828

NPS Form 10-900
(Oct.1990)

OMB No. 10024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instruction in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classifications, materials and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Northwest Fence and Wire Works

other names/site number

2. Location

street & number 400 NE 11th Avenue ☐ not for publication

city or town Portland ☐ vicinity

state Oregon code OR county Multnomah code 051 zip code 97232

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this X nomination ____ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property X meets ____ does not meet the National Register criteria. I recommend that this property be considered significant ____ nationally ____ statewide X locally.

James M. Hamrick 14 June 2005
Signature of certifying official/Title - Deputy SHPO Date

Oregon State Historic Preservation Office
State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that the property is:

Action

✓ entered in the National Register
___ See continuation sheet.

____ determined eligible for the National Register
___ See continuation sheet.

____ determined not eligible for the National Register

____ removed from the National Register

____ other (explain):

Signature of the Keeper Date of

for Edson Beall 8/4/05

Northwest Fence and Wire Works
Name of Property

Multnomah, Oregon
County and State

5. Classification

Ownership of Property
(check as many as apply)

__X__ private
___ public - local
___ public - state
___ public – Federal

Category of Property
(check only one box)

__X_ building(s)
___district
____ site
____ structure
____ object

Number of Resources within Property
(Do not include previously listed resources in the count)

Contributing	Noncontributing	
1		buildings
		sites
		structures
		objects
1		Total

Name of related multiple property listing
(enter "N/A" if property is not part of a multiple property listing)

N/A

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions
(enter categories from instructions)

COMMERCE/TRADE: business
INDUSTRY/PROCESSING/EXTRACTION:
Manufacturing facility

Current Functions
(Enter categories from instructions)

WORK IN PROGRESS

7. Description

Architectural Classification
(Enter categories from instructions)

LATE 19TH AND 20TH CENTURY REVIVALS

Materials
(Enter categories from instructions)

foundation: CONCRETE
walls: BRICK
roof: ASPHALT
Other:

Narrative Description
(Describe the historic and current condition of the property on one or more continuation sheets)

See continuation sheets.

Northwest Fence and Wire Works
Name of Property

Multnomah, Oregon
County and State

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing).

_X_ A Property is associated with events that have made a significant contribution to the broad patterns of our history.

_____ B Property is associated with the lives of persons significant in our past.

_____ C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

_____ D Property has yielded, or is likely to yield, information important in prehistory or history.

Areas of Significance
(Enter categories from instructions)

COMMERCE
INDUSTRY

Period of Significance

1922-1954

Significant Dates

1922

Criteria Considerations
(Mark "x" in all the boxes that apply)

Property is:

_____ A owned by a religious institution or used for religious purposes

_____ B removed from its original location

_____ C a birthplace or grave

_____ D a cemetery

_____ E a reconstructed building, object, or structure

_____ F a commemorative property

_____ G less than 50 years of age or achieved significance Within the past 50 years

Significant Person
(Complete if Criterion B is marked above)

Cultural Affiliation

Architect/Builder

unknown

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets)

9. Major Bibliographical References

Bibliography (Cite books, articles, and other sources used in preparing the form on one or more continuation sheets) See continuation sheets

Previous documentation on file (NPS):
___ preliminary determination of individual listing (36CFR67) has been requested
___ previously listed in the National Register
___ previously determined eligible by the National Register
___ designated a National Historic Landmark
___ recorded by Historic American Buildings Survey
___ recorded by Historic American Engineering Record

Primary location of additional data:
___ State Historic Preservation Office
___ Other State agency
___ Federal agency
___ Local government
___ University
___ Other
Name of repository: _____

Northwest Fence and Wire Works
Name of Property

Multnomah, Oregon
County and State

10. Geographical Data

Acreage of Property less than one acre

UTM References
(Place additional UTM references on a continuation sheet)

	Zone	Easting	Northing
1	10	527079	5041240
2			
3			
4			

Verbal Boundary Description
(Describe the boundaries of the property on a continuation sheet)

Boundary Justification
(Explain why the boundaries were selected on a continuation sheet)

11. Form Prepared By

name/title Jessica Engeman, preservation specialist

organization Venerable Group, Inc. date October 2004

street & number 322 NW 5th Avenue, Suite 301 telephone 503-224-2446

city or town Portland state OR zip code 97209

Additional Documentation

Submit the following items with the completed form:

Continuation sheets

Maps: A USGS map (7.5 or 15 minute series) indicating the property's location.
A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs: Representative black and white photographs of the property.

Additional items (check with the SHPO or FPO for any additional items)

Property Owner

name Venerable Group, Inc.

street & number 322 NW 5th Avenue, Suite 301 telephone 503-224-2446

city or town Portland state OR zip code 97209

INTRODUCTION

The Northwest Fence & Wire Works ("Northwest Fence") Building is located at 400 NE 11th Avenue in Portland, Oregon. The property is comprised of Lots 3-4 of Block 232 in the East Portland Addition. The building is surrounded by other industrial buildings, some of which were built early in the twentieth century and have an industrial character similar to Northwest Fence. There are also several modern industrial buildings.

Northwest Fence was built in approximately 1911 for use as a livery stable. The architect and builder are unknown. The building was damaged by a fire that most likely occurred in 1921 or 1922. Between 1922 and 1959 the building was occupied by Northwest Fence and then by Cyclone Fence Co. In 1960 the building was purchased by H.C. Rhodes Bakery Equipment Company. They recently sold the building to Venerable Group, Inc., who has undertaken the building's rehabilitation.

The building measures approximately 100 by 100 feet. It fronts NE 11th Avenue and NE Flanders Street. There is no landscaping. To the north and east are parking lots.

The subject property is a two-story brick building with full basement. It is typical of commercial/industrial architecture built after the turn of the century. The structural system is wood post and beam. Significant features of this building include brick parapets on the west and south facades; windows and doorways with brick segmental arches and keystones; expansive interior spaces with exposed columns, beams, and joists; and a second-story sawtooth light monitor with wire-glass pivot windows.

Overall, the building is in fair condition. Much of the mortar needs to be replaced and the majority of the windows have deteriorated beyond repair. Nonetheless, the building has high historical integrity in terms of location, design, setting, materials, workmanship, feeling, and association. The building substantially conveys its use during the period of significance: 1922-1954.

SITE

The Northwest Fence & Wire Works Building is located in the NE ¼, SW ¼ of Section 35, Township 1 North, Range 1 East of the Willamette Meridian within the city of Portland, Oregon. The building covers approximately one quarter of a 200-by-200' city block, surrounded by other industrial buildings of various vintages.

Portland is located near the mouth of the Willamette River, which flows into the Columbia at the northern boundary of the state. The Willamette River has long made the city an international inland seaport and has had much to do with Portland's early economic growth. The portion of the city east of the river consists of a gently

sloping plain broken by occasional buttes. Burnside Street arbitrarily divides the city into north and south sections. With Burnside and the Willamette River as dividing lines, Portland has four distinct quadrants. The subject property is located in the inner core area of the northeast quadrant, 12 blocks from the banks of the Willamette.

EXTERIOR

The subject building sits on a concrete foundation that has been parged and painted. Its brick walls are unreinforced and have an American bond pattern where a course of headers comes between every six courses of stretchers.

The building has a variety of different window and door openings. These are important character-defining features, so they will be described façade by façade.

The west façade is punctuated by eleven irregularly spaced windows at the basement level. Five of these windows were added when two entries where bricked in around 1922 (when Northwest Fence purchased the property). The windows measure approximately three feet wide by two feet tall. All basement windows on the building have been enclosed with a nonpermanent cover of wood or metal. The original sashes remain intact underneath.

Most of the full sized windows on this building measure approximately 4 ½ feet wide by five feet tall and have eight-over-one or eight-over-eight single-hung wood sashes. Some lower sashes have been replaced and are now fixed. It appears that the original windows on this building were eight-over-eight with thin muntins. There are several of these original sashes remaining on the building; however, they are in poor condition. The rest of the sashes have been altered or replaced over the years, some in 1922 after the building suffered fire damage.

There are four of these 4 ½-by-5 foot windows on the ground floor of the west façade. Several of them are covered on the interior with a reflective materials and boards. There is also one 7-by-4 foot window with a fixed multi-light wood sash, as well as one elongated window at the south end of the facade in which a modern vinyl window has been installed in the lower half of the opening and the upper half has been boarded up and covered with asphalt paper with a brick design. On the second floor there are five pairs of 4 ½-by-5 foot windows that are symmetrically arranged, with one pair centered under the parapet.

It appears that there were originally four different entries on the west façade. Reading the façade from left to right, there was an opening approximately eight feet wide by 8 ½ feet tall that was bricked in and two basement windows added, probably in 1922. When the building was used as a stable, this entry gave access to the basement via a ramp. Immediately to the right, a large 12-by-12 ½ foot opening was bricked in and three basement windows were added. A large multi-light transom still remains within the original opening. This was

likely one of the original main entrances to the building, as its segmental arch includes a brick keystone. At the far right end of the façade, a tall narrow doorway once existed, but has also been bricked up. This was the original office entry, as one can still make out the word "Office" painted on the brick. Immediately to the left of the old office doorway, another 8-by-8 ½ foot entry exists. It now has a modern door and transom.

All of the doors and windows on this building feature segmental arches. On the basement windows these arches are three header bricks high, laid vertically and flush with the facade. On most of the other openings the arches feature an additional row of headers laid horizontally that project slightly from the façade. As an exception, the two original main entries—on the south and west facades—feature an arch comprised of four vertically laid headers topped by a row of horizontal headers and a keystone. All of the windows have sills comprised of one row headers laid vertically.

A brick cornice wraps around the entire building at the roofline. At the center of the west façade wall, this cornice incorporates a stepped parapet, rising about two feet above the roofline. Clearly, this façade was meant to establish a visual presence on NE 11th Avenue

Also a visually prominent elevation, the south façade has features similar to the west façade. There are six basement windows that have been covered over. Originally, there were four windows measuring 4 by 7 feet on this facade. These were likely nine-over-nine single-hung windows. Three of these windows have had their upper halves boarded up and covered with asphalt paper. One-over-one vinyl sashes were installed in their lower halves. These alterations to the windows were made when the interior office space was remodeled in the 1960s. At the east end of the façade there is a small three-light window. There are two other irregular windows: one measuring 2 ½ by 5 feet with a vinyl sash in its lower half and its upper half boarded up, and a 7-by-3 ½ foot window with two fixed wood sashes with multi lights.

The second floor of the south facade has six of the 4 ½-by-5 foot windows that are symmetrically arranged, with a pair centered under the parapet. The regular rhythm of the second story openings helps to balance the more irregular placement of the ground floor windows and doors.

One 8-by-8 foot entry on the west façade was bricked in around 1960. When the building was used as a stable, this entry gave access to the basement via a ramp. A large freight door approximately 12 feet wide and 16 feet tall was installed in 1962 by Rhodes Bakery. This opening is supported by a substantial steel lintel and the sides of the doorway are protected by bollards at the ground level. Previous to this alteration, drawing indicate there was an opening (original to the building) with a brick segmental arch that Northwest Fence had modified for the loading and unloading of fence materials. Immediately to the right of the freight door is one of the original main entries, as signified by the prominent brick keystone. The opening was bricked in around 1922 and then altered again in 1960 to accommodate a modern door. The original multi-light transom window above the door was replaced with Plexiglas sometime around 1960.

The south façade features the same segmental arches, roof cornice, and central parapet as the west façade.

The north and east facades have much less visual prominence than the south and west facades, because they did not face any major streets. In fact, the north façade was once adjacent to a neighboring building. Currently it faces onto a parking lot. The lower half of the façade is obscured by the concrete wall of the once-adjacent building that was destroyed by fire. Through this wall a doorway was cut in 1969. It is 4 ½ feet wide and 7 feet tall with a sliding metal door.

Originally, there were ten basement windows on the north facade. These were permanently covered over when the neighboring building was constructed (later destroyed by fire). Because the present day parking lot is essentially the remaining concrete foundation from this building, the basement windows on Northwest Fence remain obscured. On the second floor, there are two windows measuring 4 ½ by 5 feet. One is an original eight-over-eight single-hung wood sash window. The lights on the other window have been replaced with Plexiglas. Originally there were two windows of the same size beneath these two, which were infilled when the neighboring structure was built.

Also on the upper half of the north façade is some painted signage from the Northwest Fence & Wire Works business. The sign reads:

> Northwest Fence & Wire Works, the Fence Builders.
> Fence for all Purpose
> Wire and Iron Work
> Sand and Gravel Screens

The east façade faces onto another parking lot. The brick on this facade is painted white. As built, there were four basement windows. Now only the tops of their arches are visible because they have been permanently covered over by an asphalt parking lot. Above the basement level there are two windows per floor and they are symmetrically spaced. These windows are eight-over-four metal sash windows with wire glass. The top sash pivots out. These windows were likely installed around 1923, because they are very similar to the windows used in the sawtooth light monitor on the second floor, also built at this time. The two lower windows on the north façade have wire mesh placed over them to provide additional security. These four windows have sills comprised of one row of headers laid vertically and their segmental arches are three stacked rows of vertically laid headers.

The building's composition shingle roof is nearly flat. It slopes gently toward the parapet walls, allowing for the drainage of rainwater. There is a 20-by-20 foot sawtooth light monitor system in the center of the roof; however, it is not visible from the public right-of-way.

INTERIOR

The Northwest Fence Building has a full basement with wood posts and beams. However, steel posts and some wood shoring were later added for additional structural support. The basement is an open space with no partitions. In the southwest corner of the room is a large structural support system for the first-floor loading dock. In the northwest corner there is a short ramp that leads to a doorway and a narrow barrel-vaulted cellar-like room that is under the sidewalk, measuring approximately five feet deep and 24 feet long. Its original function is unknown, but was likely for some sort of storage. A large freight elevator—20 by 8 feet—is located along the east wall, as is an enclosed wooden staircase, both of which were added in 1923. The elevator shaft has been enclosed with clay tile to make it fire-resistant. The floor in the basement is concrete and large portions of it are roughly scored.

The ground floor can be entered from the north, south, and west facades. From the north, one enters into a large, open space that shows the heavy post and beam construction. The timbers are large—approximately a foot wide. Where post and beam meet, a wood bearing pad with chamfered ends gives additional support, creating a distinct T-shaped system. Regular cross-bracing is visible, as are the wood ceiling joists. Several crane rails are mounted on the ceiling. The brick walls are exposed and painted white.

This ground floor space includes several wood-frame partitions, the majority of which were added in 1960. Some of these partitions are finished in sheetrock, while others are just plywood. There is one partitioned room in the northeast corner next to the freight elevator. There is an employee breakroom and restroom in the southeast corner next to the freight loading area. In the southwest corner, there are partitioned rooms that served both the bakery equipment manufacturing area as well as office functions. The office space was originally constructed in 1923, but substantially modified and added onto in 1960. The office rooms now have a drop ceiling and faux wood paneling. There is an entrance to this office space off of NE 11th Avenue (the west façade).

The first floor features a variety of flooring materials. For the most part, it is tongue-and-groove wood flooring. However, concrete was laid over the wood floors in the northwest and northeast corners of the space. In the loading area (southeast corner), several different types and sizes of floorboards are visible. Over time new T&G floor was laid over a preexisting wood floor. Sheets of metal have been bolted to the floor between the entry on the north wall and the freight loading area. The office is carpeted.

The second floor is accessed by the freight elevator and the enclosed staircase on the west wall. Like the ground floor, the posts, beams, ceiling, and brick walls are all exposed. The posts and beams are not as substantial as those on the ground floor. All of the wood is painted. This space has three partitions: one in the northeast corner; one along the south wall that was an office with a drop ceiling, paneled walls; and a two-stall bathroom. All were added after 1960.

The two windows on the north wall (of the second floor) each feature a large interior metal door attached to a weight system that keeps the door closed. These doors were a fire protection measure that was required when the Northwest Fence building abutted the neighboring building. They were installed during or before the period of significance.

A key character-defining feature of the second floor interior is the exposed roof system. The beams spanning the space run east to west and have a slight crest in the center. Running perpendicular to these beams is a wood truss system. At the center of the ceiling is a sawtooth light monitor, added in 1923 to enhance the ventilation and lighting of the space. Each of the two sawtooth components measures approximately 20 feet long and has seven 10-light north-facing windows and one six-light window at either end; one facing east and one facing west. The 10-light windows are pivot windows with metal sashes and wire glass. The six-light windows have fixed sashes. The monitor projects approximately four feet above the ceiling at its highest point.

The second floor also has two layers wood tongue-and-groove flooring. The top layer was likely what was installed by Northwest Fence in 1922.

ALTERATIONS

There have been some notable changes to the subject building since its construction around 1911, but many occurred within the period of significance: 1922-1954. Many of the alterations were already notated in the previous description of the building; however, this section will provide a more substantial and chronological look at how the building evolved over time. Building permits and drawings were the primary sources for the following information.

In the summer of 1922, Northwest Fence began rehabilitating the fire-damaged livery stable. On the first floor they replaced five posts, seven girders, and half of the joists. The stairway between the basement and the second floor was rebuilt and enclosed. They also installed a hydroelectric elevator. New tongue-and-groove flooring was laid on the first and second floors. A 19-by-41-foot office space with wood and glass partitions was constructed on the first floor. Throughout the building, many window sashes and glass panes were replaced, although no specific number is stated in the record. Permits indicate at least two entries were bricked up. Evidence also suggests that the sawtooth light monitor was added at this time. Repair specifications on Northwest Fence letterhead notate: "Form two skylights facing north: four sashes in each to be hung for ventilation. Metal sashes to be used on skylights." The roof was almost entirely reconstructed. Wegman & Son was the general contractor for this work, which was completed in 1923.

The permit record indicates that no substantial changes occurred to the building between 1923 and 1959. When H. C. Rhodes Bakery Equipment Co. purchased the property in 1960, they hired Frank Dearcorff to design the remodel of the building. The building was given updated mechanical systems and the existing office space in the southwest corner of the ground floor was remodeled and doubled in size. They added a small showroom

and several storage rooms, as well as a paint booth in the northeast corner. In the basement, a furnace room was created. The enclosed staircases were modified.

In 1923, the large arched opening next to the present-day freight door was bricked in and two basement windows were added. In 1960, Rhodes removed one of the basement windows and inserted a 4-by-7 door. The other basement window was covered over. In 1962, the loading bay was modified. The drawings indicate that an original brick segmental arch (the same size as the adjacent arched opening) was removed and the steel lintel and large roll-up door installed.

In 1969, according to a set of drawings submitted to the city, a one-story building stood adjacent to the Northwest Fence building to the north. It is unknown when this building was constructed. It measured 58 by 100 feet and had a bow string truss. Although the record is inconclusive, it appears that Rhodes Bakery acquired this property at some point, because the 1969 drawings called for the installation of a sliding door, linking the two properties. This building burned down sometime after 1970 and the site was converted to a parking lot. The metal sliding door now gives access to the building from the parking lot.

In 1997, the building was re-roofed and the brick parapets were anchored to the roof.

Although changes were made to the building after the period of significance, most of these changes did not negatively impact the historical integrity of the building. Overall, the building remains substantially intact in terms of form, materials, and character-defining features from its early days as the Northwest Fence & Wire Works headquarters.

PLANS FOR REHABILITATION

This building will undergo a complete rehabilitation, ensuring that character-defining features are preserved. New uses will include storage in the basement, mercantile/retail on the ground floor, and office/studio spaces on the second floor. The building's mechanical systems will be updated and the windows will be replaced with new eight-over-eight sashes that closely replicate the originals. Much of the masonry will be cleaned and re-pointed.

National Register of Historic Places Continuation Sheet

INTRODUCTION

The Northwest Fence & Wire Works Building, located at 400 NE 11th Avenue in Portland, Oregon, is proposed for nomination under Criterion A, because of its significant association with the development of the fence and wire industries in Portland—industries that played a critical role in the development of the nation as a whole. For 37 years the building continuously housed Portland's leading businesses in the fence and wire industries.

The Northwest Fence & Wire Works business was established in 1915, originally at the corner of Union Avenue and SE Oak Street in Portland. With rapid industrial growth occurring in city in the late 1910s and early 1920s, this thriving business needed to relocate to a larger space. In 1922, they purchased and began renovating the subject property. At this time, the business produced a wide variety of products ranging from ornamental fences to fruit-picking ladders to wire garbage bins.

In 1929, the Northwest Fence business was bought out by the Cyclone Fence Company, which originated in Waukegan, Illinois and later became a subsidiary the United States Steel Corporation. Between 1929 and 1942, the business was managed by Standard Fence Co.—the Pacific Coast division of Cyclone. At the time Cyclone took over, the business began producing fences exclusively and chain link primarily. The Northwest Fence name was kept on the building and on subsequent advertising, evidence of the business's established and well-respected reputation in Portland. In 1959, the Portland branch of this national company was shut down for unknown reasons and the building was purchased by H.C. Rhodes Bakery Equipment Company. The property is now owned by Venerable Group, Inc.

In order to fully understand the significance of the Northwest Fence & Wire Works Building, a historical background on the growth of the interrelated fence and wire industries in the United States is necessary. The development of fences—specifically wire fences—was one of the strongest forces that shaped American settlement patterns and contributed to the rapid industrialization and growth of cities. North America could not have been settled without fences. Fences were the mechanism through which countless Americans staked their claim to land and moved westward. Industry and agriculture without fences would be difficult to imagine. Innovations in the fence industry—such as the development of chain link fences—allowed for increased military security. Private ownership of land would be an abstract concept. But fences are more than functional objects. As physical barriers and powerful symbols, fences have been and continue to be an integral part of our American culture and the ways in which we inhabit the landscape.

DEVELOPMENT OF THE FENCE INDUSTRY IN AMERICA

The rapid development of fences in North America commenced almost as soon as European immigrants established their communities and began working the land. Quite different from the Native Americans they encountered, the colonists brought with them and continued a culture that appropriated land through enclosure. In Europe and other civilized parts of the world, the fence helped institutionalize the collective recognition of private property. It fostered long-term thinking and constructive effort, such as organized agricultural practices.

Early barriers were constructed from natural materials—wood, stone, thorny brush, and mud. The first settlers in America made the so-called Virginia worm fence—a zigzagging structure of rough wooden rails crossed at an angle. This fence did not require driving posts into the ground, making it relatively labor- and cost-effective. European travelers marveled at the invention. Being sturdy, rough in appearance, ingeniously built, and implying abundant resources, the worm fence became one of the first iconic symbols of America in the European mind (Kotchemidova 2003). However, these early fences were impractical for the enclosure of large parcels of land. The boom in fence-building occurred in the latter half of the nineteenth century as farmers began to substantially increase their acreage, the railroad expanded across the West, and a surge in building construction intensified demand for a reliable fence that could be built cheaply and quickly. Iron and steel began to replace stone and wood as building materials, because they were widely available as raw materials, they were durable, and they could take on many different forms.

Before the invention of the wire fence, the lack of effective fencing limited the range of farming and ranching practices, and with it, the number of people who could settle in an area. Wooden fences were costly and difficult to acquire on the prairie and plains, where few trees grew. Lumber was in such short supply in the region that farmers were forced to build houses of sod. Likewise, rocks for stone walls—commonly found in New England—were scarce on the plains. Shrubs and hedges—early substitutes for wood and rock fencing materials—took too long to grow to be of much use in the rapidly expanding West.

In other words, the American frontier was fence-starved. The author of an article entitled, "What Shall We Do For Fences?" (Summerschu 1860) explains this shortage of wood available to farmers and livestock owners for fence building, and therefore, the imperative need for a new type of fence material:

> That Iowa's tillable lands cannot be fenced off in eighty acre fields by cutting down ever stick of wood fit at all for the purpose is not a subject of argument; it is a matter of the five senses. Nobody denies it; everybody admits that "sometime or other something must be done." Yet this being a "disagreeable" subject, and everyone being busy with fixing for himself a little spot of this great "unmade garden," we continue the practice against our better impulses of the principle "after me the deluge." We destroy grove after grove [by cutting trees for fence wood], and leave

> the future to take care of itself. Yet that dreaded future is coming upon us closer with every season; in fact, it is already upon us. Our present needs of fencing material are ahead of our supplies. This is a matter of everyday experience with very many Iowa farmers; and has stimulated them to very earnest and systematic efforts to find a substitute.

During the nineteenth century, farmers, government officials, and editors of agricultural journals all commented on the diminishing timber supply available for fence building, as well as the heavy financial burden. In 1872, the Commissioner of the United States Department of Agriculture pronounced the fence debt "...a heavier burden than the war debt." He found the value of fences enclosing the acres of the thirty-seven United States to be $1,747,549,091 and declared: "...the cost of fence [maintenance] nearly equal to the total amount of the national debt on which interest is paid, and about the same as the estimated value of all the farm animals in the United States" (quoted in Randall 1992).

Wire was cheaper, easier, and quicker to use than any alternative. Rudimentary wire fences, such as wire stretched taut between two trees or posts, were increasingly more common after the middle of the nineteenth century. Mechanized manufacturing methods were developed to produce wire on a large scale and to increase its strength and elasticity. However, these early wire fences were slow to be accepted by farmers as a reliable fence material: "...[livestock would] contentedly saw their itching necks...on the smooth wire, in the acme of creature satisfaction, until the fence gave way" (quoted in Dreicer 1996).

As the country expanded and industrialized, fences became the focus of many inventors. Between 1801 and 1857, approximately 100 patents were registered. Between 1866 and 1868 inventors registered an additional 368 patents and by 1881 there were a total of 1,229 patents related to fences in the U.S. (Dreicer 1996). In 1868, inventor Michael Kelly made a significant improvement to wire fencing with an invention that "twisted two wires together to form a cable for barbs—the first of its kind in America" (McCallum 1965). Known as the "thorny fence," Kelly's double-strand design made the fence stronger and the painful barbs taught cattle to keep their distance.

Predictably, other inventors sought to improve upon Kelly's designs. Among them was Joseph Glidden, a farmer from Dekalb, Illinois. In 1873 and 1874, patents were issued for various designs that strengthened Kelly's invention, but the recognized winner in this series of improvements was Glidden's simple wire barb locked onto a double-strand wire. Glidden's invention made barbed wire more effective not only because he created a method for locking the barbs in place, but because he developed the machinery to mass-produce the wire. Glidden's invention set off a creative frenzy that resulted in over 570 barbed wire patents, as well as a three-year legal battle over the rights to these patents. The aftermath forced many companies to merge facilities or sell their patent rights to the large wire and steel companies.

Barbed wire caused a war of fences to flare between farmers and ranchers in the West. Without fencing, livestock grazed freely, competing for food and water. Once a year, cattle owners—unhindered by fenced property lines—led their herds on long cattle drives, eventually arriving at slaughter-houses located near urban rail hubs for shipping convenience. The arrival of homesteaders and the fencing of private property increasingly cut off cattlemen from what they regarded as common-use resources—water and grazing land. They filed land use petitions and then waged fierce range wars against the property-owning farmers. Gradually, there was a discernible shift in who controlled the land. The barbed wire fence essentially spelled the end of free range cattle grazing (Jackson 1996).

Barbed wire inspired rapid and sweeping changes across the American West because it could be installed quickly and economically. However, dissatisfaction with barbed wire brought about pressure to finally develop a reliable smooth wire fence. Barbed wire damaged livestock and hurt human hands. However, it was still hard to sell farmers on the durability of smooth woven wire. In the late 1890s, fence manufactures were struggling to sell these fences, so they erected many of them for free to demonstrate their effectiveness. Farmers were skeptical because fencing their land equaled a significant investment of time, labor, and money. Not only did they have to dig holes, install posts, mount and stretch wire, and keep up with the constant maintenance, but a defective fence could jeopardize their investment. Tremendous losses could be incurred if crops were destroyed when a fence failed to keep animals in or out.

The desire for a sturdy, yet smooth wire fence resulted in the development and manufacture of the woven wire fence. The woven fence was more difficult to manufacture than barbed wire. Many inventors across the U.S. and Europe worked to develop machinery that would allow for easy manufacturing of woven wire fences. J. Wallace Page, for instance, was a key inventor who developed a power loom in 1888. Page ultimately invented the "Page Wire Fence"—a type of woven wire fence that would be marketed and sold across the country. His company became so large and profitable that he eventually built a wire plant to supply the fence factory and a steel mill to supply the wire plant. By 1906, eighty percent of hardware stores in the West carried woven-wire fence as standard stock (*Iron Age* 1906).

Early woven wire fences were made from two or three strands of smooth wire threaded from post to post through a mesh fence. This did not make for a particularly sturdy fence. Chain link changed this. Chain link was comprised of thicker interlocking wire that did not need reinforcing. It could be used for longer distances and still remain resistant to external forces.

Jacob Schneider, a Swiss inventor, imported a chain link loom to the U.S in the 1880s. The Hohulin Brothers, who ran a hardware store in Goodfield, Illinois, acquired the machine from him and began taking orders for chain link fence. By 1907 the product was selling so well that they decided to concentrate their business solely on the production of chain link. They began supplying the fence material to other companies such as Stewart Iron Works Company out of Covington, Kentucky, who sold it through their catalog, and to the Cyclone Fence

Company of Waukegan, Illinois. In 1909, the *Sweets Catalog*, a popular sourcebook for the building industry, began advertising chain link as "fences for factories, mills, and industrial properties" (Dreicer 1996).

While cattle and crops provided the impetus for the development of barbed and woven wire, the rise in demand for chain link is tied to the need for greater wartime security—both abroad and on the home front—as well as the rapid development of postwar suburbia and industrial facilities. Both World Wars hastened the demise of the woven wire fence, as it was easily melted down for scrap. Chain link proved to be a far more secure type of fence that was easily mass-produced.

The national growth of the fence industry typified the turn-of-the-century transformation of small trade into big business. Fence producers became part of larger firms that included mines, raw-material plants, and transportation facilities. Barbed- and woven-wire fences, along with wire nails, were basic products behind the industrial consolidation that resulted in the formation of the American Steel and Wire Company. By 1899, the company had a monopoly on barbed wire. In 1901, this firm became a subsidiary of the United States Steel Corporation, which produced more than 75 percent of wire rod in the country between 1900 and 1910 (*Iron Age* 1910). During the first half of twentieth century, the U.S. Steel Corporation formed many other subsidiary fence manufacturing operations, including Cyclone Fence, which established their Portland branch in the Northwest Fence & Wire Works Building.

It is also important to remember that fences are a technology conceived as a solution to the issue of social conflict. They are associated with, among other things, law, property, conquest, protection, separation, regulation, and social division. The marketing of fence products demonstrates evolving American attitudes toward property and the symbolic power of the fence. The fence is more often a symbol we interpret with our minds, rather than a barrier we physically experience with our bodies. During the Victorian period, for instance, highly decorative iron fences sent out the message of significant social power (Southworth 1978).

Similarly, the marketing of chain link, especially during the time between the two World Wars, played on Americans' fear of crime. In the 1930s, the Cyclone Fence Company ran ads in major periodicals such as *Fortune* and *Better Homes and Gardens*, invoking fear and hostility, while demonstrating class issues of the time. One ad depicts a man wearing a suit and hat, shutting a tall chain link gate topped with barbed wire against a man in old clothes. The ad says: "No more fears and worries now. You are shut off from the world by an invincible barrier of steel, guarding every inch of your property, every hour of the day and night, from anyone who wishes you harm. That's real protection. Your children safe from possible kidnappers. Your family safeguarded from possible sneak-thieves and prowlers... Truly, you will be master of your own property when you live behind a Cyclone Fence."

Another Cyclone Fence ad states "Come on out and Fight!" Two boys and their dogs stand on either side of a tall chain link fence. The boy inside wears a tie and has the smaller dog. The boy on the outside has the big,

aggressive dog, and he wears ragged pants and has a hole in his sweater. The ad states: "A minor incident, perhaps, yet a Cyclone Fence that protects children at play...[and] safeguards lawns and gardens from careless and malicious trespassers, keeps out destructive animals and provides home privacy at all times."

In conclusion, the national context of the fence industry is one that demonstrates the significance of fences in America's physical, economic, and social development. We will see that Portland's fence and wire industries experienced rapid development during the city's period of most substantial growth—from the turn of the century to 1930. Furthermore, these local industries progressed similarly to that of the national pattern of development—a transition from ornamental and wire fences to an industry dominated by chain link, and from locally-owned businesses to national chains.

THE PORTLAND CONTEXT

Like other major cities in the United States, the fence and wire industries play an important role in the growth of Portland. Located 75 miles inland from the Pacific Ocean where the Columbia and Willamette Rivers converge, Portland began as a convenient rest stop for travelers making the journey between Fort Vancouver and Oregon City in the mid-1800s. When local leaders realized that the site of the present-day city was the farthest east deep-water ships could travel up the Columbia, land claims were made and development ensued.

The city grew rapidly—from 700 people in 1850 to 90,400 in 1900. By establishing itself as the head of ocean-going navigation, Portland gained control of trade between the Willamette Valley and California. Expansive growth between 1900 and 1930 was largely the result of the completion of the transcontinental railroad to Portland in 1883, the extension of the Oregon-California line, and the deepening of the Columbia River shipping channel. Portland's downtown developed on the west side of the Willamette; however, hills along the western edge of the city created a substantial barrier to growth, so Portland developers turned to the unobstructed space of the eastside, much of which was farmland and orchards. In addition, the construction of bridges across the River and the installation of streetcar lines allowed for rapid expansion of the eastside, where the Northwest Fence & Wireworks Building is located.

Portland grew to become a larger and more economically stable city in the early 1900s, as expanding lumber and agricultural industries increased population throughout the state. Despite this growth, Portland's primacy as the Northwest's major city was threatened by Seattle's rapid expansion following the Alaskan Gold Rush of 1898. To promote Portland's attributes and to maintain preeminence in the Northwest, city leaders proposed an exposition in celebration of the centennial of the Lewis & Clark expedition. The Exposition opened in 1905 and served as a catalyst for what would be Portland's greatest period of growth to date. Between 1905 and 1910, the population grew from 110,929 to 207,214. It was during this time that the city's population center permanently shifted to the east side.

In the boom years of the early twentieth century, Portland's eastside provided the open space necessary for rapid development of industrial complexes. Combined with proximity to shipping points both by rail and boat, this area grew into one of the city's major industrial districts. In addition to laying the foundation for Portland's industrial growth, these industries also provided jobs for the expanding population, many of whom made their homes in the residential neighborhoods of the inner eastside. By 1930, as the Great Depression began, the city of Portland had 1,108 industries, 75 percent of which were located on the east bank of the river. During the 1930s, growth was at a virtual standstill throughout the city (Abbott 1983).

According to city directories, Sanborn Fire Insurance Maps, and the building permit record, the subject property was constructed in 1911. It was custom-built for the "Fashion Stables," which advertised themselves as "the most modern stables" in Portland. However, in the years just before and after World War I, there were tremendous changes to our transportation systems. Although the automobile had been introduced in Portland at the turn of the century, its popularity did not have an appreciable effect until about 1910. By that year the "Good Roads Movement" was well underway and street improvements and expansion were following suit. By 1922, the Fashion Stables, along with many other livery stable operations, had gone out of business. The demise of this business was probably hastened by fire damage to the building that occurred in 1921 or 1922.

Fence businesses began to appear in Portland in the late 1890s. East Portland Fence Works is the earliest known fence manufacturing company to be established in Portland, originally located on East Morrison between Water and First Streets. They manufactured wood, wire, and iron fencing, window guards, flower stands, and lawn furniture. Although a prominent firm around the turn of the century, they went out of business or consolidated with another firm by 1919.

Many fence, wire, and iron work businesses came about due to the fast pace of growth in Portland after 1900. For instance, Columbia Wire & Iron Works was founded when its owner, Philip Buebke, received a contract from the city to make curb angles for the city streets. He hired blacksmiths to complete this job. With the advent of the automobile, blacksmithing became a dwindling profession and many of these expert metalworkers were inducted into the fabrication industry. City directories show this overlap been ironwork and fence manufactures, especially prior to the 1920s. This is in large part do to the fact that the fabrication of ornamental fences, which were popular for residences, parks, and cemeteries, often required metalworking expertise.

Businesses that specialized in ironwork and wire were often important contributors to the war effort during both World Wars. During World War I, many businesses began to produce iron and steel fittings for the wooden ships being built in Portland's shipyards. During World War II, these businesses fabricated ship ladders, winch bases, binnacle supports, and refrigeration compartments for Portland's booming ship-building industry.

The Northwest Fence & Wire Works business was established in 1915 by H.W. Melius, a Portland resident. It was originally located at the corner of Union Avenue and SE Oak Street. When the subject property was purchased in 1922, the fire damaged areas needed to be repaired and other modifications were made to adapt the building to their business needs. For instance, the sawtooth light monitor with its metal sash pivot windows was constructed to improve the building's lighting and ventilation on the second floor. A large hydroelectric elevator was installed to move heavy equipment and supplies between floors. And with a retail and catalog business, an office was a necessity, which they created in the southwest corner of the ground floor.

During its first eight years of business, Northwest Fence & Wire Works had a very diverse product line. Not only did they produce various types of woven wire fences, gates, and trellises, but they also manufactured wire baskets, wire cloth (such as for window screens), fruit picking and step ladders, and other orchard supplies. Their company letterhead at the time stated with pride that they were the "sole manufacturers of the famous Bastian pruning tools and Barnett fruit picking pails." They catered to a variety of customers—residential, industrial, agricultural, railroads, kennels, schools, and playgrounds.

This diversity of products and customer base appears to be typical of these types of businesses prior to the 1920s. A 1918 article in the *Oregon Journal* describes the Reliance Wire & Iron Works business, which was prominent in Portland between 1912 and 1918 and located only a block from the Northwest Fence building at NE 10th Avenue and Flanders Street:

> In addition to these [crawfish] traps, the factory is working on an order from the SP&S Railroad for 40,000 "Anchor" fence stays and 150,000 clamps for the same type of fencing. Aside from these important jobs, [the owners] have orders booked from a great number of persons requiring something in the line of fences for cemetery and private grounds, and for lawn benches, ornamental yard gates, vine trainers, hop hooks, farm wire fence clamps, clamp pincers, lawn settees, sand and gravel screens, basement window guards, wire lockers for shipyard workers, fruit dryer cloth, black wire cloth screen, radiator and ventilator guards, wire signs, cemetery arches, etc. They also manufacture streetcar fenders—in fact, fashion anything made of wire or small iron bars. Their shop is most completely equipped with a great array of machinery suitable for all purposes of wire working.

This quote also illustrates how integrated these businesses were in a variety of industries—everything from agriculture to transportation. Clearly, businesses like Northwest Fence, Reliance Wire, and East Portland Fence were vital to the development of the city. The record does not, however, shed light on why the latter two businesses—apparently quite successful at one point—went out of business less than a year apart. Nevertheless, after this time, Northwest Fence became the predominant manufacturer of fences and wire products in Portland.

The record is also not entirely clear where Northwest Fence and other local fence manufactures obtained their materials. It is unlikely that these materials came from local steel mills. Most Portland fence manufactures were probably not making their own wire. They purchased wire from suppliers and manufactured their own products from this wire. It is also likely, given the expense and size of wire looms, that the actual weaving of wire fences that occurred in Portland was limited to small scale endeavors. Fences could be ordered wholesale from major manufacturers in the Midwest at relatively inexpensive prices and therefore, the assembly, embellishment, and installation of these fences was perhaps the extent to which they were "manufactured." Cancelled checks were recently discovered at the Northwest Fence property and many were written out in large amounts to Storey Manufacturing Company, Parelius Manufacturing Company, and Republic Fence and Gate Company. Little corporate history is available on these companies, but Republic was a major producer of woven wire fences in Chicago and they offered their goods via catalog.

The 1920s saw the greatest growth of the fence industry in Portland and many businesses that had previously produced a variety of wire and iron products began to focus solely on fences. A 1923 Portland phonebook indicates that there were at least five major fence manufacturers in the city at this time—American Fence Works, Anchor Post Iron Works, Pacific Fence & Wire Works, Portland Wire & Fence Works, and Northwest Fence & Wire Works. Portland's local industries in general were developing rapidly and the economy was booming. Building construction was especially prolific. Northwest Fence was noted as an important Portland business in an article that ran in the real estate section of the *Oregonian* in 1923:

> Portland industries are going forward rapidly and are proving a big factor in the city's development. A survey which has just been made by D. C. Freeman, manager of the Associated Industries, shows that many of the factories and manufacturing plants of the Portland district are increasing their output by leaps and bounds while some have been compelled to move to new quarters to take care of the new business. The Northwest Fence & Wire Works, which has been operating in the city for the past eight years, has just moved into a new home at East Eleventh and Flanders streets. The new quarters gives [the company] three times the floor space of the former plan on Union Avenue and East Oak Street. The company expects to double its output in the coming year.

After Northwest Fence moved to the subject property, it appears that they began focusing solely on the production of fences. According to phone directories, by 1923 they were affiliated with the Cyclone Fence Company as the exclusive Portland distributor of their patented Cyclone chain-link fence. The record suggests that in 1929 the business was bought out by Cyclone and advertised under the name of their Pacific Coast division—Standard Fence Company, which had its headquarters in San Francisco. At this time the business concentrated almost exclusively on chain link, offering among others, an "invincible chain link fence for factories" that was topped with barbed wire, as well as a smaller "safeguard chain link fence with iron gate, for private grounds, schools, cemeteries, institutions, etc." For many years Standard/Cyclone Fence continued to

advertise themselves as "the successors to Northwest Fence & Wire Work"—a well-recognized business in Portland. It is unclear why Cyclone Fence shut their Portland branch down in 1959.

In conclusion, the Northwest Fence & Wire Works building is significant for the long tenure of the two major fence and wire manufacturers that were housed there. Although originally built as a livery stable, the building was modified to accommodate the needs of these manufacturers and today it still reflects the historically significant role this industry played in the development of Portland.

BIBLIOGRAPHY

Abbott, Carl. (1983). *Portland: Planning, Politics, and Growth in a Twentieth Century City.* Lincoln, NE: University of Nebraska Press.

City of Portland, Building Bureau microfilm and card files. Original building permits and plans for 400 NE 11th Avenue

Cyclone Fence Company advertisements. www.historyproject.ucdavis.edu

Dreicer, Gregory K. (1996). Wired! The Fence Industry and the Invention of Cain Link. In Gregory K. Dreicer (Ed.), *Between Fences.* Washington, DC: National Building Museum.

Harcourt, H. S. (1918, April 29). "Nothing the Matter with Portland." *The Oregon Journal*, p. 6.

"History of the Manufacture of Woven Wire Fencing." (1906, July 12). *Iron Age* 8: 54-58.

Jackson, John B. (1996). Barbed Wire and the American West. In Gregory K. Dreicer (Ed.), *Between Fences.* Washington, DC: National Building Museum.

Kotchemidova, Christina. (2003). The Culture of the Fence: Artifacts and Meanings. Published in the *E-Journal of Culture and Communication*, http://www.nyu.edu/pubs/counterblast/fence.htm

"Local Industries Develop Rapidly." (1923, January 14). *The Oregonian*, Section 4, p. 8

McCullum, Henry D. and Frances T. (1965). *Wire That Fenced the West.* Norman, OK: University of Oklahoma Press.

Polk's Portland City Directories, 1911-1960.

Randall, Kathleen. (1992, March) "Early Wire Fences." *Old House Journal* 20: 28-30.

Sanborn Fire Insurance Maps, 1909, 1928, 1950.

Southworth, Susan and Michael. (1978). *Ornamental Ironwork: An Illustrated Guide to Its Design, History and Use in American Architecture.* Boston: David R. Godine.

Summerschu, Fred. (1860). What Shall We Do For Fences? *Annual Report*, Iowa State Agricultural Society.

U.S.D.A. (1872). *Report of the Commissioner of Agriculture of the Year 1871.* Washington, DC: Government Printing Office.

Vaughn, Thomas and Ferriday, Virginia Guest. (1974). *Space, Style, and Structure: Building in Northwest America.* Portland, OR: Oregon Historical Society.

"Vitality of the Wire Industry." (1910). *Iron Age* 86: 744-45.

VERBAL BOUNDARY DESCRIPTION

The Northwest Fence & Wire Works Building is located on Lots 3 and 4 of Block 232, East Portland Addition to the City of Portland, Multnomah County, Oregon. Boundaries are indicated on the accompanying tax map.

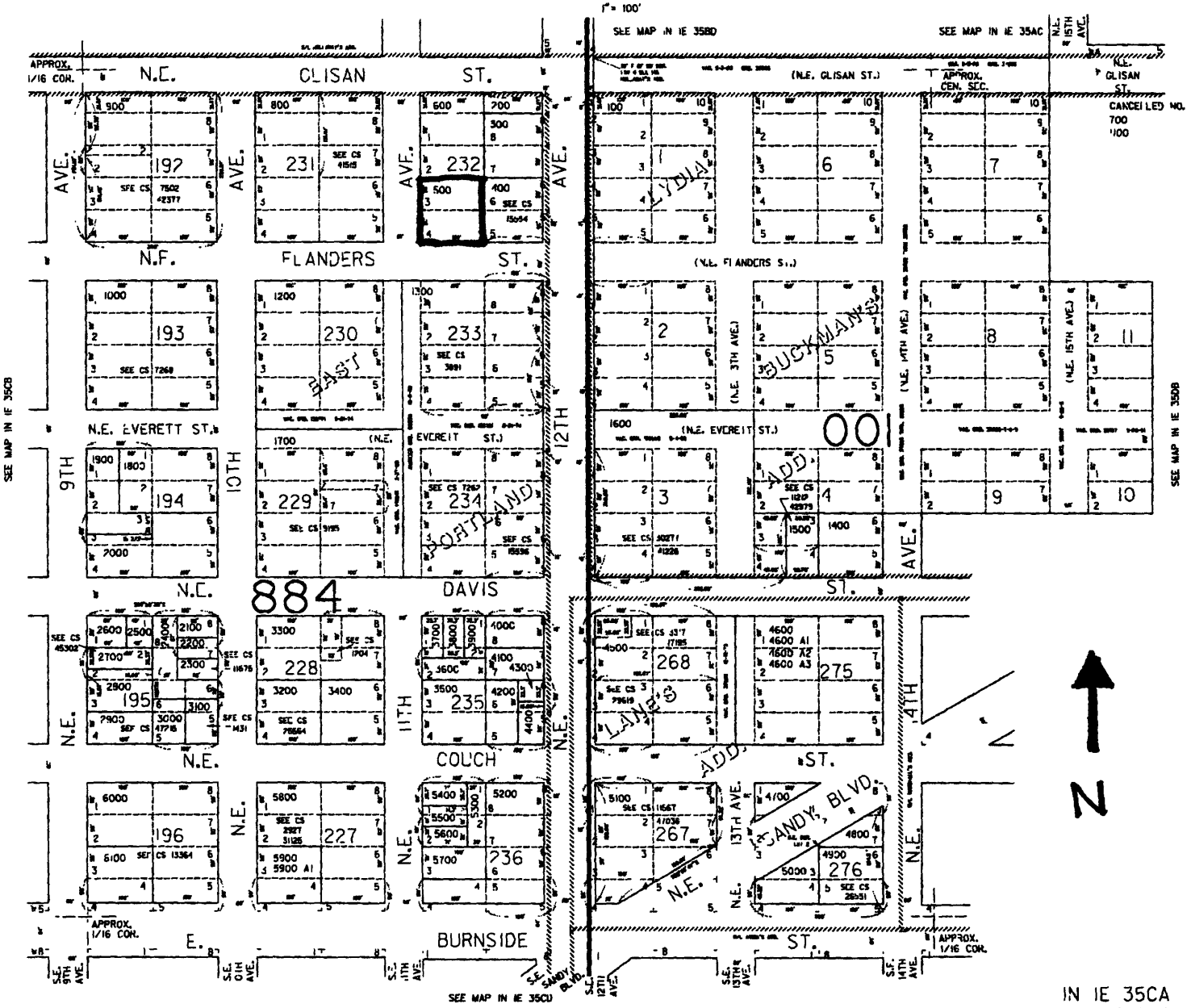
BOUNDARY JUSTIFICATION

The above described boundary reflects the parcel historically associated with the nominated property.

THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSE ONLY

NE1/4 SW1/4 SEC. 35 T.1N. R.1E. W.M.
MULTNOMAH COUNTY
1" = 100'

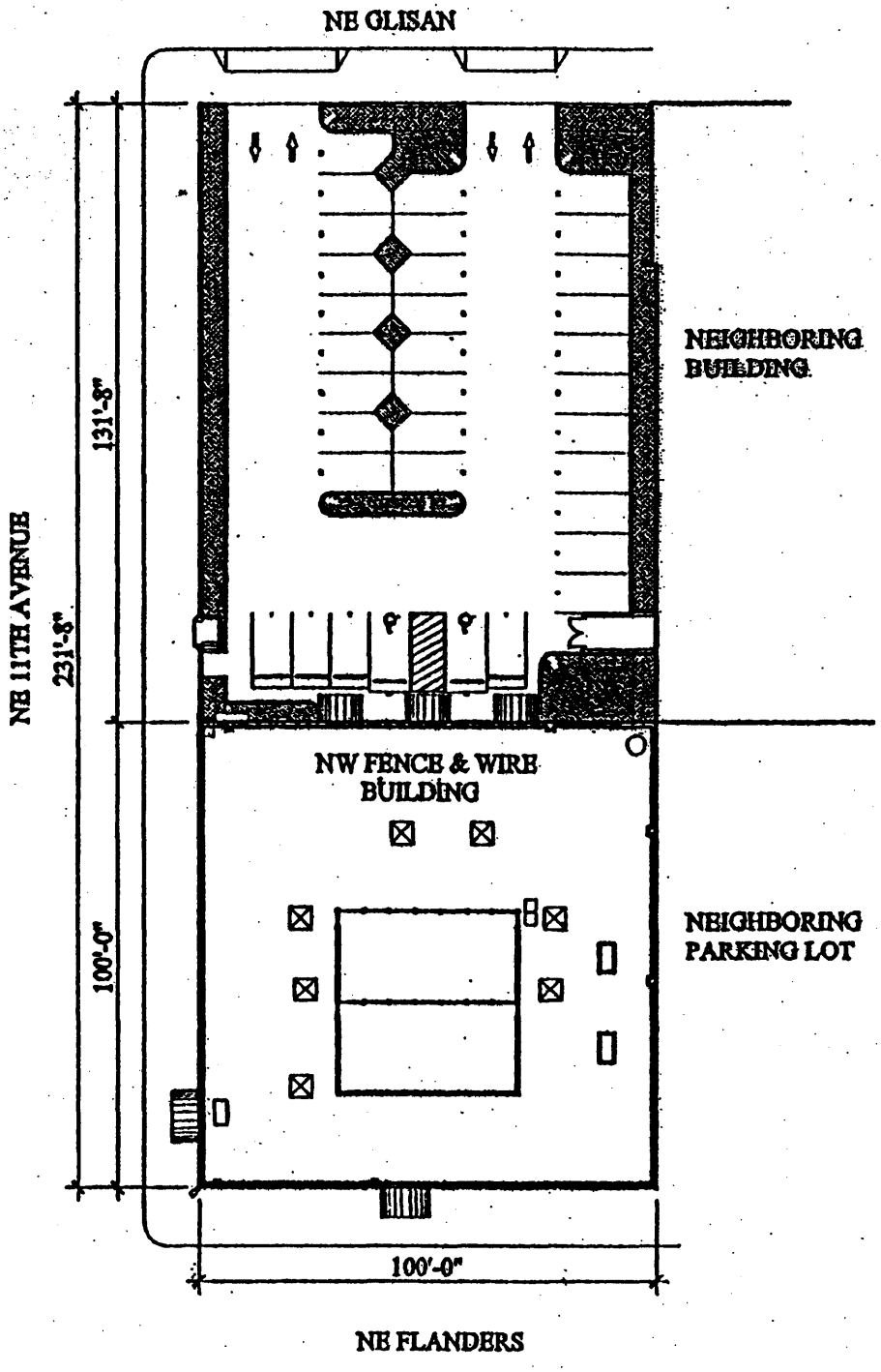
IN 1E 35CA
PORTLAND



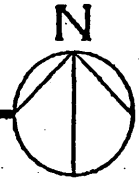
IN 1E 35CA
PORTLAND

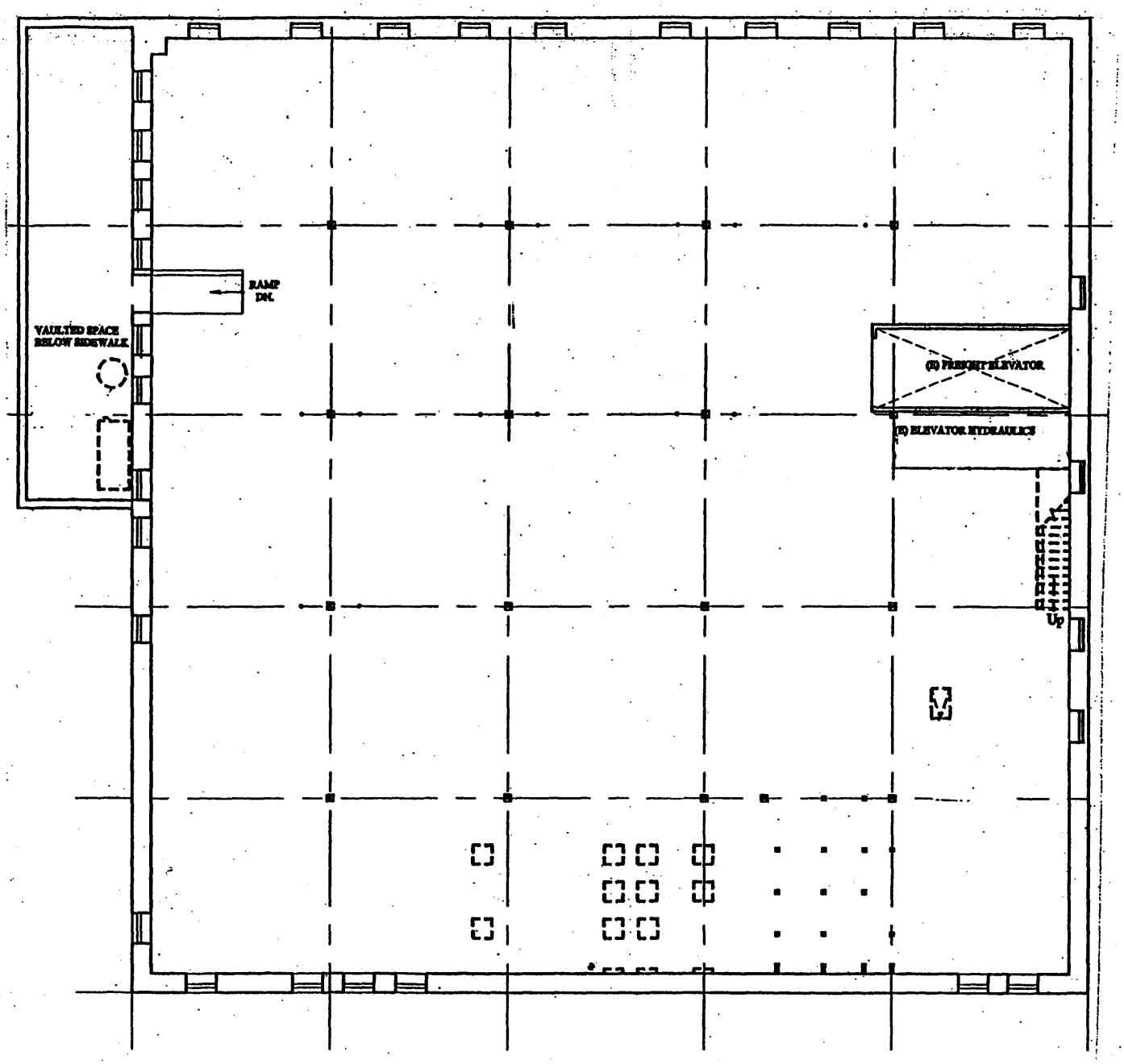
.../MAPS/Mult/1N1E/1N1E35CA.DGN 05/10/2004 03:30:33 PM

Northwest Fence & Wire Works
Portland, Multnomah County, Oregon



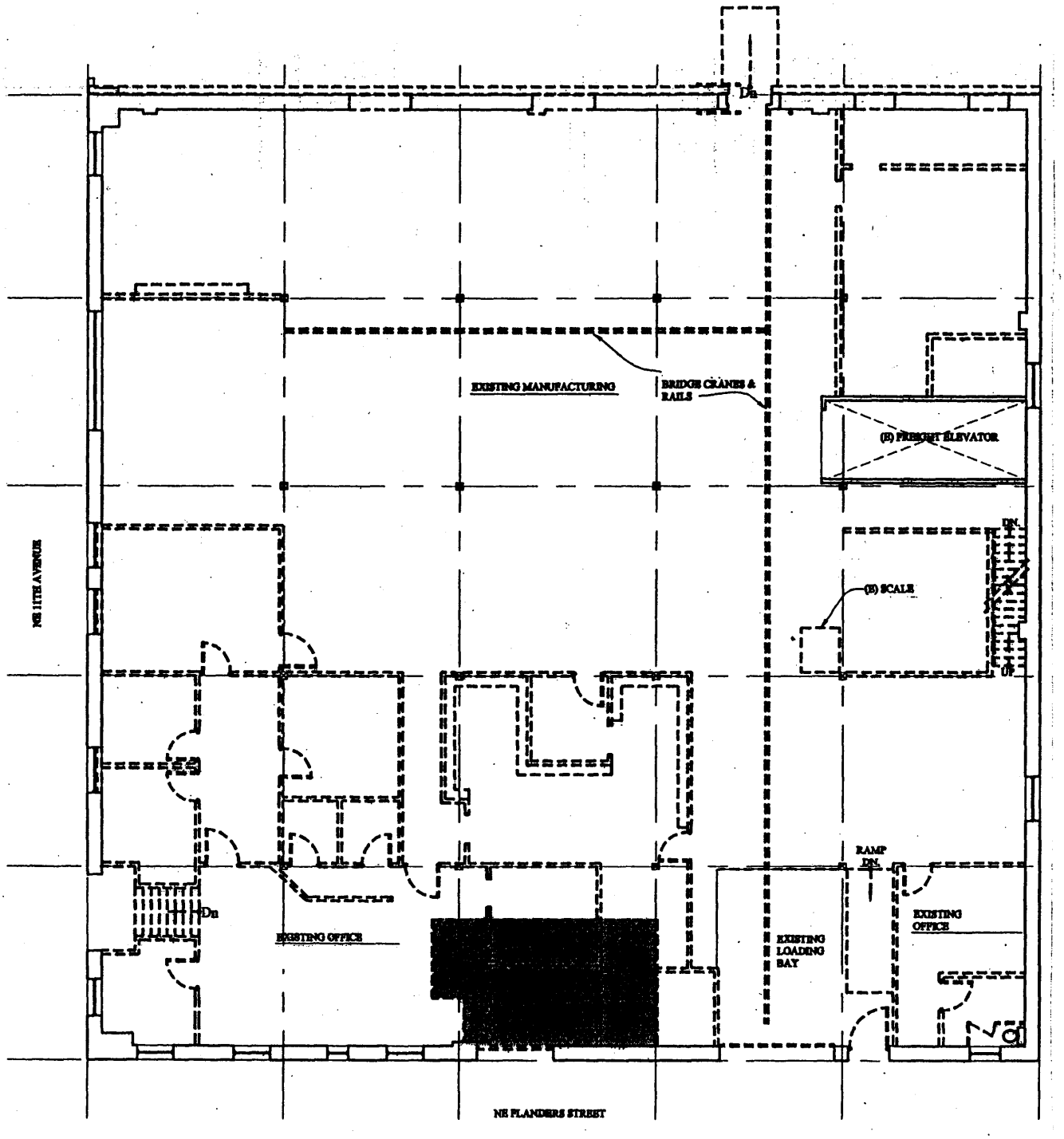
SITE MAP




RAMP DN.
VAULTED SPACE BELOW SIDEWALK
(E) FREIGHT ELEVATOR
(E) ELEVATOR HYDRAULICS
Up

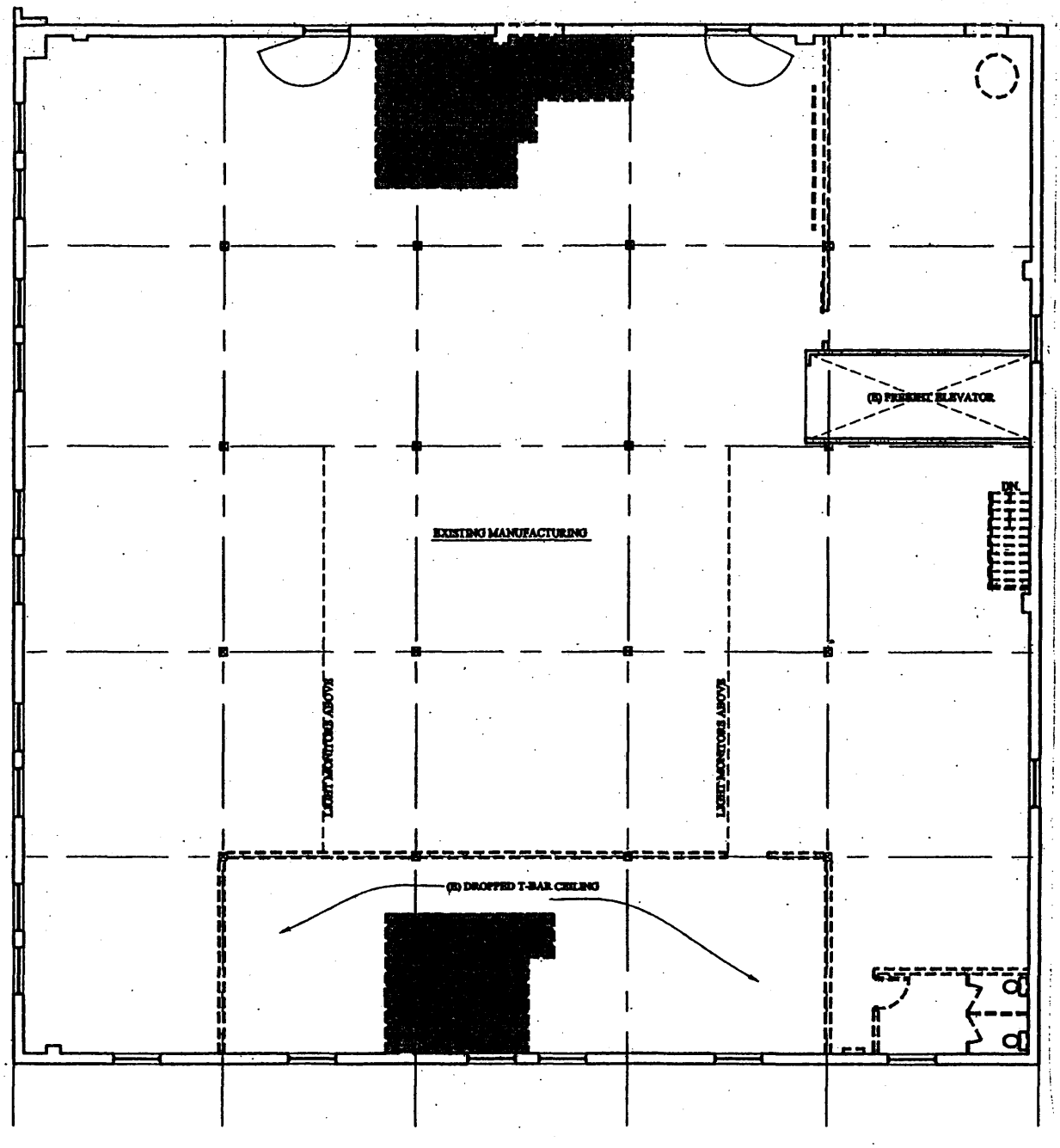
BASEMENT

Northwest Fence & Wire Works
Portland, Multnomah County, Oregon



GROUND FLOOR

Northwest Fence & Wire Works
Portland, Multnomah County, Oregon



SECOND FLOOR

National Register of Historic Places Continuation Sheet

PHOTOGRAPHS

All photographs taken by Jessica Engeman on 10/21/04

Original negatives located at:

Venerable Group, Inc.
322 NW 5th Avenue, Suite 301
Portland, OR 97209

Exterior

1. North façade and parking lot
2. West façade
3. South façade
4. West façade, detail of brick parapet and windows

Interior

5. Basement, looking east to stairway door
6. Ground floor, looking west. Note change in flooring from tongue-and-groove to concrete
7. Ground floor, looking northeast to elevator and a partitioned work area
8. Ground floor, looking southeast to elevator and a partitioned work area
9. Ground floor, southwest corner. Office partitions.
10. Second floor, looking south
11. Second floor, looking northwest. Sawtooth light monitor.