structure measuring 40 feet by 140 feet was built in 1918 by prominent valley concrete contractor, J. C. Steele. Constructed of cast-in-place concrete post, beam and integral slab construction, the structure is the largest known construction effort in Steele's career. The exterior walls have discrete awing window and large freight door openings. The marks of the six-inch wide rough-sawn boards used as wall forms are clearly evident. Roofs are flat with minimal parapets in multiple levels. The tallest 5 level section at the north is considered the "grain elevator", the middle 4 level section the "mill", and the 3 level section at the south was used as the "grain-bin" and for offices at ground level.

The corrugated steel rollers installed in 1918, and which replaced the original grinding stones, were still in use at the end of operations along with a vast array of milling machinery some of which is thought to represent original patented prototype equipment.

Two "Wash Towers" remain on the east side of the building. These towers are built of two-by (2 x 10?) dimensional lumber laid flat in a stacked pattern with interlocking courses. The north wash tower is larger with a concrete base similar to the mill itself and is shown on a 1927 Sanborn Fire Insurance Map. The north tower is thought to have been added circa 1920. The south tower is shorter, lacks a concrete base, and is not shown on the 1927 map. The south tower is thought to have been added circa 1930.

In 1951 a concrete grain elevator with seven silos was added to the site by the Mayer-Osborn Company of Denver Colorado. The silos added 18 million pounds of grain storage capacity and took eleven days to construct, pouring cement in slip-forms continuously around the clock. The grain elevator at the south is 150 feet high and the silos, paired 15 foot diameter cylinders, are 117 feet high. A basement level where grain is collected and conveyed by tunnel is located under the main portion of the complex which is oriented slightly off the north-south axis in response to the railroad spur between the silos and the mill. The silos

structure is the iconographic landmark of Downtown Tempe – widely recognized as the hallmark of Mill Avenue uniquely identifying the heart of our community.

In 1966 two additions were constructed on the top levels of the mill building. These additions are distinguishable by their sloping floors that were originally the mill roof. Constructed of 8-4-16 concrete block walls with wood-frame roofs, these additions can be visually identified from Mill Avenue by the projection of the original roof overhangs extending below. In 1966 permit applications were filed separately for these additions, at which time it is believed that a tower dating from 1918 was removed at level 5 on the north.

Likely to yield information important in prehistory or history:
The mill exists in an area known to be archaeologically sensitive to the City of Tempe. This site occurs within the boundaries a large, previously recorded prehistoric habitation site called La Plaza, AZ U:9:165 (ASM), portions of which are known to contain buried cultural remains associated with the Hohokam. The continued presence of historic structures in situ and relatively undisturbed indicates the site has strong potential to provide additional information about this brief period in Arizona settlement history; establishment of the earliest historic period communities on the south banks of the Salt River.

Over 60 people attended the October 14, 2000, meeting of the Tempe Historic Preservation Commission to discuss development in the Hayden Butte/Flour Mill vicinity. Many spoke of the historic significance of the Butte and the Flour Mill, some strongly indicating their concerns about the potential adverse impacts proposed development could have. Statements were made by a broad range of citizens, including Ron Chiago, Cultural Resources Manager for the Salt River Pima-Maricopa Indian Community, Glen Rice, Director of the Office of Cultural Resource Management at ASU, other archaeologists and historians, ASU students, and Tempe pioneers expressing concern about the archaeological sensitivity of the area. This was the meeting where residents submitted a petition bearing 400 signatures, calling for the designation of Tempe (Hayden) Butte as an historic site.

SUMMARY
The Hayden Flour Mill is significant as the longest continuously used industrial site in the Salt River Valley, for its association with the Charles Trumbull Hayden family, who founded and operated the mill for three generations, and as the most important community industry through the settlement and development periods of early Tempe history. The Hayden Flour Mill is significant as the oldest cast in place reinforced concrete building in Tempe and provides an excellent example of the daylight construction method. The Hayden Mills Silos is a landmark structure providing many with a tangible connection to community history by recalling the founding of the Tempe settlement. The Hayden Flour Mill & Silos exist in an area known to be archaeologically sensitive and likely to continue to yield information important to understanding the prehistory and the history of our community.

SIGNIFICANCE

The subject property meets the following criteria for designation, as found in section 14A-4 of the Tempe City Code.

(a) The following criteria are established for designation of an individual property, building, structure or archeological site:

(1) It meets the criteria for listing on the Arizona or national register of historic places;

(2) It is found to be of exceptional significance and expresses a distinctive character, resulting from:

a. A significant portion of it is at least fifty (50) years old; is reflective of the city's cultural, social, political or economic past; and is associated with a person or event significant in local, state or national history, and

b. It represents an established and familiar visual feature of an area of the city, due to a prominent location or singular physical feature.

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