

United States Department of the Interior
National Park Service
National Register of Historic Places Registration Form

1. Name of Property

Historic Name: Armour Laboratory Building
Other name/site number: NA
Name of related multiple property listing: NA

2. Location

Street & number: 601 E. Exchange Avenue
City or town: Fort Worth State: Texas County: Tarrant
Not for publication: ☐ Vicinity: ☐

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this
(☒ 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 (☒ meets ☐ does not meet) the National Register criteria.

I recommend that this property be considered significant at the following levels of significance:

☐ national ☒ statewide ☐ local

Applicable National Register Criteria: ☒ A ☐ B ☐ C ☐ D



Deputy State Historic Preservation Officer

1/8/2025
Date

Texas Historical Commission

State or Federal agency / bureau or Tribal Government

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria.

Signature of commenting or other official

Date

State or Federal agency / bureau or Tribal Government

4. National Park Service Certification

I hereby certify that the property is:

- ☐ entered in the National Register
☐ determined eligible for the National Register
☐ determined not eligible for the National Register.
☐ removed from the National Register
☐ other, explain: _____

Signature of the Keeper

Date of Action

Armour Laboratory Building, Fort Worth, Tarrant County, Texas

5. Classification

Ownership of Property

<input checked="" type="checkbox"/>	Private
<input type="checkbox"/>	Public - Local
<input type="checkbox"/>	Public - State
<input type="checkbox"/>	Public - Federal

Category of Property

<input checked="" type="checkbox"/>	building(s)
<input type="checkbox"/>	district
<input type="checkbox"/>	site
<input type="checkbox"/>	structure
<input type="checkbox"/>	object

Number of Resources within Property

Contributing	Noncontributing	
1	0	buildings
0	0	sites
0	0	structures
0	0	objects
1	0	total

Number of contributing resources previously listed in the National Register: 0. (Located within the Fort Worth Stockyards Historic District (NRHP 1976) but built outside the period of significance, 1900 to c. 1926)

6. Function or Use

Historic Functions: Other: Laboratory

Current Functions: Work in Progress

7. Description

Architectural Classification: Modern Movement: International Style

Principal Exterior Materials: Brick, Concrete

Narrative Description (see continuation sheets 6-10)

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8. Statement of Significance

Applicable National Register Criteria

<input checked="" type="checkbox"/>	A	Property is associated with events that have made a significant contribution to the broad patterns of our history.
<input type="checkbox"/>	B	Property is associated with the lives of persons significant in our past.
<input type="checkbox"/>	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.
<input type="checkbox"/>	D	Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations: NA

Areas of Significance: Health/Medicine (*state level of significance*)

Period of Significance: 1943-c. 1956

Significant Dates: 1943, 1951

Significant Person (only if criterion b is marked): NA

Cultural Affiliation (only if criterion d is marked): NA

Architect/Builder: Hedrick, Wyatt C., architect; Thomas S. Byrne Company, builder

Narrative Statement of Significance (see continuation sheets 11-17)

9. Major Bibliographic References

Bibliography (see continuation sheets 18-20)

Previous documentation on file (NPS):

- ☒ preliminary determination of individual listing (36 CFR 67) has been requested. (*Approved on October 2, 2023*)
- ☐ 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 (*Texas Historical Commission, Austin*)
- ☐ Other state agency
- ☐ Federal agency
- ☐ Local government
- ☐ University
- ☐ Other -- Specify Repository:

Historic Resources Survey Number (if assigned): NA

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10. Geographical Data

Acreage of Property: 2.0977 acres

Coordinates

Latitude/Longitude Coordinates

Datum if other than WGS84: NA

1. Latitude: 32.789629°N Longitude: -97.343851°W

Verbal Boundary Description: Kairoi Stockyards Multifamily, Lot 1, Block 11 (Account: 43022394), Fort Worth, Tarrant County Texas, as recorded in the Tarrant Appraisal District. Data accessed June 11, 2024 (Maps 5-6).

Boundary Justification: This boundary includes the legal parcel and encompasses the property historically associated with the nominated resource.

11. Form Prepared By

Name/title: Susan Allen Kline and Steven C. Kline, consultants, for
Organization: Bennett Partners
Street & number: 640 Taylor Street, Suite 2323
City or Town: Fort Worth State: Texas Zip Code: 76102
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Date: February 13, 2024

Additional Documentation

Maps (see continuation sheets 21-37)

Additional items (see continuation sheets 38-46)

Photographs (see continuation sheets 5, 47-63)

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management, U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

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Photograph Log

Name of Property: Armour Laboratory Building

City or Vicinity: Fort Worth

County: Tarrant

State: Texas

Photographer: Morgan Breaux, Bennett Partners

Date Photographed: October 10, 2024

All photographs accurately depict property conditions. No changes nor significant deterioration has occurred since the photos were taken on October 10, 2024.

Photo 1: South and east elevations, looking northwest.

Photo 2: Main entrance, east elevation, looking west.

Photo 3: East elevation, looking southwest.

Photo 4: East and north elevations, looking southwest.

Photo 5: North and west elevations. New window openings on north end of second story, west elevation, looking southeast.

Photo 6: West elevation, new window openings on north end of second story and center south on first story, looking southeast.

Photo 7: West and south elevations from Exchange Avenue, looking northeast.

Photo 8: South end of basement showing slab cut for new stairs, looking north.

Photo 9: South end of basement near east elevation, showing new partition walls, looking west.

Photo 10: New partition wall around north stairs in basement, looking east.

Photo 11: Pedestrian and vehicle openings, northwest corner of basement, looking north.

Photo 12: South end of first floor with slab cut for new stairs and mezzanine in the background, looking southwest.

Photo 13: First floor, looking at circular cutouts beneath south mezzanine, looking southeast.

Photo 14: First floor in 1951 addition, looking southeast toward historic freight opening. A second floor is being added in this space.

Photo 15: Second floor, room in southwest corner, looking south.

Photo 16: Second floor, looking south along west elevation.

Photo 17: Second floor looking northwest.

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NOTE: The purpose of this nomination is to highlight the individual significance of a building that is within the boundary of the Fort Worth Stockyards Historic District, listed in the NRHP in 1976.

Narrative Description

The Armour Laboratory Building is located at 601 E. Exchange Avenue within the Fort Worth Stockyards Historic District (NRHP 1976) in Fort Worth, Texas, and was added outside the period of significance, 1900 to c. 1926 (the assumed 50-year point at the time of listing). Constructed in 1943 with a 1951 addition, the Armour Laboratory Building is a one and two story reinforced concrete building with red brick and tile curtain walls. It operated as a blood processing center and laboratory for Armour & Company, one of two giant slaughterhouses in the district. Designed by architect Wyatt Hedrick, the building is characterized by numerous elements of the International style popular from the 1930s to the 1950s and commonly used for industrial buildings. These include an asymmetrical arrangement, rectangular and horizontal massing, flat roofs, smooth unadorned wall surfaces, and bands of linear multi-light windows. Ornament is sparse and the use of cast stone for parapet coping and continuous window lintels and sills provides a contrast to the red brick walls and emphasizes the building's horizontal massing as do continuous courses of projecting brick on the upper walls. Rehabilitation work approved by the National Park Service and the Texas Historical Commission is being executed in accordance with the Secretary of the Interior's Standards for Rehabilitation for future use as an office space. Despite alterations over time, the property retains sufficient integrity to convey its historic significance.

Overview of the Fort Worth Stockyards Historic District

The Armour Laboratory Building, 601 E. Exchange Avenue, is in the Fort Worth Stockyards Historic District (NRHP 1976) (Maps 11-12). The district encompasses approximately 98 acres. Exchange Avenue runs east/west through the middle of the district. At its east end were the Armour & Company (north side of the street) and Swift & Company (south side of the street) meat packing plants with the oldest buildings dating to 1902 at the time of the district's listing. These buildings were mostly constructed of red brick and ranged from one to seven stories. They were utilitarian in appearance as function was more important than aesthetics. Running between buildings were wooden ramps that directed livestock to the slaughterhouses. Brick-paved roads also provided vehicle and pedestrian circulation through the sites. To the west of the plants was an extensive grid of livestock pens; the pens on the south side of East Exchange were covered. West of the pens on the north side of East Exchange are the historic Livestock Exchange Building (1902) and the Coliseum (1908). On the south side of East Exchange are the Horse and Mule Barns (1912). The exteriors of these three resources are clad in stucco. Buildings to the west of them are mostly brick one- and two-part commercial blocks dating from the early 1900s and later. West Exchange Avenue extends westward from North Main Street, the primary north/south arterial connecting the Stockyards to downtown Fort Worth. Mostly brick one- and two-part commercial block buildings dating from the early 1900s and later also line West Exchange Avenue and North Main Street. North Main Street north of Exchange Avenue also has the remnants of a much smaller packing plant. Landscape elements included the Swift Stairs on 23rd Street, the Armour & Swift Plaza (State Antiquities Landmark, 1987), the Fort Worth Stock Yards Entrance sign in the 100 block of East Exchange Avenue (Recorded Texas Historic Landmark, 1985), and remnants of brick and concrete walls along North Main Street).

When the Fort Worth Stockyards Historic District was listed in the National Register of Historic Places, documentation standards were not as stringent as they are today. The nomination did not specify the number of contributing and noncontributing resources and did not include descriptions of buildings constructed after 1925. However, it had a map of the district that included 11 enumerated historic resources (see Map 11). The Armour site (Resource #1) included approximately 12 buildings, including the Armour Laboratory Building. The Swift site

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(Resource #2) included approximately eight buildings plus the Swift Main Office Building (Resource #3). The period of significance is 1900-c. 1926 (the assumed 50-year point at the time of listing).

Over the next four decades, numerous buildings were demolished on the Armour and Swift sites. By the 2010s, the historic district was facing redevelopment pressure. Historic Fort Worth, Inc., a nonprofit preservation advocacy organization, sponsored a historic resources survey of the district in 2015-16. That survey identified 98 resources and discussed the loss of historic resources, particularly the loss of stock pens north of East Exchange Avenue, and to exclude noncontributing resources. However, the proposed district extends further south than the 1976-listed district. The proposed district boundaries included 88 resources; 69 were identified as contributing resources and 19 were noncontributing. However, all but one of the extant buildings on the Swift site (excluding the Swift Main Office Building) were not counted individually because of the lack of access to the site. Although these buildings were in a deteriorated condition, the survey stressed that it was important that these industrial resources be included in the district because they were associated with the processing of livestock and were important for defining the historic context. The survey identified only one resource on the Armour site—the Armour Plant Building, or the Armour Laboratory Building as it is referred to in this nomination. It was cited as a contributing resource.¹ It should be noted that after the survey was completed, all but one of the deteriorated buildings on the Swift site were demolished. Several large hotels have also been constructed within the district after the survey was completed.

Location and Setting

The Armour Laboratory Building sits north of East Exchange Avenue and east of Packers Street/Stockyards Boulevard (Maps 1-12). The building was constructed in 1943 as a one-story structure and received an addition on its north end in 1951 that nearly doubled its size. The southern portion is one-story (1943) and the northern three-quarters of the building is two-stories (1951) (Map 18). The flat-roofed building has poured-in-place reinforced concrete structural framing. It sits on a raised basement and has red brick and tile curtain walls. The second story's roof has a slight overhang that also emphasizes the horizontal massing. There is a raised section of the second story and a penthouse on the north half of the building. The property is surrounded by a chain link fence (Photos 5-7). It has gravel and asphalt (over brick) parking lots along its south and east elevations. Acres of mostly undeveloped land that was formerly filled with buildings associated with the Armour & Company packing plant borders it to the north and east. Currently, a multi-story apartment building is being constructed northeast of the nominated resource (Photo 1).

Exterior

Ongoing rehabilitation work approved by the National Park Service and the Texas Historical Commission is being carried out in accordance with the Secretary of the Interior's Standards for Rehabilitation.

The Armour Laboratory Building possesses numerous characteristics of the International style which was popular from the 1930s to the 1950s and commonly used for industrial buildings (Figures 1-2, Photos 1-7). These include its asymmetrical arrangement, its rectangular and horizontal massing, flat roofs, smooth unadorned wall surfaces, and bands of linear multi-light windows. The use of cast stone for parapet coping and continuous window lintels and sills provides a contrast to the red brick walls and emphasizes the building's horizontal massing as do continuous courses of projecting brick on the upper walls.

¹ Historic Fort Worth, Inc., *Historic Resource Survey for the Fort Worth Stock Yards [sic]: Stockyards Survey Forms, January 28, 2016 (Draft)*, n.p. [pp. 2-5, 83-85], (www.historicfortworth.org, accessed June 16, 2023).

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Primary (East) Elevation

The historic façade (east) elevation features ribbons of rectangular window openings on the first and second floor. The first-floor windows have continuous cast sills and lintels that frame the windows, creating elongated rectangles (Photos 1-3). The original glass block was removed from the basement and first- and second-story windows and the openings infilled with wood prior to the present rehabilitation. They now contain multi-light aluminum windows as part of the NPS approved rehabilitation. Near the south end of the first floor is a double door entrance (original doors replaced) protected by a narrow cast concrete awning that aligns with the continuous cast lintels. A concrete loading dock fronts this entrance. Further north is a pedestrian entrance next to a freight opening. To the right of this grouping is the primary entrance consisting of a double door opening (original doors replaced) with a canopy like the one over the southern entrance. During the rehabilitation, a detached canopy is also being added. Fronting it are concrete stairs flanked by concrete wing walls. On the right side of the stairs are L-shaped concrete stairs that access a basement entrance. The basement stairs marked the end of the original building (Figure 1, Photo 2). Near the north end of this elevation were two freight openings that are now infilled with full-height multi-light aluminum windows as part of the NPS approved rehabilitation. Openings with multi-light windows have also been added on the second floor above the former freight openings. (Photo 3, see also Figure 11 for photo dated June 12, 2023, before exterior rehabilitation work began).

North Elevation

The north elevation is two stories tall. At its center is the ghost of a one-story gable-roofed brick building that predated the north end's 1951 addition (Figures 7, 12, Photos 4 & 5). Aerial photographs and Google Earth Pro images suggest it was removed between 2009 and 2010. Within the ghost lines are window openings infilled with masonry and brick. Below the right window opening is a boarded-over pedestrian opening that accesses the basement (Photo 4). At the west end of this elevation is a below-grade garage/freight opening and a pedestrian entrance that provide access to the basement (Photos 4, 5 & 11). A below grade driveway with concrete retaining walls provides access to this area (Photo 5). A cast belt course separates the first floor from the second. Openings with multi-light aluminum windows have been added on the first and second floors as part of the NPS approved rehabilitation. Three projecting courses of brick span the wall of the second floor (Photo 4, see also Figure 12 for photo dated June 12, 2023, before exterior rehabilitation work began).

West Elevation

The west elevation has features like those on the east elevation such as the rectangular window openings in the basement and on the first-and second stories and projecting brick and cast stone courses that give it a horizontal emphasis. A section of the second story is recessed, providing an overlook of the first floor's roof. Openings with multi-light aluminum windows have been added on the first and second floors as part of the NPS approved rehabilitation. (Photos 6 & 7, see also Figure 12 for photo dated June 12, 2023, before exterior rehabilitation work began).

South Elevation

The south elevation is only one-story. There are numerous window openings on the raised basement and a below grade entrance toward the center that is accessed by concrete stairs. There are two original window openings within a cast concrete frame at the east end of the first floor. Two openings with multi-light aluminum windows have been added as part of the NPS approved rehabilitation. (Photo 1, see also Figure 13 for photo dated June 12, 2023, before exterior rehabilitation work began).

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Interior

The interior's concrete floors, ceilings, columns, and beams and partially open floor plan reflect the building's historic industrial function. The perimeter walls of the basement are mostly concrete (Photo 11). There are two sets of enclosed concrete stairs extending from the basement to the upper floors. They are in the middle of the south and north portions of the building. Freight elevator shafts are located next to the south (Photo 8; see also Figure 14 for photo dated June 12, 2023, before rehabilitation work began) and north stairs. Interior concrete block walls are painted (Photo 15). Perimeter walls on the first and second floors are mostly clay tile; some have been covered with drywall (Photo 13) and others have been painted (Photo 16). At the south end of the first floor is a concrete mezzanine with large round openings on the floor. This was originally part of the laboratory's main processing room (Photos 12 & 13 and Figures 5 & 6). The second floor has an irregular-rectangular shape as parts of the west wall are set back from the plain of the first floor of the west elevation. Window openings in this area overlook the first floor's roof. A window opening at the east end of the north wall overlooks the first floor's freight area (currently boarded over, Photo 17).

Alterations and Ongoing Rehabilitation

The 1951 addition was added within the period of significance and is considered a historic addition. Over time the building was altered with the removal of the glass block in the window openings which were then infilled with wood. Original doors also were replaced. The original concrete stairs with wing walls in front of the east elevation's south entrance (Figure 1) were removed and replaced with a concrete loading dock. The cooling tower on the roof was removed as were interior partition walls. The dates of these alterations are unknown. A pre-existing brick, one-story gabled-roof building abutting the north elevation was removed between 2009 and 2010. According to an updated 1951 Sanborn Fire Insurance Map, the south end of that building was used for basket washing and the north portion was used as a washroom (Map 10 and Figure 12).

Rehabilitation of the building began in 2023 to convert it to office use in accordance with plans developed by Bennett Partners of Fort Worth, Texas (Maps 14-16). These plans have been reviewed and approved by the Texas Historical Commission and the National Park Service. The project follows the Secretary of the Interior's Standards for Rehabilitation. Exterior work includes the installation of new aluminum windows in existing window openings as well as in a limited number of new window openings that will facilitate the building's conversion to office space and add more light (for an example, see Photo 6). New exterior doors will also be added. Minimally covered rooftop patios will be added. A low, pop-up clerestory will be added to the roof at the approximate location of the historic rooftop tower that is not extant. The clerestory will provide additional interior illumination conducive to the building's new use. The nonoriginal concrete loading dock in front of the east elevation's south entrance failed structurally and is being replaced with a new concrete dock with stairs. An ADA-compliant ramp is being added on the south side of the main entrance's stairs on this elevation (Photo 1). A detached extended canopy is being added over the main entrance (Photos 1 and 2). Wall materials will be cleaned and repaired as needed. Failed brick will be replaced with brick salvaged from the new window openings.

Simple finishes respect the interior's industrial character while facilitating the building's conversion to offices. Concrete floors, ceilings, and beams will remain exposed where possible and mostly painted. Plaster walls will be retained and repaired or covered with a compatible wall surface. New partition walls are being added (Photos 8 and 9). Monumental stairs are being added near the south end of the building, adding connectivity between the basement, first floor, and mezzanine (Photos 8 & 12). Cast-in-place concrete stairs at the far north and south ends of the building are being retained, repaired, and enclosed to provide safe and accessible egress/ingress throughout the building (Photo 10). Adjacent elevator shafts are being repaired, and a new glass door and glass wall elevator will be installed in the south shaft. The existing north elevator shaft will be converted to meeting spaces utilizing the existing clay and glazed block shaft walls. The center cast-in-place stairwell has been removed with portions of the existing floor slab for the

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construction of new public stairs and a nearby elevator. A second floor will be added in the double-height loading area in the 1951 addition. The existing concrete columns in that space have corbels which would have been used to carry wood or steel beams. The new floor will allow the space to be used as intended (Photo 14). New HVAC and plumbing systems are being installed as will new restrooms and lobby spaces.

Site work includes the construction of courtyards on the north and south ends of the building and compatible landscaping installed along the east and west elevations. New parking and loading surfaces of concrete and brick are being installed using salvaged brick from the existing paved areas. Other amenities will include shade structures, new fencing, trash enclosure, and sliding gates (Map 16). When completed, these latter features will be considered non-contributing resources.

Integrity

The Armour Laboratory Building possesses sufficient historic and architectural integrity to convey its significance. It retains integrity of *design*, particularly on the exterior as it possesses characteristics of the International style such as its rectangular and horizontal massing, asymmetrical façade, flat roofs, and smooth, mostly unadorned wall surfaces. The cast stone coping, lintels, and sills also emphasize its horizontal massing. The fenestration pattern is largely intact. It retains integrity of *materials* such as its exterior red brick and cast stone elements. Its interior retains the reinforced concrete beams, columns, and floors although the original partitions have been removed and new ones added. *Workmanship* is evident in its smooth brick walls and poured-in-place reinforced concrete columns and beams and board-formed ceilings. It retains integrity of *location* as it has not been moved and is still situated on a rise above East Exchange Avenue. The building's expansive size conveys the *feeling* of an industrial building. Its *setting* and *association* have been adversely impacted by the demolition of the industrial resources and railroad tracks associated with the Armour and Swift sites, as well as more modern intrusions added during redevelopment. The Armour Laboratory Building is the only extant historic resource on the Armour site.

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Statement of Significance

The Armour Laboratory Building located at 601 E. Exchange Avenue is within the boundaries of the Fort Worth Stockyards Historic District (NRHP 1976). It is the only historic building on the Armour & Company packing house site as all others have been demolished. The building was constructed outside the district's period of significance, 1900 to c. 1926 (the assumed 50-year point at the time of listing), and is being nominated individually. As the United States' armed forces became entrenched in warfare across European and Pacific theaters during World War II, military leaders looked to commercial and non-profit sectors to secure and process adequate human blood products for those fighting on the frontlines. The U.S. Navy approached Tarrant County Red Cross officials about establishing a serum albumin plant at Fort Worth's Armour & Company plant in conjunction with the national American Red Cross. Designed by architect Wyatt Hedrick and constructed in 1943, the Armour Laboratory Building operated as a blood processing center during World War II and the Korean War and as a laboratory for Armour & Company. When completed, it was likely the only blood plasma laboratory in the country built specifically for fractionating human plasma. Due to increased demand, Hedrick designed an addition to enlarge the building in 1951. The property is nominated to the National Register of Historic Places under Criterion A at the state level in the area of Health/Medicine. It is significant as the only commercial laboratory in Texas that processed human blood collected from donor centers in the state and region for military use. The period of significance is from 1943 when the first phase of the building was completed to c. 1956 when it ceased operation as a blood processing center and laboratory.

Brief History of Fort Worth, Texas

After the Civil War, Fort Worth earned the moniker "Cowtown" as it became a stop for drovers herding long-horned cattle from south Texas north to railroad shipping points in Kansas. The drives continued through the early 1880s when a stockyard was constructed in Fort Worth and from there, the cattle were shipped to northern markets by rail. By the 1890s, a packing plant was built north of the West Fork of the Trinity River. There, livestock was slaughtered and dressed for refrigerated shipment by rail to northern markets. Fort Worth's reputation as Cowtown was further bolstered in the early 1900s when Chicago's Armour and Swift packing companies built extensive complexes of slaughterhouses in North Fort Worth. Utilitarian in appearance and mostly constructed of red brick, the packing houses were the city's largest employers for many years. The related businesses spawned by their presence helped spur the city's growth. By 1925, Fort Worth was the third largest cattle market in the country.²

Armour Pharmaceutical Products during World War II

To maximize the profit from each slaughtered animal, packing companies processed animal by-products for edible and pharmaceutical products as well as non-edible products such as soap and fertilizer. In 1885, seventeen years before it built its packing house in North Fort Worth, Armour & Company entered the pharmaceutical business when it began extracting pepsin from the stomachs of hogs for medicinal purposes. The company hired its first chemist when bottles of the elixir started to explode. Armour used hog blood to manufacture serums to combat the serious threat of hog cholera. Experimentation resulted in the use of animal by-products for human benefit for the treatment of medical issues such as diabetes, rickets, goiter, anemia, and heart problems. Before World War II, the federal government requested Armour & Company to investigate the use of beef blood plasma for use in humans. After it was discovered

² Schmelzer, "Fort Worth, TX," *Handbook of Texas Online*, (<https://www.tshaonline.org/handbook/entries/fort-worth-tx>, accessed January 28, 2024); "Packing Houses Still Lead Industries of City," *Fort Worth Star-Telegram*, June 28, 1925, 58, (www.newsbank.com, accessed June 7, 2023).

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that some humans could not tolerate it, the company withdrew from that project. However, it learned that beef albumin did possess some medicinal benefits.³

As the United States' armed forces became entrenched in warfare across European and Pacific theaters during World War II, military leaders looked to commercial and non-profit sectors to secure and process adequate human blood products for those fighting on the frontlines as it did not have the resources to do so. A natural partner was the American Red Cross because of its experience collecting donated human blood. In 1942, the organization supplied the military with 1.3 million pints of blood. In 1943, the Army and Navy requested 5.3 million pints. To meet this demand, the American Red Cross launched a nationwide drive and increased its blood donor centers from six to thirty-three across the country, including one in downtown Fort Worth at Second and Taylor.⁴

The U.S. Navy approached Tarrant County Red Cross officials about establishing a serum albumin plant at Fort Worth's Armour & Company plant in conjunction with the national American Red Cross. The plant would be operated by Armour under contract with the Navy and serve as a processing center for blood donor centers in San Antonio, Dallas, New Orleans, and Fort Worth. The processed blood would then be used by the Navy and Army. In May 1943, A. A. Lund, general manager of the local Armour plant, told the *Fort Worth Star-Telegram* that the serum albumin plant would be built according to government specifications. He stated that in the last few years "'Armour & Co. has made great strides in preparation of pharmaceutical products, and our experience, laboratories and technical staff fit right in with plans for the blood center.'" The donor services were the first of their kind to be established in the Southwest. It was estimated that approximately half a million blood units per year would be processed in Fort Worth, or 10,000 units per week after the plant was fully operational.⁵

Lund and other officials were hopeful that the building would be operational by September 15, 1943, but it did not start operating until November 1, 1943. The laboratory was constructed north of Armour & Company's headquarters building (near the northeast intersection of present-day Packers Street/Stockyards Boulevard and East Exchange Avenue) on the approximate location of a one-story wood-framed structure identified as a general storeroom with a laboratory on a 1911 Sanborn Fire Insurance Map (the 1927 map is illegible, but the building appears to be the same as the one on the 1911 map with a possible altered interior configuration, see Maps 7, 9, & 10).⁶

Construction of Armour Laboratory Building

The reinforced concrete structure was designed by Wyatt C. Hedrick, Architect-Engineer, a prominent Fort Worth firm that was known across Texas and the country. Its estimated cost was \$400,000, not including equipment.⁷ The mostly one-story building sat on a raised concrete basement. A second floor rose from the center of the building. It had a flat roof (which supported a large cooling tower) and red brick and tile curtain walls. Two entrances with a thin concrete canopy were on the east elevation at either end of the building. At its center was a truck loading dock. Square and rectangular window openings were filled with glass block. These windows, along with cast stone coping around parapets and cast stone lintels and sills, reinforced the building's horizontal massing, suggesting an International style influence. The deliberate lack of ornamentation in the design was characteristic of the International style but may also

³ "Medicine and Meat," *Fort Worth Star-Telegram*, September 4, 1929, 10, (www.newsbank.com, accessed June 7, 2023); William Ferris, "Meat Taking Back Seat Because of Drug and Chemical Production," *Fort Worth Star-Telegram*, June 5, 1950, 3, (www.newspapers.com, accessed June 23, 2023).

⁴ "Blood Processing Center Plans Will be Made Today," *Fort Worth Star-Telegram*, September 28, 1943, 1, (www.newspapers.com, accessed April 11, 2023). Other sources state that there were 37 donor centers.

⁵ "Serum Albumin Plans Studies," *Fort Worth Star-Telegram*, May 14, 1943, 18, (www.newspapers.com, accessed April 11, 2023); "Armour May Process Blood," *Fort Worth Star-Telegram*, May 15, 1943, 5, (www.newspapers.com, accessed April 11, 2023).

⁶ "Armour May Process Blood;" Sanborn Fire Insurance Map, Fort Worth Texas, 1911, Volume 2, Sheet 211; Sanborn Fire Insurance Map, Fort Worth Texas, 1927, Volume 3, Sheet 391.

⁷ Hedrick and Stanley, Architects-Engineers, Fort Worth, Texas, *Projects designed by the firm of Hedrick and Stanley* (1956?), p. 25.

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have reflected wartime construction and material shortages. The interior's reinforced concrete beams and columns allowed for expanses of open space with high ceilings as well as the ability to partition areas for offices, labs, refrigerated vaults, and other specialized uses. A concrete mezzanine with round openings ran along the south wall of the first floor. The openings accommodated some of the plant's specialized processing equipment (see Figures 5 & 6). The glass block windows provided diffused lighting. Stairways and a freight elevator provided access between floors. Abutting the building on its north end was a one-story structure with a low-pitched gable roof. A 1951 Sanborn Fire Insurance Map indicates that this space was used as a dressing room (Map 9).

Armour Laboratory Building in the 1940s

The laboratory was officially dedicated in December 1943, giving it the distinction of being one of twelve commercial laboratories in the country, and the only one in Texas, to supply the military with human blood plasma.⁸ According to the Fort Worth Chamber of Commerce magazine, *This Month in Fort Worth*, it was the only one built specifically for fractionating human plasma (see below).⁹ The magazine also noted that the laboratory was "recognized as the latest and most completely equipped in the country." Dr. Edwin J. Cohn, professor of biological chemistry at Harvard Medical School, praised the facility as "the most beautiful plant I've seen—it's perfect for this type of work." Cohn and Harvard associates were credited with developing the "fractionation" process at Harvard Medical School, later employed at the facility.¹⁰

Blood processing was required to start within 72 hours after collection. Once it was collected at a donor center, it was packed in refrigerated cases and shipped by truck (and later by rail and air) to the processing center in Fort Worth. It was then placed in a cold storage vault. Each pint container had a serology tube containing a sample of the blood inside the bottle. This sample was tested without having to unseal the bottle. If the blood did not meet safety protocols, it was discarded as was the bottle it was shipped in. The bottles containing the approved whole blood were placed in a centrifuge to separate red corpuscles from whole blood, resulting in plasma. Red corpuscles determine blood type (O, A, B, or AB). When they were removed, the plasma was indiscriminately mixed and pooled into sealed tanks. It then went through additional steps to remove fat cells, irradiation to kill bacteria, frozen, and then freeze dried. Bottles of dried plasma were then packed in a nitrogen-filled metal can along with sterile needles, rubber tubing for administration, and a sterile diluent that was later mixed with the dried plasma during the transfusion process.¹¹

Plasma could also be divided into five fractions for other uses. This included fibrinogen which was used as a blood clotting agent during surgery. "Fraction Five" resulted in serum albumin which was ready for immediate use as opposed to plasma which had to be mixed with the sterile diluent before use. It was especially beneficial for the treatment of shock induced by wounds or burns. After the serum albumin was separated from the other four fractions, it was taken in five-gallon glass-lined jugs to a sterilizing room kept at the freezing point. There the serum was placed through a filter to remove bacteria. Final bottling was done in a small room marked "Positively No Admittance." There, the serum albumin was placed in three-ounce vials, sealed, and packed with needles, rubber line attachments, and directions for use. The entire purifying and bottling process required approximately four weeks. When the process

⁸ The other eleven commercial laboratories were operated by Lederle, Lilly, Sharp & Dohme, Hyland, Reichel, Abbott, Squibb, Upjohn, Ben Venue, Cutter, and Park, Davis. See Douglas B. Kendall, *Blood Program in World War II Supplemented by Experiences in the Korean War* (Washington, D.C.: Office of the Surgeon General, Department of the Army, 1964), 291-92, National Institute of Health, National Library of Medicine Digital Collection (accessed October 24, 2024, <https://collections.nlm.nih.gov/catalog/nlm:nlmuid-0014733-bk>).

⁹ "New Products from Blood Plasma Fractionation," *This Month in Fort Worth*, (March 1945): 8, 18. This claim was not able to be verified by other sources, but given its highly specialized function, it seems likely.

¹⁰ "Blood Processing Laboratory," *This Month in Fort Worth*, 18 (January 1944), 13; "Dr. Edwin J. Cohn Praises Blood Processing Plant," *Fort Worth Star-Telegram*, March 21, 1944, 3, (www.newspapers.com, accessed April 11, 2023).

¹¹ David Botter, "Your Blood Gets to War in 6 Weeks," *Dallas Morning News*, January 16, 1944, 10, (www.newsbank.com, accessed June 17, 2023); "New Products from Blood Plasma Fractionation," *This Month in Fort Worth*, 22 (March 1945): 8, 18; "Armour Operates Fort Worth Blood Processing Center," *Fort Worth Magazine*, (March 1952): 10, 38.

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was completed, the serum albumin was shipped to Washington, D.C. and distributed to the Army or Navy. It might take another two weeks for the serum to arrive at the battle front, ready for use.¹²

Perhaps surprising by today's standards, the plant was also responsible for sharpening, inspecting, and sterilizing the needles used to draw blood at the donation centers. A properly handled needle could be reused a dozen times. The plant also sterilized the bottles and rubber tubing used at the donation centers.¹³

The donation centers serving the Fort Worth plant closed on October 13, 1944, when their contract with the Navy was terminated. By that date, the laboratory had handled 295,700 pints of blood, or approximately 60 percent of the initial estimate of 500,000 pints. The 35 laboratory employees who prepared the blood collecting bottles used at the donor centers and mobile units were released. The 75 remaining employees were kept on for the preparation of measles vaccines and fibrin foams, both of which had developed past the experimental stage. According to the laboratory's superintendent, A. Koehler, the plant would continue to work "on experimental runs of other by-products not yet ready for discussion." By the end of May 1945, the laboratory's production of measles vaccines and fibrin foams ended upon the completion of its contract with the Navy. It has not been determined if the building served other purposes over the next six years. It is labeled "Laboratory" on a 1951 Sanborn Fire Insurance Map, so it is possible that it was used for that purpose during that time (Map 9).¹⁴

Construction of 1951 Addition during Korean War

In March 1951, the City of Fort Worth issued Armour & Company a building permit for the construction of a \$210,000 addition to its blood laboratory. As with the original building, the addition was sanctioned as part of national defense efforts in support of the country's engagement in the Korean War. The escalating Cold War also placed demands on national preparedness for civil emergencies. The federal government had approved tax benefits for private expansion if the improvements were considered vital for defense programs. These benefits were granted under the defense production act and allowed a private firm to charge off the cost of improvements for income tax purposes quicker than normally permitted. The Defense Production Administration certified the Armour project and 312 other industrial projects around the country estimated to cost over \$1 trillion. Other Texas companies that received the tax benefits included Hutchinson Pipe & Waste Material Company, Fort Worth; Levington Shipbuilding Company, Orange; Armco Steel Corporation, Rusk; and Levelland Refining Company, Levelland.¹⁵

Like the original building, the addition was designed by Wyatt C. Hedrick. It was erected by Thomas S. Byrne Company, a prominent general contracting firm in Fort Worth. It was constructed on the north end of the building at the former location of the dressing room and abutted a pre-existing building (See Map 18 and Figures 7 & 8). It nearly doubled the size of the building and was also built of reinforced concrete with brick and tile curtain walls. Like the original portion of the building, its flat roof, cast stone trim, and glass block windows suggested an International style influence. The total cost of the expansion and equipment was \$1.2 million.

¹² Botter, "Your Blood Gets to War in 6 Weeks;" "New Products from Blood Plasma Fractionation;" Nadeane Walker, "Greatest Care is Taken to Make 'Fraction Five' Miracle Workers," *Fort Worth Star-Telegram*, January 30, 1944, 20, (www.newspapers.com, accessed June 7, 2023).

¹³ Nadeane Walker, "You Get Needle—With Comfort," *Fort Worth Star-Telegram*, January 23, 1944, 25, (www.newspapers.com, accessed June 7, 2023).

¹⁴ "Blood Process Work Goes On," *Fort Worth Star-Telegram*, October 23, 1944, 4, (www.newspapers.com, accessed April 11, 2023); "Vaccine Production Ends," *Fort Worth Star-Telegram*, May 30, 1945, 9, (www.newspapers.com, accessed June 23, 2023); Sanborn Fire Insurance Map, Fort Worth Texas, 1951, Volume 3, Sheet 391. This map depicts the building before the 1951 addition.

¹⁵ "City Permits for Building Spurt Ahead," *Fort Worth Star-Telegram*, May 19, 1951, 1, (www.newspapers.com, accessed April 11, 2023); "Armour Blood Processing Plant Started," *Fort Worth Star-Telegram*, March 15, 1951, 1, 4, (www.newspapers.com, accessed April 11, 2023).

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When the enlarged plant was formally opened on December 17, 1951, it had the capacity to process 38,000 pints of blood a month into dried plasma for armed forces and civilian defense. The blood came from Red Cross donors in Texas, Oklahoma, Missouri, Kansas, Arkansas, and Louisiana, as well as “pop-up” mobile donor centers. However, most of the blood processed at the Armour Laboratory came from the North Texas National Defense Blood Center, operated by the Red Cross and Tarrant County Medical Society in Fort Worth. It was the only center in Texas drawing blood exclusively for the armed forces. After processing, it was inspected by the National Institute of Health in Bethesda, Maryland before the Army distributed the finished product. It was reported in 1952 that all the products from Fort Worth’s Armour Laboratory were distributed for battlefield use. The laboratory was also able to process plasma that was more than five years old for albumin, fibrinogen, globulins, and other fractions for medicinal and surgical uses. It employed 149 people and operated twenty-four hours a day, seven days a week.¹⁶

In 1952, the Armour Laboratory in Fort Worth helped the country battle a different medical emergency—the fight against polio. It had been discovered that gamma globulin—one of the five fractions from blood plasma, which was mostly used for protection against measles—could be highly effective in preventing infantile paralysis (polio) after exposure to the disease. Globulin was derived from dried plasma by applying alcohol at below freezing temperatures. According to the *Fort Worth Star-Telegram* and the *Dallas Morning News*, only four laboratories in the country supplied it: E. P. Squibb in New Brunswick, New Jersey; Cutter Laboratories in Berkeley, California; and Armour Laboratories in Bradley, Illinois, and Fort Worth. The facility’s processing system served as a model for the \$12 million Armour Pharmaceutical Center in Kankakee, Illinois then under construction. This facility had double the production capacity as the plant in Fort Worth.¹⁷

By this time, the Fort Worth plant had a capacity of processing approximately 9,000 donor pints a week for gamma globulin and serum albumin. Plant Superintendent John H. Weare told the *Fort Worth Star-Telegram* that the laboratory would work at capacity if a sufficient supply of whole blood was available and the need for plasma and blood serum fractions existed. However, because most of the blood serum fraction produced in Fort Worth was designated for military needs in Korea and elsewhere, the supply of Fort Worth-produced gamma globulin to fight polio was limited.¹⁸

After the end of the Korean War, and perhaps because of the completion of the state-of-the-art Armour Pharmaceutical Center in Kankakee, Illinois in 1953, it appears as if Armour & Company may have closed the Fort Worth facility around 1956. An advertisement for a liquidation sale at the “Armour Laboratories Blood Plasma Building” appeared in the *Fort Worth Star-Telegram* on November 11, 1956 (Figure 10). Items offered for sale included refrigeration and air conditioning equipment (for “pure, sterile, germ-free, filtered air”), glass-lined Pfaudler reactors, centrifuges and centrifuge pumps and motors, and sterilizers.¹⁹ Prior to 1956, Armour Laboratories in Fort Worth and Kankakee,

¹⁶ Hedrick and Stanley, Architects-Engineers, *Projects designed by the firm of Hedrick and Stanley*, p. 26; “Blood Processing Plant at Armour’s Formally Opened,” *Fort Worth Star-Telegram*, December 18, 1951, 2, (www.newspapers.com, accessed April 11, 2023); “300 Pints Needed Weekly From ‘Blood Factories’ of Fort Worth,” *Fort Worth Star-Telegram*, September 20, 1951, 32, (www.newspapers.com, accessed April 11, 2023); “Formal Opening Set Dec. 17 for Blood Processing Plant,” *Fort Worth Star-Telegram*, December 5, 1951, 10, (www.newspapers.com, accessed April 11, 2023); “Armour Operates Fort Worth Blood Processing Center,” *Fort Worth Magazine*, (March 1952): 10, 38.

¹⁷ “Red Cross Gives Government Stock of Gamma Globulin to Fight Paralysis,” *Fort Worth Star-Telegram*, February 27, 1953, 8 (www.newspapers.com, accessed April 13, 2023); C. L. Richhart, “Research Center Here Aiding Fight on Polio,” *Fort Worth Star-Telegram*, April 2, 1953, 5, (www.newspapers.com, accessed April 13, 2023); Joseph Sterne, “Blood Processors Speed Polio Fight,” *Dallas Morning News*, April 26, 1953, 1, (www.newsbank.com, accessed April 13, 2023); “Kankakee Plant Will Produce Gamma Globulin,” *The Rock Island [Illinois] Argus*, March 9, 1953, 1, (www.newspapers.com, accessed June 21, 2023).

¹⁸ C. L. Richhart, “Plant Here Works 7-Day Week, 24-Hour Day in Humanitarian [sic] Service,” *Fort Worth Star-Telegram*, April 3, 1953, 12, (www.newspapers.com, accessed April 13, 2023).

¹⁹ Rosen Public Auction advertisement for “Modern, Late Model Freon Refrigeration & Air Conditioning Equipment and Chemical and Pharmaceutical Machinery,” November 15, 1956, *Fort Worth Star-Telegram*, November 11, 1956, 65, (www.newspapers.com, accessed April 13, 2023).

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Illinois shared a license from the Division of Biologics Standards of the National Institute of Health for the production of biological products. License No. 149 allowed the two plants to process blood and blood derivatives such as immune serum globulin (human), normal human plasma, normal serum albumin, and poliomyelitis immune globulin. However, by 1957, only the Illinois plant was covered under that license and there was no separate license covering the Armour Laboratory in Fort Worth.²⁰

After World War II, packing plant operations became less centralized as slaughterhouses were constructed closer to where livestock were raised. Giant facilities such as Fort Worth's Armour and Swift plants became antiquated and obsolete. Around 1958, rumors circulated that Armour & Company would close its plant and in 1962, the company ceased most of its operations in the city. The only positions that were retained permanently were those associated with the shortening and oil refinery operations and sales and distribution. The Swift plant closed in 1971. City directories indicate that some of the Armour buildings were occupied by the Armstrong Meat Packing Plant and then Bunge Edible Oil Corporation, but the use of the Laboratory Building has not been determined.²¹ Buildings on the Armour site were demolished over the next forty years. Google Earth Pro images indicate that except for the Laboratory Building, all the remaining Armour buildings were demolished between June 12, 2011, and April 10, 2013. The property containing the Armour Laboratory Building has had eight owners between 1986 and 2022 when the current owners purchased it.

Justification for State Level of Significance

The Armour Laboratory Building has statewide significance for the instrumental role it played in the processing of blood products for the nation's military during World War II and the Korean War. It was managed by Armour & Company under contract with the U. S. Navy when it began operating on November 1, 1943. It processed human blood collected at donation centers in Fort Worth, Dallas, and San Antonio, three of the four largest cities in Texas at that time, from mobile units in the state, as well as New Orleans, Louisiana. According to a report published in 1964 by the Office of the Surgeon General, Department of the Army, the laboratory was one of twelve commercial laboratories in the country, and the only one in Texas, that processed human blood for military use.²² A local publication stated that at the time of its completion, it was the only laboratory built specifically for fractionating human plasma.²³ It also produced measles vaccines. The expansion of the laboratory in 1951 was sanctioned as part of national defense efforts in support of the country's involvement in the Korean War and for civilian defense. The enlarged facility processed dried plasma from blood collected in Texas, Oklahoma, Missouri, Kansas, Arkansas, and Louisiana although most of it came from Fort Worth's North Texas National Defense Blood Center. In 1952, the Armour Laboratory was one of four laboratories in the country and the only one in Texas that was producing gamma globulin as a polio serum.²⁴

²⁰ U.S. Department of Health, Education and Welfare, Public Health Service, Division of Biologics Standards of the National Institute of Health, *Biological Products: Establishments Licensed for the Preparation and Sale of Viruses, Serums, Toxins and Analogous Products, and the Trivalent Organic Arsenic Compounds*, Revised April 15, 1955, 22, (www.hathitrust.org), accessed April 14, 2023; U.S. Department of Health, Education and Welfare, Public Health Service, *Biological Products: Establishments Licensed for the Preparation and Sale of Viruses, Serums, Toxins and Analogous Products, and the Trivalent Organic Arsenic Compounds*, Revised April 15, 1957, 22, (www.hathitrust.org), accessed April 14, 2023).

²¹ Mable Gouldy, "Community Aid Sought in Armour Retraining," *Fort Worth Star-Telegram*, August 5, 1962, 36, (www.newspapers.com), accessed June 21, 2023; Mike Nichols, "A Slow Swift Death (Part 1): The Rise and Fall of a Packing Plant," *Hometown by Handlebar*, March 8, 2019, (<https://hometownbyhandlebar.com/p=5234>), accessed June 21, 2023).

²² Douglas B. Kendall, *Blood Program in World War II Supplemented by Experiences in the Korean War* (Washington, D.C.: Office of the Surgeon General, Department of the Army, 1964), 291-92, National Institute of Health, National Library of Medicine Digital Collection (accessed October 24, 2024, <https://collections.nlm.nih.gov/catalog.nlm:nlmuid-0014733-bk>).

²³ This claim was not able to be verified by other sources apart from the local publication, but given its highly specialized function, it seems likely.

²⁴ Additional research outside the scope of this nomination may yield more information related to Armour & Company and blood donation and processing during World War II and the Korean War.

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Conclusion

The Armour Laboratory Building is within the boundaries of the Fort Worth Stockyards Historic District (NRHP 1976). It is the last surviving building associated with the Armour & Company packing house site as the others have been demolished. The building was constructed outside the district's period of significance, 1900 to c. 1926, and is being nominated individually. The property is nominated to the National Register of Historic Places under Criterion A at the state level of significance in the area of Health/Medicine as a blood processing center and laboratory operated by Armour & Company for U.S. armed forces. It was the only commercial laboratory in Texas that helped meet the blood supply needs of the military during World War II and the Korean War and is therefore a unique and significant historic resource. The period of significance is 1943-c. 1956.

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Maps

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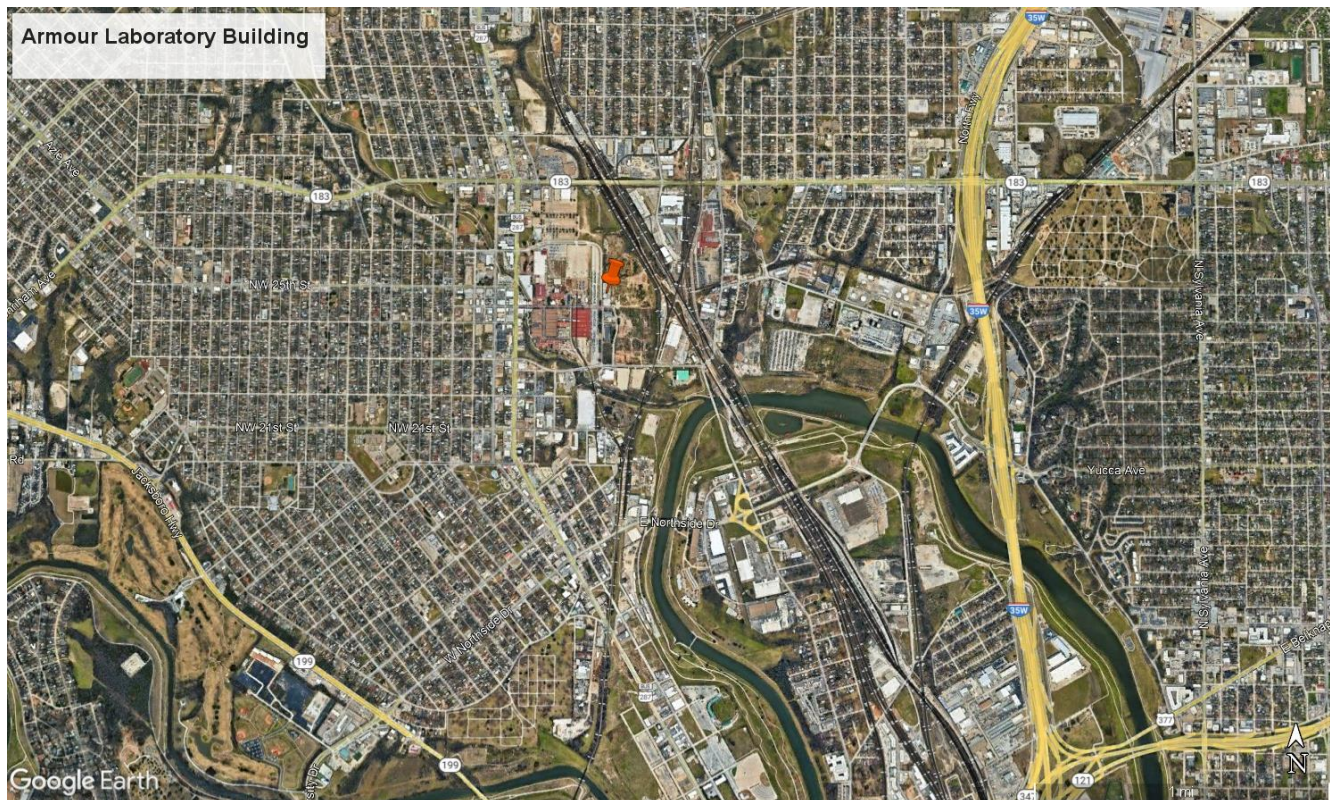
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Maps

Map 1: Tarrant County, Texas



Map 2: Fort Worth, Texas. Armour Laboratory Building marked with red pin. Google Earth Pro image dated December 29, 2022, retrieved January 31, 2024.



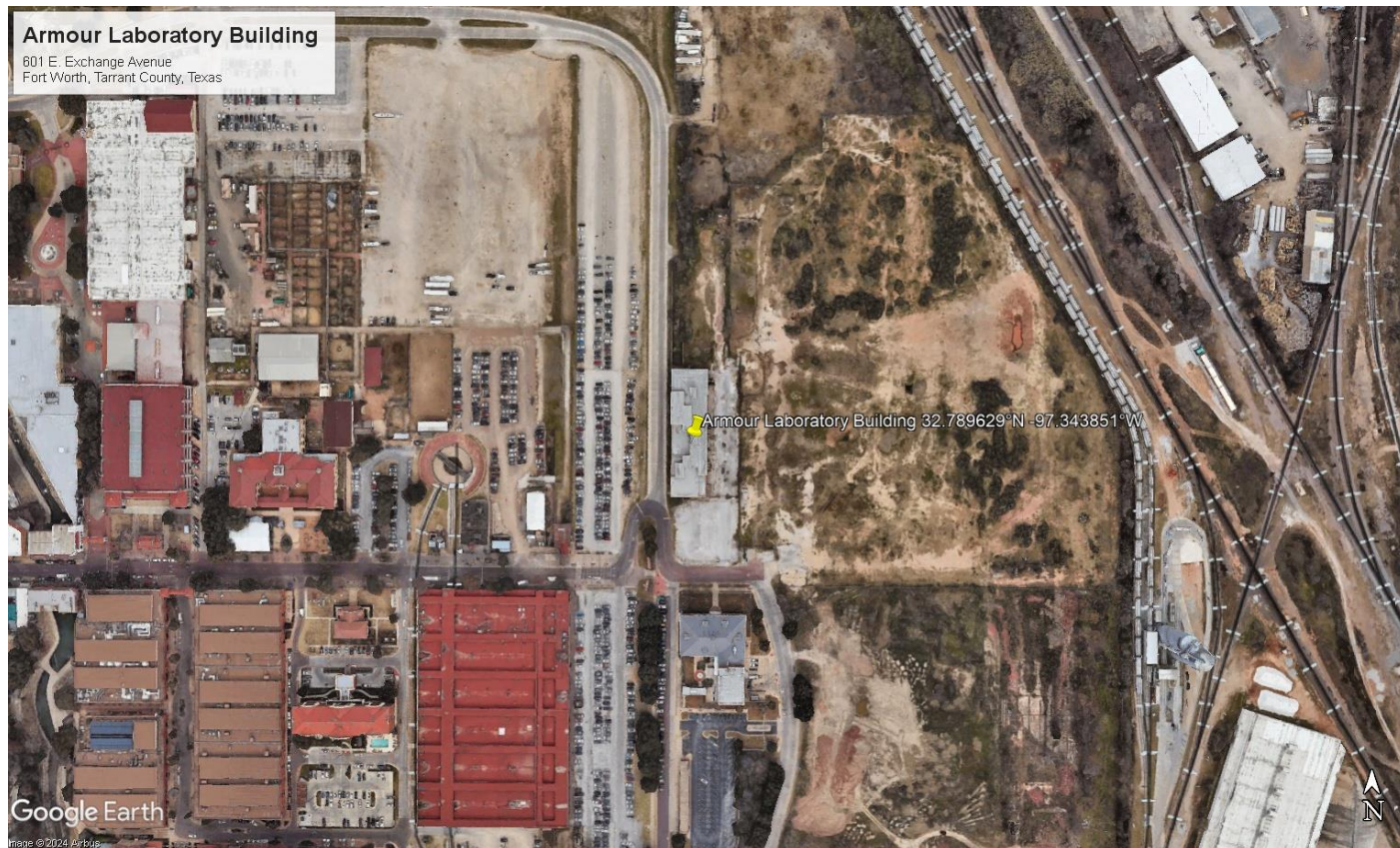
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Map 3: Fort Worth Stockyards, Google Earth Pro image, dated December 29, 2022, retrieved February 1, 2024.
Armour Laboratory Building identified by red pin.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Map 4: Google Earth Map, accessed May 13, 2024.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Map 5: Kairoi Stockyards Multifamily, Lot 1, Block 11 (Account: 43022394), Fort Worth, Tarrant County Texas, as recorded in the Tarrant Appraisal District. Data accessed June 11, 2024. The boundary includes the legal parcel and encompasses the property historically associated with the nominated resource. Boundary line shown in black.



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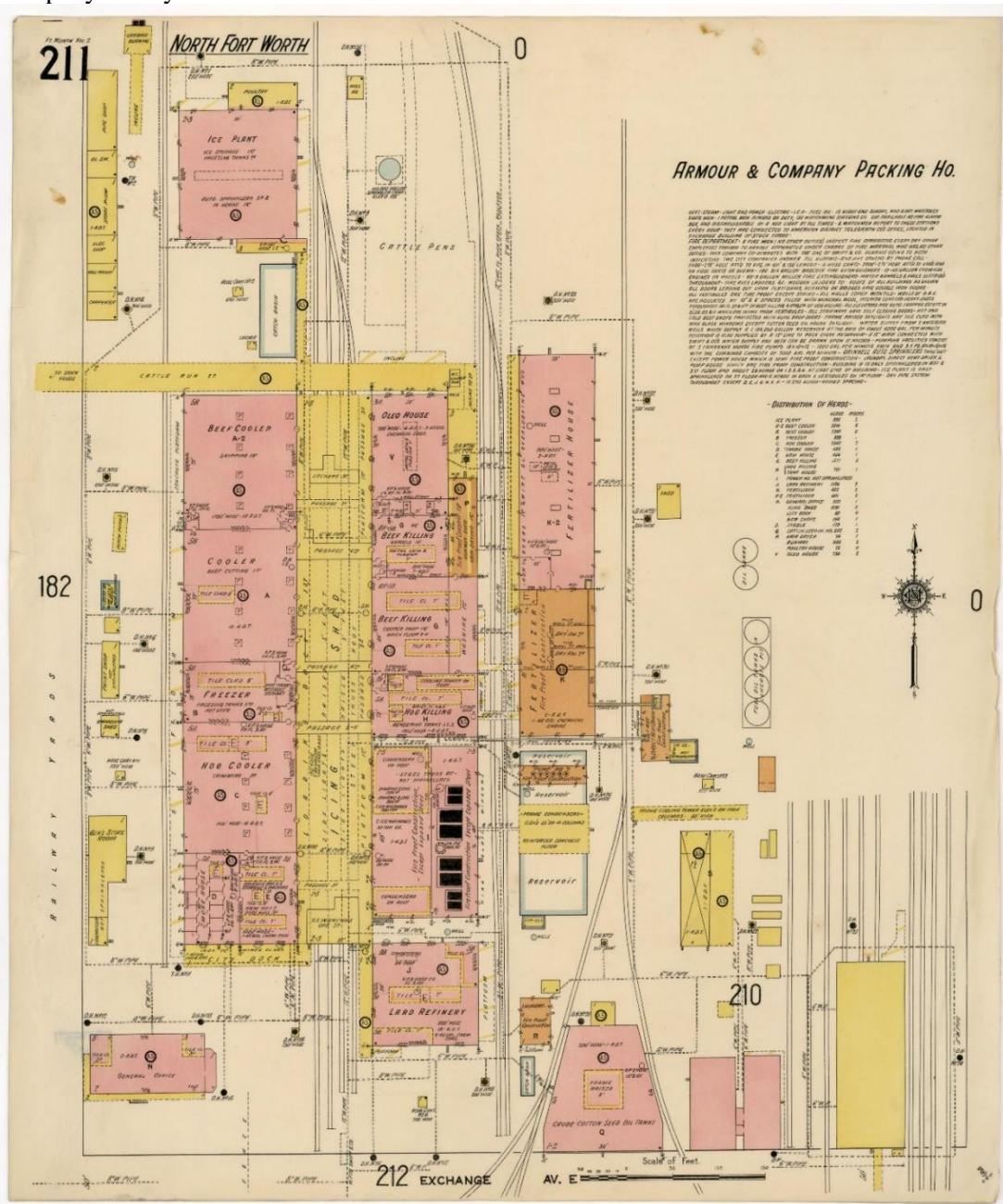
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Map 7: Sanborn Fire Insurance Map, Fort Worth, Texas, 1911, Volume 2, Sheet 211. Depicts density of the Armour & Company site by that date.

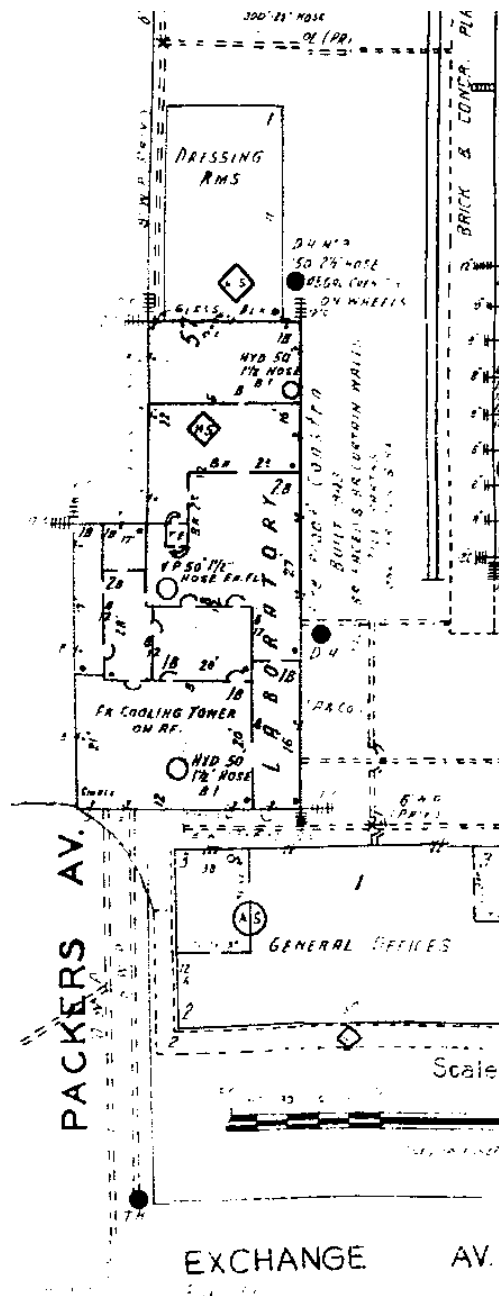


Original located at the Dolph Briscoe Center for American History, University of Texas at Austin

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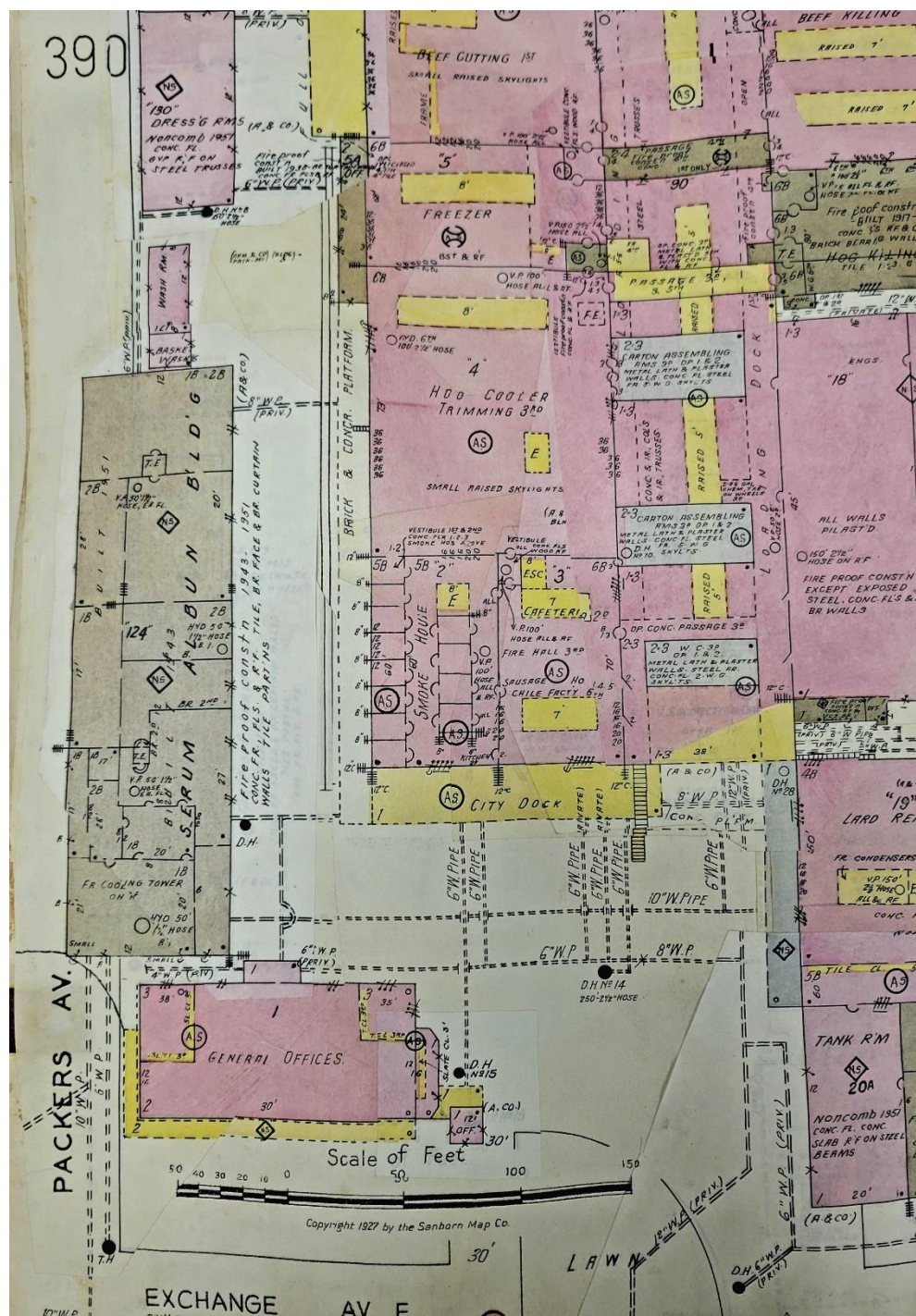
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Map 9: Detail of the Armour & Company site showing Armour Laboratory Building before 1951 addition. Sanborn Fire Insurance Map, Fort Worth, Texas, 1951, Volume 3, Sheet 391.



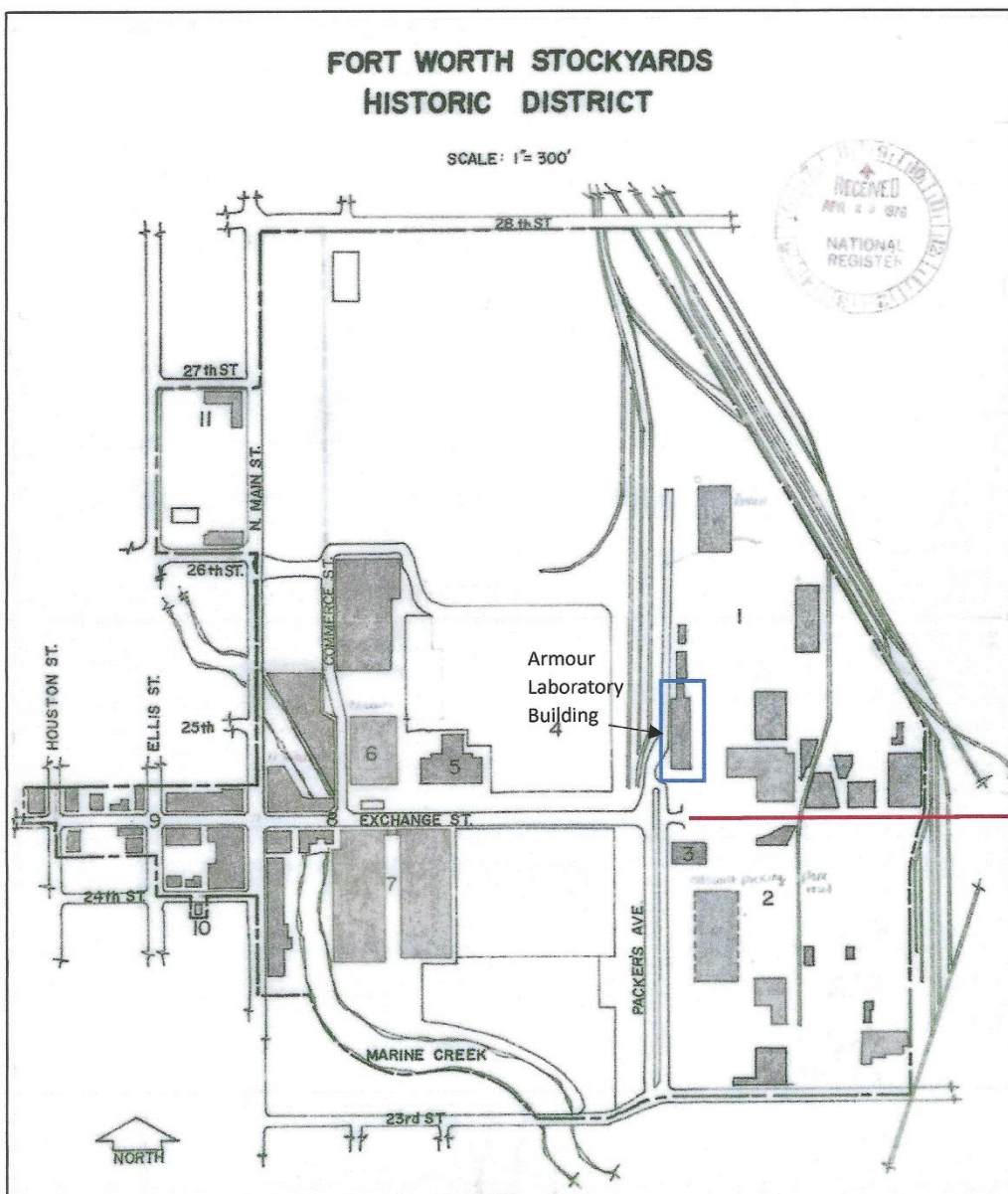
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Map 10: Sanborn Fire Insurance Map, Fort Worth, Texas, Volume 3, Sheet 391, 1951, with later updates (Armour Laboratory Building labeled "Serum Alburn [sic] Bld'g," on left). *Courtesy Tarrant County Archives.*



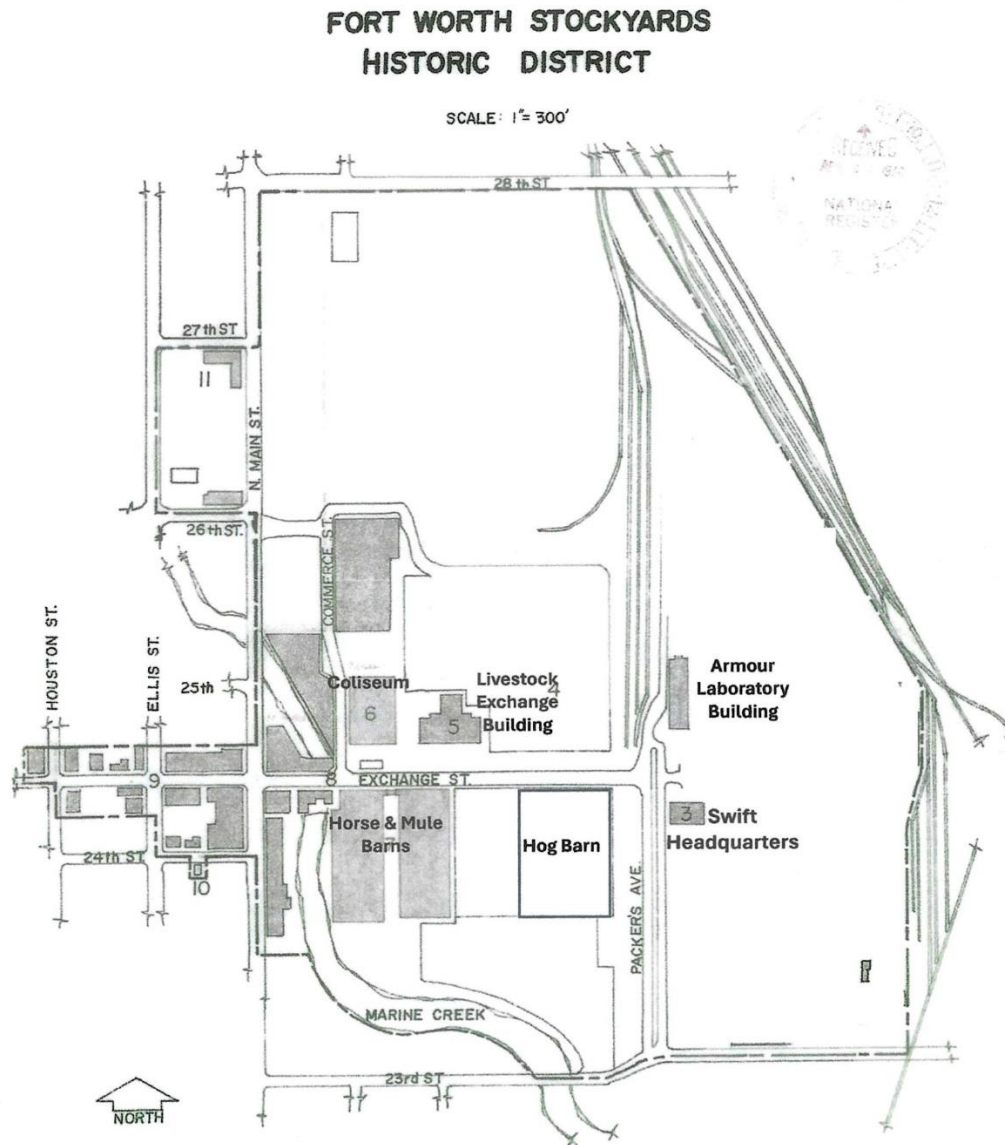
Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Map 11: Map from Stockyards Historic District National Register nomination, 1976. All buildings on the Armour & Company site have since been demolished except for the Armour Laboratory Building. All but two buildings have been demolished on the Swift site (labeled #2 on map). The red line depicts approximate division between the two sites. Compare with Maps 3, 7, and 8. The district was most recently re-surveyed in 2016, but an updated labeled map was not available.



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Map 12: Map from Stockyards Historic District National Register nomination, 1976, updated with select extant buildings labeled. The district was most recently re-surveyed in 2016, but an updated labeled map was not available.



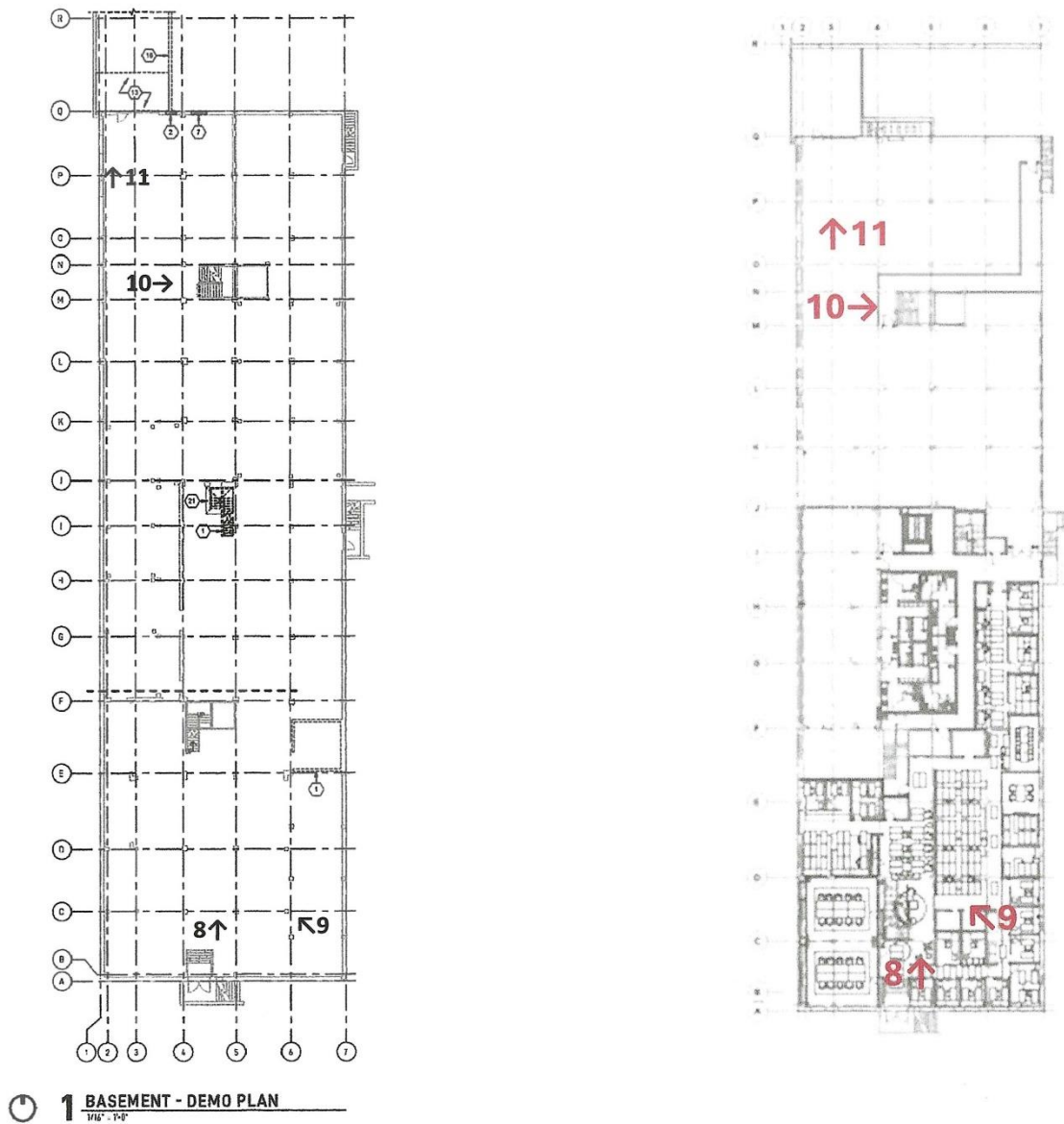
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Map 13: Exterior photo key (photos 1-7).



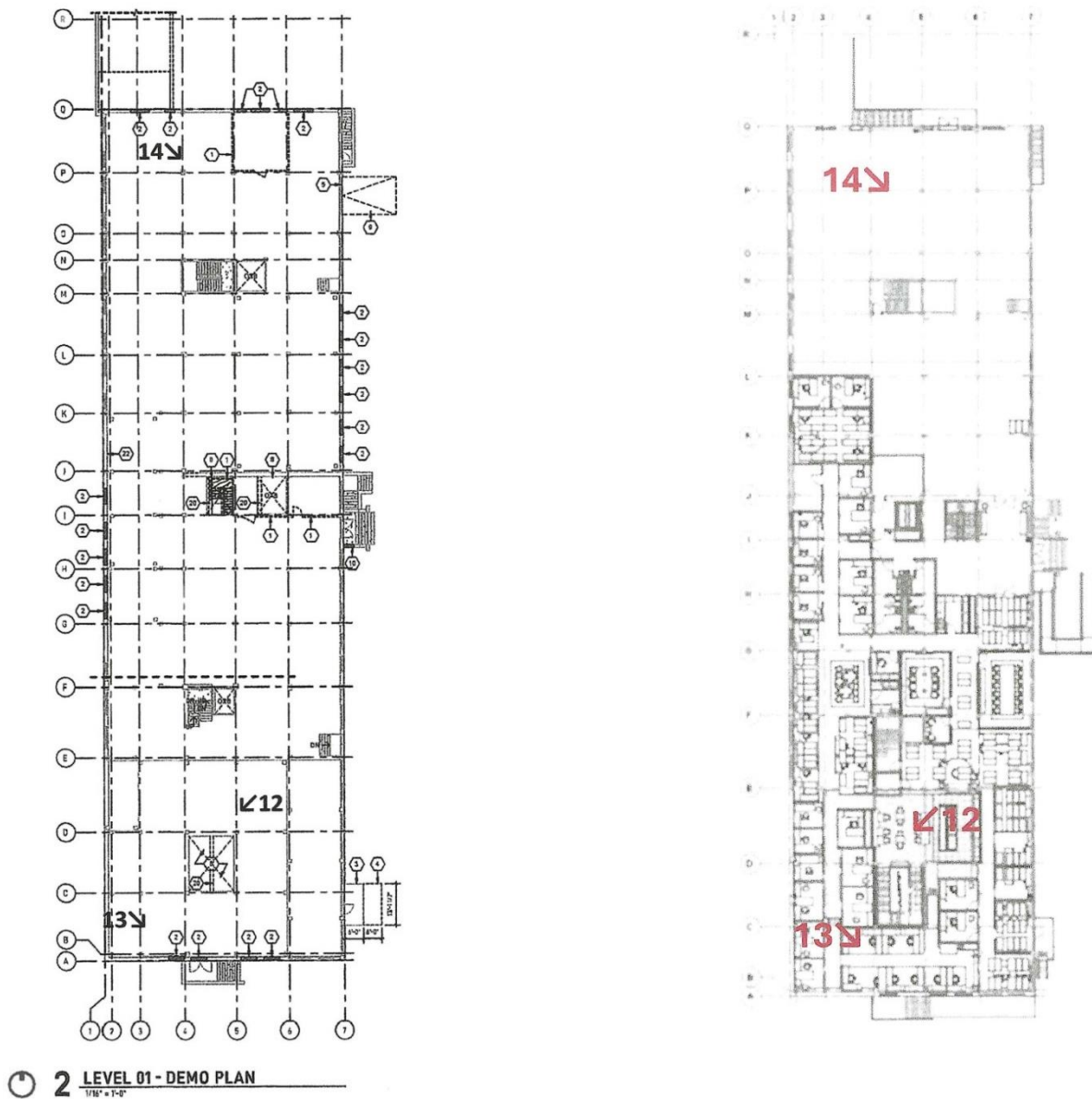
Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Map 14: Basement photo key (photos 8-11). Left depicts floor plan with photo key before rehabilitation, right depicts final floor plan photo key during rehabilitation. *Courtesy Bennett Partners.*



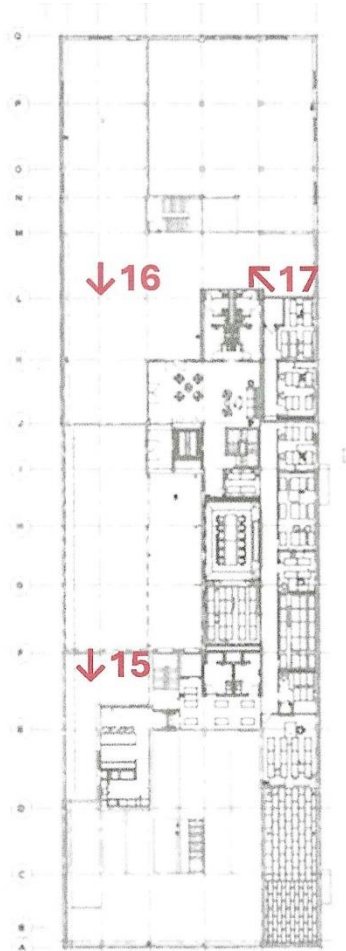
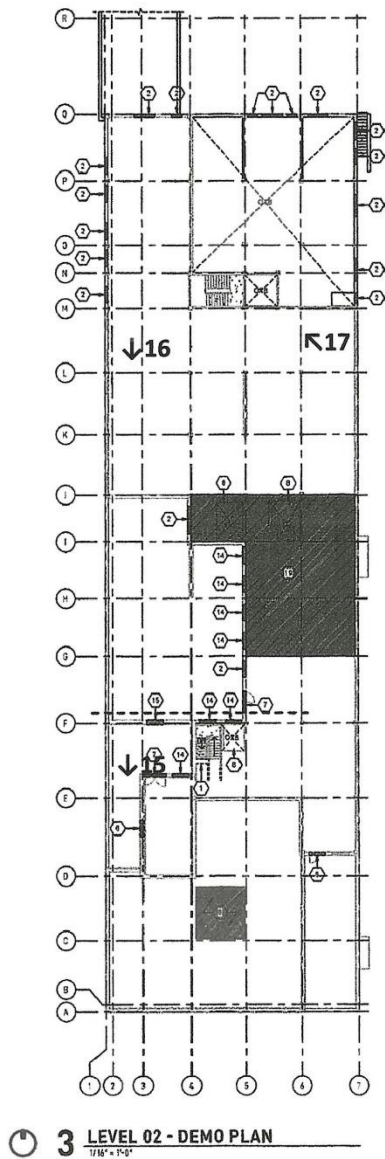
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Map 15: First floor photo key (photos 12-14). Left depicts floor plan with photo key before rehabilitation, right depicts final floor plan photo key during rehabilitation. *Courtesy Bennett Partners.*



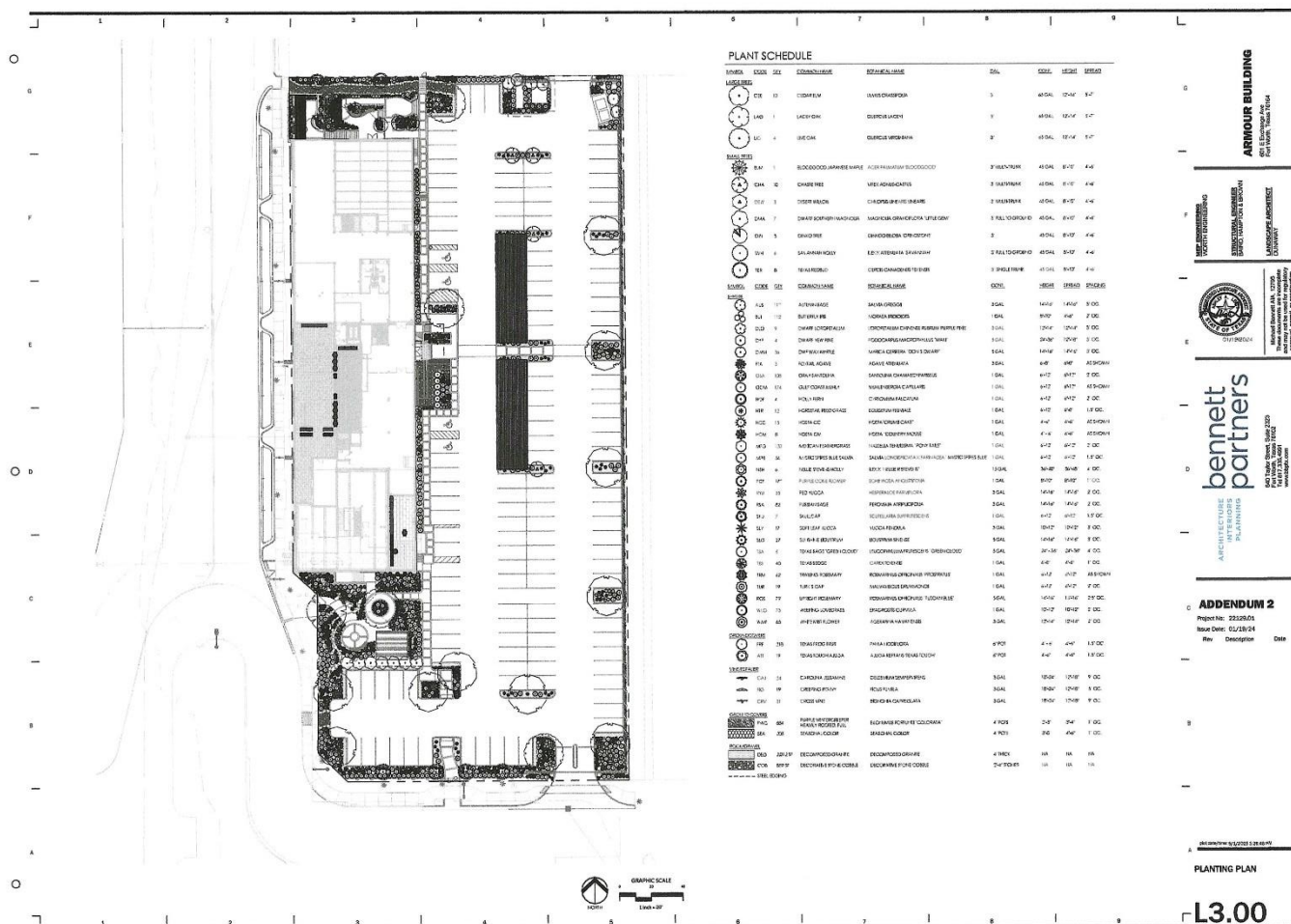
Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Map 16: Second floor photo key (photos 15-17). Left depicts floor plan with photo key before rehabilitation, right depicts final floor plan photo key during rehabilitation. *Courtesy Bennett Partners.*



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Map 17: Site and planting plan, January 19, 2024. *Courtesy Bennett Partners.*



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Map 18: Site plan showing original 1943 portion of building and 1951 addition.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Figures

Figure 1: Armour Laboratory Building. Looking west/northwest at east elevation, c. 1944. *Courtesy, W. D. Smith Commercial Photography, Inc. Collection, Special Collections, The University of Texas at Arlington Libraries. Digital Gallery, #20090243.*



Figure 2: Armour Laboratory Building, west elevation looking southeast, c. 1944. *Courtesy, W. D. Smith Commercial Photography, Inc. Collection, Special Collections, The University of Texas at Arlington Libraries, Special Collections, Digital Gallery, #20090240.*



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Figure 3: Armour Laboratory Building, interior, c. 1944. *Courtesy, W. D. Smith Commercial Photography, Inc. Collection, Special Collections, The University of Texas at Arlington Libraries, Digital Gallery, #20090234.*



Figure 4: Armour Laboratory Building, interior, c. 1944. *Courtesy, W. D. Smith Commercial Photography, Inc. Collection, Special Collections, The University of Texas at Arlington Libraries, Digital Gallery, #20090237.*



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Figure 5: Armour Laboratory Building, main processing room with mezzanine and blood plasma equipment. From *This Month in Fort Worth* 22 (March 1945): 8.

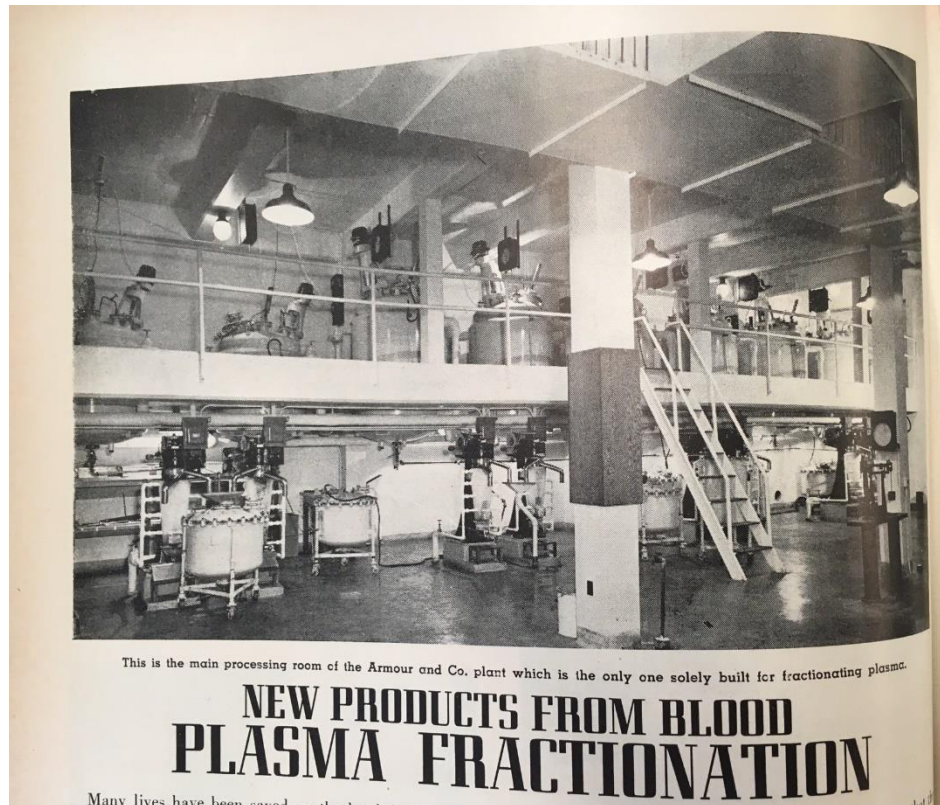


Figure 6: Armour Laboratory Building, another view of the first floor mezzanine in main processing room from an interior window, looking west, c. 1944. *Courtesy, W. D. Smith Commercial Photography, Inc. Collection, Special Collections, The University of Texas at Arlington Libraries, Digital Gallery, #20090442.*



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Figure 7: Armour Laboratory Building, site preparation for addition to original building. At right is the pre-existing building that was demolished c. 2009. Armour & Company Serum Albumin Plant-Progress #4, 1951. Looking southwest. *Courtesy, W. D. Smith Commercial Photography, Inc. Collection, Special Collections, The University of Texas at Arlington Libraries, Digital Gallery, #20096620.*

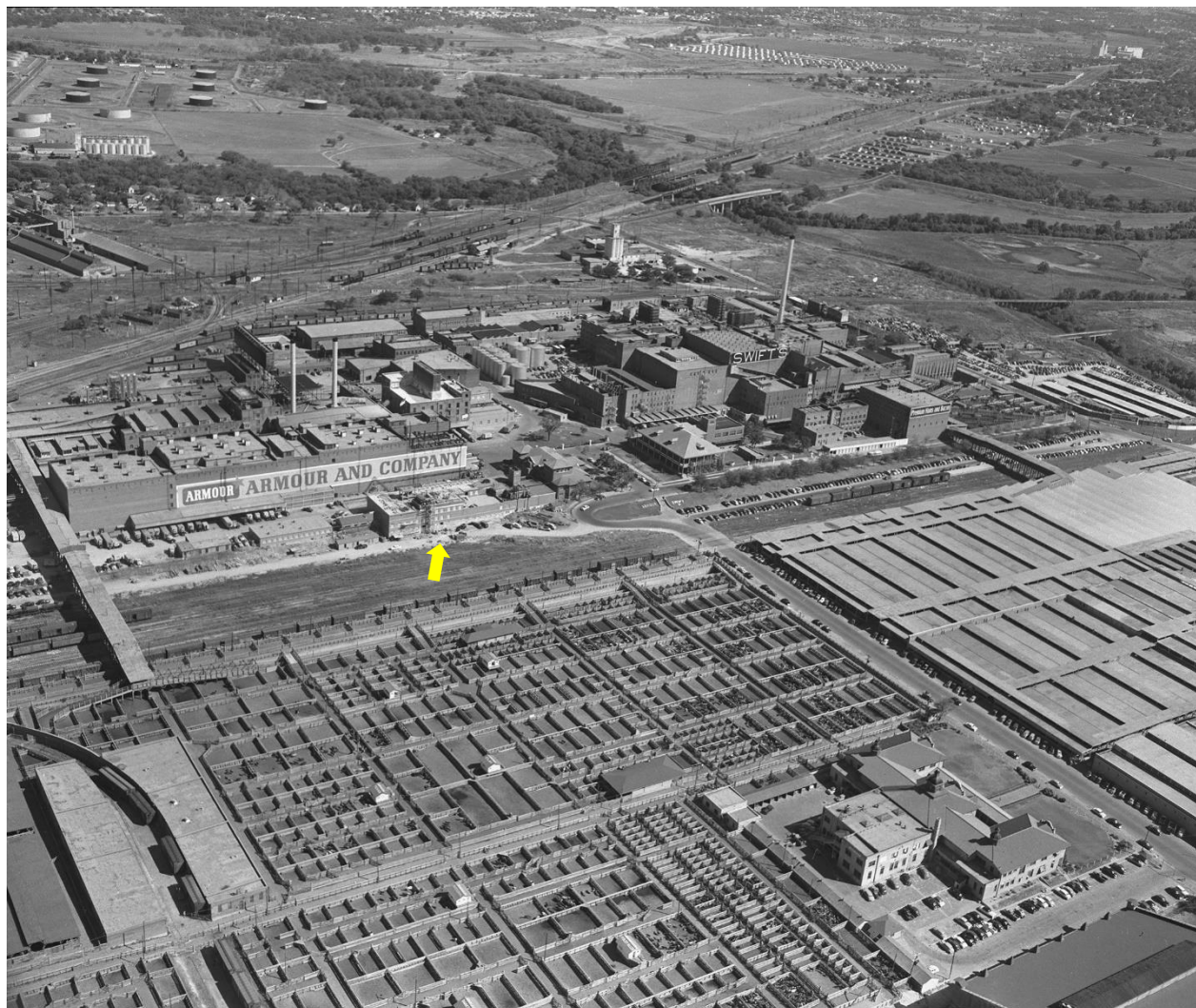


Figure 8: Armour Laboratory Building, addition during construction. Armour & Company Serum Albumin Plant-Progress #16, 1951. Looking southwest. *Courtesy, W. D. Smith Commercial Photography, Inc. Collection, Special Collections, The University of Texas at Arlington Libraries, Digital Gallery, #20096473.*



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Figure 9: Aerial view of the Fort Worth Stockyards during construction of the addition to the Armour Laboratory Building, June 26, 1951. Looking southeast. *Courtesy, W. D. Smith Commercial Photography, Inc. Collection, Special Collections, The University of Texas at Arlington Libraries, Digital Gallery, #10004077.*



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Figure 10: Auction advertisement for Armour's laboratory equipment, November 15, 1956. *Fort Worth Star-Telegram*, November 11, 1956, 65 (www.newspapers.com, accessed February 1, 2024).

another
**ROSEN
PUBLIC
AUCTION**

**MODERN, LATE MODEL
FREON REFRIGERATION
& AIR CONDITIONING
EQUIPMENT AND
CHEMICAL AND
PHARMACEUTICAL
MACHINERY**

Will be offered in LIQUIDATION SALE at PUBLIC AUCTION on the premises
at Armour Laboratories Blood Plasma Building in the —

STOCK YARDS, FORT WORTH, TEXAS

Go Exchange Street to Armour Plant, watch for signs near main gate
directing you to blood plasma building and auction site.

THURS, NOV. 15, 1956, 11 A. M.

TO BE OFFERED IN SINGLE LOTS ONLY:

REFRIGERATION & AIR CONDITIONING EQUIPMENT: 2 American electronic
Precipitrons, for use with air conditioning for pure, sterile, germ-free, filtered
air; capacity: each will handle 50 tons of air conditioning . . . 6 York
compressors complete with motors, 1 with 7½ hp, 1 with 15 hp, 2 with 20 hp,
1 with 40 hp, and 1 with 60 hp . . . GE compressor with 30 hp motor
complete . . . Binks Cooling Tower with 10 hp motor . . . Ayers cooling
tower with 7½ hp motor . . . 4 Elliott Multi-Stage Steam ejectors . . .
4 Refrig. Systems Shell Freezers, copper coils.

PFAUDLER REACTORS: 5 with 300 gal. cap.; 1 with 200 gal. cap.; 3 with 150
gal. cap.; glass lined jacket vacuum reactors with agitators, motors and drives
. . . 3 with 500 gal. cap., glass lined, jacketed, vacuum reactors . . . 16
Pfaudler glass lined vacuum crystallizing receivers, 65-gal. each.

50 Centrifugal Pumps & Motors; 100 motors, ¼ to 40 hp; 25 blowers and
fans; instruments; condensers; pipe; valves; fittings; metals; steel, etc. etc.

CENTRIFUGES: 13 Sharples stainless steel, refrigerated bowls, 2 hp motors;
14 International Model FS, size 3, with 2 hp motors; 1 Sharples Lab centrifuge
with motor; 1 DeLaval Pilot Plant centrifuge with motor.

WATER TESTING EQUIPMENT: 1 Process Eqt. Deionizer; 1 Illco-way 200
gph. Deionizer.

MISC: 3 Barnstead Stills, 50 and 200 gal.; 2 American Sterilizers, 42"x48"x96"
and 20"x36", complete; Ertel Pilot Plant Filter Presses, 12"; Sealing machine;
Republic Lab Filter Press; Prosperity Co. washing machine; Phillips Degreasing
basket; 4 Nash Vacuum Pumps; AL-673 and TS-7; Beach-Russ Vacuum pump;
U. S. Bottle Filling Machine; 3 Ultra Violet Machines.

INSPECTION: 10 a. m. to 4 p. m.
Nov. 13th & 14th.

TERMS: Cash, 25% Deposit at time
bid is struck down, balance on pre-
sentation of invoice on premises. No
confirmation necessary.

**RALPH ROSEN
ASSOCIATES**
AUCTIONEERS • REAL ESTATE BROKERS • APPRAISERS
DAVIS BLDG. • 1309 MAIN • DALLAS, TEX.
Phone Riverside 7-2148

Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Figure 11: East elevations before exterior rehabilitation work began, June 12, 2023.



Figure 12: North and west elevations before exterior rehabilitation work began, June 12, 2023.



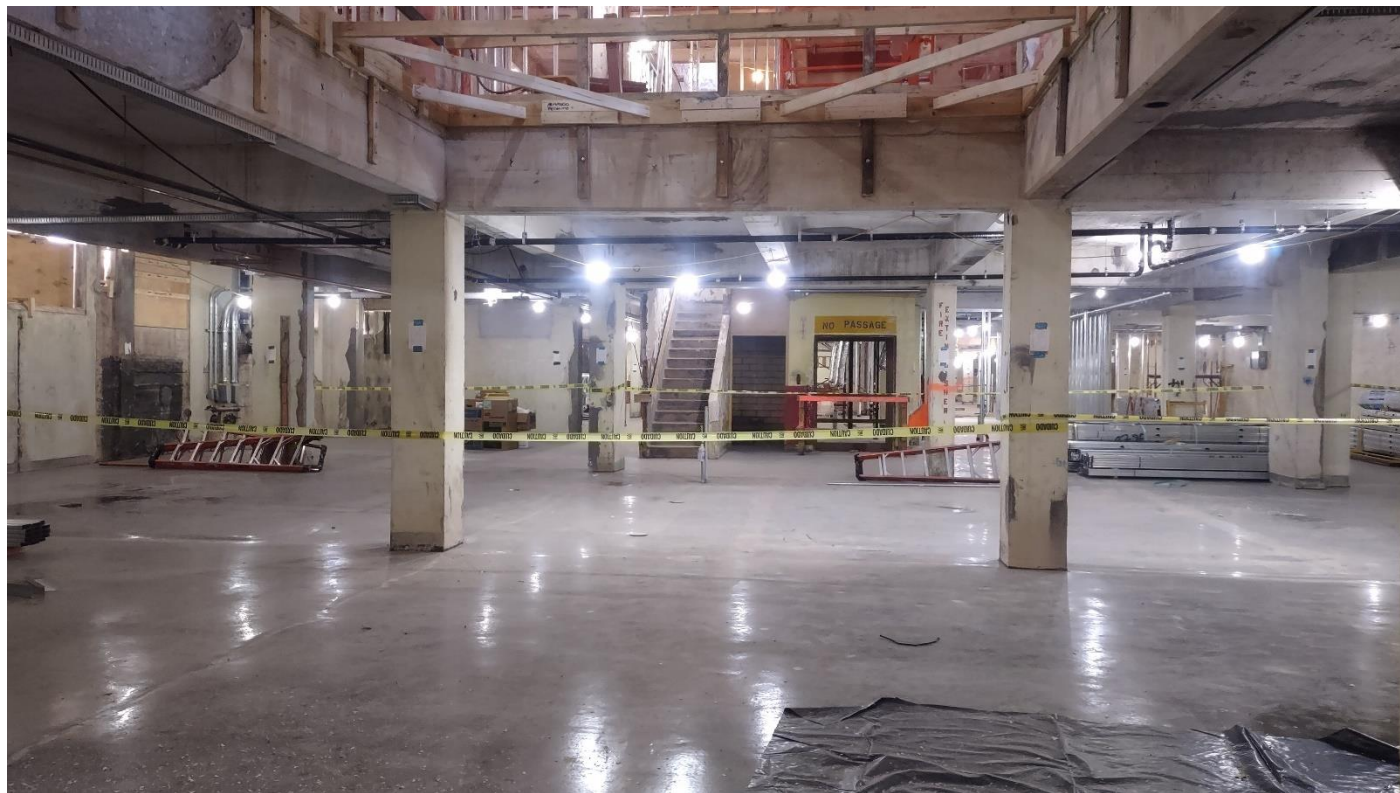
Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Figure 13: South elevation before exterior rehabilitation work began, June 12, 2023.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Figure 14: South end of basement before rehabilitation work began, June 12, 2023.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photographs

Photo 1: South and east elevations, looking northwest.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photo 2: Main entrance, east elevation, looking west.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photo 3: East elevation, looking southwest.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photo 4: East and north elevations, looking southwest.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photo 5: North and west elevations. New window openings on north end of second story, west elevation, looking southeast.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photo 6: West elevation, new window openings on north end of second story and center south on first floor, looking southeast.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photo 7: West and south elevations from Exchange Avenue, looking northeast.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photo 8: South end of basement showing slab cut for new stairs, looking north.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photo 9: South end of basement near east elevation, showing new partition walls, looking west.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photo 10: New partition wall around north stairs in basement, looking east.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photo 11: Pedestrian and vehicle openings, northwest corner of basement, looking north.



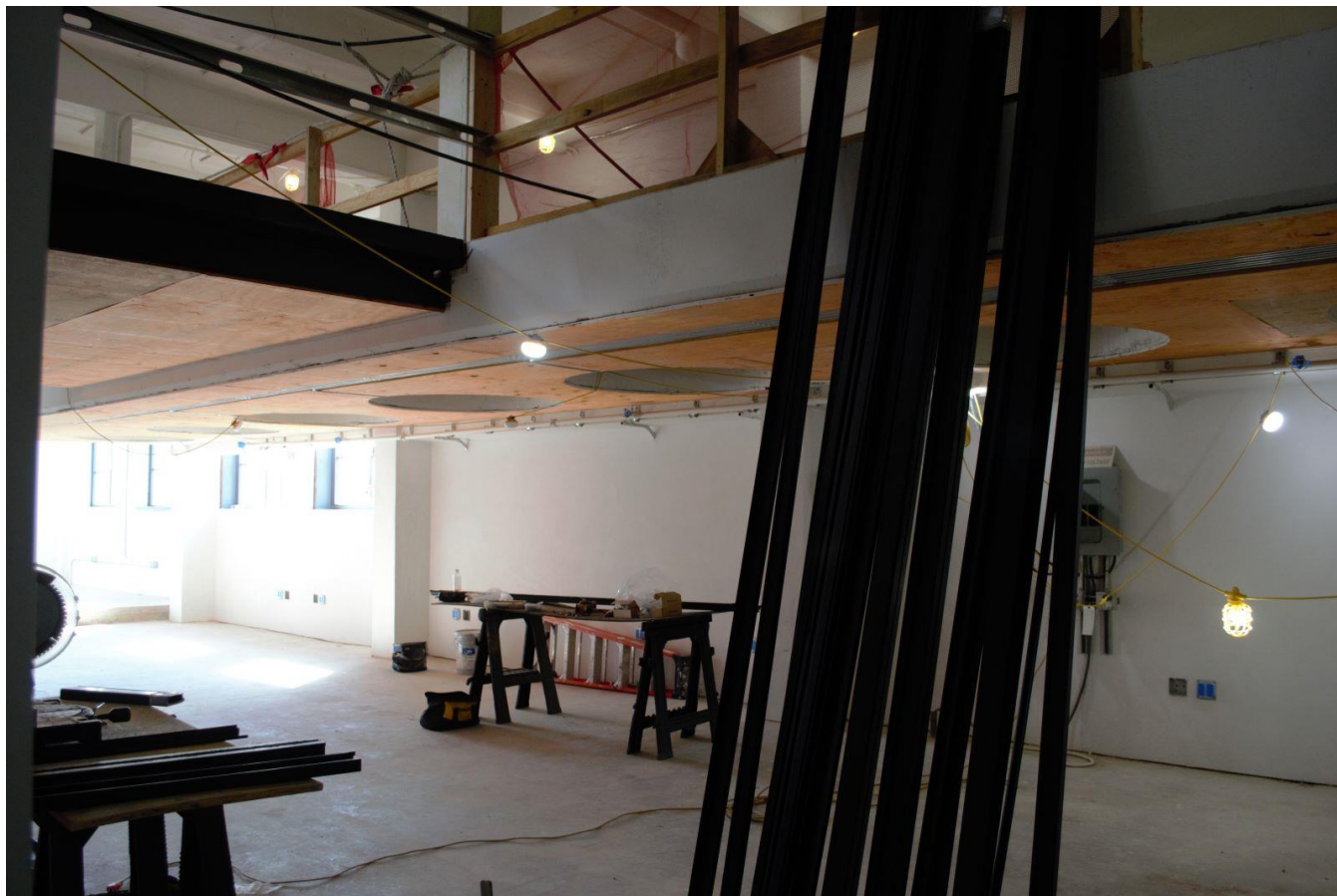
Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photo 12: South end of first floor with slab cut for new stairs and mezzanine in the background, looking southwest.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photo 13: First floor, looking at circular cutouts beneath south mezzanine, looking southeast.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photo 14: First floor in 1951 addition, looking southeast toward historic freight opening. A second floor is being added in this space.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photo 15: Second floor, room in southwest corner, looking south.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photo 16: Second floor, looking south along west elevation.



Armour Laboratory Building, Fort Worth, Tarrant County, Texas

Photo 17: Second floor, looking northwest.

