

# CULTURAL RESOURCES REPORT COVER SHEET

Author: Carl D. Williams, MS

Title of Report: Historic Property Survey for the Ladder Creek Water Supply Settling Tank System Post Wildfire Remediation Project, Newhalem, Skagit County, WA

Date of Report: April 12, 2016

County(ies): Skagit Section: 21/PB44 Township: 37 N Range: 12E

Quad: Diablo Dam Acres: ≈4.3

PDF of report submitted (REQUIRED)  Yes

Historic Property Inventory Forms to be Approved Online?  Yes  No

Archaeological Site(s)/Isolate(s) Found or Amended?  Yes  No

TCP(s) found?  Yes  No

Replace a draft?  Yes  No

Satisfy a DAHP Archaeological Excavation Permit requirement?  Yes #  No

Were Human Remains Found?  Yes DAHP Case #  No

DAHP Archaeological Site #: NA

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- Please be sure that any PDF submitted to DAHP has its cover sheet, figures, graphics, appendices, attachments, correspondence, etc., compiled into one single PDF file.
- Please check that the PDF displays correctly when opened.

Historic Property Survey for the Ladder Creek Water Supply  
Settling Tank System Post Wildfire Remediation Project,  
City of Newhalem, Skagit County, Washington

Submitted to:  
Seattle City Light



Submitted by:  
Historical Research Associates, Inc.  
Carl D. Williams, MS

Seattle, Washington  
April 2016



HISTORICAL  
RESEARCH  
ASSOCIATES, INC.

*This report was prepared by HRA Principal Investigator Carl D. Williams, MS, who meets the Secretary of the Interior's professional qualifications standards for architectural historians. This report is intended for the exclusive use of the Client and its representatives. It contains professional conclusions and recommendations concerning the potential for project-related impacts to aboveground resources based on the results of HRA's investigation. It should not be considered to constitute project clearance with regard to the treatment of cultural resources or permission to proceed with the project described in lieu of review by the appropriate reviewing or permitting agency. This report should be submitted to the appropriate state and local review agencies for their comments prior to the commencement of the project.*

# Executive Summary

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Located in the North Cascades Ross Lake National Recreational Area, about a quarter mile east of the town of Newhalem, Washington, along the southern edge of Ladder Creek Falls, the Ladder Creek Water Supply Settling Tank and other cultural debris were burned in the 2015 Goddell Fire. As a part of the Ladder Creek Water Supply Settling Tank System Post Wildfire Remediation Project (project) Seattle City Light (SCL) is considering removing the burnt tank and possible other associated infrastructure from the site, as well as some of the soil near the tank site that is contaminated. Prior to this work, the project is subject to review under the National Historic Preservation Act (NHPA), as the water system is located on land administered by the National Park Service in the North Cascades Ross Lake National Recreation Area. The project's area of potential effects (APE) includes areas in the vicinity of the settling tank and down slope where the undertaking will cause ground disturbance (e.g., for placement of the temporary filtration system and tank/infrastructure/debris/soil removal). A larger indirect APE that extends from and around the water supply system to the southwestern edge of the Newhalem includes potential visual and auditory effects associated with a potential helicopter flight path to remove debris (e.g., from tank site to Newhalem helicopter pad).

Historical Research Associates, Inc. (HRA), conducted an intensive-level survey and inventory of the Ladder Creek Falls water supply system on February 16, 2016, to assess its eligibility for the National Register of Historic Places (NRHP) per the Department of Archaeology and Historic Preservation's (DAHP) Washington State Standards for Cultural Resource Reporting. An HRA architectural historian took field notes and photographs of the Ladder Creek water supply system.

HRA recommends the Ladder Creek water supply system ineligible for individual listing in the NRHP, but eligible under Criterion A as contributing resource within the larger Skagit River and Newhalem Creek Hydroelectric Projects Historic District (District) under Criterion A for its associates with the development of Newhalem and the Ladder Creek Falls Garden. Therefore, HRA recommends that the project will constitute an adverse effect. The project will require negotiations between SCL, National Park Service and DAHP to mitigate for the adverse effects to fulfill Section 106 obligations.

# Table of Contents

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<b>EXECUTIVE SUMMARY</b>	<b>1</b>
<b>1. INTRODUCTION AND PROJECT DESCRIPTION</b>	<b>1</b>
1.1 REGULATORY CONTEXT	1
1.2 AREA OF POTENTIAL EFFECTS	1
<b>2. ARCHIVAL RESEARCH</b>	<b>3</b>
2.1 RESEARCH METHODS AND MATERIALS REVIEWED	3
2.2 ARCHIVAL RESEARCH RESULTS	3
<b>3. HISTORIC BACKGROUND</b>	<b>4</b>
3.1 HISTORIC BACKGROUND	4
3.1.1 CITY CAMP/NEWHALEM	4
3.1.2 LADDER CREEK FALLS GARDEN	7
3.1.3 LADDER CREEK FALLS WATER SUPPLY SYSTEM	7
<b>4. FIELD STRATEGY AND METHODS</b>	<b>12</b>
4.1 ARCHITECTURAL INVENTORY	12
<b>5. ARCHITECTURAL INVENTORY RESULTS</b>	<b>13</b>
5.1 EVALUATION CRITERIA	13
5.1.1 NATIONAL REGISTER OF HISTORIC PLACES CRITERIA	13
5.1.2 INTEGRITY	13
5.2 EVALUATION OF THE SETTLING TANK AND ASSOCIATED RESOURCES	14
5.2.1 PHYSICAL DESCRIPTION	14
5.2.2 STATEMENT OF SIGNIFICANCE	21
<b>6. EFFECTS ASSESSMENT</b>	<b>25</b>
<b>7. SUMMARY AND RECOMMENDATIONS</b>	<b>26</b>
<b>8. REFERENCES CITED</b>	<b>27</b>

## List of Figures

Figure 1-1. Location of the project APE and vicinity.	2
Figure 3-1. July 21, 1920, view of Newhalem. Skagit Power Camp (aerial), Engineering Department Photographic Negatives, 1910-1994, 2613-07, Seattle Municipal Archives Photograph Collection.	5
Figure 3-2. October 21, 1919, view of Ladder Creek Falls. Ladder Creek Falls, Engineering Department Photographic Negatives, 1910-1994, 2613-07, Seattle Municipal Archives Photograph Collection.	7
Figures 3-3. April 23, 1950, views of Ladder Creek Fall intake structure. The photo displays the water system that predated the 1950s system. Photograph Series, Gorge Tunnel, Intake, and Tanks: Ladder Creek Settling Tank, 1950, Box 1, Folder 5, 1204-11, Seattle Municipal Archives Photograph Collection.	8
Figure 3-4. May 15, 1950, view of Ladder Creek Fall intake structure. The photo displays the 1950s water system that replaced an existing system. Photograph Series, Gorge Tunnel, Intake, and Tanks: Ladder Creek Settling Tank, 1950, Box 1, Folder 5, 1204-11, Seattle Municipal Archives Photograph Collection.	9
Figure 3-5. May 15, 1950, view of settling tank. Photograph Series, Gorge Tunnel, Intake, and Tanks: Ladder Creek Settling Tank, 1950, Box 1, Folder 5, 1204-11, Seattle Municipal Archives Photograph Collection.	9
Figure 3-6. July 20, 1950, view of settling tank building. Photograph Series, Gorge Tunnel, Intake, and Tanks: Ladder Creek Settling Tank, 1950, Box 1, Folder 5, 1204-11, Seattle Municipal Archives Photograph Collection.	10
Figure 3-7. 2005 view of west façade of settling tank building. Photo courtesy of Seattle City Light.	11
Figure 3-8. 2016 view of north and west sides of settling tank. Note that the 2015 Goddell Forest Fire totally destroyed the settling tank building.	11
Figure 5-1. Remnant of creek intake structure. The diversion dam across Ladder Creek no longer exists.	15
Figure 5-2. Side of concrete intake structure. Note steel connection to boulder and metal screen on side of intake structure.	15
Figure 5-3. Valves of pipelines that connect to creek intake structure.	16
Figure 5-4. Possible remnant pipeline of first intake structure or settling tank (left-center). Replacement pipes are bottom right.	16
Figure 5-5. South and east sides of settling tank.	17
Figure 5-6. North and west sides of settling tank.	18
Figure 5-7. Interior view of settling tank.	18
Figure 5-8. Outlet pipes viewed from settling tank.	19
Figure 5-9. Typical flange pipe connector with extension sleeve.	19
Figure 5-10. Typical flange pipe connector.	20
Figure 5-11. Pipes were secured in various ways, including cemented to rocks as is the case here.	20
Figure 5-12. The pipes terminate toward the entrance of the Ladder Creek Falls Garden.	21



# 1. Introduction and Project Description

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Located in the North Cascades Ross Lake National Recreational Area, about a quarter mile east of the town of Newhalem, Washington, along the southern edge of Ladder Creek Falls, the Ladder Creek Water Supply Settling Tank (settling tank) and other cultural debris were burned in the 2015 Goddell Fire. Seattle City Light (SCL) is considering removing the burnt tank and possible other associated infrastructure from the site, as well as some of the soil near the tank site that is contaminated. However, prior to any project activities, the water supply system must be surveyed and inventoried for National Register of Historic Places (NRHP) eligibility per the Department of Archaeology and Historic Preservation's (DAHP) Washington State Standards for Cultural Resource Reporting.

## 1.1 Regulatory Context

The project is located within lands managed by the North Cascades National Park Service Complex and is defined as an undertaking under the National Historic Preservation Act (NHPA). As a result, compliance with Section 106 of the NHPA is required.

## 1.2 Area of Potential Effects

Defined by SCL, and approved by DAHP and the National Park Service (NPS), the project's APE (Figure 1-1) includes areas in the vicinity of the settling tank and down slope where the undertaking will cause ground disturbance (e.g., for placement of the temporary filtration system and tank/infrastructure/debris/soil removal). A larger indirect APE that extends from and around the water supply system to the southwestern edge of the Newhalem includes potential visual and auditory effects associated with a potential helicopter flight path to remove debris (e.g., from tank site to Newhalem helicopter pad).

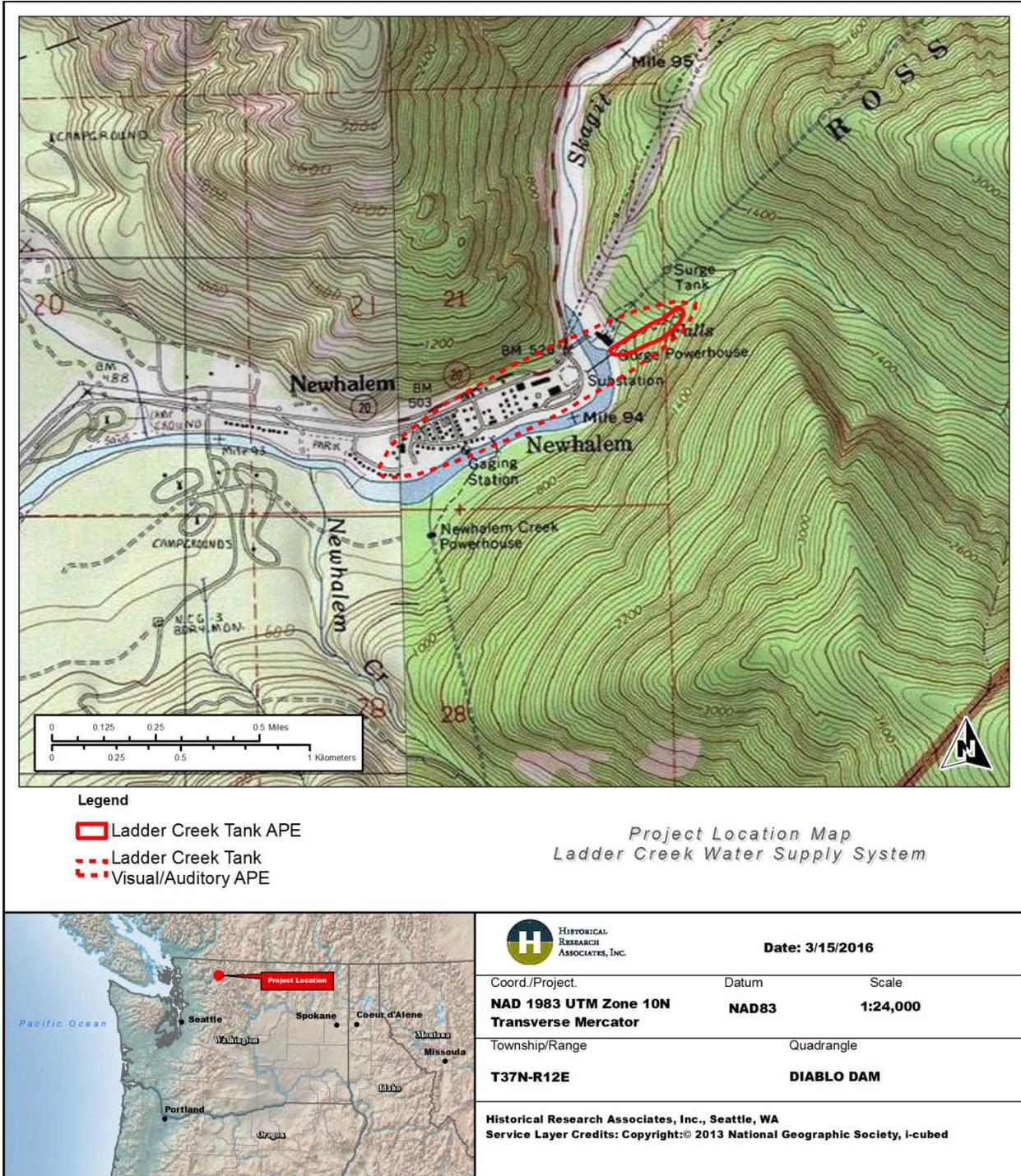


Figure 1-1. Location of the project APE and vicinity.

## 2. Archival Research

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### 2.1 Research Methods and Materials Reviewed

Historical Research Associates, Inc. (HRA), architectural historian Carl D. Williams, MS, conducted an archival record search for historic properties records pertaining to locations within ½-mile of the proposed APE. Mr. Williams searched DAHP's online database (WISAARD) for historic property inventory (HPI) forms, and historic register information. Mr. Williams also searched the Seattle Municipal Archives for any information specific to the water system, the development of Newhalem, and the Ladder Creek Falls Garden.

### 2.2 Archival Research Results

There are two NRHP and Washington Heritage Register (WHR) listed resources partially located in or within close proximity to the APE. The District is partially within the southwestern edge of the APE, while the Gorge Hydroelectric Power Plant is within 0.25 miles of the APE. Both are partially located within the visual/auditory APE.

# 3. Historic Background

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## 3.1 Historic Background

Located on the Upper Skagit River, the Skagit River Hydroelectric Project includes three hydroelectric plants (Gorge, Diablo, and Ross), and two company towns (Newhalem and Diablo). While understanding the broader history of each of the hydroelectric plants and company towns is important in developing a wider context, for the purposes of this report, the historic background focuses on the specific development of Newhalem and Ladder Creek Falls.

### 3.1.1 *City Camp/Newhalem*

The City of Seattle began exploring the Skagit River for dam sites in the spring of 1918, with survey and drilling crews looking for possible hydroelectric development sites. By the summer of 1918, the City Engineer's Office sent a hydrographer and an assistant to determine a location for a temporary generating station that would supply power for the construction of a future dam and worker's encampment. Newhalem Creek, a tributary of the Skagit River, was selected. By 1920, a power tunnel and penstock brought water from a low log crib dam to a small powerhouse. A year later, two turbines and a generator were installed, and the Newhalem Powerhouse began operation in August 1921.<sup>1</sup>

Contemporaneous to the construction of the Newhalem power tunnel, penstock and powerhouse, preparations for the construction of a worker's encampment on a flat, forested area along the Skagit River were underway. Under C. F. Uhden, chief engineer in charge of the Skagit project, plans for the Gorge Power Plant, penstocks, and encampment were developed. Sawmill crews on the Skagit cleared and milled timber for the construction of buildings. Construction of a railroad to connect the encampment to Rockport, 23 miles to the southwest, began in the spring of 1920. The City Engineering Department established layout that provided accommodations for SCL workers and general services to other construction crews in the camp. The camp was laid out in a grid of unpaved streets perpendicular to an east-west spine as defined by the planned railroad alignment.<sup>2</sup>

Newhalem was divided into two interrelated groups of buildings, Upper Camp at the eastern end, and Lower Camp at the western end (Figure 3-1). Upper Camp, bisected by Main Street, which ran perpendicular from the railway toward a suspension bridge that crossed the Skagit River, included

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<sup>1</sup> Larry E. Johnson, National Register of Historic Places Nomination Form for Skagit River and Newhalem Creek Hydroelectric Projects, August 2010, 4–8.

<sup>2</sup> Johnson, NRHP Nomination Form for Skagit River and Newhalem Creek Hydroelectric Projects, 8–9.

principal buildings such as the bunk house, mess hall, theatre, amusement hall, and worker cottages. Upper Camp developed throughout the 1920s with the addition of worker cottages. The area flanking the railroad primarily included more operations-related functional buildings, including the speeder house, coalhouse, oil house, car barn, engine house, horse barn, and blacksmith shop. Also erected during the 1920s in Upper Camp was a two-span Howe truss railroad bridge that connected with the Gorge Powerhouse site.<sup>3</sup>

Lower Camp included a schoolhouse constructed in 1921, followed by 14 two-room cottages and 35 three-room cottages arranged on lots perpendicular to the unpaved streets. Later in 1921, more permanent houses for future operators of the facility were constructed along the curving river bank between Upper and Lower Camp. Built in a bungalow style, these houses, along with the schoolhouse, were the only buildings with more ornamental detailing. By 1923, the town completed its initial building program and transitioned from a settlement focused solely on the construction of the hydroelectric facilities to one that also catered to tourists.<sup>4</sup>



Figure 3-1. July 21, 1920, view of Newhalem. Skagit Power Camp (aerial), Engineering Department Photographic Negatives, 1910–1994, 2613-07, Seattle Municipal Archives Photograph Collection.

<sup>3</sup> Johnson, NRHP Nomination Form for Skagit River and Newhalem Creek Hydroelectric Projects, 9–11.

<sup>4</sup> Johnson, NRHP Nomination Form for Skagit River and Newhalem Creek Hydroelectric Projects, 11–12.

Although small tours involving Seattle politicians, influential businessman, and organized clubs visited the area as early as 1918, SCL started advertising excursions to the Skagit in the *Seattle Times* in 1924. Arriving by train from Rockport, visitors stayed overnight at converted worker bunkhouses east of Main Street and in Bunkhouse Number 23, a converted “hotel.” As work progressed at Diablo and Ruby Dam (later renamed Ross Dam), more visitors braved the trek to view the expanding hydroelectric facility. By May 1928, J. D. Ross developed additional plans to beautify the area, including building and landscaping improvements. While the stock market crash of 1929, and subsequent collapse of the bond market, delayed construction of the powerhouse until 1936, Ross pushed forward with an arboretum and *son et lumiere* show along Ladder Creek Falls.<sup>5</sup>

Throughout the 1930s, landscaping at Newhalem, Ladder Creek Falls, and Diablo continued. To support these endeavors, a small greenhouse was constructed north of the Gorge Power Plant, followed by two large nurseries in Newhalem in 1936, and a third in 1939. However, in 1939, Ross suffered a massive heart attack and passed away, and his grand landscaping plans languished.<sup>6</sup>

Thousands of visitors streamed to the facility until 1941, when the facility closed to outsiders, because it was designated a vital wartime-associated industry. In response to the designation, SCL erected two security gates and a security fence. Additionally, tourist dormitories were subdivided into apartments, and by 1943, ten apartments had been created. The end of the war saw more construction at Newhalem, with the introduction of additional housing and the erection of a schoolhouse, indoor gymnasium, and other functional structures that served workers and their families. In 1953, tours of the facility resumed, and the Ladder Creek Falls Garden was refurbished. During 1954 and 1955, the railroad between Gorge Creek and Diablo was removed, and a new road above the railroad right-of-way was blasted into the hillside. Initially one lane, it was widened in 1962.<sup>7</sup>

As Newhalem and SCL moved into the 1960s and 1970s, operational requirements of the hydroelectric system progressed towards greater automation, thus reducing the number of personnel required to manage the facilities. Consequently, SCL demolished all construction camp-era bunkhouses and constructed singled-family houses. During the 1960s, SCL added the Skagit Service Center, a machine shop, garage, paint shop, and paved yard. The 1970s saw the removal of additional early housing, including three-room cottages in Upper Camp. By 1979, three of four tourist dormitories were demolished as well.<sup>8</sup>

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<sup>5</sup> *Son et lumiere* is French for “sound and light show”; Johnson, NRHP Nomination Form for Skagit River and Newhalem Creek Hydroelectric Projects, 12–15.

<sup>6</sup> Johnson, NRHP Nomination Form for Skagit River and Newhalem Creek Hydroelectric Projects, 15–17; Alan J. Stein, “Ross, James Delmage (J. D.) (1872–1939),” HistoryLink.org Essay 2557, July 2, 2002, [http://www.historylink.org/index.cfm?DisplayPage=output.cfm&file\\_id=2557](http://www.historylink.org/index.cfm?DisplayPage=output.cfm&file_id=2557).

<sup>7</sup> Johnson, NRHP Nomination Form for Skagit River and Newhalem Creek Hydroelectric Projects, 17–21.

<sup>8</sup> Johnson, NRHP Nomination Form for Skagit River and Newhalem Creek Hydroelectric Projects, 21–22.

The town of Newhalem continues to support the hydroelectric facilities and, in conjunction with SCL, the NPS, and the North Cascades Institutes, caters to tourists that visit the Gorge Powerhouse, Ladder Creek Falls Garden, and other areas within the Skagit Project.

### 3.1.2 Ladder Creek Falls Garden

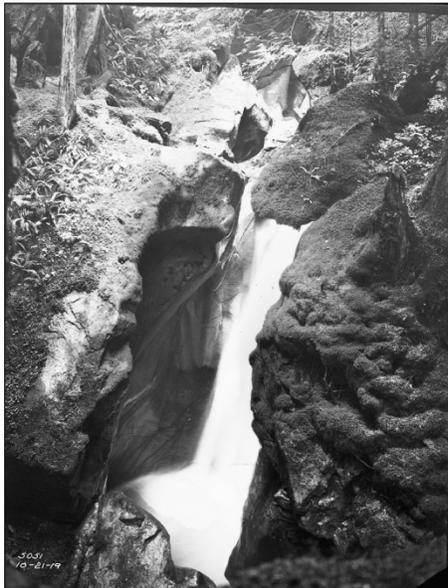


Figure 3-2. October 21, 1919, view of Ladder Creek Falls. Ladder Creek Falls, Engineering Department Photographic Negatives, 1910–1994, 2613-07, Seattle Municipal Archives Photograph Collection.

Ladder Creek Falls Garden is the vision of J. D. Ross, who saw the entire hydroelectric facility as an attraction to showcase. The gardens highlighted two of J. D. Ross' numerous interests, horticulture and artistic illumination. As early as 1924, Ross brought visitors behind the powerhouse to view the cascading falls. Throughout the mid-1920s, SCL developed paths along the falls. In May 1929, Ross requested that SCL take control of the lower portion of Ladder Creek Falls, and by June, the U.S. Forest Service granted the use of 2 acres around Ladder Creek as a park. SCL installed six lamps to illuminate the falls, and submitted plans for bridges and other permanent structures for installation. By 1930, thousands of visitors toured the hydroelectric complex, which included night tours of the illuminated Ladder Creek Falls.

During the 1930s, SCL installed a sound system that played recordings following a prearranged schedule to coincide with the tours. As previously mentioned, tours ceased during World War II, only to be resumed 12 years later in 1953.

However, during this period, many of the exotic plants not acclimated to the climate perished. In 1962 and again in 2011, SCL recreated the spirit of the illuminated walk through an upgrade of the lights.<sup>9</sup> The 2015 Goddell Fire damaged portions of the garden, including the lighting system.

### 3.1.3 Ladder Creek Falls Water Supply System

Possibly in conjunction with the SCL-requested management of the lower portions of Ladder Creek or at the onset of Newhalem's development during the 1920s, SCL constructed a water supply system along the southern edge of Ladder Creek (Figure 3-2).<sup>10</sup> The water system consisted of a wood diversion that spanned Ladder Creek, which directed water into a wood flume. Flowing

<sup>9</sup> Johnson, NRHP Nomination Form for Skagit River and Newhalem Creek Hydroelectric Projects, 22–25.

<sup>10</sup> The exact date and design of the first water supply is not known; however, as previously noted, SCL took responsibility for portions of Ladder Creek in 1929; Johnson, NRHP Nomination Form for Skagit River and Newhalem Creek Hydroelectric Projects, 8–9.

downhill, the flume channeled water to a settling tank. From the settling tank, the water was piped to Newhalem for drinking water and irrigation, Ladder Creek Falls Garden for irrigation, the Gorge Powerhouse for backup cooling water.<sup>11</sup> While the system was probably enhanced over the years in concert with the development of the adjacent gardens in the 1930s and to maintain a constant supply of water to Newhalem, it was not until 1950 that the system was overhauled. During the early 1950s, the existing water supply system along Ladder Creek Falls was replaced. To upgrade the system, SCL installed a concrete intake, settling tank, and metal pipes (Figures 3-3, 3-4, 3-5, 3-6). The construction took place over the spring of 1950, with the concrete intake structure and settling tank built in April and May, and the settling tank building completed in July.<sup>12</sup>



Figures 3-3. April 23, 1950, views of Ladder Creek Fall intake structure. The photo displays the water system that predated the 1950s system. Photograph Series, Gorge Tunnel, Intake, and Tanks: Ladder Creek Settling Tank, 1950, Box 1, Folder 5, 1204-11, Seattle Municipal Archives Photograph Collection.

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<sup>11</sup> Drawing D- 16057-2, Ladder Creek Water Supply Settling Tank Piping Details Skagit Project-Gorge Development, City of Seattle Lighting Department, 1950.

<sup>12</sup> Photograph Series, Gorge Tunnel, Intake, and Tanks: Ladder Creek Settling Tank, 1950, Box 1, Folder 5, 1204-11, Seattle Municipal Archives Photograph Collections.



Figure 3-4. May 15, 1950, view of Ladder Creek Fall intake structure. The photo displays the 1950s water system that replaced an existing system. Photograph Series, Gorge Tunnel, Intake, and Tanks: Ladder Creek Settling Tank, 1950, Box 1, Folder 5, 1204-11, Seattle Municipal Archives Photograph Collection.



Figure 3-5. May 15, 1950, view of settling tank. Photograph Series, Gorge Tunnel, Intake, and Tanks: Ladder Creek Settling Tank, 1950, Box 1, Folder 5, 1204-11, Seattle Municipal Archives Photograph Collection.



Figure 3-6. July 20, 1950, view of settling tank building. Photograph Series, Gorge Tunnel, Intake, and Tanks: Ladder Creek Settling Tank, 1950, Box 1, Folder 5, 1204-11, Seattle Municipal Archives Photograph Collection.

This system provided Newhalem with water until 1962, when a pump house and water tank that tapped into the Skagit River were installed. The water supply system continued to provide irrigation to the garden and backup cooling water to the powerhouse until about 2000, when the system was shut down and irrigation switched to the pump house.<sup>13</sup> In 2015, the Goddell Fire destroyed the settling tank building and caused damage to the inlet and outlet piping. Subsequent falling of trees has further damaged the piping system (Figures 3-7, 3-8).

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<sup>13</sup> James Hannigan, SCL Engineer, phone call, February 26, 2016; Robert Philips, SCL Plumber, email, February 29, 2016; Jeff Kerschner, SCL Generation Supervisor, phone call, April 8, 2016.



Figure 3-7. 2005 view of west façade of settling tank building. Photo courtesy of Seattle City Light.



Figure 3-8. 2016 view of north and west sides of settling tank. Note that the 2015 Goddell Forest Fire totally destroyed the settling tank building.

## 4. Field Strategy and Methods

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### 4.1 Architectural Inventory

HRA's architectural historian Mr. Williams, led by SCL Historic Resource Specialist and Architectural Historian Rebecca Ossa, CPM, performed an intensive-level survey on February 16, 2016. Mr. Williams photographed and recorded historic-period resources within the APE, including the settling tank, creek intake structure, and inlet and outlet pipes. HRA then prepared an HPI form for the inventoried resource.

# 5. Architectural Inventory Results

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## 5.1 Evaluation Criteria

### 5.1.1 *National Register of Historic Places Criteria*

The criteria for listing a property in the NRHP require that, in addition to a building being over 50 years of age and possessing integrity, it must meet at least one of the following criteria, outlined in 36 CFR 60.4:

- A. Property is associated with events that have made a significant contribution to the broad patterns of our history; or
- B. Property is associated with the lives of persons significant in our past; or
- C. Property embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction; or
- D. Property has yielded, or is likely to yield, information important in prehistory or history.

### 5.1.2 *Integrity*

In addition to possessing significance under at least one of the criteria listed above, a property must retain integrity, which is a measure of how a property conveys its significance. To retain integrity, a property must retain several if not all of the following seven aspects:

- Location: the place where the property was constructed or the place where the historic event occurred.
- Design: the combination of elements that create the form, plan, space, structure, and style of a property.
- Setting: the physical environment of a historic property.
- Materials: the physical elements that were combined or deposited during a particular period of time, and in a particular pattern or configuration, to form a historic property.
- Workmanship: the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

- Feeling: a property's expression of the aesthetic or historic sense of a particular period of time.
- Association: the direct link between an important historic event or person and a historic property.

## 5.2 Evaluation of the Settling Tank and Associated Resources

### 5.2.1 *Physical Description*

The Ladder Creek water supply system, which supplied water to the town of Newhalem, Ladder Creek Falls Garden, and the Gorge Powerhouse, includes a settling tank, inlet and outlet pipes, and creek intake structure. The settling tank and intake structure are located approximately 0.25 miles east of the Gorge Powerhouse and Newhalem. The system stretches in a mostly northeast–southwest orientation along the southern edge of Ladder Creek, except where the pipelines cross over multiple bridges associated with the Ladder Creek Garden.

The first element of the historic water supply system is the creek intake structure (Figures 5-1, 5-2). It is situated on the south side of Ladder Creek at the supply system's highest elevation. It consists of a rectangular concrete substructure formed directly into abutting boulders. The structure is approximately 4 ft tall, 8.5 ft wide, and 20 ft long. A metal-inlet screen is attached to on the vertical face of the side wall that abuts Ladder Creek. Originally, wood planks covered the concrete structure. Only two of the planks remain in place. The intake structure is now almost fully silted with sand and rocks. Originally, to direct water into the concrete intake structure, an approximately 3-ft-tall diversion dam spanned Ladder Creek. Constructed of large dimension timbers, it was attached directly to boulders on either side of the creek with metal anchors. Only remnant sections of the anchors remain.



Figure 5-1. Remnant of creek intake structure. The diversion dam across Ladder Creek no longer exists.



Figure 5-2. Side of concrete intake structure. Note steel connection to boulder and metal screen on side of intake structure.

Once water entered the intake structure, it flowed into two 6-inch (in) -diameter steel pipes with hand-operated flow control valves (Figure 5-3). These pipes ran directly to the settling tank in a general southerly direction that followed the path of Ladder Creek. A 4-in-diameter pipe, possibly a remnant of the first intake structure or settling tank, runs along the rugged creek between the creek and 6-in pipes (Figure 5-4). Closer to the settling tank, the pipes run parallel to the eastern side of the tank, and connect to it via multiple valves intersecting perpendicular to the settling tank.



Figure 5-3. Valves of pipelines that connect to creek intake structure.



Figure 5-4. Possible remnant pipeline of first intake structure or settling tank (left-center). Replacement pipes are bottom right.

A structure originally enclosed the settling tank and the inlet and outlet valves. The building had a rectangular plan with enclosed shed roof bump-outs that protected the settling tank's inlet and outlet valves on its east and west façades. The building had a wood-timber foundation that supported a wood-stud structure clad with homasote building boards. A gable roof originally clad with corrugated metal sheeting protected the building. A ladder, attached to the exterior of the west façade on the bump-out over the outlet valves, provided access via a door to an interior catwalk over the settling tank. Only remnants of the structure's wood foundation remain after the fire.

The settling tank is approximately square in plan with a dimension of 30 by 30 ft (Figures 5-5, 5-6, 5-7). It is approximately 15 ft tall. It features triangular end walls and inward sloping side walls. The corners of the settling tank are supported with steel columns set on concrete footings. The inward sloping side walls are supported by a series seven I-beams set on edge on concrete footings. Smaller vertical and diagonal steel members provide further structural support on the side walls. The side walls are curved to catch sediment that settles. Small spigots at the lowest section of each curved panel could be opened to disperse sediment.

The inlet and outlet valves connect to the triangular shaped end walls. These end walls consist of flat-steel panels welded to four-horizontal I-beams that butt into inward sloping I-beams. The side walls are divided into four horizontal-curved sections that are welded to I-beams.

From the outlet valve on the settling tank's west side, water was piped through three multiple pipes that traveled down the hillside in varying paths to the Gorge Powerhouse, and to the town of Newhalem (Figures 5-8, 5-9, 5-10). These pipes varied in diameter and featured multiple types of connection brackets and support mechanisms. Support structures included metal cables secured to trees, wood timbers, concrete footings, and boulders (Figure 5-11). The pipes terminate underground beside the southeastern entrance to the Ladder Creek Garden (Figure 5-12).



Figure 5-5. South and east sides of settling tank.



Figure 5-6. North and west sides of settling tank.



Figure 5-7. Interior view of settling tank.



Figure 5-8. Outlet pipes viewed from settling tank.



Figure 5-9. Typical flange pipe connector with extension sleeve.



Figure 5-10. Typical flange pipe connector.



Figure 5-11. Pipes were secured in various ways, including cemented to rocks as is the case here.



Figure 5-12. The pipes terminate toward the entrance of the Ladder Creek Falls Garden.

## 5.2.2 Statement of Significance

The Ladder Creek water supply system can be judged as both an individual historic-period resource and as a resource within the larger District. While an individual resource must maintain the utmost significance, there is greater flexibility for including resources that lack distinction in a historic district. This is detailed by the NPS in their bulletin *How to Apply the National Register Criteria for Evaluation*:

A district can comprise both features that lack individual distinction and individually distinctive features that serve as focal points. It may even be considered eligible if all of the components lack individual distinction, provided that the grouping achieves significance as a whole within its historic context. In either case, the majority of the components that add to the district's historic character, even if they are individually undistinguished, must possess integrity, as must the district as a whole.<sup>14</sup>

### Criterion A

Constructed in the spring and summer of 1950, the Ladder Creek water supply system provided water to Newhalem, Ladder Creek Falls Garden, and the Gorge Powerhouse. While the water supply system was integral in the growth of Newhalem and the garden, the system by itself does not significantly represent either. If the water supply system was a part of the powerhouse and garden tours, or a distinct tourist destination, then a case could be made for listing it individually under Criterion A; however, this is not the case. The system is located on the south side of the creek opposite the gardens and would have been partially obscured from the gardens by tree growth.

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<sup>14</sup> U.S. Department of the Interior, National Park Service, *How to Apply the National Register Criteria for Evaluation*, Washington, DC: U.S. Department of the Interior, National Park Service, as revised 1997, 5.

Additionally, while the town of Newhalem was dependent on Ladder Creek for water from the 1920s to 1960s, the water supply system does not represent its growth and development individually as for example, an intact historic building within the town of Newhalem does.

As such, it lacks significance to be considered eligible for individual listing in the NRHP under Criterion A for associations with the development of the Newhalem or as distinct tourist destination like the Ladder Creek Gardens.

## **Criterion B**

J. D. Ross is the closest connection the Ladder Creek water supply system has to a person of significance. However, as previously noted, the current water supply system was overhauled in 1950, 11 years after the death of Ross. Therefore HRA recommends that the Ladder Creek water supply system ineligible for listing in the NRHP under Criterion B, as its current configuration is not the work of J. D. Ross and does not represent his significance.

## **Criterion C**

The design and construction of the water supply system, including settling tank, inlet and outlet pipes, and intake structure, required specialized design and construction techniques. While the system utilized relatively commonplace components, the rugged terrain required each element to be site specific. The wood planks of the diversion dam fit within the creek bed, while the intake structure's concrete walls were formed directly into the existing boulders near one of the few flat pockets along the creek. The inlet and outlet pipes cut a path down the steep and varied hillside employing a variety of the methods to support them. This included metal cables secured to trees, boulders, and wood frames. The settling tank and building were built on one of the few flat areas near the creek. While some settling tank designs are open to the elements, because the area is dense with trees, such a configuration would not have worked effectively. As such, a structure was required to house the tank.

While the construction of the water system required ingenuity and site-specific techniques, the system is not particularly advanced or significant. If the settling tank was first of its kind or employed an advanced engineering design, a case could be made. However, it does not. Therefore, HRA recommends the Ladder Creek Supply System ineligible for listing in the NRHP under Criterion C as an engineering/technological advancement.

## **Criterion D**

*Please reference the separate Archaeological Inventory Report by Equinox Research and Consulting International Inc., for recommendations for listing under Criterion D.*

## **Historic District**

While only a section of the larger water system for the area was surveyed and inventoried as a part of this project (the section along Ladder Creek Falls) it appears that the larger supply system, potentially including other elements outside the project APE, is a contributing resource to the District. As discussed above, by itself the water supply system is most likely ineligible for listing in the NRHP, as it lacks individual distinction and significance. However, when viewed as a part of the District, it is likely eligible as a contributing resource. As is the case with the water supply system, there is greater flexibility for inclusion of historic properties that lack distinction or significance in a historic district.

Built within the period of significance (1917–1961), the water supply system appears historic and contributing under Criterion A for its associations with the development of Newhalem and the Ladder Creek Falls Garden. While the Ladder Creek Falls water supply system’s integrity is certainly diminished, particularly its integrity of design, materials, and workmanship, it still retains its ability to convey its historic significance as a contributing resource within the larger District.

## **Integrity**

### ***Location***

The Ladder Creek water supply system’s integrity of location remains intact. The settling tank remains in place, as does the intake structure. While the inlet and outlet pipelines are significantly damaged, their general orientation and placement remain in the same location.

### ***Design***

The Ladder Creek water supply system’s integrity of design is diminished. Most of the exterior character-defining features of the settling tank structure were lost in the fire. While some character-defining features remain, including exterior valves and pipes, and the interior settling tank, without the building that housed the tank, it could not function as required. Furthermore, the intake structure no longer includes the diversion dam.

### ***Setting***

The Ladder Creek water supply system’s integrity of setting is intact. The settling tank and associated tank still occupy a forested area on a steeply pitched hill above the Gorge Powerhouse, just as they did when first constructed.

### ***Materials***

The Ladder Creek water supply system’s integrity of materials is diminished. While the settling tank, inlet and outlet piping, and sections of the intake structure remain, the settling tank building was lost in the fire, as was the diversion dam.

### ***Workmanship***

The Ladder Creek water supply system's integrity of materials is diminished due to the complete loss of the structure that housed the settling tank, the deterioration of the creek intake structure, and loss of the diversion dam.

### ***Feeling***

The Ladder Creek water supply system's integrity of feelings is intact. Despite no longer functioning, and loss of some materials, the system still maintains its feeling as a water supply system.

### ***Association***

The Ladder Creek water supply system's integrity of association is intact. Despite no longer functioning, and loss of some materials, the system still maintains its associations as a water supply system.

## 6. Effects Assessment

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HRA recommends that the Ladder Creek water supply system appears eligible as a contributing resource to the NRHP-listed Skagit River and Newhalem Creek Hydroelectric Projects Historic District under Criterion A for its associations with the development of Newhalem and the Ladder Creek Falls Garden. If the water supply system is determined a contributing resource to the historic district, the proposed removal of the settling tank and associated elements constitutes an adverse effect on a historic resource. The indirect auditory and visual effects from the removal of the tank via a helicopter do not constitute an adverse effect to the historic district.

## 7. Summary and Recommendations

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HRA recommends that:

- The water supply system appears eligible as a contributing resource to the NRHP-listed Skagit River and Newhalem Creek Hydroelectric Projects Historic District under Criterion A for its associations with the development of Newhalem and the Ladder Creek Falls Garden;
- The project will have an adverse effect on a contributing historic property in the project APE (if removed); and
- The proposed project will require negotiation between SCL, NPS, and DAHP to mitigate for the adverse effect to fulfill Section 106 obligations.

## 8. References Cited

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