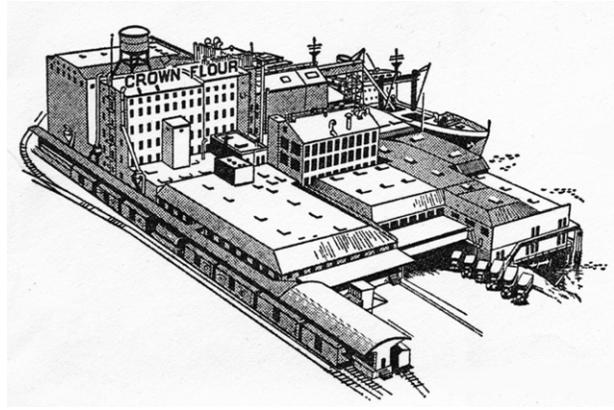


Centennial Mill Historic Preservation Assessment

I. Purpose

This document summarizes and evaluates the historical and architectural characteristics and significance of the Centennial Mill property, currently owned by the Portland Development Commission. It is intended to inform the Centennial Mill Framework Plan by providing a basis for understanding the site and its individual structures from a historic preservation perspective. It responds to and elaborates upon City Council's finding that the mill is "considered a City landmark by many citizens of Portland...[and] a symbol of Portland's rich history of maritime commerce and a valuable artifact of the industrial working waterfront ... the community supports the redevelopment of the Centennial Mill property and opposes demolition."¹



View of Crown Mill reproduced from company stationary, circa 1940's

II. Summary of Findings

The Centennial Mill complex, which includes 10 distinct but connected buildings and a number of related structures and objects (such as milling equipment, docks, canopies, etc.) is significant for its historical associations with Portland's international prominence in the grain milling industry and grain product trade. From its inception in 1910 and through much of its life as a large merchant flouring mill, the facility contributed to Portland's role as a principal West Coast grain processing and shipping hub that connected interior Northwest agricultural regions to national and international commercial markets. Centennial Mill remains a particularly prominent and still largely intact physical reminder of the importance of the milling industry, grain trade, and multi-modal transportation networks in the historical development of Portland and the Pacific Northwest. Individual buildings in the complex are also noteworthy as examples of early 20th Century reinforced concrete architecture and the industrial design of several important West Coast architects.

Given the site's array of physical and financial development constraints, the desire to address multiple policy objectives, and a large number of unknown factors, it is difficult to clearly recommend a specific preservation program at this time. However, the following findings and recommendations should guide the Centennial Mill planning process, with the understanding that they may need to be reevaluated as new information is obtained and public objectives for the site are clarified:

1. **Centennial Mill is a significant cultural resource that should be preserved.** The Centennial Mill site as a whole is almost certainly eligible for listing on the National Register of Historic Places. As a prominently sited, essentially complete and intact milling complex, it stands as a uniquely valuable historic *site*, distinct in that regard from Albers Mill and Olympic Mill. Within the context of evaluating redevelopment options, its historical and architectural values would be maximized by a development program that retains and renovates all or most of its functionally and physically connected structures. However, a number of factors make that outcome unlikely, including: the difficulty of adapting specialized industrial buildings to new uses; the apparent physical deterioration of many structural elements; competing objectives (such as provision of open space); and economic challenges. Alternatively, renovating and adapting a subset of the mills' buildings and structures as part of a multi-

¹ Portland City Council Resolution No. 36320, May 25, 2005.

Centennial Mill Historic Preservation Assessment

objective redevelopment program still has the potential to communicate important elements of the mill's industrial character and rich historical associations.

2. **The relationships between the mill's structures and its surroundings are important.** The complex's three primary functions—milling, grain storage, and product storage—are clearly expressed in its structures, their relationships to each other, and their connections to rail, street and river transportation systems. Their very interconnection poses major redevelopment challenges if individual structures are to be preserved in isolation. Consideration should be given to schemes that retain a “core” of structures that preserves the mill's most character-defining features and portrays as complete a picture of its functional operations and history as possible. An example would be the Flouring Mill, one of the warehouses and one of the grain elevators.
3. **The historical evolution of the mill is also important.** Its structures and physical layout reflect its history as a working industrial site over nearly a century. The facility is not “frozen” in any particular period and many of its physical alterations have acquired historical significance in their own right. That said, the mill's major development phases should be considered in developing preservation options and may assist in prioritizing structures for renovation and reuse.
4. **The Mill's architects and builders are significant in Portland and West Coast architectural history.** Their contributions should be considered in evaluating preservation and redevelopment options.
5. **The Flouring Mill (1910) and the Feed Mill (1928) are particularly significant buildings.** They were the operational heart of the facility and remain among its most distinctive physical structures. They most succinctly embody the mill's historical significance and convey its industrial character and should be prioritized in developing a preservation and redevelopment scheme. Future site planning and any new structures on the site should respond sensitively to these structures and their context.
6. **The site's milling machinery and other specialized structures, such as the Blending Bins and the bi-level wharf, notably contribute to its significance as part of Portland's industrial heritage.** Efforts should be made to preserve, integrate and interpret representative examples of these uniquely valuable artifacts on-site as part of the redevelopment program. Their cultural value is increased by preserving and interpreting them in their historical context.
7. **Important architectural elements, industrial artifacts and documents should be salvaged.** If not incorporated into the redevelopment program, the mill's buildings should be deconstructed and its materials (e.g. large-dimension old-growth fir) reused architecturally off-site. In addition, unique and/or representative examples of important architectural elements and milling equipment should be salvaged and relocated to one or more heritage repositories (such as the Architectural Heritage Center or OMSI) or other appropriate site. The corporate records, photographs and other documents relating to the mill's history and operations that are currently scattered in several, environmentally unstable parts of the mill and at the Portland Development Commission should be placed in a single off-site location (to assist in further site documentation) and eventually transferred to an appropriate archival repository (such as the Oregon Historical Society or the Special Collections Library of the University of Oregon).
8. **The Mill's engineering, architecture and history should be thoroughly documented.** Because all of the mill's structures will be either extensively altered or demolished, it is critical to record and document, through narrative, graphic, and photographic means, the engineering, construction methods, functions, technologies and history of the site as a complete industrial complex. Significant work has already been accomplished in this regard, but these efforts should be augmented by additional research and consolidated into a report that follows the Secretary of the Interior's Standards for Architectural and Engineering Documentation (“HABS/HAER Standards”) and made available to the public. This

Centennial Mill Historic Preservation Assessment

research is also needed to determine with more specificity the mill structures' most significant and defining architectural elements to assist in evaluating preservation and redevelopment options.

9. **There are existing precedents for historically-sensitive redevelopment of large historic industrial sites.** Nationwide, there is a large and growing roster of successful adaptive reuse projects involving historic industrial buildings. The Centennial Mill Framework Plan process should explore these examples for creative approaches to preserving and reusing the site's most significant buildings and features.

III. Physical Description²

The Centennial Mill complex is located on a 4.75 acre site along the west bank of the Willamette River in a historically industrial area of Northwest Portland. It is generally bounded by the Fremont Bridge on the north, the Broadway Bridge (and Albers Mill) to the south, the Willamette River to the east, and NW Naito Parkway to the West.

The site was developed as a grain milling and processing facility and contains eleven distinct but interconnected structures, built between 1910 and 1940 using various types of concrete and timber construction.³ Milling operations continued on the site until 2000. Each building played a role in the milling process and can be divided into three categories according to function: 1) milling, 2) grain storage, and 3) product storage. Building heights vary from tall, one-story warehouse structures to a seven-story flour mill. A fourth function, shipping and receiving, is expressed in structures attached or adjacent to the primary buildings, such as marine and railroad loading docks and canopies. According to a preliminary engineering report, all of the buildings have one or more perimeter walls that are either common with adjacent buildings or have insufficient separation to allow them to stand independently. Additionally, the buildings were constructed with little lateral bracing and additional structural evaluation will be required prior to determining options for strengthening and renovating individual buildings. While the buildings' physical condition varies, all show various degrees of deterioration and will require extensive structural improvements and other renovation work.

The complex may also be thought of in terms of its major development phases. The first occurred circa 1910 with construction of the Flour Mill, Warehouses A and B, and Grain Elevator A. Four structures were added between 1918 and 1921: the Blending Bins; Warehouse D; an extension to Warehouse D; and Warehouse E. Three more were added between 1925 and 1930: Grain Elevator B, the Feed Mill, and Grain Elevator C. Warehouse C was the last to be constructed in 1940. Because the site was in active use as a grain mill until it closed in 2000, all of the buildings have modifications and alterations of various kinds, as the operational needs of the facility evolved over time. A major modernization of the plant's milling machinery occurred in the early 1960's. The most recent changes to the site include partial renovations to portions of Warehouses C and E in 2001, to accommodate use by the Portland Police Mounted Patrol Unit, currently the only active use on the site. Additional research is needed to more fully document the alterations history of the Mill's facilities if they to be nominated for National Register listing or accurately recorded prior to demolition.

² The sources consulted contain a number of inconsistencies regarding the dates of construction and physical characteristics of the mill's structures. Staff has attempted to reconcile these contradictions in this report, however, this should not be considered definitive; additional research is required.

³ The October 18, 2001 kpff Consulting Engineers "Feasibility Design Study" report identifies ten structures; the October 2, 2001 SERA Architects/Ann Fulton "Cultural and Historic Analysis" report identifies 11, apparently counting the Blending Bins as a separate structure.

Centennial Mill Historic Preservation Assessment

Milling Structures⁴

Flour Mill (1910)

The Flour Mill was completed in 1910 at the same time as Warehouses A and B, and Grain elevator A. This building was the functional center of the complex and remains perhaps its most visually dominant feature. Designed by San Francisco engineer Leland S. Rosener, the Flour Mill is a rectangular building measuring approximately 51' x 109'. Its strong industrial character may be described as concrete utilitarian in style, with shallow gable ends, and what has been loosely characterized as Italian Renaissance influences. It is supported on wood piles, has reinforced concrete exterior walls, and is seven stories tall over a basement. The heavy timber floors are supported on timber beams and columns above the first floor and by concrete beams and columns (which may be later replacements for earlier wood elements) below the first floor. The ceiling height varies between 12 and 16 feet. The roof is wood post-and-beam. Above the first floor there are regularly spaced window openings centered in recessed panels along the north and south elevations. Alterations include the insertion of eight vertical steel tanks in one bay at the east end of the building, from the mezzanine through the fifth floor. On the east perimeter wall, ten full-height grain blending bins are attached; these are also connected to grain elevator A (see additional description of the Blending Bins below). There is a large water tower on the roof. The Flour Mill generally appears to be in good condition, with some minor deterioration of the level 6 wood floor and wood roof due to water damage.

Feed Mill (Starch Plant) (1928)

Along with the Flour Mill, the Feed Mill is one of the most prominent structures on the site due to its height, materials, and industrial character. Like the Flour Mill, it housed grain processing operations central to the facility's function. It was designed and built by Portland's L. H. Hoffman Building Construction Company in 1928. It is a rectangular, four-story building measuring approximately 50' x 83', with a concrete foundation, a basement, and reinforced concrete exterior walls. Its industrial character is highlighted by exterior pilasters and large steel sash windows. The structure consists of full-height concrete columns with concrete spandrel beams at the perimeter and heavy timber floors supported on timber beams and columns, with a wood post-and-beam roof. Alterations include the addition of a central atrium opening from the second through fourth floors. The Feed Mill appears to be in generally good condition, with significant deterioration to portions of the interior timber framing.

Product Storage Structures

Warehouse A and Warehouse B (1910)

Warehouses A and B were also designed by Leland S. Rosener at the same time as the Flour Mill and Grain Elevator A. Warehouse A is a one-story structure with a basement, and it measures approximately 50' x 109'. There is a penthouse at the east end. Eight grain bins extend from inside the building up the north perimeter wall to approximately 40' above the roof. The penthouse and four grain bins were added sometime after 1910. The structure consists of full-height perimeter concrete walls, a concrete deck at the first floor level, and a wood roof with timber trusses supported on the north and south perimeter walls. The building is supported on timber piles. It shares common walls with the Flour Mill and Warehouses B and E. Warehouse A generally appears to be in good condition, with some deterioration in the roof framing due to leakage.

Warehouse B measures approximately 100' x 185'. It is an L-shaped, one-story structure with a basement. On the east side, the basement level becomes the lower level of a two-story dock. In 1940, a mezzanine floor was added to connect into the Blending Bins and the Flour Mill. The structure is a combination of reinforced concrete exterior walls with a heavy timber first floor supported on timber columns. A wood roof with timber trusses spans the north-south direction. The timber-framed mezzanine support columns also support the roof. Warehouse B generally appears to be in fair condition above the basement level, with deterioration

⁴ Building condition assessments are based on kpff Consulting Engineers, "Centennial Mill Feasibility Design Study: Conceptual Structural Improvements," October 10, 2001. Additional structural analysis is ongoing and is likely to refine these preliminary assessments.

Centennial Mill Historic Preservation Assessment

visible in the timber roof, mezzanine, and floor framing. However, there is extensive decay in the timber pilings at the water line.

Warehouse C (1940)

Warehouse C was the last structure built at Centennial Mill in 1940, and it was constructed by L. H. Hoffman. It measures approximately 200' x 180' and is a T-shaped, one-story building with a basement. On the east side, the basement level becomes the lower level of a two-story dock. The building has concrete bearing walls on most sides; an elevated concrete and timber deck at the east of the basement; a concrete and timber first floor; and a wood roof with timber trusses. In 1965, a portion of the warehouse and its dock were rebuilt after it was rammed by the grain ship Aegean Mariner. Warehouse C generally appears to be in good condition with some decay in the timber framing above the basement level and in the timber piling below the lower deck. Warehouse C is in the best condition of all the warehouses and will require less extensive repairs due to deteriorated framing and pilings. The west portion of this building was partially renovated in 2001 and, with Warehouse E, is currently used to house the City's Mounted Patrol Unit (MPU).



Collision damage from the Aegean Mariner, 1965

Warehouse D (1919-1920)

Warehouse D has two parts, both designed by leading Portland architect Morris H. Whitehouse. The building measures approximately 100' x 160' and is one-story structure with a basement. On the east side, the basement level becomes the lower level of a two-story dock. The structure consists of an elevated concrete deck for the eastern 100' of the basement; a heavy timber first floor supported on timber columns; and a wood roof with timber trusses. Repairs to the foundation were made in 1933 and 1939. The building has significance as a rare example of industrial design by Whitehouse. Warehouse D generally appears to be in fair condition above the basement level. However, decayed timber framing is evident in several locations, likely due to roof leaks. Below the lower dock level there is extensive decay in the timber pilings at the water line.

Warehouse E (1921,1928)

Warehouse E is an approximately 109' x 175' one-story structure with a basement. The building was constructed in two phases beginning with the west side in 1921, designed by Strong & MacNaughton, followed by the east side in 1928, designed by L. H. Hoffman. The structure consists of full-height perimeter concrete walls; a heavy timber floor structure supported on concrete columns; and a wood roof with timber trusses. Warehouse E has two mezzanines, located at the north and south ends of the building. The south mezzanine was enlarged circa 1955. There is a concrete transformer penthouse at the north end of the building. Warehouse E generally appears to be in good condition with some deterioration to the north mezzanine floor. This building was partially renovated in 2001 and currently houses the City's Mounted Patrol Unit (MPU).

According to the 2001 kpff Consulting Engineers report, the three warehouses along the east side of the complex (Warehouses B, C, and D) will generally require the most extensive repairs and strengthening efforts in any reuse program. Of the three, Warehouse C appears to be in the best condition.

Centennial Mill Historic Preservation Assessment

Grain Storage Structures

Grain Elevators A, B, C (1910, 1925, 1929)

Grain Elevator A was the first one on the site, and it was designed by Leland Rosener. It is approximately 39' x 96.' Elevator B was also designed by Rosener. It measures approximately 51' x 86' and is the second largest on the site. Elevator C, constructed by L. H. Hoffman circa 1929, dominates the skyline to the north of the flour mill. It measures approximately 77' x 81' and is the largest elevator on the site. In general, the three structures consist of laminated wood walls forming numerous full-height storage bins or cribs. The interior features at the top level of Elevators B and C are noteworthy, including mechanisms for distributing grain products via an intricate system of chutes to the storage bins below. Constructed primarily of untreated wood (fir), the equipment not only represents a specialized type and style of construction; it also represents fine craftsmanship and the abundant use of native fir as a building material. The grain elevators are supported on heavy timber and concrete columns at the basement level. The foundations appear to be timber pilings. It will be difficult, although not impossible, to adapt these buildings for new uses because of the close spacing of the storage bin walls and their specialized design.

Blending Bins (1918)

The Blending Bins structure is unique. It was designed by Whitehouse & Fouilhoux, one of Portland's leading architectural firms, best known for designing significant downtown buildings during Portland's 1920s Golden Age of prosperity. Morris Whitehouse also designed the 1913 office building on SW Oak for the mill's parent company, Balfour, Guthrie & Company, which is listed on the National Register. The Blending Bins are a rare remaining example of the firm's industrial work. The purpose of the bins was to house and blend a mix of grain types in preparation for the flouring process. Each bin is a tube measuring approximately 10' x 10'. The side walls are constructed of 2" thick, clear-grain fir planks stacked on top of each other, with lapped joints. The structure is approximately 31' long by 14' wide and extends to the top of the Flour Mill.

Additional Structures and Features

Bi-Level Walkway/Dock

Along the full length on the east side (riverfront) there is a two-level, 8' wide open timber walkway. This is severely deteriorated due to decay and damage from ship impact, and would require extensive reconstruction. This assembly is one of the last remaining bi-level dock structures, designed to facilitate shipping activities as the river levels changed seasonally, that were once common along Portland's waterfront.

Canopy

Along the west side of the facility there is a metal deck canopy covering a loading dock parallel to a former rail spur. This appears to have been added after the original construction and is supported by the west exterior walls of Warehouses A & E, the Flour Mill, and Grain Elevator C. This would need to be strengthened to comply with current code requirements.

Milling Machinery

The mill still contains a number of specialized milling-related machines and industrial equipment, although much of it was removed at the time of closure. These include sifters, separators, purifiers, roller mills, and conveyors. The equipment was produced by various companies between 1913 and the mid-1960s, including Nordyke-Marmon, Carter-Day, Eureka, Great Western Manufacturing, and the Miag Company. It is not known if a complete inventory of extant machinery exists or their state of repair.

IV. Historical Context

The following section is based largely on the “Cultural and Historic Analysis” report prepared in 2001 by SERA Architects and Ann Fulton.

Crown Mills (later renamed Centennial Mill) began operation in 1910 as a large merchant flour mill, entering Portland’s milling industry during a time of great expansion between 1880 and 1920. At that time, Portland was the milling capital of the northwest. It was built by Balfour, Guthrie & Company, the San Francisco affiliate of an international commodity trading firm, established in 1869 to take advantage of the economic development of the Pacific Coast. Headed by two Scottish merchant traders, the company opened a Portland office in 1878 because of its strategic location near the exit of wheat-producing interior valleys, connection to the Columbia River system and Pacific Ocean, and its deep-water port capacity. They invested heavily in grain shipping, storage and handling facilities, building more than 70 warehouses along Portland’s waterfront. By 1900, Balfour, Guthrie & Co. was one of the most successful international shipping and commodity trading companies on the Pacific Coast.

The early 20th Century witnessed tremendous growth in the U.S. and Pacific Northwest grain milling industries, fuelled by expanding domestic and export markets, and later the rise of industrial-scale commercial baking. This was expressed in a trend towards larger new mill plants, such as Crown Mills, and the purchase and consolidation of older, smaller operations by large corporate concerns. In Portland, three companies that purchased and consolidated Pacific Northwest plants between 1900 and 1920, include the Portland Flouring Mills Company, Albers Brothers Milling Company, and Centennial Mill Company. While Crown Mills, at a capacity of 1,200 cwt. (hundredweight), was not the largest mill in Portland at the time of its construction (Portland Flouring Mills’ capacity was 10,000 cwt.), it was still relatively large for its time, and it expanded over the years. By 1957, its capacity was 5,000 cwt., and it was probably the second largest flouring mill in Oregon, after 6,000 cwt. Globe Mills in Astoria.

Crown Mills capitalized on expanding foreign markets for U.S. grain products, exporting approximately 75% of its flour between 1911 to 1948 to China, Japan, Central and South America, and Europe. In 1920, Crown Mills doubled its wharfage and added a warehouse to keep up with demand. It weathered the economic depression of the 1930s and went into maximum production (and high profitability) during the World War II years. Crown Mills also cultivated regional and national markets, particularly those of large commercial bakeries which required steady, and increasingly standardized flour products. Balfour, Guthrie & Co. had purchased the rights to use the Stockton Milling Co.’s popular “Crown” brand when it built the Portland mill and local advertising used recipe booklets to promote its flour for baking.

The mill’s economic success spurred significant additions to the physical plant during the 1920’s and in 1940. The mill also expanded its product lines, branching into cereal and animal feed manufacturing. The Feed Mill was completed in 1928, and by the early 1930s it sold 14 different types of mill feed for dairy and livestock animals, and it may have been the first U.S. company to pelletize mill feed.

In 1948, Balfour, Guthrie & Co. sold Crown Mills to Seattle-based Centennial Flouring Mills. The company was renamed Centennial Mills in 1955. Improbably, the sale followed Crown Mills’ most profitable year after a record-setting wheat harvest and large worldwide demand for flour. After 1948, domestic commercial bakers and mill feed buyers were the mill’s largest customers. By the early 1950s, the feed and grain division surpassed flour milling; however, the feed business was short-lived. By 1961, Centennial Mill was out of the feed business due to pressures from cooperatives.

From 1911 to 1961, the plant’s milling process and equipment remained essentially the same. When United Pacific Corp. purchased Centennial Mills in 1960, the company decided to expand its product lines for the domestic market. The plant was modernized and equipment replaced, becoming a leader in the milling industry’s effort to modernize old mills and make them profitable. By 1964, the company claimed it operated

Centennial Mill Historic Preservation Assessment

the first fully pneumatic plant in the Pacific Northwest. A packaging unit was added, and beginning in 1964 the mill produced gelatin desserts and cake, pancake, and muffin mixes. In 1966, a starch and gluten plant was added in the former feed mill building. The gluten business proved to be highly profitable. It was marketed to local paper mills and cereal manufacturers throughout the nation.

In 1981, ADM Milling bought the company. However, competition from large mills throughout the country increased. Significant transportation changes also affected the business by the last decades of the 20th Century. Shipping by water ended in 1982, rail transportation declined, and trucks were used to transport most of the mill's products. The plant remained in production until ADM sold Centennial Mills to the Portland Development Commission in 2000.

Crown Mills played an important role in the economic growth of Portland and the Pacific Northwest, contributing to Portland's status as a major grain processing and shipping hub that connected interior Northwest agricultural regions to national and international commercial markets. Milling's role in regional development was magnified by its economic linkages to other industries. Milling, agriculture, food manufacturing, transportation and financial services were interconnected, supporting each others' growth and development in various ways. For example, milling and grain trading promoted Portland's development as a major transportation hub connected to a large hinterland via the Columbia and Willamette river systems and an extensive rail network. This nexus is clearly reflected in Crown Mills' harborside location next to mainline rail facilities. Portland also emerged as a financial center for grain trade transactions and related activities, such as farm mortgage banking. Crown Mills played a direct role in these financial and marketing activities, assisting in the organization of the Portland Grain Exchange in 1929. Crown Mills' ability to provide soft white wheat flour at a low cost also helped make Portland a regional center for commercial baking. On a wider level, Portland's flour milling and grain trade industries supported the agricultural and economic development of the greater Columbia Basin, which depended on Portland's industrial, mercantile, financial and transportation services and infrastructure to get its products to the world. As a large merchant mill associated with an international commodity trading and shipping parent company, Crown Mills was a major player in these activities. For example, the mill reportedly brought about \$6 Million to the region annually throughout the 1920s alone.



V. Conclusions

Historical Significance

Centennial Mill is not listed on Portland's 1984 Historic Resources Inventory nor is it currently designated as a local Historic Landmark or listed on the National Register of Historic Places. However, it was recently recognized by City Council Resolution as "a symbol of Portland's rich history of maritime commerce and a valuable artifact of the industrial working waterfront ... the community supports the redevelopment of the Centennial Mill property and opposes demolition."

Further, based on previous documentation and limited new research, Bureau of Planning historic resources staff finds that Centennial Mill is a significant and distinctive industrial landmark that is almost certainly eligible for listing on the National Register. Its historical significance derives from its associations with

Centennial Mill Historic Preservation Assessment

Balfour, Guthrie & Company, one of the most successful international shipping and commodity trading companies on the Pacific Coast, and Portland's international prominence in the grain milling industry and grain product trade. From its inception in 1910 and through much of its life as a large merchant flouring mill, the facility contributed to Portland's role as a principal West Coast grain processing and shipping hub that connected interior Northwest agricultural regions to national and international commercial markets. Centennial Mill remains a particularly prominent and still largely intact physical reminder of the importance of the milling industry, grain trade, and multi-modal transportation networks in the historical development of Portland and the Pacific Northwest.

Centennial Mill's buildings, constructed between 1910 and 1940 are also noteworthy, if not entirely unique, as examples of early 20th Century industrial architecture. Their overall architectural style, which may be characterized as "Reinforced Concrete Utilitarian," is fairly well represented in Portland. However, the mill's prominent and relatively isolated siting on the river and the interesting articulation of its multiple facades are distinctive. The specialized functions of its buildings represent aspects of the milling business, from the arrival of grain to its processing and the distribution of end products. They also reflect different time periods and technological changes in the milling industry. Finally, Centennial Mill's architects and builders are important in Portland and West Coast architectural history. Further research on individual buildings is needed in order to more fully evaluate their significance as distinct structures and inform preservation and reuse decisions.

There are other extant buildings that reflect Portland's historical milling and grain trading industries, including Albers Brothers Milling Company immediately to the south, and the Olympic Cereal Mill in the Central Eastside. Both have been recognized for their significance by listing in the National Register of Historic Places. As a larger and more comprehensive facility with a greater number of intact features and artifacts from its industrial past, it is very likely that Centennial Mill would qualify for listing in the National Register.

Historic Industrial Sites: Preservation and Re-use Precedents

Centennial Mill will face substantial challenges as an adaptive reuse project. However, there are a number of precedents nationwide that illustrate how historic industrial sites can be successfully adapted for new uses and provide wide-ranging economic and social benefits. Mass MoCa, a former industrial complex in North Adams, Massachusetts was adapted for a range of uses that include the arts and commercial space. Since opening in 1999, it has been touted as highly successful in terms of its overall cultural and economic impacts. In the Carolinas, old textile mills are being converted into centers for other industrial activities, as the states' economy transitions toward a post-textile era. Areas of the Pacific Northwest are also adapting to new economic realities; it's increasingly common to see lumber mills and fishery buildings being redeveloped for condominium and offices use.

Old flour mills are also being adapted innovatively. In Denver, buildings from the 1920s-era Pride of the Rockies Flour Mill have been converted to residential use, offering river and city views. In Minneapolis, the acclaimed Mill City Museum opened in 2003 at the former home of General Mills. It chronicles the history of milling and provides interactive, hands-on exhibits. The museum combines modern elements with remnants of the original eight-story structure. For this project, the construction challenges and costs were increased by fire damage that gutted the mill in 1991. Nevertheless, the museum project managed to innovatively use remnants of the former structure, including flour bins, milling machinery, the rail corridor, and the freight elevator. Now called the Flour Tower, the freight elevator offers a 12-minute ride that interprets the historic sights and sounds of milling. The mill complex surrounding the museum has been adapted to serve a variety of needs, including public and private office space, residential lofts, and a large open-air courtyard.

On a local level, there is precedent in Portland for adaptive reuse of mill properties. Portions of the Albers Brothers Milling Co, located just south of Centennial Mill on NW Naito Parkway, was renovated in the late 1980s by H. Naito Properties. In spite of the cost (estimated at \$3-5 million at the time), it was considered a

Centennial Mill Historic Preservation Assessment

worthwhile undertaking because of the property's prime riverfront location in an area that was becoming increasingly attractive for downtown development.

The Centennial Mill Framework Plan process should explore these and other examples for creative approaches to preserving and reusing the site's most significant buildings and features. With foresight, the adaptive reuse of Centennial Mill could act as a significant catalyst for the ongoing revitalization of Portland's riverfront.

Findings and Recommendations

Given the site's array of physical and financial development constraints, the desire to address multiple policy objectives, and a large number of unknown factors, it is difficult to clearly recommend a specific preservation program at this time. However, the following findings and recommendations should guide the Centennial Mill planning process, with the understanding that they may need to be revisited and refined as new information is obtained and public objectives for the site are clarified:

1. **Centennial Mill is a significant cultural resource that should be preserved.** The Centennial Mill site as a whole is almost certainly eligible for listing on the National Register of Historic Places. As a prominently sited, essentially complete and intact milling complex, it stands as a uniquely valuable historic *site*, distinct in that regard from Albers Mill and Olympic Mill. Within the context of evaluating redevelopment options, its historical and architectural values would be maximized by a development program that retains and renovates all or most of its functionally and physically connected structures. However, a number of factors make that outcome unlikely, including: the difficulty of adapting specialized industrial buildings to new uses; the apparent physical deterioration of many structural elements; competing objectives (such as provision of open space); and economic challenges. Alternatively, renovating and adapting a subset of the mills' buildings and structures as part of a multi-objective redevelopment program still has the potential to communicate important elements of the mill's industrial character and rich historical associations.
2. **The relationships between the mill's structures and its surroundings are important.** The complex's three primary functions—milling, grain storage, and product storage—are clearly expressed in its structures, their relationships to each other, and their connections to rail, street and river transportation systems. Their very interconnection poses major redevelopment challenges if individual structures are to be preserved in isolation. Consideration should be given to schemes that retain a “core” of structures that preserves the mill's most character-defining features and portrays as complete a picture of its functional operations and history as possible. An example would be the Flouring Mill, one of the warehouses and one of the grain elevators.
3. **The historical evolution of the mill is also important.** Its structures and physical layout reflect its history as a working industrial site over nearly a century. The facility is not “frozen” in any particular period and many of its physical alterations have acquired historical significance in their own right. That said, the mill's major development phases should be considered in developing preservation options and may assist in prioritizing structures for renovation and reuse.
4. **The Mill's architects and builders are significant in Portland and West Coast architectural history.** Their contributions should be considered in evaluating preservation and redevelopment options.
5. **The Flouring Mill (1910) and the Feed Mill (1928) are particularly significant buildings.** They were the operational heart of the facility and remain among its most distinctive physical structures. They most succinctly embody the mill's historical significance and convey its industrial character and should be

Centennial Mill Historic Preservation Assessment

prioritized in developing a preservation and redevelopment scheme. Future site planning and any new structures on the site should respond sensitively to these structures and their context.

6. **The site's milling machinery and other specialized structures, such as the Blending Bins and the bi-level wharf, notably contribute to its significance as part of Portland's industrial heritage.** Efforts should be made to preserve, integrate and interpret representative examples of these uniquely valuable artifacts on-site as part of the redevelopment program. Their cultural value is increased by preserving and interpreting them in their historical context.
7. **Important architectural elements, industrial artifacts and documents should be salvaged.** If not incorporated into the redevelopment program, the mill's buildings should be deconstructed and its materials (e.g. large-dimension old-growth fir) reused architecturally off-site. In addition, unique and/or representative examples of important architectural elements and milling equipment should be salvaged and relocated to one or more heritage repositories (such as the Architectural Heritage Center or OMSI) or other appropriate site. The corporate records, photographs and other documents relating to the mill's history and operations that are currently scattered in several, environmentally unstable parts of the mill and at the Portland Development Commission should be placed in a single off-site location (to assist in further site documentation) and eventually transferred to an appropriate archival repository (such as the Oregon Historical Society or the Special Collections Library of the University of Oregon).
8. **The Mill's engineering, architecture and history should be thoroughly documented.** Because all of the mill's structures will be either extensively altered or demolished, it is critical to record and document, through narrative, graphic, and photographic means, the engineering, construction methods, functions, technologies and history of the site as a complete industrial complex. Significant work has already been accomplished in this regard, but these efforts should be augmented by additional research and consolidated into a report that follows the Secretary of the Interior's Standards for Architectural and Engineering Documentation ("HABS/HAER Standards") and made available to the public. This research is also needed to determine with more specificity the mill structures' most significant and defining architectural elements to assist in evaluating preservation and redevelopment options.
9. **There are existing precedents for historically-sensitive redevelopment of large historic industrial sites.** Nationwide, there is a large and growing roster of successful adaptive reuse projects involving historic industrial buildings. The Centennial Mill Framework Plan process should explore these examples for creative approaches to preserving and reusing the site's most significant buildings and features.

Centennial Mill Historic Preservation Assessment

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