Chapter 7:

Analysis of Character-defining Features and Integrity

INTRODUCTION

Organized similarly to all previous chapters, this chapter presents an analysis of change in the district over time, through a comparison of historic character with existing character. Historic character may be defined as the appearance and feeling of the landscape presented at the end of the period of significance. Based on the Secretary of the Interior's Guidelines for the Treatment of Cultural Landscapes, character-defining features—the qualities of the landscape conveyed by its materials, features, spaces and finishes—are the means through which historic character is expressed.

Thus, to define the character of the landscape at the end of the period of significance, the following text inventories the features known to be present in the landscape from 1933-1940 for each landscape site, in categories delineated by the *Guidelines for the Treatment* of *Cultural Landscapes*. These include spatial organization, topography, vegetation, circulation, buildings and structures, water features, and small-scale features.

The following inventory distills the historic information provided Chapter 4: The CCC Years, 1933-1940 into a description of historic character for each individual landscape in the district. This distillation is followed by a section entitled "summary of change" which describes landscape change that has occurred between the period of significance and the present day. The summary of change is based on a comparison of the textual and graphic information provided in Chapter 4: The CCC Years and Chapter 6: Existing Conditions.

Further analysis occurs at the feature level and is provided as a set of matrices, one for each landscape. These matrices are organized around the categories of "character-defining landscape features" described in the *Guidelines for the Treatment of Cultural Landscapes*. Specific features, both historic and non-historic, are identified within these categories. Historic features are those that have been identified by the Oklahoma State Historic Preservation Office (SHPO) as contributing to the significance of the district. Contributing status has been determined as part of the on-going List of Classified Structures (LCS) effort taking place in the district. Features listed as "Not Yet Determined" (abbreviated NYD in the matrices) have not yet been approved as contributing by the SHPO. Non-historic features are included in the matrices because their presence can detract from historic character and because their management must be considered as part of the preservation treatments outlined later in this document.

In each matrix, the condition of each feature is also described, as good, fair, or poor. These conditions are made based on the authors' fieldwork, consultation with park staff, and consideration of prior LCS condition assessments. Condition is usually qualified by comments in a final column of the matrix. These comments generally highlight negative change, deterioration, or other problems to be considered in treatment.

Together, the explication of historic character, the summary of change, and the assessment of feature condition comprise the basis for an analysis of integrity. This analysis is important because historic significance resides in districts, sites, buildings, and objects that possess integrity and which meet at least one of the National Register Criteria. According to the National Register's *Bulletin 16*, integrity is represented in seven qualities: location, design, setting, materials, workmanship, feeling, and association. These qualities are assessed for each landscape and summarized in a short table. A description of overall integrity based on the quality assessments is also stated at the end of each section.

While the landscapes assessed in this chapter are individual resources, they are also, and perhaps more importantly, contributing resources within the larger historic district, itself a historic landscape. Therefore, at the end of the chapter we summarize the proceeding analyses and examine the integrity of the Platt Historic District as a whole. This in turn is the basis for considering the overall treatment philosophy for the district, as described in Chapter 8. This chapter concludes with a statement of the district's significance and period of significance based on National Register criteria.

TRAVERTINE & ROCK CREEKS

Historic Character

In 1940, Travertine and Rock Creeks were the central spines along which the entire Platt National Park was structured. The flow of the creeks followed the general topography of the park, with the high point at Buffalo Springs and the low point where Rock Creek exits the park. Creek banks were generally steep, with some erosion and undercutting of banks occurring along both stream courses, particularly during high water. In some areas, dry-laid stone walls were constructed to stabilize the stream banks. Vegetation within the stream corridors was generally more lush, native riparian vegetation. Numerous small-scale features were located along Travertine Creek and its tributaries, including the two dams and swimming hole at Little Niagara falls; four dams and two swimming holes at Bear Falls and Garfield Falls; a dam and swimming hole at Panther Falls; and a dam and swimming hole at Central Campground.

The confluence of Rock and Travertine Creeks created a sandy beach and popular bathing area immediately north of the Black Sulphur Springs causeway. Rock Creek was primarily a scenic area running through the western part of the park. In 1940, its northeastern bank had been recently stabilized and had minimal vegetation growing on it.

Summary of Change

Of all the features of the park, the natural features of Travertine and Rock Creeks have perhaps changed the least over the years. No major changes in their natural stream course, vegetation, or topography have been recorded since 1940. Some additional stone walls have been laid along the stream courses to prevent erosion, including some near Central Campground. However, these recent constructions have been carefully implemented to blend in with historic work and are difficult to distinguish as recent additions. Siltation has also been a problem in some areas. This has most notably occurred at the confluence of Travertine and Rock Creeks, at the beach below Black Sulphur Springs. However, this has been a pattern of deposition and erosion since the early history of the park during both normal flow conditions and flood conditions.

The streams' original constructed features—dams and swimming holes—similarly exhibit little change. Travertine formations have, of course, built up on features and then worn away over time. In addition, some changes are, for instance, evident in the masonry and travertine rocks around the pool edges at Little Niagara Falls, but these are very minor and evident only to the informed eye.

Water quality may also have changed over time, but since this has not been monitored consistently over the past 60 years, this is difficult to determine. Recent bacterial monitoring indicates higher counts at some locations especially during low summer low flows, but due to a lack of previous monitoring it is unknown whether or not these counts are consistent with historic levels.

Overall Integrity Evaluation

Based on the analysis of the seven qualities of integrity summarized in the following chart, integrity for the creek system is high.

PERIMETER ROAD

Historic Character

The construction of the perimeter road spanned almost an entire decade, beginning in 1933 and ending with the paving of the road with asphalt in 1940. When completed, the perimeter road embodied typical NPS principles of road design: Its alignment followed the topography of the land, it coordinated horizontal and vertical alignment to achieve a graceful appearance, tight curvatures encouraged leisurely, lower-speed travel, and cut and fill side slopes were rounded to blend the road into the surrounding landscape.

From a standpoint of spatial organization, the perimeter road encompassed and provided access to the entire

Feature Condition Analysis: Travertine and Rock Creeks

Description	Contributing Status	Condition	Comments/Analysis
Topography			
Overall topography	Supporting	Good	Little change; localized change & issues only.
Spatial Organization			
Creek "layout"	Supporting	Good	Little change; localized change & issues only.
Water Features			
Travertine Creek storm drain	Yes	Good	
Central Campground dam	Yes	Good	Appears to be in good condition. Should establish clean-out schedule.
Panther Falls dam and pool	Yes	Good	Dam in good condition. Currently has build-up of twigs behind; should establish clean-out schedule. Travertine build-up on dam varies.
Bear Falls upper and lower dams	Yes	Good	Dams in good condition. Establish clean-out schedule.
Garfield Falls -Upper and lower dams	Yes	Good	Dams in good condition. Establish clean-out schedule.

Integrity Analysis: Travertine and Rock Creeks

	High	Medium	Low	Remarks
Location	Х			No change in location.
Design	Х			Designed features along natural streams extant.
Setting	Х			Park setting for stream exhibits only minor alterations.
Materials	Х			Material integrity high.
Workmanship	Х			Original workmanship of designed features evident and retained.
Feeling	Х			Feeling of streams much like historic.
Association	Х			Courses retain associations.
Overall Integrity	X			Overall, area has high integrity

park landscape and all its features, from Bromide Hill to Buffalo Springs. The road followed the course of Rock and Travertine Creek through the northern portion of the park and aligned itself more or less with the park boundary through the park's southern half. This also created a scenic contrast, with the road moving through both the wooded stream valleys as well as winding through the prairie uplands. In the uplands, the road was designed to follow the contours, and its windy path reflected the area's rolling and dissected topography. The maximum grade on the road was about 8% (around Bromide Hill), and the road utilized horizontal and vertical circular curves connected with straight tangents. The upland sections between Bromide Hill and Buffalo Springs covered the most varied topography; as a result, they had the most curves, in addition to scenic views over the town and hills below.

Side slopes were graded back to blend with the surrounding topography, and these slopes were covered with prairie grass or Bermuda grass. In some places, however, such as along Horner's Bluff, side slopes were steeper, up to 2:1 and were sometimes blasted stone outcroppings or stone retaining walls instead of grassy slopes. There are no specific planting plans for the park roadway; however, it appears that vegetation was intended to come up close to the edge of the road, as was again a typical principle in NPS roadway design.¹ Similarly, viewsheds were likely meant to be maintained from the road corridor. In contrast, in some areas, as seen on aerial photographs, such as along the park's southern boundary, cedars were planted as screening along the road where it approached the park boundary.

Structures along the perimeter road were numerous and varied and usually served to carry the road over Rock and Travertine Creeks as well as smaller streams and drainage ways. These included major crossings over Rock Creek at Black Sulphur Springs and just west of Bromide. Crossings over Travertine Creek included Sycamore Crossing and the Panther Falls Box Culvert. Limestone Creek Bridge was another significant structure along the perimeter road, and crossed a medium-sized stream just north of Travertine Island.

Small-scale features along the road primarily included culverts of various types. Some were rock faced. These

Description	Contributing Status	Condition	Comments/Analysis
Spatial Organization			
Road encompassing most of park area	Supporting (NYD)	Good	Condition is good, but loss of loop around Buffalo Springs lowers feature integrity; status not yet determined by SHPO, but important feature.
Structures			
Black Sulphur Springs causeway	No	Poor	SHPO determined causeway not contributing, due to alterations. However, condition is deteriorating as identified by Federal Highway Administration review; supports are being undermined. Siltation occurring upstream and downstream.
Rock Creek causeway	NYD	Good	No major issues
Sycamore Falls low water crossing	Yes	Good	Missing blocks along edge; crossing is a point of conflict between pedestrians and vehicles, since it's designed for vehicles, but used by pedestrians as well. Culverts blocked with travertine and need to be cleared.
Limestone Creek bridge	Yes	Fair	Examine further in field. Should be inspected for structural issues.
Panther Falls box culvert	No	Good	Reconstructed; structure no longer historic
Nature Center bridge	No	Good	No major issues
Small-Scale Features			
Perimeter Road swale and culvert near south entry	NYD	Fair	See LCS for more detailed classification of culverts.
Bear Falls Box Culvert	No	Fair	Should be inspected for structural issues.
Culverts – Types A, B, C, D, E. and 3 additional	NYD	Varies	Multiple types of culverts in varying condition; see LCS
Traffic Islands (2)	NYD	Varies	Only the Rock Creek island is historic; other at Sycamore Crossing is not.
Pre-CCC Culverts (2)	Yes	Good	A few pre-CCC culverts are retained along the road.
Boulder guardrail	Yes	Good	Boulders on top of grade (not embedded) are not original.

Feature Condition Analysis: Perimeter Road

Integrity Analysis: Perimeter Road

	High	Medium	Low	Remarks
Location		Х		While extant portion remains in original location, portions of original road removed.
Design	х			Original design retained and relatively unchanged, except for abandoned portions and slight width change.
Setting	х			Original setting maintained, except for area around abandoned road, which is now more "natural."
Materials	Х			High except for loss of materials associated with abandoned section.
Workmanship	Х			Workmanship retained, except for loss in abandoned portion.
Feeling	X			Road retains original feeling of experience and travel due to lack of change in alignment, except for loss of portion of experience in eastern part of park.
Association	Х			Associations retained.
Overall Integrity				Overall, area has high integrity

culverts were generally situated to carry drainage under the road. In general, the road was designed to utilize sheet drainage, swales, and culverts to drain water away from the road surface.

Boulder guardrail was also installed along much of the roadway in 1937, replacing wooden guardrail, and by 1940, this seems to have been the park standard. However, exact locations of boulders are not known. Small parking areas or pull-offs were also common along the road; two were located on the north and south sides of the loop around Buffalo and Antelope Springs. Another was located just east of Bromide Hill, overlooking the former town site area. Three well-used pull-offs were also located on the south side of the road as it passed north of Travertine Creek at Bear and Garfield Falls.

Summary of Change

The perimeter road has undergone a significant amount of change since 1940. Chief among these changes was the removal of the section of the road around Buffalo and Antelope Springs. This segment of road, about one and three-quarters mile long, was abandoned in 1969 when the Nature Center was constructed. The road was completely removed, and traces of the road may only be seen in the grading and in areas of lesser vegetative growth with patches of asphalt and compacted soil. The road prism is largely intact along the segment north of Travertine Creek, while the road prism is mostly missing along the segment south of Travertine Creek. This change completely altered the access to and experience of Buffalo and Antelope Springs, making these areas pedestrian experiences only.

To allow the road to still function as a loop, a length of roadway circumnavigating Travertine Island was constructed to replace the portions removed. This new loop incorporated a small bridge across Travertine Creek in front of the Nature Center. In 1969, the new loop end, beginning and ending at Sycamore Crossing, was made into a one-way segment.

With the exception of these changes, much of the rest of the road is extant, though small portions along the Creek channels have been reconstructed after flood events. Changes to the road as it passes through the uplands have been even less common. Major structures such as the Rock Creek causeway, Limestone Creek bridge, and low-water crossing at Sycamore Falls are extant and unchanged. Other structures, such as the Black Sulphur Springs causeway and the Panther Falls box culvert have been reconstructed and modified. New pull-offs were added at Panther Falls and on the north side of the road near Central Campground and the Travertine Creek bridge and the pull-offs at Bear and Garfield Falls have been enlarged and formalized over the years. Boulder barrier still lines many areas of the roadway, and in some areas, seems to have been increased over time. New boulders often sit atop the grade rather than being buried.

Throughout the years the perimeter road has been resurfaced a number of times. In the summers of 2001 and 2002, much of the perimeter road was milled, repaved, and re-striped. The surfacing is now in excellent condition. As part of this work, new curbs were added in some locations (such as at the base of Bromide Hill) and the one-way loop was widened slightly. Overall, the vertical alignment of the road is somewhat higher (more so in some locations), due to deposition of new pavement over time.

Overall Integrity Evaluation

Based on the analysis of the seven qualities of integrity summarized in the following chart, integrity for the road system is moderately high.

TRAIL SYSTEM

Historic Character

By 1940, a network of trails had been established across the entire Platt National Park. The trail system was organized spatially as an east-west spine running from Buffalo and Antelope Springs to the Bromide Area, with a series of smaller trails connecting to this spine as linear or looped offshoots. In 1940, the main east west spine consisted of the Bromide-Pavilion Springs Trail, running approximately 1.4 miles from Bromide to Pavilion Springs, and the Travertine Creek Trail, running approximately 2.5 miles from Pavilion Springs to Buffalo Springs. Spurs connecting to the spine on the western side of the park included a short jog off the Bromide-Pavilion Springs Trail to the top of Bromide Hill plus an extension, again connecting to the Bromide Pavilion Springs trail, around the southern side of the Buffalo Pasture to Buckhorn Road (State Highway 177) and then north again to Pavilion Spring. On the eastern side of the park, a very short stretch of trail connected the southern end of the Travertine Creek Bridge to the Travertine Creek Trail just east of Pavilion Springs. By 1940, an informal, unnamed trail leading southeast from Pavilion Springs along Buckhorn Road to the Veteran's Hospital was also in existence. This pathway appears clearly on the 1940 aerial photograph, although it has not been located on maps or in documents dating to this time period. The trails covered varied, rolling topography, and in response often followed the contours of slopes around hills rather than crossing the slopes perpendicularly.

The main spine and its spur trails were also connected to a series of pedestrian paths and trails which were situated in each smaller landscape composition within the larger park. Some of these "subsystems," such as those in Flower Park were formalized and constructed in a manner similar to the greater trails system, while others were not. These smaller trail "subsystems" are described within their relevant component landscapes (below).

Feature Condition Analysis: Trail System

Description	Contributing Status	Condition	Comments/Analysis
Small-Scale Features			
Bromide Hill Trail (Trail 1)	Yes	Good	
Keystone Arch Bridge	Yes	Good	Swale underneath bridge should be cleared of woody debris that blocks flow
Retaining walls at junction of Trails 1 and 2	Yes	Poor	Condition as per LCS determination; examine further in field.
Log and stone pier railing	Yes	Fair	Some log deterioration; however, railing does not exhibit historic configuration.
Retaining wall drains	NYD	Varies	12 drains total; should be further assessed. Need scheduled clean-out.
Retaining wall drain/drop inlet/ culvert	NYD	Fair	Condition as per LCS determination; examine further in field.
Trail retaining wall at switchback	Yes	Fair	Some masonry issues; needs annual check and maintenance.
Stone swales with drainage culverts	No	Good	Swales sometimes clog; grates and/or regularly scheduled maintenance may be needed.
Rock Creek Trail (Trail 2)	Yes	Good	
Culverts	Yes	Good	Should be regularly cleaned out.
Bridge Abutments (3)	Yes	Good	Wood plank bridge decks not historic.
Keystone Arch Bridge	Yes	Good	Swale underneath bridge should be cleared of woody debris that blocks flow
Buffalo Pasture Trail (Trail 3)	Yes	Good	
Drop inlet along Trail #3	NYD	Good	Condition as per LCS determination; examine further in field.
Stone walls along Trail #3	NYD	Good	Condition as per LCS determination; examine further in field.
Stone bridge abutment/headwalls along Trail #3 (3)	NYD	Good	All 3 abutments have wood decks on top I beams; this portion of structures not historic.
Steps to Headquarters	NYD	Good	On south side of Maintenance entry road.
Culvert–Type F Pre-CCC	NYD	Unknown	Consult LCS.
Culverts–Type G	NYD	Unknown	Consult LCS.
Antelope Springs Trail (Trail 4)	Yes	Good	Some trail widening has occurred over time, particularly in ESA area
Low water crossing (at Cold Springs)	Yes	Poor	Almost dysfunctional; wall and steps on south side by Lawrence Howell.
Historic Abutments (2)	NYD	Good	2 abutments have wood decks atop I beams; this portion of structure not historic.
Stone wall at Cold Springs Crossing	No	Good	Structure by Lawrence Howell; some undermining.
Pavilion Springs Trail (Trail 5)	Yes	Good	
Pavilion Springs steps to Trail #5	Yes	Good	Some shedding of trail surface on long treads.
Steps to Antelope Springs Trail Highway 177 & perimeter road to Trail #5	Yes	Good	Some shedding of trail surface on long treads.
Veteran's Trail (Trail 19/21)	No	Good	
Benches along trail	No	Fair	Not historic.

Integrity Analysis: Trail System

	High	Medium	Low	Remarks
Location	Х			Trails in the overall system have not generally been moved.
Design	Х			System layout and trail cross sections are retained as designed.
Setting	Х			Trail settings have changed very little since they are mostly internal.
Materials	X			Though materials of trails generally match original, distinct loss of materiality in small scale features such as bridges impacts integrity.
Workmanship	Х			Loss of bridges removes some aspects of workmanship; however, is retained in masonry work along trails.
Feeling	Х			Trail system strongly retains feeling of original.
Association	Х			Association not a major aspect of trail design or construction.
Overall Integrity	X			Overall, area has high integrity.

Though running through different parts of the park, the trails generally used a similar design vocabulary. For the most part, the trails were four and one-half feet wide, with a gravel base and crushed gravel top course. Small-scale features along the trail system included eight wooden footbridges across drainage swales and streams. These were constructed with stone abutments, log structural members, and plank decking. A stone arch bridge or culvert was also located along the trail between Bromide and Pavilion Springs (a second was constructed at Buffalo Springs, along the loop trail there; this is inventoried in that section, below). In other places, simple pipe culverts carried drainage under the trails. A total of twenty-two swales were constructed along the trails to carry drainage as well; records of the lengths, locations and design of these have not been located.

Special features were located along the spur up Bromide Hill; these were necessary to accommodate the grade and handle drainage moving rapidly down steep slopes. These included a large, switch-backed stone retaining wall; a tall stone arched bridge culvert, and stone swales along the trail.

Summary of Change

Since 1940, little change has occurred in the overall structure of the trail system, and it still exists as an eastwest spine along the creek valleys, with looping offshoots. One major addition was made to the system: a trail traversing the Prairie Upland to the Veteran's Hospital. This trail alignment was located along the construction of a new sewer alignment between the southeastern corner of Sulphur and the rest of the town.

Maintenance proved difficult on the system, with surface erosion common in heavy rains. As a result, trail surfaces have been replaced with new materials numerous times and are currently a pinkish to gray crushed granite material. Areas where cross-trail erosion is significant or persistent usually have been "hardened" with an impervious surface such as concrete, asphalt, or flagstone pavers. Most trails have remained about the same width as they were historically. However, the Travertine Creek Trail between the Nature Center and Buffalo Springs was realigned slightly after the construction of the Nature Center, and this trail is now significantly wider—by about three to four feet—than the original four and onehalf feet.

Most change in the trail system has occurred at the level of small-scale features. No wood log and plank bridges exist anymore, though their stone abutments remain and are generally topped today with wooden plank bridge decks atop I-beam supports. Many of these decks do not have railings. Other changes have occurred to masonry features along the Bromide Hill spur. Stone swales were added on this trail in 1991. These were designed to utilize existing inlets; on the lower 100 to 200 feet of the 10% grade portion of the trail, new inlets with PVC drains and stone headwalls were added. Over time, minor changes to the retaining walls have been made as well.

Overall Integrity Evaluation

Based on the assessment of the seven aspects of integrity, below, overall integrity for the trail system is high. Though some losses of features have occurred, most features of the original design and construction have been retained. As a result, all aspects of integrity are judged to be high, with only minor demerits for change or loss. Thus, overall integrity for the system is high.

BROMIDE

Historic Character

In 1940, the Bromide area was one of the park's important camping areas, as well as a key location for collecting and drinking mineral water. Historically, topography divided the Bromide area into two main areas: a large, level picnic and campground area and a steep hill. The steep hill provided a locale for the steep, switchbacked Bromide Hill Trail, which led to the Bromide Hill Overlook at the summit. Other features of Bromide Hill historically included a comma-shaped parking area off the perimeter road and a network of trails. Historic photographs reveal general character information about the hill and trail: the passage was narrow and vegetated with a combination of scrub and canopy trees. The trail itself was compacted gravel and fines, with a sophisticated stone swale drainage system located on the uphill side of the pathway. However, even in 1940 the path and swale system was somewhat unstable, as evidenced by reports of trail wash-outs. Views from the path back to the Bromide Pavilion were important from along the trail as well as from the summit.

The level, crescent-shaped picnic area on the terrace below Bromide Hill was historically defined by Lindsay Avenue to the north and Rock Creek to the south.

Feature Condition Analysis: Bromide Area

Description	Contributing Status	Condition	Comments/Analysis
Topography			
Overall area topography	Supporting	Good	Little, if any, change to area topography.
Spatial Organization			
Overall area	Supporting	Good	Extant organization similar to historic.
Circulation			
Vehicular routes within area	Supporting	Good	Paved since historic period; exhibit historic alignment.
Bromide Hill parking	NYD	Good	Simple parking area; little historic documentation, but appears to be in good condition.
Bromide Springs Trails	Yes	Good	Casual, compacted soil trails on flood plain. In relatively good condition; trails shift and have shifted over time.
Designed Vegetation			
Canopy over lawn	Supporting	Fair	Some tree loss over time; replantings needed.
Structures			
Bromide comfort station	Yes	Good	Lead abatement and reroofing completed 2003.
Bromide Springs pavilion	Yes	Good	Issues include decline of trees in patio; loss of mineral water; ADA access; flagpoles; missing wooden bench.
Travertine ranger station	Yes	Good	Lead abatement and reroofing completed 2003.
Bromide ranger station	Yes	Good	Lead abatement completed 2002. Window fenestration not original. Fence around house not historic.
Garage	Yes	Fair	LCS determination of condition; examine in field. Needs lead abatement.
Bromide ranger station carport	No	Good	Non-historic structure, but in very good condition.
Water Features			
12 th Street Fountain, including terrace and seat walls	Yes	Fair	Terrace mortar joints not original and need maintenance. Missing original jet element; chlorination issues per use. Missing water fountains; wall masonry needs maintenance to prevent future loss.
Bromide Springs pavilion lily pond	Yes	Fair	Pool leakage is major concern. Filled with sand to reduce depth. Connected to city water, not mineral spring as historic. Missing accurate flagstone edge.
Small-Scale Features			See below; see Bromide Hill trail, above, for small scale features.
Bromide entrance piers	Yes	Fair	Some masonry joints need repair. Missing original lettering.
Bromide entrance curbs and flagstone walk	Yes	Fair	Significantly repaired in 1960s. Some cracking and spalling in mortar.
Parking Drainage Inlets (3)	No	Fair	Located near dump station; need clean-out, repair.
Bromide entrance road culvert(s) is this the 12th/pr culverts	Yes	Fair	Erosion has exposed headwall.
Steps at Bromide Hill parking	Yes	Good	No major condition issues.
Culvert at Bromide Hill Parking	Yes	Fair	LCS determination of condition; examine in field.
Spring enclosures (2)	NYD	Fair	Lids should be examined in field for deterioration.
Pump House and pump	NYD	Good	Not historic; could be removed.
Bromide pedestrian causeway	NYD	Good	No major condition issues; should be cleaned out after floods.
Bromide Springs 3 Part Box Culvert	NYD	Good	Headwalls should be checked for stability,
Stone Pedestals for Wood Bench	NYD	Fair	Seem to be intact in woods; one or two missing. Original connection to wood bench not clear.
Travertine Ranger Station Wood Rail & Post Fence	No	Good	Not historic, and should be removed from LCS.
Travertine Ranger Station wooden Flagpole	NYD	Fair	Needs painting.
East steps at Bromide Hill	No	Good	Non-historic.
RV Dumping station	No	Good	Relatively new feature.
Modern Sign at 12th Street entrance	No	Good	No issues.
Job Corps Bridge	No	Good	No hand railing; steep ascent may be ADA access problem.
Hydrants	No	Good	Water spigots, varied kinds.
Grills	No	Good	Upright grills.
Picnic Tables	No	Good	Pipe tube and plank.
Trash cans (2 types)	No	Good	Animal-proof and traditional-lidded cans.
Boulder guardrail	Yes	Good	Boulders on top of grade (not embedded) are not original.
Views and Vistas			

	High	Medium	Low	Remarks
Location	Х			Site and structures in original locations.
Design	Х			All original design elements retained; minor change.
Setting	Х			Minimal change with construction of Rock Creek Camp.
Materials	Х			All original materials retained.
Workmanship	Х			Retains much original craftsmanship, though some replacement work along Cliffside Trail.
Feeling	Х			Park-like feeling retained.
Association	Х			Some minor loss of association due to loss of mineral water at pavilion.
Overall Integrity	X			Overall, area has high integrity

Integrity Analysis: Bromide Area

Spatially, the terrace was enclosed by the steep topography of Bromide Hill sweeping around the picnic area's southern side. From a standpoint of spatial organization, the picnic area was subdivided by the circulation routes into approximately 5 functional areas: two picnic and camping areas to the north of the perimeter road; two more in the eastern part of the area south of the perimeter road; a recreational zone around the Bromide Pavilion; and a residential area around the Caretaker's Residence (also known as Residence #1 at that time). The vegetation of the entire picnic and camping area was characterized by a layer of canopy trees, predominantly oaks, which shaded the level terrace. A combination of turf and compacted earth comprised the ground plane; the amount of turf to compacted earth probably depended on the amount of camping occurring during each year in the campground area.

The three loops of vehicular circulation routes through the area were gravel, with the exception of the perimeter road, which by 1940 was asphalt. It is not clear whether or not boulders lined the vehicular routes by 1940. Footpaths, primarily located around the Bromide Pavilion, were compacted earth or gravel. Buildings and structures included the Caretaker's Residence (and its 1930s garage), the Bromide Community House, and the Iron Bridge, all important structures dating to the park's early years. The Bromide Pavilion, the Bromide Comfort Station, and Rock Creek Causeway, were CCC additions to the setting. In addition, two primitive comfort stations were located north of the perimeter road; these accommodated campers who used the area until the 1950s. Water features included the area's three springs (Bromide, Chloride and Medicine Springs) and associated pumping facilities; the Bromide fountain and associated plaza and walls; and the Bromide Pavilion lily pond. Other small-scale features included the 12th Street

entrance piers, walkways, and curbing; and the pedestrian causeway over Rock Creek.

Summary of Change

The Bromide Springs and Bromide Hill area has not changed appreciably over the years since the end of the period of significance in either function or appearance. Most significant change occurred by 1969, and included the loss of the two primitive comfort stations north of the perimeter road and the loss of the Iron Bridge.

Since 1969, little significant change has occurred. All major designed elements and structures are extant, including the Bromide Springs Pavilion, Comfort Station, Bromide Hill Overlook, Bromide Hill Trail, and elements of the 12th Street Fountain and Entry. Major landscape features such as the open lawns, natural water course of Rock Creek, and dramatic topography of Bromide Hill are very much like their historic conditions, based on historic photographs. Minor changes over time have included the widening and asphalting of roadways to accommodate increased vehicular use and loss of trees and plantings due to age and natural conditions. As noted in Chapter 6, although the number of trees in the area has been reduced only slightly, the species composition in the area has shifted away from oak, toward colonization species such as hackberry.

Mostly change has occurred via the loss or change in small-scale features. The stone swales and walls along Bromide Hill Trail have been repaired and revised a number of times in an effort to confront erosion problems. Lost features include the wood and stone bench around the Pavilion Lily Pond. New features include the RV dumping station, job corps bridge, and a number of new footpaths, as seen in a visual comparison of the 1940 and existing conditions plans for the areas (Drawings 3 and 15). Other additions include picnic tables, hydrants, grills, and trash cans. These changes are relatively minor.

The area's water features have perhaps changed the most, if not visually, then functionally. Mineral water springs no longer supply the Bromide Pavilion, which now dispenses only city water. This loss is significant because it indicates a major change in use of the area.

Overall Integrity Evaluation

Based on the assessment of the seven aspects of integrity, below, overall integrity for the Bromide Springs and Bromide Hill area would appear to be high. Essential features area retained and visible, and most, if not all of the aspects of integrity are judged to be high. Only slight modifications to the wooded park-like setting of Bromide Springs and Bromide Hill have occurred.

WALNUT GROVE

Historic Character

During the district's period of significance (1933-1940), Walnut Grove evolved from an open field into a bustling CCC camp. When CCC Camp 808 left the site at the end of the period of significance, the temporary camp facilities were removed, and it began its planned evolution into a picnic area, as described in the 1942 Master Plan. Though there is little photographic documentation of the area dating to the years immediately following the disbandment of the CCC camp, the evolution from camp to picnic area does not appear to have effected major change on the site. Rather, it seems to have mainly required the removal of the buildings and the reinstitution of turf throughout the area. This idea is confirmed by aerial photographs from the 1950s taken after the removal of the CCC structures. These photographs show Walnut Grove as a large, linear, open area, dotted with trees and bounded by a wooded hillside to the north and the perimeter road and the sloping banks of Rock Creek to the south.

The topography of the area was comprised of moderately flat floodplain terrace located above Rock Creek. From

a standpoint of spatial organization, the space was subdivided into three zones: an open picnic area to the west, the former tennis courts, delineated by their level grading in the middle, and the former CCC camp to the east, now regenerating to more park-like vegetation. This vegetation was primarily canopy trees, which presumably included black walnut trees, as well as the "monkey tree," which, according to oral histories, was extant at the end of the period of significance. Turf comprised much of the ground plane throughout the area, though at the end of the period, it was probably rather sparse in locations of former footpaths and vehicle routes. Besides these former routes, other circulation features were absent, with the exception of the perimeter road. Once the CCC structures were removed, no buildings remained in the area, and the only small-scale features that remained were the four fireplaces at the base of the hillside in the far western part of the area and a culvert with a stone headwall at the pedestrian entrance from the parking area along the Perimeter Road.

Summary of Change

Although the features of the CCC camp are interesting and important, particularly from an interpretive standpoint, from a landscape design and preservation standpoint, the conditions and features at the end of the period of significance are those important for evaluation and preservation. In 1940, the area's intended transformation to a picnic ground had only begun. As a result, it seems likely that Walnut Grove today probably is somewhat more "manicured" than it was at the end of the period of significance. It is also reasonable to believe that Walnut Grove exists much as it did at the end of the period of significance, with little change in either function or overall design. In part this is due to the design's intrinsic simplicity: it is a level area dotted with canopy trees. These major landscape features date to 1940 and remain extant. In particular, vegetation patterns do not appear to have changed significantly since 1933, although a recent ice storm (2001) damaged many trees. The one significant specimen tree-the Monkey Tree-is still extant, as are the area's only small scale features-four stone fireplaces dating to the CCC era and the culvert and stone head wall.

Additions and changes have likewise been minor. The greatest of these was the addition of a comfort station which was added in the 1960s. While this building does

Feature Condition	Analysis:	Walnut Grove
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Description	Contributing Status	Condition	Comments/Analysis
Topography			
Natural, existing	Yes	Good	Shows little change over time.
Spatial Organization			
Open, informal arrangement	Yes	Good	Shows little change over time.
Circulation			
Sidewalk	No	Excellent	Appears glaring bright white in landscape.
Designed Vegetation			
Canopy trees in lawn	Yes	Good	Some tree damage, but ratio of open to closed canopy is good.
Monkey Tree	Yes	Fair	Some damage from climbing.
Structures			
Comfort station	No	Good	Built 1969, potential Mission 66 significance. Needs lead abatement. Was reroofed 2003.
Small-Scale Features			
Fireplaces (4)	Yes	Fair	Conditions of fireplaces varies somewhat, but all need repair. Chains attaching grills to fireplaces are loose or detached. Some damaged stone masonry, and internal firebricks missing in some locations.
Culvert & headwall	NYD	Good	Historic and should be added to LCS.
Hydrants	No	Good	Type varies.
Picnic tables	No	Good	Standard brown pipe and plank bridges in good condition.
Grills	No	Good	Upright grills.
Garbage cans	No	Good	Both raccoon-proof and traditional lidded cans.
Wayside Exhibit	No	Good	Typical NPS fiberglass embedded graphic sign.

Integrity Analysis: Walnut Grove

	High	Medium	Low	Remarks
Location	Х			Original location is retained.
Design	Х			Greatest change from 1940 is addition of comfort station.
Setting	Х			Context of town to the north has been retained.
Materials	Х			Mostly grass and canopy trees; these are unchanged.
Workmanship	Х			Not significant aspect for this component landscape.
Feeling	Х			Retains pastoral feeling.
Association	Х			Retains association with NPS park design and as site of CCC camp through interpretive signage, local knowledge and oral tradition.
Overall Integrity	X			Overall, area has high integrity.

not contribute to the landscape's current significance and actually detracts from the 1940s design, the building may itself at a later date be determined significant as part of a layer of Mission 66 design within the park. Picnic tables, grills, water hydrants, and trash cans have also been added and replaced over the years. Other changes have included the addition of barrier stones, the paving and reconfiguration of parking areas along the north side of the perimeter road, the addition of concrete paths to the comfort station, and increased understory growth in the hillside to the north and under groups of trees in the picnic areas. But these are all relatively minor changes, not affecting the overall use, appearance, design, or setting of the area. Topography, circulation, and vegetation patterns remain essentially unchanged.

Overall Integrity Evaluation

Overall, Walnut Grove has high integrity, because of its high integrity in all seven aspects.

Cultural Landscape Report for the Platt Historic District - Chickasaw National Recreation Area

BLACK SULPHUR SPRINGS

Historic Character

As the only pavilion area not completely reconstructed by the CCC, in 1940 Black Sulphur Springs was perhaps something of an anomaly within Platt National Park. Centrally located in the park just west of the confluence of Rock and Travertine Creeks, the area was bounded by Rock Creek to the north and east, the perimeter road to the south, and the park boundary at Tishomingo Avenue to the west. Near the park boundary, the topography was essentially level, while to the east the topography rose before gently sloping down as a sandy beach leading to Rock Creek. The area was spatially organized into three major zones, including the open picnic area to the west, the spring and beach zone (including the parking lot) to the east and a large picnic area, with two entrances, to the south. The perimeter road was the major vehicular circulation feature running through the area, and included the Black Sulphur Springs Causeway crossing Rock Creek. A gravel parking area was also located at the Black Sulphur Pavilion, and gravel loops provided access to the picnic areas to the south and west. Important aspects of the CCC-constructed main parking area included its stone curbs, the flagstone walk along the parking area's eastern edge and the axial flagstone path leading from the parking lot to the pavilion. Trails led from the area to Tishomingo Ave and from Walnut Grove to the pavilion.

In general, the vegetation of the area was historically characterized by clusters of trees, predominantly oaks, walnuts, elms and cedars set in turf. A composition of plantings was designed for the area around the pavilion, including horizontal junipers at the intersection of the flagstone walks, groups of cedars on the crest of the hill around the pavilion, and "foundation" plantings of small trees at the pavilion corners. A few plantings were also located in the island of the parking area, though these do not appear to have successfully thrived.

The area's major structure was the neoclassical Black Sulphur Springs Pavilion, located on the topographic high point of the area. Constructed in the late 1920s, the structure had a metal tile roof, concrete and stucco walls, and contained a concrete fountain and basin dispensing sulphur water. No important small scale features are recorded for the period of significance, but likely included picnic tables and spigots in the western part of the area.

Summary of Change

Overall, the landscape character of the Black Sulphur Springs area today appears much as it did historically. The area's major landscape features—such as the natural watercourse of Rock Creek, the area's overall topography, and its shady tree canopy—are extant and exist much like their historic conditions. Similarly, all major designed elements and structures are extant; these include the Black Sulphur Springs Pavilion, the parking area, and flagstone walkways.

However, some minor changes in the details of the area's landscape character have also occurred since the 1940s. Some of the original plantings around the pavilion did not thrive in the early years, and what remains today appear to be volunteer trees clustered around the corners of the pavilion. A large bois d'arc and a cluster of cedars do remain and appear to date from the 1930s, but the cedars appear leggy and likely do not provide the sense of spatial enclosure they may have originally.

The 1960s saw the major additions to the area: the Mission 66 comfort station and its associated parking area. Concrete pathways were recently poured between the comfort station and the parking area. Other additions have included the concrete block spring house and the addition of or minor changes to small scale features such as an interpretive signs picnic tables, grills, water pump and water spigots. The Black Sulphur Springs causeway was rebuilt and widened with a pedestrian walkway on its north side. Today the causeway and its flanking stone walls are being undermined by Rock Creek. This structure needs repairs and perhaps some channel alterations to better direct water to all three box culverts and to arrest its deterioration.

Over time, losses to the area also occurred. The pavilion lost its mineral water supply when the basin was filled in with concrete and the water supply was redirected to a new hydrant, erected just northwest of the pavilion to dispense the spring's mineral water; because the water is piped from this spring to the pump, the water is now chlorinated. More recently, the sandy beach below the pavilion has lost its use as bathing area; the area is less often dredged of its sand deposits, making the swimming area at the base of the hill shallower and less appealing for bathing. In addition, a recently implemented monitoring program has detected increased bacterial

Feature Condition Analysis: Black Sulphur Springs

Description	Contributing Status	Condition	Comments/Analysis
Topography			
Generally level; slopes down to beach	Supporting	Good	Little change exhibited over time; some siltation at bottom of beach area.
Spatial Organization			
Three zone area	Supporting	Good	Little change over time.
Circulation			
Pavilion parking area	Yes	Good	Asphalt surface worn.
Stone path & curbs	Yes	Good	Some wear.
Comfort station parking area	No	Good	Some wear on surface.
Designed Vegetation			
Trees at pavilion	Supporting	Fair	Crowded; no precise historic data/design for replacement.
Canopy at picnic area	Supporting	Good	Overall character significant.
Structures			
Black Sulphur Spring pavilion	Yes	Fair	Fountain basin filled in with concrete; metal roof deteriorating; needs lead abatement. Mineral water not dispensed.
Mission 66 Comfort Station	No	Good	Needs lead abatement and reroofing.
Small-Scale Features			
Hand pump	No	Good	Water currently chlorinated.
Pump house	No	Good	No significant issues.
Interpretive sign	No	Good	Typical NPS fiberglass embedded graphic sign.
Boulder guardrail	No	Good	Embedded depth varies.
Hydrants	No	Good	Style varies.
Picnic tables	No	Good	Pipe and plank.
Grills	No	Good	Upright grills.
Garbage cans	No	Good	Traditional lidded trash cans.
Concrete walk	No	Good	At comfort station; bright white color.

Integrity Analysis: Black Sulphur Springs

	High	Medium	Low	Remarks
Location	Х			Original location is retained.
Design	Х			Overall layout is retained; addition of comfort station detracts somewhat.
Setting	Х			No major changes to surrounding area.
Materials	Х			Original materials retained; some deterioration to pavilion's metal roof.
Workmanship	Х			Retains most original finishes.
Feeling	Х			Retains original recreational uses and accompanying feelings.
Association	Х			Retains original associations.
Overall Integrity	X			Overall, area has high integrity.

counts at this swimming area at certain times of the year. Users are alerted to these higher levels, but swimming is not prohibited.

Overall Integrity Evaluation

Based on the above assessment of the seven aspects of integrity, overall integrity for the Black Sulphur Springs area would appear to be high. Essential features are retained and visible, and all of the aspects of integrity are high.

FLOWER PARK

Historic Character

In 1940, Flower Park was a well-used and popular area in Platt National Park. Located close to the city of Sulphur, the area offered a variety of recreational experiences, including swimming, wading, walking, picnicking and drinking mineral water. The area was defined by Highway 7 or Broadway (formerly Davis) Avenue on the north, State Highway 18 (now US 177) on the east, by Travertine Creek and the perimeter road on the south, and by Rock Creek on the west.

The park's natural topography divided it into two main areas: a relatively steep hillside along the Broadway Ave sloped to the south, becoming large, level terrace above Rock and Travertine Creeks. A set of paths with two long stone staircases wound down from the town into the park and to Vendome to the west. The terrace at the base of the hillside was a rolling lawn crossed by network of gravel paths. Canopy trees-predominantly oaks, elms, and walnuts-scattered across the lawn comprised the major vegetation feature of the park. The hillside, however, was densely planted with cedars in the 1930s, and by 1940 these were becoming an important visual, if not enclosing feature of the landscape. The lower slopes of the hillside, adjacent to the park's open lawn, were also initially planted with native wildflowers; it is not known how long these plantings maintained themselves, however.

Vehicular circulation in the Flower Park was limited to the rectangular Vendome parking lot and a small parking area located next to Lincoln Bridge. Pedestrian circulation was provided by a network of compacted gravel paths with stone curb edging, with entrances at the Vendome parking lot, Lincoln Bridge, Central Campground and the main entrance at Broadway Avenue and State Highway 18 (now Highway 177).

In 1940, buildings and structures in Flower Park included the comfort station, Lincoln Bridge, and the Main Entrance. Immediately adjacent to the parking lot was the Vendome dance hall and its associated features, including the Plunge Pool and Vendome Well. Vendome Well was the source of the park's major water feature, the Vendome Stream. Vendome Stream ran from Vendome Well, underneath the parking lot, surfacing in Flower Park, where it meandered with two large wading pools and a series of falls through the park's verdant lawns, emptying into Travertine Creek just upstream from Lincoln Bridge. Small-scale features in Flower Park included a small stone arch bridge crossing a swale, and a small wooden bridge and stepping stones across the stream.

Summary of Change

Today Flower Park is still one of the most-used areas of the district and change has been minimal. All major designed elements and structures are extant, including the Flower Park Comfort Station, and the Vendome Parking Area. Major landscape features such as the open lawns, natural water courses of Travertine and Rock Creeks, and topography are also much like their historic conditions, based on historic photographs. In general, the park-like character of Flower Park, is still strongly retained.

However, like many other areas of the district, minor changes have occurred over time. The semi-circular portions of the main entry gates were lost to traffic accidents in the 1970s. Other changes include the widening and slight re-alignment of some of the pathways as well as the loss of stone curbing along the path edges. In some places, it appears that curb is extant below layers of gravel where the paths have been widened to accommodate two walkers walking side-byside. Alignment changes appear to be due to changes in drainage, with path surfaces hardened with concrete or relocated slightly to allow water to flow across or over the paths.

Vegetation changes have also occurred; cedars on the hillside have grown up, making this area a dense forest rather than cedar clumps interplanted with wildflowers, lawn, prairie grasses, and forbs. Vegetation on the Rock Creek revetment wall has also grown dense and thick, making it a wooded bank, rather than a naked slope, as it was in the years after its construction. Canopy trees are generally retained in the lawn areas, though today there are more hackberries and fewer oaks than there were historically (as described in Chapter 6). Similar modest change has occurred to the stream features in Flower Park. Though the Vendome stream is still a central feature, the forms of the pools have been altered significantly and their size reduced by about half. The creek's stone edging and stone dams are showing some signs of deterioration, with the creek flow beginning to undermine stones in both these elements.

Picnic tables are now scattered about in some areas, and other small-scale features have been lost or have deteriorated over time. Steps on the hillsides are crumbling in some locations, showing erosion problems. A small wooden bridge over the Vendome Stream near Lincoln Bridge was replaced by a stone bridge.

The planned new Visitor Center on the former Vendome property will also affect Flower Park in terms of setting. In many ways, this is a positive change, since it will be

Feature Condition Analysis: Flower Park

Description	Contributing Status	Condition	Comments/Analysis
Topography			
Rolling topography of park area	Supporting	Good	Little change over time seen.
Spatial Organization			
Overall park organization	Supporting	Good	Little change over time.
Circulation	Supporting		
Flower Park parking and access road	Yes	Good	Will be repaved and access changed during Visitor Center construction.
Designed Vegetation			
Canopy trees & lawn	Supporting	Good	Some losses over time, including oaks and wildflowers.
Structures			
Flower Park Comfort Station	Yes	Good	No major issues.
Lincoln Bridge	Yes	Fair	Missing a few stones top of crenelated walls.
Main Entrance piers and walks	Yes	Good	Condition is OK, but structure is missing portions of original wall; also missing original metal lettering. These lower integrity.
Bridge at Travertine Creek and Highway 177	Yes	Good	Efflorescence evident on underside of bridge.
Water Features			
Flower Park pools & Vendome Stream and falls	Yes	CLR- Fair	Pool size much reduced from original, lowering integrity; dams and bank stones along stream being undermined; wear along creek edges.
Small-Scale Features			
Flower Park trails, steps and curbs	NYD	CLR- Poor	Trails widened and changed slightly in alignment over time; missing or buried stone curbing; Rehabilitation begun in summer 2003.
Flower Park abandoned trail bridge	Yes	Good	Bridge in good condition; trail rehabilitation during 2003 reestablished missing trail associated with the bridge.
East steps of Upper Trail in Flower Park	Yes	Good	Rehabilitation during 2003, replaced aggregate.
West steps of Upper Trail in Flower Park	Yes	Good	Generally solid and good. Rehabilitation during 2003, replaced aggregate.
Stepping stones across stream	Yes	Good	Should be added to LCS.
Reunion post	No	Good	Non-historic.
Garbage cans	No	Good	Traditional lidded cans.
Picnic tables	No	Good	Typical pipe and plank tables.
Stone footbridge	No	Good	Non-matching stone, different character.
Interpretive sign	No	Good	NPS aluminum base, with fiberglass embedded graphic.

Integrity Analysis: Flower Park

	High	Medium	Low	Remarks
Location	Х			Original location retained.
Design	X			Overall layout and structures retained from historic period.
Setting	X			No major change to surrounding area or downtown.
Materials	Х			Most original materials retained; minor change; loss of mineral water in fountain.
Workmanship	X			Loss of some feature details, e.g., path curbing.
Feeling	X			Retains original recreational uses and feeling associated with a leisure landscape.
Association	X			Retains original associations w/ NPS design and park activities.
Overall Integrity	X			Overall, area has high integrity.

located near the site of the former plunge pool and dance hall, returning a public use to the area west of the Flower Park/Vendome parking area. As part of the project, the parking area will be milled, repaved and the inverted crown drainage patterns reinstated and the Broadway Avenue entrance will be changed. In balance, the changes probably do not constitute a major loss in historic character within Flower Park or the overall Platt District.

Overall Integrity Evaluation

Based on the above assessment of the seven aspects of integrity, overall integrity for Flower Park would appear to be high. Essential features are retained and visible, and most, if not all of the aspects of integrity are judged to be high.

BUFFALO PASTURE

Historic Character

In 1940 the Buffalo Pasture area was an irregularlyshaped, open pasture for bison. The pasture was bounded by the Administration Area and Rock Creek Floodplain to the north, the trail along the former Bromide-Sulphur Lane to the south and the Rock Creek floodplain terrace to the west. Delineated by a fence line, the space was largely open terrain with gently rolling topography consisting mostly of northwest facing slopes. A pond providing water for buffalo was located within the western portion of the pasture; along the eastern edge, just off State Highway 18, visitors could access an overlook for viewing the bison. Wooded ravines in the Buffalo Pasture were used as a dump location for CCC crews discarding of park trash; these may be considered archeological sites today.

The area's vegetation probably provided its greatest definition of character; in 1940, the pasture was an open prairie with a small percentage of tree cover primarily in the drainage ravines. The tree cover, mostly planted in 1930 by the CCC was red cedar and was organized as clumps planted along the southern fence line. Circulation systems within the area were minimal, primarily crude trails accessing the interior for bison care and management. Vehicular access on State Highway 18 was provided only to the bison overlook, where a small parking area was located. Pedestrian circulation included the trail around the south and east edge of the pasture to Pavilion Springs. The only structure in the area was the dam and its spillway which created the bison pond. Small-scale features included the fence around the pasture.

Summary of Change

The function of the Buffalo Pasture has not changed appreciably since the period of significance and its size and shape reflect its historic conditions. Similarly, its overall topography and its few designed features and structures—the pond, dam, and fence—are extant. A minor change has been the enlargement and formalization of the visitor overlook along the state highway.

The most significant change over time has been the change to the vegetation patterns in the area. Once a wide open area with significant views across the park, today the pasture is densely packed with woody vegetation. The trees and shrubs change the area visually and give it a strong sense of enclosure. The thickness of the cedar trees and their relatively low height and dense branching gives the landscape a high degree of visual density and other woody species contribute to the closed landscape. This enclosure is a huge change from the open historic character. The remaining grassland also shows changes, with an increase in exotic species possibly imported in non-native hay. Horses were added to the pasture but have been removed to a temporary paddock immediately north-west of stable. The bison herd was down to two cows and a bull during 2003, perhaps the lowest number since the herd was established. During 2003, two female calves from Wichita Mountain Wildlife Refuge were added to the herd, bringing herd to five.

Overall Integrity Evaluation

Changes in vegetation significantly impinge on the area's integrity in terms of feeling and materials. However, high integrity of location, setting, and association (the bison and pasture are very important to the local community) serve to mitigate the impact of the vegetative change, and the Buffalo Pasture retains integrity that is moderately high. In addition, the changes in vegetation are potentially reversible with forest clearing. Alternatively, the growth of cedar might be considered to be part of a natural process of succession, depending on whether management goals emphasize natural vegetative resources or the cultural resource of the pasture.

Feature Condition Analysis: Buffalo Pasture

Description	Contributing Status	Condition	Comments/Analysis
Topography			
Rolling; northwest-facing slopes	Supporting	Good	No significant change or condition issues.
Spatial Organization			
Open area bounded by fence	Supporting	Good	No significant change or condition issues.
Circulation			
No major system	Supporting	Good	No significant change or condition issues.
Vegetation			
Open prairie	Supporting	Poor	Open prairie area has decreased significantly due to woody growth.
Structures			
Buffalo Pasture pond and dam	Yes	Fair	Spillway is being undercut at lower end.
Small-Scale Features			
Buffalo Pasture fence	Needs more info	Good	Some metal posts show signs of corrosion, posts need painting.
Bison Overlook and walls	Yes	Good	Repaved summer 2001; masonry in fair condition; some repair needed.

Integrity Analysis: Buffalo Pasture

	High	Medium	Low	Remarks
Location	Х			Retains original location.
Design	Х			No major design features.
Setting	Х			Physical context around the pasture has not changed appreciably.
Materials		Х		Major vegetation change has occurred; prairie replaced by woodland species.
Workmanship	Х			To degree applicable, remains high.
Feeling		Х		Dense vegetation alters feeling of openness.
Association	Х			Area strongly retains its cultural associations, particularly for community.
Overall Integrity	X			Overall, area has moderately integrity.

SUPERINTENDENT'S RESIDENCE

Historic Character

Located within the Buffalo Pasture, on one of the highest points in the park, the Superintendent's Residence was, in 1940, a highly visible feature in the park landscape and had commanding view of large areas in the park. The area was located just west of State Highway 18, in the middle of an open prairie, on topography consisting of a relatively flat hilltop. Spatially organized as a residential cluster, the house and garage structures were oriented perpendicularly to each other, creating two sides of a rectangular yard that was further enclosed by a picket fence. Although there is a 1930s plan for the area, this plan was not fully implemented, and documentation of the residence's landscape is not detailed and is limited to a few photographs. However, it is known that the vegetation within and around the yard was characterized by an open lawn, a hedge enclosing the back of property,

with more ornamental trees and shrubs located near the fence lines. Foundation plantings were located around the house and grapes grew on an arbor located near the garage. Vehicular circulation included two entry driveway loops, one on the south to the area's back and a second one on the north leading to the front of property. Pedestrian circulation consisted of flagstone paths around the house. Small-scale features consisted of a flagstone patio between the garage and house and one at south side of house off the master bedroom, the picket fence and the grape arbor.

Summary of Change

It's clear that some change has occurred since the period of significance, though the general appearance, topography and function of the area are much like their historic conditions. All major designed elements and structures are extant, including the residence, garage, flagstone patios, and entry driveway. The residence has

Description	Contributing Status	Condition	Comments/Analysis
Topography			
Top of hill	Supporting	Good	No significant change or condition issues.
Spatial Organization			
Landscape at Superintendent's House	Yes	Good	No major condition issues; however, some loss of historic features in the landscape.
Circulation			
Driveway and turnaround	Supporting	Good	Some widening beyond historic width and elimination of island.
Designed Vegetation			
Foundation & ornamental plantings	Supporting	Fair	Existing plants in fair condition but likely do not duplicate historic species; little historic documentation of as built conditions.
Structures			
Superintendent's Residence	Yes	Poor	Needs new wood roof, chimney repointing; Split, cracked wood siding should be replaced. Lead abatement and repainting done in 2003.
Garage/ washroom at Superintendent's Residence	Yes	Fair	Needs wood roof; has modern metal garage door; mold in interior; beams are rotted and need repair.
Small-Scale Features			
Flagstone patios (2)	Varies	Good	No mortar issues or spalling. One patio not historic.
Chain link fence	No	Good	Not historic.
Concrete picnic table	No	Good	Likely dates to 1950s.
Martin house	No	Good	No condition issues.
Basketball hoop	No	Good	No condition issues

Feature Condition Analysis: Superintendent's Residence

Integrity Analysis: Superintendent's Residence

	High	Medium	Low	Remarks
Location	Х			Extant in original location.
Design	Х			Retains overall aspects of design; some minor changes.
Setting		Х		Setting altered by vegetative growth in adjacent properties (reversible).
Materials		Х		Loss of some material qualities, particularly detailed plantings, surrounding vegetation patterns.
Workmanship	Х			Workmanship generally retained; some minor losses with respect to the residence.
Feeling		Х		Feeling significantly altered by enclosure by vegetation.
Association	Х			Retains associations with use, function, etc.
Overall Integrity		X		Overall, area has medium-high integrity.

undergone some minor exterior changes, such as window replacements, removal of upper gable end windows, addition of planters, addition of second patio, and interior renovations. Though currently unoccupied, the building has mostly been used for staff housing since 1933. At one time it also housed offices for the park staff.

The change in historic character that has occurred since the period of significance is relatively minor. The second, southern entry drive has been eliminated, though this does not appear to have been intended as a permanent feature anyway. Small-scale features have also been lost; these include the picket fence and grape arbor. Other small-scale features have been added; these include a chain link fence, a concrete picnic table similar to those built at Rock Creek Campground, a martin house, and a basketball hoop. Although the northern drive once featured a turnaround with a center island, today the entire expanse is paved.

The most substantial change to the area is due to vegetation growth over time. Once located atop an open hillside with views to the north and east, the residence now surrounded by dense woody vegetation on the west and by cedars and other woody species on the highway side. This vegetation strongly encloses the house, making it feel secluded and hidden, a character that did not exist historically.

Feature Condition Analysis: Prairie Uplands

Description	Contributing Status	Condition	Comments/Analysis
Topography			
Rolling hills	Supporting	Good	No condition issues.
Spatial Organization			
Few features or organization	Supporting	Good	No condition issues.
Circulation			See trail section for more information.
Veterans' Trail	No	Good	See trail section for more information.
Vegetation			
Upland prairie	Supporting	Poor	Loss of open prairie vegetation; enclosed by cedars.
Small-Scale Features			
South entrance piers	Yes	Fair	Missing lettering; some masonry issues.
Dams of old golf course (3)	Yes	Poor	Stone masonry needs repair.
Wood and metal benches along trail	No	Fair	3 benches; not in particularly good shape.
Manholes (along Veterans' trail)	No	Good	No condition issues.

Integrity Analysis: Prairie Uplands

	High	Medium	Low	Remarks
Location	Х			Uplands retained in original location.
Design	X			Few designed elements; retains topography, road alignments and overall organization; new trail to Veterans Hospital.
Setting	Х			Setting altered somewhat by vegetation growth in adjacent areas.
Materials		Х		Vegetation growth changes material composition of landscape; prairie replaced by cedar groves.
Workmanship	Х			Retained to degree relevant.
Feeling		Х		Feeling altered due to enclosed nature of space.
Association	Х			Little association that existed is retained.
Overall Integrity		X		Overall, area has medium-high integrity.

Overall Integrity Evaluation

The integrity of the Superintendent's Residence is moderately high. Integrity is lowered due to changes in materials, particularly vegetation, that affect setting and feeling. However, with vegetative clearing, some of these changes may be reversible, leading to a slightly higher level of integrity than otherwise implied.

PRAIRIE UPLANDS

Historic Character

Located in the south-central part of the park, mostly on the east side of State Highway 18, the prairie upland was, until 1937, the site of nine-hole golf course. The area was bounded by the park's boundary and the veteran's

hospital to the south, the Buffalo Pasture to the west, and Travertine Creek and the employee residence area on the north and east. Historically, the topography of the area was constituted of gently rolling terrain with north-facing slopes. The vegetation of the area was a combination of open mixed grassland and oak savanna with small percentage of tree cover. Vehicular circulation included State Highway 18, which crossed the area from south to the north, the perimeter road that crossed the southernmost edge of the park and the short entry driveway to the nursery. Pedestrian circulation was provided via trails. The first "trail" was a fire break running north-south along the east side of the highway, and there was also a segment of the longer trail along the Travertine Creek. Small-scale features included the pair of native stone entry piers located just within the south park boundary and the three dams south of the former golf course.

Feature Condition Analysis: Pavilion Springs

Description	Contributing Status	Condition	Comments/Analysis
Topography			
Existing level area	Supporting	Good	No major change in condition.
Spatial Organization			
Relationships of structures and open areas	Supporting	Good	No major change in condition.
Circulation			
Pavilion Springs Parking Area	NYD	Good	Asphalt deteriorating; may need repaving.
Vegetation			
Canopy over lawn south of pavilion	Supporting	Fair	Losses in lawn; loss of trees at pavilion corners.
Structures			
Pavilion at Pavilion Springs (includes steps from parking area)	Yes	Good	Some seepage through pavilion wall and floor. Outflow line is infused with tree roots; segment of line needs to be replaced.
Small-Scale Features			
Pavilion Springs underpass	Yes	Good	Some seepage from behind highway walls.
Path North of Underpass	Yes	Good	Leads to former elk paddock area.
Steps from underpass to Pavilion Springs	Yes	Good	Some spring drainage and culverts in this area, flowing near boulder cheekwalls.
Crossing from underpass to Rock Creek Trail	Yes	Good	No major issues.
Dam north of pavilion	Yes	Good	Needs to be cleaned of debris. Still functions as designed.
Garbage cans	No	Good	Traditional lidded cans.
Interpretive sign	No	Good	Standard fiberglass embedded graphic.
Half-log and directional signs	No	Fair	One missing sign post, north of pavilion; historic in character, but not actually historic.

Integrity Analysis: Pavilion Springs

	High	Medium	Low	Remarks
Location	Х			Remains in original location.
Design	Х			Very little alteration to building or other features.
Setting	Х			Minor impact of new guardrail and curbs on US 177.
Materials	Х			Few, minor changes to materials.
Workmanship	Х			Original workmanship apparent.
Feeling	Х			Retains original feeling.
Association	Х			Retains original associations.
Overall Integrity	X			Overall, area has high integrity.

Summary of Change

In terms of use and function, the Prairie Upland area has not changed appreciably since the period of significance. All major designed elements and structures are extant. Major landscape features such as the topography are much like their historic conditions. Yet significant change over time has occurred to the vegetation patterns in the area. Once an open area, the vegetation cover—both evergreen and deciduous woody vegetation—has now significantly increased within the uplands, making the landscape visually dense and spatially enclosed. Other minor changes have included the loss of the trail along the highway and some modifications to State Highway 18 (now Highway 177) and the addition of Veteran's Trail.

Overall Integrity Evaluation

As demonstrated in the chart below, the area has medium-high integrity, due in part to changes in materials and feeling.

PAVILION SPRINGS

Historic Character

Located in the center of the park, bounded by State Highway 18 (now Highway 177) on the west, the entry road to the south, sloping topography to the east, and the perimeter road to the north, Pavilion Springs was a key location for drinking and collecting mineral water. Its overall design was simple and uncluttered. Topographically, the area was a shallow oval depression in the landscape with the steep, almost vertical slopes of the adjacent highway creating a strongly enclosing edge on the west. Canopy trees, the site's major vegetation feature, provided a sense of ceiling overhead.

Within this shallow bowl was the area's focal point and only building, the Pavilion Springs Pavilion, built over the area's major water feature, the Big Tom spring. To the south and east of this structure, were the entry road and oval parking lot, their sinuous curves moving with the bowl-shaped topography, as was typical of NPS circulation design. Small-scale features included the Pavilion Springs Underpass, steps from the parking area and on the north side of the pavilion, a stone check dam north of the pavilion, a half log identification sign (no longer extant, but seen in historic photographs) and boulder barrier around parking area.

Summary of Change

Very minor change has occurred to this area since 1940, and primarily includes the loss of canopy trees. A few large trees located at the base of the pavilion have been lost; these losses alter the building's sense of enclosure within the landscape as well as its immediate appearance. Addition of boulder guardrail here also occurred. Otherwise all major buildings and features remain intact. A recent road project impacted the setting somewhat, with the construction of new curbs and guardrail along Highway 177 immediately adjacent to the landscape.

Overall Integrity Evaluation

Based on the high integrity of all seven aspects, overall integrity for Pavilion Springs is high.

HILLSIDE SPRINGS

Historic Character

In 1940, Hillside Springs was a quiet space, secluded from its surroundings by topography and vegetation. Hillside Springs was spatially organized into two zones: a parking area and grotto-like spring landscape. The two zones were separated by topography, with a relatively steep slope buffering the spring area from the parking lot and highway above. The vegetation of the area was fairly open around both spring and parking area, though cedar plantings were planted around the spring and parking area, screening them from view and providing a sense of enclosure within the open upland landscape of 1940.

Circulation in the area was uncomplicated, and included the U-shaped parking and pedestrian stairways leading down to the spring and up to the Administration Building. A flagstone walkway led around the parking lot, connecting both sets of stairs and merging into the trail between the Buffalo Pasture and Pavilion Springs.

The retaining wall and patio of the spring enclosure comprised the only structure in the landscape. The wall hid a concrete water tank from which water bubbled into a centrally-placed, semi-circular pool and thence to a runnel bisecting the patio. Small scale-features included a low stone retaining wall along the southern edge of the parking area in addition to the aforementioned stone steps and flagstone walkway and curb around the parking lot.

Summary of Change

The only landscape feature at Hillside Springs which has significantly changed since 1940 is the vegetation. The clusters of cedars have now grown up into a dense, forestlike mass, further secluding an already intimate landscape composition. This change, however, appears to be part of the intended design, since the enclosure is the result of tree planting which occurred in the 1930s.

Yet as the cedars now reach and surpass maturity, their lower branches are beginning to die back, lending a rather gloomy feeling to the enclosed spring area.

In contrast, most other features remain substantially the same. All built elements (such as steps, walls, and

Feature Condition Analysis: Hillside Springs

Description	Contributing Status	Condition	Comments/Analysis
Topography			
Steep north-facing slope	Supporting	Good	No significant change over time.
Spatial Organization			
Relationships between elements	Supporting	Good	Basic design layout remains same, no change over time.
Circulation			See additional information under trails.
Hillside Springs parking area	Yes	Good	Island missing trees.
Designed Vegetation			
Cedar grove around spring	Supporting	Fair	Overgrown; could be thinned and/or replanted.
Structures			
Hillside Springs walls, floor, container and spring	Yes	Fair	Wall masonry beginning to spall; seepage behind west wall; bubblers clogged and water flow uneven. Spring enclosure lid rusted through.
Small-Scale Features			
Hillside Springs steps	Yes	Good	Good condition.
Hillside Springs Parking Lot Drain	NYD	Good	
Garbage can	No	Good	Traditional lidded can.
Interpretive Sign	No	Good	Fiberglass embedded graphic sign.

Integrity Analysis: Hillside Springs

	High	Medium	Low	Remarks
Location	Х			Exists in original location.
Design	Х			Fully intact; no elements missing.
Setting	Х			Lowered slightly due to vegetative growth.
Materials	Х			Original materials primarily extant; some changes in vegetation; some deterioration through damage by seepage.
Workmanship	Х			Some loss due to material deterioration, placement of sign.
Feeling	Х			Some loss of feeling due to increased shade and vegetative cover.
Association	Х			Retains associations with mineral water history.
Overall Integrity	X			Overall, area has high integrity.

pools) appear to be quite similar to the way they existed at the end of the period of significance, despite repairs to the spring's retaining wall structure undertaken in the 1950s and 1960s. However, some lack of maintenance is apparent in the masonry walls, and there is significant seepage from behind the western portion of the retaining wall. Low flow in the bubblers at the spring may indicate clogged water lines. The lid on the spring container behind the enclosure wall is rusting through. A major addition is a sign directly above the central pool warning visitors that the water is not potable.

Overall Integrity Evaluation

Based on the analysis of the seven aspects of integrity, below, Hillside Springs has high integrity.

HEADQUARTERS

Historic Character

In 1940, the Headquarters area was a small zone spatially organized around the area's only structure, the Administration Building (former Leeper House), which served as the park's main office and museum. The relatively small area was bounded by State Highway 18 (now Highway 177) to the east, the Hillside Springs area to the north, and the area's entry road to the south and west. A largely open area with few trees, the area's topography sloped gently, with the building located on a level high point. Vehicular circulation included the entry road turning northwest off State Highway 18 and a small parking area in front of the building. Pedestrian circulation included a portion of the trail leading from Hillside Springs to the Buffalo Pasture, and a pedestrian

Description	Contributing Status	Condition	Comments/Analysis
Topography			
Rolling topography	Supporting	Good	No change over time.
Spatial Organization			
Location of building atop hill	Supporting	Good	No change over time.
Circulation			See addition information under trails.
Asphalt walkways at Headquarters Building	No	Fair	Poorly organized access for building; narrow path width, rough and cracking asphalt; majority of paths do not meet ADA standards due to excessive slopes.
Designed Vegetation			
Foundation plantings	Supporting	Poor	Lost over time; little historic documentation.
Structures			
Administration Building (Leeper House)	Yes	Good	Soil stain at base of stone wall from poor foundation ground cover. Lead abatement completed 2002, painting of all exterior elements 2003, reproofing will start in 2004.
Small-Scale Features			
Steps from Leeper House to Hillside Springs	Yes	Good	Some erosion evident on wider treads, Undercutting of steps.
CCC Memorial	No	Good	Awkward siting for this object; could be moved to new visitor center, where it would have higher visibility.

Feature Condition Analysis: Headquarters

Integrity Analysis: Headquarters

	High	Medium	Low	Remarks
Location	Х			Remains in original location.
Design	X			Maintains major designed relationships which were few to begin with; higher level of spatial enclosure.
Setting	х			Minor change due to increased vegetative growth; part of original design intent; loss of foundation plantings.
Materials	Х			Some minor change in vegetation and in paving.
Workmanship	Х			Retains original workmanship.
Feeling	Х			More enclosed than originally.
Association	Х			Though no longer park headquarters, retains associations with historic park functions, as well as prior use as private residence.
Overall Integrity	X			Overall, area has high integrity.

footpath between the Administration Building and Employee Residence #3 (no longer extant) located on the other side of Highway 18. The latter path was largely constructed as stepping-stones. Another short walkway ran from the parking area to the building entrance on the southwest façade. The vegetation of the area included a grove of cedars planted on the north-facing slope above Hillside Springs as well as foundation and decorative plantings around the building. Though no detailed planting plans for these plantings are known to exist, historic photographs reveal that foundation plantings included flowering trees such as redbud, low shrubs and groundcovers and several iris beds scattered in the lawn. Small-scale features included a set of terrace-like steps situated in the grade on the northeast side of the building.

Summary of Change

Changes to the Headquarters area have been relatively minor, with the most important change occurring in vegetative growth: the building, which once stood atop an open rise, overlooking much of the park, is now surrounded by a dense grove of cedar trees. Though an open area of mowed grass surrounds the building, it has a quite enclosed feeling, in contrast to the 1940 conditions. However, given that the vegetation around the building was planted by CCC crews, the resulting enclosure is likely what was desired by the NPS designers. In contrast, foundation plantings at the base of the building seem to have changed or been lost over time, since the current plantings do not match those seen in historic photographs. Other minor changes include asphalt paving on the entry road and parking area in front of the Administration Building. The parking area is now larger, and it appears that the boulders along the parking area were also added after the period of significance. New asphalt circulation paths and stone edging to the building have also been added to the building to the front. These changes to parking and pedestrian paths were implemented when building access switched from the north to the south side of the building.

Overall Integrity Evaluation

Overall integrity for the Headquarters area is high, since there has been very little significant change or losses of fabric within the area. By 2002 the CNRA administrative offices were moved out of the Administrative Building. Future plans indicate the building will become a learning center.

MAINTENANCE AREA

Historic Character

In 1940, the Maintenance Area was an enclosed, and almost hidden utilitarian area for park maintenance offices, activities, and equipment. Located west of the Headquarters Areas, it was bounded by the Buffalo Pasture to the south and west and the former mule pasture and Pavilion Springs trail to the north. The major features of the area were its three main structures, spatially organized into a tight square or "quad" bounded by a fence and low limestone walls. The three main buildings in the quad were the mule barn, maintenance office, and the maintenance shop or truck shed. Other buildings included the explosives magazine and two additional sheds located west of the quad and Residence #6 (known previously, in 1940, as #2) and its garage, located just to the northeast.

The area's topography sloped gently upward to the northeast, screening from the rest of the populated areas of the park. Behind the quadrant of buildings, at the rear of the mule barn, the area sloped down to the west. The change in grade provided an at-grade basement access for the mule barn, and behind the quad, the slope was further retained by a large limestone retaining wall running perpendicular to the quad's back edge. Three low terraces with limestone walls running parallel to the quad were used to store equipment and materials.

Due to the Maintenance Area's utilitarian function, circulation was essentially vehicular, consisting of an asphalt entry road and paved quad and several casual gravel loops in the yard to the west of the quad. A small driveway accessed Residence #6 (previously, in 1940, #2) off the main entry road. Designed vegetation was limited, and was restricted to a few trees scattered throughout the yard to the west and foundation plantings around Residence #6 (previously, in 1940, #2). Small-scale features included the fence and wall surrounding the quad, and piers at the quad's entrance.

Summary of Change

In some ways, the Maintenance Area exists much as it did historically. The area is still the heart of the park's maintenance activities, and the three main buildings of the quad are extant and well-used by park staff. There has been some loss of trees at the entry to the quad. However, the overall footprint of the Maintenance Area is much larger today, with most of the expansion occurring to the west of the quad, on the site of the former mule pasture. This expansion was necessary first to accommodate increased functions when the area began to serve the Arbuckle Recreation Area's needs as well as those of Platt National Park; more space has been needed to house more and larger size vehicles and more stockpiled materials. Spatially, the result has been the construction of additional, looped gravel roadways to the west of the original quad to access more maintenance buildings (both temporary and permanent) and larger stockpiles of materials. Other building additions have included the archives storage building to the north. Overall, today there are now approximately 27 buildings associated with the maintenance area; in 1940 there were only 10. And, of course, some buildings have new functions, since some of the original functions (such as housing park mules or explosives) are no longer relevant. In general, the area is probably busier, more used, and more cluttered with materials, temporary and permanent buildings than it was historically.

Other, but notable changes are the alteration of the perimeter wall around the quad and the loss of stone columns flanking the entry to the courtyard. The

Feature Condition Analysis: Maintenance Area

Description	Contributing Status	Condition	Comments/Analysis
Topography			
Natural, existing	Supporting	Good	Minor change over time.
Spatial Organization			
Quadrangle and yard to west	Supporting	Good	Yard is slightly larger than historical, but basic relationship retained.
Circulation			
Entry road and open quad and roads in yard	Supporting	Good	Main entry and quad retained as original; some new routes and parking expanded in front of the quad.
Vegetation			
Trees at entry	Supporting	Fair	Loss of trees at entry and parking areas.
Structures			
Mule barn/ warehouse/ office	Yes	Fair	Modern garage door, dock modified, needs lead abatement – missing original; reroofing completed 2003.
Maintenance office/ crew room	Yes	Fair	Garage doors, new windows, new doors and windows added to north face, wood shop, needs lead abatement. Reroofed 2003.
Truck shed/ maintenance shop	Yes	Fair	Needs lead abatement, has rotted beam at gable end; reroofing completed 2003.
Maintenance compound walls	Yes	Good	In good shape, except for missing piers and portions deleted for new buildings; can be replaced in-kind.
Explosives magazine	Yes	Good	Shows good structural integrity.
Residence #6	Yes	Fair	Porch enclosed, windows added, needs lead abatement; reroofing completed 1998.
Carport addition at Residence #6	No	Good	Little deterioration to recent structure.
Garage # 11	Yes	Fair	Needs lead abatement, new wood roof, replacement of missing windows and repair of others.
Museum Collection Building	No	Good	New building on concrete slab.
Other maintenance buildings/ structures	No	Varies	Numerous new metal structures and stockpiles in yard west of quadrangle.
Vehicle Wash	No	Good	Concrete slab, catch basin and 8' x 8' building foundation constructed 2003. Building will be constructed in 2004 and sided with cement board and roofed with wood shingles to match character of crew room and warehouse.
Small-Scale Features			
Tank filing station	No	Good	Must be retained in current location.

Integrity Analysis: Maintenance Area

	High	Medium	Low	Remarks
Location	Х			Remains in original location.
Design	Х			Retains most of original features of the design; some minor losses.
Setting	Х			Increased use and expansion has changed setting somewhat.
Materials	Х			Original materials on extant structures intact.
Workmanship	Х			Retains original workmanship.
Feeling	Х			Perhaps some loss of feeling with increased use and loss of some functions, such as mules, but this is minor.
Association	Х			Retains associations with park maintenance functions.
Overall Integrity	X			Overall, area has high integrity.

columns were removed to accommodate larger park equipment.

Overall Integrity Evaluation

As shown through the descriptions of the seven aspects of integrity, overall integrity for the Maintenance Area is high.

Feature Condition Analysis: Employee Residence

Description	Contributing Status	Condition	Comments/Analysis
Topography			
Natural slopes	Supporting	Good	No significant change or condition issues.
Spatial Organization			
House on rise, garden below	Supporting	Good	No significant change or condition issues.
Circulation			
Drive and turnaround	Supporting	Good	No significant change or condition issues.
Designed Vegetation			
Foundation and miscellaneous plantings	Supporting	Fair	Some losses; historic documentation of original not extensive, however.
Structures			
Residence #2	Yes	Good	Window do not match historic; Lead abatement and painting completed in 2000; reroofed in 1998.
Garage 9	Yes	Fair	Needs lead abatement, reroofing and painting.
Carport	No	Good	No condition issues.
Small-Scale Features			
Stone patio and path at Residence #2	Yes	Good	Flagstone is in good condition; no spalling or mortar problems.
Table, bench, pond and steps at Residence #2	Yes	Fair	Setting is deteriorated; masonry deteriorating somewhat; suffering from lack of maintenance/use.
Fire Hydrant		Good	

Integrity Analysis: Employee Residence

	High	Medium	Low	Remarks
Location	Х			Residence #2 retains original location.
Design	X			Some change to driveway, exterior appearance of house, additions lower integrity of design somewhat.
Setting			Х	Loss of Employee Residence #3 greatly alters feeling.
Materials	X			Original materials retained; some changes to house exterior and to surrounding vegetation.
Workmanship	Х			Workmanship, to extent it exists, is retained in structures.
Feeling		Х		Feeling is probably more secluded than at end of period of significance.
Association	Х			Retains associations to NPS design, and function as housing.
Overall Integrity		X		Overall, area has medium integrity.

EMPLOYEE RESIDENCE

Historic Character

In 1940, the area around Employee Residence #2 (previously known in 1940 as Residence #4) was a much larger area was used for housing park staff. The area's spatial organization featured two clusters of residential structures, one at Employee Residence #2 (then Residence #4) and another around what was then known as Employee Residence #3 (no longer extant). Both clusters contained a garage and driveway and an open area around each house. At Residence #3, small-scale features included a low retaining wall and a terrace overlooking the former golf course to the south. Three small stone dams from the golf course could be seen in the distance. At Residence #2 (then #4) small scale features included flagstone walkways and a small flagstone patio around the house and a small garden area to its north. The small garden was located downhill and east of the house and contained a small stone pond or basin, a stone table and four curved benches. Topography was generally level with local variations. Circulation included a long driveway leading from Pavilion Springs to the residences; each residence had a driveway with a turnaround loop. Stepping stone paths were located at each residence, too. At Residence #2 (then #4) the pedestrian path led to the small garden; at Residence #3, the path led across State Highway 18 to Headquarters.

Summary of Change

Overall the larger area around Employee Residence #2 has changed greatly since the period of significance. Most important is the loss of the residential cluster at Employee Residence #3, which burned in 1946. The remaining small-scale features around that residence have been lost in the intervening years, though traces of a culvert with stone headwalls of the former drive and the stepping stone path remain near the Administration Building, and the three golf course dams are also still extant, though now engulfed by cedar and deciduous forest. In general, growth of cedar and deciduous trees has greatly altered views to south toward former golf course and former open upland. The loss of Employee Residence #3 changed the area from a residential grouping to a lone house in a secluded area; this is a significant change.

In contrast, the immediate area around Employee Residence #2 has itself retained much of its historic appearance and function. All major designed elements and structures are extant, including the residence, garage, entry driveway, flagstone walkways and smallscale features such as stone table, benches and pond. Major landscape features such as the open lawns and rolling topography of the area are also very much like their historic conditions. Minor changes over time have included the alteration of the entry driveway's shape, the addition of the carport and chain link fence, and significant growth of surrounding forest. However, these changes are not visible to the general public and do not significantly affect the integrity of the overall landscape.

Overall Integrity Evaluation

Due to major change in the setting of Employee Residence #2, through the loss of former Employee Residence #3, integrity here is somewhat lower than for other areas within the park. Though features within the immediate setting of the residence retain high integrity, overall integrity for the larger area is reduced to medium.

CENTRAL CAMPGROUND

Historic Character

By 1940, Central Campground was known as the "Negro Campground" and was a large and well-used camping area within Platt National Park. The campground was bounded by State Highway 18 (now Highway 177) on the west, Travertine Creek on the south, and Wapanucka Avenue on the east and north. A picnic area loosely associated with the campground was located just east of the campground at Panther Falls.

The character of the campground was informally natural; unlike Cold Springs Campground, there were no defined camping sites. Rather, the campground was organized spatially into two main camping areas, one to the east and one to the west, located on a patch of sloping topography just above Travertine Creek. Steeper slopes existed to the south, along the creek bank and to the north, where the park boundary abutted the town. The vegetation of the area in 1940 can be characterized as an open upland with numerous clumps of trees and shrubs located across the area. Cedar clumps were naturally located on the drier slopes above the campground, and these were enhanced by CCC plantings, which by 1940 were beginning to grow up. Oaks and elms were dotted across the two camping loops, providing shade. A pair of spectacleshaped gravel loops comprised the area's main circulation feature. The loops were accessed from their ends, from both Highway 18 (now Highway 177) to the west and the perimeter road to the east, and the loops were bisected by a slightly less defined central road, providing access to camping space within the loop. One footpath led through the western part of the area.

Buildings and structures within the area included the Central Campground comfort station and Employee Residence #5. The latter was located outside the campground proper. A stone dam and swimming hole were located at the east loop and another at Panther Falls. These are described above under Travertine Creek. Other significant small-scale features included two box culverts carrying streams under the loop roads. Picnic tables and fire pits or grills were likely located within the grounds, but the appearance and locations of these are not welldocumented.

Feature Condition Analysis: Central Campground

Description	Contributing Status	Condition	Comments/Analysis
Topography			
Level floodplain	Supporting	Good	Little or no change over time.
Spatial Organization			
Central Campground design	Yes	Good	Small amount of change, but double loop retained.
Circulation			
Campground roads, perimeter road, footpaths and trails	Supporting	Good	Repaved and slightly reorganized to meet needs of group camping.
Designed Vegetation			
Canopy over camping area	Supporting	Fair	Losses over time, now less shady.
Structures			
Comfort station	Yes	Good	Lead abatement and reroofing completed 2003.
Small-Scale Features			
Central Campground road box culvert	Yes	Fair	Examine in field.
Road box culvert	Yes	Good	
Panther Falls box culvert	No	Good	
Camping information sign	No	Good	
Bollards	No	Good	
Boulder barrier	Yes	Good	Some old, some deployed in new areas; depth varies.
Hydrants	NA	Good	Style varies.
Picnic tables	NA	Good	Standard park plank and tube table.
Circular Grills	NA	Good	In good condition.
Garbage cans	NA	Good	Traditional lidded cans.
Lantern hangers	NA	Good	

Integrity Analysis: Central Campground

	High	Medium	Low	Remarks
Location	Х			Campground is in original location.
Design		Х		Retains original overall circulation pattern, though some elements lost or altered.
Setting	Х			Setting within the park remains largely unchanged; perhaps some increased traffic along western edge on US 177.
Materials	Х			Largely the same as historic.
Workmanship	Х			Some loss due to change and reconstruction of roads and bridges.
Feeling		Х		Increased traffic along US 177.
Association		Х		Some loss due because area is no longer associated with local African American groups/families, though community memories of this era remain.
Overall Integrity	X			Overall, area has moderately high integrity.

Summary of Change

Major character-defining landscape features such as the topography, natural water course of Travertine Creek, stream-bank and upland vegetation and overall circulation pattern exist at Central Campground as they did historically. However, the campground has changed somewhat since the period of significance, primarily in its function and use. First, the campground is not segregated. Also, in contrast to 1940, the campground is used for group camping (over 10 people), whereas previously it had been used for individual camping. In 2004, an experiment limiting the size of groups will be undertaken at all the Central campsites.

The shift from individual to group camping has resulted in minor changes in the campground's form. Today, parking areas for groups of vehicles are defined along the perimeter loops, and groups of picnic tables and grills are used to define specific camping sites, each numbered with a bollard. Other changes include changes to the campground entrances and greatly increased vegetation growth, especially cedars, along the campground's northern boundary, as observed in aerial photographs. In contrast, the central camping areas appear to have lost some canopy tree cover, although numbers of trees, as described in Chapter 6, have actually increased. This loss of canopy may be due to the loss of large-headed oak trees. New small-scale features such as circular grills, picnic tables, bollards, and a culvert with stone head walls (located on a footpath leading north to town) have also been added to the landscape.

However, much, if not most, of the original CCCera design elements still remain. These include the extant comfort station; the overall circulation pattern and layout; and associated structures such as culverts. Similarly, historic small scale features, such as the recreational dams along Travertine (described earlier under Water Systems) are also extant. In general, integrity of the landscape appears to be quite high, though perhaps not quite as high as other areas within the district.

Overall Integrity Evaluation

Because the seven aspects of integrity are all medium to high, overall integrity for the campground is high.

COLD SPRINGS CAMPGROUND

Historic Character

In 1940, Cold Springs Campground was a newly opened campground, designed according to the newest principles of campground design. The area was bounded by Travertine Creek to the south and park's boundary to the north. Spatially, the oblong-shaped area was divided by the road system into four smaller, elongated zones. The topography of the area was relatively level, dead flat in some areas, though slopes gently rose to the northwest. The vegetation of the campground included mostly native overstory trees such as oaks and hackberries and new cedar plantations along the park's boundary line with the town. Vehicular circulation consisted of twelve-foot wide gravel roads that created a one-way loop system and 66 parking spurs and associated campsites. Pedestrian circulation included the two beaten-earth pathways between campsites that provided access to the comfort stations. Buildings and structures included the Community House, Checking Station and two comfort stations. Water features consisted of the stepping stones

at Cold Springs Crossing and the four recreational dams at Garfield and Bear Falls constructed along Travertine Creek. Other small-scale features included ten rectangular stone enclosures for firewood and trash cans, stone fireplaces with metal grates and picnic tables. Remnants, mainly large pine trees, of a small nursery were located across Travertine Creek from the campgrounds; by 1940, however, with the departure of the CCC camp, this feature would soon meld into the vegetation of the stream bank.

Summary of Change

The overall appearance and function of Cold Springs Campground have been retained over time. All structures are extant, including the community house, checking station and comfort stations. Similarly, the overall layout of sites has never been changed, and though the campground roads have been paved in asphalt, they retain their original alignments. Likewise, the topography and the campground's relationship to the perimeter road and the creek remain as they did in 1940.

Change in the area has been relatively minor. In the 1950s, individual campsites were regraded and generally overhauled; it is likely that the boulders along roads and demarcating campsites were added at the same time. Small-scale features at campsites have changed; the stone fireplaces were removed and are now circular grills. Lantern hangers have also been installed at campsites and one of the trash-can enclosures has been lost. Two campsites near the entrance to the campground have become group sites (no 64 and 65), and large concrete picnic tables were built at these sites probably sometime after the period of significance. Over time pathways through the campground have widened and have increased in number. Culverts and drainage ways have also clogged over time, creating drainage and erosion problems in the campground as water concentrates across some sites. Within the campground there has also been some loss of vegetation cover, particularly understory plants. Some of these changes are due to heavy use and the increasing size of vehicles accessing campsites and increasing number and size of tents.

Steel tube gates were added to allow closure of the campground from late fall to spring. A fee station which accepts payment in cash or credit card was added near the entrance in the 1990s.

Description	Contributing Status	Condition	Comments/Analysis
Topography			
Level terrace	Supporting	Fair	Drainage and erosion problems extant, due to blocked culverts, flat site.
Spatial Organization			
Design/campsites	Yes	Good	Erosion issues.
Circulation			
Roadways and spurs	Supporting	Good	Asphalted; in reasonable condition; gravel spurs show signs of erosion.
Designed Vegetation			
Canopy trees	Supporting	Fair	Understory vegetation for privacy lacking or impacted by foot traffic.
Structures			
Checking station	Yes	Fair	Lead abatement and staining 2000; reroofing 2003.
Community house	Yes	Fair	Lead abatement and painting 2000; reroofing 2003.
Comfort station	Yes	Fair	Lead abatement 2000; reroofing 2003.
Comfort station	Yes	Fair	Lead abatement 2000; reroofing 2003.
Small-Scale Features			
Stone trash enclosures	Yes	Fair	9 out of 10 present; loss of spigots; no longer used for firewood.
Campground drainage culverts	NYD	Poor	Silted in; no longer fully functional.
Hydrants	No	Good	Style varies. Some grey water drainage issues and mud during high use.
Picnic tables	No	Good	Standard park plank and tube table.
Grills	No	Good	Circular grills; some upright in group areas.
Lantern hangers	No	Good	Standard hanger.
Garbage cans	No	Good	Tradition lidded receptacles.
Fee station kiosk	No	Good	New; no condition issues.
Boulder barriers	Yes	Good	Embedded depth varies; use and location vary; some date to 1940s, some to
			1960s and more recently.
Concrete picnic tables with wood	Unknown	Fair	Large tables with concrete bases; loss of large wooden members; beginning to deteriorate; further research on age needed; no known CCC-era photos or
plank tops (2)	Unknown	rair	documentation.

Feature Condition Analysis: Cold Springs Campground

Integrity Analysis: Cold Springs Campground

	High	Medium	Low	Remarks
Location	Х			Campground exists in original location.
Design	Х			Overall design and layout very much intact.
Setting	Х			Little change in surrounding context.
Materials	Х			Some vegetation loss, loss of fireplaces.
Workmanship	Х			Loss of stone fireplaces, regrading of campsites.
Feeling	Х			Retains wooded feeling and community feeling.
Association	Х			Retains associations, particularly within community.
Overall Integrity	X			Overall, area has high integrity.

Overall Integrity Evaluation

Based on the assessment, below of the seven aspects of integrity, overall integrity for the Cold Springs Campground area is high, despite some minor losses.

TRAVERTINE ISLAND AND LITTLE NIAGARA FALLS

Historic Character

Travertine Island and Little Niagara Falls is a complex area containing many distinctive landscape features. Documentation of the area to the period of significance is fairly good, though the years of 1936 to 1937, when much of the area seems to have been constructed, and the years through 1940 are not as well documented as are some other areas of the park. This makes evaluating historic character for the area somewhat more difficult.

By 1940 Travertine Island and Little Niagara Falls were a popular recreation area, organized around the confluence of Limestone Creek (Formerly known as "Nigger Run") and Travertine Creeks. The Little Niagara swimming area and two major picnic areas-one on Travertine Island and one at Lost Cave Falls-were clustered around the central island created by the creeks, while two parking areas were located on the periphery. The whole area was bounded by the perimeter road to the south and north. The area's topography of the area was generally level, with slopes gently declining from east to west. In contrast, localized dramatic topographic changes-mostly large outcroppings of travertine rock-occurred along the creek banks where the mineral water flow from the springs has formed Travertine and also carved its channel. The vegetation of the area, mostly native species, was comprised of a layer of tall trees providing shade and a dense layer of understory shrubs. The vegetation enhanced the sense of enclosure provided by the recessed creek bed.

The area's vehicular circulation system was the two-way perimeter road encircling the island. The road accessed two parking areas-a large, almost circular lot north of Travertine Island and a smaller one to just south of Little Niagara Falls. Pedestrian circulation included a network of informal gravel paths that linked the parking areas, picnic areas, comfort station and Little Niagara Falls swimming area. The major structures of the area were the Travertine Island Comfort Station and the perimeter road bridge crossing Limestone Creek. The lower and upper dams of Little Niagara Falls, the major water features of the area, were the focal point of activity within the landscape. Small-scale features included narrow steps and a small stone bridge leading to the stone picnic table and benches at the Lost Cave Falls picnic area. On Travertine Island, small-scale features included the large, stoneenclosed picnic area, a small circular stone table and seats with oval stone table with stone benches, a kidney shaped stone table with stone benches and a barbecue, a logand-plank interpretive sign and three low-water crossings constructed of steps and stepping stones.

Summary of Change

Unlike other areas of the park, Travertine Island and Little Niagara Falls seem to have undergone a bit more change, though based on historic documentation, in some cases this is difficult to judge. Elements which remain extant and in good condition include Travertine Island Comfort Station, the Limestone Creek Bridge, topographic features and water features. Particularly important and in good condition are the Little Niagara dams and Travertine Creek (the latter described above). Similarly, most small-scale features are extant, but exhibit some loss in form and materials. These include the picnic areas, both of which have deteriorated and lost stone structures; the low-water crossings, which exist in various degrees of disrepair under I-beam pipe-and-plank bridges; and the small circular stone table and benches, which are no longer distinguishable as a designed feature.

Other changes are broader scale landscape concerns. For example, the secluded setting of the area was much changed when the Nature Center and its associated parking area was built. The picnic area south of Little Niagara also grew in size at this time. The second Mission 66 parking area and the Mission 66 Comfort Station further altered the feeling of the area, making it perhaps less secluded and more popularly used. In general, the presence of the automobile in the landscape increased and was perhaps further heightened by the truncation of the perimeter road and the creation of the one-way route around the island. Although not well-documented historically, vegetation patterns also seem to have changed over the years. The major change seems to be a reduction of mature trees and a loss of understory shrubs. The former is due in part to natural processes and aging and the latter due to heavy foot traffic; a recent ice storm, during which many mature trees on the island were lost or severely damaged also contributed to vegetation changes.

In a similar fashion, the network of informal paths throughout the area also seems to have changed somewhat. Due to a paucity of historic documentation, it is hard to tell whether these changes occurred during, or after, the period of significance. However, based on field conditions, some path changes seem to have occurred in response to the construction of new features in the 1960s. In general, the park's Mission 66 years had a strong effect on the eastern end of the district.

Feature Condition Analysis: Travertine Island and Little Niagara Falls

Description	Contributing Status	Condition	Comments/Analysis
Topography			
Varied creek banks and travertine	Supporting	Good	No major condition issues; some bank erosion.
outcroppings	Supporting	Good	The major condition issues, some bank crosion.
Spatial Organization			
Overall layout	Supporting	Fair	Some losses, but lack of historical documentation to confirm.
Circulation			
Travertine Island parking area north	Needs more info	Good	Boulder barrier embedded deeply may indicate numerous layers of paving.
Travertine Island trails	Yes	Good	Well-used, compacted, no major erosion.
Mission 66 parking lot	No	Good	No major condition issues.
Sidewalks at Mission 66 comfort station	No	Good	Very bright white in landscape; could be toned down visually.
Designed Vegetation			
Canopy trees	Supporting	Fair	Numerous losses have opened canopy.
Structures			
Comfort Station	Yes	Fair	Lead abatement completed June 2003; has new wood roof.
Mission 66 comfort station	No	Fair	Interiors a little beat up due to flooding, heavy use. Needs lead abatement and reroofing.
Water Features			
Little Niagara Falls Upper and Lower dams	Yes	Good	Exhibits some wear and changes in masonry, particularly in travertine stone pool edges; stone wears more rapidly than mortar.
Little Niagara Falls Lower Dam	NYD	Good	No major issues.
Small-Scale Features			
Travertine Island picnic area	Yes	Fair	Masonry damage and damage to later repairs; is altered from historic condition; minimal historic documentation; missing elements.
Low water crossing to Lost Cave Falls picnic area	Yes	Fair	LCS indicates condition as poor. Examine further in field.
Lost Cave Falls picnic area	Yes	Good	Stone bench for table rehabilitated circa 1996.
Stone bench at Travertine Island	NYD	Poor	Little remains of original feature.
Steps to Lost Cave picnic area	Yes	Good	No major issues, other than very narrow steps.
Travertine Island sign	Yes	Fair	Log ends rotted and repaired with caulk; should be replaced in kind.
I-beam, plank and pipe tubing bridges (2)	No	Good	Appearance not in keeping with historic. One atop non-historic abutment; other, near TI parking area, on altered remains of stairs.
Picnic tables	No	Good	Standard park plank and tube table.
Standing grills	No	Good	Standard park grill style.
Masonry swale at new comfort station	No	Good	Constructed by L. Howell; end of swale is being undercut.
Masonry swale at Lost Cave Falls	No	Good	Constructed by L. Howell; no major issues.
Low half-log safety sign	No	Good	Park sign in keeping w/ other historic signs; does not appear to be historic, however.
Chlorinator building	No	Good	Feature near park boundary, north of perimeter road.

Integrity Analysis: Travertine Island and Little Niagara Falls

	High	Medium	Low	Remarks	
Location	Х			Retained in its original location.	
Design		х		Losses of stone crossings, stepping stones, picnic area features reduce integrity of design, trail segments added.	
Setting		Х		Setting altered by 1960s parking area, proximity of Nature Center, new comfort station.	
Materials	Х			Some loss of historic materials, new additions of non-compatible materials in structures and small scale features; comfort station added.	
Workmanship		Х		Deterioration of stone work over time has decreased integrity of this aspect.	
Feeling		Х		New parking areas, road change have likely led to loss of isolated feeling.	
Association	Х			Retains associations, especially for local community	
Overall Integrity		X		Overall, area has medium integrity.	

In contrast to the number of elements which have deteriorated or been lost over time, it is important to note that the area's use has been very constant over the years. The type of use—swimming, picnicking, and other recreation— has remained the same as they were historically. With increased parking after 1969, numbers of users likely increased.

Overall Integrity Evaluation

Based on the assessment of the seven aspects of integrity, below, overall integrity for the Travertine Island and Little Niagara Falls area would appear to be moderately high or medium. Essential features are retained and visible, and many, though not all, of the aspects of integrity are judged to be high.

BUFFALO AND ANTELOPE SPRINGS

Historic Character

As the source of Travertine Creek in 1940, Buffalo and Antelope Springs were then, as now, a focal point in the Platt landscape. A recreational landscape, the area was defined by the perimeter road and park's boundary and was organized along the banks of Travertine Creek, with two major picnic areas clustered around the two spring areas.

The topography of the area was somewhat more diverse than other parts of the park. Landforms varied from steep stream banks, to the high ridgeline south of Travertine Creek to the relatively level floodplain terrace. The area's vegetation included a dense tree canopy, as seen on historic aerial photographs. Understory conditions are less well understood, but may have varied from prairie on the uplands to dense shrubs along the creek banks. Around Buffalo Springs, detailed plantings were installed, indicating a design intent of enclosed space. Though the species of these plantings are known (they included shade trees such as red oak, winged elm, hackberry, and red haw (*Crataegus* species); flowering trees such as dogwood, wild plum, and redbud; and shrubs such as euonymous and sumac; their actual locations are unknown.

Vehicular circulation was provided by the two-way perimeter road and a driveway loop to the Buffalo Springs picnic area. It also included a formalized parking lot for twenty-two cars located just north of Buffalo Springs and a small parking area along the perimeter road north of the Antelope Springs picnic area. Pedestrian circulation consisted of the trail along the Travertine Creek (described above) as well as a looped network of footpaths around Buffalo and Antelope Springs that linked the picnic areas, comfort station, the pools below Antelope Springs, and the parking lots. The area's buildings and structures were typical CCC architecture, well-integrated into the landscape and included the Buffalo Springs Comfort Station, the perimeter road bridge and box culvert, and the radial stone arch pedestrian bridge (three bridges total). Two water features-the Buffalo Spring enclosure and the outcropping from which Antelope Springs sprang—were of primary importance in the landscape. Other water features included the three dams and large lily pond below Antelope Springs as well as the three check dams west of Buffalo Springs. A large barbecue fireplace and two stone picnic tables at the Buffalo Springs picnic area were important small-scale features. Other masonry features included additional small stone fireplaces, stone steps to the Buffalo Springs picnic area, stepping stones over Travertine Creek, and a set of stairs to the Antelope Springs parking area. Wood plank picnic tables and wood benches are also seen in some historic photographs.

Summary of Change

The Antelope and Buffalo Springs and Nature Center area has exhibited a significant amount of change since the end of the period of significance. Most of this change was the result of Mission 66-era planning and construction, which led to the addition of the Nature Center and its parking area in 1969. This building changed not only the appearance of the area but also its function and use, since the Nature Center also heralded the designation of the entire area as an Environmental Study Area (ESA) a few years later. This designation changed the landscape from a recreational landscape to one focusing on nature study and in part appears to have been the impetus for the removal of most of the features designed for human use from the landscape.

The most significant of the 1960s removals was the obliteration of the perimeter road around the springs and its associated parking areas. This change completely altered the circulation patterns within the landscape,

Feature Condition Analysis: Buffalo and Antelope Springs

Description	Contributing Status	Condition	Comments/Analysis		
Topography					
Rolling topography with travertine	Supporting	Good	No major condition issues; some bank erosion.		
outcroppings and stream course	oupporting	0004			
Spatial Organization					
Existing layout of trails and features	Supporting	Good	Loss of perimeter road alters layout; some minor trail reorganization.		
Antelope Springs area	Supporting	Good	Existing organization of spring at spring head has no major changes or conditions.		
Circulation			conditions.		
Frails	Supporting	Good	See trail matrix, above.		
Buffalo Springs Trail #9	Yes	Fair	Some realignment of trail and widening over time, caused to some extent by cleanup of 2000 ice storm.		
Parking area at Nature Center	No	Good	Asphalt walkway needs replacement; ADA ramps also needed.		
Designed Vegetation					
Forested area; some designed	c	D	Loss of designed plantings at Buffalo Springs; forest damaged by recent ice		
plantings at Buffalo Springs	Supporting	Poor	storms. Especially noticeable around the Buffalo Springs enclosure.		
Structures					
Buffalo Springs comfort station	Yes	Fair	Not in use; interiors need to be renovated. Significant amounts of woody vegetation surround structure, posing fire hazard. Lead abatement completed		
Buffalo Springs Road Bridge #1	Yes	Poor	summer 2003 and wood roof replaced 2003. Abandoned; trees growing on bridge deck; efflorescence obvious.		
Buffalo Springs Arched Trail Bridge	Yes	Good	Channel under bridge should be cleared of tree debris.		
Buffalo Springs road box culvert	NYD	Fair	Abandoned and not used; in deep vegetation.		
i _0	NID	ran	Roof leaks; cantilevered hip ends are sagging was originally wood shakes.		
Travertine Nature Center	No	Good	Check historic trim color. Need to study bypass channel to prevent flooding		
Water Features					
Buffalo Springs enclosure	Yes	Good	Some new paving around original structure indicates revised circulation after 1940; some seepage from behind wall; graffiti; tree trunk close to wall may begin to impact structure.		
Small dams (3) near Buffalo Springs	Yes	Poor	These dams are being undermined and their side banks eroded. Lower dam has toppled; spring located at middle dam. Change in drainage patterns around them is evident; further investigation needed.		
Small-Scale Features					
Stone Fireplaces	Yes	Fair	Nine in dense vegetation; not being used.		
Stone steps to the abandoned parking	Yes	Poor	Overgrown, loose stones, stones missing over drainage.		
Culvert (5) on abandoned Perimeter Road	NYD	Fair	Road no longer present; some blockage and deterioration.		
Buffalo Springs low-water crossing	Yes	Poor	Stones should be retained and maintained under all bridges.		
Antelope Springs low-water crossing	Yes	Good	0		
Low-water trail crossing	Yes	Good			
Low-water crossing and stone steps	Yes	Fair			
Gauge Box	Yes	Good	Houses new USGS gauge.		
Rock Falls	Yes	Good	<u>0 0 </u>		
Trail culvert	Yes	Good	No major issues.		
Antelope Springs Historic Sign	NYD	Good	Sign has moved a number of times; see historic photos; used to be closer to rocky hillside.		
Antelope Springs Lower Falls	NYD	Good	Some seepage underneath falls and stone slab bridge; old rusty sluce gate probably leaking; stone slab cracked February 2004.		
Antelope Springs Middle Falls	NYD	Good			
Antelope Springs Upper Falls	NYD	Good	Undermining where tree was cut down, immediate repair needed; compliance completed to repair in 2004.		
Bank Stabilizations near Buffalo Springs & Trail # 4	NYD	Good	No major issues.		
Roofed Interpretive Signs	No	Good	Date to circa 1969. Content could be reviewed and improved.		
Plant interpretive signs	No	Poor	Posts are rotting, some signs missing and in disrepair.		
Benches	No	Good	Pipe and plank; not particularly attractive.		
Metal pipe, steel, and wood plank bridge	No	Good	Located on abutment that was once historic stairs. Not in keeping with historic appearance.		
New gauge with solar panel and antennae in tree near gauge box	No	Good	White components noticeable; paint grey or brown if possible.		

	High	Medium	Low	Remarks	
Location	Х			Original location retained.	
Design			х	Compromised due to losses of roads and features with addition of Nature Center, though traces of original elements remain.	
Setting	x			Minor change with addition of Nature Center; perhaps less dramatic than at Travertine Island and Little Niagara due to distance of springs from Nature Center.	
Materials	Х			Remaining historic materials in good repair, small scale features lost.	
Workmanship		Х		Repairs, alterations, and new additions to masonry and small scale features perhaps not as high as original workmanship.	
Feeling		Х		Shift to Environmental Study Area; loss of recreational activities and CCC appearance; now less impacted by human activity.	
Association		Х		Loss of CCC associations; shift to Mission 66 associations; natural activities as opposed to cultural.	
Overall Integrity		X		Overall, area has medium integrity.	

Integrity Analysis: Buffalo and Antelope Springs

which is now accessed only by pedestrians. Though much of the existing pedestrian trail to the springs runs along the CCC-era historic alignments, in some places the original trail was realigned. The looped network around the two spring areas was altered somewhat. Short segments from the former parking areas to Antelope and Buffalo Springs were destroyed, although remnants of steps along these trails remain. Three new interpretive nature trail loops were also added to the larger landscape as a result of the ESA designation. These were spaced rather evenly between the Nature Center and Buffalo Springs and were configured as footpaths narrower than other trails within the park and utilized two of the CCC stone stepping stone crossings.

Other features removed from the landscape in the 1960s were the two former picnic areas at Buffalo and Antelope Springs. Destroyed were stone picnic tables and benches, the large fireplaces, stone walls, and stone steps. Though mostly obliterated, traces and remnants of these features—such as a few stone fireplaces—remain in the landscape, usually hidden under dense vegetation.

Despite the rather daunting list of removals, much of the landscape is still extant. Remaining elements from the CCC era in good repair include the comfort station, the enclosure, steps, and walls of Buffalo Springs, a place name sign, and Antelope Springs and its pools and dams. Three bridges, including the stone arched footbridge, and the perimeter road bridge and the large box culvert, also remain, but the latter two are beginning to weather and deteriorate due to lack of maintenance.

Of course, features have also been added to the landscape. These include some flagstone walks around Buffalo Springs. New interpretive signs, some dating to 1969, others more recent, were also installed in the area. Embankment walls along the creek have been shored up. Plank bridges were added along the trails in some places. At Buffalo Springs, a plank bridge replaced steps and stepping stones crossing the creeks. Elsewhere along the trails bridges simply cover existing low water or stepping stone crossings. In still other locations, stepping stone crossings have simply been lost and replaced by wooden bridges. Details of existing features are summarized in the matrix of structures listed below.

Finally worth mentioning are vegetative changes in the landscape. These are somewhat difficult to document, but aerial photographs indicate and increase in forest cover. The appearance of the current landscape also seems to reflect a condition of release, in which little human management is evident. Younger, understory vegetation has become quite dense, while mature overstory vegetation has declined, with the exception of red cedar vegetation along the park boundaries, planted by the CCC in the 1930s and now maturing. Much of the overstory decline occurred in recent years, with the loss of mature trees in an ice storm in 2000. The conditions today are perhaps a change from the conditions of 1940, when the landscape may still have been exhibiting characteristics of a fire-influenced landscape. Since the mid 1930s, however, fire has been suppressed in the landscape, a fact evident throughout the park by the increase in woody vegetation. These issues are detailed in greater detail in Chapter 10 of this report.

Overall Integrity Evaluation

As shown in the chart below, the overall integrity of the Antelope and Buffalo Springs and Nature Center area is clearly medium, with some aspects of integrity quite high and other, significant aspects quite low. The numerous modifications to this designed environment that occurred after 1960 is the primary reason for this lowered rating. Though integrity of location, setting and materials are quite high, integrity of design, workmanship, and association have all been reduced, and contribute to lowered overall integrity. While some changes (such as increased vegetation) are reversible, others are not.

It should be noted that the 1960s changes to the landscape may contribute to later periods of significance not yet evaluated, such as the Mission 66 era currently undergoing a National Historic Landmarks theme study. If the Platt District were in the future determined to be significant for its association with the Mission 66 era of design, due to elements created within the park during this time period, then the changes made to the Antelope and Buffalo Springs and Nature Center area during this period could be considered to contribute to the integrity of this additional potential period of significance. However, it should be noted that it is most likely that the district's primary significance accrues from its status as an NPS Rustic landscape from the 1930s. The CCCera landscape is a canvas of great scope and extent into which a few Mission 66 elements (three minor, architecturally undistinguished structures (the comfort stations) two parking areas, and one major structure (the Nature Center)) were inserted. The overall extent and integrity of the entire CCC landscape, both as a planning idea and as a physical construct would appear to far outweigh Mission 66 changes to that landscape in overall significance. The focus of this integrity evaluation on the CCC period of significance is therefore appropriate.

ROCK CREEK CAMPGROUND

Historic Character

Completed in 1951, Rock Creek Campground was not built during the period of significance. However, the idea for a campground at its location dates back to at least 1940, and a plan by the same designers of most of the rest of the park was approved in 1943. As a result, the design and construction of the campground was very much in keeping with NPS Rustic design during the "between-the wars" years. At just over fifty years old, the landscape just recently became eligible for the National Register, and contributes to the significance of the rest of the district.

In 1951 the campground was an immediately wellused park feature, since once it opened, camping in the Bromide area was restricted to overflow camping. The campground's character was simple, functional and perhaps its outstanding aspect was its wooded character. The whole area was almost uniformly covered with a forest of native species. The forested area was situated on level topography, a flat terrace above Rock Creek, which bounded the campground's western and northern edges; to the south the area was defined by the park boundary and to the west, Bromide Hill and the perimeter road. The campground's circulation system defined the camping area proper; it was organized as six concentric one-way loops with 59 pull-through campsites located on alternating sides of each roadway. A pedestrian pathway system ran up the middle of the campground, connecting the two block and tile comfort stations, which were the only structures on the site. Small-scale features on each site included six-ten-, and eight-foot long concrete picnic tables, and low concrete grills. Scattered throughout the site were water hydrants and, possibly, metal pipe campsite markers and overhead light fixtures. These latter two features are described in construction reports, but have not been seen in park photographs.

Summary of Change

Within fifteen years of its completion, Rock Creek Campground was expanded to the south of the original site. The expansion increased the size of the campground to its current 102 campsites. Part of the Mission 66 construction in the park, the expansion included the addition of two more concentric roads with campsites and one larger loop of campsites on a topographic rise known as Chigger Hill. To serve the new sites, a new comfort station was also built within the loop on the hill. The new site differed from the old in that the sites on the hillside loop included pull-in or back-in as well as pullthrough sites and in that the area itself was less wooded and more open, covered with prairie grass. Concrete picnic tables were also not built on the new campsites and it appears that some of the original concrete picnic tables have been lost over time.

Feature Condition Analysis: Rock Creek Campground

Description	Contributing Status	Condition	Comments/Analysis	
Topography				
Level floodplain terrace	NA	Good	Some flooding at low points.	
Spatial Organization				
Campground loop layout and pull- through sites	NA	Good	Most sites still present; some erosion on individual sites; later addition in circle, not concentric rings.	
Circulation				
Loop roadways and pull through	NA	Good	No major issues; some deterioration on asphalt edging; new circulation added in Chigger Hill area.	
Concrete walks at comfort stations	NA	Good	New walks provide ADA access at comfort stations; bright white color.	
Structures				
1950s comfort stations (2)	NA	Good	No major issues.	
Mission 66 comfort station	NA	Good	Needs lead abatement and reroofing.	
Small-Scale Features				
Concrete picnic tables	NA	Good	Some are spalling where rebar not deep enough; repairs or replacement needed.	
Drainage culverts	NA	Good	Some siltation occurring.	
Barrier stones	NA	Good	Not as prevalent as at Cold Spring; not embedded in ground.	
Entry sign	NA	Good	Appears historic; but possibly revised.	
Fee station kiosk	NA	Good	Standard park issue; no major issues.	
Circular fire pits	NA	Good	Standard park issue; replacement of broken concrete bases needed.	
Lantern hooks	NA	Good	Standard park issue; no major issues.	

Integrity Analysis: Rock Creek Campground

	High	Medium	Low	Remarks	
Location	Х			Retains original location.	
Design	Х			Few alterations; New elements in keeping with original design.	
Setting	X			Surrounds not significantly changed; though the campground expanded to the south.	
Materials	Х			Extant materials mostly retained in original form.	
Workmanship	Х			Original workmanship intact and evident.	
Feeling	Х			Retains wooded, secluded feeling.	
Association	Х			Retains associations with NPS design & construction.	
Overall Integrity	X			Overall, area has high integrity.	

The original Rock Creek Campground was largely unaffected by the Mission 66 addition. Even today both the "new" and "old" sections have changed little from when they were completed. All major designed elements and structures including overall layout and spatial organization, vegetation, topography, and circulation patterns are extant. Minor changes have, of course, occurred. A campground host site and a fee kiosk are located near the campground entrance. New grills and lantern hangers have been built on most sites. Of the varied size concrete picnic tables, only the six-foot long ones remain today. Many of these tables are beginning to crack and spall. Pedestrian pathways between sites and the comfort stations have also increased and widened over the years, and understory vegetation has diminished over the years, also the result of increased and sustained amounts of foot traffic. Roadways have been asphalted and have also widened over time, in part because of heavy use and the increasing size of recreation vehicles accessing campsites.

Overall Integrity Evaluation

Judged to the date of its completion (1951) Rock Creek Campground has high integrity, as demonstrated by its retaining high integrity in all seven aspects that define integrity.

DISTRICT-WIDE INTEGRITY ANALYSIS

Historic Character

As revealed in the text above, in 1940, Platt National Park was complete in terms of its overall design and construction. Though vegetation may not have been mature, most major features that had been planned were in place and completed, and the resulting park reflected NPS design principles that "protected significant natural features and harmonized roads, trails, and buildings with the natural scenery."² In addition, the park showed its own individual character in the creation of spaces bordering the nearby town of Sulphur which, more refined than standard NPS "rustic" design, reflected ideals of 19th century park and recreation design.

Platt National Park was spatially organized as a series of individual experiences or spaces associated with and ordered upon the area's hydrology systems, both surface and ground water. Because of the close relationship between the area's hydrology and the area's topography, individual landscape spaces were generally associated with key topographic features, including flood planes, creek valleys and topographic high points. Spaces were further organized and physically linked by the park's circulation systems of the perimeter road, which encircled the park's full area, and the trail system, which was a more linear network with a strong east-west spine. Numerous buildings and structures-primarily spring pavilions and comfort stations constructed to enhance the visitor's experience-were organized within each landscape space, yet all were defined by their architectural consistency, lending a unity to the entire park landscape. Lending a similar sense of stylistic unity were small-scale features such as picnic tables, boulder guard rails, and stone fireplaces, all built of natural materials that blended into the landscape in a seamless way. A final unifying factor within the landscape were the water features within each individual landscape. Though ranging from spring enclosures to swimming holes to waterfalls to fountains, each feature expressed and celebrated the district's ultimate raison d'être-the area's unique spring waters.

Summary of Change

As revealed in the sections above, change within the district has not been insignificant. Changes have included the loss of features, vegetative growth, and

Contributing	High	Medium	Low
Resources/Sites	Ingn	Wiedrum	LOW
Creek System	Х		
Perimeter Road	Х		
Trail System	Х		
Bromide	Х		
Walnut Grove	Х		
Black Sulphur Springs	Х		
Flower Park	Х		
Central Campground	Х		
Pavilion Springs	Х		
Hillside Springs	Х		
Headquarters	Х		
Maintenance Area	Х		
Employee Residence		Х	
Buffalo Pasture	Х		
Superintendent's		v	
Residence		X	
Prairie Uplands		Х	
Cold Springs			
Campground	Х		
Travertine Island & Little			
Niagara		X	
Buffalo & Antelope			
Springs		X	
Rock Creek			
	X		
Campground	1	I	I

Table 7-1. Summary of Site Integrity, showing integrity differences between component landscapes.

the construction of new structures in the landscape. These changes primarily date to the 1960s, and were implemented under the Mission 66 program.

However, closer examination of the information above also shows that change has primarily occurred at the feature level, in the condition of individual features. Integrity of individual landscapes has been lowered by the loss of detail within the landscape, with change and loss occurring at the scale of building materials and workmanship. Yet viewed from a broader perspective, the overall configuration of the district has remained remarkably constant, with little change or loss of integrity occurring at the levels of design, layout, setting and organization. It is important and significant to note that all of the original component landscapes present in 1940 remain substantially intact today. While some, such as the Buffalo and Antelope Springs area have seen greater changes, others, such as Walnut Grove or Pavilion Springs have seen virtually no change over the years. It is this sum total of change that should be considered when assessing the overall integrity of the district (Table 7-1).

Conclusion: District Integrity

The component landscapes described above retain varying degrees of integrity, though none have low or diminished integrity. In particular, all sites distinctly retain qualities of integrity relating to location, design, setting, and association; it is only in workmanship and materials where integrity is likely to be diminished, as usually expressed in deterioration of masonry and loss of small scale features.

However, the individual landscapes must also be considered collectively, as contributing resources that together comprise the Platt District. When considering the overall integrity of the district as a whole of over 900 acres, it is apparent that the district has retained an extremely high and broadly distributed integrity from the years of the CCC program, 1933-1940. The following analysis of district integrity is drawn from the draft National Historic Landmark nomination by James W. Steely, as is the statement of significance, below.³

Location: The reservation's 1902-1906 boundaries and the 1932-1940 master plan's physical delineations of overall park and individual landscape sites are quite evident and continue to function as originally intended.

Design: The 1932 master plan, constantly updated through and after 1940 and incorporating a number of significant pre-1932 constructed resources, created an NPS Rustic architectural and naturalistic landscape that is *sui generis*—in its own category—according to former NPS landscape historian Ethan Carr. This design is almost completely intact and evident today.

Setting: The Platt District presents a physical environment that, though its initial master plan development is approaching 70 years of age, remains an inspired blend of the natural and the man-made, and that is profoundly striking to visitors who enter the park from any of its formal gateways.

Materials: The prescribed NPS Rustic use of materials native to the immediate vicinity—a practice simultaneously economical during both the park's early decades and especially during New Deal CCC work of the Great Depression—accounts for much of the Platt District's evident and continuing physical durability through stone, wood, water and countless species of plants.

Workmanship: The handcraft prescription of CCC work, combined with its enrollees' apprenticeships under skilled craftsmen hired from the community, resulted in notable and nationally recognized (through contemporaneous NPS publications) NPS Rustic architectural and landscape designs and details, retained in all extant structures and features.

Feeling: The Platt today evokes a near-total atmosphere of a product of the Great Depression's New Deal programs and National Park Service holistic design standards, in addition to the distinctive odors from its signature mineral springs, from virtually every position, angle and vista throughout the park.

Association: The Platt District's naturalistic landscapes and NPS Rustic buildings provide, and steadfastly maintain, a direct link for staff and visitors to its Period of Significance; certainly its signature associated personalities of Thomas Vint, Jerome Miller, and William Branch, as well as its honor roll of CCC-era designers and artisans, would today readily recognize the national park they so painstakingly created between 1932 and 1940.

STATEMENT OF SIGNIFICANCE

The present Platt District of Chickasaw National Recreation Area (CNRA) is exceptionally significant in the nation's history for at least three outstanding and well-documented characteristics documented in this report. First, the geological formations of the Arbuckle Uplift in present Oklahoma create multiple cold water springs attracting seekers of water for refreshment, recreational, medicinal, and other cultural purposes from prehistoric times through the landscape's most recent century of designation as one of America's first national parks. Second, the political history of Platt National Park, first reserved in 1902 and so named for 70 years after 1906, presents an extraordinary lesson in tribal, federal, territorial, state and community interactions, demonstrating the complexities of America's western expansion and its democratic process through the governmental contract forged between states and the Union. And third, the recreation landscape at Platt is

formed by an outstanding collection of designs and developments representing national park philosophical evolution throughout the 20th century, especially and most effectively with a sweeping New Deal transformation of the park by the Civilian Conservation Corps between 1933 and 1940.

The planned recreation landscape of Platt and the history of its origin are presently the most effectual bases of the district's nomination to the National Register. Platt's signature development during President Franklin Delano Roosevelt's dramatic conservation and economic initiatives of the 1930s and 1940s presents the best comparative analysis to the established National Historic Landmark (NHL) theme studies of "Architecture in the Parks" (1986) and "National Park Service Landscape Architecture" (1998), and the National Register of Historic Places' Historic Context "The Historic Landscape Design of the National Park Service, 1916 to 1942" (1995).

Platt National Park's 1933-1940 New Deal project, a partnership of the National Park Service (NPS), the Civilian Conservation Corps (CCC) and the U.S. Army (Army), is one of the optimum and most encompassing such works in the national park system. The resulting cultural landscape is, according to NPS historical architect Catherine Colby, "representative of the finest CCC work in existence, in terms of rustic design, the number and variety of structures, and construction techniques and materials."4 During the 1998 NHL theme study project "National Park Service Landscape Architecture," landscape historian Ethan Carr confirmed that "the 'Platt District'... is a unique and fascinating piece of CCC park development, which possesses wonderful integrity. The site work and landscape structures are elaborate, of very high quality, and I do not believe there is another CCC historic district exactly like it anywhere."5 Further, Carr's NHL research on the personalities behind the NPS/CCC cooperative episode confirms strong associations of the pantheon of early NPS designers/ administrators Thomas Vint and Herbert Maier with the general program and specific results at Platt between 1932 and 1940. Through their brilliance and attentions, Platt is the only national park rebuilt entirely from boundary to boundary during this decade of profound attention to the system, when powerful restraints otherwise governed virtually all other improvements in all larger national parks.

Therefore, the Platt District (so named in 1998) of Chickasaw National Recreation Area (so designated, including former Platt National Park, in 1976) meets National Register Criterion A for its century-long association with the American park movement. The Platt District also meets National Register Criterion C as a significant, distinctive and exceptional example of American landscape architecture, specifically as a premier example of the National Park Service collaboration with the Civilian Conservation Corps in the New Deal era in the 1930s and 1940s. In summary of these criteria as they describe Platt National Park, its extended New Deal episode elevated this property to national magnificence, a condition retaining high integrity and still quite evident after almost three-quarters of a century of diligent maintenance and very few alterations.

Other themes of state and national significance for the Platt District may be determined with the completion of additional contexts and theme studies. For example, a National Historic Theme study on Mission 66 landscapes in the NPS is currently underway and the park's 1969 Nature Center and comfort stations and associated parking areas and vehicular circulation routes may be determined to be significant within this context. However, at this time, the extent of the landscape resources dating to the 1930s and 1940s would indicate the primary significance of the landscape accrues from its New Deal design and construction.

Period of Significance

The Period of Significance for the Platt Historic District extends from the 1932 development of the first master plan for Platt National Park to the end of CCC activities at the park in 1940. Additional periods and dates might convey other themes of singular national significance through the complex layers of Platt National Park history, but the primary period of significance relies upon the most visible and physical characteristics of the park's historic designed landscape of 1932 through 1940.

Notes to Chapter 7

¹ Harrison, Sarah George, "The Skyline Drive: A western Park Road in the East," *Parkways Past, Present, and Future: Proceedings of the Second Biennial Linear Parks Conference* (Bonne, NC: Appalachian Consortium Press, 1989) 38-47, 40.
² Linda Flint McClelland, *Presenting Nature: The Historic Landscape Design of the National Park Service, 1916 to 1942*, (Washington, D. C.: U. S. Department of the Interior, National Park Service, Cultural Resources, Interagency Resources Division, National Register of Historic Places, 1993), 1, 2.
³ James W. Steely, "National Historic Landmark

Nomination"(draft nomination form, completed September 2002), 30-31.

⁴ Ibid., 34.

⁵ Ethan Carr, personal communication (e-mail) with James W. Steely, 4 April 2001.