



The Hayden Flour Mill: Commemorating Community Heritage

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Hayden Flour Mill History

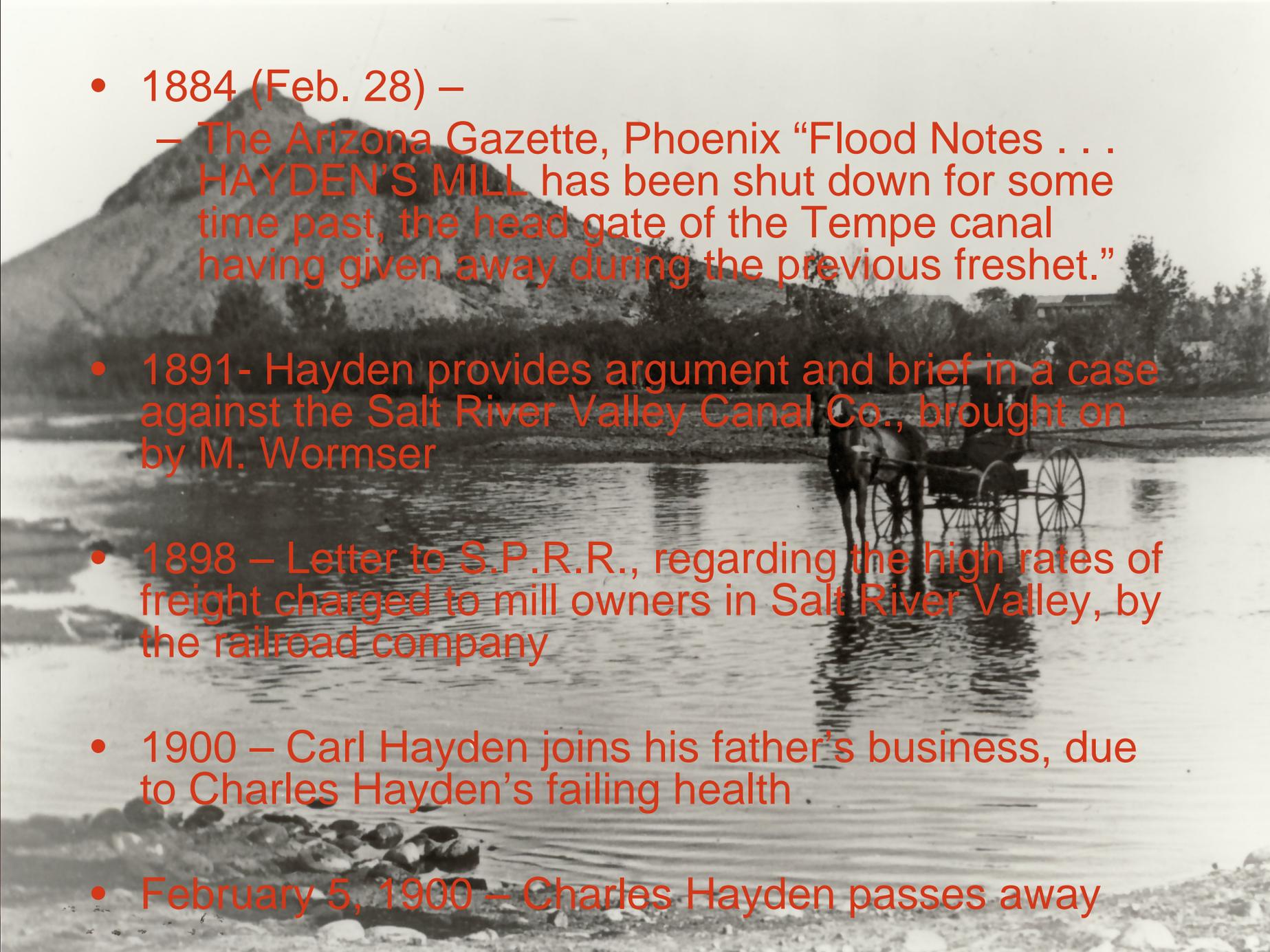


- 1870 – notice in the 'Arizona Miner' (December 10), stating a claim by Charles T. Hayden and others regarding the property
- 1871 – Minutes of the meeting of the Board of Directors, Tempe Canal Company regarding water allowance for anyone building a grist mill
- 1874 – Charles Hayden filed 'Preemption Entry 50' on the S1/2NW1/4 and the N1/2SW1/4Sec.15, T. 1N., R.4E., of land in the vicinity of what is today Tempe, Arizona; patented to Hayden on October 20, 1875.

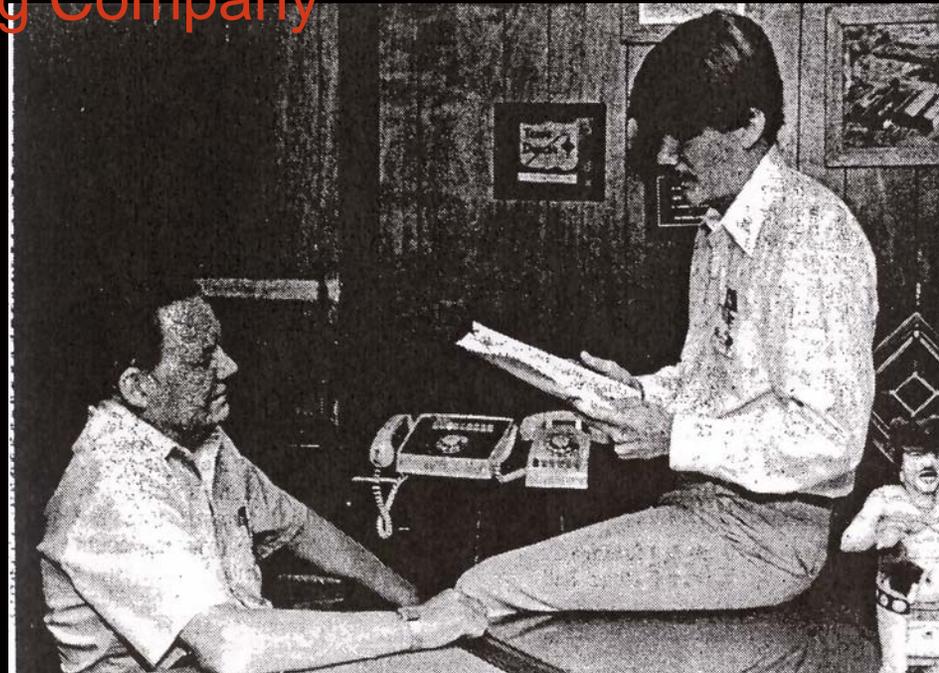
- Company invoice indicates 1872 as date of establishment
- Hayden's shares/stock in Tempe Canal Company provided him with water use rights for operating the mill (a maximum amount of 1,100 miners' inches)
- Supply of wheat originally from Pima and Maricopa Indians; later a group of LDS/Mormon farmers encouraged by Hayden to relocate from Lehi



- 1884 (Feb. 28) –
 - The Arizona Gazette, Phoenix “Flood Notes . . . HAYDEN’S MILL has been shut down for some time past, the head gate of the Tempe canal having given away during the previous freshet.”
- 1891- Hayden provides argument and brief in a case against the Salt River Valley Canal Co., brought on by M. Wormser
- 1898 – Letter to S.P.R.R., regarding the high rates of freight charged to mill owners in Salt River Valley, by the railroad company
- 1900 – Carl Hayden joins his father’s business, due to Charles Hayden’s failing health
- February 5, 1900 – Charles Hayden passes away



- Family operated – Hayden C. Hayden, president - until 1981
- By 1971, company had 100 employees, a payroll of about \$800,000/yr, sales of \$5 to \$6 million
- Processed 15,000 tons (30 million lbs.) of wheat/yr, producing 20 million lbs. of flour (sales of about \$3 million a year)
- 1981 – sold to Bay State Milling Company
- 1998 – ceased operation



Hayden Flour Mill Historical Characteristics

(based on report of Sept. 1905):

- Three-story stone and adobe structure
- Ground space of 5,805 sq. ft/floor space of 12,204 sq. ft
- Water wheel – vertical Leffel turbine
- Milling machinery – thoroughly remodeled in 1903, by the Barnard & Lees Mfg. Co. of Moline, IL (at a cost of \$5,000.00)
- Capacity: 11,000 lbs. of flour (in 24 hours), with 3,500 lbs. of bran as a by-product, and 40,000 lbs. of barley that can be rolled at the same time.



Hayden Flour Mill – Product History

- Corn Meal, Bran and Rolled Barley (printed on invoice, dated 1881)
- Cracked Wheat, Corn Meal and Barley (actual bill, dated 1881)
- By 1971, the Mill produced the following:
- Rose, Family Kitchen, Rose Self-Rising, Navajo Maid (in print cloth bags for sewing), Tulip, Crown-O-Gold and Paloma (brands of flours) – the last four specially-blended for tortilla making
- The state's largest packager of beans (15 different varieties, selling 80% of all the dried beans in the state)
- Distributor for General Mills' bakery flours, Rustco bakery supplies, Karp's bakery supplies and Stokely-Van Camp's institutional canned food line
- Exclusive distributor for the entire Dunkin' Donut chain in the state



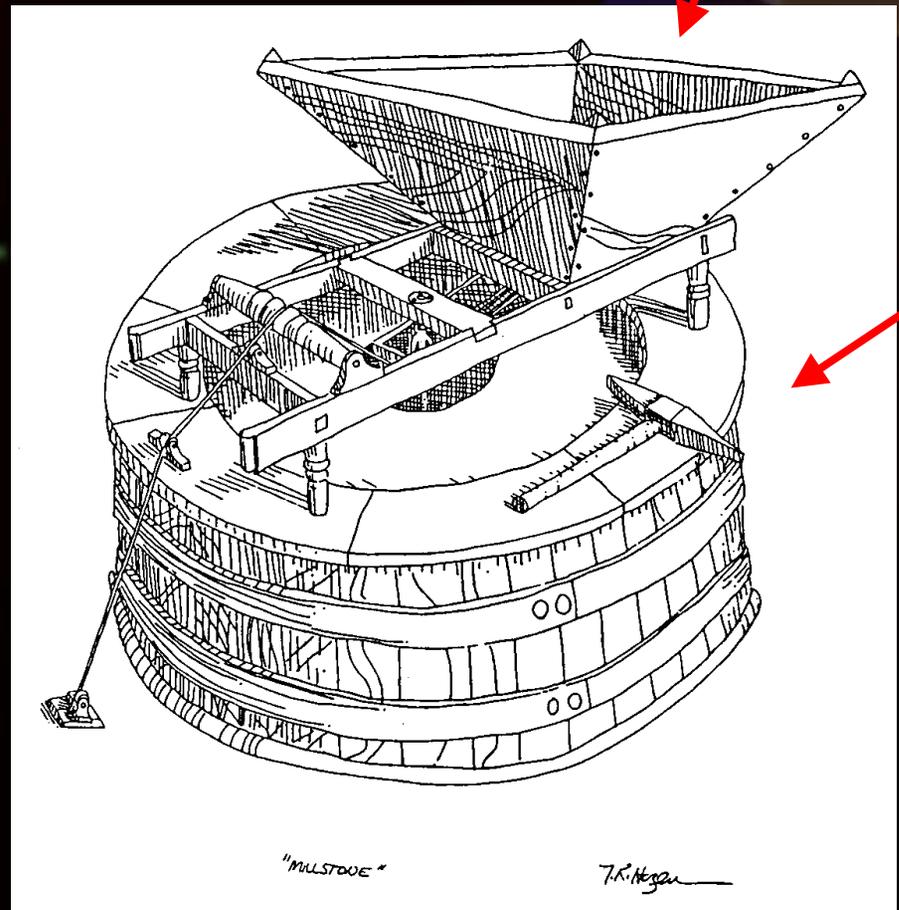
The Flour Milling Process

4 Step Process

- Grinding
- Drying & Cooling
- Sifting
- Packaging

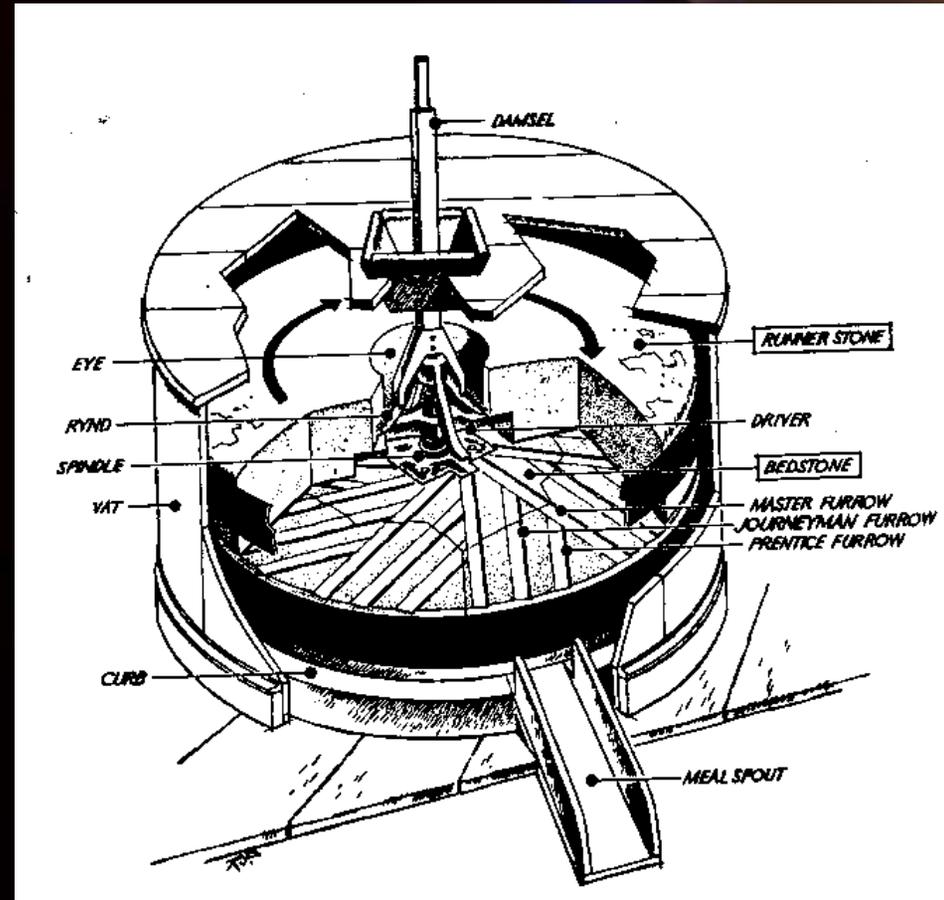
Grinding with Mill Stones

- Foreign/undesirable (chaff, sticks, dirt, etc.) materials must first be removed
- Grain is placed in a hopper (bin)
- Grain moves between mill stones

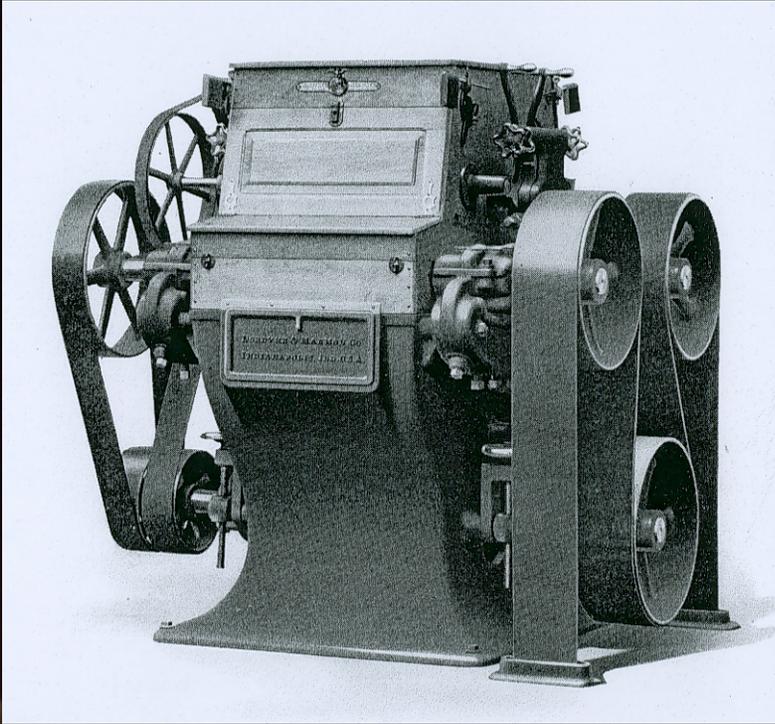


Grinding with Mill Stones

- Each mill stone is grooved
- The top stone rotates, while the bottom remains stationary
- Grain is crushed between them



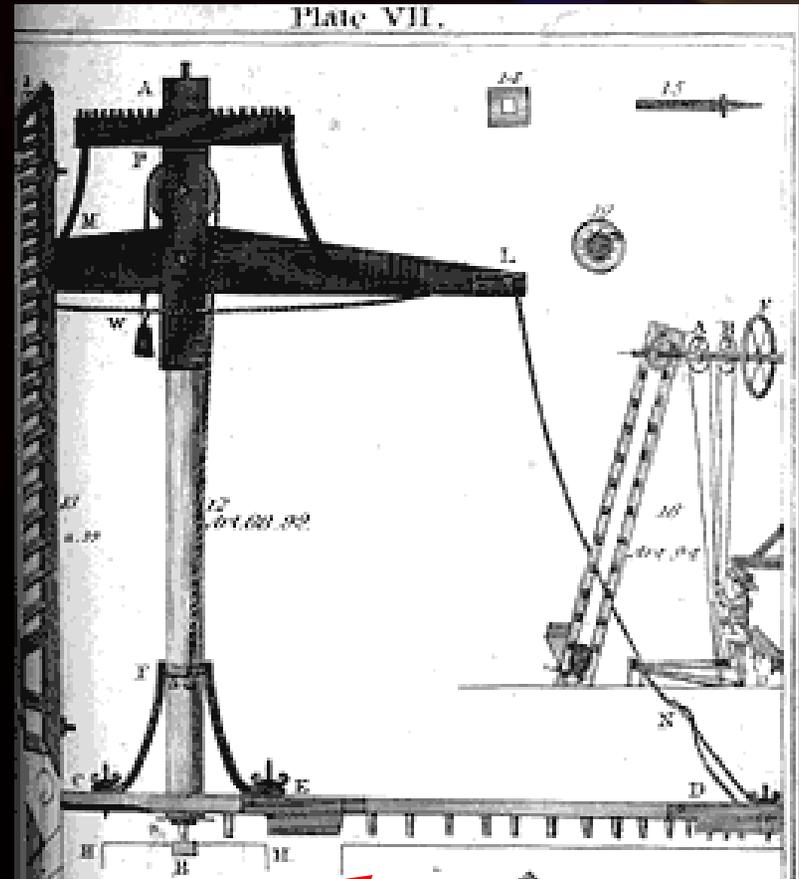
Grinding with Roller Mills



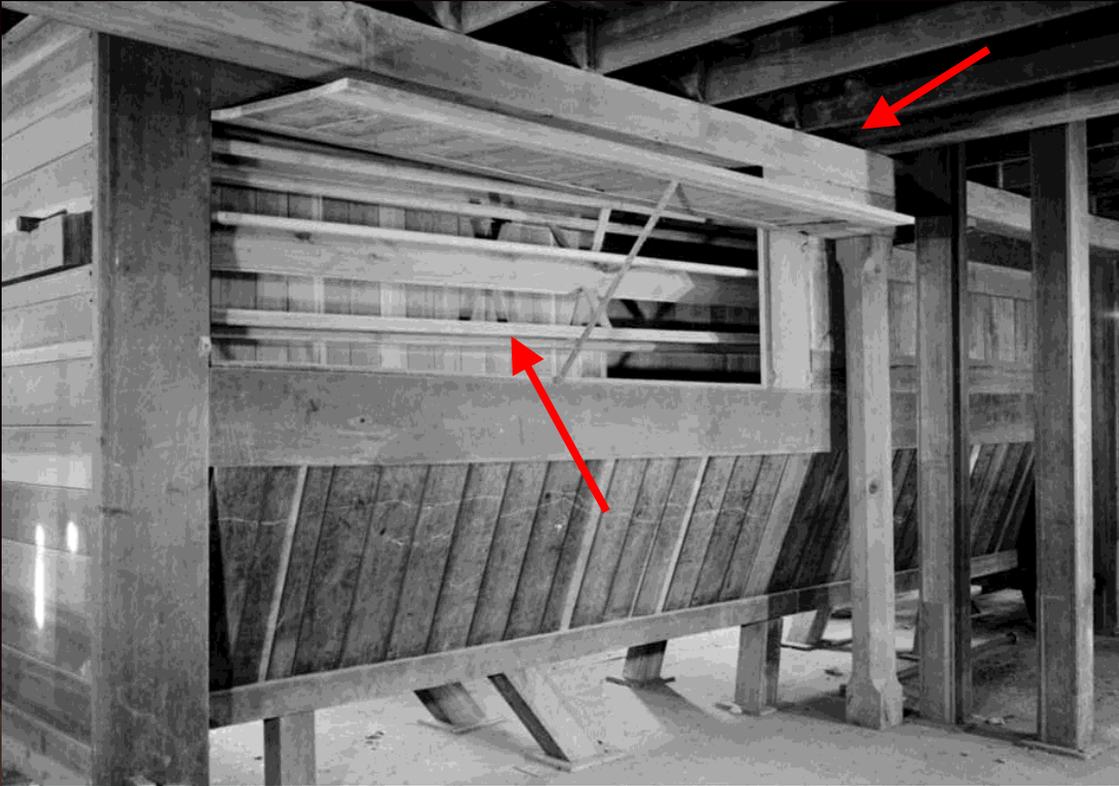
- Two rollers, each spin in opposite directions, at different speeds
- Grain is crushed between them
- After grinding, “meal” is sent for cooling and drying

Drying & Cooling

- A “hopper-boy” rakes the meal in a circle, allowing it to cool and dry
- Turns the meal over as meal moves toward the center, where it is dumped into the “bolters”

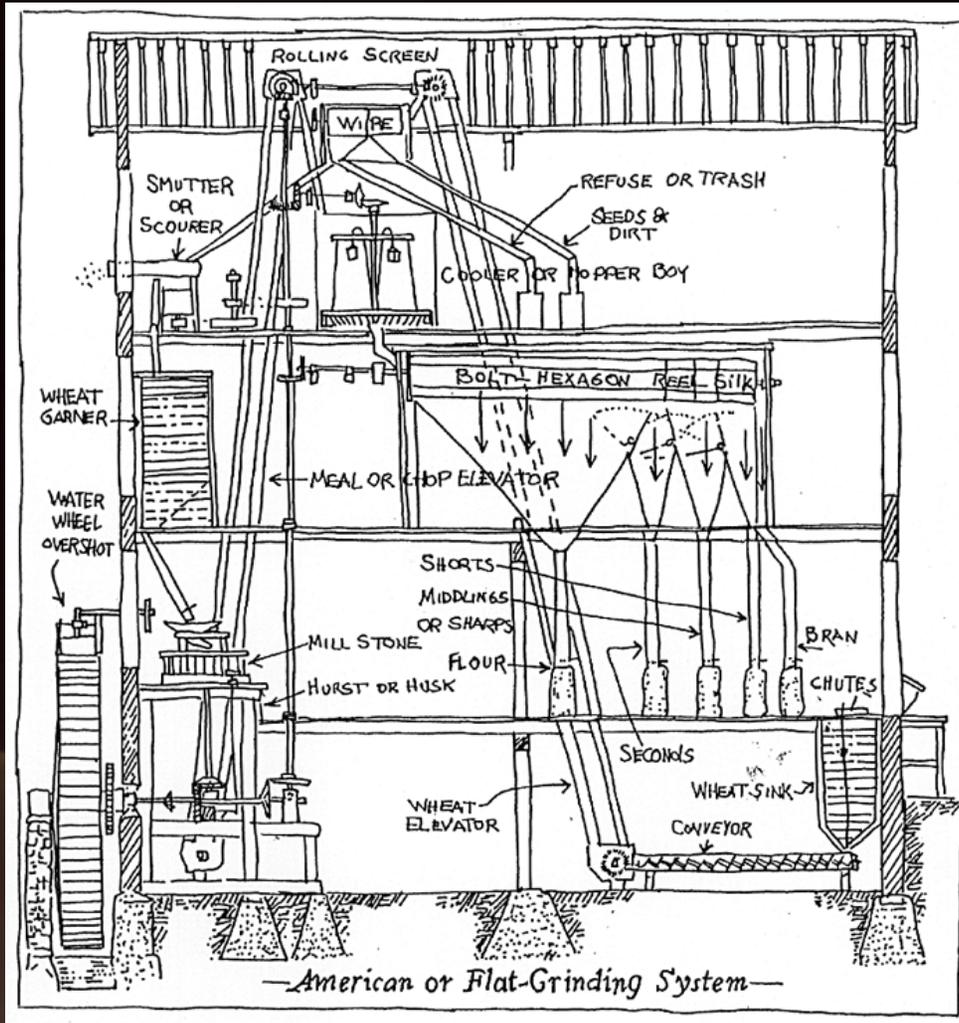


Sifting



- Meal is sifted through “bolters”
- Different weaves in bolt cloth filters out smaller particles

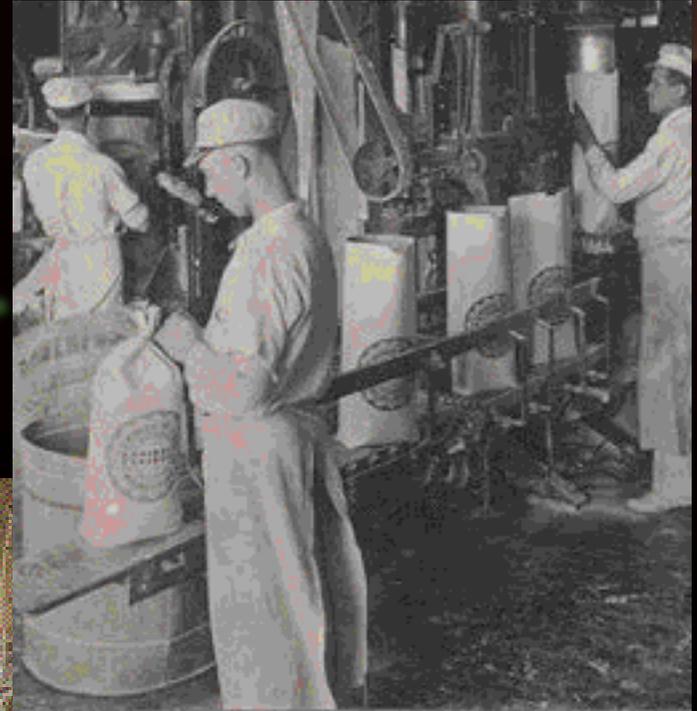
Sifting



- Large particles are either packaged (as bran, cracked wheat, etc.) or reground
- Flour is passed through in preparation for packaging

Packaging

- Final products are packaged and prepared for sale or distribution



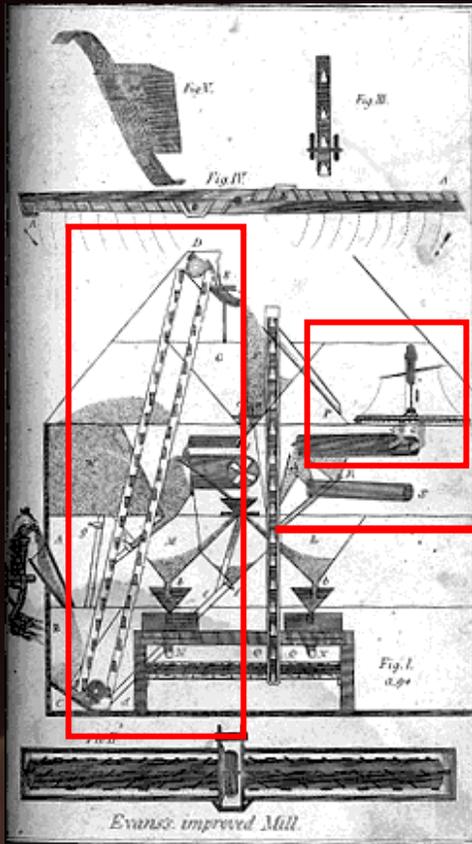
Milling History: Oliver Evans

- September 13, 1755 – April 15, 1819
- Considered the father of automated milling in the United States
- Wanted to improved both the quality of the flour and the production process

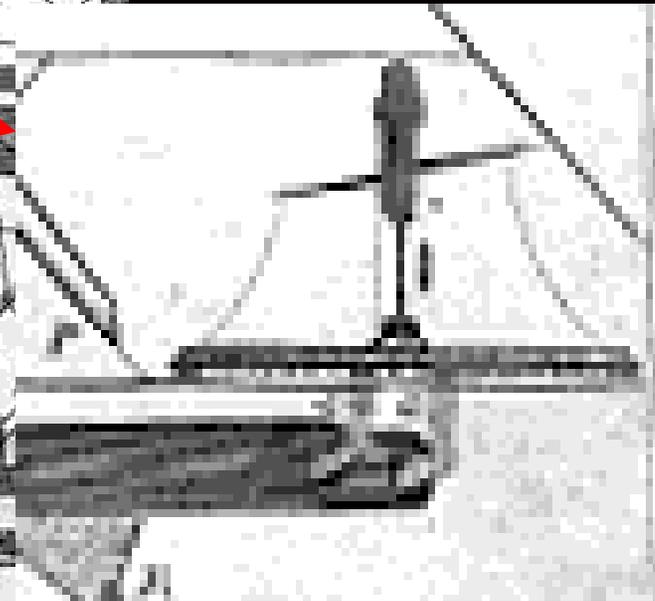
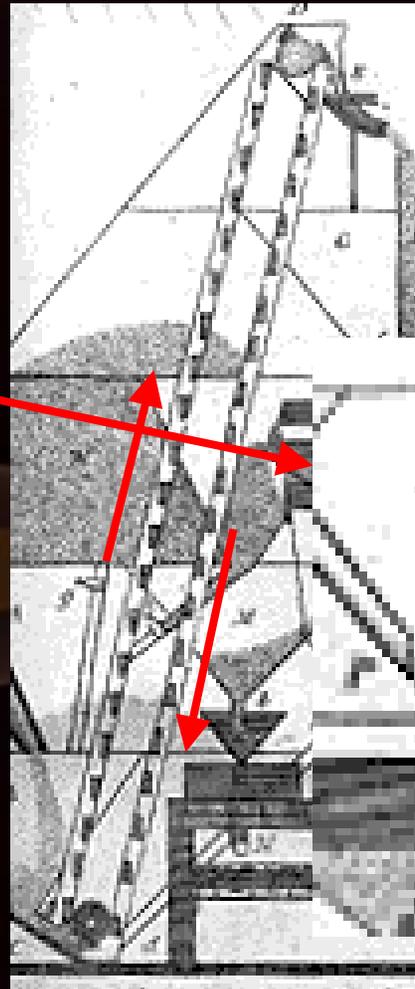


Milling History: Oliver Evans

- Major Innovations
 - Mill Elevator
 - “Hopper-boy”



Evans's Mill Plan



Milling History: Nordyke & Marmon

- Founded in 1851 by Ellis Nordyke and his son, Addison H., as E. & A.H. Nordyke
 - Specialized in the building and manufacturing of mills and milling equipment
- Daniel Marmon joined as an equal partner in 1865
 - Name changed to Nordyke, Marmon, & Company the next year

Milling History: Nordyke & Marmon

- Moved from Richmond, VA, to Indianapolis, IN, in 1876
- Produced roller mills, bolters and bolting cloth, and other milling machinery
- Milling equipment production was bought out by Allis-Chalmers in 1927
- Was one of the leading producers of milling equipment from the 1870s to 1920s

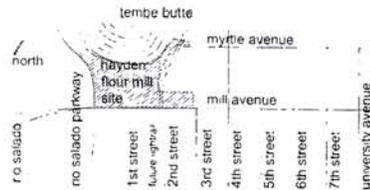
Interpretation

The background is a dark, gradient field of colors ranging from deep purple to black. It is populated with numerous glowing, semi-transparent spheres of various sizes and colors, including shades of blue, green, yellow, and orange. Some spheres are sharp and bright, while others are blurred and dim, creating a bokeh effect. The overall aesthetic is ethereal and futuristic.

Early Proposals

PRELIMINARY PLANNED AREA DEVELOPMENT for HAYDEN FLOUR MILL

location map:



variances:

- 1 reduce the building front and street sideyard setback from 25' to 0' in the MG zoning district

use permit:

- 1 allowed shared parking in the MG zoning district
- 2 allow outdoor dining for restaurants

flood zone:

ACCORDING TO THE FLOOD INSURANCE RATE MAP 44043C200G AND 44043C2100F DATED JULY 19, 2001 THIS PROPERTY IS LOCATED IN FLOOD ZONE "X" AREAS OF 500 YEAR FLOOD. AREAS OF 100-YEAR FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE, AND AREAS PROTECTED BY LEVEES FROM 100-YEAR FLOOD.

general note:

owner:

Owner: City of Tempe
31 east 5th street,
Tempe, Arizona 85281
tel 480 350 xxxxx
fax 480 350 xxxxx

owner / developer:

submitted by
Owner: MCW Holdings
602 west 1st street,
Tempe, Arizona 85281
tel 480 966 9600
fax. 480 966 4100

project name: Hayden Flour Mill
case number: _____
site address: 119 south mill avenue
Tempe, Arizona
section: 15-N

statement of owners:

we have reviewed this plan and approved the development as shown signed this ____ day of _____, 2002

by _____ of
The City of Tempe, Arizona

approvals:

approved by the City of Tempe Mayor and City Council this ____ day of _____, 2003

by _____, Mayor,

date _____

attest _____, City Clerk,

date _____

by _____, City

Engineer,
date _____

by _____, Planning

Department,
date _____

statement of owners:

we have reviewed this plan and approved the development as shown signed this ____ day of _____, 2002

by _____ of
MCW Tempe Mill, L.L.C., an arizona limited liability company

acknowledgement:

State of Arizona, County of Maricopa;
the foregoing instrument was acknowledged before me this ____ day of _____, 2002

as
MCW Tempe Mill, L.L.C., as Owner
in witness whereof I have hereunto set my hand and official seal

Notary Public: _____

my commission expires: _____

conditions of approval: SPD # _____

engineer certification:

surveyor seal and signature

[Signature]
date: 12/18/03

DEI PROFESSIONAL SERVICES, LLC
8228 N. 24th STREET, SUITE 200
PHOENIX, AZ 85018
602-954-0008 PHONE
602-324-0166 FAX



MCW
MCW HOLDINGS

Hayden Flour Mill in Tempe

sheet - 1/4

DS # _____

SPD # _____

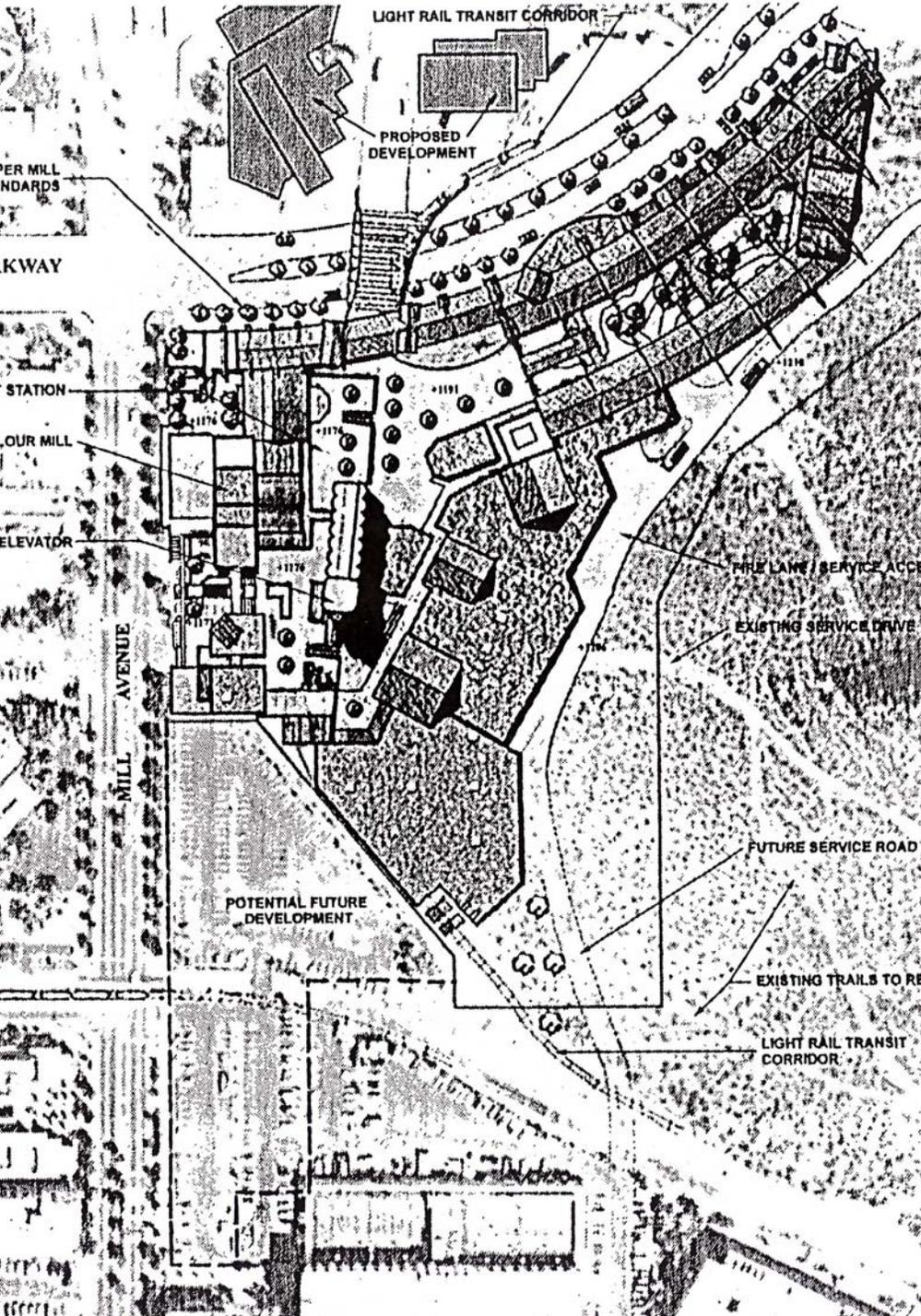
REC # _____

December, 2002
scale as noted

REC #

SPD #

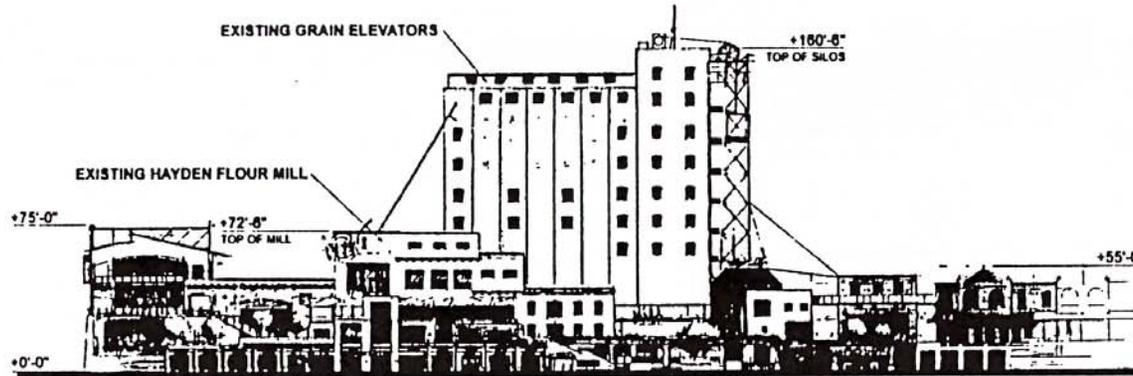
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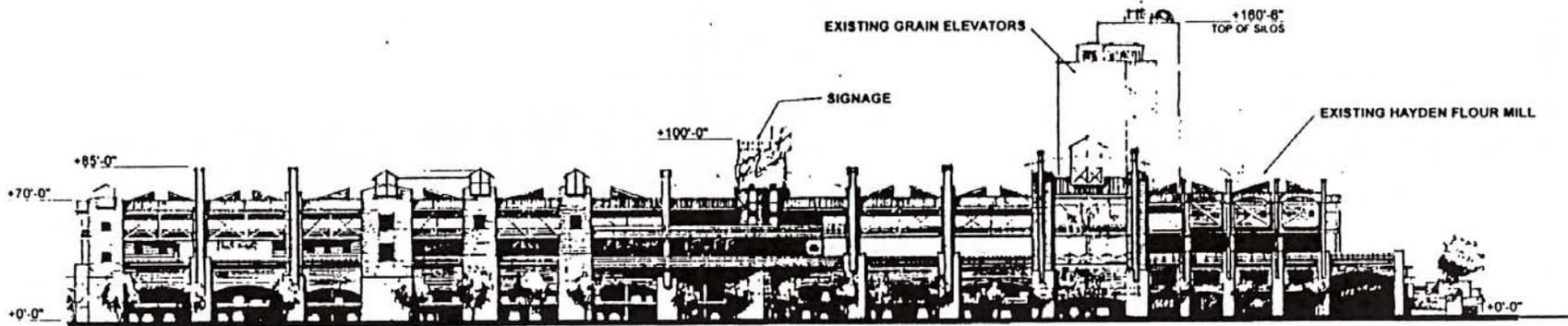
1997 Proposal

-new development overshadows the historic mill to the point that they are hardly recognizable

- Construction seriously compromises the integrity of the mill.



WEST ELEVATION
VIEW FROM MILL AVENUE



NORTH ELEVATION
VIEW FROM RIO SALADO PARKWAY



rio salado parkway

building # 8

building # 1

building # 6

building # 5
grain silos

building # 7

building # 2
flour mill

MCW 2002 Proposal

existing bldg.

second street

parking access

existing service road

building # 3

future butte park road

butte park trail

mill avenue

third street

building # 9
above

parking garage

existing bldg.

existing bldg.

fourth street

building # 4

hotel parking

hotel

parking access

myrtle avenue

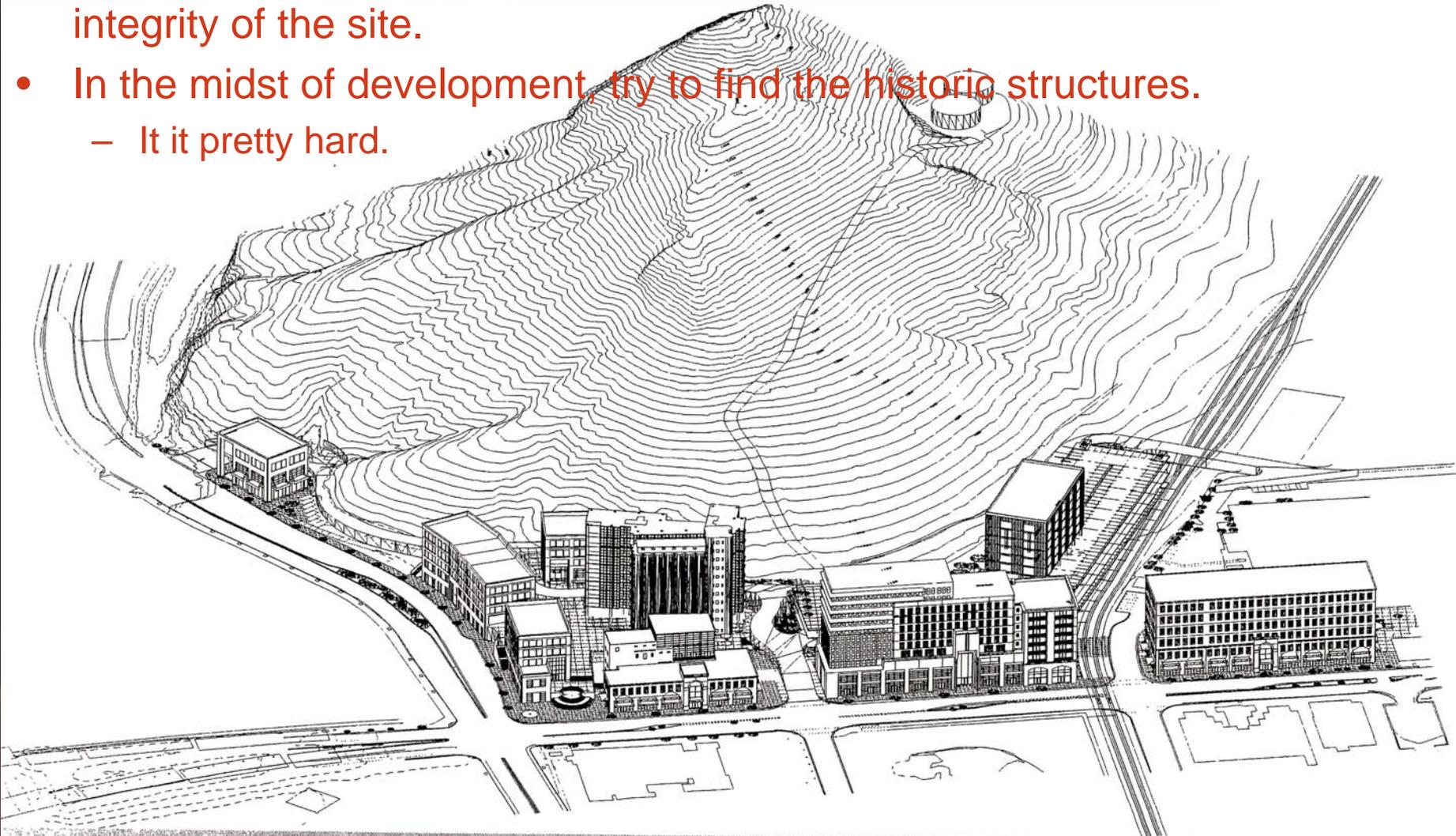
future rapid transit corridor

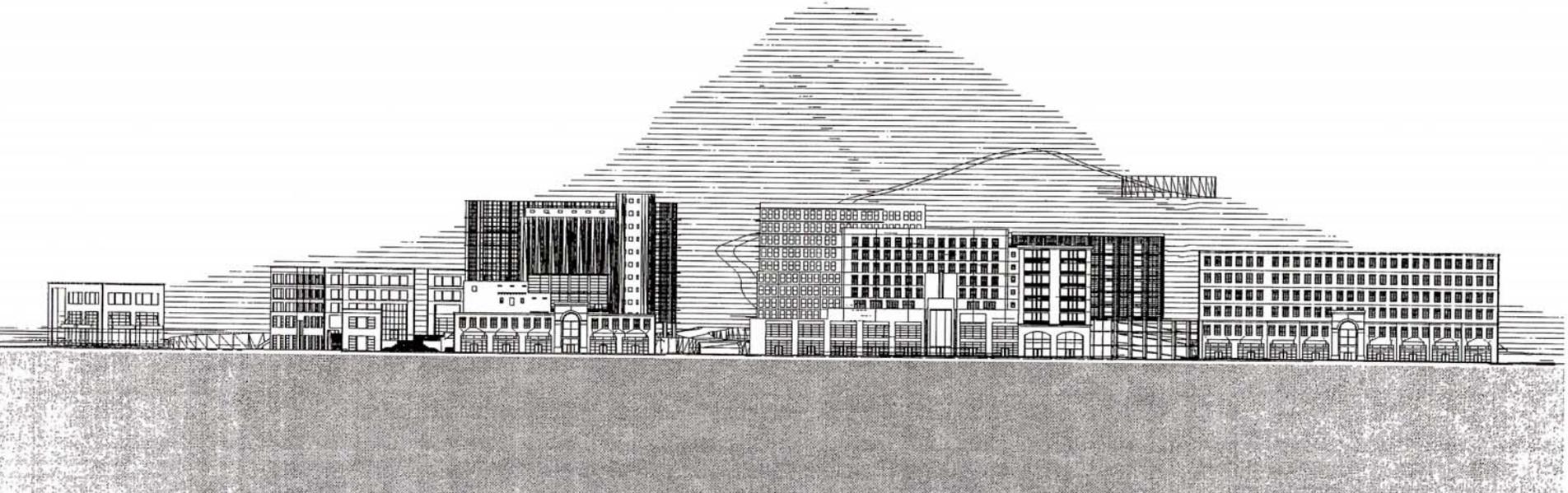


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- The 2002 proposal was no better.
- The mill site would be redeveloped into a Vegas-style complex.
- Again, this proposal would seriously compromise the historic integrity of the site.
- In the midst of development, try to find the historic structures.
 - It is pretty hard.





Hayden Flour Mill in Tempe

PAD submittal - north elevations

December, 2002
scale as noted



The question remaining then is ...

How to Interpret the Hayden Mill?



The mill has been
THE iconic mainstay while Tempe has
developed and grown immensely.



'63



'69



'76



'86

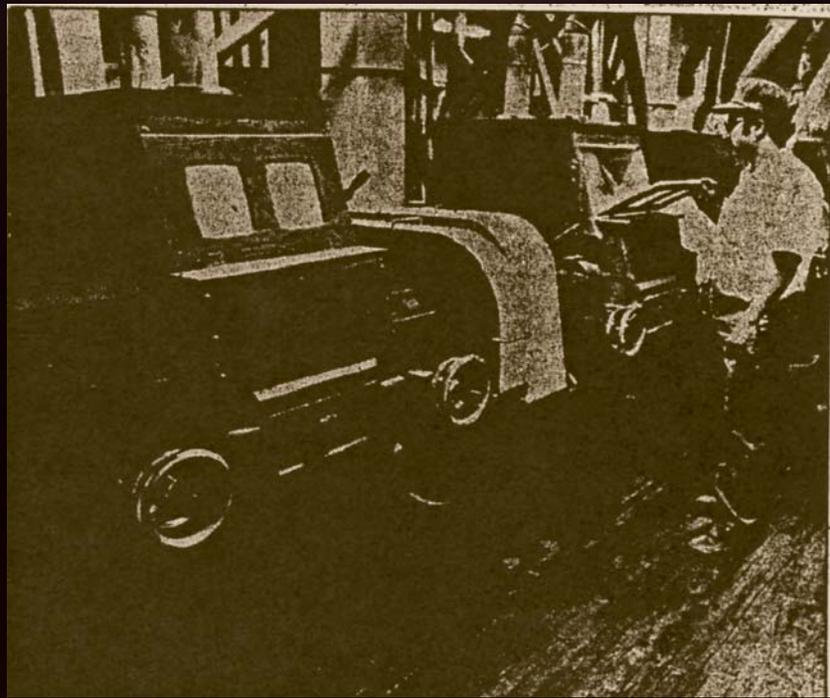


'96



'03





- These are pictures of the old Hayden Mill & then within the Bay State facility currently operating in Tolleson, AZ
- How do you portray the sounds, the smells, the experience of what it was like within the Hayden Mill?
- (click below for movie)

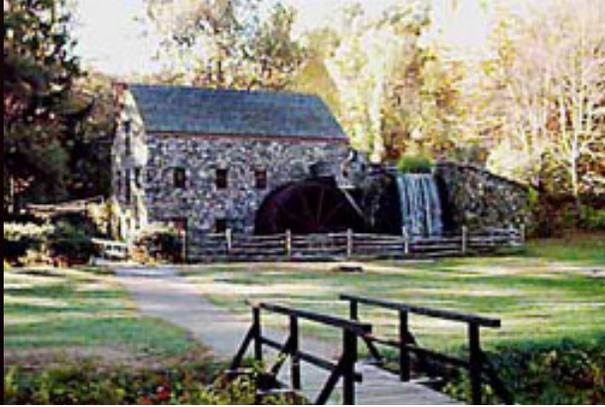


One can only imagine the overwhelming smell of ground flour as rows of sifters and grinders hum so loud that shouting or hand gestures are the only form of communication possible in a flowing process that is best adapted to re-enactment in a museum setting.



- Living history exhibits would provide visitors with the authentic sights and sounds that defined the milling method.

Other Working Mills



Only 1 is a working flour mill & dates to a different time period than the Tempe mill.



Society for the Preservation of Old Mills

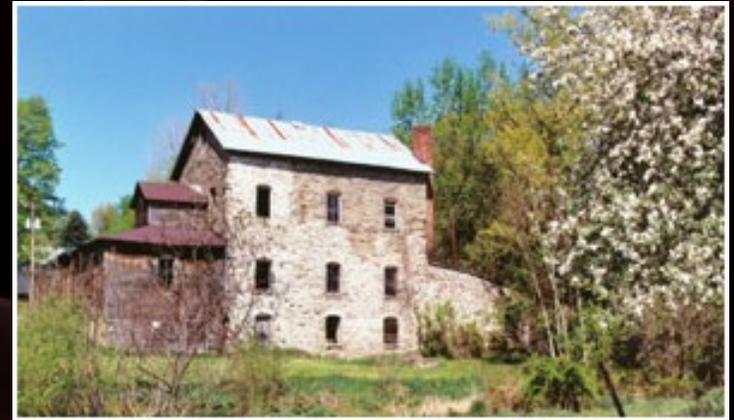
 SPOOM





- Other non-working flour mills are in existence, but they operate simply as unanimated museums, a distinction setting the Hayden Mill apart from others.

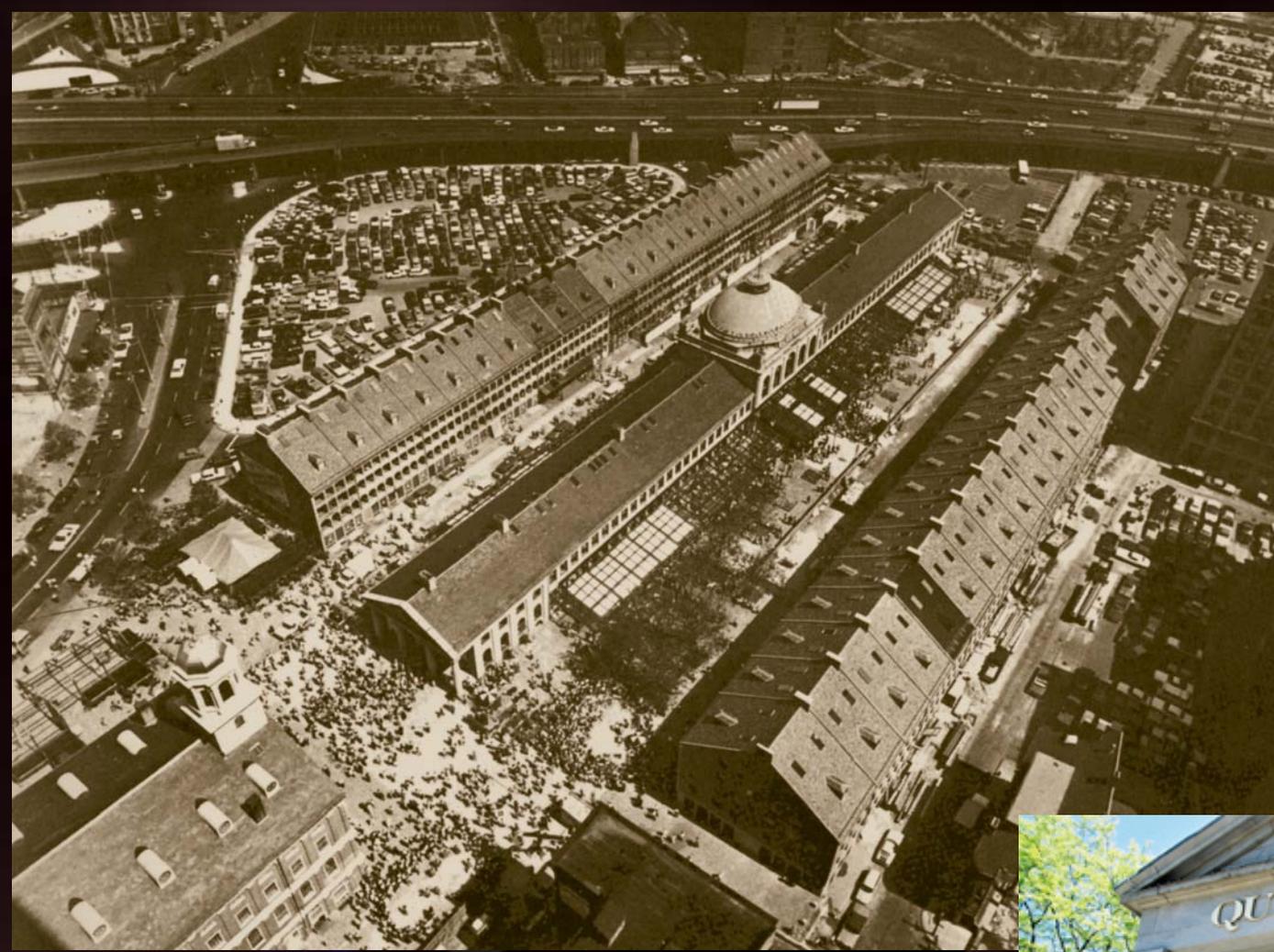
Flour Mills



- The Hayden Mill historic site can be utilized as both a retail area as well as historic community space.
 - Compromise is the key. Both interpretation and development can exist in unison.



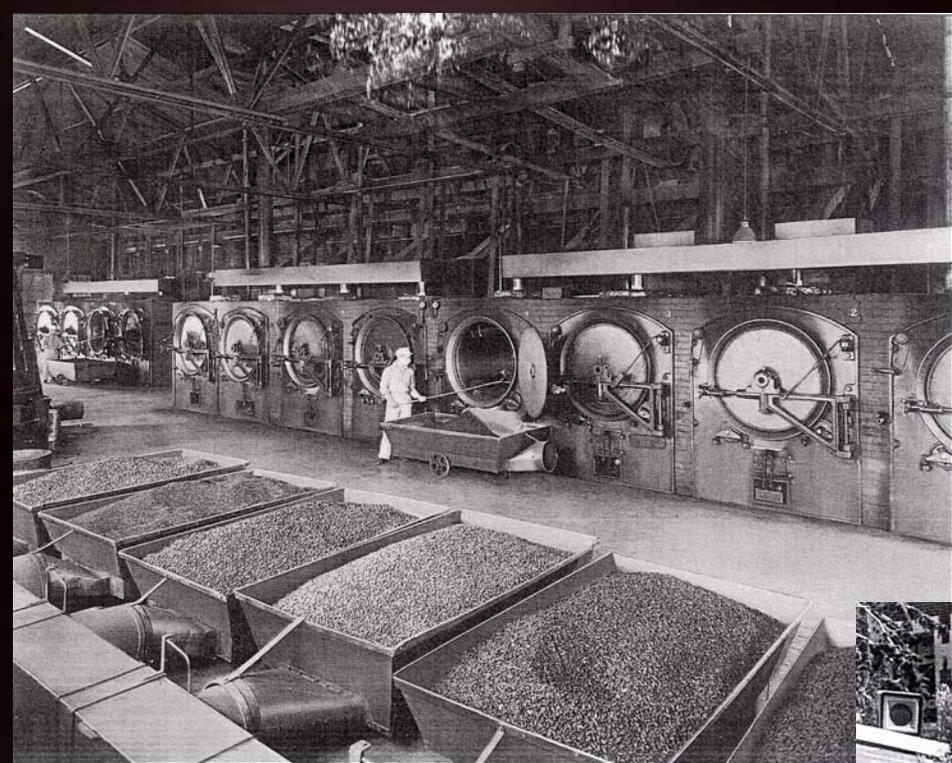
Community Space



- Located along Boston's historic Freedom Trail, Faneuil Hall combines interpretation and festival marketplace retail to create a successful community and tourist space.

Faneuil Hall





Ghirardelli Square

- Meanwhile, visitors to this San Francisco attraction have no concept of the history that defined its space for 150 years.



Creative Silos



- Retail development in the old mill is not a challenge. The 125' grain silos, however, present a different adaptive reuse issue.

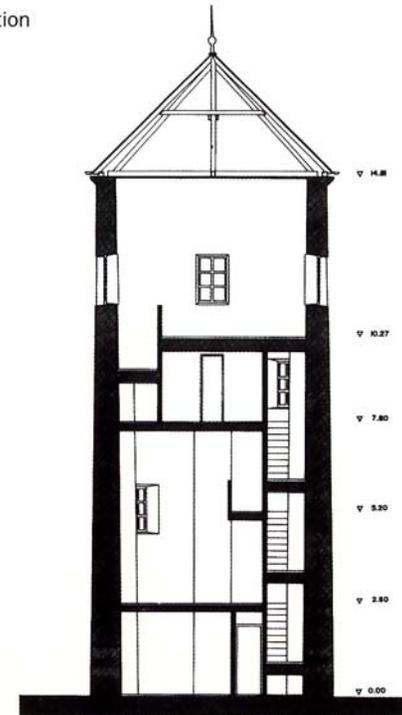
Thinking creatively outside the box is a model others have utilized to create successful modifications in similar spaces.



- A 4-story silo home in Germany.



Cross-section



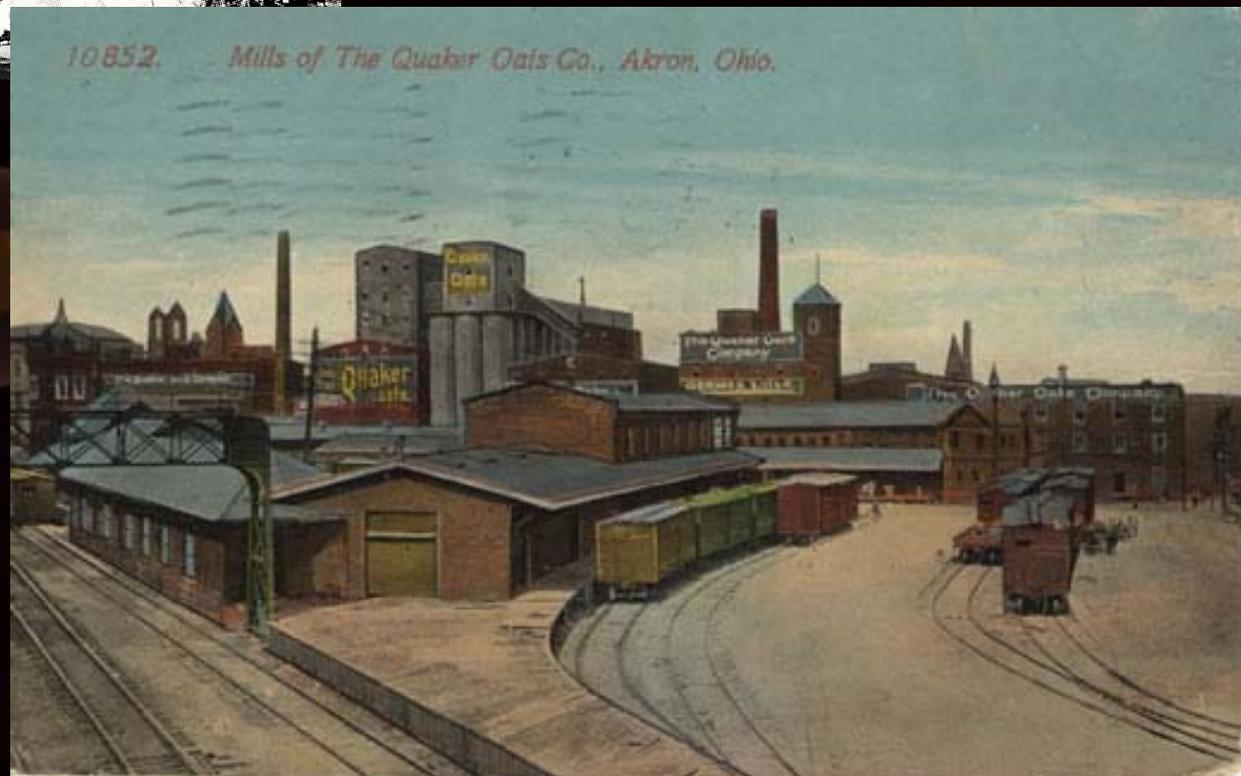


- A 20-story Volkswagen car silo also in Germany.





A former Quaker milling facility in Akron, Ohio transformed into a hotel and retail center.





- As historic preservation involves looking into the past to renew history and provide the community with a better sense of its past, Tempe can study other cities as examples of places where both economic viability and historical education successfully occur simultaneously.

- The City of Tempe has a wonderful opportunity to create a meaningful community space that serves as a representation of its heritage while simultaneously promoting economic development within the Mill Avenue District. Tempe should seriously consider restoring the mill to its circa 1950 condition a restoration that would not only include substantial retail space within the historic framework of the structure, but also a museum and working flour mill along that will both serve as a central community and cultural space.

