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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 instructions in National Register Bulletin How to Complete the National Register of Historic Places Registration Form. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.



1. Name of Property

Historic name: Cameron Transfer and Storage Company Building

Other names/site number: _____

Name of related multiple property listing: N/A

(Enter "N/A" if property is not part of a multiple property listing)

2. Location

Street & number: 756 North Fourth Street

City or town: Minneapolis State: MN County: Hennepin

Not For Publication: N/A

Vicinity: N/A

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 level(s) of significance:

national statewide local

Applicable National Register Criteria:

A B C D

Signature of certifying official/Title: <u>Barbara Mitchell Howard, Deputy SHPO, MHS</u>		Date
_____ State or Federal agency/bureau or Tribal Government		

In my opinion, the property <input type="checkbox"/> meets <input type="checkbox"/> does not meet the National Register criteria.	
Signature of commenting official:	Date
_____ Title :	_____ State or Federal agency/bureau or Tribal Government

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4. National Park Service Certification

I hereby certify that this 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:)


5/14/14

Signature of the Keeper Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply.)

- Private:
- Public – Local
- Public – State
- Public – Federal

Category of Property

(Check only **one** box.)

- Building(s)
- District
- Site
- Structure
- Object

Number of Resources within Property

(Do not include previously listed resources in the count)

Contributing	Noncontributing	
<u>1</u>	_____	buildings
_____	_____	sites
_____	_____	structures
_____	_____	objects
<u>1</u>	_____	Total

Number of contributing resources previously listed in the National Register N/A

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6. Function or Use

Historic Functions

(Enter categories from instructions.)

INDUSTRY/PROCESSING/EXTRACTION = Industrial Storage

Current Functions

(Enter categories from instructions.)

VACANT/NOT IN USE

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7. Description

Architectural Classification

(Enter categories from instructions.)

OTHER

Materials: (enter categories from instructions.)

Principal exterior materials of the property: BRICK, STONE/Limestone

Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary Paragraph

The Cameron Transfer and Storage Company Building is a vacant four-story warehouse building located at 756 North Fourth Street in Minneapolis. The building faces south overlooking Fourth Street. It is located in the middle of a long block bounded by Fourth Street to the south, Tenth Avenue North to the west, an alley to the north, and Seventh Avenue North to the east. An unpaved parking lot sits west of the building and is part of the property. A large brick building housing a Salvation Army store, warehouse, and apartments is to the west of the Cameron property. New residential condominium buildings are to the east. Directly to the south across Fourth Street is the elevated Interstate 94 highway viaduct. The Minneapolis Warehouse Historic District is situated north and east of the building, and the boundaries for the district end one block north of the site and three blocks east of the site. The timber post-and-beam and reinforced-concrete mushroom capital structural systems were designed by Minneapolis engineer Claude Allen Porter (C. A. P.) Turner. The different structural systems illustrate the evolution of warehouse structural systems in early twentieth century Minneapolis with reinforced-concrete, mushroom-capital structural systems replacing older timber post-and-beam framing systems.¹

¹ Minneapolis Building Permits, B84984 (November 24, 1909), B90480 (November 9, 1910), and B91013 (January 26, 1911); D. A. Gasparini, "Contributions of C. A. P. Turner to Development of Reinforced Concrete Flat Slabs, 1905-1909," *Journal of Structural Engineering* 128 (October 2002): 1243-1252.

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Narrative Description

Exterior

The Cameron Transfer and Storage Company Building is generally rectangular in shape with a slight jog to the east where the rear structure joins the front section of the building. The south (front) facade is clad in a soft white brick that has been painted with white paint. A narrow band of brick at the top of the wall indicates that a cornice was once attached to the wall. A historic photograph of the building shows that a metal or wood cornice was extant, but it is not clear when it was removed. The other walls on the building are buff-colored common brick. The exposed basement walls and portions of the first story on the east and west walls are Platteville limestone. Part of the reinforced-concrete structure is exposed on the east wall. Painted signs are located on all walls of the building. Most of the signs refer to the Cameron Transfer and Storage Company, which was the original owner of the building.

The building has doorways on all of the walls. On the south wall, a single doorway provides access to offices on the first floor. The doorway was enlarged and raised in the late 1960s and a concrete stoop added. Loading dock doors on the east, north, and west walls access open storage areas on the first floor. The loading dock doorway on the west wall holds a newer overhead garage door and also has a newer concrete stoop. The loading dock doorway on the north wall and the many doorways on the east wall have historic metal and wood doors. The east wall was the primary wall for loading and unloading goods into the building.

Rectangular window openings are located in all of the walls. The openings at the basement level historically held small square, four-light, wood-frame windows. Some of the windows are extant but many of the basement openings were filled in with brick, likely in the late 1960s. On the first through fourth stories of the south section of the building, the windows are wood frame with nine-over-twelve sashes. The openings on the south wall have brick flat-arched lintels while on the other walls, the lintels are exposed steel beams. On the north section of the building, the windows have steel frames with a two-over-two configuration. The upper sash is a hopper that pivots open. The openings also have exposed steel-beam lintels, like those on the south section.

The roof of the building is flat with a gentle slope from the south to the north. A raised brick parapet runs along the east, south, and west walls. There is no parapet on the north wall. A chimney, which served the basement boiler room, is located on the east wall of the north section of the building, near the historic elevator penthouse. The chimney projects approximately 10' above the roof and is the same buff-colored brick as the rest of the rear structure. The east wall of the elevator penthouse is clad in the same buff-colored brick. The north, west, and south walls are covered with EPDM roofing material. A small hatch in the middle of the roof provides access to the fourth floor of the building. The area around the roof hatch has damage from water infiltration, which has caused the joists supporting the roof at that location to fail and the roof to sag.

A 30' by 100' one-story, brick wagon shed was added in 1914 to the north 30' of the east wall of the 1910 section. The wagon shed extended eastward 100' running perpendicular to the building. Additional one-story wagon sheds were constructed to create a courtyard on the east side of the building. The sheds were demolished sometime after 1972 based on real estate data records. Turner was not involved in the design of the wagon sheds.

The building presently occupies a lot that includes an unpaved parking area to the west. During the period of significance a house was located on that vacant land. Although it is part of the current lot, the parking

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area is not included in the historic boundaries for the property. Only the land that holds the building and historically held the loading docks is included in the boundaries.²

Interior

The building was constructed in three phases between 1909 and 1911. The first section of the building, fronting on Fourth Street, was built in 1909. The basement has a reinforced-concrete structure with mushroom-capital columns. The first through third floors are a timber post-and-beam structural system bearing on the masonry perimeter walls. In 1910, a four-story addition was built to the north, on the rear of the original section. The new section also has a cast-in-place reinforced-concrete structure with mushroom capital columns in the basement. The reinforced-concrete capitals are also used for the first through fourth floors. The final building phase was an addition in 1911 of a fourth floor onto the original timber-frame section. It has a similar post-and-beam structural system as the lower floors. For the description below, the post-and-beam section, including the fourth-floor addition, will be referred to as the 1909 section. The reinforced-concrete portion will be the 1910 section.

In the basement of the 1909 section, the reinforced-concrete columns measure 15" in diameter. On the first through fourth floors, the interior bay dimensions between the timber posts are 16' by 14'. The timber posts vary in size from 11.25"-square on the first and second floors to 10" by 9.5" posts on the third floor, and 8" by 10" posts on the fourth floor. Horizontal timbers, measuring 4' long by 9.5" deep by 10" wide, form capitals that sit on top of each post. The ends of the capitals are rounded, although some of the capitals were later shortened in length. Wood beams bear on the capitals and posts. Like the posts, the beams gradually decrease in size on each floor. On the first floor, the beams measure 12" by 11.5", and on the fourth floor they are 10" by 8". The beams on the first through third floors act as trussed girders by the addition of steel rods running the length of the beams. The rods extend along each side of the beam from post to post, and attach to wood struts affixed to the bottoms of each beam. The struts create slight bends in the rods so they follow the stress lines of the beam. The addition of steel rods dramatically increases the strength of the timber-frame system. According to one structural expert, "Trussed girders utilize a tension rod to support a vertical strut at mid-span or two vertical struts at one-third points, utilizing the principle that the tension in the rods would provide a vertical uplift on the strut and thus support the beam at these points."³ The ceiling height varies in the section. The basement and first floor have 11'-tall ceilings, and the second and third floors have 8'-8" ceilings. The ceiling on the fourth floor is the roof deck and slopes downward from 17'-5" on the south end to 14' on the north.

In the 1910 section, the structural features of the reinforced-concrete section are significantly different from the timber-frame structure in the 1909 section. The interior bay dimensions are 17' by 18'. The concrete slabs measure 7"-thick rough with a 1"-thick cement finish. The concrete columns that form part of the system vary in diameter from the basement to the fourth floor. In the basement, the columns are 23" in diameter and they gradually decrease by 2" on each upper floor so that the columns on the fourth floor are 15" in diameter. All of the columns employ C. A. P. Turner's mushroom capital and concrete slab

² The historic parcel (That part of Lot 1, Block 1, Lofts at 730, Hennepin County, Minnesota lying southeasterly of the northwesterly 79.00 feet measured at right angles to the northwesterly line of said Lot 1 and that part of the southwesterly half of vacated alley dedicated in Block 16, Bradford & Lewis's Addition to Minneapolis, Hennepin County, Minnesota lying between the northeasterly extension of the southeasterly line of said Lot 1 and the northeasterly extension of the southeasterly line of said northwesterly 79.00 feet of Lot 1, Block 1, Lofts at 730) is part of a larger property parcel (Lot 1, Block 1, Lofts at 730, Hennepin County, and that part of vacated alley dedicated in Block 16, Bradford and Lewis's Addition to Minneapolis, lying between the northeasterly extensions of the northwesterly and of the southwesterly lines of Lot 1, Block 1, Lofts at 730).

³ J. Stanley Rabun, *Structural Analysis of Historic Buildings: Restoration, Preservation, and Adaptive Reuse Applications for Architects and Engineers* (New York: John Wiley and Sons, 2000), 290.

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system. The structural system also utilizes concrete spandrel beams along the exterior walls that transfer loads to pilasters along the perimeter of this structure. The pilasters are 22" wide and 12.5" deep. The exterior masonry walls in this section of the building are not load bearing. The ceiling heights in the basement and first floor are 11' and 11'-4", respectively. The second through fourth floors are all 9'-3" in height.

Most of the floors in the building are open with few partition walls. A 17"-thick, load-bearing brick wall divides the 1909 and 1910 sections on every floor. A large doorway on each floor provides access between the sections and is protected by rolling steel fire doors. In the basement, the load-bearing limestone perimeter walls are covered with a parge coat of plaster. The floor is a concrete slab. Brick walls in the southeast corner of the 1910 section form a boiler room, which is no longer in use. On the first floor, offices were built on the south end of the building in the mid-twentieth century. The offices extend from the front of the building to the second bay of timber posts. The timber structure is concealed by suspended ceilings in the offices, but is completely exposed in the warehouse space. The reinforced-concrete structure is also exposed on the first floor. The second floor of the 1910 section is subdivided by clay-tile and plaster partition walls into small storage stalls that are independent of the structural system. The stalls are arranged in three rows separated by hallways running north to south. The rest of the second floor is open, and the third and fourth floors are also open.

The building has two staircases and one elevator. An open wood-frame staircase runs from the basement to the fourth floor of the 1909 section along the east wall. A freight elevator is located in the northeast corner of the 1909 section and the shaft is enclosed with rough-cut wood boards. A concrete staircase runs from the first floor to the fourth floor near the southeast corner of the 1910 section. Ten vertical ventilation shafts run from basement to the roof on the perimeter walls of the reinforced-concrete section. These are part of a former ventilation system for the basement. Three shafts are located on the east and west walls and four shafts are set on the north wall. The shafts are located near structural pilasters.

Integrity

The Cameron Transfer and Storage Company Building has good historic integrity. The building sits on its original site and has integrity of location. The building also has integrity of design, materials, and workmanship. The original structure designed by C. A. P. Turner is extant and the original brick, stone, wood, and concrete that form the building's structure, walls, and floors are intact. Workmanship is displayed in the timber and reinforced-concrete structures, and the brick and stone walls. The addition and later removal of wood-frame wagon sheds to the east of the building did not impact the integrity of the structural systems of the building. The setting immediately around the building has been affected by newer building and highway construction. However, the historic street grid has been preserved in the area, and historic properties within the Minneapolis Warehouse Historic District are visible from the Cameron Transfer and Storage Building. These extant historic elements contribute to the historic setting. The integrity of the historic location, design, materials, and workmanship contribute to the feeling that the building is an early twentieth century warehouse in Minneapolis and they also contribute to the association of the building with the evolution of structural systems from timber post-and-beam to reinforced-concrete mushroom capital and slab.

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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.)

- 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.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

- 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 old or achieving significance within the past 50 years

Areas of Significance

(Enter categories from instructions.)

ENGINEERING

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Period of Significance

1909-1911

Significant Dates

1909-1911

Significant Person

(Complete only if Criterion B is marked above.)

N/A

Cultural Affiliation

N/A

Architect/Builder

Turner, Claude Allen Porter

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

The Cameron Transfer and Storage Company Building is eligible for listing in the National Register under Criterion C in the area of Engineering. The period of significance for the building is 1909-1911, the years that the building was constructed. The property is locally significant and represents a major shift in warehouse construction from wood post-and-beam structures to reinforced-concrete mushroom capital structures. Both systems were used in the construction of the warehouse, making the property a rare example of the "old" and "new" structural techniques within the same superstructure. The entire building was designed by Minneapolis engineer Claude Allen Porter (C. A. P.) Turner.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

Evolution of Reinforced Concrete Construction

Prior to the invention of reinforced concrete as a building material, wood, iron, and steel were most commonly used as structural supports in bridges and buildings. The invention of Portland cement in 1824 sparked the widespread use of concrete for columns, floor spans, and vaulting. The use of reinforced

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concrete at the beginning of the twentieth century had immense design ramifications in the fields of architecture and engineering. The material and structural capabilities of reinforced concrete facilitated a type of design that would not otherwise have been possible using the existing materials of steel, stone and timber. The adoption of reinforced concrete for building construction allowed for innovations in design.

The development of reinforced-concrete slabs in the United States is credited to a variety of individuals and because the development was concentrated in a short period of time, the history is complex. Ernest Ransome began experimenting with reinforced-concrete construction in the 1880s. The first reinforced-concrete building in the United States was the Pacific Coast Borax Company Refinery in Alameda, California, which was designed by Ransome and built in 1893. Ransome's early systems were "variations of the slab, beam and girder concept that imitated the one-way action of timber and steel framed floor traditions."⁴ Other individuals contributed to the development of reinforced-concrete building structures, but the timing of these contributions as well as the individuals involved is unclear. Innovations in reinforced concrete during this time were not well documented and in some cases included multiple variations on similar concepts.⁵

If concrete was an experimental building material in the nineteenth century, it came into its own in the twentieth century. As one engineering historian described it, "The major structural innovations of the twentieth century have been the products of concrete technology, and many of these have led to radical changes in the form and action of structural systems. . . . Indeed, the engineers regard it as the most scientific material, one that allows the closest approach to the organic ideal, in which structural form exactly corresponds to the pattern of internal stresses."⁶ C. A. P. Turner was one of the more successful engineers to research and promote concrete in the early twentieth century. He revolutionized reinforced-concrete building design and construction practices with a flat-slab, mushroom cap, or mushroom slab, system, for which he received patents in 1911. Turner's system increased useable space and decreased the cost of construction. Prior to the use of this system, early reinforced-concrete construction utilized thick steel and concrete beams for additional load-bearing support, which was expensive and occupied almost as much interior volume as heavy-timber construction. Unlike earlier reinforced-concrete construction, Turner's design eliminated the need for beams by replacing them with load bearing columns. This in turn reduced the height of the buildings, thus saving money by reducing the amount of the exterior cladding materials.⁷

Turner and the Mushroom Capital

C. A. P. Turner was born in Lincoln, Rhode Island, in 1869 and graduated from Lehigh University in Bethlehem, Pennsylvania, in 1890 with an engineering degree. He worked for a number of bridge construction and engineering companies across the country as a civil and structural engineer before coming to Minneapolis in 1897 where he worked for the American Bridge Company. Turner started his own practice in 1901 as a designer and contractor for concrete work with the Minneapolis, Saint Paul, and Sault Sainte Marie (Soo Line) Railroad as a principal client. He was a member of the American Society of

⁴ Andrea Kampinen, "C. A. P. Turner and his Development of Reinforced Concrete Flat-Slabs," prepared for Evolution of American Architecture, EDES 6620, April 12, 2007, 2.

⁵ Carl W. Condit, *American Building: Materials and Techniques from the Beginning of Colonial Settlements to the Present* (Chicago: University of Chicago Press, 1969), 168.

⁶ Condit, *American Building*, 240.

⁷ *Ibid.*, 168; Kampinen, "C.A.P. Turner and his Development," 2; Gasparini, "Contributions of C. A. P. Turner," 1251.

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Civil Engineers, the Society for Promotion of Engineering Education, and the Engineering Council's Committee for Patent Reform. Turner died in Columbus, Ohio on January 10, 1955.⁸

Turner was successful in both bridge and building design. One of his early Minnesota projects was the Duluth Ferry Bridge in 1904. It was constructed using the cantilever method with a span of 394 feet and featured a "stiff traveler" car to carry people across the canal. The bridge was the first of its kind in the United States. While Turner's early use of concrete as a building material is not well documented, it is probable that he gained his familiarity with concrete while working as a bridge engineer from 1890 to 1901. In 1904, Turner designed Minneapolis's first building made entirely of reinforced concrete, the Northwestern Knitting Company Warehouse at 718 Glenwood Avenue. The building used a concrete beam system more in keeping with traditional design by mimicking timber-frame construction. The building's concrete structure was featured in an article by the *Minneapolis Tribune*, which stated "that it is considerably more economical than the protected steel frame, while fully as strong and thoroughly fireproof."⁹

The following year, Turner designed the Minneapolis Paper Company Building, located at 400-404 South Fifth Street. Like the Northwestern Knitting Company Building, the building was designed with a traditional concrete beam system. The 1906 edition of *Transactions of the American Society of Civil Engineers* included a description of load tests for both buildings. For the Northwestern Knitting Company, the test load was 900 lb/ft² in one bay. Turner loaded one bay in the Minneapolis Paper Company test with 670 lb/ft² and then loaded two-and-one-half bays with 370 lb/ft². "Such load tests, whether prescribed by building officials or owners or initiated by Turner, enabled Turner to calibrate his design procedures with confidence regarding the minimum capacities of his slabs."¹⁰

With the success of these two buildings, Turner developed a better understanding of reinforced concrete and began to revise his designs. He made a major leap in his design philosophy, which resulted in the development of the mushroom capital system. Development of the first flat-slab system in the world is credited to Robert Maillert, a Swiss engineer who conceptualized the system in 1900 in Europe. While historians consider Maillert to be the inventor of the system, they acknowledge that it was "independently developed in the United States by Claude A. P. Turner of Minneapolis."¹¹ His name would dominate the American engineering field when it came to the new structural system.

Turner's design for a mushroom-capital, flat-slab system allowed for more flexibility in construction because it used load-bearing columns in the place of traditional steel and concrete beams for support. "The load bearing columns came to be known as the 'mushroom system' for the shear head which was shaped like a shallow truncated cone concealed in the concrete slab. Reinforcing rods extended both directly and diagonally between columns. Additional reinforcing hoops were laid on the radial rods."¹²

Turner began promotion of his new concept in a 1905 issue of *Engineering News*. The first building to be constructed using the new design was the Johnson-Bovey Building (no longer extant) in 1906 at 426-432

⁸ Gasparini, "Contributions of C. A. P. Turner," 1245, 1251; City of Minneapolis, Community Planning and Economic Development (CPED) – Planning Division, "The Green & DeLaittre Wholesale Grocery Company Warehouse Designation Study," prepared for the Minneapolis Heritage Preservation Commission, April 19, 2013, 13.

⁹ Gasparini, "Contributions of C. A. P. Turner," 1245; "Concrete Warehouse for Northwestern Knitting Company to Cost \$50,000," *Minneapolis Tribune*, August 14, 1904.

¹⁰ Gasparini, "Contributions of C. A. P. Turner," 1245.

¹¹ Condit, *American Building*, 243.

¹² CPED, "The Green & DeLaittre Wholesale Grocery Company," 14.

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Second Avenue North. He described the building in a 1906 issue of *Engineering News*: "In applying for a permit for this building, the building department refused to grant one, except for an experimental building, it being agreed and understood between the owner the engineer, and the contractor that the construction should stand a test load of 700 lb/ft.² of floor, with a maximum deflection of 5/8 of an inch in the center of the slab." When the test load was applied, "the elastic deflection was a scant quarter of an inch." Later that year, Turner designed the Hoffman (Marshall) Building in Milwaukee, which is the oldest extant example of Turner's mushroom system. In 1907, Turner also designed several buildings that incorporated the mushroom system, including the Wisconsin Central Freight Station and the Forman Ford Building in Minneapolis (both no longer extant), two buildings in Saint Paul, as well as buildings in Toledo and Philadelphia.¹³

Turner was able to improve his system and soon designed increased spans. He refined the column design from an octagonal column, to a round column. The oldest extant building in Minneapolis constructed with Turner's round columns is the Green and DeLaittre Grocery Warehouse (1908) located at 500 North Third Street. Another early example is the Fairmont Hotel/Apartments, also constructed in 1908 at 901-910 Hennepin Avenue.¹⁴

Within a few years of its introduction, the mushroom-capital and flat-slab system gained acceptance as one of the most efficient forms of reinforced-concrete construction, and it received much acclaim in the engineering community. In the period between 1905 and 1910, concrete flat-slab floor systems—made possible by the innovative reinforced mushroom capitals—became commonplace, almost completely because of the promotional efforts of Turner. In addition to being a regular contributor to *Engineering News*, he published a series of bulletins that advertised his work using client testimonials and photographs of test loads. "These tests, in which loads up to twice the design load were placed in one or more building bays, became common for Turner buildings. He soon began marketing them as promotional events, advertising when and where the next load test would occur. . . ."¹⁵ In 1910, Turner claimed that the area of flat-slab floors in the United States was "rapidly approaching 1,000 acres."¹⁶ By 1913, over 1,000 buildings in the world were using a flat-slab system.¹⁷

In addition to being a strong, reliable building form, the flat-slab system was also economical, and Turner conducted a significant amount of work using the system. Things began to change in 1910 when the Deere and Webber Building was constructed on North Washington Avenue in Minneapolis, by the C.M. Leonard Construction Company using the mushroom slab structure without including Turner in the process. To protect his business, a series of patent lawsuits were filed, but Turner ultimately lost because there was "uncertainty regarding both the timing and contributions of various individuals to the development of reinforced concrete flat slabs in the United States."¹⁸ However, according to Gasparini, "there is no doubt that C.A.P. [sic] Turner, with his 'mushroom system,' proved the reliability and cost effectiveness of flat-slab systems for both buildings and bridges from 1905 to the end of 1909."¹⁹

¹³ Quotes from C. A. P. Turner, "Building Departments and Reinforced Concrete Construction—A Test of a Warehouse Floor," *Engineering News* (October 4, 1906): 361; C. A. P. Turner, "Mushroom System of Concrete Reinforcement Proposed by C. A. Turner," *Engineering News* (October 12, 1905): 382-384; CPED, "The Green & DeLaittre Wholesale Grocery Company," 16.

¹⁴ CPED, "The Green & DeLaittre Wholesale Grocery Company," 17.

¹⁵ Kampinen, "C.A.P. Turner and his Development," 5.

¹⁶ C. A. P. Turner, "The Mushroom System As Applied to Bridges," *Cement Age* (January 1910): 7-12.

¹⁷ Kampinen, "C.A.P. Turner and his Development," 1; Gasparini, "Contributions of C. A. P. Turner," 1248.

¹⁸ Gasparini, "Contributions of C. A. P. Turner," 1243.

¹⁹ *Ibid.*, 1250.

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The Cameron Transfer and Storage Building

The late-nineteenth and early twentieth centuries saw a period of growth for manufacturing, warehousing, and wholesaling in Minneapolis. The dramatic shift to these economic strongholds was facilitated by railroads, which expanded rapidly across the country during the period. Railroad lines ran through the Minneapolis warehouse district, including north of Fourth Street. The city became a transportation hub and the warehouse district grew from one or two warehouses in 1865 to approximately 300 by 1920.²⁰

C. A. P. Turner's engineering firm benefited from the rapid growth of the Minneapolis warehouse district. Companies like the Cameron Transfer and Storage Company also developed during this period. The company was founded in 1884 by Carlisle Cameron, who served as President and Treasurer. Cameron was born in Quebec, Canada, in 1858 and moved to Minneapolis in 1880. He began working with the Myers and Davis Transfer Company in 1882, and liking the work, started his own dray, or moving, company two years later. As the business grew, Cameron incorporated the Cameron Transfer and Storage Company in 1904. The company shared space with other commercial tenants in a building at 200 Nicollet Avenue.²¹

In 1909, Cameron commissioned Turner to design a new three-story building with a full basement in the warehouse district. The new building at 756 North Fourth Street marked the company's expansion into the storage business. Cameron chose to use a hybrid structure for the building with a reinforced-concrete mushroom-capital structural system in the basement supporting three floors of timber post-and-beam structure for the warehouse. The decision to combine the old and new systems in one building may have been based on distrust at the time of Turner's mushroom-capital system. The use of timber on the upper floors in the form of trussed girders was "by far the most popular method of reinforcing . . . wood beams and girders at the turn of the twentieth century."²² The girders were commonly used in buildings designed for larger-than-average loads where length of column spacing was a factor. The stability and success of the new building appears to have convinced Cameron that concrete was the future. In 1910, Turner designed a four-story addition that fully incorporated the reinforced-concrete mushroom-capital system on all floors on the north side of the earlier building. A fourth story was added to the timber-frame section in 1911 that continued the timber post-and-beam structure of the lower floors, although it had a dramatically higher ceiling height.

Once completed, the basement of the building accommodated horses and wagons, which were the main tools of the business. Later, the animals and vehicles were moved into one-story wagon sheds erected on the east side of the property. Large, loading doors on the east, north, and west sides of the building were essential for delivery and loading into the building by horse and wagon (east and west) and also by train (north). The 1910 section housed cold storage and, as such, had minimal window openings and no heat above the basement level. The building's structure, the most significant feature both historically and

²⁰ City of Minneapolis Community Planning and Economic Development (CPED) - Planning Division. "Minneapolis Warehouse District Historic Designation Study," 2009 (http://www.ci.minneapolis.mn.us/www/groups/public/@cped/documents/webcontent/convert_264533.pdf; accessed December 13, 2013), 7, 10-16.

²¹ Minneapolis Building Permits, B84984 (November 24, 1909), B90480 (November 9, 1910), and B91013 (January 26, 1911); Rev. Marion Daniel Shutter, ed, *History of Minneapolis, Gateway to the Northwest*, vol. 3 (Chicago-Minneapolis: S. J. Clarke Publishing Co, 1923), 208-209; Minnesota Secretary of State, Domestic Corporation Master Record for the Cameron Transfer and Storage Company, File/Charter No. 27298-AA (<http://mbplsportal.sos.state.mn.us/Business/SearchDetails?filingGuid=905aa9b4-a8d4-e011-a886-001ec94ffe7f>; accessed December 12, 2013); Minneapolis City Directories 1859-1917 (<http://box2.nmtvault.com/Hennepin2/>, accessed February 18, 2014).

²² Rabun, *Structural Analysis of Historic Buildings*, 289.

Cameron Transfer and Storage Company Building

Hennepin County, MN

Name of Property

County and State

functionally, allowed for the storage of heavy loads and the large, open spaces to maneuver the stored items and equipment.

The Cameron Transfer and Storage Company thrived at its new location. In 1923, the business could boast that it had twenty teams of horses and ten trucks for the movement of goods. Carlisle Cameron died in Minneapolis in 1930 but the company continued on after his passing. It eventually changed over to automotive vehicles and in 1947, changed its name to "Cameron Transit Co." Offices were built in the front of the building in the mid-twentieth century. The company eventually merged with the Security Warehouse Company in 1976.²³

Conclusion

The Cameron Transfer and Storage Company Building is significant locally because it epitomizes the rapid evolution of structural design for warehouses in the first decade of the twentieth century from traditional timber building techniques honed over centuries to one reliant upon innovative engineering and the use of new materials. The shift is illustrated by the use of both timber post-and-beam and reinforced-concrete mushroom-slab structural systems in the building. The property is the only known example of a building with both structural techniques combined in Minneapolis between 1900 and 1910. In the next decade, engineers used many flat-slab structural systems to make reinforced concrete the dominant construction material used in Minneapolis warehouses. The building is eligible for listing in the National Register of Historic Places under Criterion C in the area of Engineering. Its period of significance is 1909-1911, the years when the building was constructed.²⁴

²³ Shutter, *History of Minneapolis*, 208-209; Minnesota Secretary of State, Domestic Corporation Master Record for the Cameron Transfer and Storage Company.

²⁴ Gasparini, "Contributions of C. A. P. Turner," 1251; CPED, "Minneapolis Warehouse District Historic Designation Study," 47-179.

Cameron Transfer and Storage Company Building
Name of Property

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County and State

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

City of Minneapolis Building Inspections Department. Building Permit Index Cards for 738-756 Fourth Street North. 1902-1968.

City of Minneapolis Community Planning and Economic Development (CPED) - Planning Division. "The Green & DeLaitre Wholesale Grocery Company Warehouse Historic Designation Study." 2010.

———. "Minneapolis Warehouse District Historic Designation Study." 2009.

Condit, Carl W. *American Building: Materials and Techniques from the Beginning of the Colonial Settlements to the Present*. Chicago: University of Chicago Press, 1969.

Gasparini, D.A. "Contributions of C. A. P. Turner to Development of Reinforced Concrete Flat Slabs, 1905-1909." *Journal of Structural Engineering* (October 2002): 1243-1252.

Kampinen, Andrea. "C.A.P. Turner and his Development of Reinforced Concrete Flat-Slabs." Prepared for Evolution of American Architecture, EDES 6620. April 12, 2007.

"Local Man is Achieving Fame." *Minneapolis Tribune*, December 6, 1908.

Minnesota Secretary of State. Domestic Corporation Master Record for the Cameron Transfer and Storage Company, File/Charter No. 27298-AA. <http://mblsportal.sos.state.mn.us/Business/SearchDetails?filingGuid=905aa9b4-a8d4-e011-a886-001ec94ffe7f>; accessed December 12, 2013.

Rabun, J. Stanley. *Structural Analysis of Historic Buildings: Restoration, Preservation, and Adaptive Reuse Applications for Architects and Engineers*. New York: John Wiley and Sons, 2000.

Shutter, Rev. Marion Daniel, ed. *History of Minneapolis, Gateway to the Northwest*. Vol. 3. Chicago-Minneapolis: S. J. Clarke Publishing Co, 1923.

Turner, C. A. P. "Mushroom System of Concrete Reinforcement Proposed by C. A. Turner." *Engineering News* (October 12, 1905): 382-384.

———. "Building Departments and Reinforced Concrete Construction—A Test of a Warehouse Floor." *Engineering News* (October 4, 1906): 361-362.

———. "Advance in Reinforced Concrete Construction: An Argument for Multiple-Way Reinforcement in Floor Slabs." *Engineering News* (February 18, 1909): 178-181.

———. Consulting Engineer, "Storage Warehouse Cameron Transfer Company Building Plans." C. A. P. Turner Collection, Northwest Architectural Archives, University of Minnesota Libraries, Minneapolis. 1910.

Cameron Transfer and Storage Company Building
Name of Property

Hennepin County, MN
County and State

_____. Consulting Engineer, "Storage Warehouse Addition for the Cameron Transfer Company Specifications." C. A. P. Turner collection, Northwest Architectural Archives, University of Minnesota Libraries, Minneapolis. 1910.

Cameron Transfer and Storage Company Building
Name of Property

Hennepin County, MN
County and State

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) 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 # _____
- recorded by Historic American Landscape Survey # _____

Primary location of additional data:

- State Historic Preservation Office
 - Other State agency
 - Federal agency
 - Local government
 - University
 - Other
- Name of repository: _____

Historic Resources Survey Number (if assigned): HE-MPC-16391

10. Geographical Data

Acreage of Property 0.689 acres

Use either the UTM system or latitude/longitude coordinates

Latitude/Longitude Coordinates

Datum if other than WGS84: _____

(enter coordinates to 6 decimal places)

- | | |
|--------------|------------|
| 1. Latitude: | Longitude: |
| 2. Latitude: | Longitude: |
| 3. Latitude: | Longitude: |
| 4. Latitude: | Longitude: |

Or

Cameron Transfer and Storage Company Building
Name of Property

Hennepin County, MN
County and State

UTM References

Datum (indicated on USGS map):

NAD 1927 or NAD 1983

- | | | |
|-------------|-----------------|-------------------|
| 1. Zone: 15 | Easting: 477892 | Northing: 4981565 |
| 2. Zone: | Easting: | Northing: |
| 3. Zone: | Easting: | Northing: |
| 4. Zone: | Easting : | Northing: |

Verbal Boundary Description (Describe the boundaries of the property.)

That part of Lot 1, Block 1, Lofts at 730, Hennepin County, Minnesota lying southeasterly of the northwesterly 79.00 feet measured at right angles to the northwesterly line of said Lot 1 and that part of the southwesterly half of vacated alley dedicated in Block 16, Bradford & Lewis's Addition to Minneapolis, Hennepin County, Minnesota lying between the northeasterly extension of the southeasterly line of said Lot 1 and the northeasterly extension of the southeasterly line of said northwesterly 79.00 feet of Lot 1, Block 1, Lofts at 730.

Boundary Justification (Explain why the boundaries were selected.)

The boundary includes the land that the building and its loading docks have been located on since its construction.

11. Form Prepared By

name/title: Kit Richardson and Maureen Michalsky; Elizabeth Gales,
organization: Schafer Richardson; Hess, Roise and Company
street & number: 901 North Third Street, #218; 100 North First Street
city or town: Minneapolis state: MN zip code: 55401
e-mail: mmichalski@sr-re.com; gales@hessroise.com
telephone: 612 371-3000; 612-338-1987
date: February 17, 2014

Cameron Transfer and Storage Company Building
Name of Property

Hennepin County, MN
County and State

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Additional items:** (Check with the SHPO, TPO, or FPO for any additional items.)

Photographs

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels (minimum), 3000x2000 preferred, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

Cameron Transfer and Storage Company Building
Name of Property

Hennepin County, MN
County and State

Photo Log

Name of Property: Cameron Transfer and Storage Building
City or Vicinity: Minneapolis
County: Hennepin
State: Minnesota
Photographer: Elizabeth Gales
Date Photographed: August 19, 2013

MN_HennepinCounty_CameronTransfer_0001
View to northeast showing (l-r) west and south walls.

Name of Property: Cameron Transfer and Storage Building
City or Vicinity: Minneapolis
County: Hennepin
State: Minnesota
Photographer: Elizabeth Gales
Date Photographed: August 19, 2013

MN_HennepinCounty_CameronTransfer_0002
View to northwest showing (l-r) south and east walls.

Name of Property: Cameron Transfer and Storage Building
City or Vicinity: Minneapolis
County: Hennepin
State: Minnesota
Photographer: Elizabeth Gales
Date Photographed: August 19, 2013

MN_HennepinCounty_CameronTransfer_0003
View to southwest showing (l-r) east and north walls.

Name of Property: Cameron Transfer and Storage Building
City or Vicinity: Minneapolis
County: Hennepin
State: Minnesota
Photographer: Elizabeth Gales
Date Photographed: August 15, 2013

MN_HennepinCounty_CameronTransfer_0004
View to east showing non-historic offices on first floor.

Cameron Transfer and Storage Company Building
Name of Property

Hennepin County, MN
County and State

Name of Property: Cameron Transfer and Storage Building
City or Vicinity: Minneapolis
County: Hennepin
State: Minnesota
Photographer: Elizabeth Gales
Date Photographed: August 15, 2013

MN_HennepinCounty_CameronTransfer_0005

View to south showing storage area and reinforced-concrete structure on first floor.

Name of Property: Cameron Transfer and Storage Building
City or Vicinity: Minneapolis
County: Hennepin
State: Minnesota
Photographer: Elizabeth Gales
Date Photographed: August 15, 2013

MN_HennepinCounty_CameronTransfer_0006

View to north showing storage area and timber structure on second floor.

Name of Property: Cameron Transfer and Storage Building
City or Vicinity: Minneapolis
County: Hennepin
State: Minnesota
Photographer: Elizabeth Gales
Date Photographed: August 15, 2013

MN_HennepinCounty_CameronTransfer_0007

View to northeast showing timber structure and freight elevator shaft and equipment on second floor.

Name of Property: Cameron Transfer and Storage Building
City or Vicinity: Minneapolis
County: Hennepin
State: Minnesota
Photographer: Elizabeth Gales
Date Photographed: August 15, 2013

MN_HennepinCounty_CameronTransfer_0008

View to south showing storage area and reinforced-concrete structure on third floor.

Cameron Transfer and Storage Company Building
Name of Property

Hennepin County, MN
County and State

Name of Property: Cameron Transfer and Storage Building
City or Vicinity: Minneapolis
County: Hennepin
State: Minnesota
Photographer: Elizabeth Gales
Date Photographed: August 15, 2013

MN_HennepinCounty_CameronTransfer_0009

View to north showing storage area and timber structure on fourth floor.

Name of Property: Cameron Transfer and Storage Building
City or Vicinity: Minneapolis
County: Hennepin
State: Minnesota
Photographer: Elizabeth Gales
Date Photographed: August 15, 2013

MN_HennepinCounty_CameronTransfer_0010

View to northeast showing wood staircase on fourth floor.

Name of Property: Cameron Transfer and Storage Building
City or Vicinity: Minneapolis
County: Hennepin
State: Minnesota
Photographer: Elizabeth Gales
Date Photographed: August 15, 2013

MN_HennepinCounty_CameronTransfer_0011

View to south showing storage area and reinforced-concrete structure on fourth floor.

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.

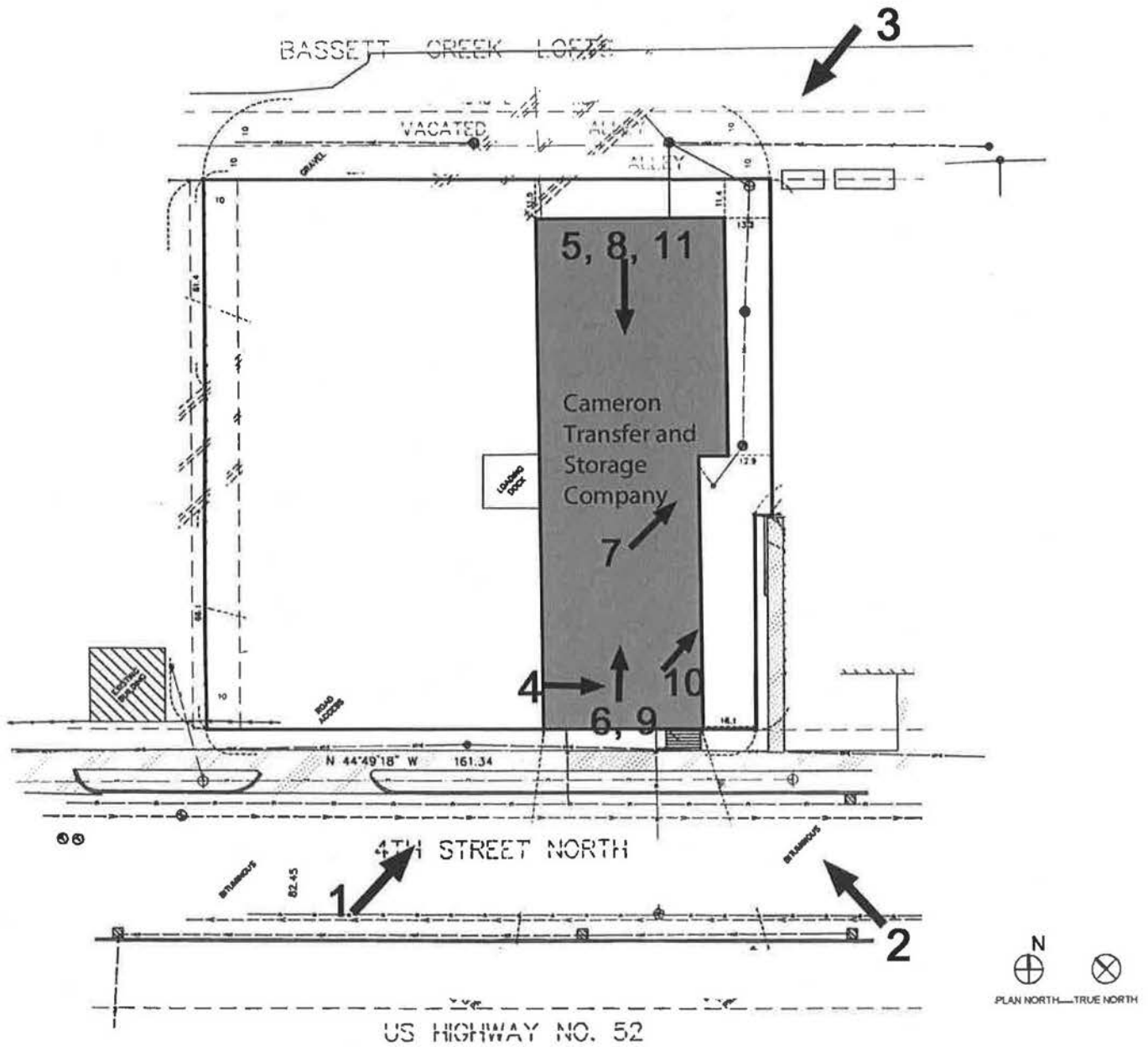
United States Department of the Interior
National Park Service

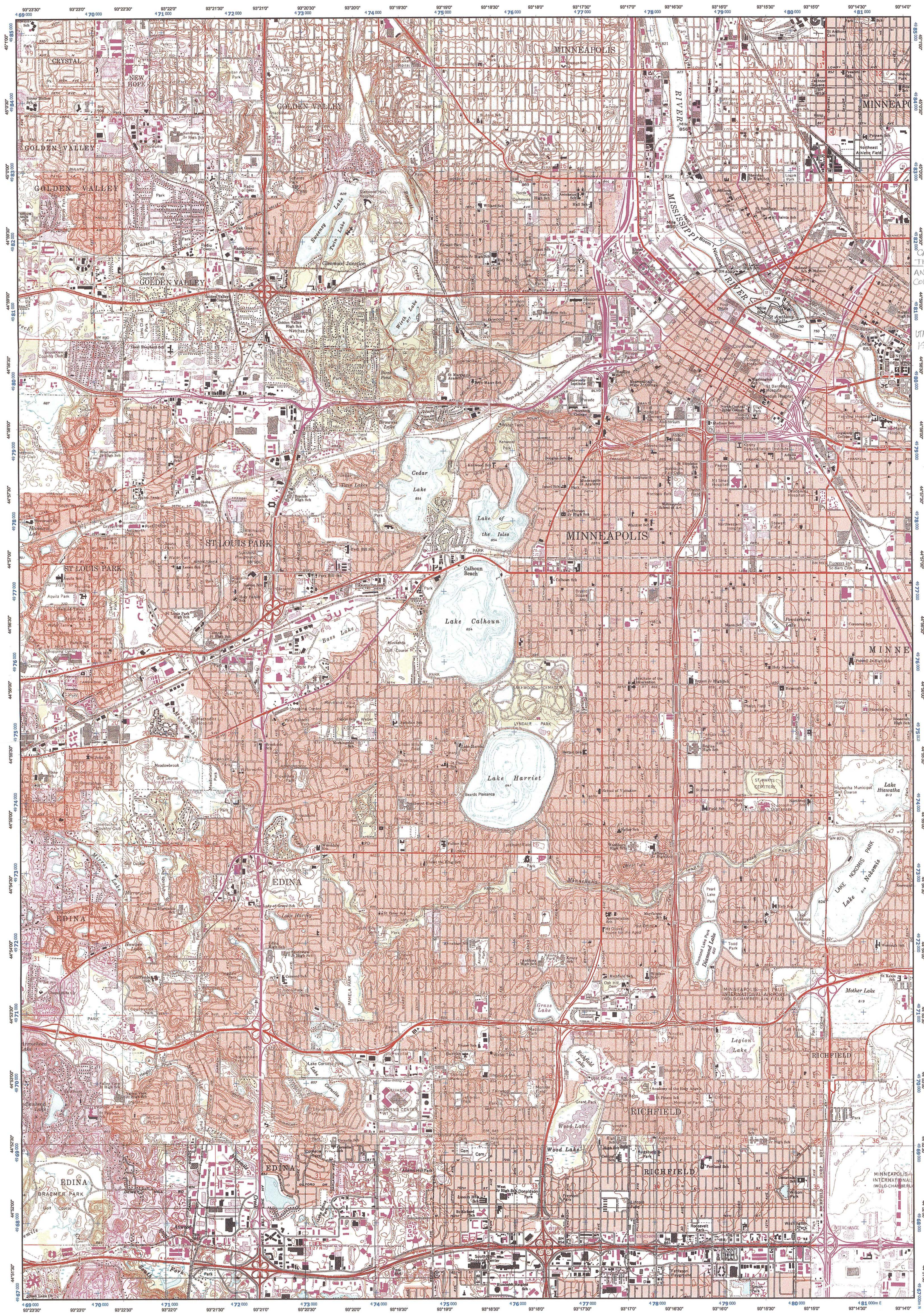
National Register of Historic Places Continuation Sheet

Cameron Transfer and Storage Company Building
Name of Property
Hennepin County, Minnesota
County and State
Name of multiple listing (if applicable)

Section number Sketch Map Page 23

Cameron Transfer and Storage Building Sketch Map





CAMERON
TRANSFER
AND STORAGE
COMPANY
BUILDING
MINNEAPOLIS
HENNEPIN
COUNTY, MN
UTM COORDINATE
15:17:18.2
4981565

Minneapolis South
Enhanced Waterproof USGS Quad

Map ID: 14-0214-5162-01R

mytopo
A TRIMBLE COMPANY
One South County, Suite, 4000, 55101
507.746.9000
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Vicinity Map
Minnesota

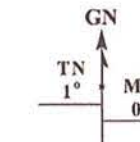


Source Map Information

Index of original USGS topographic map sheets. Source date, contour interval, and map symbology may vary by source map. Please refer to the index the published date of the original map.

1	2	3
4	5	6
7	8	9

ID	Date	Sheet Name (contour int)
1	1992	Oaseo (10 FT)
2	1993	Minneapolis North (10 FT)
3	1999	New Brighton (10 FT)
4	1993	Hopkins (10 FT)
5	1993	Minneapolis South (10 FT)
6	1993	Saint Paul West (10 FT)
7	1993	Eden Prairie (10 FT)
8	1999	Bloomington (10 FT)
9	1993	Saint Paul SW (10 FT)



Magnetic declination of 0° at center of map on February 15, 2014
1:24000 Scale



Universal Transverse Mercator (UTM) Projection Zone 15
North American Datum of 1983 (NAD83)
1000 meter UTM / USNG / MGRS
Grid Zone Designation: 15T
100,000-m Squares: VK



WILSON & STORAGE CO.

DIAL WAREHOUSE



TRANSFER & STORAGE CO.

DIAL WAREHOUSE



GENERAC

















UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

REQUESTED ACTION: NOMINATION

PROPERTY Cameron Transfer and Storage Company Building
NAME:

MULTIPLE
NAME:

STATE & COUNTY: MINNESOTA, Hennepin

DATE RECEIVED: 5/28/14 DATE OF PENDING LIST: 6/20/14
DATE OF 16TH DAY: 7/07/14 DATE OF 45TH DAY: 7/14/14
DATE OF WEEKLY LIST:

REFERENCE NUMBER: 14000390

REASONS FOR REVIEW:

APPEAL: N DATA PROBLEM: N LANDSCAPE: N LESS THAN 50 YEARS: N
OTHER: N PDIL: N PERIOD: N PROGRAM UNAPPROVED: N
REQUEST: N SAMPLE: N SLR DRAFT: N NATIONAL: N

COMMENT WAIVER: N

ACCEPT RETURN REJECT 7/14/14 DATE

ABSTRACT/SUMMARY COMMENTS:

RECOM./CRITERIA C

REVIEWER 

DISCIPLINE Historic

TELEPHONE _____

DATE _____

DOCUMENTATION see attached comments Y/N see attached SLR Y/N

If a nomination is returned to the nominating authority, the nomination is no longer under consideration by the NPS.



Minneapolis
City of Lakes

**Community Planning &
Economic Development**

**Long Range Planning
Division**

105 5th Ave South, Ste 200
Minneapolis MN 55401

Office 612-673-2597
Fax 612-673-2728
TTY 612-673-5154

May 14, 2014

Barbara Howard
Deputy State Historic Preservation Officer
345 Kellogg Blvd. W.
St. Paul, MN 55102

**Re: National Register of Historic Places Nomination – Cameron
Transfer and Storage Building, 756 North 4th Street.**

Dear Ms. Howard,

Thank you for the opportunity to comment on the National Register of Historic Places (NRHP) nomination for Cameron Transfer & Storage Building at 756 North 4th Street. These comments are being submitted as an interested party by staff of the Minneapolis Department of Community Planning and Economic Development (CPED) on behalf of the Minneapolis Heritage Preservation Commission who considered the nomination during a meeting on April 29, 2014. The Commission voted unanimously to move forward the staff recommendation that is outlined here:

Staff recommends the Commission adopt the CPED report, approve the nomination to the National Register of Historic Places, and direct staff to transmit a letter summarizing the report to the State Historic Preservation Officer.

The nomination presents the history of the design and development of the building and the company that commissioned its design, the Cameron Storage and Transfer Company. The nomination provides history of C.A.P. Turner and provides context of the change in structural engineering that surrounded the development of the subject property. The building appears to retain its integrity as discussed in the nomination.

Thank you for the opportunity to comment. Please do not hesitate to contact me if you have any questions or require further clarification.

Sincerely,

Brian Schaffer, AICP
Principal City Planner
105 5th Ave S, Ste. 200
Minneapolis, MN 55401
Direct: (612) 673-2670
brian.schaffer@minneapolismn.gov



Minnesota Historical Society
State Historic Preservation Office
345 Kellogg Blvd West, St. Paul, Minnesota 55102
651/259-3451

TO: Carol Shull, Keeper
National Register of Historic Places

FROM: Denis P. Gardner

DATE: May 21, 2014

NAME OF PROPERTY: Cameron Transfer and Storage Company Building

COUNTY AND STATE: Hennepin County, Minnesota

- SUBJECT:** National Register:
- Nomination
 - Multiple Property Documentation Form
 - Request for determination of eligibility
 - Request for removal (Reference No.)
 - Nomination resubmission
 - Boundary increase/decrease (Reference No.)
 - Additional documentation (Reference No.)

DOCUMENTATION:

- Original National Register of Historic Places Registration Form
- Multiple Property Documentation Form
- Continuation Sheets
- Removal Documentation
- Photographs
- CD w/ image files
- Original USGS Map
- Sketch map(s)
- Correspondence
 - Owner Objection
 - The enclosed owner objections
 - Do Do not constitute a majority of property owners

STAFF COMMENTS: