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National Park Service  
Cultural Landscapes Inventory  
2006



Zion Canyon  
Zion National Park

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## **Inventory Unit Summary & Site Plan**

### **Inventory Summary**

#### **The Cultural Landscapes Inventory Overview:**

##### **CLI General Information:**

###### **Purpose and Goals of the CLI**

The Cultural Landscapes Inventory (CLI), a comprehensive inventory of all cultural landscapes in the national park system, is one of the most ambitious initiatives of the National Park Service (NPS) Park Cultural Landscapes Program. The CLI is an evaluated inventory of all landscapes having historical significance that are listed on or eligible for listing on the National Register of Historic Places, or are otherwise managed as cultural resources through a public planning process and in which the NPS has or plans to acquire any legal interest. The CLI identifies and documents each landscape's location, size, physical development, condition, landscape characteristics, character-defining features, as well as other valuable information useful to park management. Cultural landscapes become approved CLIs when concurrence with the findings is obtained from the park superintendent and all required data fields are entered into a national database. In addition, for landscapes that are not currently listed on the National Register and/or do not have adequate documentation, concurrence is required from the State Historic Preservation Officer or the Keeper of the National Register.

The CLI, like the List of Classified Structures, assists the NPS in its efforts to fulfill the identification and management requirements associated with Section 110(a) of the National Historic Preservation Act, National Park Service Management Policies (2006), and Director's Order #28: Cultural Resource Management. Since launching the CLI nationwide, the NPS, in response to the Government Performance and Results Act (GPRA), is required to report information that respond to NPS strategic plan accomplishments. Two GPRA goals are associated with the CLI: bringing certified cultural landscapes into good condition (Goal 1a7) and increasing the number of CLI records that have complete, accurate, and reliable information (Goal 1b2B).

###### **Scope of the CLI**

The information contained within the CLI is gathered from existing secondary sources found in park libraries and archives and at NPS regional offices and centers, as well as through on-site reconnaissance of the existing landscape. The baseline information collected provides a comprehensive look at the historical development and significance of the landscape, placing it in context of the site's overall significance. Documentation and analysis of the existing landscape identifies character-defining characteristics and features, and allows for an evaluation of the landscape's overall integrity and an assessment of the landscape's overall condition. The CLI also provides an illustrative site plan that indicates major features within the inventory unit. Unlike cultural landscape reports, the CLI does not provide management recommendations or

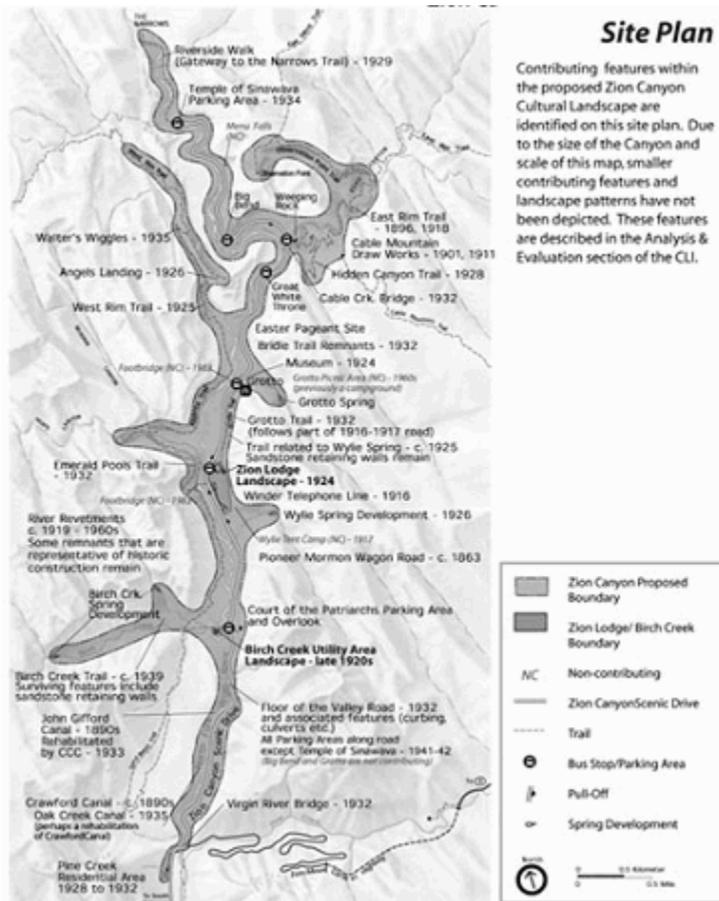
treatment guidelines for the cultural landscape.

**Inventory Unit Description:**

The proposed Zion Canyon Historic District is located in the heart of Zion National Park in southern Utah. This landscape encompasses a large portion of Zion Canyon, which is the setting for the major tourist facilities in the park. From the Pine Creek residential area the inventory unit follows the floor of the canyon northward, all the way to end of the Riverside walk (also known as Gateway to the Narrows). The boundary encompasses certain features on the canyon rim, including Observation Point, the Cable Mountain Draw Works, and a portion of the West Rim Trail along Refrigerator Canyon.

This cultural landscape is eligible to the National Register at the national level under Criterion A and Criterion C. The period of significance for the canyon is 1862 to 1942. This span of time encompasses the pioneer Mormon settlement of the canyon and the development of the canyon for tourism by the National Park Service and the Utah Parks Company, a subsidiary of the Union Pacific Railroad. Many important park facilities were designed during the Great Depression and constructed to a high standard of workmanship by the Civilian Conservation Corps. The most historically significant resources of the canyon landscape are associated with these periods of history. They include irrigation ditches and structures related to Mormon settlement as well as buildings, roads, and trails executed in the NPS-Rustic Style. Though these resources have endured some changes since the period of significance, overall the landscape maintains a high degree of historical integrity. The condition of the Zion Canyon cultural landscape is good.

## Site Plan



The boundary for the Zion Canyon inventory unit follows the floor of the canyon from Pine Creek residential area to the Gateway to the Narrows. The boundary also includes historic resources located in major side canyons or along certain trails.

## Property Level and CLI Numbers

<b>Inventory Unit Name:</b>	Zion Canyon
<b>Property Level:</b>	Component Landscape
<b>CLI Identification Number:</b>	850485
<b>Parent Landscape:</b>	890253

## Park Information

<b>Park Name and Alpha Code:</b>	Zion National Park -ZION
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**Park Organization Code:** 1590  
**Park Administrative Unit:** Zion National Park

**CLI Hierarchy Description**

Zion Canyon landscape is a component landscape of Zion National Park, the parent landscape.

## Concurrence Status

**Inventory Status:** Complete

### Completion Status Explanatory Narrative:

Fieldwork was performed by Mimi Mather and Tom Gibney of Shapins Associates. For the purposes of research, documentation, and analysis, Mimi and Tom conducted two week-long site visits in October/November, 2004 and March of 2005.

A 95% CLI was submitted to the park and to COTR in June, 2005. A 100% report was finished in October, 2005 and entered into CLAIMS on 10/31/2005.

### Concurrence Status:

<b>Park Superintendent Concurrence:</b>	Yes
<b>Park Superintendent Date of Concurrence:</b>	07/12/2006
<b>National Register Concurrence:</b>	Eligible -- SHPO Consensus Determination
<b>Date of Concurrence Determination:</b>	08/07/2006

### Concurrence Graphic Information:



United States Department of the Interior

NATIONAL PARK SERVICE  
Zion National Park  
Springdale, Utah 84767



114217 (ZION-RM&R)

August 7, 2006

Mr. Wilson Martin  
Utah State Historic Preservation Office  
Attention: Chris Hansen  
300 Rio Grande  
Salt Lake City, Utah 84101

Reference: Determination of Eligibility (DOE) on the Zion Lodge and the Zion Canyon Cultural Landscapes

Dear Mr. Martin:

We are pleased to submit the Zion Lodge and the Zion Canyon Cultural Landscape Inventory (CLI) documentation for SHPO review. Completion of these two CLIs is required by the National Historic Preservation Act, As Amended, Section 110. We are asking for a DOE on these CLIs, in particular, the contributing and non-contributing features as determined by our analysis of the cultural landscapes. Please see the listing and identification of these features in the "Analysis and Evaluation" section of the Zion Lodge CLI (pages 18-39) and the Zion Canyon CLI (pages 24-45).

The Zion Lodge CLI finds the cultural landscape significant under National Register criteria A, B, and C. Please see pages 2-7 for the Statement of Significance. In the Analysis and Evaluation section of the CLI (pages 18-39) you will find a full discussion of the National Register's aspects of integrity in relationship to this cultural landscape. The period of significance for the Zion Lodge cultural landscape is 1924-1937.

The Zion Canyon CLI finds the cultural landscape significant under National Register criteria A and C. Please see pages 3-12 for the Statement of Significance. In the Analysis and Evaluation section of the CLI (pages 24-45) you will find a full discussion of the National Register's aspects of integrity in relationship to this cultural landscape. The period of significance for the Zion Canyon cultural landscape is 1862-1942.

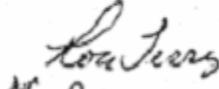
These CLIs were completed for entry into the National Park Service Cultural Landscape Inventory database, which is now a web based site. However, the database is not yet available for read-only access; this will be possible within the next year. The National Park Service Cultural Landscapes Program requires SHPO review and a determination of eligibility on these CLIs. Your concurrence on the findings of the CLI will help the park meet its Section 110 requirements and will provide the park with information important to future Section 106 project evaluations.



*UT SHPO concurrence on the Zion Canyon CLI, 8/7/2006.*

On behalf of Zion National Park, we are asking you for your written concurrence on a DOE for these two CLIs. For your convenience, we have included concurrence signature lines below. We appreciate your ongoing technical assistance in our efforts to continuously update our historic resources inventory within Zion National Park. Please feel free to contact the Park Archaeologist/Cultural Resource Program Manager, Sarah Horton at 435-772-0214 if you have any questions.

Sincerely,

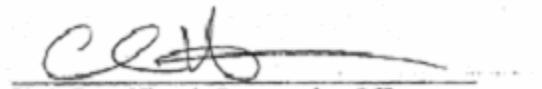
  
Jock Whitworth  
Superintendent

Encl: Zion Lodge CLI  
Zion Canyon CLI  
Park Superintendent's concurrence

Concurrence for Zion Lodge Cultural Landscape:

  
Utah State Historic Preservation Officer  
Utah State Historic Preservation Office

Concurrence for Zion Canyon Cultural Landscape:

  
Utah State Historic Preservation Officer  
Preservation Planner, Utah State Historic Preservation Office

*UT SHPO concurrence on the Zion Canyon CLI, page 2, 8/7/2006.*

MEMORANDUM

**To:** IMR Deputy Associate Regional Director, Cultural Resources  
Box 728  
Santa Fe, New Mexico 87504-0728

**From:** Superintendent, Zion National Park  
Springdale, UT 84767-1099

**Subject:** Zion Canyon Cultural Landscape Inventory (CLI)

I hereby concur with the content and the assessment of the cultural landscape for Zion Canyon.

1. The CLI identifies Zion Canyon as a "Historic Designed Landscape" (see page 3 and also the CLAIMS Database/ZION/Home/Chronology and Physical History).
2. The CLI rates the condition as "Good" (see page 1) and the Management Category is listed as "Should be Preserved and Maintained" (see the Zion Canyon CLI addendum, and also the CLAIMS Database/ZION/Home/Management Information).
3. The period of significance for Zion Canyon is 1862-1942 (see page 2).
4. Contributing features are listed in the "Analysis and Evaluation" section (see pages 24-27).

  
\_\_\_\_\_  
Superintendent, Zion National Park

7/12/06  
\_\_\_\_\_  
Date

**Cc:** Michele Curran, IMR, CLI Coordinator  
Jill Cowley, IMR, Historical Landscape Architect

*Zion Canyon CLI Superintendent concurrence, 7/12/2006.*

**Data Entry Date:** 10/31/2005

**Recorder:** Mimi Mather, Tom Gibney, Shapins Associ

## Geographic Information & Location Map

### Inventory Unit Boundary Description:

The Zion Canyon cultural landscape begins at the Pine Creek residential area, just south of the Virgin River Bridge in Zion National Park. In this place, the boundary stays entirely on the west side of the paved road through the canyon. From the Virgin River Bridge northward, the district includes both

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sides of the Zion Canyon Scenic Drive (a.k.a. Floor of the Valley Road) and the Virgin River. The boundary encompasses all of the land contained by the Zion Canyon walls from the Virgin River Bridge to the Temple of Sinawava. It includes the valley floor of the canyon and its steep slopes and cliffs, extending to the very rim of Zion Canyon to include important sites such as Observation Point, Angels Landing, and the Cable Mountain Draw Works. The boundary does not include any portions of the Pine Creek Canyon, but it does contain the Birch Creek drainage, and a portion of the Refrigerator Canyon drainage.

**State and County:**

**State:** UT

**County:** Washington County

**Size (Acres):** 1,000.00

**Boundary Description:**

Southwest boundary point, southwest corner of Pine Creek residential area.

**Boundary UTMS:**

**Source:** USGS Map 1:24,000

**Type of Point:** Point

**Datum:** NAD 83

**UTM Zone:** 12

**UTM Easting:** 324,480

**UTM Northing:** 4,120,550

**Source:** USGS Map 1:24,000

**Type of Point:** Point

**Datum:** NAD 83

**UTM Zone:** 12

**UTM Easting:** 324,560

**UTM Northing:** 4,120,540

**Source:** USGS Map 1:24,000

**Type of Point:** Point

**Datum:** NAD 83

**UTM Zone:** 12

**UTM Easting:** 324,760

**UTM Northing:** 4,120,830

**Source:** USGS Map 1:24,000

**Type of Point:** Point

**Datum:** NAD 83

**UTM Zone:** 12

**UTM Easting:** 329,160

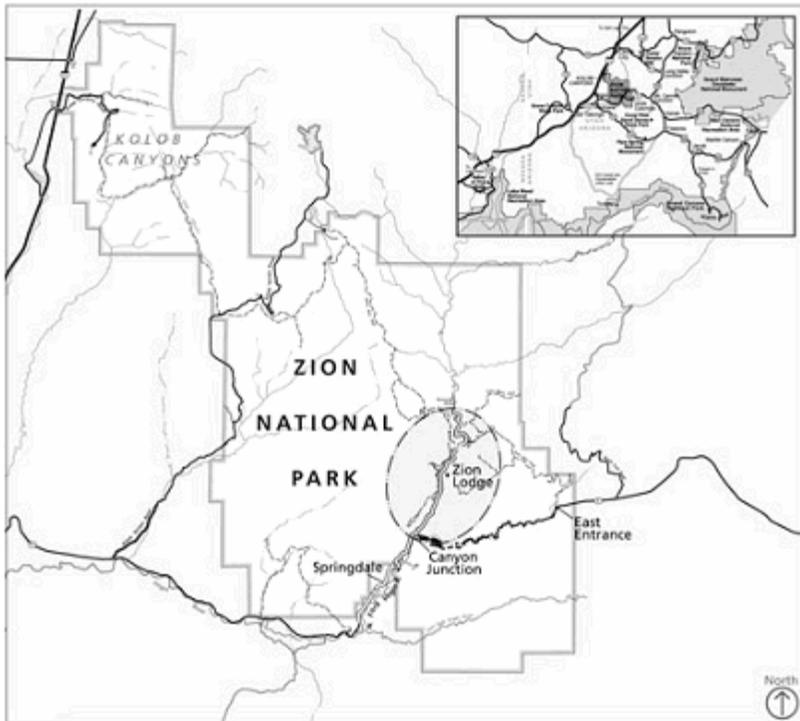
<b>UTM Northing:</b>	4,127,020
<b>Source:</b>	USGS Map 1:24,000
<b>Type of Point:</b>	Point
<b>Datum:</b>	NAD 83
<b>UTM Zone:</b>	12
<b>UTM Easting:</b>	328,010
<b>UTM Northing:</b>	4,127,830
<b>Source:</b>	USGS Map 1:24,000
<b>Type of Point:</b>	Point
<b>Datum:</b>	NAD 83
<b>UTM Zone:</b>	12
<b>UTM Easting:</b>	327,320
<b>UTM Northing:</b>	4,129,500
<b>Source:</b>	USGS Map 1:24,000
<b>Type of Point:</b>	Point
<b>Datum:</b>	NAD 83
<b>UTM Zone:</b>	12
<b>UTM Easting:</b>	327,490
<b>UTM Northing:</b>	4,126,450
<b>Source:</b>	USGS Map 1:24,000
<b>Type of Point:</b>	Point
<b>Datum:</b>	NAD 83
<b>UTM Zone:</b>	12
<b>UTM Easting:</b>	326,680
<b>UTM Northing:</b>	4,128,500
<b>Source:</b>	USGS Map 1:24,000

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<b>Type of Point:</b>	Point
<b>Datum:</b>	NAD 83
<b>UTM Zone:</b>	12
<b>UTM Easting:</b>	325,600
<b>UTM Northing:</b>	4,125,270
<b>Source:</b>	USGS Map 1:24,000
<b>Type of Point:</b>	Point
<b>Datum:</b>	NAD 83
<b>UTM Zone:</b>	12
<b>UTM Easting:</b>	324,070
<b>UTM Northing:</b>	4,123,290

**Location Map:**



*The Zion Canyon cultural landscape is located in the heart of Zion National Park in southern Utah. It begins at Canyon Junction and extends all the way to Temple of Sinawava.*

## Management Information

### General Management Information

**Management Category:** Should be Preserved and Maintained

**Management Category Date:** 01/23/2006

**Management Category Explanatory Narrative:**

Superintendent concurrence 7/12/2006.

**NPS Legal Interest:**

**Type of Interest:** Fee Simple

**Public Access:**

**Type of Access:** Unrestricted

### Adjacent Lands Information

**Do Adjacent Lands Contribute?** Undetermined

## **National Register Information**

### **Existing National Register Status**

#### **National Register Landscape Documentation:**

SHPO Documented

### **National Register Eligibility**

**National Register Concurrence:** Eligible -- SHPO Consensus Determination

**Contributing/Individual:** Individual

**National Register Classification:** District

**Significance Criteria:** A - Associated with events significant to broad patterns of our history

**Significance Criteria:** C - Embodies distinctive construction, work of master, or high artistic values

**Period of Significance:**

<b>Time Period:</b>	AD 1862 - 1942
<b>Historic Context Theme:</b>	Creating Social Institutions and Movements
<b>Subtheme:</b>	Recreation
<b>Facet:</b>	HCC56
<b>Other Facet:</b>	Tourism
<b>Time Period:</b>	AD 1862 - 1942
<b>Historic Context Theme:</b>	Creating Social Institutions and Movements
<b>Subtheme:</b>	Ways of Life
<b>Facet:</b>	Farming Communities
<b>Other Facet:</b>	Pioneer Mormon Settlement
<b>Time Period:</b>	AD 1862 - 1942
<b>Historic Context Theme:</b>	Developing the American Economy
<b>Subtheme:</b>	Agriculture
<b>Facet:</b>	HCC2
<b>Other Facet:</b>	Small-Scale Commercial Agriculture (Crops, Orchards)
<b>Time Period:</b>	AD 1862 - 1942
<b>Historic Context Theme:</b>	Developing the American Economy
<b>Subtheme:</b>	Transportation by Land and Air
<b>Facet:</b>	Planned Roads, Highways and Freeways
<b>Other Facet:</b>	Planned Roads, Highways and Freeways
<b>Time Period:</b>	AD 1862 - 1942
<b>Historic Context Theme:</b>	Expressing Cultural Values
<b>Subtheme:</b>	Architecture
<b>Facet:</b>	HCC3
<b>Other Facet:</b>	Rustic Architecture
<b>Time Period:</b>	AD 1862 - 1942
<b>Historic Context Theme:</b>	Expressing Cultural Values
<b>Subtheme:</b>	Landscape Architecture
<b>Facet:</b>	HCC30
<b>Other Facet:</b>	Protection of Natural and Cultural Resources

<b>Time Period:</b>	AD 1862 - 1942
<b>Historic Context Theme:</b>	Expressing Cultural Values
<b>Subtheme:</b>	Landscape Architecture
<b>Facet:</b>	HCC30
<b>Other Facet:</b>	The 1930s: Era of Public Works
<b>Time Period:</b>	AD 1862 - 1942
<b>Historic Context Theme:</b>	Peopling Places
<b>Subtheme:</b>	Post-Archaic and Prehistoric Developments
<b>Facet:</b>	HCC52
<b>Other Facet:</b>	Southwestern Farmers
<b>Time Period:</b>	AD 1862 - 1942
<b>Historic Context Theme:</b>	Transforming the Environment
<b>Subtheme:</b>	Conservation of Natural Resources
<b>Facet:</b>	HCC10
<b>Other Facet:</b>	Origin and Development of the National Park Service
<b>Time Period:</b>	AD 1862 - 1942
<b>Historic Context Theme:</b>	Transforming the Environment
<b>Subtheme:</b>	Conservation of Natural Resources
<b>Facet:</b>	HCC10
<b>Other Facet:</b>	The Great Depression and Conservation

**Area of Significance:**

<b>Area of Significance Category:</b>	Architecture
<b>Area of Significance Category:</b>	Transportation
<b>Area of Significance Category:</b>	Archeology
<b>Area of Significance Category:</b>	Conservation
<b>Area of Significance Category:</b>	Exploration - Settlement
<b>Area of Significance Subcategory:</b>	Pioneer Mormon Settlement
<b>Area of Significance Category:</b>	Landscape Architecture

**Statement of Significance:**

This Cultural Landscape Inventory provides documentation and analysis to support the establishment of a new historic district, a proposed Zion Canyon Historic District. This CLI has determined that Zion Canyon is eligible as a district based on its significance as a cultural landscape. Historic landscape resources and characteristics are very important in establishing the character of Zion Canyon. Several of the canyon's landscape resources are currently listed on the National Register, yet overall the landscape is inadequately represented.

Several nomination forms have already been prepared for resources covered in this CLI. These nomination forms include: Zion Lodge Historic District (prepared in 1982), Multiple Resources for Zion National Park (1984), Cable Creek Bridge (1995), and Floor of the Valley Road (1995). Together, these nominations listed as historic resources a variety of structures and landscape features, including:

- Zion Lodge/Birch Creek Historic District – The Multiple Resources nomination expanded the existing historic district to include Birch Creek. Currently, buildings are represented in this district but not landscape features.
- Pine Creek Historic District – Five historic buildings compose this historic district, but important landscape features are not covered.
- Three historic buildings in the Grotto, including the Grotto Residence, and the North and South Comfort Stations.
- The Cable Mountain Draw Works.

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- Numerous trails, including the Angels Landing/West Rim Trail, the East Rim Trail, Emerald Pools Trail, the Grotto Trail, Gateway to the Narrows Trail (including the Temple of Sinawava Exhibit Building), and the Hidden Canyon Trail – Other trails and trail resources, including the Lady Mountain Trail or features from abandoned trails in Birch Creek Canyon or near the Wylie Spring were not covered in existing documentation.
- The Crawford/Gifford Canal and Oak Creek Canal – Discussed in this CLI as the John Gifford Canal (or Ditch), the Crawford Canal (or Ditch), and the Oak Creek Canal (or Ditch), which appears to be a rehabilitation of the Crawford Canal.
- The Floor of the Valley Road, including several historic parking areas – Because of recent changes, this CLI determines that one of the parking areas previously listed as a contributing feature no longer maintains historical integrity. This CLI also provides additional information regarding traces of earlier canyon roads.
- In addition, a number of sites have already been recommended by professionals as eligible to the National Register as archeological sites. – These include features associated with historic trails and the Winder telephone line.

In addition to clarifying information about some resources that are already listed, this cultural landscape inventory provides new information regarding trails, roads, plantings, and river revetments that are not currently represented on the Register. Spring developments and utility lines are also important landscape features that are addressed in the Analysis and Evaluation section.

The proposed Zion Canyon Historic District is eligible under National Register Criteria A and C. First, the Zion Canyon landscape is significant for its association with events that contributed to the patterns of local and national history. At the state level, these historic patterns include Pioneer Mormon settlement of the canyon and the development of the National Park Service and associated tourist facilities throughout the region. At the national level, the Zion Canyon landscape is strongly representative of the Era of Public Works and Conservation spawned by the Great Depression. For these reasons, this landscape is eligible at the national level under National Register Criterion A. Zion Canyon's cultural landscape is also of exceptional value in illustrating the distinctive characteristics of the NPS-Rustic Style of architecture and landscape design. For this reason, the cultural landscape is eligible at the national level under Criterion C. These park facilities were built over a period of many years. Yet they are united by principles of design, use of native materials, and high-quality workmanship. The overall impression of Zion Canyon is of a unified composition, in which built features blend with the stunning natural landscape of Zion Canyon. Because these facilities are characterized by exceptional quality of design, materials, and workmanship, the Zion Canyon landscape possesses high artistic values.

#### CRITERION A PIONEER MORMON SETTLEMENT

The Zion Canyon landscape is significant at the state level for its association with Pioneer Mormon settlement. Mormon pioneers first began settling in upper Zion Canyon in 1862, after Joseph Black discovered suitable sites for farming on the canyon floor. Black was one of a small number of Mormon families who established a settlement near the mouth of the canyon after being called to southern Utah

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by Brigham Young (Jurale and Witherall 1984). Impressed by Black's accounts, other pioneers soon arrived in the canyon. 1862 gave rise to the canyon's first permanent Mormon structure: a one-room log cabin built by Isaac Behunin in the vicinity of the current lodge. Because irrigation was essential to farming in this semi-arid environment, Behunin and the families who settled nearby dug simple irrigation ditches. They built humble dams of brush and cottonwood limbs to divert water from the Virgin River into these ditches (Crawford 2000; Woodbury 1950, 156). In this way, they raised corn, cane, tobacco, and assorted vegetables, and they cultivated small fruit orchards (Historic American Building Survey [HABS] Report, "Pioneer," 1). The settlers also raised livestock, grazing their sheep, pigs, cattle, and horses on the delicate grasses of the canyon floor and slopes (Steen-Adams 2002, 255).

The name "Zion" was probably bestowed upon the canyon by Isaac Behunin. He was a longtime member of the Mormon community who—with the rest of the Latter Day Saints—had endured being violently driven from Missouri and Illinois. The biblical name of Zion suggests the prominent role that religion played in these settlers' lives, as well as the dramatic setting of the canyon. It connotes a place of refuge, perhaps implying that Behunin and his community had found safety at the end of their persecutions and travels (Woodbury 1950, 157).

Life in the canyon proved difficult, however. Because the river cut a wide, shifting path across the floor of the valley, fields were scattered in small pockets of arable land (Steen-Adams 2002, 255). Periodic floods could wipe out valuable cropland, and frequently necessitated the rebuilding of irrigation ditches and dams (Crawford 2000, 1). These hardships may have contributed to the depopulation of the canyon. Behunin eventually moved away from the canyon after selling his property to a fellow settler, William Heap. A second factor in the move away from the canyon was the establishment in 1874 of a utopian movement called the United Order. Brigham Young established the Order in southern Utah in an attempt to combine the collective resources of the Latter Day Saints so that all could share in the benefits. William Heap and another settler, John Rolf, joined the Order and surrendered ownership of their property in Zion to the corporation. The United Order did not prosper for long, however, and when it collapsed the following year, these families withdrew their share and moved away from the canyon (Woodbury 1950, 160-161).

By 1875, no families were living in upper Zion Canyon. Nevertheless, Mormon settlers who lived nearby continued to rely on the canyon for farming and grazing, and the canyon landscape still bears the imprint from this way of life. For instance, some of Zion Canyon's trails were used historically by the settlers. In 1896 a local rancher, John Winder, improved an old Indian trail that led into the canyon from its east rim (Jurale and Witherall 1984). This steep trail linked winter feeding grounds on the canyon floor with spring pastures on the rim above (Steen-Adams 2002, 255). Known to some as the Big Bend Trail, years later the National Park Service would develop it as the East Rim Trail, the first major trail in the national park (Crawford 1986, 49).

Another park resource that dates to this period is the Cable Mountain Draw Works. Located at the very edge of the canyon rim, the Cable Mountain Draw Works lies just inside the boundary of the proposed district. It assumed a central role in the development of the cultural landscape. Constructed by David Flanigan in 1901, the draw works was built to deliver lumber safely from the forests of the

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canyon rim to the canyon floor. On Sept. 21, 1901, the first successful load of lumber arrived in the canyon by way of this device. Many Mormons viewed the event as the realization of a sacred prophecy, for years before, Brigham Young had revealed that timber would one day come down from the mountains “like a hawk flying” (Jurale and Witherall 1984). The construction of Zion Lodge in 1925 was the last major project undertaken with lumber sent down via the cable draw works (Jurale and Witherall 1984). Today, a heavy wooden structure perches at the very edge of the canyon. Historically, it was connected by a heavy cable to a similar structure on the canyon floor, 2000 feet below. The remaining structure is the only major surviving structure in the cultural landscape associated with pioneer Mormon settlement and it is the most historically significant pre-park structure in the park (Jurale and Witherall 1984). Some Mormons view it as evidence for Brigham Young’s divine calling (HABS, “Pioneer,” 3).

In the 1890s or early 1900s, Mormon families constructed the Crawford and John Gifford irrigation ditches (Jurale 1984b). These ditches are known collectively as the Crawford/Gifford Canal. (Note that although these structures have been referred to as “canals” in existing National Register documentation, the term “ditch” is also used, as in J.L. Crawford’s 2000 publication, “Up the Ditch: the Story of those Irrigation Ditches Heading Inside Zion National Park...As I Remember Them”). Like the draw works, this ditch network illustrates the ingenuity and hard work of the Mormon settlers. Irrigation was the backbone of their livelihood (Jurale and Witherall 1984). Their fields could not have survived without irrigation, and they therefore invested great time and effort on the construction and maintenance of such ditches. Because it testifies to the central role of irrigation in shaping the cultural landscape during this period, the Crawford/Gifford Canal is an especially significant resource of the cultural landscape. Although the main course of this ditch network is no longer in operation, it can still be traced. From its head at the Sentinel landslide, the ditch runs along the river’s west bank. Some portions are highly visible, such as the sections of pipe through which the ditch was routed following construction of a bridge in 1924, and the section of ditch that traverses the Pine Creek residential area (Crawford 2000, 1). The Crawford/Gifford Canal provided irrigation water to the small community of farmers living in Oak Creek Canyon, sometimes called Crawfordville. It served this community until 1931, when the federal government purchased these plots of land for inclusion in Zion National Park. The Crawford/Gifford Canal network is discussed in greater detail in the Analysis and Evaluation section under the heading, “Constructed Water Features.”

Other landscape features complete the picture of Mormon settlement. In 1944 Angus Woodbury reported that portions of an early Mormon cart road could still be found on the east slope of the canyon, high above the current road (Woodbury 1950, 161). Because researchers did not visit this trace during either site visit, it is unclear whether the trace is a contributing feature of the proposed district. Presumably, it still provides an indication of the primitive nature of travel within the canyon during the pioneer period. Traces of an old telephone line can also be followed on the canyon’s east slope. These remains include stretches of wire attached to trees and poles and a linear series of associated artifacts. Reportedly constructed by John Winder in 1916, the line connected the downstream settlement of Crawfordville with Winder’s ranch on the plateau to the east of the canyon. As it provides information about the communication of residents in the Zion area, the Utah State Historic Preservation Office (SHPO) concluded that this archeological site is eligible for the National Register (Betenson 2002,

12-13).

#### REGIONAL DEVELOPMENT OF THE NATIONAL PARK SERVICE AND THE "GRAND LOOP"

On the state level, the Zion Canyon landscape is also significant for its association with the rise of tourism in southern Utah and northern Arizona through the establishment of a "Grand Loop" tour of National Park Service units. This network of parks and tourist facilities came about through a partnership between the federal government, the Union Pacific Railroad, and the state of Utah. In 1923 the Union Pacific Railroad formed a subsidiary, the Utah Parks Company, to promote and develop tourism in this scenic region. After being awarded the contract for tourist accommodations in Zion Canyon, the company purchased the interests of the Wylie Permanent Camping Company, which had previously operated a tent-camp for visitors to the canyon (Jurale and Witherall 1984; Woodbury 1950, 203). This company had established similar camps at other national parks, including Yellowstone and the North Rim of the Grand Canyon. In 1924-1925 the Utah Parks Co. designed and built the Zion Lodge complex on the site of the old camp. To provide water for the new accommodations, in 1926 a spring development was constructed to divert water from the Wylie Spring, located above the lodge (Betenson 2002, 9). Farther down the canyon, the Utah Parks Company built the Birch Creek utility area to support their new tourist operations (Jurale and Witherall 1984). The Zion Lodge and Birch Creek areas are addressed in a separate Cultural Landscape Inventory as a separate historic district, and are considered a component landscape of Zion Canyon.

During the tent-camp period, travel to and from the Wylie camps was provided by another concessionaire, the Parry Brothers, who developed a ten-day loop tour. This tour began and ended at Cedar City, and included stops in Zion Canyon, Bryce Canyon, the North Rim, and the Kaibab Plateau. This loop was time-consuming, however, requiring frequent doubling back on existing roads. The Utah Parks Company envisioned an enhanced "Grand Loop," with improved roads, accommodations, and other facilities. In addition to the Zion Lodge, the Utah Parks Company constructed new accommodations in Bryce Canyon, Cedar Breaks, and the North Rim, as well as a new hotel in Cedar City: the El Escalante. In 1925 the company purchased a fleet of tourist buses to transport tourists between these attractions. These buses featured demountable tops so that visitors could better view the scenic wonders of the region. By 1926, daily bus service for the loop tour had been established. Between 1926 and 1928, three Rustic bus sheds—two of which survive—were built to shelter these "auto-stages" in the Birch Creek utility area (Woodbury 1950, 207; Jurale and Witherall 1984; McDonald Architects 1997, 50).

Extensive NPS construction was planned to coincide with the new concession facilities in the canyon. In 1925 a new gravel-surfaced road was constructed to support the increased automobile traffic. Known as the "Government Road," it extended all the way to the Temple of Sinawava and provided access to the new lodge for private vehicles and for the UP touring stages (Jurale and Witherall 1984). Park Service crews built several of Zion's signature trails during this time, including the West Rim Trail (1925), and Angels Landing (1926), both listed on the National Register of Historic Places. Two other trails were built to service visitors to the lodge, the Lady Mountain Trail and a trail that ran along the base of the cliffs from "Wylie Grove." Angus Woodbury, historian of Zion and other national parks in

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the region, uses this term. It may be a name from the Wylie camp or a name for the area around the Wylie Spring (Woodbury 1950, 206). Neither of these trails is officially maintained today. In fact, the Wylie Grove trail that paralleled the base of the cliffs has been abandoned, though several of the retaining walls that supported it survive (Betenson 2002, 10). Other developments from this time period include suspension footbridges that were erected across the Virgin River, and the expansion of the Grotto Campground. Both of these improvements were erased by later development (Woodbury 1950, 207).

In 1930 the Zion-Mt.Carmel Highway was completed, leading from Zion Canyon to Mount Carmel Junction, east of the park boundaries. With this new highway, the “Grand Loop” envisioned by the Utah Parks Company had been realized. One of the final steps in this monumental project was the construction of the Virgin River Bridge, which is listed on the National Register of Historic Places (Jurale and Witherall 1984). When the Grand Loop was finished, the great scenic areas of southern Utah and northern Arizona had been established as national parks and monuments, and an adequate system of roads, accommodations, and other facilities was firmly in place (Woodbury 1950, 209).

#### THE ERA OF PUBLIC WORKS

The Zion Canyon cultural landscape is also strongly associated with an extraordinary period in our nation’s history, the Great Depression and the Era of Public Works. For this reason, the cultural landscape is significant at the national level under National Register Criterion A. In 1933, during the height of the Great Depression, President Franklin Delano Roosevelt signed the Federal Unemployment Relief Act, calling for the creation of a body of unemployed men to carry out conservation work nationwide (McClelland 1998, 336). The Civilian Conservation Corps (CCC) and other New Deal programs made possible the development of national and state parks at an unprecedented pace (McClelland 1998, 327). From 1933 to 1942 CCC enrollees were stationed at Zion, where they made a huge contribution to the emerging landscape. Working under the direction of NPS personnel—often landscape architects and engineers from the NPS Western Field Office—enrollees carried out important construction and conservation work. Their primary duties included trail construction and maintenance; quarrying stone and dressing it for use in park construction projects; building large stone and wire revetments that straightened the Virgin River channel and protected facilities from flooding; and rehabilitating existing irrigation ditches or building new ones (Jurale and Witherall 1984). The beginning of World War II drew to a close this important period in our nation’s history. In July 1942, the last CCC camp at Zion closed, marking an end to this historic period of construction (Sontag and McKoy 1995).

Some of the work carried out by CCC enrollees has been lost over time. For instance, in later decades, many of the river revetments that the “CCC boys” had built were greatly expanded or altered, obscuring the historic character (Sontag and McKoy 1995; Jurale 1984d). But much of their handiwork survives in the most prominent features of the canyon landscape. A prime example is “Walter’s Wiggles,” a monumental and expertly-crafted series of switchbacks on the West Rim Trail. Supported by handsome retaining walls of random ashlar masonry, this part of the trail offers one of the most memorable experiences in the park. The Floor of the Valley Highway also contains numerous examples of surviving CCC-era construction. Enrollees built the historic parking areas along the road

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and carried out grading and planting work that was essential in blending the road with its natural setting (Sontag and McKoy 1995; TIC 274135-1 NPS-ZIO-3034). The Zion Canyon cultural landscape remains strongly representative of the Era of Public Works.

#### CRITERION C

Zion Canyon is exceptionally valuable in illustrating the distinctive characteristics of the NPS-Rustic Style of architecture and landscape design of the 1920s and 1930s. For this reason, the cultural landscape is eligible at the national level under Criterion C. Moreover, the landscape is eligible because it possesses high artistic values.

Designers who worked in the Rustic Style adhered to the principle that construction should be subordinated to the natural environment (McClelland 1998, 433). They believed that buildings and structures, trails, signs, and other features should not intrude upon the scenic beauty of the natural setting. Rather, these works should blend with the surrounding terrain through the use of native materials and otherwise sensitive design. In Rustic Style architecture, symmetry and regularity were generally rejected in favor of irregular massing evocative of the surrounding landscape. Handcrafted details provided interest and a feeling of quality workmanship. By applying such ideas to landscapes, even utilitarian features like roads or retaining walls could become works of art that harmonized with their natural surroundings (Jurale and Witherall 1984).

#### INVOLVEMENT OF LEADERS IN RUSTIC DESIGN

Zion was at the cutting edge of this design movement, and the Zion Canyon landscape bears the mark of some of the Rustic Style's most important figures. In the 1920s Daniel Hull was the senior landscape engineer for the National Park Service. During his tenure, planning and landscape architecture assumed increasingly important roles in the development of national parks throughout the Service (McClelland 1998, 160-163). From 1924 to 1926, Hull and his chief assistant, Thomas Chalmers Vint, were directly responsible for the design of the East and West Rim Trails (Jurale and Witherall 1984). Gilbert Stanley Underwood, a prominent architect and another leader of the Rustic Style, was also involved with design projects at Zion. Underwood, an architect for the Union Pacific Railroad, designed the buildings of Zion Lodge and the Birch Creek utility area. He also designed the Ahwahnee Hotel at Yosemite, Bryce Canyon Lodge, Williamsburg Lodge in Virginia, and other important buildings at Grand Canyon, Mt. Hood, and elsewhere. His Rustic Style buildings are a significant contribution to Zion, and were used as a model by others when adding new buildings to the lodge complex (Culpin 1982). Unfortunately, the Zion Lodge burned in 1966. It was quickly replaced with a prefabricated structure built on the original foundations. In recent years, this building has endured substantial modifications so that it better fits the historic context. This newer building is classified as noncontributing but compatible.

T.C. Vint also worked directly on the design of buildings in the Pine Creek Residential Area (Jurale 1984c). After working under Hull, Vint became the influential head of the NPS Landscape Division at the Western Field Office in San Francisco (McClelland 1998, 195-196). In this capacity, Vint hired a number of capable landscape architects and engineers. These professionals shared their time between the San Francisco office, where they received some training, and field stations in the national parks

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(McClelland 1998, 198-200). One of the landscape architects hired by Vint was Harry Langley, whose impact on the Zion Canyon landscape was profound (HABS, "Transportation," 5). Langley was assigned to Zion in 1929. His designs were behind many of Zion's most significant trails, as well as the rehabilitation of the Crawford/Gifford Canal and the construction of the Oak Creek Canal. Moreover, he was a central figure in the construction of the Floor of the Valley Road and in the development of the quarry for construction work at Zion. The development of this quarry was especially important because the Rustic Style demanded the use of local, native building materials (Jurale and Witherall 1984).

NPS engineers who shaped the Zion landscape were also well acquainted with the Rustic Style. F.A. Kittredge, Guy Edwards, and Thomas Parker all came from the Western Field Office. Each played an important role in the design or construction of Zion's facilities (Sontag and McKoy 1995, 6). In his later role as NPS chief engineer, Kittredge and his staff published standards for foot and bridle trails. For decades, these standards were followed by NPS designers and construction crews (McClelland 1998, 242). In formulating these specifications, Kittredge was likely influenced by his earlier experiences at Zion.

#### RUSTIC TRAIL SYSTEM

The Rustic trail system implemented at Zion during the 1920s and 1930s is of the highest order. Several of the canyon's trails are highly regarded for their engineering and aesthetic achievements and may have served as models for trail design and construction in other national parks.

Zion Canyon's historic trail network is remarkable for features of engineering and construction. According to NPS landscape historian, Linda McClelland, NPS officials regarded the West and East Rim Trails as exceptional trails from the 1920s: "Considered outstanding were the five-foot-wide Kaibab Trail of the Grand Canyon, the trails to the East and West Rims of Zion, the High Sierra Trail from the Giant Forest toward Mount Whitney in Sequoia, and the Four-mile Trail from Yosemite Valley to Glacier Point" (McClelland 1995, 87). During the 1920s, NPS officials were increasingly concerned with the quality of design for foot and bridle trails (McClelland 1998, 233, 241).

From an engineering standpoint, qualities of good trail design included durability, generous trail widths of consistent size for safety, and moderate to shallow grades (Anderson, Jacobson, Sutphen, and Zeman 2002, 3). During this time, the National Park Service used dynamite as a tool to accomplish these standards. At Grand Canyon, for instance, both the South Kaibab and North Kaibab Trails were heavily dependent upon blasting. Where the steep terrain made it necessary, construction crews employed dynamite to carve precisely-engineered trail alignments from solid rock (Anderson, Jacobson, Sutphen, Zeman, and Jackson 2002, E.3; Anderson, Donahoe, Sutphen, and Zeman 12-13). In this way, short sections of the North Kaibab Trail took the appearance of half-tunnels. By using dynamite, engineers were able to limit grades along these two trails—with some exceptions—to 20 percent (Anderson, Jacobson, Sutphen, and Zeman 2002, 3). Given that these trails dropped from the canyon rims all the way to the Colorado River, this was a considerable feat. Such engineering accomplishments are a primary reason that the South and North Kaibab Trails are eligible for the National Register (Anderson, Sutphen, Zeman, and Jackson 2002, F.3). Engineers at Zion faced a

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similar task as at Grand Canyon, and used the same heavy-handed techniques when routing trails through Zion's soaring sandstone cliffs. Both the West Rim and East Rim Trails contain sections that were obviously "carved" from the rock by dynamite blasts. These "half-tunnel" sections—characterized by slopes of uniform grade—illustrate the importance that the NPS placed on trail engineering during the 1920s.

Zion trails are quintessentially Rustic in their design. The trails were located so that travelers could experience many beautiful views and access points of interest. Trail alignments were carefully selected to ensure that the trails blended in to their surrounding and did not impair views from the valley floor or elsewhere in the canyon. The Zion trails also exhibit the Rustic sensibility to natural systems. For example, culverts and drains were constructed beneath the trails, allowing drainages to flow uninterrupted.

Key to this practice of harmonizing a trail with the natural setting was the use of native building materials. Rustic retaining walls of locally-quarried sandstone are ubiquitous features of Zion's trail system. Some of these retaining walls are dry-stack, like many that were constructed on the East Rim Trail in 1918-1919. Other walls are of random-laid ashlar construction, composed of roughly-shaped sandstone blocks, held together with mortar. Built by the CCC in 1935, the celebrated retaining walls supporting "Walter's Wiggles" exemplify this latter type (Jurale and Witherall 1984). Up-close, it is easy to appreciate the artistry of either type of wall. Yet when viewed from a distance, each wall is practically indistinguishable from its surroundings (McClelland 1998, 235). Of course, the retaining walls also serve practical purposes. Zion's East and West Rim trails and those of Grand Canyon are excellent examples of the trail construction technique called "benching," in which a trail is cut into the slope and leveled and then supported by back-filling a dry rubble wall on the downhill slope (McClelland 1993). This wall would create a stable bench, allowing the trail to be fitted to the natural contours, limiting disturbance to the natural slope and facilitating drainage (McClelland 1998, 241-242).

Certain Rustic features of particular trails are especially noteworthy. Visitors ascend steep sections of the Angels Landing trail by way of steps chiseled from the natural rock. In places, heavy chains affixed to the rock accompany these informal stairways. While providing a measure of security, this treatment heightens the drama of the ascent. In constructing the Hidden Canyon Trail, civil engineers F.A. Kittredge and Guy Edwards made a deliberate effort to shield the trail from view. They accomplished this feat by carefully choosing its alignment and by preserving vegetation along its course for screening. Building this trail required a considerable amount of blasting, but extreme care was taken to limit scarring of the natural cliffs (Jurale and Witherall 1984; HABS, "Transportation," 5). In 1929 these same engineers were responsible for selecting a new route for the Gateway to the Narrows Trail. Edwards drew the final plans, designing the trail to lay light on the land. Its winding and rolling course suggested the work of nature, rather than the hand of man (Jurale and Witherall 1984). Harry Langley designed the Emerald Pools Trail. To limit disturbance of the natural environment, trained stone masons constructed this trail using only hand tools. Langley was also responsible for the design of the Grotto Trail, which NPS crews built in 1932. For much of its route, this trail followed the alignment of the "Government Road" built in 1924-25. According to Langley's plans, native grapevines were planted along the weathered sandstone ledges lining the trail (Jurale and Witherall 1984). Using

vines to add texture and interest to a rock face is a time-honored technique of landscape architecture that conforms to the principles of the Rustic Style. The plantings unified both the trail and its natural setting were unified into one harmonious composition (McClelland 1998, 37, 77-78).

#### RUSTIC ROAD DESIGN

The Floor of the Valley Road (built 1932) is representative of both the NPS mission to improve access to the parks and the Western Landscape Division's standardization of naturalistic road design and construction. Under the leadership of Thomas Chalmers Vint, the Western Landscape Division made substantial advances in road construction from 1928 to 1932. During this period, Vint and his landscape architects and engineers standardized the Rustic design of park roads and road structures (McClelland 1995, E). In 1931, the National Park Service recognized several of its road projects as "outstanding." These roads were the Wawona Road and Tunnel in Yosemite, Generals Highway joining Sequoia and General Grant parks, Trail Ridge Road in Rocky Mountain National Park, Rim Drive encircling Crater Lake, Going-to-the-Sun Road in Glacier, Colonial Parkway between Yorktown and Jamestown in Virginia, and Skyline Drive along the crest of the Blue Ridge in the proposed Shenandoah National Park (McClelland 1998, 230). Because it was built in 1932, the Floor of the Valley Road was not eligible for this list, although it too remains an exceptional example of the application of Rustic design principles. As with the above mentioned road projects, landscape engineers and landscape architects played a central role in the development of the Floor of the Valley Road. Engineer, Thomas Parker, and landscape architect, Harry Langley, were responsible for siting the road with the least impact on the scenery, presenting vistas and designing bridges, culverts, and guardrails to ensure that the road was sympathetic to its surroundings.

The use of naturalistic masonry in road structures was characteristic of Park Service roads in the 1920s and 1930s. In 1929, Vint developed detailed specifications for the naturalistic masonry construction of walls, bridges, guardrails, and culvert headwalls. The specifications gave patterns for the placement of stone in measured plans, elevations and sections. These patterns were based on successful designs developed in the mid-1920s, such as Glacier's Going-to-the-Sun Road, Yosemite's El Portal Road and Mount Rainer's Yakima Park Road. Going-to-the-Sun Road is often cited for its exemplary stone masonry features, including low masonry parapets which are composed from a random arrangement of irregularly-shaped and sized local stones (McClelland 1995, E). The stone patterning of the rubble walls avoided right angles and straight lines in order to achieve a "camouflage effect" that helped blend built features with the surrounding setting (McClelland 1995, E).

In contrast to the Going-to-the-Sun Road, masonry structures along the Floor of the Valley Road exhibit random ashlar or coursed rubble construction. In random ashlar construction, stonework is cut on four sides, so that the adjoining sides will be at right angles to each other, but there is little attempt to arrange vertical joints above one another, and blocks are only generally arranged in courses. The coursed rubble construction along the road appears similar to random ashlar, except that not all blocks adjoin at right angles. The stonework along the Floor of the Valley Road is more analogous to the style that Charles Peterson, a former employee of Vint, introduced to the Eastern Division and employed at Great Smoky Mountains National Park. Peterson's style, which would become standard in park road construction during the 1930s and 1940s, exhibited a greater proportion of rectilinear shaped stones laid

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horizontally and mortar joints that roughly followed horizontal and vertical lines (McClelland 1998, 224). Despite this stylistic departure, the random ashlar or coursed rubble walls in Zion Canyon achieve the harmonizing effect of un-coursed rubble masonry found along park roads built in the 1920s. Built features on the Floor of the Valley Road still exhibit irregular patterning, in that the locally-quarried sandstone blocks are chosen for their varied sizes, colors, and textures, in adherence to Rustic design standards that Vint established by 1929. To a passing motorist, the road's naturalistic masonry features reflect the soaring sandstone walls of the canyon. Like the Going-to-the-Sun, El Portal, and Yakima Park Roads, Floor of the Valley Road was characterized by a uniform style of masonry used throughout its length. Even culvert headwalls, which were ordinarily hidden from view of the road, became elegant works of random ashlar or coursed rubble masonry (Sontag and McKoy 1995).

As intended, the Floor of the Valley Road exhibited a cohesive feel because its numerous facilities were united by principles of Rustic design and common design elements. This cohesive quality contributes to the high artistic values of the Floor of the Valley Road. The designers of the road spaced five parking areas at irregular intervals along its route: Temple of Sinawava, Red Point (now known as Big Bend), Great White Throne, Weeping Rock, and Court of the Patriarchs. Design features common to these parking areas include ashlar sandstone curbing and walkways that provide access to trails and viewing areas. When originally constructed, both the Cable Creek Bridge and the Virgin River Bridge (built in 1929 as part of the Zion-Mt. Carmel Highway) featured a similar circulation system to these parking areas. On each bridge, two walkways flanked the roadbed, raised slightly above its level by sandstone curbing (Sontag and McKoy 1995). As with Shenandoah's Skyline Drive, construction of the Floor of the Valley Road coincided with the development of a bridle trail, an alternative way to experience the canyon. Only traces of this trail have survived, including the walkway where the trail crossed underneath the Cable Creek Bridge, closely paralleling this stream (Croteau 1993).

Landscape engineers made great efforts to design and build Zion Canyon's bridges so that they complemented the natural setting. For instance, 54-inch redwood slabs were affixed to the sides of the Virgin River Bridge to conceal its modern I-Beam construction (Jurale and Witherall, 1984). Vint considered the Virgin River Bridge among his office's best bridge designs. Other bridges Vint recognized in 1931 were the Christine Falls, Frying Pan, Klickitat, White River, and Tahoma Creek bridges in Mount Rainier; the Happy Isles, Clarke's, and Trail bridges in Yosemite; the Swiftcurrent Bridge (designed by Commission of Fine Arts member Ferruccio Vitale) in Glacier; and the Log Bridge in Rocky Mountain (McClelland 1993).

The artistry applied to the road's structures extends to its very alignment. Just as a Rustic Style building eschews regularity, so does the route of this Rustic road eschew straight lines. Its sinuous, curving line echoes the meandering course of the Virgin River (HABS, "Transportation," 6). Today, even the color of the road contributes to the overall aesthetic composition, as the road is chip-sealed with a red cinder. This was first done in the early 1970's, however, and is not considered a historic feature. Still, the color of the road's surface perpetuates the intent of the NPS designers to ensure minimum visual impact on the surroundings (Sontag and McKoy 1995).

#### PRESERVATION OF THE RUSTIC CHARACTER

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Like the entire Zion Canyon landscape, the Floor of the Valley Road maintains its cohesive feel and still strongly conveys the NPS-Rustic design ethic of the 1920s and 30s. Through the years, the road has been carefully maintained to preserve its historic character (Sontag and McKoy 1995). Over time, the road was widened and parking areas were expanded. But for the most part, repairs and additions to its features have been sensitive. For instance, during the 1970s, additions were made to the retaining walls in the Weeping Rock Parking Area. Though the modifications increased the size of the walls significantly, they were made using compatible materials and are not intrusive (Sontag and McKoy 1995). In 2000, the implementation of a new transportation system necessitated the construction of new facilities in the road's historic parking areas. Yet these changes have not compromised the overall integrity of the road and canyon cultural landscape. The road alignment was not modified. Shuttle stops and other new transportation facilities were constructed of a combination of native materials and modern materials, including core-10 steel. Though the use of this new material represents a departure, its color and texture are sympathetic to the natural setting, calling to mind the Rustic Style's sensitivity to setting. These facilities also borrow stylistic cues from the canyon's Rustic Style facilities. For these reasons, the transportation facilities are compatible with the historic setting.

Together, the Floor of the Valley Road and other cultural landscape resources of Zion Canyon retain historic integrity. The canyon's road, river, trails, and myriad other landscape resources remain representative of pioneer Mormon settlement, the regional development of the National Park Service, and the Era of Public Works. These landscape resources exemplify the high artistic values of the NPS Rustic Style.

### **National Historic Landmark Information**

**National Historic Landmark Status:** No

### **World Heritage Site Information**

**World Heritage Site Status:** No

## Chronology & Physical History

### Cultural Landscape Type and Use

**Cultural Landscape Type:** Designed

**Current and Historic Use/Function:**

**Primary Historic Function:** FC40

**Primary Current Use:** FC40

**Other Use/Function**

Agriculture/Subsistence-Other

**Other Type of Use or Function**

Historic

**Current and Historic Names:**

**Name**

Mukuntuweap National Monument

Zion Canyon/Zion National Park

**Type of Name**

Historic

Both Current And Historic

**Associated Group:**

**Name of Group:** Mormon (Latter Day Saints)

**Type of Association:** Both Current And Historic

**Chronology:**

<b>Year</b>	<b>Event</b>	<b>Annotation</b>
AD 1862 - 1863	Explored	Joseph Black discovered suitable sites for farming near the current locations of the Zion Lodge and the Grotto Picnic Area. Black was one of a small number of Mormon pioneers called by Brigham Young to southern Utah who established a settlement around the area of present-day Springdale (Jurale and Witherall 1984).

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AD 1862 - 1875	Settled	Impressed by Black's accounts, other Mormon pioneers settled in Zion Canyon. In 1862 Isaac Behunin built a one-room log cabin not far from the present lodge site; it was the first permanent pioneer structure in the canyon. William Heap established a farmstead across the Virgin River from the Behunins, at the mouth of Emerald Pools Canyon, which was labeled on historic maps as Heaps Canyon or Hepes Canyon. John Rolf built two cabins for his two wives, one adjacent to the Behunin's and the other at the site of the current Grotto Picnic Area (HABS, "Pioneer," 1).
	Farmed/Harvested	To practice farming in the newly settled areas of upper Zion Canyon, Mormon settlers dug simple irrigation ditches and constructed humble diversion devices. They cultivated orchards and raised irrigated crops, including cane, corn, and other vegetables. The Behunin family also cultivated tobacco. Later, longer and more elaborate irrigation ditches were constructed farther down the canyon (Jurale and Witherall 1984; HABS, "Pioneer," 1).
AD 1864 - 1865	Built	Primitive pioneer roads were constructed in the canyon. Before 1864 a rough cart road was built high on the east slope of the canyon. It entered the upper valley about a ½ mile above Birch Creek. In 1864 and 1865 a wagon road was built up the bed of the Virgin River, crossing it many times. This second road served as the main road through Zion Canyon until the first NPS-constructed road in 1916 (Woodbury 1950, 158; Jones 2003, 54).

\*Note on Canyon Road Construction:

The early wagon roads built by Mormon settlers preceded the construction of three government-built roads over the next seventy years. In 1916 and 1917, the government built a road to accommodate automobile traffic. The next major road, known as the "Government Road" was constructed in 1925 and led all the way to the Temple of Sinawava. Finally, the Floor of the Valley Road, known today as the Zion Canyon Scenic Drive was constructed in 1932.

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AD 1875	Abandoned	At one time, perhaps a dozen families lived in upper Zion Canyon, but by 1875 they had abandoned these farmsteads in favor of sites outside the canyon or farther downstream, south of the boundaries of the later national monument. Other settlers continued to farm suitable sites in the canyon, though they did not live there. For instance, about 1880 Oliver Gifford was maintaining fields in the approximate location of the Grotto Picnic Area (HABS, "Pioneer," 1; Woodbury 1950, 161).
AD 1890 - 1905	Built	The Crawford/Gifford Canal was constructed by Mormon farmers about the turn of the century to irrigate crops of corn, sorghum, and alfalfa. This irrigation ditch served the small community of farmers in the Oak Creek drainage, often called Crawfordville (Jurale and Witherall 1984; Jurale 1984b).  Joseph Black
AD 1896 - 1897	Developed	Local rancher, John Winder, improved an old Indian trail that led into the canyon from its east rim. Later, the NPS further developed it as the East Rim Trail (Jurale and Witherall 1984).
AD 1901	Built	David Flanigan built Cable Mountain Draw Works on the east rim of Zion Canyon. One structure stood at the rim of the canyon, 2000 feet above the current location of Weeping Rock Parking Area. Cables connected it with structures on the canyon floor. This device allowed the pioneers to transport high-quality timber from the canyon rim to the floor. The first successful load of lumber was sent down the cable on Sept. 21, 1901 (Jurale and Witherall 1984).
AD 1904	Established	David Flanigan purchased a run-down sawmill and moved it near the canyon rim, to operate in combination with the draw works (Jurale and Witherall 1984). From 1904 to 1906, 200,000 board feet of lumber and two tons of other materials were transported over the wire (HABS, "Pioneer," 4).
AD 1907	Purchased/Sold	David Flanigan sold the draw works and sawmill to the Clifford, Crawford, and Stout families (Jurale and Witherall). In later years, others would purchase interests in the enterprise (HABS, "Pioneer," 4).

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AD 1909	Established	On July 31, 1909, President William H. Taft established Mukuntuweap National Monument. The monument encompassed upper Zion Canyon. At the time, many pioneer families were still farming small plots just downstream of the monument boundaries (Jurale and Witherall 1984). Only a primitive wagon road led up the canyon (Sontag 1995).
AD 1911	Destroyed	The top structure of the Cable Mountain Draw Works was struck by lightning and burned (Jurale and Witherall 1984).
	Reconstructed	Soon after the Cable Mountain Draw Works burned, the cable was raised from the canyon floor and the structure was reconstructed (Jurale and Witherall 1984).
AD 1916	Built	A telephone line was installed, connecting the settlement of Crawford with John Winder's ranch, located on the plateau east of the canyon. Traces of this telephone survive, in the form of wire attached to trees and posts, and associated debris (Betenson 2002, 12-13).
AD 1916 - 1917	Engineered	Following a special \$15,000.00 appropriation by Congress, the NPS constructed a road leading into Zion Canyon from the south boundary of the monument to the Cable Mountain Draw Works. NPS Engineer W.O. Tufts was sent from Washington D.C. to survey the road. In 1917, the first automobile to travel in Zion Canyon used this road (Jurale and Witherall 1984; Sontag 1995).
	Established	In 1916 the Wylie Permanent Camping Company was granted the franchise for tourist accommodations by the NPS. In 1917, the company began a five-year concessions contract. A Wylie camp was established near the current site of the lodge, offering visitors the opportunity to camp comfortably (Jurale and Witherall 1984).
AD 1918 - 1919	Developed	NPS crews improved the old trail that had been developed by John Winder. Now known as the East Rim Trail, this was the first trail to be developed in the park. At the time, the trail had been the weak link in a short-cut route between Orderville and St. George (Jurale and Witherall 1984).

AD 1919	Built	A public museum was built at the original park headquarters site, opposite the current Pine Creek Residential Area. This building was one of the first well developed examples of NPS-Rustic Style architecture in the National Park System but it has not survived to the present day (HABS, "Transportation," 3). Unfortunately, research did not reveal a date for when this building was removed.
	Established	Zion National Park was established. About twenty families still operated small farms in the Virgin River floodplain just south of the boundary; this settlement continued throughout the 1920s. During this time some of the residents continued to use water from the Crawford/Gifford Canal, which was located inside the park (Jurale and Witherall 1984; Crawford 2000, 1-2).
AD 1920 - 1925	Destroyed	In the early 1920s, Cable Mountain Draw Works burned a second time (HABS, "Pioneer," 4).
	Reconstructed	Soon after the Cable Mountain Draw Works burned a second time it was rebuilt with new lumber and pulleys (HABS, "Pioneer," 4).
AD 1923	Established	The Utah Parks Company was formed as a subsidiary of the Union Pacific Railroad, and was awarded the contract for tourist accommodations at Zion. Future tourist facilities, such as Zion Lodge and the Birch Creek utility area, would be built and maintained by the Utah Parks Company (Jurale and Witherall 1984).
AD 1924	Built	The Museum in the Grotto area was constructed. Now known as the Grotto residence, this stone example of Rustic architecture is the oldest surviving historic building in the park (Jurale and Witherall 1984).
	Built	According to J.L. Crawford, a new bridge across the Virgin River was built to replace an earlier one taken out by a flood (Crawford 2000, 5).
	Altered	A sharp bend at the west end of the new bridge across the Virgin River required cutting into the edge the slope, so that a portion of the Gifford Ditch was routed through "six sections of pipe" (Crawford 2000, 5).

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	Designed	Officials in the NPS Landscape Engineering Division prepared the layout of the Zion Lodge area. During this time the landscape engineering staff shared office space with architect, Gilbert Stanley Underwood's firm (Sontag and McKoy 1995; McClelland 1998, 171).
AD 1924 - 1925	Built	Utah Parks Co. built the Zion Lodge near the site of the former Wylie tourist camp. Gilbert Stanley Underwood was the architect of the wooden rustic structure and other buildings to be built on the site (Jurale and Witherall 1984).
AD 1924 - 1926	Built	NPS Landscape Engineer, Daniel Hull, and his assistant Thomas C. Vint, were responsible for design work on the East and West Rim Trails, which were built according to the precepts of the Rustic Style at great expense. While the Grotto Museum cost \$3,500 to build, work on the East and West Rim Trails at this time totaled nearly \$41,000.00. Suspension footbridges were built across the Virgin River, to provide access to these new trails (Jurale and Witherall 1984; Woodbury 1950, 206).
AD 1924 - 1929	Built	All of the historic buildings in the Zion Lodge area are built during this period, except for the men's dormitory (1937). These buildings were designed by renowned architect, Gilbert Stanley Underwood, for the Utah Parks Co. The Birch Creek utility area was also constructed during this time. These buildings were also designed by Underwood and were built to support the concessionaire operations of the Utah Parks Co. All buildings are examples of Rustic design (Jurale and Witherall 1984).
AD 1925	Abandoned	The construction of Zion Lodge was the last major project undertaken with lumber sent down the draw works cable. Afterwards, the supply of easily accessible timber on Cable Mountain was depleted and the draw works was no longer used (Jurale and Witherall 1984).
	Built	A footpath from the Temple of Sinawava area to the Narrows was constructed (Woodbury 1950, 206)

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	Built	The 1916-7 road through Zion Canyon was replaced with a \$70,000 “Government Road.” This gravel-surfaced road led from the south border of the park—just below the (historic) Virgin River Bridge—all the way to the Temple of Sinawava. Road construction coincided with the construction of the new Zion lodge and Union Pacific tourist facilities outside the park. This construction marked the beginning of a ten-year period of close cooperation between the Union Pacific and the NPS in opening southern Utah and northern Arizona to tourists. Sections of the 1925 Government Road are still visible today upslope from the current road (Sontag 1995).
	Built	Circa 1925: For the maintenance of the water supply, and also for the recreation of lodge visitors, a trail was constructed along the base of the cliffs from Wylie Grove. This trail has been abandoned but several of its retaining walls survive (Betenson 2002, 10; Woodbury 1950, 206).
AD 1925 - 1926	Built	Following the completion of the West Rim Trail (1925), and the Lady Mountain Trail (1925), the Angels Landing trail was built to the plans drawn at the NPS Division headquarters in Los Angeles. Lady Mountain and Angels Landing required hikers to ascend by way of handrails, chains, and hand-chiseled steps (Jurale and Witherall 1984; HABS, “Transportation,” 4; Woodbury 1950, 206).
AD 1926	Built	The Wylie Spring Development was constructed to supply drinking water to the Zion Lodge (Betenson 2002, 9).
	Built	Two suspension bridges—one at the Grotto Picnic area and one across from the Lodge—were erected across the Virgin River (nonextant) and a path was opened to Emerald Pool (Woodbury 1950, 206).
AD 1927 - 1930	Built	The federally-funded Zion-Mt. Carmel Highway was completed in 1930, providing access to the park from the east and completing the Grand Loop tour of national parks and monuments envisioned by the Utah Parks Company. The Bureau of Public Roads, with Thomas H. MacDonald and other engineers, built the road. The Nevada Construction Company built the Zion-Mt. Carmel Highway Tunnel (Jurale and Witherall 1984).

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AD 1928	Designed	F.A. Kittredge and Guy Edwards, two NPS civil engineers, designed the Hidden Canyon Trail above the current Weeping Rock Parking Area. They made a deliberate effort to blend the trail into the sheer canyon cliffs. Brush and evergreen trees along the trail were carefully protected from damage, shielding the trail from view (Jurale and Witherall 1984; HABS, "Transportation," 5).
AD 1928 - 1929	Engineered	Kittredge and Edwards were responsible for a survey for relocating and paving the Narrows Trail (HABS, "Transportation," 5).
	Altered	Kitteredge and Edwards were responsible for oiling the existing road through the canyon and the East and West Rim Trails (Jurale and Witherall 1984).
AD 1928 - 1932	Built	Four buildings (001, 002, 003, and 107) of the Pine Creek residential area were built and were examples of the Rustic Style (Jurale and Witherall). Landscape architect, T.C. Vint, who was Daniel Hull's chief assistant is credited with the design of the Superintendent's Residence(001), the Chief Ranger's Residence (002), and the Old Superintendent's Residence (003). The other building was originally a two-stall garage (HABS, "Transportation," 3; Jurale 1984a, c, and e).
AD 1929	Designed	From the Western Field Office, Edwards designed the Gateway to the Narrows Trail. It was constructed with crests and low points and a winding alignment, suggesting the work of Nature, rather than man (Jurale and Witherall 1984).
AD 1929 - 1930	Built	The Virgin River Bridge was constructed to link the new Zion-Mt. Carmel Highway with the Floor of the Valley Highway. The original bridge was 30feet wide: it included a 20 foot-wide driveway and two 5 feet-wide sidewalks. Two huge (34 feet high) ashlar sandstone piers support the steel I-Beam span, which is camouflaged with 54inches redwood slabs to convey a Rustic appearance (Jurale and Witherall 1984).
AD 1930	Removed	For purposes of safety, the cable was removed from the abandoned draw works. The completion of the Zion-Mt. Carmel Highway had rendered the structure obsolete (Jurale and Witherall 1984).

	Platted	Assistant Engineer Thomas Parker from the NPS Western Field Office in San Francisco Office surveyed the existing road in preparation for the new alignment (HABS, "Transportation," 6)
AD 1930 - 1939	Built	From 1919-1929 workers stabilized more than 2000 feet of river channel in the canyon, but in the 1930s this type of work increased dramatically. Eventually, the CCC provided many men for this type of work, which involved temporarily rerouting the river and stacking quarried sandstone into heavy-gauge wire baskets. These stabilization efforts resulted from a need to protect planned park facilities from frequent floods of the Virgin River. These floods had been exacerbated by severe overgrazing in the canyon and on the plateau lands that drained into the river. Early park planners viewed the river as damaged and in need of repair. Revetments continued to be constructed into the 1960s (Steen-Adams 2002, 256-257).
AD 1931	Inhabited	Harry Langley was stationed at Zion. Hired by Vint, he was an assistant landscape architect from the Western Field Office, Landscape Engineering Division (HABS, "Transportation," 6)
	Built	Two 1500 foot "rock dykes" were constructed, making available for development part of the river channel and enabling the construction of the 1932 road past the lodge. The design was overseen by the WODC (Sontag and McKoy 1995; Jones 2003, 56; Superintendent's Annual Report for 1931). Rock and wire mesh basket dams, log revetments, and river channel alterations were completed under the supervision of NPS engineer, Thomas Parker (HABS, "Transportation," 6, NPS-ZIO-557). Thus, the construction of the earliest river revetments at Zion predated the establishment of the Civilian Conservation Corps.
	Designed	Harry Langley, resident NPS landscape architect at Zion, designed the Grotto Trail, which connected Zion Lodge with the Grotto Camping Ground—largely along an historic road alignment (HABS, "Transportation," 6).
	Designed	The Bridle Trail was designed for horseback riding and hiking between the road and the Virgin River (Sontag 1995; Sontag and McKoy 1995).

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AD 1931 - 1932	Removed	By 1932 all buildings associated with Mormon settlement were removed from the park (Jurale and Witherall 1984).
AD 1932	Built	NPS crews constructed the Grotto Trail in the summer of 1932. Grape vines were planted to climb over the weathered rock walls lining the trail, adding to its rustic appearance (HABS, "Transportation," 6).
	Built	The Bridle Trail construction coincided with the construction (1932) of the Floor of the Valley Road. The trail paralleled the new road all the way to the Temple of Sinawava. Originally the gravel trail was 7 feet wide. Over time, floods erased large portions of the trail (Sontag 1995; Sontag and McKoy 1995).
	Built	The Floor of the Valley Road (known today as the Zion Canyon Scenic Drive), was built to replace the 1925 Government road, which had been built farther up the canyon slope. This was the third government-built road to lead through Zion Canyon since the creation of the national monument in 1909 (previous roads were built in 1916-17 and 1925). Harry Langley assisted in the design and construction of the road, which followed the guidelines of the NPS Western Office (WODC) Landscape Division. (Sontag 1995). Thomas Parker also played a leading role (HABS, "Transportation," 6).
	Built	Cable Creek Bridge was built as part of the 1932 Floor of the Valley Road construction. The Bridle Trail passed under the span of the bridge (Sontag 1995; Croteau 1993).
	Built	Harry Langley designed the Emerald Pools Trail, which was constructed by NPS crews. Trained stone masons were employed in the construction of retaining walls and other features, ensuring a high standard of durability and natural appearance (Jurale and Witherall 1984).

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	Built	From 1919-1929 workers stabilized more than 2000 feet of river channel in the canyon, but in the 1930s this type of work increased dramatically. In 1932 alone, workers built 1800 feet of stabilization structures (revetments) and straightened 5000 feet of the Virgin River channel. After 1933 the CCC provided many men for this type of work. It involved temporarily rerouting the river, stacking quarried sandstone into heavy-gauge wire baskets. Though the CCC departed Zion in 1942, such revetments were built into the 1960s (Steen-Adams 2002, 257).
AD 1933	Rehabilitated	Civilian Conservation Corps enrollees rehabilitated the Crawford/Gifford Canal according to plans drawn by Harry Langley, to 18 inches for 5178 feet of its length (Jurale and Witherall 1984).
AD 1933 - 1935	Planted	To harmonize the Floor of the Valley road with the natural environment, additional grading and planting work was carried out by CCC enrollees to disguise areas of cut and fill (Sontag 1995).
AD 1933 - 1942	Conserved	NPS Western Office landscape architects and engineers stationed at Zion worked in conjunction with the Civilian Conservation Corps (CCC) in 1933. CCC forces worked extensively at Zion in road and trail construction and maintenance, building and modifying irrigation ditches, and masonry work. They worked in the park until 1942 (Jurale and Witherall 1984; Sontag 1995).
AD 1934	Developed	Landscape architect/engineer, Harry Langley, and landscape architect, George Norgard, developed a stone quarry at the base of a sandstone cliff west of Springdale, outside the cultural landscape boundary. Stone from this quarry was employed in construction work at the park until 1941. Prior to 1934, the red sandstone used in constructing park facilities had come from more distant sources (Jurale and Witherall 1984).
AD 1934 - 1935	Built	The Temple of Sinawava parking lot was constructed by the CCC (Sontag 1995; NPS-ZIO-3046).

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AD 1935	Designed	Harry Langley designed the Oak Creek Canal to provide irrigation for reforestation at South Campground. CCC enrollees conducted the initial work, but it was continually updated in ensuing decades. The irrigation ditch begins approximately .75 mile north of the Virgin River Bridge, so a significant portion of the ditch is within the boundaries of the Zion Canyon cultural landscape (Jurale and Witherall 1984; HABS, "Transportation," 10).
	Expanded	Construction resumed on the West Rim Trail, with the construction of Walter's Wiggles, a series of 17 complete switchbacks on the side of a chimney above Refrigerator Canyon (Jurale and Witherall 1984).
AD 1935 - 1939	Built	Circa 1935-1939: The Birch Creek Trail (now abandoned) in Birch Creek Canyon was constructed by the CCC in connection with the development of the park's water supply system (NPS-ZIO-2113, NPS-ZIO-8178, NPS-ZIO-5061). This trail is no longer in use, but there are remnants of stone walls in the canyon that almost certainly match the alignment depicted in three historic drawings. The existing trail in the Birch Creek drainage does not follow the historic route as depicted by the drawings. See "Circulation" for more detail.
AD 1936	Rehabilitated	The Museum at the Grotto Camping Ground was converted for employee housing (Jurale and Witherall 1984).
AD 1938	Built	A second garage (building 102) was constructed at the Pine Creek Residential Area. Though of a later date than other Pine Creek buildings, it conformed to the Rustic Style (Jurale and Witherall 1984).
AD 1941	Built	Circa 1941: A pedestrian suspension bridge was built over the Virgin River, providing access to the Emerald Pools and West Rim trails (NPS-ZIO-5307-A).
AD 1941 - 1942	Built	Several parking areas were constructed, including the Court of the Patriarchs, Weeping Rock, Great White Throne, and Red Point (Sontag 1995).

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AD 1942	Abandoned	The closing of the final CCC camp in July marked an end to construction projects associated with the Floor of the Valley Road (Sontag 1995). Construction at Zion dropped considerably due to factors brought on by World War II. Construction did not pick up again until the Mission 66 period (Jurale and Witherall 1984).
AD 1959 - 1960	Altered	In 1959 or 1960: The Virgin River bridge was modified. The sidewalks were removed and the widened roadbed resurfaced. Steel reinforcing rods were implanted in the bridge (Jurale and Witherall 1984).
	Altered	The portion of the Floor of the Valley Road from the park's south entrance to the Virgin River Bridge was realigned, and is thus ineligible for inclusion on the National Register. Aerial photographs (dated 7-11-1960) on file in the GIS office at Zion show that these changes took place in 1959 or 1960 though the National Register nomination for the Floor of the Valley Road records that the changes took place during 1961 to 1962 (DIH-12AA-74; Sontag and McKoy 1995).
AD 1959 - 1962	Altered	About the time the southern portion of the Floor of the Valley Road was realigned, the Canyon Junction was modified from a Y-shaped to a T-shaped intersection. This change did not erode the overall character of the road north of this junction. This change is not visible on the aerials noted above (Sontag and McKoy 1995).
AD 1960 - 1969	Removed	In the 1960s, the original stone stairway from the Court of the Patriarchs Parking Area to the trail that led to the nearby overlook was removed in connection with road realignment (Sontag and McKoy 1995).
	Expanded	Construction of river revetments continued through the 1960s. Much of the work from this decade incorporated or expanded earlier structures. The original quality of design, location, materials, and workmanship was thereby somewhat obscured (Sontag and McKoy 1995).

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AD 1965	Altered	In the mid 1960s, the Grotto Camping Ground, the first campground in Zion, was converted to picnic use (Jurale and Witherall 1984). This researcher does not know when the campground was built, but it was in place by 1925 (Woodbury 1950, 206). Campsites were obliterated and a vehicular drive and parking area was superimposed on the site. A parking lot across the Floor of the Valley Road was constructed (Sontag and McKoy 1995).
AD 1966	Destroyed	The original Zion Lodge was destroyed by fire in January (Jurale and Witherall 1985).
	Built	A prefabricated building was quickly erected on the spot of the old Zion Lodge (destroyed by fire), using the original foundation (Culpin 1982). This second building is a noncontributing resource of the Zion Lodge Historic District (Jurale and Witherall 1985).
AD 1970 - 1979	Altered	At Weeping Rock Parking Area, two stone stairways were built, which lead from the parking area down to Cable Creek, near the footbridge. Additions were made to the retaining walls, approximately doubling their height. These modifications were made using compatible materials and are not intrusive, though they are considered noncontributing (Sontag and McKoy 1995).
AD 1983 - 1984	Removed	The historic suspension footbridge across the Virgin River was replaced by a modern tin steel bridge (Jurale and Witherall 1984).
	Paved	The lower Emerald Pools Trail was paved for handicap access (Jurale and Witherall 1984).
AD 2000	Altered	Circa 2000: The Floor of the Valley Road was modified to accommodate the new transportation system.
	Altered	Circa 2000: The Floor of the Valley Road was modified to accommodate the new transportation system.
	Expanded	Circa 2000: Parking areas throughout the Floor of the Valley Road were expanded with new shelters, bike racks and other facilities. A concerted effort was made to fit the new construction into the historic setting through sensitive design and compatible materials. Nevertheless, the Big Bend parking area was thoroughly reconfigured at this time, so that it lost historic integrity.

## Analysis & Evaluation of Integrity

### Analysis and Evaluation of Integrity Narrative Summary:

An analysis of landscape characteristics reveals that the Zion Canyon district strongly conveys its associations with historic themes and events, namely Pioneer Mormon settlement, the development of the National Park Service and tourism in the region, and the NPS-Rustic Style of design. Although parking areas along the Floor of the Valley Road have been modified to accommodate the shuttle system, the improvements were sensitively done and Zion Canyon retains historic integrity.

The most important resources associated with Mormon settlement include the Crawford and John Gifford irrigation ditches and the Cable Mountain Draw Works. Each of these resources provides understanding about the settlers' way of life and demonstrates their ingenuity in adapting to the natural environment of Zion Canyon. Location and setting are important aspects of these historic resources. Each ditch maintains its historic alignment. Because the Cable Mountain Draw Works still overlooks the canyon from its very edge, its connection with the development of the canyon is immediately apparent. Each of these three resources is already listed on the National Register.

The most important tourist facilities built in the canyon include the historic trail network, the structures of Zion Lodge/Birch Creek and Pine Creek, and the Floor of the Valley Road, with its parking areas, designated viewpoints, and associated landscape features. A remarkable degree of historic fabric survives. In design, workmanship, and materials these facilities strongly convey the precepts of the NPS-Rustic Style, whereby facilities were sensitively integrated with the natural environment. The river revetments were built to protect these facilities and also to nurse the environment back to health. Many of these revetments have been damaged or removed by the river, while others were altered by later development. But given their setting and their utilitarian character, there exist today a surprising number of relatively intact examples that are representative of the original construction. The design intent of these remaining structures is clear.

In summary, Zion Canyon is a well preserved cultural landscape that powerfully expresses the relationship between human culture and a particular natural environment through different periods of history.

### INTEGRITY ASSESSMENT

The integrity of the Zion Canyon cultural landscape has been assessed using the criteria established by the National Register of Historic Places. The seven qualities of integrity are: location, design, setting, materials, workmanship, feeling and association. This CLI determines that the cultural landscape maintains integrity of each of these qualities, although the workmanship exhibited by modern structures has been of mixed quality. Additionally, this assessment considers the following three criteria used for addressing biotic cultural resources: community organization, species composition and management techniques.

### LOCATION

## Zion Canyon

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The location of Zion Canyon has not changed since the period of significance. Likewise, development clusters, as well as historic trails and other facilities, adhere to their original locations. Retention of the historic road alignment through the canyon and the rustic masonry structures, such as culverts, retaining walls, and bridges along this road corridor, strongly contributes to the historic character of Zion Canyon.

Some historic facilities have been lost over time. For instance, the Grotto Campground, which was the first campground in the park, was reconfigured for use as a picnic ground in the mid-1960s, and bears little resemblance to its appearance during the period of significance. Old roads and trails have been abandoned. However, in many cases, traces of these past facilities remain in the original locations.

The installation of river revetments that occurred during the period of significance altered the natural setting of the canyon. These revetments controlled the river's course in order to reduce flooding and protect park facilities. In many places, these revetments confined the river to a channel. This halted the river's historic migration across the valley floor, triggering great changes to the vegetation of the riparian corridor. Most visitors are not aware of these profound changes, however, and the illusion of a completely natural landscape remains intact.

#### SETTING

The canyon setting remains natural and largely unchanged. The setting is dominated by the towering canyon walls, the Virgin River, and the vegetation that composes the riparian corridor.

#### DESIGN

The landscape of Zion Canyon possesses integrity of design. The design and construction of the landscape features within the canyon was informed by the NPS-Rustic Style. Rustic design principles, including the subordination of built features to the natural environment through the use of native materials and quality hand-crafted workmanship, were consistently applied throughout the development of the canyon landscape. This resulted in a landscape that maintains a cohesive designed character. The rustic character of features has been preserved and remains readily apparent. The sinuous alignment of the Floor of the Valley Road evokes the Rustic Style, in its rejection of regularity. Trails were sited for minimum impact on the land. These alignments have been preserved. Throughout the landscape, structures such as bridges, retaining walls, and buildings exemplify the Rustic Style, in that they blend with the natural environment. Generally, these structures have been maintained to preserve their historic character. Structures built after the period of significance, such as the shuttle stops and other transportation facilities, are compatible with the historic context. Overall, the cultural landscape of Zion Canyon strongly conveys the design ethic of the NPS-Rustic Style.

#### MATERIALS

The use of natural building materials was a basic tenet of the NPS-Rustic Style. Construction projects throughout Zion Canyon made great use of natural materials such as sandstone and wood. The historic residences at Pine Creek, for instance, display the use of wooden shingles and sturdy wooden members, in emulation of the pioneer building tradition. Great slabs of redwood conceal the modern I-Beams of the Virgin River Bridge. Sandstone masonry characterizes a great number of built

features throughout the landscape, including retaining walls and bridges. Historically, much of this stone was locally-quarried, in consideration of its visual impact on the environment. By in large, these materials have held up well. Their survival contributes to the overall integrity of this landscape resource.

In the years since the period of significance, some new materials have been used. One example is the red cinder chip-seal, which was first applied to the Floor of the Valley Road in the 1970s. Another is core-10 steel, which is used in modern footbridges and shuttle stops. These modern materials are used sensitively; they are analogous to the historic native materials in that they blend unobtrusively with the natural landscape. Both the core-10 steel and the red chip-seal reflect the reddish sandstone walls of the canyon. Moreover, shuttle stops and other recent facilities are notable for the continued use of reddish sandstone. This use of the historic material helps the modern developments fit within the historic context. For the most part, repairs and additions to historic structures have been implemented using compatible materials. For example, repairs to historic stone walls in the Weeping Rock Parking Area have used sandstone that is similar in color and shape to the original. Over the years, repairs to trail surfaces have achieved varying results. For example, sections of the West Rim Trail have been patched using a combination of methods, including tinted concrete and asphalt with pink aggregate. Though well-intentioned, the cumulative use of these materials over time has created a patchwork effect that does not blend with the environment. Overall, however, the Zion Canyon landscape possesses integrity of materials.

#### WORKMANSHIP

Careful attention to handcrafted detail is an important characteristic of the NPS-Rustic Style. The workmanship exhibited by the construction of Zion's historic buildings and structures is of a uniformly high order. For instance, trained stone masons constructed the Emerald Pools Trail using only hand tools. Early river revetments were built of stacked stone, direct from a local quarry. This level of workmanship is still readily apparent, impressing visitors and researchers alike.

Over time, the methods for constructing landscape features changed, reflecting changing economic realities, including a greatly reduced labor force. In later years, for instance, bank stabilization was sometimes accomplished by dumping large boulders or "rip-rap" along the river's edge. Along the Riverside Walk (formerly the Gateway to the Narrows Trail), recent stone additions seem crude and out of character with the historic stonework surrounding it. In many cases, however, preservation repairs and additions exhibit a high degree of workmanship. Successful examples can be found in the sandstone walls and stairs of the Weeping Rock Parking Area. As a whole, the Zion Canyon landscape possesses integrity of workmanship, though the workmanship exhibited by modern construction has been mixed.

#### FEELING AND ASSOCIATION

One of the reasons that Zion Canyon powerfully conveys its significance is because it maintains an intangible sense of history. Visitors to Zion Canyon feel that they are in a natural landscape of great beauty. Traveling up the narrow, winding road, they are continually impressed by views of the soaring sandstone walls and large cottonwood trees. Next, they will admire the historic buildings and bridges,

and instantly understand that these handsome structures were built out of a deep respect for the natural setting. Hiking along one of the many trails, they may wonder at the tremendous work that was expended in its construction. It is clear to them that that the steep switchbacks and stone steps that they travel were created in another time. These experiences impart a sense of the past. The canyon assumed this character during the 1920s and 30s, when Park Service landscape architects designed the canyon's trails and "CCC boys" planted cottonwood saplings by the river they had helped to tame.

The association with the Mormon pioneer history is not as obvious to casual visitors. But traces of this past survive for them to experience. This visitor is likely to feel a sense of wonder upon their first view of the Cable Mountain Draw Works. The sight may cause them to marvel at the courage and ingenuity of those who once homesteaded the canyon.

Remarkably, some of the newer developments might assist the visitor in experiencing the canyon's sense of history. Most visitors feel that the new transportation system has improved their experience. With few cars to dodge, the canyon is quieter and the experience is calm. Now, perhaps, the connection to the past is stronger than it has been for some time. Zion Canyon possesses integrity of feeling and association.

## BIOTIC CULTURAL RESOURCES

### Community Organization

The canyon slopes, the riparian corridor, and the rim of Zion Canyon are all dominated by a mosaic of plant communities. These communities contribute to the historic integrity of the cultural landscape because they reflect historic conditions. The same woodlands, meadows, and riparian communities found in the canyon today were familiar to Mormon settlers and historic Park Service officials. Some areas, such as the irrigated lawns in the Pine Creek residential area, reflect historic changes to these native communities.

Today the park is dealing with the problem of failed cottonwood regeneration within the riparian corridor. While the corridor is now characterized by stands of mature cottonwoods, the loss of these older trees and their failure to regenerate does pose a threat to the integrity of biotic resources within the landscape. (See "Vegetation.")

### Species Composition

Species composition remains largely unchanged since the period of significance. The park continues to aggressively control invasive species so that they do not out-compete native species and disrupt the species composition. However, tamarisk (*Tamarix* spp.) and other exotics have become well-established in the riparian corridor, with a negative impact on natives, such as the coyote willow (*Salix exigua*).

It appears that cultivated species, including fruit trees and crops that were planted by early Mormon settlers, no longer survive in the landscape. The loss of historic fruit orchards does represent a loss of

historic integrity. In the interests of preservation, park staff may wish to consider an attempt to identify any remnants that do survive. (See “Vegetation.”)

#### Management Techniques

Biotic resources within the cultural landscape are managed in largely the same way they were historically. However, the park is considering some drastic changes in management of natural resources, which would affect cultural resources.

Management of the Virgin River has been heavy-handed. Revetments put in place to control the river during the historic period are still there. Some of these revetment structures have been maintained or expanded in the years since the period of significance. Others have been left to deteriorate under natural conditions. Currently, studies are underway to consider the impact of removing some of these revetments, which would mark a substantial departure from historic management techniques. One objective of this potential change in management would be to allow for more flooding within the river bed, promoting conditions suitable for cottonwood regeneration. Thus, the change is aimed at restoring the integrity of the cultural landscape’s biotic resources.

The potential impact on cultural resources must be carefully weighed. Changes in watercourses and flooding would almost certainly result in the loss of some historic materials and workmanship. These losses hold some potential for altering the feel of the canyon and diminishing the visitor experience. At the very least, the proposed actions would presumably entail removing relatively intact river revetments that demonstrate construction methods during the historic period. This CLI has determined that such relatively intact revetments are contributing features of the cultural landscape. More recent additions or historic revetments largely damaged by the river have not been counted as contributing features in this CLI. (Please see “Buildings and Structures.”)

- Aspects of Integrity:**
- Location
  - Design
  - Setting
  - Materials
  - Workmanship
  - Feeling
  - Association

#### Landscape Characteristic:

##### **Natural Systems and Features**

Zion Canyon is primarily a natural landscape. Its physical form is the result of natural processes, and its history evolved in response to its natural features.

Through the process of erosion, the North Fork of the Virgin River carved Zion Canyon from the sedimentary layers of the Colorado Plateau. The river was joined in this work by a host of

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smaller permanent and intermittent streams. Colorful cliffs of red and cream sandstone were exposed by the force of the water. Composed primarily by the Navajo Sandstone, these canyon walls are the central scenic feature of Zion Canyon. Fed by snowmelt and by powerful thunderstorms, the water bodies of Zion Canyon are responsible for a host of other scenic attractions, including intermittent waterfalls and alcoves that support hanging gardens of lush vegetation.

Episodes of sudden geologic activity played a role in the development of the cultural landscape. The Sentinel landslide is one prominent feature of the canyon. When the landslide occurred, the dislodged rock formed a dam that backed up water upstream, leading to the creation of a relatively level area. In historic times, this area became the setting for many pioneer farmsteads and for park facilities, including Zion Lodge.

Southern Utah's mild climate also played a profound role in influencing the historical development of Zion Canyon. Early Mormon pioneers that settled in southern Utah were impressed by the region's warm growing season, which was suitable for raising crops. Many of these people had been called by church leaders to settle the Virgin River region for the purposes of growing cotton (Woodbury 1950, 146). Angus Woodbury calls these cotton migrations the "prelude to settlement" of Zion Canyon (Woodbury 1950, 149-150). Those who settled in Zion Canyon relied upon its numerous springs for drinking water. In later years, the National Park Service and park concessionaires tapped several large springs to support their operations. Development in Zion Canyon was always tied to the supply of fresh water.

Contributing Features:

- \* Soaring canyon walls
- \* North Fork of Virgin River
- \* Places associated with water in an otherwise arid environment: temporary waterfalls, hanging gardens, springs (e.g. Wylie, Birch Creek, Grotto springs)
- \* Native vegetation

Non-contributing Features:

None

**Character-defining Features:**

Feature: Soaring canyon walls

Feature Identification Number: 120562

Type of Feature Contribution: Contributing

Feature: North Fork of Virgin River

Feature Identification Number: 120564

Type of Feature Contribution: Contributing

Feature: Native vegetation

Feature Identification Number: 120566

Type of Feature Contribution: Contributing

### **Spatial Organization**

The cultural landscape of Zion Canyon is defined by three distinct spatial zones - the valley floor, the canyon rim, and the steep cliffs and slopes between these two areas. Historically and today, the location and character of development within the cultural landscape reflects the natural features of these different zones.

Inside the proposed Zion Canyon Historic District, most historic development was concentrated near the valley floor and on other relatively level sites. During the period of Mormon settlement, these level areas with access to water were natural locations for fields and farmsteads. Afterwards, many of these same areas were developed for recreation and tourism. For instance, J.L. Crawford remembers that the Wylie Camp was located in an area that settlers had used for raising corn (Crawford 2005). Today, no significant features remain from the Wylie Camp, though a grove of mature trees marks its approximate location. Most of the important historic park facilities were also located on the canyon floor, or at the edges of the floor. Today, the Floor of the Valley Road connects these scattered facilities. Important clusters of development include the Pine Creek residential area, the Birch Creek utility area, Zion Lodge, and the Grotto.

The canyon rim forms the boundary of this cultural landscape, so relatively few facilities discussed in this report are located there. Important developments on the rim include overlooks and viewing platforms, such as Angels Landing and Observation Point.

Due to its very steep topography, the facilities that developed in the third zone have tended to be features of circulation. Zones of development on the canyon floor were linked with zones of development on the canyon rim by trails and other features. During the period of Mormon settlement, the most important link was the Cable Mountain Draw Works, which was devised to transport timber to the canyon floor. Another link in this period was the telephone line built by John Winder, which connected communities in the canyon with other communities on the canyon rim. (See §Archeological Sites.) The fantastic scenery of this zone made it ideal for certain types of recreation. The National Park Service developed hiking and bridle trails that climbed through the Navajo Sandstone cliffs and explored the other scenic attractions of the zone. Some of these routes connected with the canyon rim, such as the East Rim Trail; itself an improvement of earlier routes; and the Lady Mountain Trail. Many of these trails survive, but some historic linkages have been lost over time. For example, the cable used to transport lumber has been removed from the draw works, and the Lady Mountain Trail is no longer maintained.

#### **Contributing Features**

- \* Three distinct spatial zones: valley floor, the canyon rim, and steep canyon walls/slopes
- \* Pattern of development largely determined by topography

\* Clusters of development on the valley floor linked to the canyon rim by circulation features

Non-contributing Features

None

### **Views and Vistas**

Views of Zion Canyon's stunning scenery can be enjoyed from nearly every spot in the canyon. Natural features dominate these views. From facilities on the canyon floor, the eye is naturally drawn upward by the soaring canyon walls. The reds and creams of the Navajo Sandstone stand out dramatically against the deep blue of the desert sky. Park officials were careful not to allow trail development on these cliffs to interfere with the views of natural scenery. Through careful siting, screening, and through the use of native materials, many of Zion Canyon's signature trails were hidden from view of the canyon floor. From places near the canyon rim, the eye is led downward. The Virgin River, with its accompanying cottonwood canopy, becomes a prominent feature. From these high viewpoints, manmade facilities such as the Zion Lodge and the sinuous Floor of the Valley Road contribute to the scenery. Angels Landing and Observation Point are two celebrated overlooks that offer these "top-down" views. The maintained trail to Angels Landing was opened in 1926. Since that time, the cottonwood canopy has grown more mature and facilities have been added or removed, but the key components of the view have changed little.

The canyon's recreational trails and the Floor of the Valley Road provide a sequence of constantly changing views. For most visitors, this sequence of natural views becomes central to the experience of Zion Canyon. Landscape architects and engineers shaped the experience of visitors by routing trails to natural overlooks and by building interpreting those views. For example, the Emerald Pools Trail provides focused views of scenic waterfalls as well as overlooks that are open to Zion Canyon. One such viewpoint provides a prospect of the Zion Lodge. The viewpoint is simple, defined by a bend in the trail and a few stone blocks that mark its edge. A 1936 drawing entitled "Orientation Stations" depicts planned features designed to point out the surrounding landmarks from developed viewpoints at Weeping Rock and at the crest of Lady Mountain (NPS-ZIO-3069).

Spaced along the Floor of the Valley Road are several parking areas, most of which were built between 1940 and 1942. From the Weeping Rock Parking Area visitors can glimpse the Cable Mountain Draw Works high above. Designated observation platforms were built at other parking areas, including Court of the Patriarchs, the Great White Throne, and Red Point. The Great White Throne Parking Area appears to have changed little. A broad flight of sandstone steps provides access to a viewpoint of the riverbed below. The junipers and Gambel oaks below the Court of the Patriarchs observation platform appear to have grown since its construction. Originally, the view of the Patriarchs and the broad valley of Birch Creek may have been more open than today, but the essential elements of the view, including temporary waterfalls, are the same. The utility area of Birch Creek is screened by natural vegetation from this viewpoint. The Red Point Parking Area is now known as Big Bend. In recent years, this parking area has been reconfigured so that it does not retain historic integrity. But a designated viewpoint marked by an altar-type sign remains in the same place as in historic plans

(NPS-ZIO-3061A). In reconfiguring the parking area, the stunning view of the Great White Throne was not compromised.

**Contributing Features:**

- \* Views of natural scenery (e.g. canyon walls, cottonwood canopy) throughout the canyon
- \* Sequence of changing views provided by Floor of the Valley Road and by trails
- \* Trails that are hidden from view by careful siting, screening, and use of native materials
- \* Designated viewpoints along trails (e.g. Angels Landing, Observation Point)
- \* Designated viewpoints from parking areas (e.g. Weeping Rock to Cable Mountain Draw Works, Court of the Patriarchs, Big Bend, Great White Throne)

**Non-contributing Features**

None

**Constructed Water Features**

Early settlers and park planners alike manipulated the water from the Virgin River to cultivate the canyon's fertile soils. The ditches that the early settlers left behind are significant constructed water features of the canyon landscape. (Note that although many of these structures are officially named "canal," ditch is a more appropriate term and outside of their official names they will be referred to as ditches). In 1862 the Behunins became the first Mormon family to settle in Zion Canyon. In the first season of their residence they dug an irrigation ditch, which they used to water fruit trees and plots of corn, cane, and other vegetables (HABS, "Pioneer," 2; Woodbury 1950, 156). Other families soon took up residency in the canyon and constructed similar ditches. Modest diversion dams of brush and stone channeled the river's water into them. Unfortunately for the settlers, the canyon was susceptible to floods, which easily washed out the dams and filled the ditches. None of these early ditches remains (Steen-Adams 2002, 256; HABS "Pioneer," 2; Jurale and Witherall 1984).

Later settlers developed longer and more elaborate irrigation ditches farther downstream. About the turn of the century, Mormon settlers built the Crawford and John Gifford Canals—known collectively as the Crawford/Gifford Canal—to serve the small farming community of Crawfordville. This ditch network is one of the best surviving resources associated with pioneer Mormon settlement in the canyon (Jurale and Witherall).

J.L. Crawford draws a distinction between the John Gifford Ditch and the Crawford Ditch. The John Gifford Ditch began at the Sentinel Rockslide, approximately one mile upstream from the current Virgin River Bridge. He describes it as a small ditch that was built higher up the canyon slope than other such ditches, and thus susceptible to damage from minor rockslides. As originally constructed, wooden flumes carried the ditch over small drainages and other depressions (Crawford 2000, 1). In J.L. Crawford's account, the Crawford Ditch began about a half-mile downstream from the head of the John Gifford Ditch and watered a greater amount of acreage (Crawford 2000, 3).

Today the course of both ditches can be traced across the landscape. Although it is no longer

in operation, the former bed of the John Gifford Ditch is visible running along the west bank of the river near the Sentinel Slide. In 1924, when a new bridge was built to replace one destroyed in a flood, a section of the ditch was routed through “six sections of pipe” (Crawford 2000, 5). These pipes are still visible from the Floor of the Valley Road. Farther downstream, another section of the John Gifford Ditch was retained by the NPS to water the lawns in the Pine Creek residential area (Crawford 2000, 4). Though it grows indistinct in places, the ditch can be followed through the Pine Creek area today. At the northern edge of the residential area, a relatively recent section of pipe shows where the ditch crossed a small draw. Pieces of older pipe lie nearby. The ditch that wraps around the eastern edge of the lawn in front of the Old Superintendent’s Residence (HS-003) in a long, looping curve, before crossing the access drive and entering the next yard. This circuitous course suggests that this portion of the ditch was heavily altered by NPS crews or the CCC. In front of the Chief Ranger’s Residence (002) a slab footbridge has been placed over the channel and ornamental plants grow inside or alongside it. The ditch continues south, paralleling the drive to the Superintendent’s Residence (001) at a slightly higher level, before leaving the residential area. According to J.L. Crawford, water was pumped from the Virgin River into the ditch to service these yards. A pump was installed on the Crawford Ditch, linking the two historic ditches (Crawford 2000, 4). Today, the remains of this pumping operation can be found in a half-submerged pipe that connects the two ditches north of the Virgin River Bridge.

In 1933 the Civilian Conservation Corps widened the Crawford/Gifford Canal to 18 inches for almost a mile of its length, according to the plans of NPS landscape architect, Harry Langley (Jurale and Witherall). Research did not reveal these plans, but they may be responsible for the section of ditch leading through Pine Creek.

In the National Register listing for “Multiple Resources at Zion National Park,” the Crawford/Gifford Canal was listed as significant in the area of Pioneer Mormon Settlement. Its alignment was declared historically significant, but not its modern irrigation mechanisms, which were updated over time (Jurale and Witherall). Some of these features may also be contributing, based on their association with other historic themes.

According to the nomination form, in 1935 Harry Langley designed the Oak Creek Canal to irrigate cottonwood trees at the new South Campground. CCC enrollees conducted the initial work (HABS, “Transportation,” 10). Because the irrigation mechanisms were improved over time—for instance, in 1941 wooden flumes were replaced with concrete diversion dams—none of the resources along its length are contributing features. The significance of the ditch lies in its association with landscape architecture (Jurale and Witherall). But J.L. Crawford, who lived and worked in Zion Canyon in various capacities for several decades, remembers that it was the Crawford Ditch that was retained for use in the South Campground (Crawford 2000, 5). Thus, it appears that the Crawford Ditch and the Oak Creek Ditch are one-and-the-same, and Langley’s design for the Oak Creek Canal may have been a rehabilitation of the earlier pioneer ditch. Therefore, this ditch is also significant for its association with Mormon pioneer history. Furthermore, some of its features may indeed be historic. The diversion dam, for

instance, seems to adhere to the Rustic Style of architecture and may have been constructed by the Civilian Conservation Corps. This is a topic for more research. In any case, a portion of the Crawford or Oak Creek Canal lies within the boundaries of the proposed district. This ditch begins north of the Virgin River Bridge on the west side of the river. During certain seasons, water still runs in an open ditch, passing under the bridge before leaving the proposed district.

The irrigation ditches are the most significant constructed water features in Zion Canyon, but other types of water features are spaced throughout the landscape. Near the end of the Emerald Pools Trail, a sandstone structure appears to be a historic water feature. Its uncoursed rubble construction is similar to that of historic retaining walls that support the trail. The structure may have been a basin designed to catch water from a spring that emerged from the hillside. During the site visit, this structure did not hold any water. Other spring developments and river revetments will be addressed in other sections of the report.

Note: This CLI recommends that more research is conducted on spring developments in Birch Creek, Wylie, Grotto, and Temple of the Sun springs. These constructed water features are integral to the development of Zion Canyon and are key components of the cultural landscape. The springs themselves are recognized as contributing natural features and they are included in the boundary of the Zion Canyon cultural landscape. The spring developments, however, are listed as undetermined features because a thorough analysis and evaluation of the features was outside the scope of this CLI. Only the Wylie Spring development was visited; it is unknown how much remains of the other development structures.

#### Contributing Features

- \* John Gifford Ditch

- \* Crawford Ditch/Oak Creek Ditch (research indicates that these ditches are probably one-and-the-same)

#### Undetermined Features

- \* Some features along the ditches, including sections of pipe and a diversion structure believed to be built in 1941

- \* Probable water basin at the end of the Emerald Pools Trail

- \* Spring developments (Birch Creek, Wylie, Grotto, and Temple of the Sun springs)

#### Non-contributing Features

None

#### **Character-defining Features:**

Feature: Crawford Irrigation Canal LCS: 010709

Feature Identification Number: 116852

Type of Feature Contribution: Contributing

#### **Cultural Traditions**

Mormon culture of the nineteenth and early twentieth century exerted a significant impact on

the development of Zion Canyon. Religion played a central role in the lives of the farmers who settled in the canyon. Many of southern Utah's first Mormon settlers were called to the region by Brigham Young, the influential leader of the Church of Latter Day Saints (Woodbury 1950,151-152; Jurale and Witherall 1984). Isaac Behunin, the canyon's first Mormon settler, probably named the canyon Zion; it is a biblical name that connotes a place of refuge (Woodbury 1950, 157). The collapse of the United Order, a utopian order founded by Brigham Young, appears to have factored in the temporary depopulation of the canyon in 1875 (Woodbury 1950, 160-161).

To some degree, the cultural traditions of the early Mormon settlers provided inspiration for the Rustic architecture developed by the National Park Service and the Utah Parks Company. For example the use of pioneer building materials, including square-cut beams, cedar shakes, and rough sandstone blocks, make rustic buildings in Pine Creek and the Grotto somewhat reminiscent of early Mormon masonry throughout the southwest. Architects working in the Rustic Style believed that some park buildings, notably administrators' residences, should resemble the local vernacular building tradition (HABS, "Transportation," 3-4).

One tradition that left a unique imprint on the Zion Canyon landscape was the Easter Pageant of 1937. In 1935 and 1936 an Easter program was staged in the park at the new South Campground. These programs were sponsored by the National Park Service; the Dixie Junior College of Saint George and the Branch Agricultural College of Cedar City provided music. For 1937 a much grander Easter pageant was staged on a hillside north of the Grotto campground. The Utah Parks Company supplied sound equipment and floodlights and the NPS personnel provided cooperation. Civilian Conservation Corps enrollees also joined the effort, helping to clear small platforms for a stage and constructing several flights of stairways that led to the hillside from the Floor of the Valley Road. A large crowd of spectators watched the performance from a sandy field nearby (Crawford 1995, 45).

Little remains at the site to tell of the event, except for the stairways carved out of the natural sandstone wall. Two of these stairways rise directly from the stretch of road between the Grotto picnic area and a large curve to the north. The stairways are so unobtrusive that most park visitors drive past the stairways without noticing them. They are still passable with caution, however, and permit access to the hillside where the event was staged. An informal survey of that area did not bring to light any other significant features, though the successional vegetation made it clear that the site had been disturbed at some point. The stairways testify to a unique chapter in the park's history in which the NPS and concessionaire partnered with the local community. The stairways represent a synthesis of Mormon culture and construction by the Civilian Conservation Corps. For these reasons they are significant, and should be considered contributing resources of a Zion Canyon historic district.

#### Contributing Features

\* Stone stairways ascending from Floor of the Valley Road built by the CCC in connection with the 1937 Easter pageant

Non-contributing Features

None

**Vegetation**

Native plant communities compose the dominant vegetation in Zion Canyon. These plant communities played a role in the history of the canyon. In turn, the vegetation existing in the canyon today has been shaped by that history through past and present land uses.

Mormon settlers found Fremont cottonwood, velvet ash, boxelder, and bigtooth maple growing in riparian communities on the canyon floor. These settlers used what was available, building early cabins from cottonwood logs and diversion dams from brush and limbs. But in comparison to the rich stands of ponderosa pine and Douglas-fir on the canyon rim, these tree species produced poor quality lumber. The Cable Mountain Draw Works was constructed to transport high-quality timber from the canyon rim to the canyon floor, for the use of settlers. Various types of woodland and shrubland also grow in the canyon, distributed according to variations in aspect, slope, moisture, and soil composition.

Where suitable conditions existed, the settlers established fields and fruit orchards. J.L. Crawford reports that the small farms and orchards extended all the way up the canyon floor, almost to the Temple of Sinawava (Crawford 1986 20). Few remnants of the orchards can be found today—although some stone walls associated with them remain. During a tour of the canyon, J.L. pointed out one place where he remembered a historic orchard, west of the road between the Zion Lodge and the Grotto. No fruit trees were evident.

Mormon settlers also grazed their sheep, cattle, and other livestock on the grasslands in the canyon, seasonally moving their flocks to high pastures on the canyon rim. Overgrazing by livestock created large bare spots in the canyon and on the rim. In 1919 a visitor noted that sheep had practically stripped the canyon of vegetation (Steen-Adams 2002, 255-256). Erosion intensified the power of periodic floods. In the early twentieth century, severe flooding led to a range of soil conservation projects enacted by park administrators (Steen-Adams 2002, 258). A 2001 report states that these events promoted the establishment of the cottonwood canopy growing in the floodplain today. Most of these cottonwood trees are about the same age—mature specimens over seventy years old. The floods of the early twentieth century provided a layer of silt that was periodically wet, conditions just right for the establishment of cottonwood seedlings. During the 1920s and 1930s, in connection with the construction of river revetments meant to control the river, park crews and members of the Civilian Conservation Corps planted additional cottonwood seedlings “to restore the original state as near as possible” (ZION 15450-Quarterly Report on Emergency Conservation Work, 1934). Now that most of the watershed has been revegetated, and that the river has been confined to its channelized course for decades, the mature cottonwood trees are not revegetating under current conditions. The cottonwood canopy is an ecological resource and one of the primary scenic features of the canyon. Scientists are currently studying ways to restore seedling recruitment within the existing floodplain (Steen-Adams 2002, 258-259).

When cottonwood trees were replanted to restore a natural appearance, officials were following an NPS tradition of using native vegetation for this purpose. Roadside Maintenance Plans for the Floor of the Valley Road from 1954 (NPS-ZIO-2067) demonstrate a similar concern for natural appearances. These maintenance plans propose selective cutting of vegetation and planting of native trees and shrubs. This concern for setting utilities in the natural context with native plants can also be detected at Pine Creek residential area. Pine Creek was not intended to blend seamlessly with the natural surroundings. It was designed as a living space for people, rather than a natural area. In front of each of the three residences is a watered lawn, a major feature in establishing a private, residential character. Yet the complex is still sited on the landscape gently. Native plantings of cottonwood, ash, and juniper unify Pine Creek with the greater natural context of Zion Canyon. Today, several of these trees are mature and appear to have been planted when the residential area was constructed. Together with the green lawns, these trees lend Pine Creek the lush and shady character of a desert oasis. Desert plants are also represented in the complex. One conspicuous planting is a very large cholla cactus, still standing beside the garage built in 1938. This building was designed to rise organically from the landscape. The adjacent cactus planting contributes to this impression.

Contributing Features:

- \* Landscape dominated by native plant communities
- \* Tradition of planting native plants to blend facilities with the natural environment
- \* Irrigated lawns and plantings at Pine Creek
- \* Cottonwood canopy along riparian corridor

Non-contributing Features:

None

**Land Use**

The principal human activities that shaped the landscape of Zion Canyon are grazing and farming during the pioneer Mormon period and tourism/recreation after 1909, when a portion of the canyon was declared a national monument. Significant historic features associated with pioneer agriculture and park development are discussed in other sections, but one additional topic deserves a mention: fences erected by Mormon pioneer settlers. Angus Woodbury records that the Mormon settlers built wooden fences to contain their livestock. These fences stretched from the cliff to the river (Woodbury 1950, 157). Park personnel verify that some stone fences built for this purpose are still present at Weeping Rock on the south hillside, and also in Birch Creek.

Contributing Features:

- \* Continuing use of the canyon for tourism/recreation/education
- \* Stone fences at Weeping Rock on the south hillside and in Birch Creek, relating to Mormon land use and division

Non-contributing Features:

None

## **Circulation**

### **VEHICULAR CIRCULATION: HISTORIC ROADS IN THE CANYON**

The vehicular circulation system of Zion Canyon is dominated by the Floor of the Valley Road, also known as the Zion Canyon Scenic Drive. Constructed in 1932, this road was planned as a work of rustic landscape design and engineering. The road and many of its features are described in the Statement of Significance. Overall, the road still strongly conveys the NPS-Rustic design ethic of the 1930s.

Since implementation of the new Shuttle System (Transportation System) in 2000, access to the scenic drive has been restricted during the summer season. Currently, visitors staying at Zion Lodge may drive as far as the lodge. Other automobiles must turn back at the Court of the Patriarchs from Memorial Day to Labor Day. Shuttle stops have been constructed at each of the historic parking areas and at other places along the road. These stops are unified by similar design and materials. Typical features of the new shuttle stops include a bus loading zone marked by gridded concrete pavement, steel bike racks that are often arranged in a line, sandstone seatwalls that often terminate near a placed sandstone boulder, and a simple but elegant shelter of metal and wood construction. Though these facilities appear very modern and new, they harmonize with the historic features nearby through use of similar materials (sandstone) and sympathetic colors (the metal rusts to a warm, reddish brown). The new shuttle system has changed the visitor experience of Zion Canyon. Once crowded parking areas are now free of automobiles. The shuttle system has drastically reduced the amount of traffic, opening up the road for other uses, such as bicycling, which has become very popular. Because traffic noise is practically eliminated, the experience of others enjoying quiet activities is greatly improved. In addition, the historic Y-shaped intersection at Canyon Junction was also reinstated in connection with the Transportation System.

The Floor of the Valley Road is the third government-built road in the canyon. Before any of these automobile roads were built, Mormon settlers built a pioneer wagon road, high on the east slope of the canyon. In 1944 Angus Woodbury reported that traces of this road could still be found, but it was not visited for this project (Woodbury 1950, 161). The Mormon settlers also used the sandy riverbed as a road, traveling on horseback or by wagon (Crawford 1986, 20).

The first automobile in the canyon traveled by way of the first government-built road, which was constructed in 1916 and 1917. This primitive road extended all the way to the Cable Mountain Draw Works (Croteau). Known as the "Government Road," the next major road was constructed in 1925 to coincide with the development of new tourist facilities. It led all the way to the Temple of Sinawava. In many places, the current road (Zion Canyon Scenic Drive/Floor of the Valley Road) follows the alignment of these earlier routes.

### **ROAD TRACES**

In places, traces of these government-built roads can be detected. For instance, one segment of road is still in use as a service road north of the Virgin River Bridge. An abandoned trace can be seen veering away from the current road south of the Weeping Rock Parking Area. It appears that the trace near Weeping Rock is the former roadbed from the 1925 "Government

Road,” but the earlier road (built 1916-1917) may also have followed the same route in this area. Just north of the Grotto are two separate road traces that appear to be remnants of both the 1917 and the 1925 roads. The portion of the Grotto Trail that traverses the former campground follows one of the earlier routes (perhaps the alignment of both roads). Near the spot where this trail/road encounters Grotto Creek are two well-built Rustic stone bridge abutments, remnants of a bridge that spanned the creek, perhaps from the 1925 road, or from a footbridge constructed in 1939 (NPS-ZIO-2019). The former roadbed continues on the other side of the creek before joining the current road. In the same area, another trace can be found higher up the canyon slope. This trace may well be the remnant of the first government-built road (1916-1917). The trace begins on the north side of Grotto Creek and soon climbs to a higher level. Due to the accumulation of sediment, in places the road trace grows indistinct. But it can be detected, paralleling the existing road on a higher bench, running north in the direction of the 1937 Easter pageant site. A conspicuous feature of this trace is a crossing formed by ten sandstone slabs placed side-by-side. This feature can be found just north of Grotto Creek, where the road crossed a small drainage. (Please see “Existing Conditions Photographs” and “Historic Maps and Drawings” for clarification about these traces in the Grotto area.)

#### PEDESTRIAN/EQUESTRIAN CIRCULATION: HISTORIC TRAIL NETWORK

The major system of pedestrian and equestrian circulation in the canyon is provided by its trail network. Many existing hiking trails were once built as bridle trails. Sometimes one portion of the trail would be built for horses, while another was built for foot traffic only. The two portions would be differentiated by width, grade, and other qualities of construction. Departing from trailheads at the Floor of the Valley Road or at other developed facilities, these trails provide access to many scenic attractions. Most of the trails climb above the level of the road, providing another perspective on the canyon. The nomination for multiple resources in Zion Canyon listed six of Zion Canyon’s trails on the National Register: Angels Landing/West Rim Trail, East Rim Trail, Emerald Pools Trail, Gateway to the Narrows Trail, Grotto Trail, and Hidden Canyon Trail. These were determined eligible in the area of landscape architecture/transportation. Only trails that were built before 1941, contained manmade features that reflect the NPS-Rustic Style, and presented a significant civil engineering challenge were listed (Jurale and Witherall 1984).

Contributing features of the Angels Landing trail listed on the nomination form include its hand-chiseled steps and chains affixed to the sandstone cliffs. All historic manmade features of the West Rim Trail contribute to its significance. This includes a variety of different type sandstone retaining walls, including “Walter’s Wiggles.” Contributing features of the East Rim Trail include a bridge foundation and numerous dry-stacked retaining walls. All manmade features built in 1932 contribute to the significance of the Emerald Pools Trail. Contributing features of the Gateway to the Narrows include the Temple of Sinawava Trailside Exhibit Building and sections of retaining wall that preserve its original serpentine alignment. Contributing features of the Grotto Trail that were listed include a cut slab culvert and sandstone retaining walls lining the trail. Finally, the nomination listed contributing features of

the Hidden Canyon Trail, including hand-chiseled steps, the sturdy retaining walls that support a series of switchbacks, and chain and handrail features (Jurale and Witherall 1984).

The East Rim Trail has the longest history of those listed on the Register. Long before the area was inhabited by European-Americans, Native Americans built a primitive trail in the same general route. In 1896, John Winder improved the precipitous trail. Mormon settlers used the improved trail to lead their livestock to pastures on the canyon rim. Remnants of the original Indian trail remain. While looking northeast from the sign that interprets the Cable Mountain Draw Works at the base of the East Rim Trail, hand and toe-holds are visible ascending the cliffs between Weeping Rock and Hidden Canyon.

Overall, the trails have been maintained to preserve their historic character. The Zion Canyon trail network is strongly representative of trails designed and constructed during the 1920s and 1930s to the standards developed by the NPS. On the whole, the alignments and dimensions of the trails have been preserved. The surface material is a different matter. Heavy use has required frequent paving of trails. Different techniques and materials have been applied over time. The lower section of the West Rim Trail uses several different surface materials, including tinted concrete and asphalt. The effect is quite jarring, but it does not significantly diminish the integrity of this exceedingly well constructed trail.

Modern additions have become a minor problem on the Gateway to the Narrows Trail (Riverside Walk). Throughout its length, additional courses have been added to the historic retaining walls that support the trail, perhaps to aid in access for disabled visitors. These additions project above the surface of the trail and create a new edge or curbing. Though built of sandstone, the scale of these new courses is inconsistent with the historic character. The new blocks are long and skinny by comparison. Modern benches have also been spaced along the trail. These benches have rounded corners, cylindrical posts, and narrow areas for sitting. Even though the benches are constructed of sandstone, elements of their design and construction make them feel out of place, like cheap copies of Rustic features. Because of these prominent additions, the historic character of the Gateway to the Narrows Trail is somewhat diminished.

#### ABANDONED TRAIL/TRACES (INCLUDING BIRCH CREEK TRAIL) AND THE SAND BENCH TRAIL

During the historic period, the NPS, CCC, or Utah Parks Company built several trails that are no longer in use. Some of these trails were constructed to provide access to utilities associated with the park's water supply, although they probably doubled as recreational trails. Angus Woodbury reports that in 1925 one trail was built "along the east bench under the cliffs from Wylie Grove in both directions" (Woodbury 1950, 206). He seems to be describing the abandoned trail that led to the developed Wylie Spring and to the Union Pacific water tanks. The historic route of this trail can be seen on a 1941 map labeled "Floor of the Valley Areas" (NPS-ZIO-2113). (This trace is discussed under "Archeological Sites.") A similar trail explains the mystery of a series of well-constructed sandstone walls in Birch Creek Canyon.

These retaining walls must have supported the loop trail that was used to construct and/or maintain spring developments in this canyon. These spring developments supply a pipeline that parallels the Floor of the Valley Road south of Birch Creek. This trail is also delineated on NPS-ZIO-2113 and on other maps. NPS-ZIO-8178, which was signed by engineer, F.A. Kittredge in 1939 lists the spring developments as a CCC project. NP-ZIO-5061 (1935) depicts the planned trail leading by several numbered springs. On each of these maps, this Birch Creek Trail makes a long, winding loop through the Birch Creek drainage. This route does not correspond to the current configuration of the existing trail in Birch Creek Canyon. The retaining walls are the only visible trace from the historic trail in Birch Creek Canyon. The existing trail in this drainage parallels the intermittent stream on the north side; it may have been built once the earlier loop had been abandoned. (Please see “Historic Maps and Drawings” and “Existing Conditions Photographs.”)

NP-ZIO-2113 shows that one portion of the historic Birch Creek Trail extended all the way to the base of Lady Mountain. It appears that the current Sand Bench Trail preserves this historic alignment. However, none of the maps discussed above indicates that there was any trail that extended south of Birch Creek Canyon. This leads one to conclude that the portion of the Sand Bench Trail south of Birch Creek Canyon must have been created at some point after 1941 (and therefore outside the period of significance for Zion Canyon). Today, the Sand Bench Trail forms a loop at its southern end. According to park staff (Eric Brueck), at one time, the Sand Bench Trail did not form this loop. One of the spurs extended south into another drainage (outside the proposed district boundary), where there was a corral used by park or concessionaire staff. Again, this was probably developed after 1942. (Please see “Historic Maps and Drawings” and the Site Plan for clarification.)

One more abandoned trail is the Lady Mountain Trail. Constructed in 1925, this recreational trail permitted a daring ascent of the mountain directly across the river from Zion Lodge (Woodbury 1950, 206). None of these abandoned trails has been listed in the National Register. Nevertheless, the surviving features of these trails are associated with the early development of facilities in Zion Canyon and they should be considered contributing resources. Other trails that are not listed on the Register, including the Weeping Rock Trail, could be subjects for additional research.

Contributing Features:

- \* Floor of the Valley Road, including four contributing parking areas: Temple of Sinawava, Weeping Rock, Court of the Patriarchs, Great White Throne
- \* Historic trail network, including: Angels Landing/West Rim Trail, East Rim Trail, Emerald Pools Trail, Gateway to the Narrows Trail, Grotto Trail, Hidden Canyon Trail
- \* Historic built features along trails, including sandstone retaining walls of various type construction (e.g. simple dry-stacked uncoursed rubble walls of local sandstone to sturdy walls of random ashlar construction), hand-chiseled steps, chains affixed to sandstone walls etc.)
- \* Surviving features associated with abandoned trails, including Lady Mountain Trail and the trails built to service spring developments in Birch Creek and above Zion Lodge

- \* Hand- and toe-holds constructed by Native Americans near the East Rim Trail.

Noncontributing Features:

- \* Modern trail additions that are out of character and scale with the historic built features (e.g. recent sandstone benches of curved design) – incompatible
- \* Big Bend Parking Area, Grotto Parking Area – compatible
- \* Modern footbridges crossing the Virgin River – compatible

Undetermined Features:

- \* Weeping Rock Trail
- \* Sand Bench Trail: north of Birch Creek Canyon, appears to follow historic route of Birch Creek Trail; south of Birch Creek Canyon, probably not built until after period of significance. More study is advisable.
- \* Traces of earlier roads (pioneer wagon road or government-built roads) and associated features
- \* Historic bridge abutments lining Grotto Creek (probably from footbridge; possibly also from earlier road)
- \* Surface materials of trails (more study needed)

### **Buildings and Structures**

The buildings and structures of Zion Canyon are important components of the cultural landscape. All of the surviving buildings in the canyon are associated with park facilities. These historic buildings are united by the principles of the NPS-Rustic Style that dominated park architecture of the 1920s and 1930s. The multiple resources nomination lists two historic districts on the National Register: Zion Lodge/Birch Creek and Pine Creek. Also listed are the Temple of Sinawava Trailside Exhibit Building, the North and South Comfort Stations at the Grotto, and the Grotto Residence (former museum). All of these listed buildings are associated with the theme of Rustic Architecture, except for the exhibit building, which is significant in the area of Landscape Architecture/ Transportation (Jurale and Witherall).

The Grotto Museum was constructed in 1924, making it the oldest surviving building in the park. The three historic buildings of the Grotto are constructed of very large, minimally dressed blocks of red sandstone. Since 1936 the museum has been known as the Grotto Residence (Jurale and Witherall).

Since its establishment in the late 1920s, the Pine Creek residential area has housed key park personnel. This area contains three residences and two garages. All five buildings are contributing resources of the Pine Creek Historic District. The three residences, which were constructed between 1928 and 1932, are the Superintendent's Residence, the Old Superintendent's Residence, and the Chief Ranger's Residence. Design for these buildings is credited to the landscape architect, Thomas Vint, who was Daniel Hull's chief assistant. One of the garages was added in 1938, but it is related to the other buildings by its design, which is credited to Edward Nickel (Jurale 1984a, c, e, and f).

Structures associated with park development that are listed on the National Register include the

Virgin River Bridge and the Cable Creek Bridge. Construction of the Virgin River Bridge in 1930 was one of the final steps in the completion of the Zion-Mt. Carmel Highway. With the opening of this road, the Grand Loop tour of national parks and monuments in southern Utah and northern Arizona was completed (Jurale and Witherall 1984). In 1932 the Cable Creek Bridge was constructed as part of the new Floor of the Valley Road. These two bridges are powerful expressions of Rustic design. Though both have endured changes, including removal of raised walkways that once flanked the roadbed, both still strongly convey the NPS design ethic of the 1930s (Sontag 1995, Croteau 1993).

Perched at the very edge of the canyon rim, the Cable Mountain Draw Works is a frame structure built of heavy wooden beams. The original structure was built in 1901. It was struck by lightning twice, and rebuilt both times. In 1930 the cable that connected the draw works to structures on the floor of the canyon was removed. Yet overall, the draw works retains its historic integrity. It is the oldest surviving structure in the park and the only major structure associated with Mormon settlement in the canyon. For these reasons, the draw works is the most significant pre-park structure in Zion Canyon (Jurale and Witherall 1984).

River revetments are another type of structure that was very important in shaping the landscape of Zion Canyon. In response to powerful floods that were attributed to severe overgrazing, park officials decided to control the river through the construction of permanent structures. Precisely when construction began is not clear, but a map titled "River Protection" shows that the system of bank stabilization was well established by 1929 (NPS-ZIO-557). Thus, the first stabilization structures in Zion Canyon were built several years before the Civilian Conservation Corps was established. Park officials intended for these structures to halt the migration of the river, protecting the floodplain and important facilities built there (Steen-Adams 2002, 253). During a powerful flood in 1932, the river revetments seemed to accomplish these objectives. In the view of park personnel, this success justified the immense expenditure of effort required to build the huge dams and dykes (Steen-Adams 2002, 257).

During the 1930s, the CCC built revetments under the direction of park personnel. Two reports on emergency conservation work of the CCC covering the period from July 1 to December 31, 1934 described the revetments as distributed up and down the Virgin River, from the Temple of Sinawava to the park's south entrance. Concentrations of the structures were found opposite Zion Lodge, the Grotto campground, and the Birch Creek utility area. The CCC built different types of stabilization structures, but the standard form was the basket dam, which consisted of stacked quarried sandstone enclosed by a heavy-gauge galvanized wire mesh. The dams averaged about fifty feet in length. They were nearly eight feet tall, and they tapered from sixteen feet wide at the bottom to three feet wide at the top. Frequently another rock-filled structure would be installed near the revetment to protect it from the force of the water. Called a toe dam, this structure was circular in cross-section, with a three-foot diameter (ZION 15449, ZION 15450).

In one inventory, historian, James Jurale, noted that the construction of revetments occurred for

several decades. A map from 1966 shows extensions to the system of revetments (NPS-ZIO-3403). In Jurale's view, these expansions often incorporated earlier structures, so that the qualities of the original design were obscured (Jurale 1984d).

For this CLI, remains of revetments were inventoried throughout the length of the proposed district. These remains were found in many locations in various states of repair. The revetment fragments dated from many periods, as evidenced by differences in construction. For years, it seems, basket dams continued to be constructed, but the later versions were often filled with river cobbles (instead of quarried stone slabs) and they were enclosed in a lighter gauge wire mesh. In some places, large boulders were placed at the edge of the river and covered with concrete. This type of construction, or at least the application of concrete, was clearly modern. The final type of revetment noted was a well constructed retaining wall built of huge stone blocks. One large example can be found just below the Temple of Sinawava. Photographs from the 1934 reports indicate that these walls were built in the 1930s, and they remain in good condition today (ZION 15449, ZION 15450).

The river revetments are associated with the historic themes of park development and conservation. Current managers believe that these revetments contributed to large-scale changes to the riparian community of the canyon (Steen-Adams 2002, 258). It is difficult to assess the overall integrity of the revetments, given the damage inflicted by the river and subsequent repair and expansion. However, examples of revetments that are strongly representative of historic construction can still be found below the Temple of Sinawava and opposite the Zion Lodge and Grotto. Individual revetments with these qualities are contributing features of the proposed district.

**Contributing Features:**

- \* Pine Creek Historic District
- \* Grotto Residence (former museum)
- \* North and South Comfort Stations in the Grotto
- \* Temple of Sinawava Trailside Exhibit Building
- \* Cable Mountain Draw Works
- \* Cable Mountain Bridge
- \* Virgin River Bridge
- \* Relatively intact river revetments that demonstrate historic construction (opposite the Zion Lodge and the Grotto, below Temple of Sinawava)

**Noncontributing Features:**

- \* Restrooms at Temple of Sinawava/Weeping Rock

**Character-defining Features:**

Feature Identification Number:	116854
Type of Feature Contribution:	Contributing
IDLCS Number:	10721
LCS Structure Name:	Grotto Residence

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LCS Structure Number: HS-0032  
Feature Identification Number: 116856  
Type of Feature Contribution: Contributing  
IDLCS Number: 10732  
LCS Structure Name: Grotto Camping Ground North Comfort Station  
LCS Structure Number: HS-0129  
Feature Identification Number: 116858  
Type of Feature Contribution: Contributing  
IDLCS Number: 22752  
LCS Structure Name: Grotto Camping Ground South Comfort Station  
LCS Structure Number: HS-0130  
Feature Identification Number: 116860  
Type of Feature Contribution: Contributing  
IDLCS Number: 10717  
LCS Structure Name: Pine Creek Old Superintendent's Residence  
LCS Structure Number: HS-0003  
Feature Identification Number: 116862  
Type of Feature Contribution: Contributing  
IDLCS Number: 10716  
LCS Structure Name: Pine Creek Ranger's Residence  
LCS Structure Number: HS-0002  
Feature Identification Number: 116864  
Type of Feature Contribution: Contributing  
IDLCS Number: 10718  
LCS Structure Name: Pine Creek Three Stall Garage  
LCS Structure Number: HS-0102  
Feature Identification Number: 116866  
Type of Feature Contribution: Contributing  
IDLCS Number: 10719  
LCS Structure Name: Pine Creek Two Stall Garage  
LCS Structure Number: HS-0107

Feature Identification Number:	116868
Type of Feature Contribution:	Contributing
IDLCS Number:	10715
LCS Structure Name:	Pine Creek Superintendent's Residence
LCS Structure Number:	HS-0001
Feature Identification Number:	116870
Type of Feature Contribution:	Contributing
IDLCS Number:	51212
LCS Structure Name:	Temple of Sinawava Trailside Exhibit Building
LCS Structure Number:	HS-0127
Feature Identification Number:	116872
Type of Feature Contribution:	Contributing
IDLCS Number:	51302
LCS Structure Name:	Cable Mountain Draw Works
LCS Structure Number:	HS-0236

### **Small Scale Features**

The Zion Canyon cultural landscape contains a large number of small-scale features that help define the historic character of the canyon. Most of these small-scale features are associated with Zion's roads and trails and are discussed elsewhere in this report. In brief, historic trails at Zion often include small-scale features, such as various types of sandstone retaining walls, hand-chiseled steps, and overlooks, while historic features associated with the road include sandstone curbing, retaining walls of random ashlar masonry, and rustic culverts. The National Register nomination for the Floor of the Valley Road counts forty-five culverts that are originals or patterned after the original design guidelines (Sontag and McKoy 1995). It appears that most historic signs and interpretive panels along these routes have been replaced over time. As discussed in the Statement of Significance or under "Circulation," the historic character of the roads and trails has been maintained, although some incompatible repairs or additions have been made.

Small-scale features are important in establishing the residential character of Pine Creek. A number of rustic stone terraces and retaining walls define areas of private space near the residential buildings. Some ornamental details of the Pine Creek landscape seem borrowed from garden design. During the historic period, a section of the Gifford Ditch wound through the residential landscape as a pleasing water feature. A small sandstone slab was laid across the ditch as a footbridge and vegetation was planted nearby. The placement of a few large boulders that stand in the yard areas suggests that they were moved from nearby and placed as ornamental features. Portions of the Pine Creek landscape have an intimate, carefully

considered quality that is somewhat reminiscent of Japanese gardens. Small-scale features are part of this composition.

**Contributing Features:**

- \* Historic features associated with the Floor of the Valley Road, including NPS-Rustic Style culverts, sandstone walls of random ashlar construction, and sandstone curbing
- \* Historic features associated with the trail network, including sandstone retaining walls, culverts, chain features, and hand-chiseled steps
- \* Historic features associated with Pine Creek, including pathways, slab footbridge, stone curbing, and historic stone terraces and retaining walls.

**Non-contributing Features:**

- \* Signage, way-finding and interpretive signs are modern additions – compatible
- \* Drinking fountain at Temple of Sinawava – compatible

**Archeological Sites**

Archeological sites in Zion Canyon preserve traces of the canyon's long history, including prehistoric use by Native Americans, Mormon settlement, and park development. Most of these archeological sites remain hidden from the view of the public. Probably the most visible prehistoric site in the canyon is Weeping Rock Ruin, a cistern that was reconstructed by members of the Boy Scouts (Connor and Vetter 1986, 101). Other notable features include grooves used by Native Americans for polishing arrows, lithic scatters, and rock art sites (Connor and Vetter 1986 103-110). A 1986 survey of Zion Canyon revealed twenty-five sites with a prehistoric component (Connor and Vetter 1986, 41). Overall, prehistoric sites in Zion Canyon are of a highly temporary nature, indicating that the canyon was used seasonally, in connection with farming in the valley and the collection and storage of foods (Connor and Vetter 1986, 43).

The 1984 survey identified four sites with a historic Euro-American component. One of these sites includes the remains of a simple corral used by park concessionaires. Located on the north side of Birch Creek, it consists of a crude fence of pinon and juniper trunks planted in the ground and held together by barbed wire. At another site, labeled IF (Isolated Find)-11, a series of stone block retaining walls were found. These are remnants of the abandoned trail in Birch Canyon discussed under "Circulation" (Connor and Vetter 1986, 123).

In 2002 Matthew Betenson described three sites above the Zion Lodge. One of these sites, 42WS3744, is a historic spring development associated with the development of Zion Lodge. It is a large, well constructed sandstone block wall with wet-laid mortar that was designed to capture and redirect water from the Wylie Spring. Inscriptions on the wall indicate that the structure was built in 1926. Betenson praised the rustic design and construction of the wall and speculated that it may have been designed by Gilbert Stanley Underwood (Betenson 2002, 9). Another site (42WS3745) consists of the series of retaining walls delineating the former trail that led to the spring development (the other abandoned trail discussed under "Circulation"). Betenson notes that segments of the abandoned trail followed the remains of an abandoned telephone line, theorizing that the trail may have originally been built in connection with the line

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and developed further by the NPS at a later date (Betenson 2002, 10). Woodbury notes that this trail was built in 1925. Finally, Betenson discussed the remains of the telephone line, believed to have been built by John Winder in 1916. He describes this archeological site (42WS3746) as a series of upright posts (trees or rough-cut poles), ceramic and glass insulators, and heavy-gauge wire (Betenson 2002, 12). Betenson concluded that the spring development was eligible to the National Register as an archeological site. He also noted that in 2001 the Utah SHPO concurred that the Winder telephone line was eligible (Betenson 20002, 8 and 12). Researchers visited these archeological sites in the course of this CLI and found conditions much as Betenson described.

Contributing Features:

- \* Pioneer Mormon telephone line
- \* Spring development at Wylie Spring
- \* Various prehistoric and historic archeological sites, including rock shelters, petroglyph sites, lithic scatters, and grooves for polishing arrows

Undetermined Features:

- \* Corral in Birch Creek drainage
- \* Other spring developments, including those in Birch Creek Canyon that were not visited for this project

Non-contributing Features:

None

## Condition

### Condition Assessment and Impacts

**Condition Assessment:** Good  
**Assessment Date:** 03/30/2005

**Condition Assessment Explanatory Narrative:**  
Superintendent concurrence 7/12/2006.

### Impacts

**Type of Impact:** Erosion

**External or Internal:** Internal

**Type of Impact:** Visitation

**Other Impact:** Wear and tear created by visitors.

**External or Internal:** Internal

**Type of Impact:** Operations On Site

**Other Impact:** Park and/or concessions making small incremental changes to facilities, trails, roads, etc. that may cumulatively undermine integrity.

**External or Internal:** Internal

**Treatment**

**Treatment**

**Approved Treatment:** Undetermined

**Approved Treatment Completed:** No

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