STATE LEVEL DOCUMENTATION FOR HISTORIC PROPERTIES IN SUPPORT OF A MEMORANDUM OF AGREEMENT BETWEEN U.S. ARMY GARRISON FORT KNOX AND THE KENTUCKY STATE HISTORIC PRESERVATION OFFICER REGARDING THE DEMOLITION OF TWO HISTORIC WATER TOWERS, FORT KNOX, KENTUCKY

USAG Fort Knox
Directorate of Public Works
Environmental Management Division
Cultural Resources Management Office

Contents

1.0 Fort Knox Drinking Water Supply Historic Context

On July 26, 1918, Constructing Quartermaster Major William H. Radcliffe, arrived in Kentucky to begin organizing plans for the construction of a six-brigade artillery camp. Camp Knox, as it became known, is centered in and around the former agricultural community of Stithton, Kentucky. Army standardized plans were used to build most of the World War I mobilization buildings, in keeping with other installations around the country. Water supply infrastructure at Camp Knox; however, was developed by Radcliffe and his staff to account for local conditions, seasonal considerations, and the availability of materiel. As described by Radcliffe (1919), "securing of an adequate water supply for construction purposes was a serious problem…and there was no supply available in the immediate neighborhood outside of a few small springs and wells."

Initially, drinking water was delivered to the camp via train cars (along the Illinois Central Railroad), treated with liquid chlorine, then pumped to temporary tanks throughout the camp using wrought iron pipes laid on the ground surface (Radcliffe 1919). By early September 1918, the Quartermaster Corps had completed a temporary water supply system, sourcing water directly from Otter Creek near its confluence with McCracken Springs Branch, which lies approximately four miles west of Stithton (Radcliffe 1919). The temporary system consisted of a steam driven pump station at Otter Creek, fitted with duplicate pumps and boilers for emergencies, and two wooden tanks atop Indian Hill (later memorialized as Snow Mountain) with a combined capacity of 400,000 gallons. Water was supplied to the cantonment for construction purposes via an eight-inch wrought iron main. In total, approximately ten miles of temporary water mains comprised this system. Except for the water mains from the steam pumps to and across Indian Hill, all were laid on the ground surface (Radcliffe 1919). Radcliffe (1919) does not account for the number of personnel and livestock served by the temporary system; however, it is assumed to have been less than that served by the permanent system which was completed nearly a year later.

By late June 1919, ten months after the temporary system came online, the entire camp began receiving drinking water from the permanent system. The permanent system incorporated portions of the temporary infrastructure, used the same water source, and followed relatively the same process. The first leg of the permanent system included a concrete intake dam, larger pumping station, and small concrete suction pool dam, all located on Otter Creek at its confluence with McCracken Springs Branch. At this location, Otter Creek met the estimated maximum water demands of the camp, even at minimum flow (Radcliffe 1919). The permanent pump house contained three electric pumps, with fail-safe measures in the event of individual component failure. Water pulled from Otter Creek was then pumped to two settling tanks at a filter plant, each with a capacity of 200,000 gallons. After filtering, water was pumped to a 200,000-gallon capacity clearwell. Radcliffe (1919) noted the construction of the filter plant "embodies many features" of modern filtering systems and was "completely sealed from any contamination from outside sources." After leaving the clearwell, water was pumped to a booster pumping station immediately adjacent to the filter station. From there, water was pumped to four wooden tanks atop Indian Hill, each with a 200,000-gallon capacity. Two of the four tanks were initially erected as part of the temporary system. As with the temporary system, the permanent system relied on gravity to move water from the wooden tanks through wrought iron pipes to the camp.

Each step in the permanent system was designed with redundancies to ensure uninterrupted service throughout the camp. Radcliffe (1919) notes the total population served as 53,580 people and 17,500 horses. The average per capita consumption was estimated at 55 gallons (Radcliffe 1919). In total, the permanent system could supply the camp at a total rate of 8.6 million gallons per day. The system was also designed to account for a fire service demand of 2,000 gallons per minute at the most distant parts of the system. It is possible buried portions of the temporary and permanent systems remain extant; however, none of the above ground infrastructure associated with these systems remain.

By the mid-1920s, the permanent system was nearing the end of its life cycle. Additionally, water obtained from Otter Creek proved problematic for the long term. The inclusion of filtration and purification infrastructure was necessary due to pollution from nearby villages. Further complicating the use of this water source, a nearby mill owner claimed damages from the government due to the diversion of water. Consequently, another location was sought for a higher quality, more cost-effective water supply. Ultimately, Camp Knox selected Sanders Springs, which was located closer to the main cantonment and required no filtering or treatment. The improvements accomplished during this time are primarily related to the poor condition of the system, rather than an increase in population. Training activities were reduced during the 1920s, so much so that from 1925 to 1928 the camp was designated "Camp Henry Knox National Forest" by executive order.

In 1926, Camp Knox received $6,130 to purchase a 75-acre parcel surrounding Sanders Springs and a downstream portion of its deeply incised valley, as well as a right of way to pipe water into the cantonment (Second Deficiency Appropriation Bill 1926). Within this parcel, the Army constructed two dams, a filtration plant, and operator's quarters downslope, below the springs. At the top of the slope, the Army constructed a garage and a cable railway used to transport personnel/materials up and down the steep slope. As a disarticulated landholding, this parcel was likely only used for water system infrastructure and did not host training exercises during the 1920s and 1930s.

Concurrent with the purchase of the 75-acre Sanders Springs parcel, additional funding sources were used to build new associated infrastructure, which included Water Tower 1190 (Water Tower #1). The earliest illustration of this water tank, known as Water Tower 1190, appears on a June 1927 water atlas map for Camp Knox and was likely constructed the previous year (circa 1926). As discussed above, the construction of this tower occurred at a time when the Camp Knox drinking water and sewage systems were undergoing large-scale improvements (The Courier Journal [C-J], 3 August 1927:1). These improvements were implemented using the latest in civil water system design, including the use of modern components (e.g., tanks and piping).

The Army abandoned its infrastructure at Sander Springs in the 1930s and in 1955, sold a 26-acre portion of the disarticulated parcel (containing the infrastructure) to the City of Radcliff (Radcliff/Ft. Knox Tourism & Convention Commission [RFKTCC] 2023). Until 1986, the city operated the springs to fulfill their drinking water supply needs. In the 1990s, the city began to develop the property into the "Saunders" Springs Nature Preserve. Of the Army constructed infrastructure, RFKTCC (2023) states only the garage, an operations building, and a storage tank remain. Because the parcel is no longer part of the installation, the infrastructure contained within has not been surveyed to document the presence/absence of 1920s era Army infrastructure.

In 1931 the Army chose Camp Knox as headquarters for the Mechanized Cavalry and subsequently made it a permanent installation on January 1, 1932. As part of its new mission, the recently renamed Fort Knox constructed permanent housing, training, administrative, and other facilities to support the influx of soldiers, their families, and civilian employees. In 1935, the War Department requested funding from the Works Relief administration for projects, which included construction of a new water supply system (C-J, 23 June 1935:8). In November of that year, the Public Works Administration (PWA) allocated $510,000 to the Army to improve this system (C-J, 15 November 1935:17). The completion report documenting these upgrades indicates Fort Knox moved its primary drinking water operations back to Otter Creek/McCracken Branch Springs. As part of this move, Fort Knox constructed a new dam, pump station, filtration plant, and a second water tower. The new water tower, Water Tower 1191 (Water Tower #2), was constructed adjacent to Water Tower 1190 and completed by November 30, 1936. The Pittsburgh-Des Moines Steel Co. (Pittsburgh, PA) supplied all structural/tank steel for this project and served as the contractor for the tower's construction (Sciple 1936). Sciple (1936) describes construction methods used for the dam and pump station as "standard"; however, he states the tower's construction was "particularly

worthy of note". Specifically, Sciple (1936) states the Pittsburgh-Des Moines Steel Co. utilized their patented "center pole" construction method, describing it thus:

> "…a long sectional steel pole was used, anchored first in a vertical position with the butt resting in a cradle on the ground in the center of the circle of column footings. Using the cradle, or basket, mounting, the pole was tipped from the vertical by adjusting guys to lower the hoisted steel into the exact position desired. Then as the structure arose, the butt of the pole was raised stage by stage by lifting the cradle housing it and guying the cradle to the rising steelwork. Thus, the tip of the pole was always kept well above the work in just the position needed."

In the early 1940s, Fort Knox further expanded its water supply capabilities with the construction of two 500,000-gallon elevated steel tank water towers, Water Towers #3 and #4 (Water Towers 7101 and 2911, respectively). These towers were constructed in areas containing large barracks and administrative developments which supported the Army's World War II (WWII) mobilization efforts. Hardenbergh (1946) notes that by the end of WWII, the Army had constructed more than a thousand drinking water systems in the United States. He goes on to note one of the problems faced in building and operating these systems was "the decentralization and dispersal of authority characteristic of and probably essential to the Army" (Hardenbergh 1946). This statement underscores the problems faced by Radcliffe (1919) and reinforces the idea that individual camps/forts developed their drinking water systems in relative isolation, which stands in contrast to the Army's standardized building programs since at least World War I. During WWII, Hardenbergh directed the Sanitary Engineering Division of the Army Surgeon General's office., making him uniquely qualified to offer an "after action review" of the Army's successes and failures in the arena of drinking water systems. In light of his experience, Hardenbergh (1946) suggested Army planner/engineers should "establish a close working relationship" with the civil "water works industry" in order to bring Army systems up to date and ensure continued improvement.

In June of 1953, Fort Knox moved its water source one final time to keep up with demand and modernize the system. Through eminent domain, Fort Knox obtained a "perpetual and assignable easement and right of way" for the purposes of constructing and maintaining drinking water wells along the banks of the Ohio River in Hardin County, just west of the town of West Point. To this day, Fort Knox receives its drinking water from these wells; however, the Otter Creek/McCracken Branch Springs source is still available should circumstances require. The 1930s era infrastructure sited along the creek, including the dam and pump station are extant, though nonfunctioning at this time.

The design of Fort Knox's drinking water system appears to have remained relatively unchanged from the 1960s to the early 2000s. The most significant change during this period was the Army's push to privatize much of its utilities. In line with this effort, Fort Knox entered a public-private partnership with Hardin County Water District 1 in 2011. Assessments of the overall system and its components were accomplished over the next several years. A 2019 Environmental Assessment (EA) authored by Stantec Consulting Services, Inc. identified deficiencies in the water system and proposed 15 improvement projects to bring the system up to current health and safety codes and increase system pressure. The Army received approval to implement all 15 proposed improvements later that year, which included disabling all extant water towers from the system (including Water Towers 1190 and 1191) and constructing two new water towers (both outside the Fort Knox Cantonment Historic District and its viewshed). After the completion of the new water towers, Fort Knox proposed Water Towers 1190 and 1191 be demolished because they no longer served their intended function and were expensive to maintain. The Kentucky Heritage Council (KHC) concurred with Fort Knox's determination of Adverse Effect for the proposed demolition of these towers. Thereafter, Fort Knox initiated consultation according to Section 106 of the National Historic Preservation Act (under 36 CFR 800) for the development of a Memorandum of Agreement (MOA) designed to resolve the Adverse Effects related to the proposed demolition.

2.0 Description of Water Towers 1190 & 1191

Name(s)/IDs: Water Tower 1190 - Water Tank No. 1, Water Tower #1, KHC No. HD-1153
Water Tower 1191 - Water Tank No. 2, Water Tower #2, KHC No. HD-992

Location: United States Army Garrison Fort Knox, Kentucky
Fort Knox, Kentucky USGS 7.5-minute topographic quadrangle
Water Tower 1190 - UTM Coordinate 16N e591826 n4194300
Water Tower 1191 - UTM Coordinate 16N e591804 n4194326

Date of Construction: Water Tower 1190 - circa 1927
Water Tower 1191 - 1936

Funding: Water Tower 1190 - Second Deficiency Appropriation Bill 1926
Water Tower 1191 - Public Works Administration 1935

Designer: Water Tower 1190 - Unknown
Water Tower 1191 - Pittsburgh- Des Moines Steel Co.

Contractor: Water Tower 1190 - Unknown
Water Tower 1191 - Unknown

Current Owner: United States Army Garrison Fort Knox, Kentucky

Current Use: Water Tower 1190 - former water tower, abandoned in place
Water Tower 1191 - former water tower, abandoned in place

Project Information: USAG Fort Knox, Kentucky has upgraded its drinking water supply system, which resulted the abandonment (in place) of two historic properties, Water Towers 1190 and 1191. In 1995, USAG Fort Knox determined Water Towers 1190 and 1191 contributing historic properties to the National Register of Historic Places (NRHP) eligible Fort Knox Cantonment Historic District. These two towers no longer function as water towers and USAG was not able to develop an adaptive reuse plan for their future use. Therefore, USAG Fort Knox and the Kentucky Heritage Council (KHC) developed a Memorandum of Agreement (MOA) to guide the architectural documentation of these historic properties prior to demolition. This document and its appendices (A-C) fulfill Stipulation I(A) of the MOA. Specifically, this document meets KHC guidelines set forth in *State Level Documentation for Historic Properties*.

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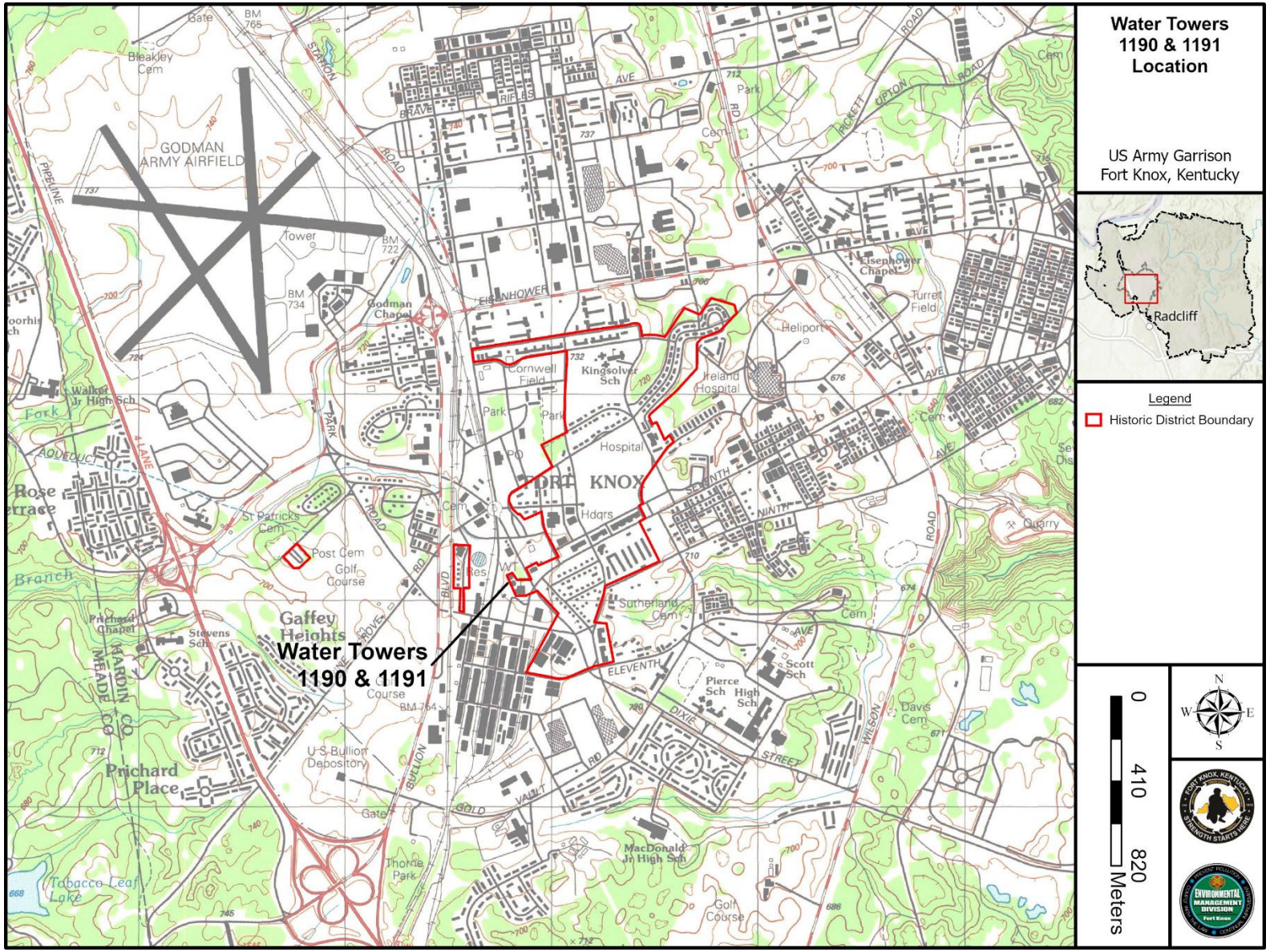

Figure 1. 1991 *Fort Knox, Kentucky* USGS 7.5-minute topographic quadrangle, illustrating location of Water Towers 1190 & 1191

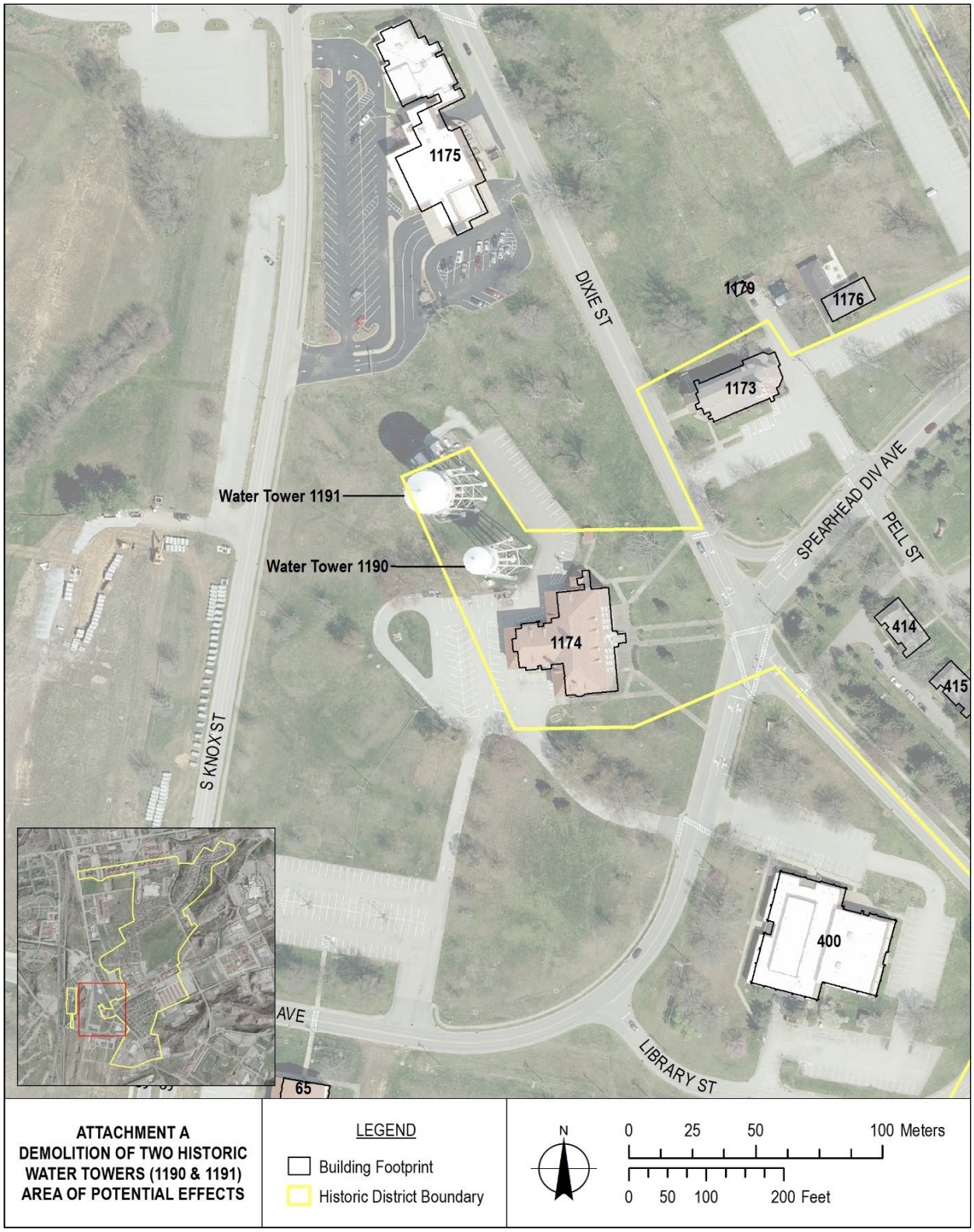

Figure 2. 2020 aerial imagery illustrating location of Water Towers 1190 &1191 (from MOA)

2.1 Setting

Water Towers 1190 and 1191 are situated adjacent to one another within the Fort Knox Cantonment Historic District, USAG Fort Knox, Kentucky (see Figure 1). These towers are located immediately northwest of Building 1174 (Briscoe Hall), between Dixie Street and S Knox Street. Abound Federal Credit Union (Building 1175) lies immediately north of the towers. The area at the base of the towers contains supporting infrastructure (communications equipment and emergency generators) and the surrounding area consists of maintained lawns and parking lots.

Due to their height and prominent location, the water towers have served as a wayfinder for newcomers and longtime residents alike. Notably, the 1964 Metro-Goldwyn-Mayer (MGM) James Bond film *Goldfinger* includes a shot of the water towers, visible in their historic red and white check pattern. Sometime prior to 2004, both towers were painted solid white and emblazoned with several Army logos/insignia.

2.2 Water Tower 1190

Constructed circa 1927, Water Tower 1190 (KHC No. HD-1153) is among the oldest structures within Fort Knox built exclusively in support of the Army. This elevated water tank stands approximately 126.6 ft. high and has a capacity of 200,000-gallons. For many years, and on some current inventory lists, Water Tower 1190 is designated "Water Tank No. 1". The design of this tower is often referred to as a "tin man," which could be constructed at reduced costs (and weight) compared to earlier tower or standpipe designs (Dubie 1980).

2.2.1 Substructure

The elevated water tank associated with Water Tower 1190 sits atop six lattice channel columns, braced with two sets of circumferential support beams and crossed windage rods within each of the 18 panels created by the support columns and circumferential beams. The lattice channel columns are anchored to concrete footers, which are installed to an unknown depth. Each support column attaches to the elevated tank via a tie beam, which are riveted directly to the tank just above the top edge of the hemispherical bottom.

A caged safety ladder ascends the southernmost vertical support column, terminating at a circumferential balcony with latticed handrail. The balcony is constructed of an approximately 29-inch (in.) wide, 0.25-in. thick checkered metal plate with two rows of evenly space drain holes. The safety railing measures approximately 42 in. tall. A separate caged safety ladder ascends the side of the elevated tank, terminating at the lower edge of the tank's conical roof.

2.2.2 Superstructure

The elevated tank has a hemispherical bottom measuring 16 feet (ft.) tall with a diameter of approximately 38 ft. Inlet and outlet pipes penetrate the bottom of the tank at its center and are covered in a protective metal sleeve. The upper, straight-sided cylindrical portion of the tank measures approximately 23 ft., 6 in. tall and is capped with a conical, 12 ft. tall roof. All portions of the tank, from the hemispherical bottom to the roof, are constructed of riveted metal panels. The conical roof was replaced, seemingly in-kind, circa 1985. Obstruction lighting is installed atop the conical roofs of this tower. A later addition to this tower, circa 1994, includes the attachment of telemetry equipment.

In the 1960s, while painted in red and white check, Water Tower 1190 was identified with a large number "1" painted on the east facing side of the tank. Sometime between 2004 and 2005, Fort Knox began to add Army logos/insignia to the elevated tank of Water Tower 1190. Currently, these include 1) the Army's official logo, 2) insignia of the United States Army Installation Management Command

(IMCOM), and 3) the insignia of the 84th Training Command, the Railsplitters. It is likely other embellishments were added to this tower over the years; however, at this time, those mentioned above are the only ones documented.

2.3 Water Tower 1191

Water Tower 1191 (KHC No. HD-992) was constructed in 1937, stands approximately 126.5 ft., and has a capacity of 500,000 gallons. For many years, and on some current inventory lists, Water Tower 1191 is designated "Water Tank No. 2". The design of this tower is often referred to as a "tin man," which could be constructed at reduced costs (and weight) compared to earlier tower or standpipe designs (Dubie 1980).

2.3.1 Substructure

The elevated water tank associated with Water Tower 1191 sits atop ten lattice channel columns, braced with two sets of circumferential support beams and crossed windage rods within each of the 30 panels created by the support columns and circumferential beams. The lattice channel columns are anchored to concrete footers, which are installed to an unknown depth. Each support column attaches to the elevated tank via a tie beam, which are riveted directly to the tank just above the top edge of the elliptical bottom.

A caged safety ladder ascends one of the westernmost vertical support columns, terminating at a circumferential balcony with latticed handrail. The balcony is constructed of an approximately 29-in. wide, 0.25-in. thick checkered metal plate with two rows of evenly space drain holes. The safety railing measures approximately 42 in. tall. A separate caged safety ladder ascends the side of the elevated tank, terminating at the lower edge of the tank's conical roof.

2.3.2 Superstructure

The elevated tank has an elliptical bottom measuring 16 ft. tall with a diameter of approximately 38 ft. Inlet and outlet pipes penetrate the bottom of the tank at its center and are covered in a protective metal sleeve. The upper, straight-sided cylindrical portion of the tank measures approximately 23 ft, 6 in tall and is capped with a conical, 12 ft. tall roof. All portions of the tank, from the elliptical bottom to the roof, are constructed of riveted metal panels. The conical roof was replaced, seemingly in-kind, circa 1985. Obstruction lighting is installed atop the conical roofs of this tower. Later additions to this tower include the attachment of telemetry equipment (circa 1994) and cellular antenna (prior to 2004).

In the 1960s, while painted in red and white check, Water Tower 1191 was identified with a large number "2" painted on the east facing side of the tank. Additionally, the west facing side of the tank was emblazoned with the U.S. Army Armor School insignia. Sometime between 2004 and 2005, Fort Knox began to add Army insignia to the elevated tank of Water Tower 1191. Currently, these include those of 1) U.S. Army Recruiting Command, 2) U.S. Army Cadet Command, 3) U.S. Army Human Resources Command, in addition to the previously painted 4) U.S. Army Armor School insignia. It is likely other embellishments were added to this tower over the years; however, at this time, those mentioned above are the only ones documented.

3.0 Statement of Significance

The first architectural evaluations of Water Towers 1190 and 1991 were included in a 1995 report entitled *Inventory, Evaluation, and Nomination of Military Installations: Fort Knox, Kentucky* (Gradine, et al. 1991). In consultation with the KHC at that time, Fort Knox determined the water towers contributing structures to the NRHP eligible Fort Knox Cantonment Historic District. Fort Knox was the primary site for the development of armored warfare for the U.S. Cavalry during the 1930s and played a critical role in training military personnel for tank warfare during World War II (Criteria A). Furthermore, buildings and structures within the cantonment embody the distinctive characteristics of permanent Army construction during the inter-war period (Criterion C). To this day, the buildings, structures, and overall installation plan form a cohesive district.

As stated above, Water Tower 1190 is one of the earliest structures built solely in support of the Army. The construction of Water Tower 1191 followed nearly a decade later in support of system-wide improvements needed to expand water supply capabilities within the quickly growing cantonment. Despite their current appearance, Water Towers 1190 and 1191 maintain their integrity of design, setting, materials, location, and workmanship. As such, they are contributing elements to the NRHP eligible Fort Knox Cantonment Historic District.

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APPENDIX A:
KHC Site Survey Forms for Water Towers 1190 & 1191

KENTUCKY HISTORIC PROPERTIES SURVEY FORM 2017-1

SHPO EVALUATION

COUNTY: Hardin
RESOURCE NUMBER: HD 1153
EVALUATION: N / Eligible Member of a Group
CONDITION: F / Fair - Undermaintained

1. **NAME OF RESOURCE**: Water Tank No. 1
   Water Tower 1190, Water Tank 1190, Facility 1190
   How Determined: 7 / Accepted professional, scientific, or technical name
2. **ADDRESS/LOCATION**:
   Dixie Street
   Fort Knox, Kentucky 40121
   OWNER CONTACT (if known): U.S. Army Garrison at Fort Knox, Kentucky 40121-5000
3. **GEOGRAPHIC DATA**:
   Quad: Fort Knox **Date:** 2013
   Lat: 37.891585 **Long:** -85.955689
4. **FIELD RECORDER/AFFILIATION:**
   Matthew D. Rector/ ERG, LLC-Contractor for Fort Knox Cultural Resources Office-EMD, DPW
5. **DATE RECORDED:** April 2021
6. **SPONSOR/INITIATION:** 5 / Other
   Sponsor Name: U.S. Army Garrison Fort Knox
7. **PREVIOUSLY RECORDED:** 0 / Not Previously Recorded
8. **REPORT/NR REFERENCE:** Inventory, Evaluation and Nomination of Military Installations: Fort Knox, Kentucky. Goodwin and Associates, Inc. 1995
9. **ORIGINAL PRIMARY FUNCTION:**
   13H: Military Other 200,000 water tank
10. **CURRENT PRIMARY FUNCTION:**
    13H: Military Other 200,000 water tank
11. **ORIGINAL CONSTRUCTION DATE:**
    Estimated: _____
    Documented: ca. 1927
12. **MAJOR ADDITIONS/MODIFICATION (specify):**
    _____ Choose One
13. **MODIFICATION ASSESSMENT**:
    1 / Little to no alteration
14. **CONSTRUCTION METHOD AND MATERIAL**:
    Original/Primary (if known): M1 / Metal
    Subsequent/Secondary (if known): _____
    Other:
15. **EXTERIOR WALL CLADDING:**
    Original (if known): **Q: metal**
    Current: **Q: metal**
16. **DIMENSIONS: 200,000 gallons**
    Height: F / More than 3 stories 126.6' high
17. **ARCHITECTURAL FORM/SHAPE:** E / Other (specify)
18. **ARCHITECTURAL TYPE (choose from applicable list(s)):**
    Type: Choose One
    Other: U / Undetermined/not applicable
19. **ARCHITECTURAL STYLE (choose from applicable list(s)):** Standard 200,000 gallon steel water tank
    Style: _____
    Other: U / Undetermined/not applicable
20. **FOUNDATION WALLS:**
    Type: 2 / Continuous
    Material: R / Poured Concrete
21. **ROOFING**
    Configuration: S / Other (specify) conical cover
    Roof Covering: 8 / Other (specify) metal
22. **ARCHITECT/BUILDER (if known)**:
23. **WINDOWS**: ☐ Original ☐ Replacement
    Current Material: Choose One N/A
    Sash Operation: _____
    Glazing Pattern:
24. **NUMBER OF SUPPORT RESOURCES:**
    _____
    (If yes, complete #27 and #28 below)
25. **COMMENTS/HISTORICAL INFORMATION**
    (Complete on Continuation Sheet)
26. **PHOTO** (Place Additional Photos below under 26 cont'd)

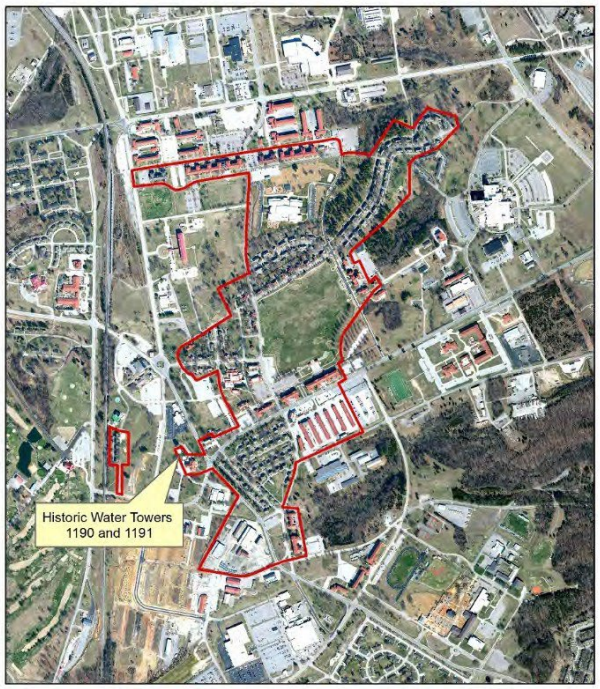
SHPO Review Date _____ SHPO Data Entry Date _____

27. SUPPORT RESOURCES:

SITE PLAN KEY	NAME OF RESOURCE	FUNCTION	CONSTRUCTION DATE	METHOD/MATERIAL

28. SITE PLAN (Complete if #24 was answered or if you are using sub-numbers):

29. MAP (Scan or attach copy of map showing exact location of resources):



Fort Knox, Kentucky
2017 Aerial Photograph
1:15,000

N

0 0.175 0.35 0.7 Miles

0 285 570 1,140 Meters

Legend
Historic District Boundary

Fort Knox, Kentucky
2017 Aerial Photograph
1:1,500

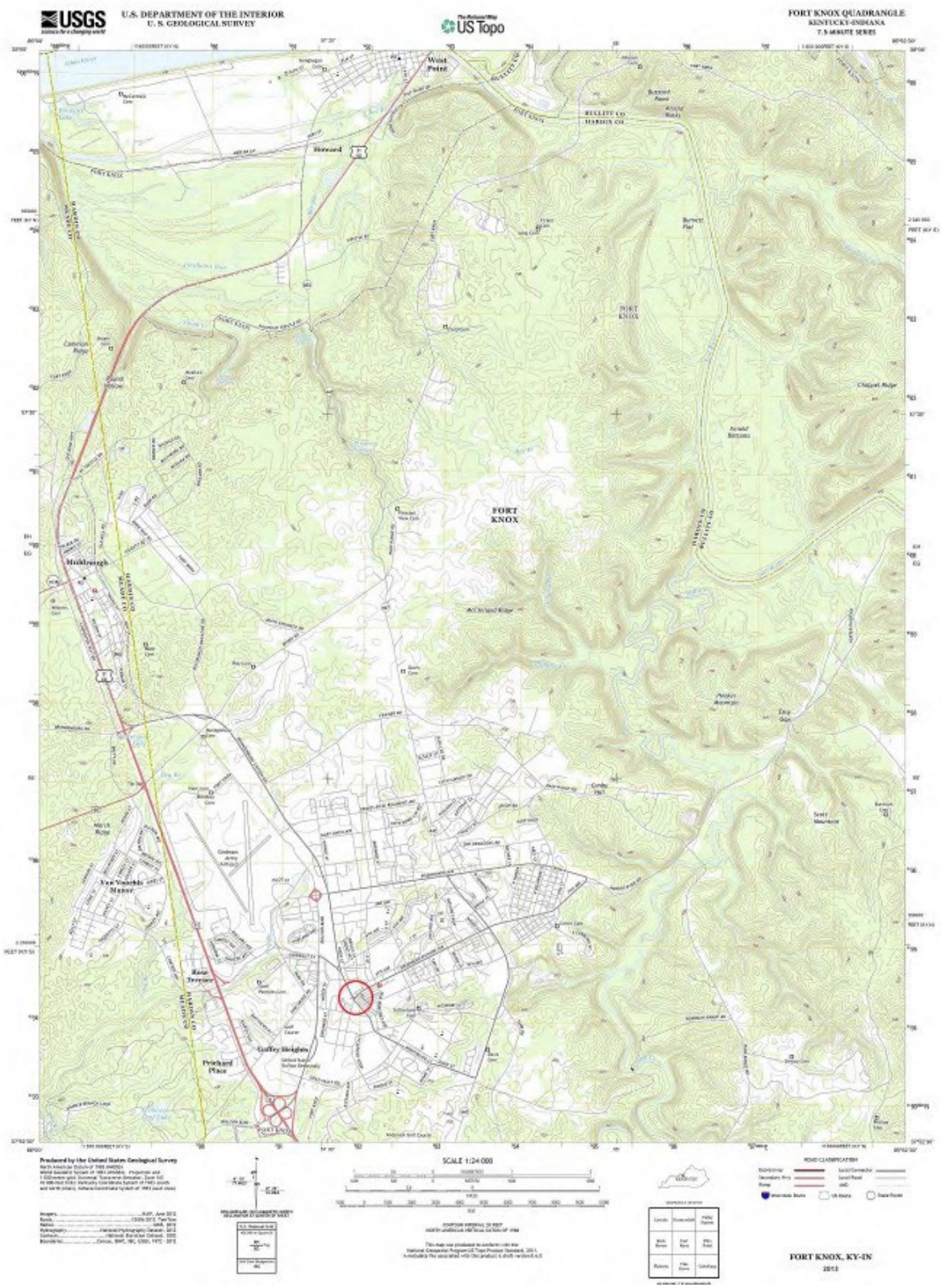
N

0 0.0175 0.035 0.07 Miles

0 25 50 100 Meters

Legend
Historic District Boundary

29. MAP (Scan or attach copy of map showing exact location of resources):



2013 USGS Fort Knox Quadrangle Map. Building location is indicated by a red circle.

25. (continued) COMMENTS/HISTORICAL INFORMATION:

Description:

Constructed in ca. 1927, Water Tower 1190 is among the oldest structures on post built to support the Army. This elevated water tank is approximately 75 ft. high and has the capacity to hold 200,000 gallons.

The tank has an ellipsoidal bottom and has a standard conical cover. The cylindrical portion of the tank mass is constructed of riveted metal supported on a riveted metal frame with six legs, inter-braced and tied. One leg of the frame has an enclosed access ladder that leads to a walkway/balcony that surrounds the tank. The access continues to the top of the roofline. A protective railing surrounds the walkway. The roof was replaced on the water tower in 1985.

History:

Camp Knox was established in 1918 as an artillery training installation. The initial construction of Army facilities centered in areas in and around the agricultural community of Stithton, Kentucky. Standardized plans were used to build most of these World War I mobilization buildings and identical buildings could be found on other installations around the country. During the development of Camp Knox, the installation's Constructing Quartermaster, Major William H. Radcliffe, utilized Indian Hill for water reservoir purposes. The camp initially received its water supply from Otter Creek, where water was taken at its junction with McCracken Springs. Water was pumped to a filtration plant and sent to wooden tanks located on Indian Hill. The tanks had a combined capacity of 800,000 gallons storage. From there gravity delivered water to the camp through water mains. Not long after two concrete reservoirs with a capacity of 2,600,000 gallons replaced the wooden tanks (Radcliffe 1919).

In 1921 it was announced that Camp Knox would be used as an active training center for the Reserve Officer Training Camp (ROTC) for artillery and infantry students in the Fourth and Fifth Corps Areas, the Citizens' Military Training Camp (CMTC), and by the National Guard. By 1922 Camp Knox had become the second largest Army training center in the United States. That summer, however, the artillery officers' "basic school" at Camp Knox moved to Fort Sill, Oklahoma and it was deemed necessary to close the post as a permanent installation in 1922. Although closed as a permanent installation, Camp Knox remained an active training center by the 5th Corps Area for the Army (The Courier-Journal [C-J], 17 October 1922: 1).

The water supply obtained from Otter Creek proved to be problematic for the long term. The water, which was prone to pollution from nearby villages, had to be treated through filtration and purification. The infrastructure used to bring the water five miles to the cantonment was also nearing the end of its life-cycle. In addition, a nearby mill owner claimed damages from the government due to the diversion of water. As a result, other locations were sought for a better and more cost-effective solution. Saunders Springs, located closer to the main cantonment, offered water that required no filtering or treatment. In 1926, Camp Knox was allocated money to purchase seventy-five acres to obtain the springs and right of way to bring the water to post. Additional funding was used to build a new pumping station and associated infrastructure (Second Deficiency Appropriation Bill 1926).

Water Tower 1190 is found on a June 1927 water atlas map for Camp Knox (Camp Knox Water Atlas 1927). While a definite construction date hasn't been discovered, its presence on the map occurs at a time when the Camp Knox waterworks and sewage system was undergoing upgrades and improvement (C-J, 3 August 1927: 1). It is approximately 75 ft. high and has the capacity to hold 200,000 gallons. It was initially built across the former St. Patrick's Church, which was used as an auditorium and place of worship after government acquisition in1918.

Camp Knox was chosen to be the new headquarters for the Mechanized Cavalry in 1931. The size and terrain of Camp Knox made this a suitable area for such training. On January 1, 1932, Camp Knox was made a permanent installation once again and since then has been known as Fort Knox.

25. (continued) COMMENTS/HISTORICAL INFORMATION:

To support the newly organized Mechanized Cavalry, Fort Knox was required to construct housing and support facilities. This occurred in two phases during the 1930s and into the early 1940s. The buildings were originally funded as part of a ten-year, nationwide Army construction program, enacted in 1926, to improve living conditions for Army personnel. During the 1930s, additional funding was made available from the national Industrial Recovery Act of 1933 and from the Work Relief and public Works Appropriation Act of 1938. The Quartermaster Corps coordinated the construction program, and supplied standardized drawings for barracks and other buildings, which employed the Georgian Colonial Revival architectural style. Designed by the Quartermaster Corps, most of these buildings comprise today's Fort Knox Historic District (Grandine et al. 1995).

The constructing quartermaster at Fort Knox during the first phase of permanent construction in the early 1930s was Captain John A. Gilman. Gilman previously supervised other notable construction projects, including: the Tomb of the Unknown Soldier and its approach at Arlington Cemetery and the Kitty Hawk Memorial in North Carolina (The Owensboro Messenger, 30 July 1942: 9). In September 1935, Captain Gilman was transferred to the United States Military Academy at West Point, New York to supervise their construction program (C-J, 14 September 1935: 22). A number of officers succeeded Gilman as constructing quartermaster during a brief period of time.

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Residential houses left over from the town of Stithton can be viewed in early photographs of the water towers. The Army retained the use of these houses and continued to utilize them into the 1940s and 1950s. The only remaining prominent structure from the town is the post chapel and is located northeast across the street from the water towers. For many years, and on some current inventory lists, Water Tower 1191 was known as "Water Tank No. 2" and Water Tower 1190 as "Water Tank No. 1."

In June 1937 Lieutenant Colonel Wilmot A. Danielson was assigned the position and would direct a $5,000,000 construction program during a second phase of permanent construction at Fort Knox (C-J, 17 September 1939: 10). Between 1938 and 1939, the original cantonment was expanded with 120 additional permanent buildings. Additional barracks and housing were constructed. In 1939 the Fort Knox School, now the Education Center, was constructed directly south of the water towers. In 1940, the Army established the Armored Force, later transforming into the Armored Center, and was responsible for establishing armored formations, doctrine, and training in the use of armored vehicles. At the Armored Force Replacement Training Center soldiers received basic training. During this build-up to United States involvement in the Second World War, Fort Knox experienced an influx of construction.

The Cold War that followed the Second World War helped secure the Armor Branch's role in the Army and the Armor Center continued to fulfill the role of producing capable and highly trained armor personnel. Under the Army Organization Act of 1950 armor and cavalry were combined to form the Armor Branch. The mid-1950s was a time of great transformation at Fort Knox. Changes of Command took place and a new construction boom occurred on post which brought additional barracks, motor pools, housing, schools, and chapels.

In 1955 the ARTC was activated to resume training and the following year the 3rd Armored Division, which had been on post since 1947, was shipped to Europe. The Armored Replacement Training Center was given the

25. (continued) COMMENTS/HISTORICAL INFORMATION:
new name U.S. Army Training Center, Armor (USATCA), and comprised approximately half of the population at Fort Knox (Smith 1956).

The water towers make a brief appearance in the 1964 Metro-Goldwyn-Mayer (MGM) film *Goldfinger*.

The first known architectural evaluation of Water Tower 1190 was included in the 1995 report, "Inventory, Evaluation, and Nomination of Military Installations: Fort Knox, Kentucky" by Katherine Grandine, Leo Hirrel, Deborah Cannon, and Hampton Tucker (R. Christopher Goodwin and Associates, Inc., May 1995). At that time, in consultation with the Kentucky Heritage Council, it was included as a contributing building to the National Register of Historic Places eligible Fort Knox Cantonment Historic District. (Grandine et al. 1995).

Due to their height, they have been used to help newcomers navigate the cantonment area. Water Tower 1190 and its neighbor, Water Tower 1191, continued to be used to supply water to areas of Fort Knox until 2020, when larger water towers were constructed.

Water Tower 1190 was assigned Kentucky Survey Site Number HD 1153 in April 2021.

Significance:
Water tower 1190 is located within the boundaries of and contributes to the Fort Knox Cantonment Historic District. It maintains its integrity of design, setting, materials, and workmanship. In 1995 it was determined that the Historic District was eligible for the National Register of Historic Places (NRHP) under Criteria A and C. Fort Knox was the primary site for the development of armored warfare for the U.S. Cavalry during the 1930s and played a critical role in training military personnel for tank warfare during World War II (Criteria A). The permanent cantonment at Fort Knox embodies the distinctive characteristics of the permanent Army construction during the inter-war period (Criterion C). The buildings and installation plan form a cohesive district linked by the use of the Georgian Colonial Revival architecture style, similar construction materials, and setting.

References:

Grandine, Katherine, Leo Hirrel, Deborah Cannan and Hampton Tucker.
1995 *Inventory, Evaluation and Nomination of Military Installations: Fort Knox, Kentucky*. R. Christopher Goodwin and Associates, Inc., Frederick, MD.

Radcliffe, W. H.
1919 *Completion Report Camp Knox, Kentucky*. Constructing Division of the Army.

Second Deficiency Appropriation Bill, 1926
1926 Hearing before Subcommittee of House Committee on Appropriations. Government Printing Office, Washington.

Sciple, Carl M.
1936 *Water Tank, Dam, and Otter Creek Pumping Station (Contract No. W 6313 qm-36).* Completion Report. Office of the Constructing Quartermaster; Fort Knox, Kentucky. Copy available from Fort Knox Directorate of Public Works, Master Planning.

Smith, Arthur B.
1956 1956 Was Eventful Year For Ft. Knox. *Inside the Turret* 28 December: 1. Fort Knox.

The Courier-Journal [Louisville, Kentucky]
1922 Camp Knox No Longer Regular Army Post. 17 October: 1. Louisville, Kentucky.

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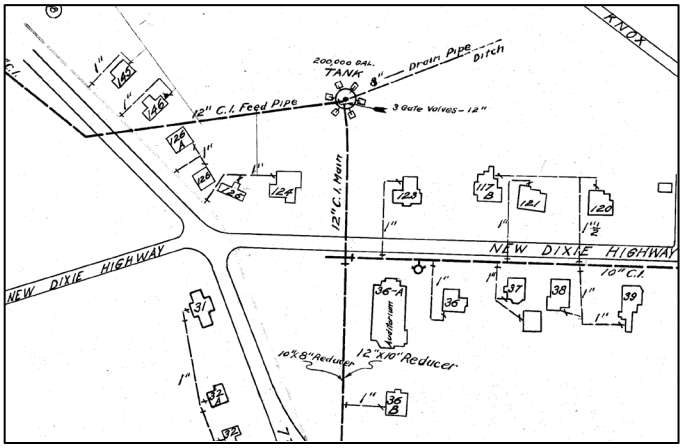
1935 Transferred: Capt. John A. Gilman. 14 September: 22. Louisville, Kentucky.

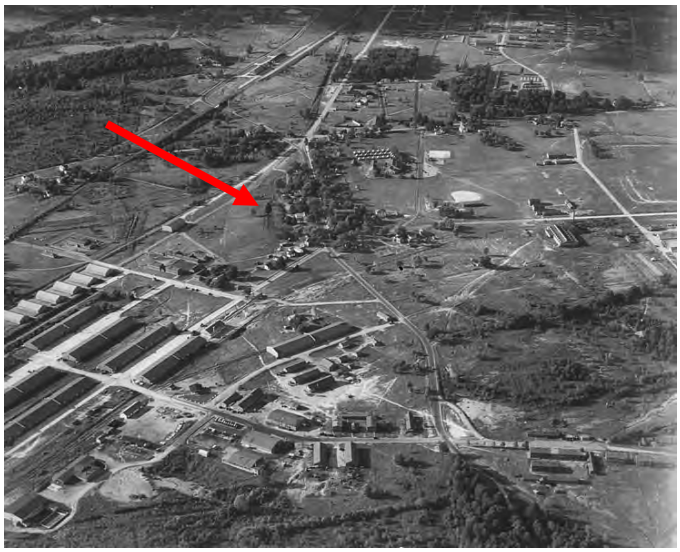
1939 Knox Officer Panama Bound. 17 September: 10. Louisville, Kentucky.

The Owensboro Messenger [Owensboro, Kentucky]
1942 Col. Gilman is Called to Duty. 30 July: 9. Owensboro, Kentucky.

26. (continued) ADDITIONAL IMAGES:



Caption: Detail of a Camp Knox Water Atlas for the Civic Center "B" dated June 23, 1927.



Caption: An early view of Fort Knox with Water Tower 1190. (Noted by red arrow). This photo is incorrectly dated 1935, but permanent construction was underway and completed is not visible.
ULPA 1994.18.0290, Herald Post Collection, 1994.18, Photographic Archives, University of Louisville, Louisville, Kentucky

Caption: Construction on new permanent barracks and road construction (6th Avenue) is seen in this detail of a June 1934 photograph. Water Tower 1190 is in the background. Fort Knox Cultural Resources Collection

Caption: Water Tower 1191 under construction as Federal Public Works Administration Project No. 676. July 1936. ULPA 1994.18.0297, Herald Post Collection, 1994.18, Photographic Archives, University of Louisville, Louisville, Kentucky

26. (continued) ADDITIONAL IMAGES:

Caption: View of water tanks, 30 November 1936. Former residential house from the former town of Stithton still existed at this time. *Water Tank, Dam, and Otter Creek Pumping Station (Contract No. W 6313 qm-36).* Completion Report. Office of the Constructing Quarter Master; Fort Knox, Kentucky.

Caption: 7th Cavalry Brigade during a review at Fort Knox March 1938. Note water towers in background.
Jack Heard Collection-Patton Museum

Caption: Detail of a 1939 photograph showing the Fort Knox School under construction next to the water towers. Jack Heard Collection-General George Patton Museum

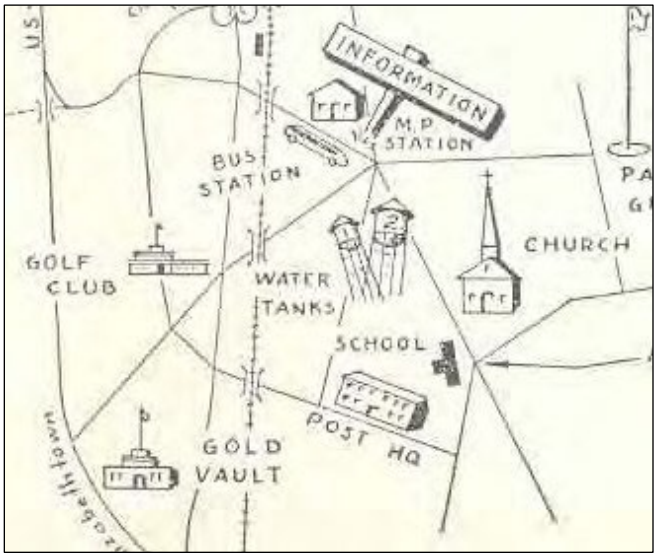


Photo 9: Detail of a 1941 Armored Force Replacement Center postcard. The water towers are featured as a landmark. Water tower 1190 is labeled with a "1" and water tower 1191 is labeled with a "2." Designed by SSGT Robert M. Fusselman in 1941.
Fort Knox Cultural Resources Collection

26. (continued) ADDITIONAL IMAGES:

Caption: Building 1174 (HD 756) and water towers, ca. 1940.

Caption: Building 1174 (HD 756) and water towers, ca. 1960. Patton Museum Collection

Caption: View west across Brooks Field at Waybur Theater (HD 741), Chaffee Hall (HD 28) and water towers 1190 and 1191 (HD 992). 2010

Caption: Water towers in 2006, facing northeast. Water Tower 1191 is on the left, Water Tower 1190 is on the right.

Caption: Building 1174 (HD 756) and Water Towers 1190 and 1191. Facing northwest, 2021.

26. (continued) ADDITIONAL IMAGES:

Caption: Water Tower 1190. Facing southwest, 2021.

Caption: Water Towers 1190 and 1191. Facing southwest, 2021.

Caption: Water Towers 1190 and 1191. Facing northeast, 2021.

Caption: Building 1174 (HD 756) and Water Tower 1190. Facing south, 2021.

KENTUCKY HISTORIC PROPERTIES SURVEY FORM 2017-1

SHPO EVALUATION

COUNTY: Hardin
RESOURCE NUMBER: HD 992
EVALUATION: N / Eligible Member of a Group
CONDITION: G / Good - In good state of repair

1. **NAME OF RESOURCE**: Water Tank No. 2
   Water Tank 1191, Water Tower 1191, Building 1191
   How Determined: 7 / Accepted professional, scientific, or technical name
2. **ADDRESS/LOCATION**:
   Dixie Street
   Fort Knox, Kentucky 40121
   OWNER CONTACT (if known):U.S. Army Garrison at Fort Knox, Kentucky 40121-5000
3. **GEOGRAPHIC DATA**:
   Quad: Fort Knox **Date:** 2013
   Lat: 37.891832 **Long:** -85.955873
4. **FIELD RECORDER/AFFILIATION:**
   Matthew D. Rector/ ERG, LLC-Contractor for Fort Knox Cultural Resources Office-EMD, DPW
5. **DATE RECORDED:** 1995. Updated April 2021
6. **SPONSOR/INITIATION:** 5 / Other
   Sponsor Name: U.S. Army Garrison at Fort Knox
7. **PREVIOUSLY RECORDED:** 2 / KY Survey
8. **REPORT/NR REFERENCE:** Inventory, Evaluation and Nomination of Military Installations: Fort Knox, Kentucky. Goodwin and Associates, Inc. 1995
9. **ORIGINAL PRIMARY FUNCTION:**
   13H: Military Other 500,000 water tank
10. **CURRENT PRIMARY FUNCTION:**
    13H: Military Other 500,000 water tank
11. **ORIGINAL CONSTRUCTION DATE:**
    Estimated: _____
    Documented: 1936
12. **MAJOR ADDITIONS/MODIFICATION (specify):**
    _____ Choose One
13. **MODIFICATION ASSESSMENT**:
    1 / Little to no alteration
14. **CONSTRUCTION METHOD AND MATERIAL**:
    Original/Primary (if known): M1 / Metal
    Subsequent/Secondary (if known): _____
    Other:
15. **EXTERIOR WALL CLADDING:**
    Original (if known): _____
    Current: _____
16. **DIMENSIONS: 500,000 gallons**
    Height: F / More than 3 stories 128' high
17. **ARCHITECTURAL FORM/SHAPE:** E / Other (specify)
18. **ARCHITECTURAL TYPE (choose from applicable list(s)):**
    Type: Choose One
    Other: U / Undetermined/not applicable
19. **ARCHITECTURAL STYLE (choose from applicable list(s)):** Standard 500,000 gallon steel water tank
    Style: _____
    Other: U / Undetermined/not applicable
20. **FOUNDATION WALLS:**
    Type: 2 / Continuous
    Material: R / Poured Concrete
21. **ROOFING**
    Configuration: S / Other (specify) conical cover
    Roof Covering: 8 / Other (specify)
22. **ARCHITECT/BUILDER (if known)**: Pittsburgh-Des Moines Steel Co. (Pittsburgh, Pennsylvania)
23. **WINDOWS**: ☐ Original ☐ Replacement
    Current Material: Choose One N/A
    Sash Operation: _____
    Glazing Pattern: _____
24. **NUMBER OF SUPPORT RESOURCES:**
    _____
    (If yes, complete #27 and #28 below)
25. **COMMENTS/HISTORICAL INFORMATION**
    (Complete on Continuation Sheet)
26. **PHOTO** (Place Additional Photos below under 26 cont'd)

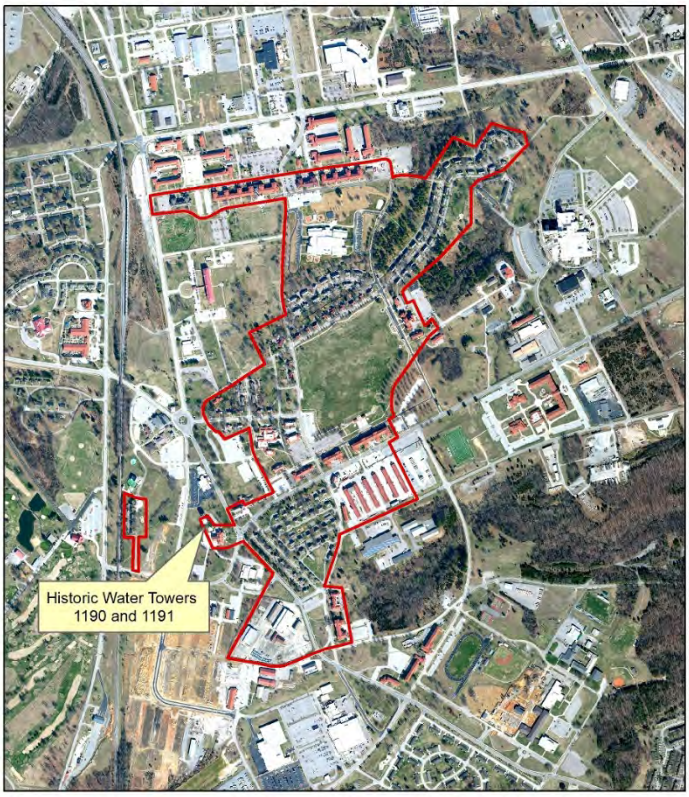
SHPO Review Date _____ SHPO Data Entry Date _____

27. SUPPORT RESOURCES:

SITE PLAN KEY	NAME OF RESOURCE	FUNCTION	CONSTRUCTION DATE	METHOD/MATERIAL

28. SITE PLAN (Complete if #24 was answered or if you are using sub-numbers):

29. MAP (Scan or attach copy of map showing exact location of resources):



Fort Knox, Kentucky

2017 Aerial Photograph

1:15,000

N

0 0.175 0.35 0.7 Miles

0 285 570 1,140 Meters

Legend

Historic District Boundary

Fort Knox, Kentucky

2017 Aerial Photograph

1:1,500

N

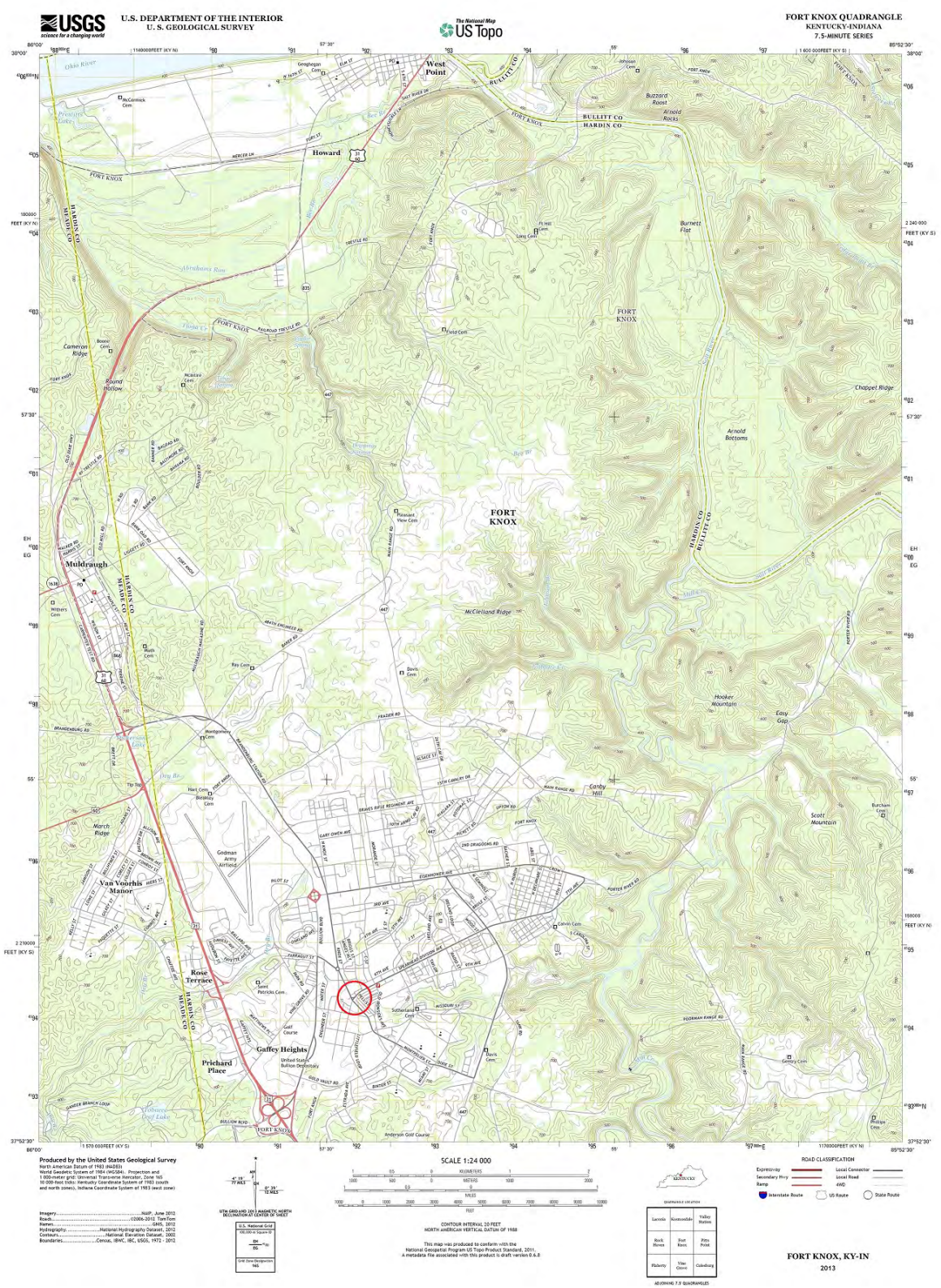
0 0.0175 0.035 0.07 Miles

0 25 50 100 Meters

Legend

Historic District Boundary

29. MAP (Scan or attach copy of map showing exact location of resources):



2013 USGS Fort Knox Quadrangle Map. Building location is indicated by a red circle.

25. (continued) COMMENTS/HISTORICAL INFORMATION:

Description:

Constructed in ca. 1927, Water Tower 1190 is among the oldest structures on post built to support the Army. This elevated water tank is approximately 75 ft. high and has the capacity to hold 200,000 gallons.

The tank has an ellipsoidal bottom and has a standard conical cover. The cylindrical portion of the tank mass is constructed of riveted metal supported on a riveted metal frame with six legs, inter-braced and tied. One leg of the frame has an enclosed access ladder that leads to a walkway/balcony that surrounds the tank. The access continues to the top of the roofline. A protective railing surrounds the walkway. The roof was replaced on the water tower in 1985.

History:

Camp Knox was established in 1918 as an artillery training installation. The initial construction of Army facilities centered in areas in and around the agricultural community of Stithton, Kentucky. Standardized plans were used to build most of these World War I mobilization buildings and identical buildings could be found on other installations around the country. During the development of Camp Knox, the installation's Constructing Quartermaster, Major William H. Radcliffe, utilized Indian Hill for water reservoir purposes. The camp initially received its water supply from Otter Creek, where water was taken at its junction with McCracken Springs. Water was pumped to a filtration plant and sent to wooden tanks located on Indian Hill. The tanks had a combined capacity of 800,000 gallons storage. From there gravity delivered water to the camp through water mains. Not long after two concrete reservoirs with a capacity of 2,600,000 gallons replaced the wooden tanks (Radcliffe 1919).

In 1921 it was announced that Camp Knox would be used as an active training center for the Reserve Officer Training Camp (ROTC) for artillery and infantry students in the Fourth and Fifth Corps Areas, the Citizens' Military Training Camp (CMTC), and by the National Guard. By 1922 Camp Knox had become the second largest Army training center in the United States. That summer, however, the artillery officers' "basic school" at Camp Knox moved to Fort Sill, Oklahoma and it was deemed necessary to close the post as a permanent installation in 1922. Although closed as a permanent installation, Camp Knox remained an active training center by the 5th Corps Area for the Army (The Courier-Journal [C-J], 17 October 1922: 1).

The water supply obtained from Otter Creek proved to be problematic for the long term. The water, which was prone to pollution from nearby villages, had to be treated through filtration and purification. The infrastructure used to bring the water five miles to the cantonment was also nearing the end of its life-cycle. In addition, a nearby mill owner claimed damages from the government due to the diversion of water. As a result, other locations were sought for a better and more cost-effective solution. Saunders Springs, located closer to the main cantonment, offered water that required no filtering or treatment. In 1926, Camp Knox was allocated money to purchase seventy-five acres to obtain the springs and right of way to bring the water to post. Additional funding was used to build a new pumping station and associated infrastructure (Second Deficiency Appropriation Bill 1926).

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Due to their height, they have been used to help newcomers navigate the cantonment area. Water Tower 1191 and its neighbor, Water Tower 1190, continued to be used to supply water to areas of Fort Knox until 2020, when larger water towers were constructed.

Water Tower 1191 was assigned Kentucky Survey Site Number HD 992 in April 2016.

Significance:
Water tower 1190 is located within the boundaries of and contributes to the Fort Knox Cantonment Historic District. It maintains its integrity of design, setting, materials, and workmanship. In 1995 it was determined that the Historic District was eligible for the National Register of Historic Places (NRHP) under Criteria A and C. Fort Knox was the primary site for the development of armored warfare for the U.S. Cavalry during the 1930s, and played a critical role in training military personnel for tank warfare during World War II (Criteria A). The permanent cantonment at Fort Knox embodies the distinctive characteristics of the permanent Army construction during the inter-war period (Criterion C). The buildings and installation plan form a cohesive district linked by the use of the Georgian Colonial Revival architecture style, similar construction materials, and setting.

References:

Grandine, Katherine, Leo Hirrel, Deborah Cannan and Hampton Tucker.
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The Owensboro Messenger [Owensboro, Kentucky]
1942 Col. Gilman is Called to Duty. 30 July: 9. Owensboro, Kentucky.

26. (continued) ADDITIONAL IMAGES:

Caption: Water Tower 1191 under construction as Federal Public Works Administration Project No. 676. July 1936. ULPA 1994.18.0297, Herald Post Collection, 1994.18, Photographic Archives, University of Louisville, Louisville, Kentucky

Caption: View of water tanks, 30 November 1936. Former residential house from the former town of Stithton still existed at this time. *Water Tank, Dam, and Otter Creek Pumping Station (Contract No. W 6313 qm-36).* Completion Report. Office of the Constructing Quarter Master; Fort Knox, Kentucky.

Caption: 7th Cavalry Brigade during a review at Fort Knox March 1938. Note water tanks in background. Jack Heard Collection-Patton Museum

Caption: Detail of a 1939 photograph showing the Fort Knox School under construction next to the water towers. Jack Heard Collection-General George Patton Museum

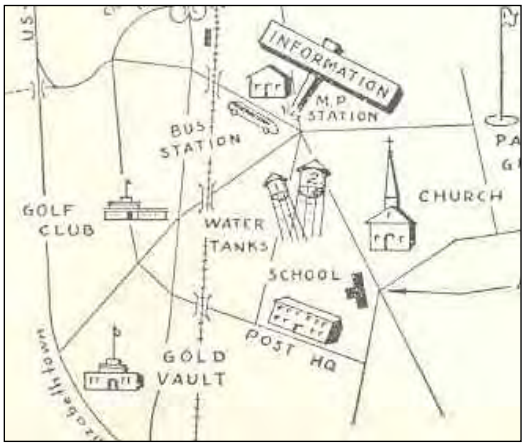


Photo 9: Detail of a 1941 Armored Force Replacement Center postcard. The water towers are featured as a landmark. Water tower 1190 is labeled with a "1" and water tower 1191 is labeled with a "2." Designed by SSGT Robert M. Fusselman in 1941. Fort Knox Cultural Resources Collection

26. (continued) ADDITIONAL IMAGES:

Caption: Building 1174 (HD 756) and water towers, ca. 1940.

Caption: Water towers in 2006, facing northeast. Water Tower 1191 is on the left, Water Tower 1190 is on the right.

Caption: Building 1174 (HD 756) and water towers, ca. 1960. Patton Museum Collection

Caption: Building 7474, northern most wing facing south. July 2019

Caption: View west across Brooks Field at Waybur Theater (HD 741), Chaffee Hall (HD 28) and water towers 1190 (HD 1153) and 1191. 2010

Caption: Building 1174 (HD 756) and Water Towers 1190 and 1191. Facing northwest, 2021.

26. (continued) ADDITIONAL IMAGES:

Caption: Water Tower 1191. Facing southwest, 2021.

Caption: Water Towers 1190 and 1191. Facing southwest, 2021.

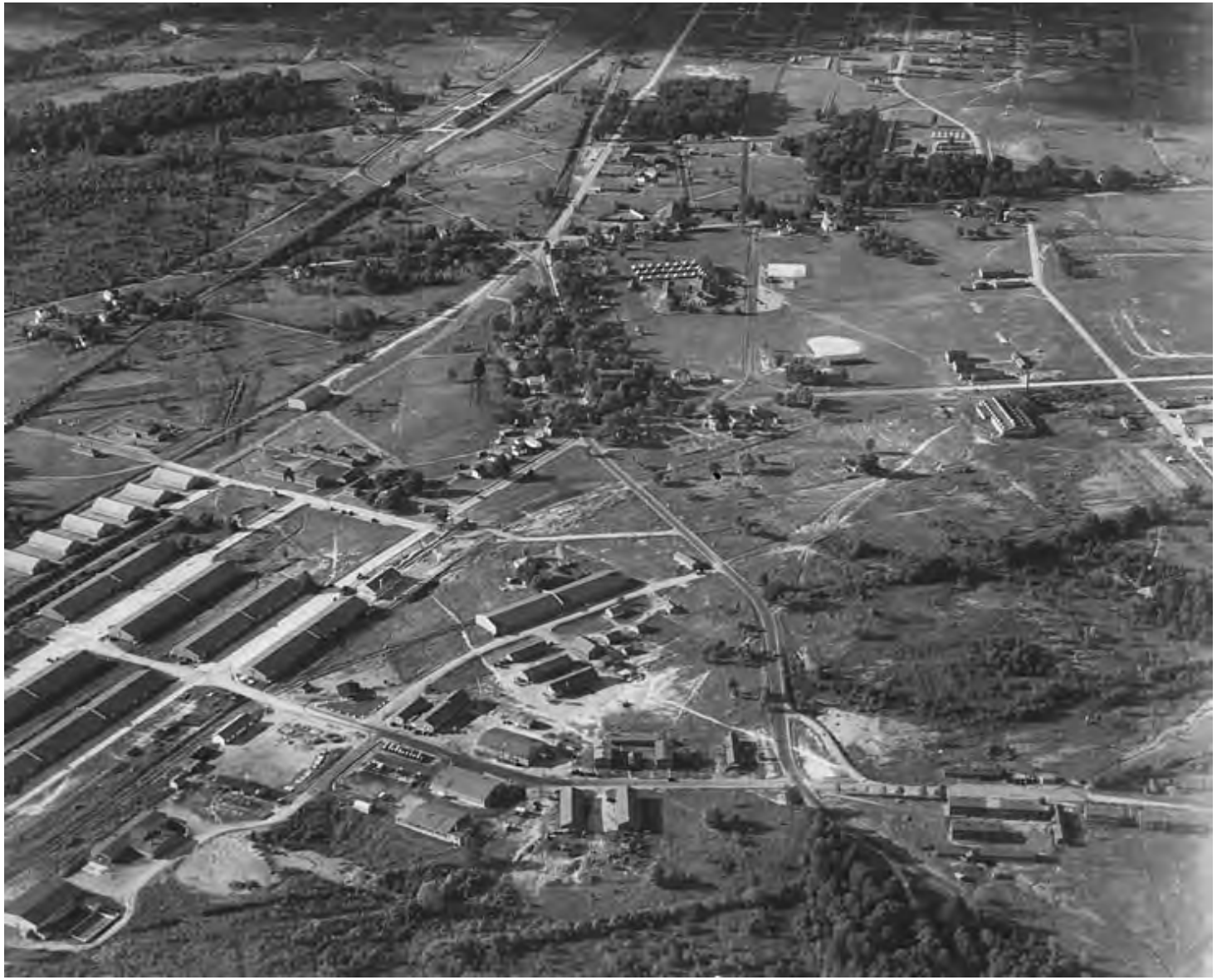
Caption: Water Tower 1191. Facing northeast, 2021.

Caption: Water Towers 1190 and 1191. Facing northeast, 2021.

APPENDIX B:
Historical Photographs of Water Towers 1190 & 1191

File Number/Name	Direction	Date	Description
1_WaterTower1191_Aerial_N_1930s	North	1930s	Oblique aerial view of Fort Knox, Water Tower 1190 midground left
2_WaterTower1191_W_1934	West	1934	Construction of new permanent barracks (Building 1109) and road construction (6th Avenue), Water Tower 1190 background center
3_WaterTower1190&1191_E_1936	East	1936	Water Towers 1190 and 1191 (under construction)
4_WaterTower1190&1191_E_1936	East	1936	Water Towers 1190 and 1191
5_WaterTower1191_W_1938	West	1938	7th Cavalry Brigade review, Water Tower 1191 background left
6_WaterTower1190&1191_N_1938	North	1938	Oblique aerial view of Fort Knox, Water Towers 1190 and 1191, midground left
7_WaterTower1190&1191_NW_1940	Northwest	1940	Building 1174 and Water Towers 1190 and 1191
8_WaterTower1190&1191_NE_1943	Northeast	1943	Water Towers 1190 and 1191 photograph from unidentified Fort Knox soldier's album
9_WaterTower1190&1191_NE_1954	Northwest	1954	Water Towers 1190 and 1191 photograph from Fort Knox High School yearbook, The Eagle
10_WaterTower1190&1191_NW_c1960	Northwest	c1960	Building 1174 and Water Towers 1190 and 1191
11_WaterTower1190&1191_N_1960s	North	1960s	Oblique aerial view of Fort Knox, Water Towers 1190 & 1191, midground center
12_WaterTower1190&1191_NW_1962	Northwest	1962	Building 1174 and Water Towers 1190 and 1191
13_WaterTower1190_W_2004	West	2004	Water Tower 1190
14_WaterTower1191_W_2005	West	2005	Water Tower 1191

APPENDIX B
Historical Photographs of Water Towers 1190 & 1191



1_WaterTower1191_Aerial_N_1930s

APPENDIX B
Historical Photographs of Water Towers 1190 & 1191

2_WaterTower1191_W_1934

APPENDIX B
Historical Photographs of Water Towers 1190 & 1191

3_WaterTower1190&1191_E_1936

APPENDIX B
Historical Photographs of Water Towers 1190 & 1191

4_WaterTower1190&1191_E_1936

APPENDIX B
Historical Photographs of Water Towers 1190 & 1191

5_WaterTower1191_W_1938

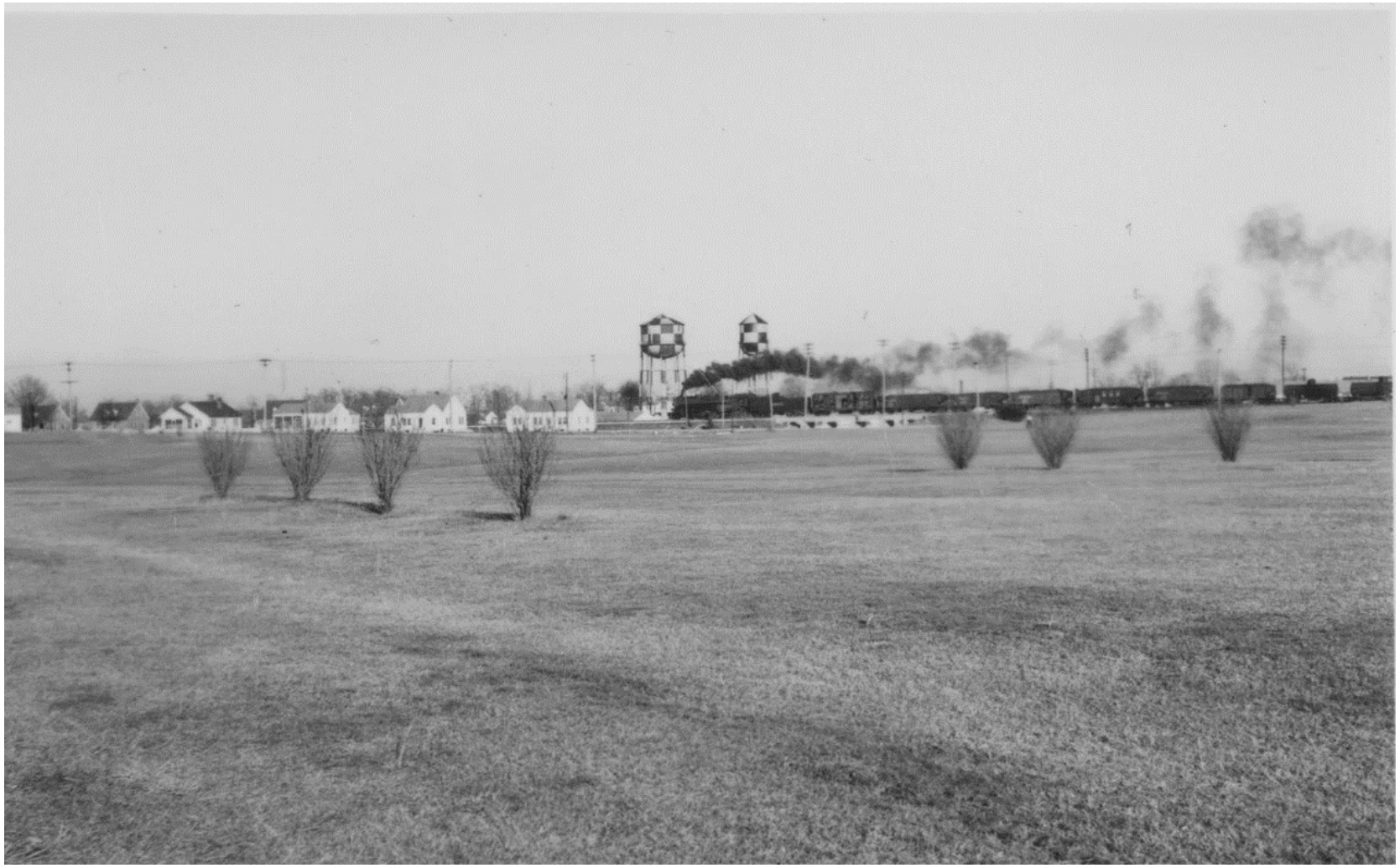
APPENDIX B
Historical Photographs of Water Towers 1190 & 1191

6_WaterTower1190&1191_N_1938

APPENDIX B
Historical Photographs of Water Towers 1190 & 1191

7_WaterTower1190&1191_NW_1940

APPENDIX B
Historical Photographs of Water Towers 1190 & 1191



8_WaterTower1190&1191_NE_1943

APPENDIX B
Historical Photographs of Water Towers 1190 & 1191

9_WaterTower1190&1191_NE_1954

APPENDIX B
Historical Photographs of Water Towers 1190 & 1191

10_WaterTower1190&1191_NW_c1960

APPENDIX B
Historical Photographs of Water Towers 1190 & 1191

11_WaterTower1190&1191_N_1960s

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APPENDIX B
Historical Photographs of Water Towers 1190 & 1191

12_WaterTower1190&1191_NW_1962

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APPENDIX B
Historical Photographs of Water Towers 1190 & 1191

13_WaterTower1190_W_2004

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APPENDIX B
Historical Photographs of Water Towers 1190 & 1191

14_WaterTower1191_W_2005

APPENDIX C:
Contemporary Photographs of Water Towers 1190 & 1191

File Number/Name	Direction	Date	Description
15_WaterTower1190&1191_NW_2023	Northwest	07/2023	Building 1174 and Water Towers 1190 and 1191
16_WaterTower1190_N_2023	North	07/2023	Water Tower 1190
17_WaterTower1190_W_2023	West	07/2023	Water Tower 1190
18_WaterTower1190_S_2023	South	07/2023	Water Tower 1190
19_WaterTower1190_E_2023	East	07/2023	Water Tower 1190
20_WaterTower1190_Column_W_2023	West	07/2023	Water Tower 1190, detail of support column
21_WaterTower1190_Column_W_2023	West	07/2023	Water Tower 1190, detail of support column and footer
22_WaterTower1191_W_2023	West	07/2023	Water Tower 1191
23_WaterTower1191_SW_2023	Southwest	07/2023	Water Tower 1191
24_WaterTower1191_SE_2023	Southeast	07/2023	Water Tower 1191
25_WaterTower1191_S_2023	South	07/2023	Water Tower 1191
26_WaterTower1191_Column_W_2023	West	07/2023	Water Tower 1191, detail of support column
27_WaterTower1191_Column_W_2023	West	07/2023	Water Tower 1192, detail of support column and footer
28_WaterTower1190&1191_S_2023	South	07/2023	Water Towers 1190 and 1191
29_WaterTower1190&1191_W_2023	West	07/2023	Water Towers 1190 and 1191
30_WaterTower1190&1191_E_2023	East	07/2023	Water Towers 1190 and 1191

APPENDIX C INDEX
Contemporary Photographs of Water Towers 1190 & 1191

15_WaterTower1190&1191_NW_2023

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Contemporary Photographs of Water Towers 1190 & 1191

16_WaterTower1190_N_2023

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17_WaterTower1190_W_2023

APPENDIX C INDEX
Contemporary Photographs of Water Towers 1190 & 1191

18_WaterTower1190_S_2023

APPENDIX C INDEX
Contemporary Photographs of Water Towers 1190 & 1191

19_WaterTower1190_E_2023

APPENDIX C INDEX
Contemporary Photographs of Water Towers 1190 & 1191

20_WaterTower1190_Column_W_2023

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Contemporary Photographs of Water Towers 1190 & 1191

21_WaterTower1190_Column_W_2023

APPENDIX C INDEX
Contemporary Photographs of Water Towers 1190 & 1191

22_WaterTower1191_W_2023

APPENDIX C INDEX
Contemporary Photographs of Water Towers 1190 & 1191

23_WaterTower1191_SW_2023

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APPENDIX C INDEX
Contemporary Photographs of Water Towers 1190 & 1191

24_WaterTower1191_SE_2023

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APPENDIX C INDEX
Contemporary Photographs of Water Towers 1190 & 1191

25_WaterTower1191_S_2023

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Contemporary Photographs of Water Towers 1190 & 1191

26_WaterTower1191_Column_W_2023

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APPENDIX C INDEX
Contemporary Photographs of Water Towers 1190 & 1191

27_WaterTower1191_Column_W_2023

APPENDIX C INDEX
Contemporary Photographs of Water Towers 1190 & 1191

28_WaterTower1190&1191_S_2023

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APPENDIX C INDEX
Contemporary Photographs of Water Towers 1190 & 1191

29_WaterTower1190&1191_W_2023

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Contemporary Photographs of Water Towers 1190 & 1191

30_WaterTower1190&1191_E_2023

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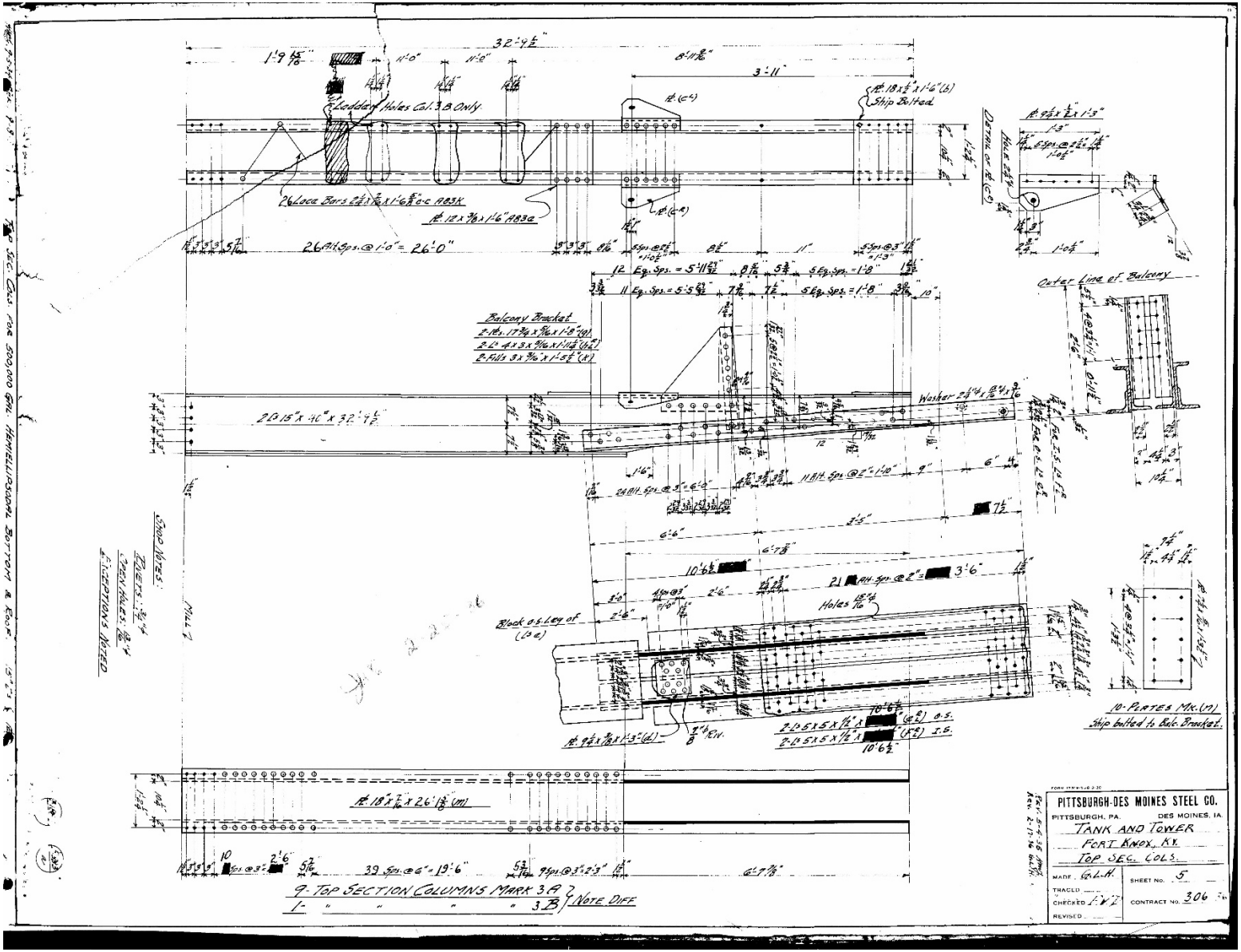
Demolition of Two Historic Water Towers, Fort Knox, Kentucky

APPENDIX D:
Measured Drawings for Water Towers 1190 & 1191

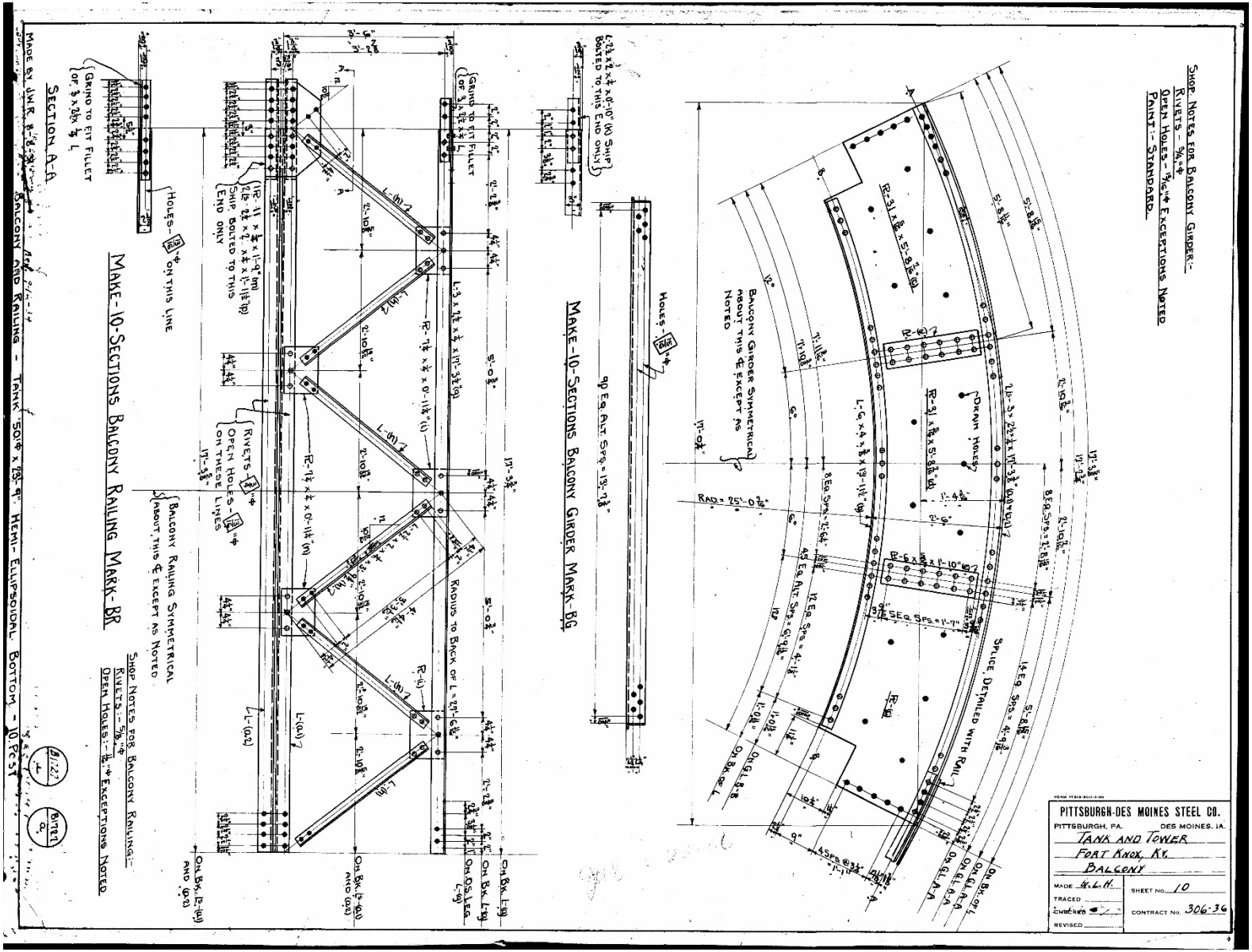
File Number	Date	Description
1_WaterTower1191_BalconyColumns_1935	1935	Water Tower 1191: Balcony and Columns (2 sheets)
2_WaterTower1191_Plan_1936	1936	Water Tower 1191: Partial Plan
3_WaterTower1190&1191_CagePlat_1936	1965	Water Towers 1190 and 1191: Safety Cages and Platforms, including measured drawings of both towers (3 sheets)
4_WaterTower1190&1191_Repairs_1984	1984	Water Towers 1190 and 1191: Repairs (2 sheets)
5_WaterTower1190&1191_ElecTele_1994	1994	Water Towers 1191 and 1191: Electrical and Telemetry Plan
6_WaterTower1190&1191_FlowDia_2004	2000	Water Towers 1190 and 1191: Water Flow Diagram

APPENDIX D
Measured Drawings for Water Towers 1190 & 1191



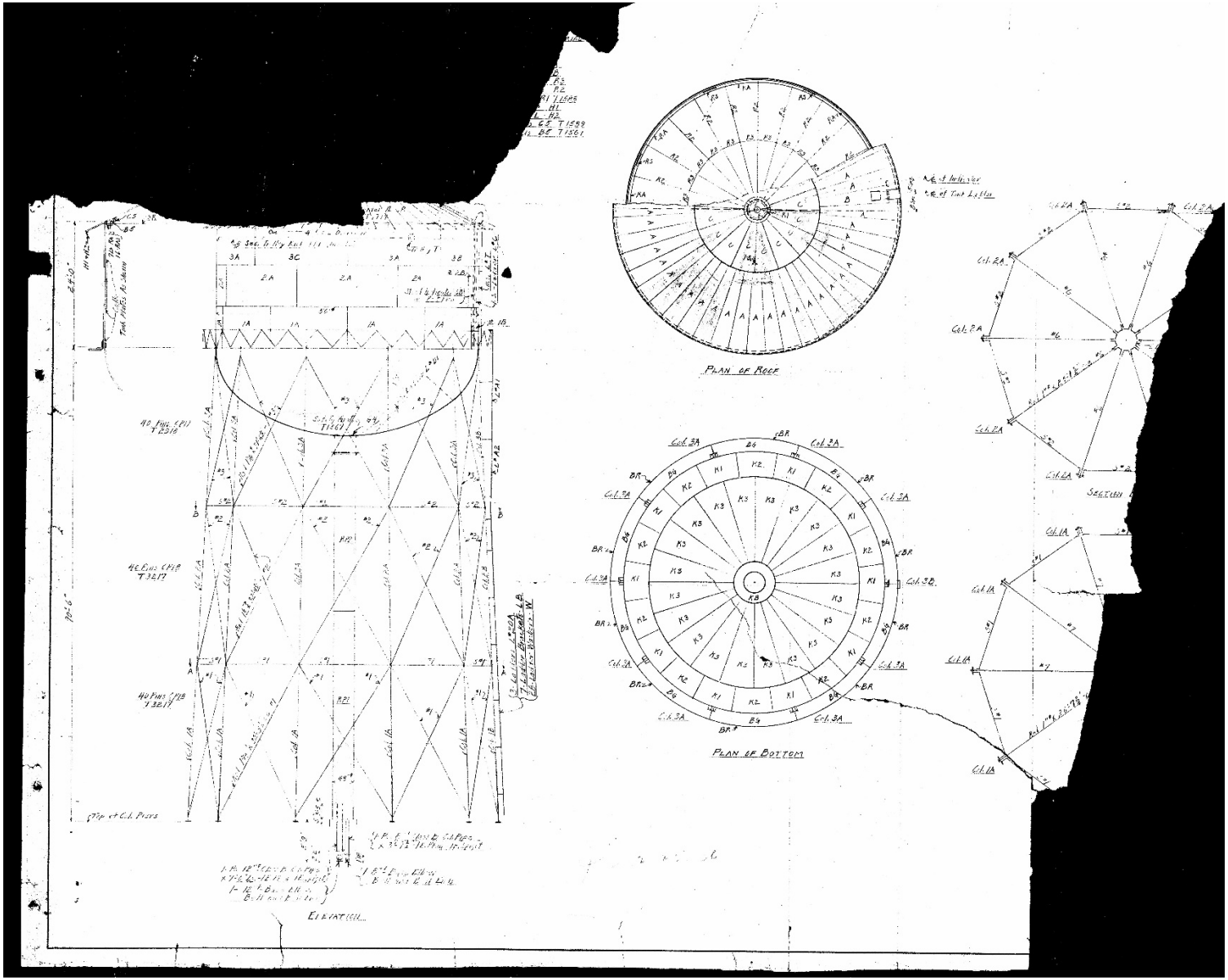
1_WaterTower1191_BalconyColumns_1935 PAGE 1

APPENDIX D
Measured Drawings for Water Towers 1190 & 1191



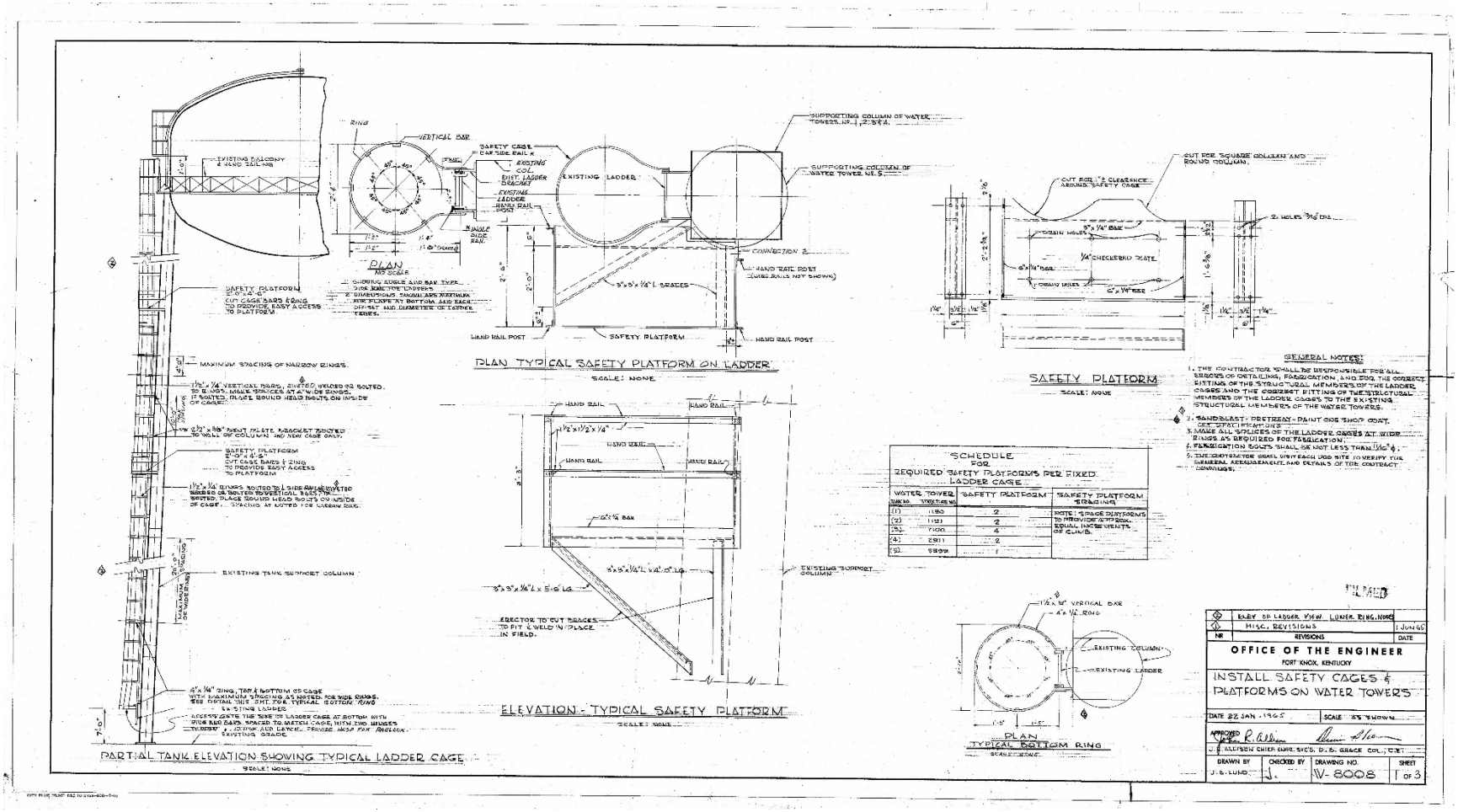
1_WaterTower1191_BalconyColumns_1935 PAGE 2

APPENDIX D
Measured Drawings for Water Towers 1190 & 1191



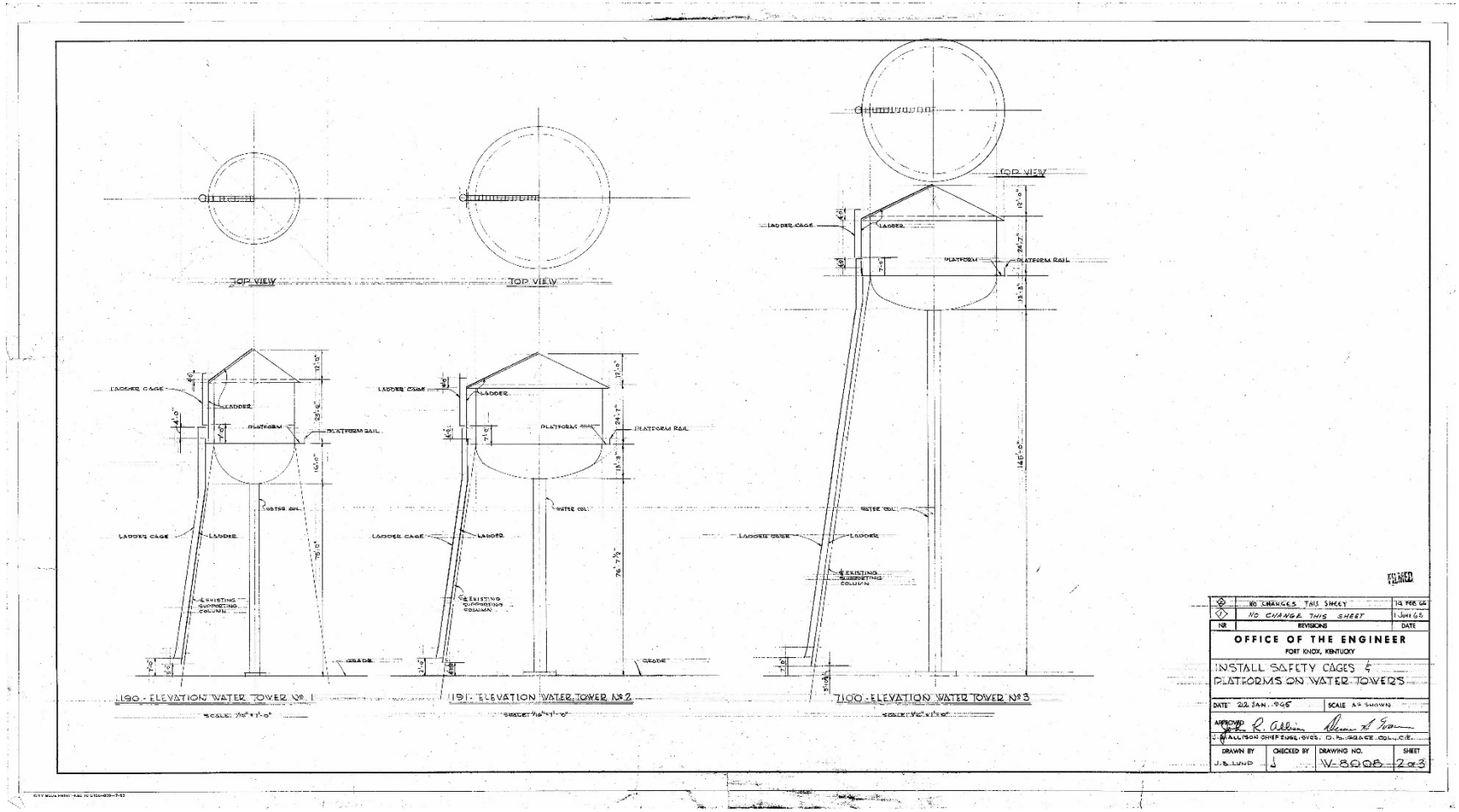
2_WaterTower1191_Plan_1936

APPENDIX D
Measured Drawings for Water Towers 1190 & 1191



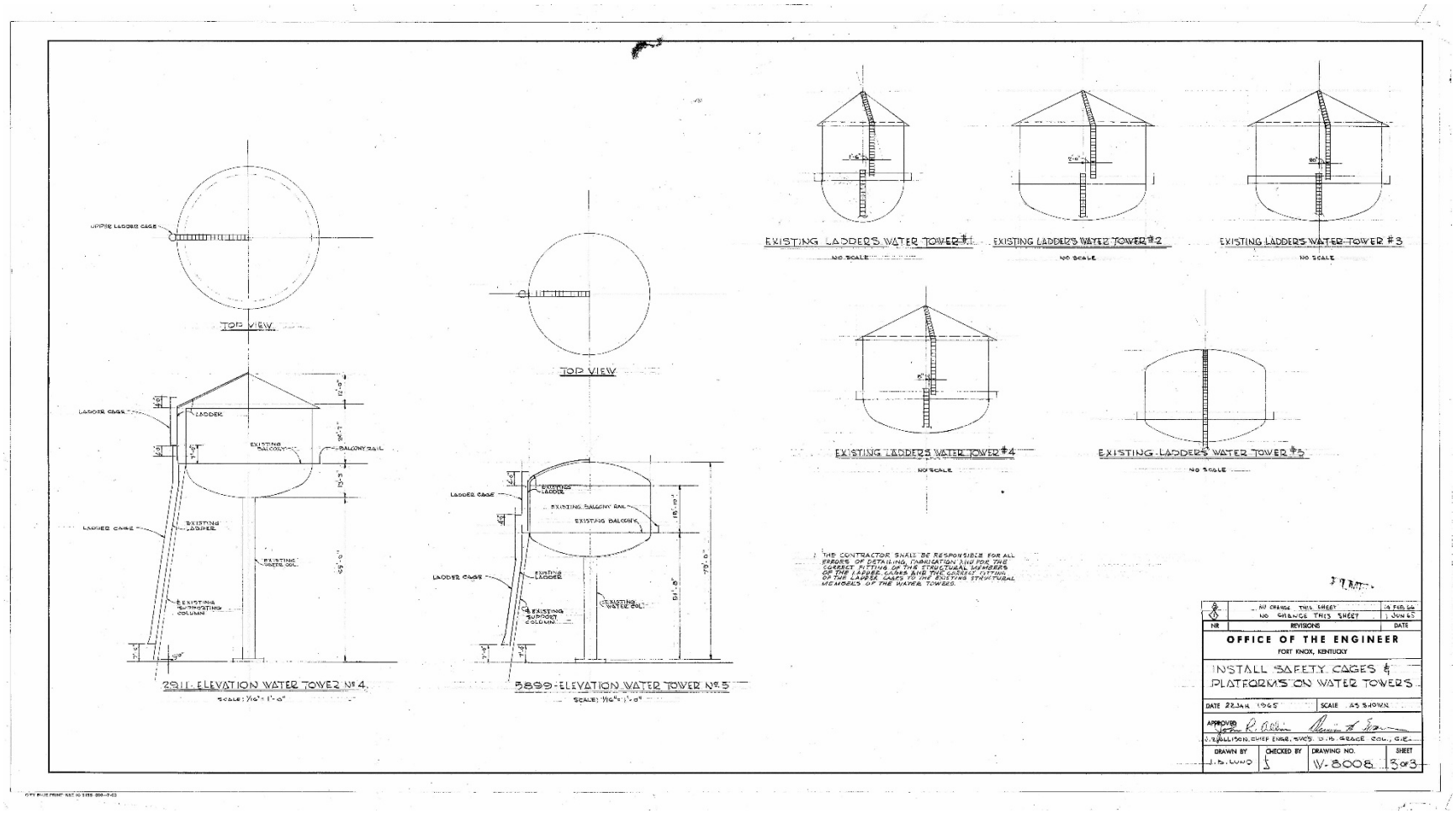
3_WaterTower1190&1191_CagePlat_1936 PAGE 1

APPENDIX D
Measured Drawings for Water Towers 1190 & 1191



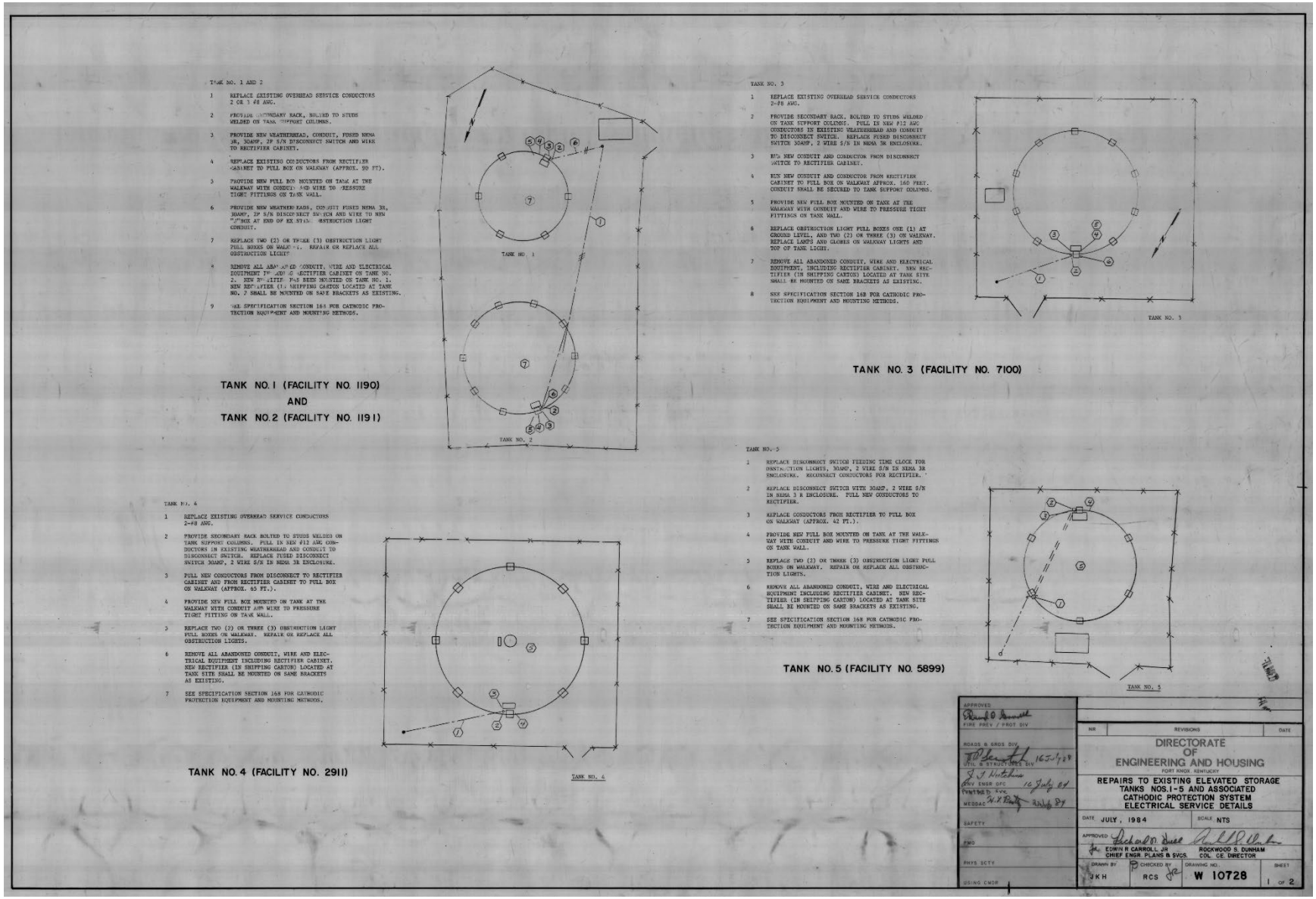
3_WaterTower1190&1191_CagePlat_1936 PAGE 2

APPENDIX D
Measured Drawings for Water Towers 1190 & 1191



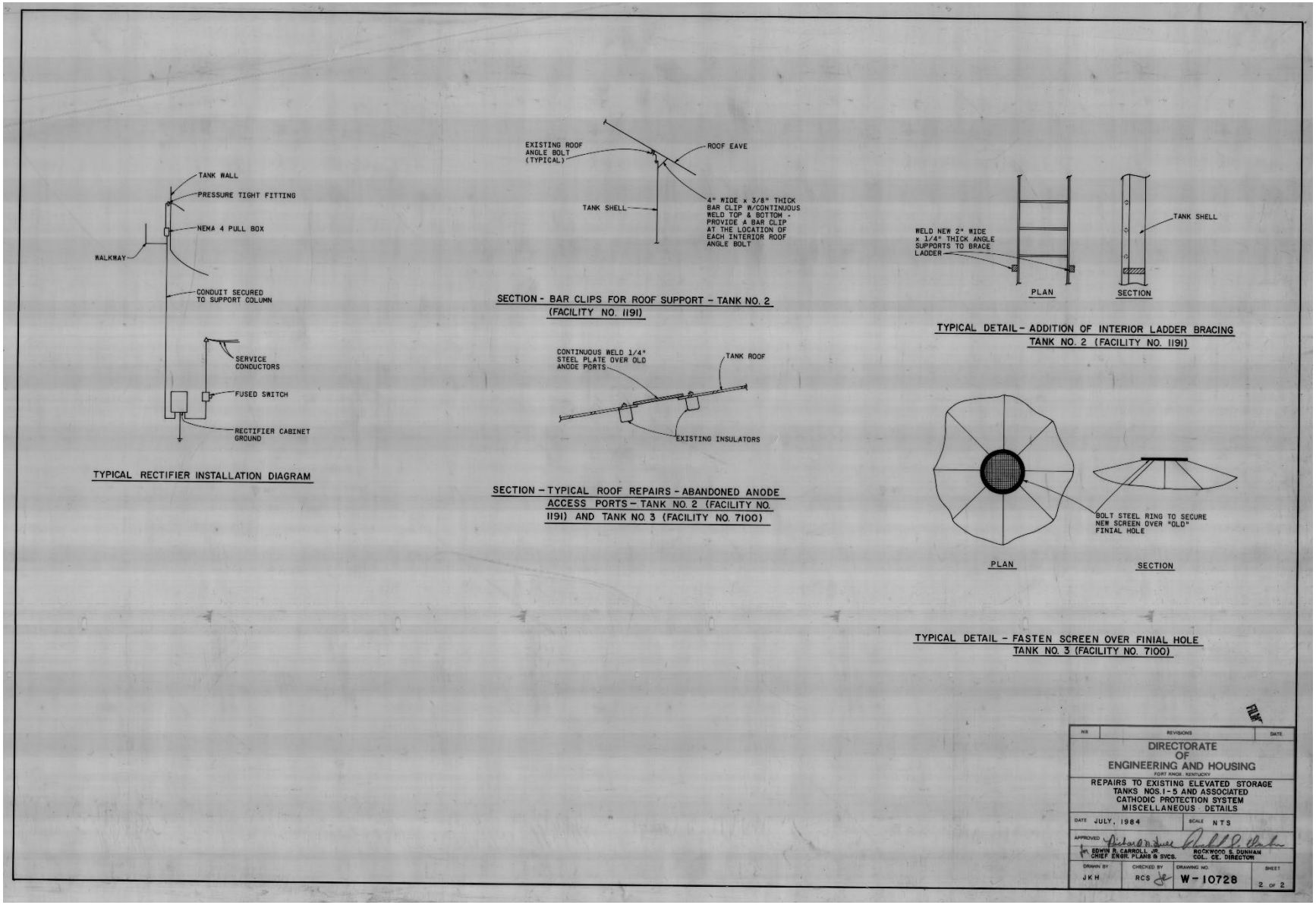
3_WaterTower1190&1191_CagePlat_1936 PAGE 3

APPENDIX D
Measured Drawings for Water Towers 1190 & 1191



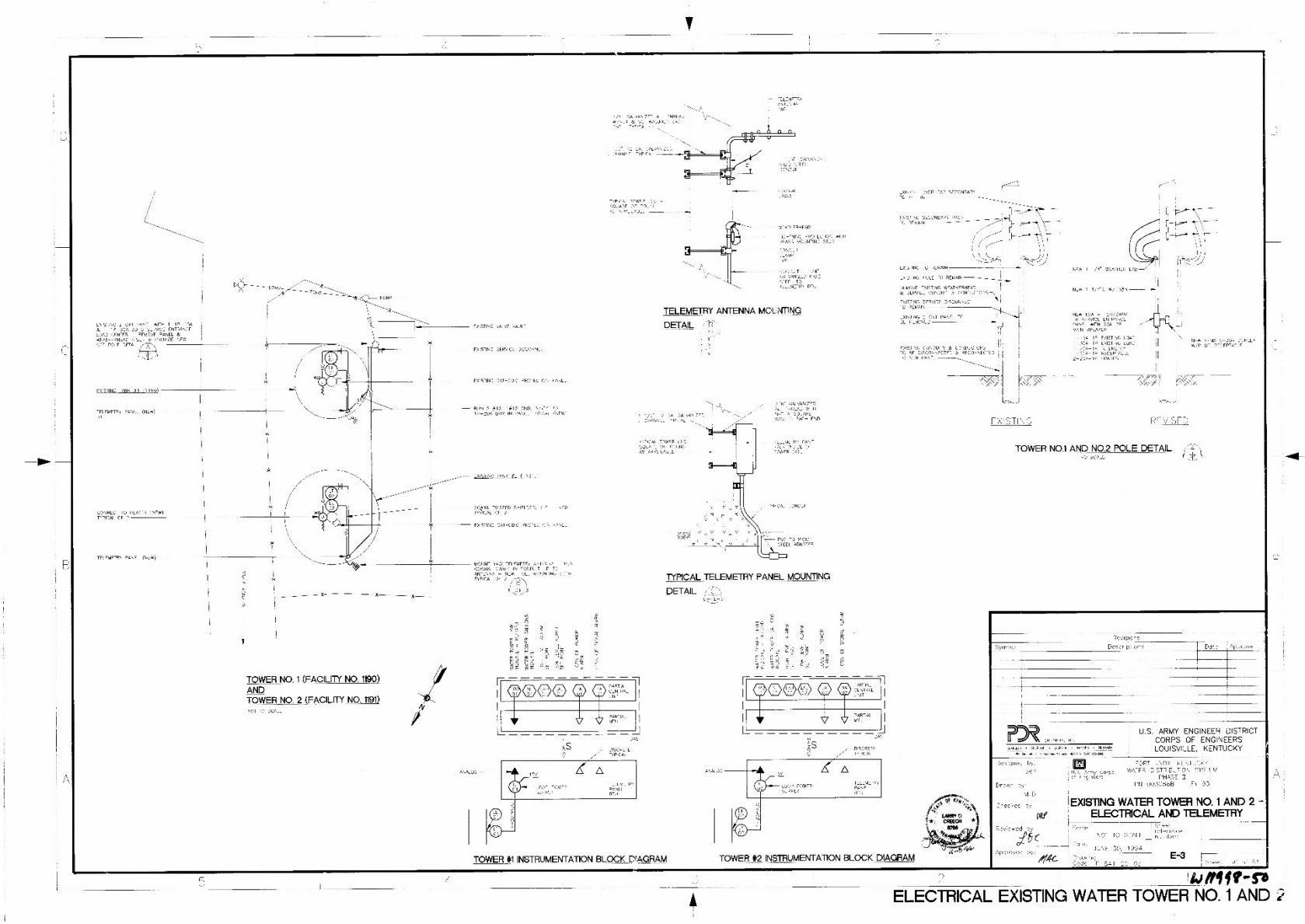
4_WaterTower1190&1191_Repairs_1984 PAGE 1

APPENDIX D
Measured Drawings for Water Towers 1190 & 1191



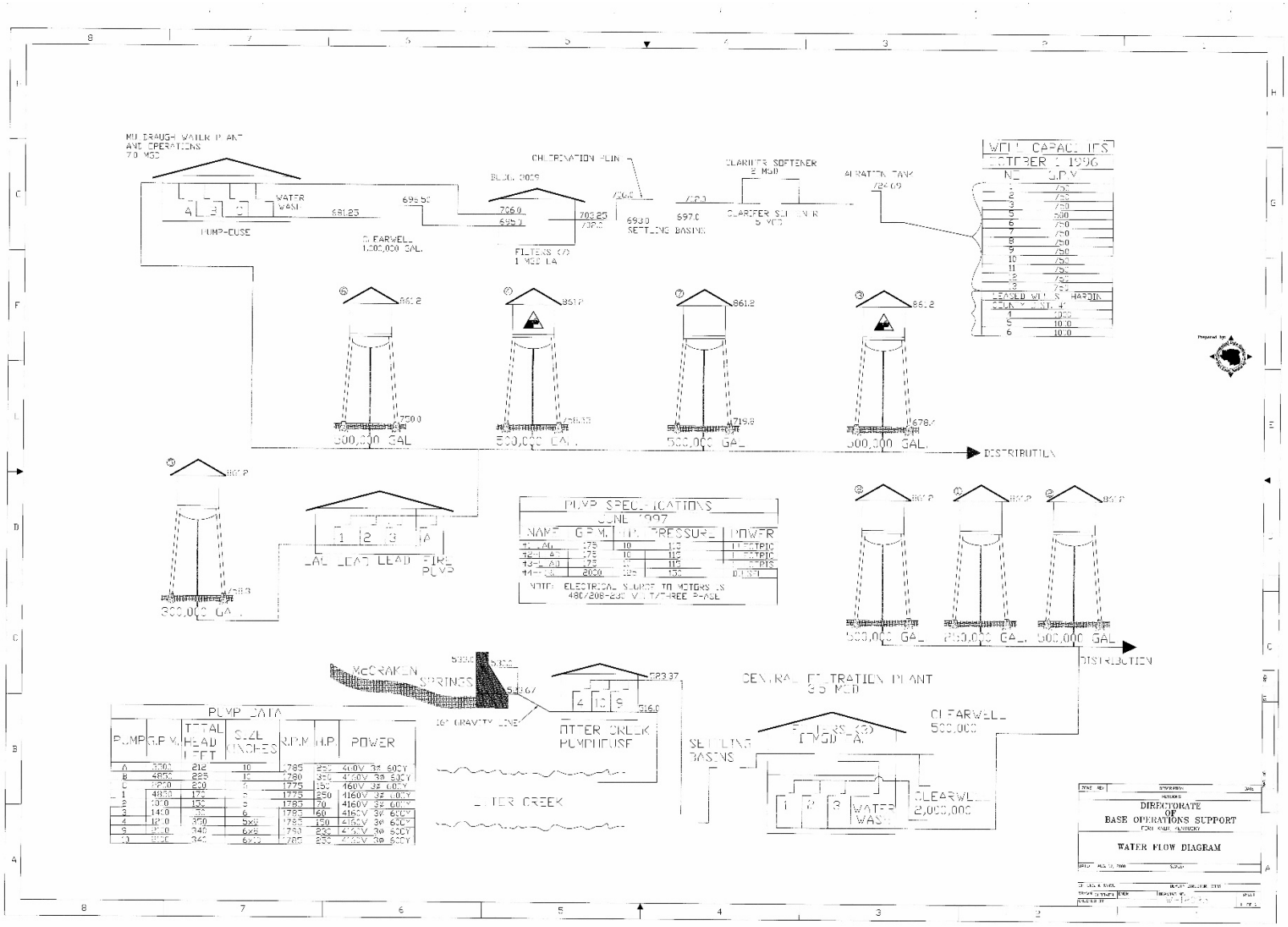
4_WaterTower1190&1191_Repairs_1984 PAGE 2

APPENDIX D
Measured Drawings for Water Towers 1190 & 1191



5_WaterTower1190&1191_ElecTele_1994

APPENDIX D
Measured Drawings for Water Towers 1190 & 1191



6_WaterTower1190&1191_FlowDia_2004