



TACOMA REGISTER OF HISTORIC PLACES NOMINATION FORM

This form is required to nominate properties to the Tacoma Register of Historic Places per Tacoma Municipal Code 13.07.050. Type all entries and complete all applicable sections. Contact the Historic Preservation Officer with any questions at 253-591-5220.

PART 1: PROPERTY INFORMATION (for 'HELP' press the F1 key)

Property Name	
Historic <u>Cushman Substation</u>	Common <u>Cushman & Adams Street Substations</u>
Location	
Street Address <u>3713 North 19th Street & 1920 North Adams Street</u>	Zip <u>98406</u>
Parcel No(s). Cushman Substation: <u>7475021970</u> & Adams St. Substation: <u>7475021883</u>	<u>Legal Description</u> That portion of the Southeast quarter of the Northeast quarter of Section 36, Township 21 North, Range 02 East, W.M. more particularly described as follows: The East 170 feet of the North 120 feet of Block 102, Amended Map of Second School Land Addition to the City of Tacoma as recorded in Volume 7 of Plats at Pages 78 and 79, records of Pierce County Auditor; Together with all of Tracts A and B, Block 103, Amended Map of Second School Land Addition to the City of Tacoma as recorded in Volume 7 of Plats at Pages 78 and 79, records of Pierce County Auditor, Also together with that portion of the South half of the Northeast and Northwest quarters of Section 36, and the South half of the Northeast quarter of Section 35, all located within Township 21 North, Range 02 East, W.M. more particularly described as follows: The center 24 feet of North 21st Street, from the west line of its intersection with Proctor Street to the west line of its intersection with Winnifred Street, and the center 44 feet of North 21st Street from the west line of Winnifred Street to the west line of Highland Street. Situate in the City of Tacoma, County of Pierce, State of Washington Refer to National register Nomination form for additional information and property descriptions.
Nominated Elements	
Please indicate below significant elements of the property that are included in the nomination by checking the appropriate box(es) below. These elements should be described specifically in the narrative section of this form.	
<input checked="" type="checkbox"/> Principal Structure <input type="checkbox"/> Historic Additions <input type="checkbox"/> Ancillary Buildings/Outbuildings	<input checked="" type="checkbox"/> Site <input type="checkbox"/> Historic Landscaping, Fencing, Walkways, etc. <input checked="" type="checkbox"/> Interior Spaces/Other (inventory in narrative)
11/2008	

Narrative Continuation

Owner of Property

Name Tacoma Power, City of Tacoma
Address 3628 South 35th Street City Tacoma State WA Zip 98409
Is the owner the sponsor of this nomination? Yes No

Form Preparer

Name/Title Jeff Ryan, Architect Company/Organization City Resident
Address 3017 No. 13th Street City Tacoma State WA Zip 98406
Phone 253.759.0161 Email jjryan@harbornet.com

Nomination Checklist—Attachments

- | | |
|--|---|
| <input checked="" type="checkbox"/> \$100 Filing Fee (payable to City Treasurer) NENC Letter | <input checked="" type="checkbox"/> Continuation Sheets |
| <input checked="" type="checkbox"/> Site Map (REQUIRED) | <input checked="" type="checkbox"/> Historical Plans |
| <input checked="" type="checkbox"/> Photographs (REQUIRED): <i>please label or caption photographs and include a photography index</i> | <input checked="" type="checkbox"/> Other (please indicate):
<u>National Register of Historic Places, Approved Registration Form</u> |
| <input checked="" type="checkbox"/> Last Deed of Title (REQUIRED): <i>this document can usually be obtained for little or no cost from a titling company</i> | |

FOR OFFICE USE	
Date Received	_____
Fee Paid	_____

Narrative Continuation

PART 2: PHYSICAL DESCRIPTION

Extent of Changes

Please summarize the changes to plan, original cladding, windows, interior and other significant elements by selecting the choices below. If the property has been previously documented, these may be indicated on the Washington State Historic Property Inventory Form. These changes should be described specifically in the narrative section of this form.

	Original Materials Intact			Original Materials Intact	
Plan (i.e.: no additions to footprint , relocation of walls, or roof plan)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Interior (woodwork, finishes, flooring, fixtures)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Original cladding	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Other elements	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Windows (no replacement windows or replacement sashes)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			

Physical Description Narrative

Describe in detail the present and original (if known) physical appearance, condition and architectural characteristics (use continuation sheets if necessary).

The following description has been taken directly from the National Register of Historic Places, Registration Form prepared by Greg Rainka, Historic Research Associates Inc. for the City of Tacoma, 2014, No. 14001108. Corrections and additions have been highlighted by [] to preserve the integrity of the original author’s text.

Summary Paragraph

The Cushman Substation is located at 3713 North 19th Street in Tacoma, Pierce County, Washington, in the southeast quarter of Section 36, Township 21 North, Range 2 East, of the US Geological Survey Tacoma North Quadrangle. The nominated parcel includes the substation building (contributing), [the Adams Substation is located at 1920 North Adams Street and their] adjacent outdoor switchyards ([~~non~~]contributing), and the North 21st Street Towers (contributing). [These properties and structures collectively occupy] an entire city block bordered to the south by North 19th Street, the west by North Adams Street, the north by North 21st Street, and the east by North Washington Street [; and the Adams Street site south of Adams street between North 21st street and the mid-block alley to the south.]

[The Cushman complex, as constructed originally included the both and structure as well the construction of both north 19th and Adams streets adjacent to the two sites.]

The three-story Cushman Substation building occupies the southwest quadrant of the block and fronts south on North 19th Street. Park-like landscaping highlights the main entrance, which is centrally located on the south façade and is adorned with a monumental distyle temple front. The building is constructed of board-formed poured concrete, with a projecting concrete cornice articulating the top of a full entablature supported by engaged pilasters. Designed in the Tuscan order, the simplified Doric pilasters that define the second and third floors sit atop a pedestal (the first floor) comprising a raked dado and unadorned plinth. The most predominant feature of the Cushman Substation is its metal-sash windows, found on all stories on each side of the building, with window bays comprising three banks of 24-light windows separated by metal mullions.

[The Adams Street Substation also known as the Adams Street Transformer House occupies the southeast corner of its site. The building, like the large Cushman Substation also fronts on a park-like landscaping on both the North Adams Street and North 21st street frontages. Its adjacent transformer and storage yard resides behind the structure to the west. The Adams Street Substation is situated on the west side of North Adams Street, directly across from the Cushman Substation property. The site occupies approximately half of the block between the central alley and North 21st street. Constructed with and at the same time as the Cushman Substation and 21st street Tower system, it is a contributing part of the overall historic context of the Cushman Substation complex. Built by the same contractor and with the same materials and techniques utilized to construct the Cushman Substation, the building is a tall one story structure with a daylight basement that originally housed six transformers that supplied power to the surrounding neighborhood. The Cushman Substation originally supplied power to three smaller substations that in turn lowered the

Narrative Continuation

voltage for domestic use. These substations were located on Gove Street at North 45th, North K Street at North 8th and at the Adams Street Substation site. Of the three original substations only the Gove street site still serves as a n active electrical facility. Designed in a much simpler form than the adjacent Cushman Substation, the Adams Street Substation does share a similar poured in place board formed construction with a smooth exposed concrete finish and steel windows.]

Narrative Description

The [Cushman] substation building and outdoor switchyard occupy an entire city block, bordered to the south by North 19th Street, the west by North Adams Street, the north by North 21st Street, and the east by North Washington Street. The substation building occupies the southwest quadrant of the block, and fronts south on North 19th Street; park-like landscaping highlights the main entrance. The switchyard occupies the northwest quadrant of the block. The eastern half is partially graveled, partially paved, and features concrete pad foundations for equipment no longer extant at the site. [The Adams Street Substation building and outdoor switchyard occupy about a fourth of city block, bordered to the south by an alley, the west by an adjoining property line, the north by North 21st Street, and the east by North Adams Street.] The North 21st Street transmission line, a now discontinuous segment of the historic Potlatch (Cushman) Transmission Line,

1. Cushman Substation

The Cushman Substation building is rectangular in plan, is three stories tall, and has a basement. The building is constructed of board-formed poured concrete, including the foundation, walls, and exterior cladding. Seven bays wide by four bays deep, the building has a shallow-pitched gable roof, which is hidden by a shallow concrete parapet. The roof also features a shed-roof penthouse in the northwest corner that denotes the location of the interior elevator shaft. Below the parapet, a projecting concrete cornice articulates the top of a full entablature, supported by engaged pilasters. Designed in the Tuscan order, the simplified Doric pilasters that define the second and third floors, which sit atop a pedestal (the first floor) comprising a raked dado and unadorned plinth.

The main entrance is centrally located on the south façade and is adorned with a monumental distyle temple front. Accessed via concrete stairs that define the stereobate, the pediment, tympanum, and Tuscan columns of the temple-front entryway are unadorned; the fully articulated entablature features the words "Cushman Substation" in the frieze. The tripartite doorway has a single-light wood door accentuated by engaged Tuscan Doric columns, and flanked by twelve-light sidelights of beveled glass with engaged pilasters at the corners. The doorway also features an entablature, with decorative dentils below the frieze. Original metal hardware on the door appears to be intact.

The west side is devoid of entrances; other entryways, found on the north and east elevations, are industrial and/or utilitarian. These include the large metal roll-up door on the east elevation, with an inset pedestrian door; the second-floor entrance on the east elevation, accessed via an exterior metal stairway; the ground-floor pedestrian door on the east corner of the north elevation; and another metal roll-up door located in the center bay of the north elevation. With the exception of the main entryway door on the south elevation and the large metal roll-up door on the east elevation, both of which are depicted in original blueprints, all other doors appear to be modern.

The most predominant feature of the Cushman Substation is the industrial metal-sash windows. Found on all stories on each side of the building, the window bays comprise three banks of 24-light windows separated by metal mullions, for a total of 12-light by 6-light window bays. Each bay includes two operable 8-light hoppers, one each in the outside bank. The only exception to this configuration is on the second floor of the east side, where a doorway (described above) has been added to one of the window bays.

Original cast-concrete [iron] light poles flank the stairway to the main entrance. The light poles are also located on the corners of the south elevation, as well as symmetrically arranged on the west elevation, for a total of seven poles currently extant. [These poles match the poles originally found along the lake side of the drive atop Cushman Dam

Narrative Continuation

number one. Only seven of the original thirteen light poles remain which once adorned the walls and flanked the stairs, each originally had a round opal glass globe rather than the current acorn shaped globe.] The light poles originally featured glass globes, though these have been replaced with plastic globes or, in some cases, are missing altogether. [The expansive three story tall space of the Condenser room, with glass walls on three sides, is a character defining element within the facility. The immense volume of the room along with craftsmanship and high level of detailing, more than any other room in the complex, is a contributing part of to the buildings historic context, function and form.]

The interior of the Cushman Substation maintains the original massing and form as originally constructed; however, all operating equipment has been removed, and the building is used primarily for storage. The south half of the building is one large open room, three stories tall, historically known as the Condenser Room [Contributing]. This main area once housed the machinery (condensers) necessary for the substation, and still features original details, such as [the large cast iron] sconces with glass globes; gantry crane; engaged pilasters on interior walls; [monolithic terrazzo floor] and the exposed, board-formed concrete beams and ceiling that support the roof structure. Some modern lighting has been installed on the ceiling beams. One original metal stair, with industrial "pipe-fitting"-style handrails, accesses the second floor from the main room; a second stairwell was historically present, but was removed at an unknown date [and relocated on the exterior of the building mounted on the east façade.]

The north half of the building is horizontally divided between the first, second, and third floors. Historically, the first floor served as the Feeder Switch Room, with a small bathroom and locker room in the northeast corner. The second floor was divided between the shop (west), the Condenser Switch Room (center, not to be confused with the condenser room on the south side of the building), and the Control Room (east). The third floor served as a storeroom, as well as having smaller spaces in the northeast corner for the Battery Room, the "M. G. & Carrier Current Room," and the Load Dispatchers Office (also the location of the facility's second restroom). The roof is accessed via a metal stairway adjacent to the elevator shaft in the northwest corner. It is possible that some original slate panels are present in the control room behind the modern equipment; however, all switches and other components are no longer extant. If extant, original slate panels are hidden behind modern control stations and are likely used for partial structural support of same.

The basement level is accessed via a concrete stairwell at both the east and west ends of the Condenser Room on the first floor. The basement, historically, held a series of feeders, transmitters, and bus reactors; provided access to the machinery in the Condenser Room; and served as a storage area. Four large oil tanks, two for circuit-breaker oil and two for transmission oil, are still imbedded in the east wall of the basement. Three underground tunnels, two on the east and one on the north side of the building, provide access to the exterior switchyard.

With the exception of wholesale removal of interior equipment, alterations to the building itself have been fairly minor. For example, a door on the second floor of the east elevation was cut into a window; this change utilized the existing window space and, with the exception of the removal of some window panes, did not require removal of building fabric. Other alterations include the removal of light poles on the exterior of the building. Analysis of historic photos indicates that the substation originally had eight light poles on the south side and five on both the east and west sides.

2. [Cushman Substation] Switchyard

The switchyard is located adjacent to the Cushman Substation building, occupying the northwest quadrant of the block. The eastern half is partially graveled, partially paved, and features concrete pad foundations for equipment no longer extant at the site. The switchyard was constructed concurrently with the substation, but has been modified over the years as bussing and other equipment was upgraded for efficiency and safety standards. The switchyard is a [~~non~~] contributing, functionally-related structure to the Cushman Substation nomination. [The site provides a feeling of openness and visual link between the building and the surrounding streets, an open space and connection to the community for a building of prominence.]

Narrative Continuation

3. North 21st Street Towers

The North 21st Street Towers are a collection of original steel lattice towers located in the median between the east- and west-bound traffic on North 21st Street between N Highland Street and N Adams Street in Tacoma. The towers historically connected the Cushman Substation with the Cushman No. 1 development, and are a segment of the overall Potlatch (Cushman) line. The approximately 1.25 mile segment retains 16 of the historic 230-kV double circuit, steel lattice towers. The towers are approximately 120 feet tall, with four legs (set on concrete footings or a poured concrete pad) rising in a pyramidal shape to a rectangular top with two sets of three arms, one on each the north and south sides of the towers. The arms support transmission cables, conductors, insulators, and mounting equipment. These structures are original to the Cushman electric power generation and transmission system, retain integrity of design, materials, workmanship, feeling, association, setting, and location, and are a contributing, functionally related structure to the Cushman Substation. [The first of the original steel lattice Tower, west of the Cushman Substation, occupies the northeast corner of the Adam Street Substation site. Tower number 1 is the only tower resting outside the twenty first street right-of-way, the majority of which is resting on the Adam street substation site. The towers are intact and in their original form but are in need of restoration to repair peeling paint and associated rust.]

[4. Adams Street Substation

The Substation is situated on a relatively flat site with a service yard surrounded by a chain-link fence on the western third of the property. A parklike landscaped area of trees, shrubs and lawn runs along the north side of the site screening the service yard from 21st street. The first electrical Tower of the Potlatch line rests on the northeast corner of the lot. The Adams Street Substation is rectangular in plan, a tall single story building in height, with a daylight basement and fronts on Adams Street property line near the southeast corner of the property. The building like the Cushman Substation is constructed of reinforced board formed concrete, which was mixed on site and poured in place one wheelbarrow at a time. The building's façade is broken into five bays on the east and west sides, and four bays on the north and south, by pilasters that rise from grade up to the cornice line of the building. A shallow cornice extends around all four sides of the building, presenting a finished appearance on all sides. Above the cornice is a parapet wall with an articulated cap reflecting the pilaster located below. A shallow shed roof sloping to the west is hidden behind the parapet wall. The building is finished to the same level of finish and form on all four sides. While boarded up the building appears to be intact and in its original appearance with the exception of missing exterior light fixtures and a small exterior ventilation shaft on the south façade from grade to the top of the parapet wall above.

Each of the four facades varies in window and door arrangement and appearance principally due to the split level floor lines found within. The main entry door, a two panel wood door, is found in the southern bay of the Adams street façade, its threshold a few feet above grade. To the right of the entry door in the next bay is a nine pane steel window at the upper level with a vertical louver above. All three of the remaining bays to the north have a metal louver in the upper third and are currently boarded off below the louver but once contained a roller grill to access the transformers. The space behind these openings and similar opening on the west side allowed ventilation to the large transformers that occupied the tall single story space within. The south façade is symmetrical in appearance with a six pane steel window on the first floor and a nine pane window above, in the first and fourth bays. In the two center bays is a short vertical louver low on the wall into the first floor, high on the wall at these two bays is the remnants of the openings by which power entered the building from an adjacent set of poles long gone. A ventilation shaft has been added to the eastern bay covering up the windows from grade to the roof. The west side of the building is similar to the east, the Adams Street facade, with three large openings on the northern bays. An entry door with a three light transom is located slightly below grade, accessed by a concrete stair and metal railing to the basement floor level below. Above the door is a nine pane steel window on the upper level with louver above. A similar window is found in the second bay but with a six pane steel window below on the first floor. The north façade is symmetrical in appearance with a pair of two panel doors with three pane transom window above in both of the central bays. A short concrete stair provides access to the doors above grade. Some of the openings are currently boarded over with plywood.

Historically the northern three-fifths of the building housed six transformers and the two remaining bays on the south housed the switch room on the second floor with a regulator room below. Cast iron sconces once adorned the pilasters of the north and east sides of the building similar in appears to the interior sconces found within the Cushman Substation.

Narrative Continuation

5. Adams Street Switchyard

The Switchyard also known as the pole yard referring to its most recent use, occupies the western two thirds of the site. The yard is surrounded on four sides by a tall chain-link fence with gravel and concrete paving, the yard is currently vacant of any equipment only concrete pads mark the former equipment locations on site. The Switchyard is a contributing and was functionally related part of the Adams Street Substation context and character.

6. North 21st Street Tower No. 1

The first of the original steel lattice Tower, west of the Cushman Substation, occupies the northeast corner of the site. Tower number 1, as noted on the attached site plan, is the only tower resting outside the twenty first street right-of-way, the majority of which is resting on the Adam street substation site. The Tower as has all the Tower has been recognized as a contributing and was functionally related part of the Substation complex and directly speaks to the facilities context and character.]

PART 3: HISTORICAL OR CULTURAL SIGNIFICANCE

Criteria for Designation

Tacoma Municipal Code recognizes six criteria of eligibility for inclusion on the Tacoma Register of Historic Places. Please select any that apply to this property, for which there is documentary evidence included in this nomination form.

- A Is associated with events that have made a significant contribution to the broad patterns of our history; or
- B Is associated with the lives of persons significant in our past; or
- C 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 may lack individual distinction; or
- D Has yielded or may be likely to yield, information important in prehistory or history; or
- E Is part of, adjacent to, or related to an existing or proposed historic district, square, park, or other distinctive area which should be redeveloped or preserved according to a plan based on a historic, cultural, or architectural motif; or
- F Owing to its unique location or singular physical characteristics, represents an established and familiar visual feature of the neighborhood or City.

Historical Data (if known)

Date(s) of Construction 1926 Other Date(s) of Significance 1926 and 1949
Architect (s) Verne Grongrwer, Design Engineer Builder Dougan & Chrisman Engineer James Parker

Statement of Significance

Describe in detail the chronological history of the property and how it meets the criteria for the Register of Historic Places. Please provide a summary in the first paragraph (use continuation sheets if necessary). If using a Multiple Property Nomination that is already on record, or another historical context narrative, please reference it by name and source.

The following narrative has been taken directly from the National Register of Historic Places, Registration Form prepared by Greg Rainka, Historic Research Associates Inc. for the City of Tacoma, 2014, No. 14001108. Corrections and additions have been highlighted by [] to preserve the integrity of the original author's text.

1. Narrative Statement of Significance

In 1893, the City of Tacoma bought Charles Wrights' Tacoma Light and Water Company, thereby becoming one of the first cities in the Pacific Northwest to own and operate a municipal electrical system.¹ Known for political Progressivism, the Pacific Northwest was at the vanguard of the reform movement to control utilities' cost and quality by placing them under public ownership. In the mid-nineteenth century, most American cities awarded franchises to private utility companies, but reformers in the Progressive Party targeted the system's potential for graft, favoritism, and corruption. They maintained that a publicly owned utility would not only eliminate unsavory collusion among private businessmen and public officials but also promote more efficient management.² Unlike older cities in the American East and Midwest, Tacoma was able to move quickly toward a more democratic utility system.

After the 1893 purchase, the former Tacoma Light and Water Company became part of the City of Tacoma's Light Department, a division of the city formed to provide municipal lighting and power. The division was operating under the name Tacoma City Light by 1915, a name it would maintain until 1989, after which the organization continued doing business under the name Tacoma Power.

Narrative Continuation

By the turn of the twentieth century, growing consumer demand had overtaxed the direct current system, and the city had to purchase additional power from private companies in the region. In 1909, Tacoma voters authorized construction of a hydroelectric generating facility on the Nisqually River. Attempts to develop a power plant on the North Fork of the Skokomish River at Lake Cushman actually began in 1912, when Seattle citizens approved a related bond issue. The City of Seattle issued condemnation notices to property owners, but abandoned the project in 1914.³

By 1917, Tacoma was experiencing a population explosion and needed a new source of electric power to meet the increasing demands of domestic labor-saving devices and power-dependent industries. Public Utilities commissioner Ira S. Davisson and Tacoma City Light reselected the Lake Cushman site for a new hydroelectric complex. The city applied for water rights and reservoir permits in 1919, and began condemnation proceedings the same year for the needed land.

In 1922, Davisson hired Jay L. Stannard from San Francisco to serve as chief engineer for the Cushman project. While some of the interviewees for the position wanted as much as \$35,000 a year, Stannard offered his services at the bargain rate of \$7,500. He explained, "it's just what I wanted to do . . . I made a thorough investigation of the Cushman project in 1917 with the idea of doing it for Seattle and have always wanted to develop the project."⁴ Jay Stannard was born to Gilbert and Esther Stannard in New York in 1866. By 1880, the family had relocated to Shell Rock, Iowa, in a westward trend that Stannard would continue all the way to Washington. By 1900, Stannard and his wife Carrie, whom he married in 1899, were lodging in Everett, Washington. Stannard worked with the Great Northern Railway as early as 1902, when he led a survey from Columbia Falls to Tobacco Plains in Flathead, Montana.⁵ Stannard also spent time in Oregon, where he was employed by the city of Baker as consulting engineer for a municipal hydroelectric project.⁶ An August 1917 edition of *Electrical Review* noted, "J. L. Stannard, Portland, Oregon, is consulting engineer in connection with the proposed hydroelectric plant for the City of Seattle. He has made plans and estimates covering all phases of the contemplated project."⁷ By the time Cushman was proposed for Tacoma, Stannard's career as a civil engineer appears to have been well established.

The contract for construction of the first Cushman dam (built near Hoodspout) was let to Guthrie & Company of Portland, Oregon, in spring 1924. (Guthrie & Company would also later be awarded the contract for construction of the Cushman No. 1 powerhouse under a separate bid.) Work on the tunnel shafts began first, on May 1, 1924, and peaked in 1925. After a two-year construction period, Lake Cushman began rising to fill the valley. The Cushman Powerhouse No. 1 was constructed concurrent with the dam, beginning in spring 1925 and completed in March the following year. Located 700 feet downstream of the dam, the building housed the water turbines and generators, as well as the exciter switchboard and control room.

To distribute the power of the water, 44 miles of transmission lines were constructed to carry the full load capacity of the Cushman No. 1 powerhouse. The first 5 miles carried the line to the future site of the Cushman No. 2 powerhouse (completed in 1930). The remaining 39 miles carried the power into Tacoma, crossing the Skokomish Flats, the two relatively benign water crossings at North Bay and Henderson Bay, and the daunting Narrows Crossing, a particularly treacherous and windy water corridor almost a mile wide. When the transmission line across the Narrows was completed in 1925, the approximately 6,244-foot-long span was the longest aerial electrical span in the world, with pairs of 315-foot-tall steel towers supporting cables that carried Cushman power across the Narrows to the city.⁸ The line continued into Tacoma via North 21st Street, terminating at the Cushman Substation.

Original blueprints of the Cushman Substation, dated December 3, 1924, and on file with Tacoma Power, reference Structural Engineer J. Verne Gongwer, Superintendent of Electrical Construction A. F. Darland, and, of course, Chief Engineer Jay Stannard. Additionally, James Parker is thought to have prepared the plan and perspective drawings, though it is unknown to what extent he was involved in the design phase.⁹ [The original blueprints for the Adams Street Substation are less formal but like Cushman they are on City of Tacoma Light Department title block sheets. Authorship is not clearly indicate on all sheet but a few sheets note Ballock Nightingale as the Designer, dated between May 4 and May 7, 1925, and are on file with the Tacoma Power.

Narrative Continuation

Verne Gongwer, an engineer from Michigan, would later be known as the “hero” of the Cushman Substation. Using his “engineer’s know-how, “he designed the building without the aid of degree in architecture. He is even credited for concocting —a shortcut for spiffing up the substation,” specifically the Greek Revival entry and buffed concrete finish. Gongwer is also credited with the design of the Tacoma Narrows crossing of the transmission line.¹⁰

Alvin F. Darland served as the superintendent of electrical construction for the entire Cushman Hydroelectric Project. “Reared and educated in Tacoma,” Darland graduated from Stadium High School and, in 1914, the University of Washington. He began his electrical career at the Todd Drydock & Construction Corporation, working on the electrical installations of the yard as well as the US cruisers built there. He joined the Tacoma Light Department around 1916, and began work on the Cushman Project in April 1923. He is credited with the “splendid electrical layouts of the Cushman (No. 1) power house, substation and transmission lines.”¹¹

Bidding for the contract to construct the Cushman Substation was closed in December 1924. Sixteen contractors submitted twenty proposals, with cost estimates ranging from \$166,470.80 up to \$241,656.05. The lowest bid was received of Dougan & Chrisman of Seattle, and included construction of the substation building, the tunnels, footings for the exterior switchyard equipment, and the steel structures to support the heavy bus connectors. The firm was officially awarded the contract for the Cushman Substation in January 1925, and began work on the building shortly thereafter.¹²

Founded by James Madison Dougan in 1908, Dougan & Chrisman had offices in both Seattle and Portland, Oregon. In Portland the firm was known for construction of the Elks and Masonic temples, the Benson Hotel, and the US National Bank Building, among others. In Seattle, the firm constructed the Virginia Mason Hospital, the Garfield School, and several state university buildings.¹³

Concrete for the foundations of the Cushman Substation was poured in March of 1925, with deep excavations required to allow for the huge generators the building would house.¹⁴ The roof of the substation was poured in August.¹⁵ By October, the distinctive metal windows were being installed, and much of the heavy electrical equipment had been installed in the adjoining switchyard.¹⁶ In January 1926, “a giant 80-ton condenser” was the first piece of machinery tested at the substation, the success of which marked that the building and associated transmission lines and operating equipment were “practically ready to receive power from the Skokomish River.”¹⁷

Designed to handle the power from both the Cushman No. 1 and the planned Cushman No. 2 powerhouses, the substation was constructed in the heart of one of Tacoma’s residential districts. As such, “every effort was made to effect a design that was not only permanent and efficient in operation, but was also a beautiful piece of architecture and would harmonize with the surroundings.”¹⁸ Contemporary newspapers remarked on the Cushman Substation as not only “a model of electrical engineering, but its distinctive design will be in keeping with the residential section in which it will be constructed.”¹⁹ Cost of construction of the building was estimated at \$150,000, with additional costs of operating and electrical equipment “representing a valuation of more than \$550,000 when completed... The cost of the plant unit by unit as a whole is said to be far below the cost of other hydro-electric plants and will enable Tacoma to maintain its place in the industrial world as the home of the nation’s cheapest electrical power.”²⁰

The three-story reinforced concrete building was constructed with an architectural treatment worthy of any building in the heart of the City. The cornice, pilasters, mouldings, etc. were all formed and poured monolithic with the main building. The surface treatment of the outside of the building, as well as all other exposed concrete on the block which the building occupies is what is known as a “rubbed finish.” This consists of rubbing the concrete surfaces, after being stripped, with a rough carborundum stone until all film, fins and unevenness disappears, and then painting with a neat cement grout and rubbing in with a fine carborundum stone until only enough material is left on the surface to fill all of the voids and produce a smooth sandstone-like appearance.

Narrative Continuation

This finish harmonizes very well with the aluminum finish used on the towers, transformers, switches, and other equipment in the outdoor portion of the substation.²¹

As constructed, “one of the most interesting features of the Cushman Substation” was the placing of thousands of feet of conduit in the floor slabs, walls and columns of the building.” High-voltage wiring from exterior bussing equipment entered the substation via basement tunnels. Concrete barriers separated and insulated the high-voltage busses, while lower-voltage circuits were distributed via iron conduits cast into the concrete structure of the building.²²

By March 1926, there was sufficient water in the Lake Cushman reservoir to begin producing power.²³ The 44-mile-long Potlatch Transmission Line, extending from the Cushman No. 1 powerhouse to the Cushman Substation in Tacoma, was first energized on March 23, 1926.²⁴ At the formal dedication held in May, “the current from the dam was turned on in Washington, D.C., by President Calvin Coolidge using a key made by Lincoln High School students, which included gold from a Northern Pacific Railroad souvenir spike.”²⁵ The Cushman system has provided power for the city of Tacoma ever since.

From its inception in 1893, Tacoma’s public utility had sold power for commercial purposes in order to reduce the cost of residential power and light. The move to promote industrial expansion within the city directly influenced municipal power development. Following the opening of Cushman No. 1 and the Cushman Substation in 1926, several large industrial enterprises located plants in Tacoma. A consequent population boom and the availability of inexpensive electricity also encouraged consumers to purchase electric stoves, refrigerators, washing machines, and smaller appliances. In fact, demand was so great that by 1927, a year after Cushman No. 1 came online, the City Light department was promoting a second dam on the Skokomish River with the dire prediction that, without increased electrical output, Tacoma would “face a power shortage within three years.”²⁶

In spring 1929, Tacoma City Light began construction of the second power plant on the Skokomish River, 2 miles downstream from the first. With the water discharged from Cushman No. 1, Cushman No. 2 utilized the remaining 480-foot elevation drop to the Hood Canal, a 240-foot-high arch dam, and a 13,000-foot-long tunnel to provide additional power for the city. Construction of Cushman No. 2 began none too soon: extreme drought in fall 1929 forced the city to rely in part on supplemental power supplied by the U.S.S. Lexington, which remained anchored in Tacoma harbor from December 18, 1929, through January 16, 1930.²⁷ The combined Cushman Nos. 1 and 2 systems were poised to bring a total of 140,000 horsepower to Tacoma - 50,000 from Cushman No. 1 and 90,000 from Cushman No. 2. As one report noted, “it is hard for the mind to grasp the significance of 50,000 horsepower of electrical energy. Picture an army of 1,000,000 men engaged in physical labor. Their combined effort would about equal this horsepower.”²⁸

In 1930, a journalist reported that “work on Cushman No. 2 project is being carried on seven days a week and 24 hours a day, as the power is urgently needed to supply the market at Tacoma.”²⁹ The new Cushman No. 2 dam, a 240-foot, constant-radius, high-arch dam, rose to create Lake Kokanee.³⁰ The Cushman No. 2 powerhouse, which is located on the Skokomish Reservation, overlooking the Olympic Highway, was constructed by J. E. Bonnell and Son of Tacoma. The city’s grand design for the Cushman No. 2 powerhouse exudes the sense of pride and progress felt by Tacoma City Light. The building draws upon neoclassical influences in civic architecture to express the significance of the facility to the functioning of the city.

On August 22, 1939, John D. Ross, chief administrator of Bonneville Power (and former head of Seattle City Light), addressed Congress on the status of Bonneville Dam (1934) and the newly proposed Grand Coulee Dam for which he sought federal funding. He said, —the enterprises the Pacific Northwest needs most for industrial development are those requiring large quantities of cheap electrical energy of which the region will soon have abundance. “In a feature article, the *Seattle Post-Intelligencer* listed thirteen key regional units that provided power and light. Among them was —Tacoma City Light (public monopoly—at present America’s lowest power rates).”³¹

Narrative Continuation

By 1947, the City of Tacoma, Department of Public Utilities, Light Division, had begun construction on the Pearl Street Substation in Tacoma; in 1949, the transmission line was rerouted from the Cushman Substation to the Pearl Substation.³² Blueprints for the "Pearl Street Switching Station Control House" are dated June 7, 1949, approved by engineer A. W. Francis. Although the transmission line continues on to the Cushman Substation, the historic alignment and terminus of the line have been altered. The Cushman Substation now acts as a storage building, and all original interior equipment has been removed. The switchyard, located on the Cushman Substation property, is still active, although it contains only modern equipment.

Historically, the substation was an integral part of the Cushman Hydroelectric Project, acting as terminus for the transmission line and therefore an essential resource directly related to the production and transmission of hydroelectric power to the citizens of Tacoma. Though the building exhibits excellent integrity of location, design, setting, materials, workmanship, feeling, and association, rerouting of the Potlatch Transmission Line to the Pearl Street Substation in 1949 and the subsequent removal of all power-related equipment from the interior of the Cushman Substation have rendered the building functionally disconnected from the rest of the Cushman system. However, the building is an excellent example of neoclassical-revival architecture, and has seen few alterations (apart from interior removal of equipment). The basic form, massing, and scale of the building, both interior and exterior, are intact.

The Cushman Substation is eligible for listing in [has been listed on] the National Register at the local level for significance under Criterion A, associations with broad patterns of history, for the role it played in the growth of the city of Tacoma and the region due to the development of hydroelectric generation and its subsequent effect on the availability of affordable electricity. [The Cushman Substation complex is eligible for listing in the Tacoma Register based on these same reasons. The Cushman Substation [complex] is the urban embodiment of the City of Tacoma's achievement in hydroelectric power production via development of the Cushman Hydroelectric Project. The substation housed the means for efficient and economical distribution of electricity, which enabled the region to grow and expand and, therefore, made the Cushman Substation one of the most important and influential buildings of its time.

The monumental architectural style reflected this ideology, creating a visual statement as to the importance of the city's recently completed municipal hydroelectric system. As such, the building is also eligible for listing in the NRHP at the local level for significance under Criterion C, architecture. The Cushman Substation is an excellent example of neoclassical revival style architecture, with which the City of Tacoma built the Cushman Hydroelectric Project facilities in the 1920s. The only urban building constructed concurrent with the Cushman Hydroelectric Project, the Cushman Substation is a visual representation of the importance of public energy facilities to regional growth. The monumental architectural style reflected the importance of efficient and economic distribution of energy, creating a visual statement as to the importance of the city's recently completed municipal hydroelectric system.

The period of significance is 1926–1949, the date construction was completed through the date the transmission line was rerouted and the historic terminus altered.

Narrative Continuation

¹ Dick Malloy and John Ott, *The Tacoma Public Utilities Story: The First 100 Years, 1893–1993* (Tacoma, WA: Department of Public Utilities, 1993), 13.

² Robert Wiebe, *The Search for Order, 1877–1920* (New York: Hill & Wang, 1967), 166–72.

³ Loretta Neumann, William Beckner, Janet Friedman, Steve DelSordo, and John Culliname, Cultural Resource Management Plan: Cushman Hydroelectric Project, submitted to Tacoma Public Utilities, Tacoma, WA, 1996, A3-9, on file at Tacoma Public Utilities, WA.

⁴ Malloy and Ott, *Tacoma Public Utilities Story*, 84.

⁵ "Surveying and Speculation Continues in Flathead," *The Inter Lake*, January 3, 1902, Great Northern Railway, Kalispell Division, <http://www.gnry.net/lookingback/lbi1900s.html#1902>.

⁶ "News Notes," *Journal of Electricity, Power, and Gas* 33 (December 26, 1914): 589. 7 —Personal and Biographical," *Electrical Review* 71, no. 6 (1917): 250.

⁸ Malloy and Ott, *Tacoma Public Utilities Story*, 88.

⁹ "Bid for Cushman Substation to Be Called this Week" *Tacoma Sunday Ledger*, December 7, 1924, E-8.

¹⁰ Bart Ripp, "A Very Juicy Past: Cushman Sub-Station Is an Elegant Reminder of Tacoma Public Utilities' Century of Providing Power," *Tacoma News Tribune*, November 29, 1993. 3. See also —Cushman Power Project Edition," *Tacoma Daily Ledger*, February 28, 1926.

¹¹ "Cushman Power Project Edition" *Tacoma Daily Ledger*, February 28, 1926, 11.

¹² "City Power Substation Bids Opened," *Tacoma Daily Ledger*, December 30, 1924, 1.

Original blueprints of the Cushman Substation, dated December 3, 1924, and on file with Tacoma Power, reference Structural Engineer J. Verne Gongwer, Superintendent of Electrical

¹³ Ila L. Wakley, "James Madison Dougan," S. J. Clarke Publishing Company, The USGenWeb Project, accessed March 17, 2014, <http://usgenweb.org/>. <http://files.usgwarchives.net/or/multnomah/bios/dougan444gbs.txt>.

¹⁴ "Pouring Concrete for New Substation," *Tacoma Daily Ledger*, March 9, 1925, 3.

¹⁵ "Work being Speeded on Big City Substation," *Tacoma Daily Ledger*, August 16, 1925, A-4.

¹⁶ "Getting Ready to Receive Cushman Current," *Tacoma Daily Ledger*, October 11, 1925, A-11.

¹⁷ "Test of Machine's Success," *Tacoma Daily Ledger*, January 1, 1926, A-1.

¹⁸ Ira S. Davisson and Llewellyn Evans, "Cushman Power Project," 1924–1925 Information Book of the Light Department, City of Tacoma, Washington, 73. Washington State Archives, Puget Sound Region Branch, Tacoma Municipal Government Collection, Tacoma Public Utilities Division, Reports and Publications, PS611-81A-86.

¹⁹ "Bids for Cushman Substation to Be Called This Week," E-8.

²⁰ *Ibid.*

²¹ Davisson and Evans, "Cushman Power Project," 73.

²² Davisson and Evans, "Cushman Power Project," 73.

²³ Malloy and Ott, *Tacoma Public Utilities Story*, 88; and Overland, *Early Settlement of Lake Cushman*, 40.

²⁴ Malloy and Ott, *Tacoma Public Utilities Story*, 88.

²⁵ Office of Historic Preservation, Community Development Department, —Cushman Power Project, Cushman Substation, II Survey-Inventory Form, Community Cultural Resource Survey, Reference No. 31650, April 1981, 2, on file at the Washington Department of Archaeology and Historic Preservation (hereafter DAHP).

²⁶ City of Tacoma, Department of Public Utilities, Light Division, 1926–27 Information Book (n.p.: n.p., 1927), 18, Tacoma Public Utilities History Collection, Accession PS-20091012-02, Box 7116, Tacoma Public Utilities Archival Collection, Washington State Archives, Puget Sound Regional Branch (hereafter WSA-PSRB).

²⁷ "Report to December 31, 1929," Report and Information Book of the Light Division, Department of Public Utilities, City of Tacoma, Washington, 16, Tacoma Public Utilities History Collection, Accession PS-20091012-02, Box 7116, Tacoma Public Utilities Archival Collection, WSA-PSRB.

²⁸ —Cushman Project Visualized," [ca. 1925], Tacoma Public Utilities History Collection, Accession PS-20091012-02, Box 7116, Tacoma Public Utilities Archival Collection, WSA-PSRB.

²⁹ —Cushman Power Plant No. 2 for Tacoma, II Western Construction News, November 10, 1930: 538.

³⁰ Lisa Soderberg, "Cushman No. 1 Hydroelectric Power Plant," National Register of Historic Places Nomination Form, 1988, 8-1, on file at DAHP.

³¹ John D. Ross, "Plentiful Electricity Seen as Stimulant. Accompanied by Quotes from the Author's Address to Congress and by a List of 'Key Units and Their Present Power and Light Services,' *Seattle Post-Intelligencer*, August 22, 1939, Costello Scrapbooks, vol. 8, "Dams and Power," *Seattle Public Library*, Seattle, Washington.

³² The Pearl Street Substation is located at 2402 Pearl Street North in Tacoma. The substation comprises one building, an outdoor switchyard, and one historic-era tower identical to those found on North 21st Street. The single-story building with a drive-under basement fronts east on Pearl, with parklike landscaping separating the substation from the suburban mini-mall development located east of Pearl Street. The Pearl Street Substation has seen few exterior alterations since initial construction: the windows appear to be original, as does the stucco cladding. Though all doors appear to be modern, they are in original openings. The building retains good integrity of design, workmanship, feeling, association, setting, and location, and fair integrity of materials.

Continuation Sheet

1. Geographic Data

Acreage of Properties: 1.91 acres Cushman Substation
0.47 acres Adams Street Substation

Additional UTM References for the Adams Street Substation Site

	Zone	Northing	Easting
21.	10	538724	5234996
22.		538722	5234953
23.		538784	5234955
24.		538785	5234997

A. Figures Continuation Sheet

- Figure 1. 1926 "Metsker's Atlas – Tacoma, Washington. Metsker, Chas F., Metsker Map Company, Tacoma Washington
- Figure 2. Illustrated Map of Cushman Project 1947, Tacoma City Light
- Figure 3. Cushman Substation under construction, board formed construction, August 3, 1925, Image courtesy of Tacoma Power
- Figure 4. Raising of Tower 1 with Adams and Cushman Substation in background August 4, 1925, Image courtesy of Tacoma Power
- Figure 5. Adams Street view North, September 8, 1925, Image courtesy of Tacoma Power
- Figure 6. Adams Street substation and Tower 1; view northwest, September 12, 1925, Image courtesy of Tacoma Power
- Figure 7. Adams Street Substation; view southeast, October 6, 1925, Image courtesy of Tacoma Power
- Figure 8. Adams Street view northeast, October 19, 1925, Image courtesy of Tacoma Power
- Figure 9. Cushman Substation Control Room ca. 1929, Image courtesy of Tacoma Public Library
- Figure 10. Cushman Substation Condenser room ca. 1929, Image courtesy of Tacoma Public Library
- Figure 11. Cushman Dam and Lake, ca 1929, Lamp poles, Image courtesy of Tacoma Public Library
- Figure 12. Cushman complex, View east April 13, 1937, Image courtesy of Tacoma Power
- Figure 13. Cushman Substation, 19th Street facade, 1947, Image courtesy of Tacoma Power
- Figure 14. Adams Street Substation Plan 1924, Drawing courtesy of Tacoma Power
- Figure 15. Adams Street Substation Elevations 1924, Drawing courtesy of Tacoma Power
- Figure 16. Cushman Substation, main entry onto 19th Street
- Figure 17. Cushman Substation, view northwest, Jeff Ryan Photographer, August 2016.
- Figure 18. Cushman Substation, view northeast, Jeff Ryan Photographer, August 2016.
- Figure 19. Cushman Substation view southeast, Jeff Ryan Photographer, August 2016.
- Figure 20. Cushman Substation view south, Jeff Ryan Photographer, August 2016.
- Figure 21. Cushman Substation, view west, Jeff Ryan Photographer, August 2016.
- Figure 22. Adams Street Substation and Tower 1, view southwest, Jeff Ryan Photographer, August 2016.
- Figure 23. Adam Street Substation, with tower 1 in background, view northeast, Jeff Ryan Photographer, August 2016.

Continuation Sheet

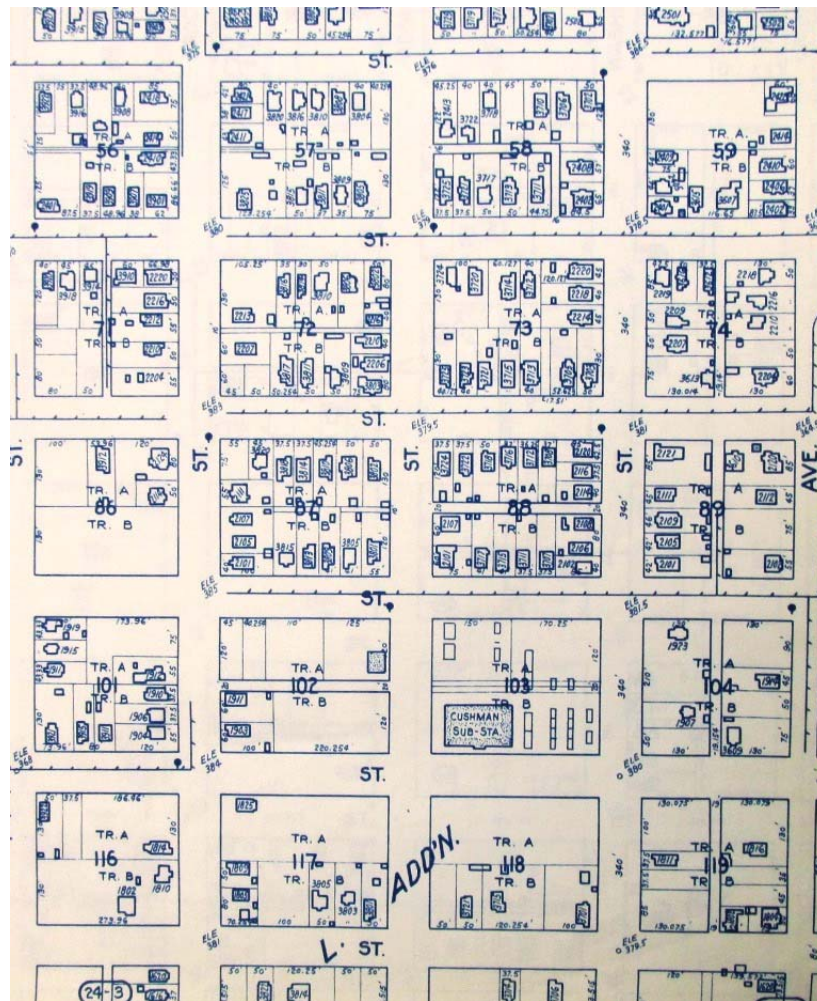


Figure 1 Cushman & Adams Street Site 1926

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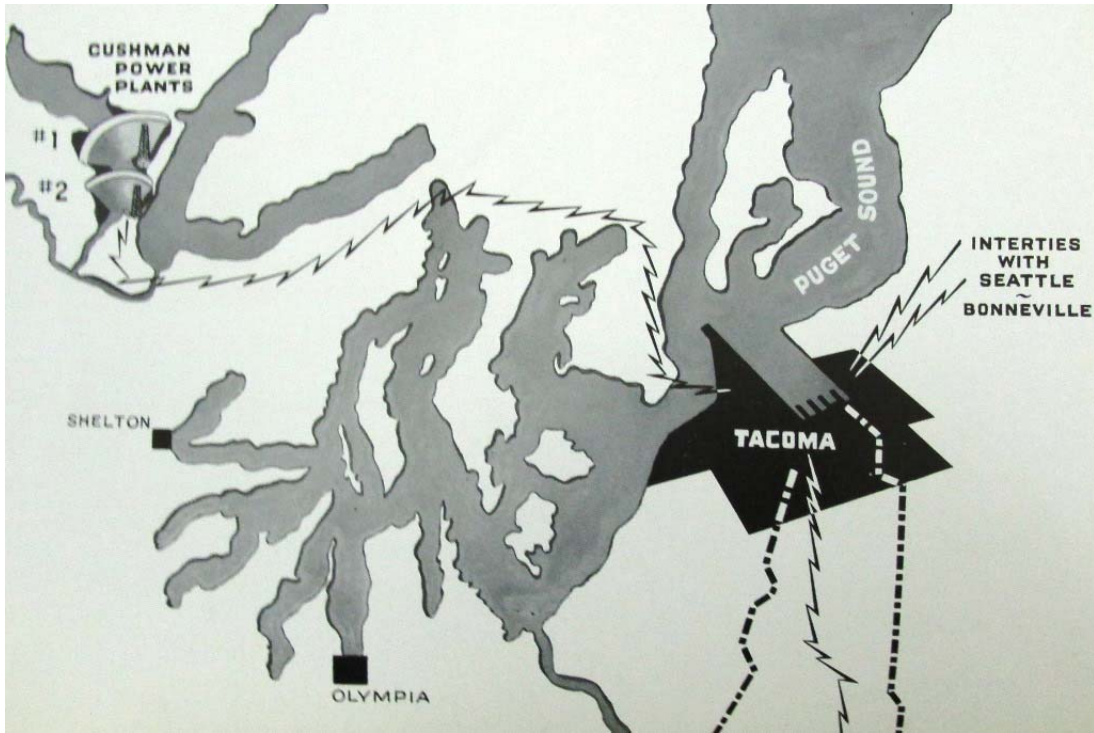


Figure 2 Cushman Power Project Illustrated Map 1947

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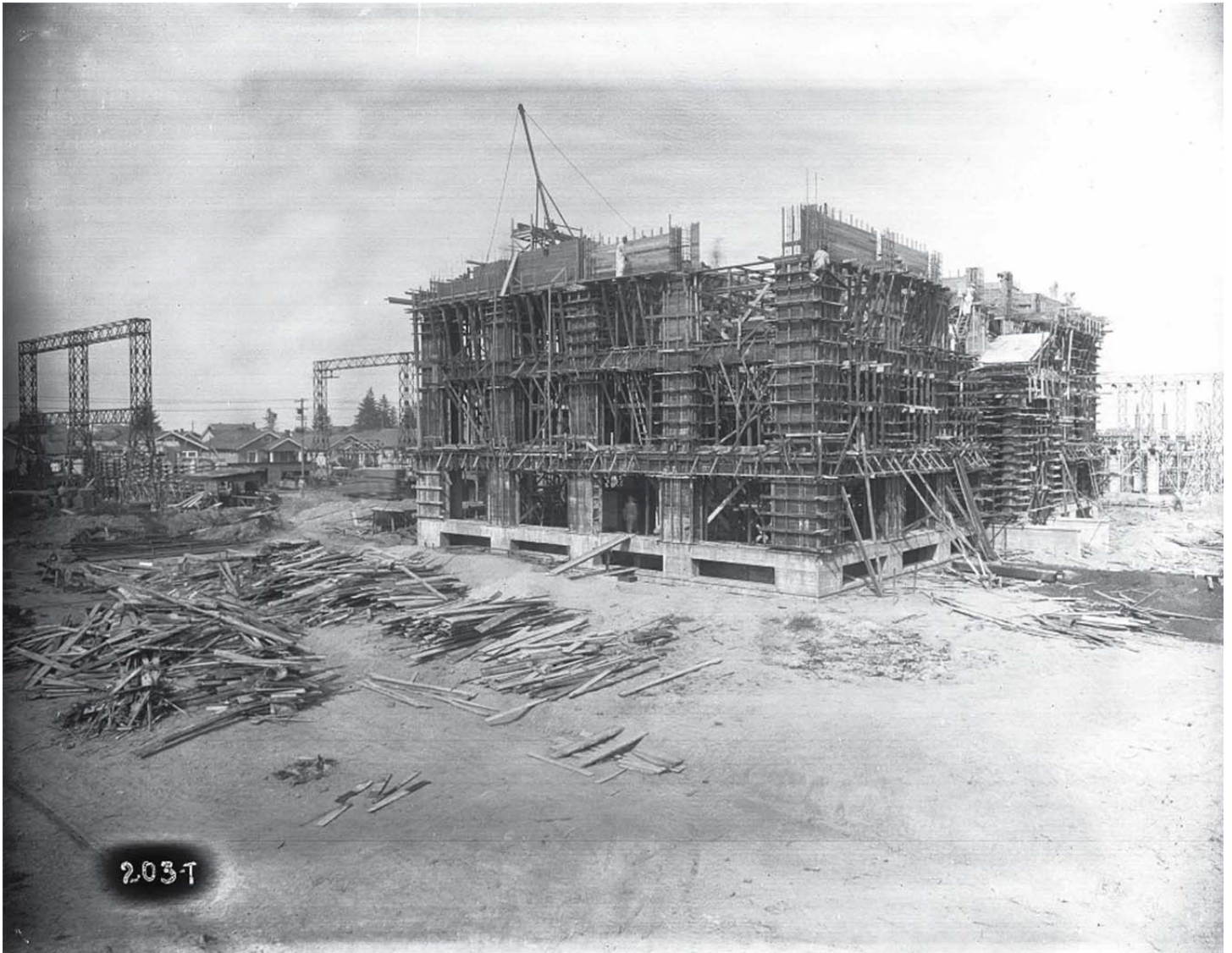


Figure 3 Cushman Substation under construction, board formed construction, August 3, 1925, Image courtesy of Tacoma Power

Continuation Sheet



Figure 4 Raising of Tower 1 with Adams and Cushman Substation in background August 4, 1925, Image courtesy of Tacoma Power

Continuation Sheet



Figure 5 Adams Street view North, September 8, 1925, Image courtesy of Tacoma Power

Continuation Sheet



Figure 6 Adams Street substation and Tower 1; view northwest, September 12, 1925, Image courtesy of Tacoma Power

Continuation Sheet



Figure 7 Adams Street Substation; view southeast, October 6, 1925, Image courtesy of Tacoma Power

Continuation Sheet



Figure 8 Adams Street view northeast, October 19, 1925, Image courtesy of Tacoma Power

Continuation Sheet



Figure 9 Cushman Substation Control Room ca. 1929, Image courtesy of Tacoma Public Library

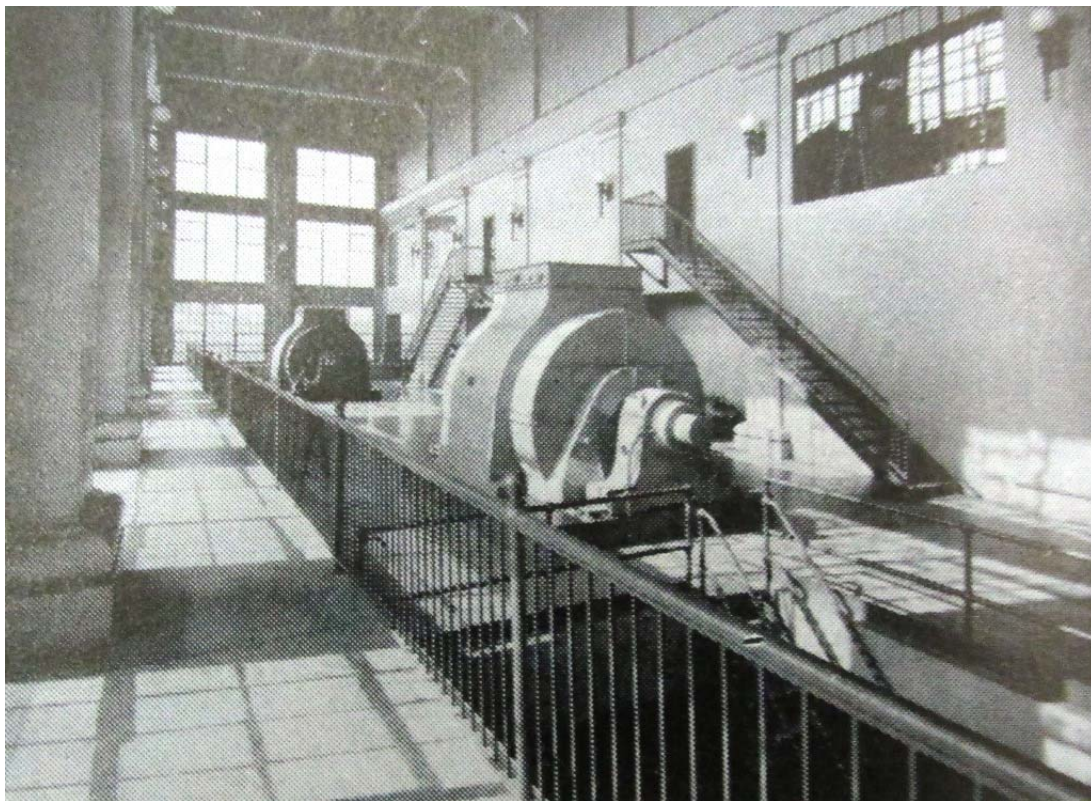


Figure 10 Cushman Substation Condenser room ca. 1929, Image courtesy of Tacoma Public Library

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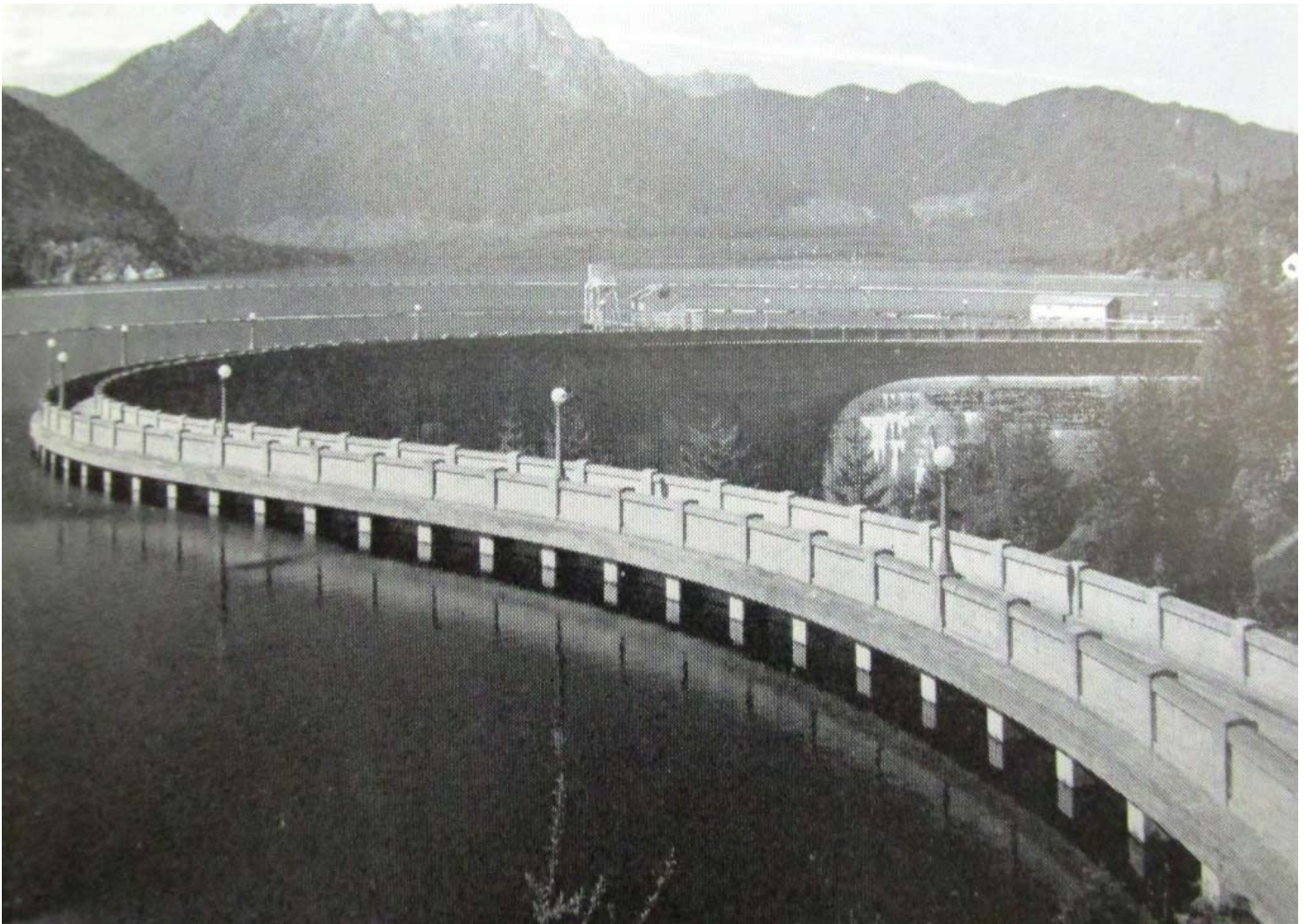


Figure 11 Cushman Dam and Lake, ca 1929, Lamp poles, Image courtesy of Tacoma Public Library

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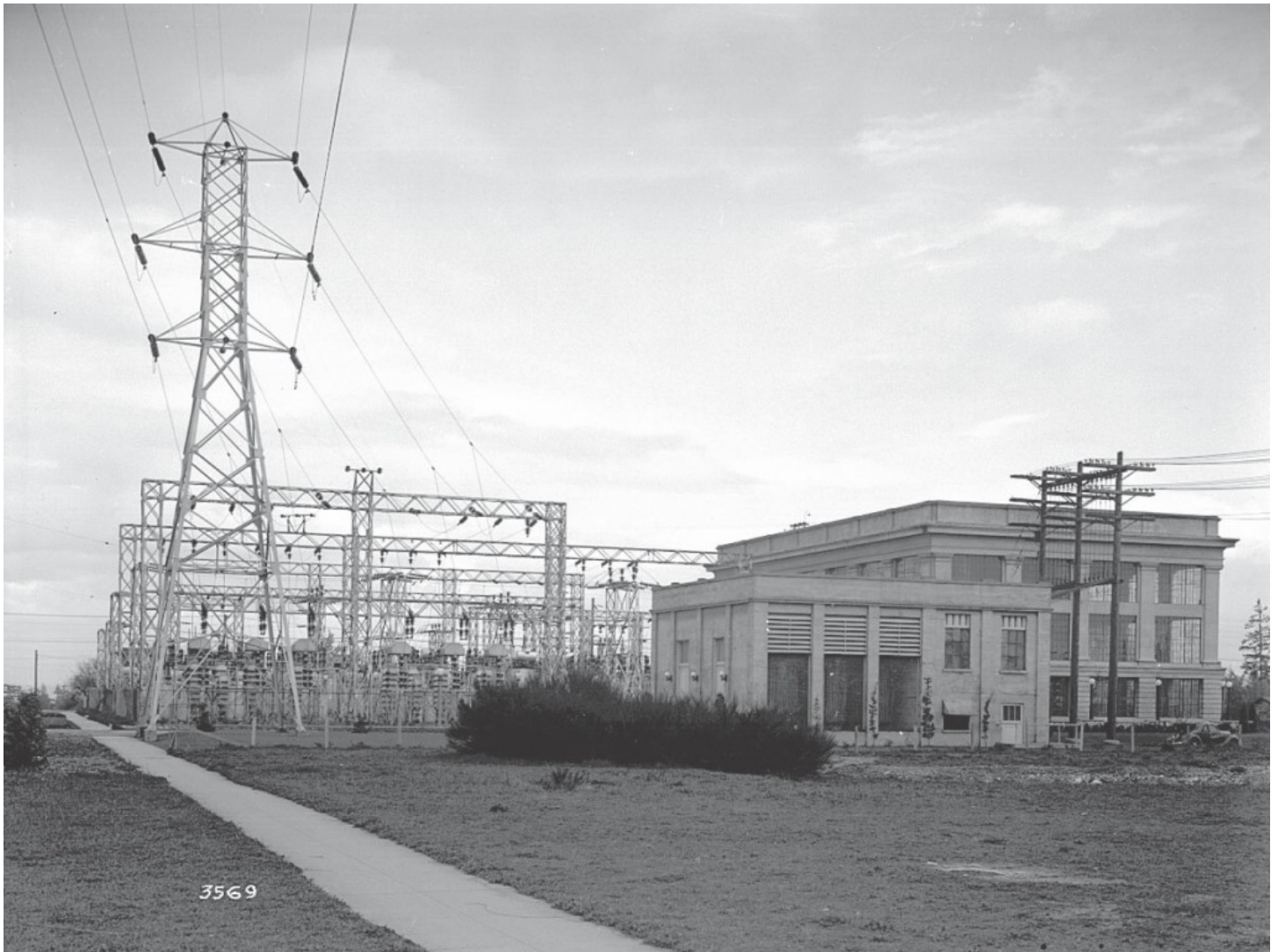


Figure 12 Cushman complex, View east April 13, 1937, Image courtesy of Tacoma Power

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Figure 13 Cushman Substation, 19th Street facade, 1947, Image courtesy of Tacoma Power

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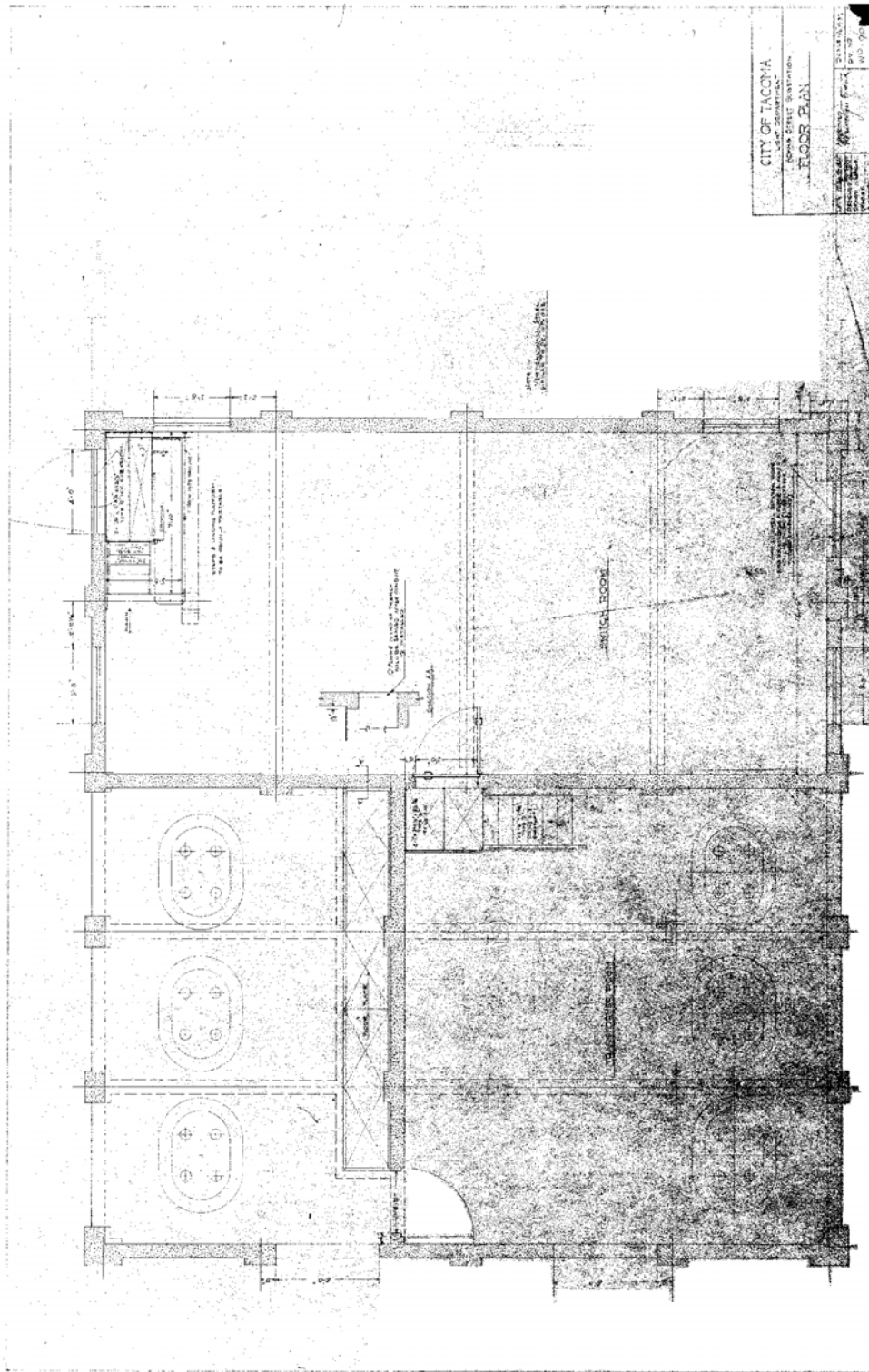
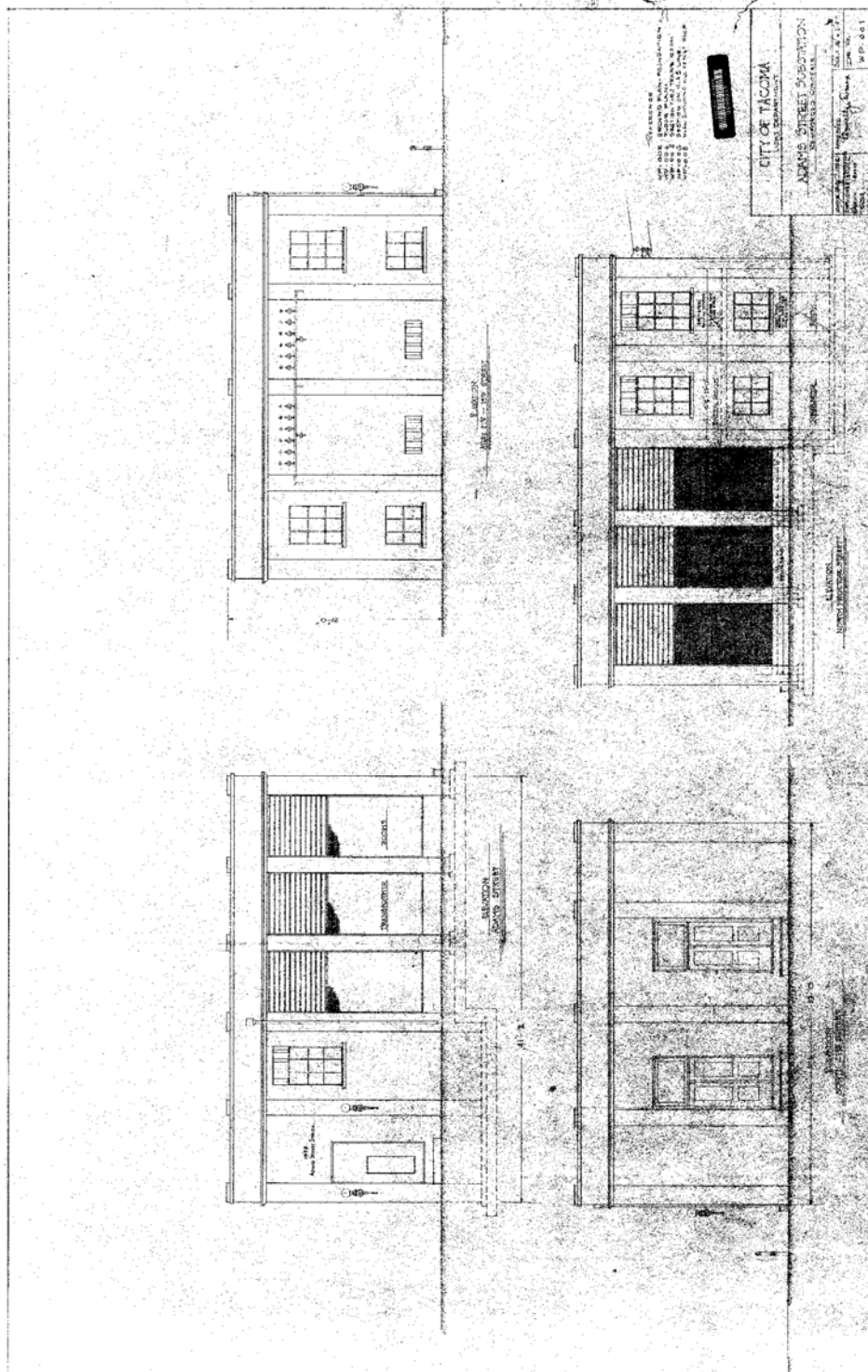


Figure 14 Adams Street Substation Plan 1924, Drawing courtesy of Tacoma Power

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Continuation Sheet



Figure 16 Cushman Substation, main entry onto 19th Street

Continuation Sheet



Figure 17 Cushman Substation, view northwest.

Continuation Sheet



Figure 18 Cushman Substation, view northeast

Continuation Sheet



Figure 19 Cushman Substation view southeast

Continuation Sheet



Figure 20 Cushman Substation view south

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Figure 21 Cushman Substation, view west

Continuation Sheet



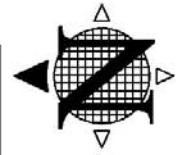
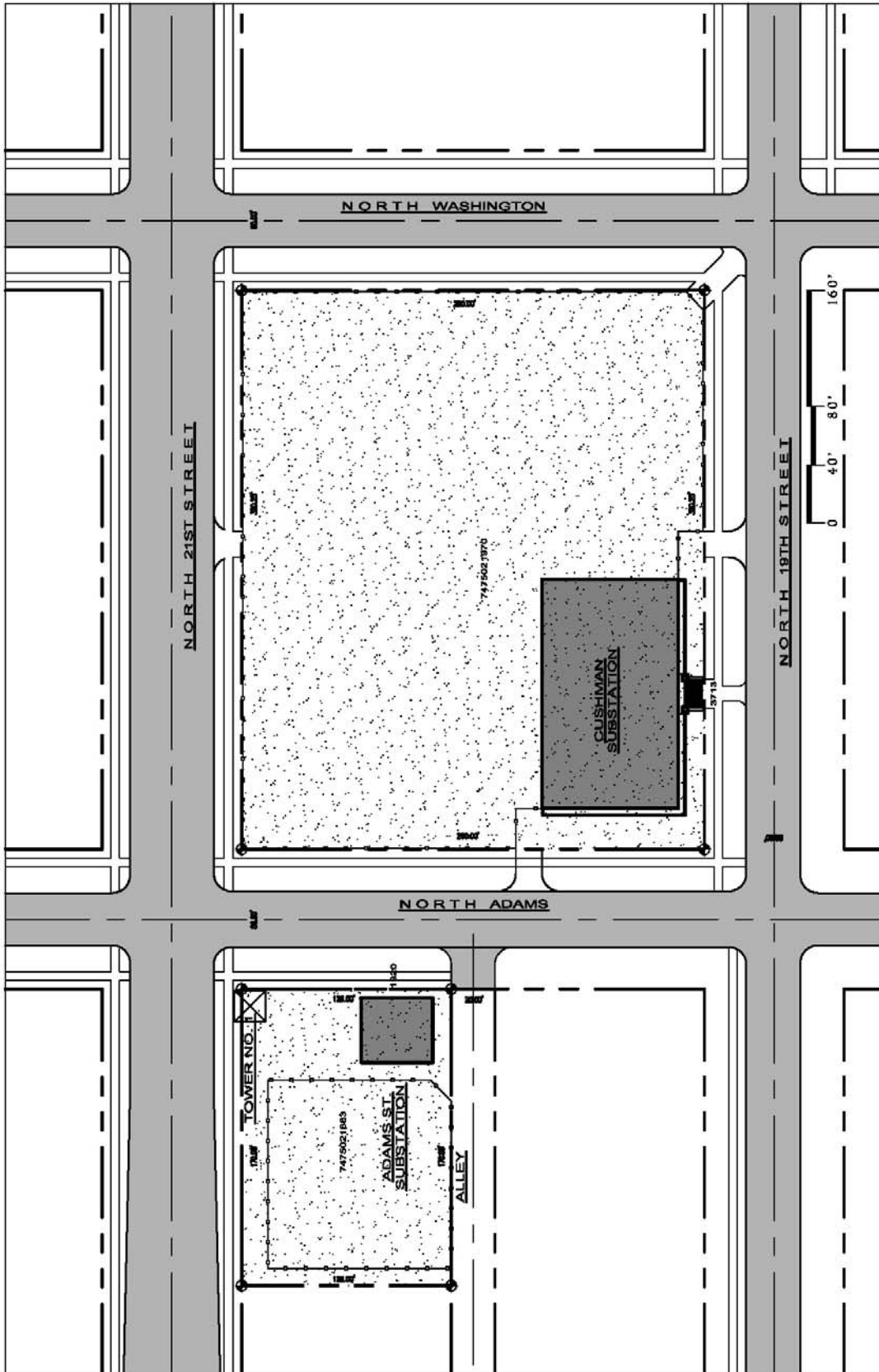
Figure 22 Adams Street Substation and Tower 1, view southwest

Continuation Sheet



Figure 23 Adam Street Substation, with tower 1 in background, view northeast

Continuation Sheet



CUSHMAN & ADAMS STREET
SUBSTATION SITES