

National Park Service
U.S. Department of the Interior

Division of Facilities Management, Historic Preservation Projects
Intermountain Support Office – Santa Fe, New Mexico
National Park Service

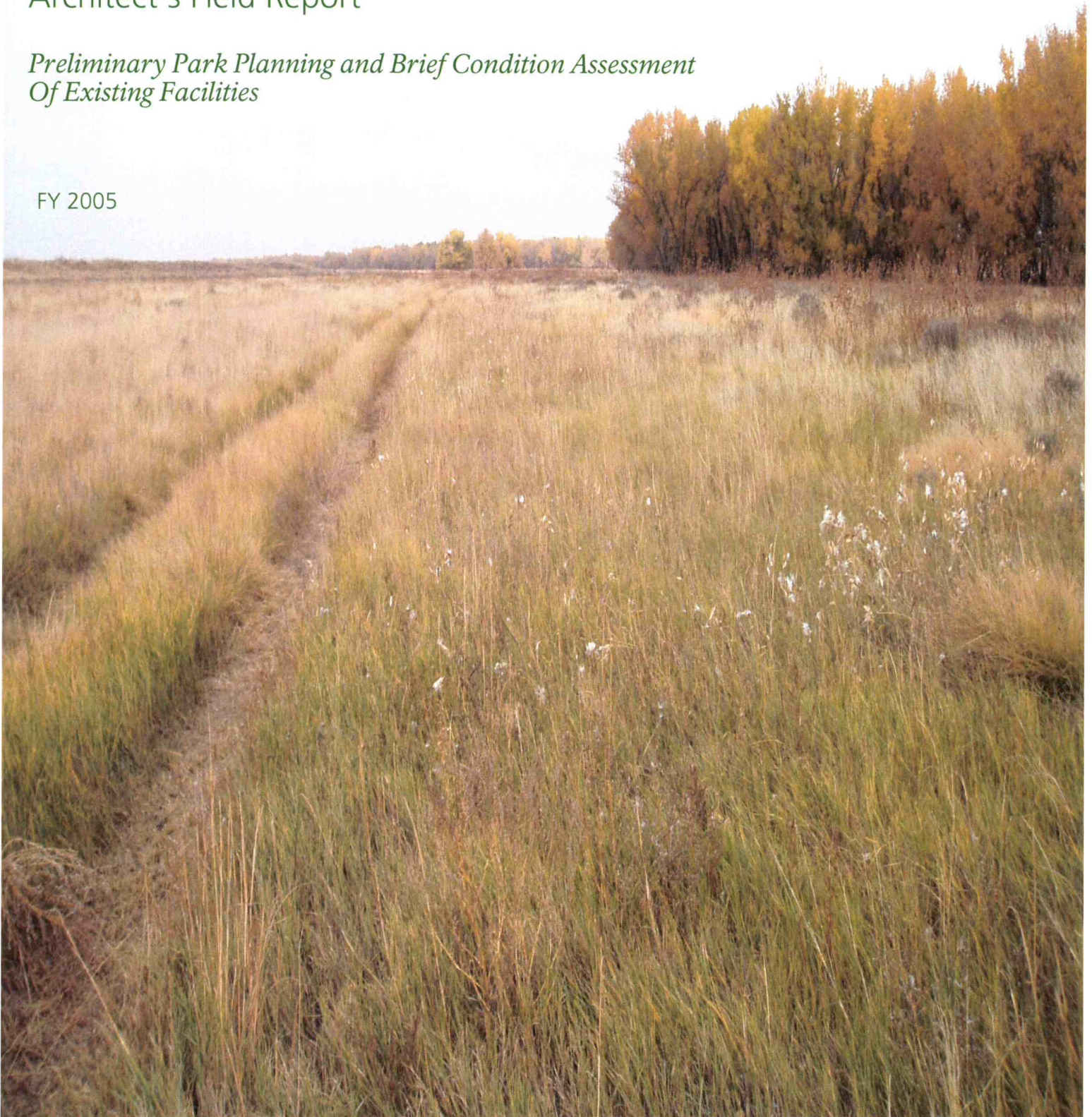


Sand Creek Massacre National Historic Site

Architect's Field Report

Preliminary Park Planning and Brief Condition Assessment Of Existing Facilities

FY 2005



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Colorado

Paul Neidinger
Historical Architect

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Washington, DC

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Executive Summary

During October of 2004, based upon the request of Alexa Roberts, Superintendent at Sand Creek National Historic Site, Paul Neidinger, Architect from the National Park Service's Division of Facilities Management and Historic Preservation Projects of the Intermountain Regional Office – Santa Fe, (NPS-IMRO-SF-DFM) made a site visit to the Sand Creek Massacre National Historic Site to determine the current condition of existing facilities at the site combine this with an analysis for feasibility of adaptive reuse and or rehabilitation of existing buildings, roads, utilities, and services.

The Sand Creek Massacre site is located in Kiowa County of Southeastern Colorado. The site extends approximately 5 ½ miles in length and 2 miles in width. Included within the boundary are key features of the massacre, including the Cheyenne and Arapaho village encampment, the sandpits area, area of flight, and the area from which Colonel John Chivington and his troops launched the attack upon the encampment. Not integral but within close proximity is the Dawson Ranch Headquarters which is to be included under National Park Service management

Neidinger discussed with Alexa Roberts Superintendent the outlined strategy for management of the NHS. Part of the interim strategy is to begin a National Park Service presence at the National Historic Site; however, currently there is limited development at the NHS and associated properties. An interim facility location under heavy consideration is at the Dawson Ranch Headquarters area, considered to be the only developed area. A developed area within this report means that there is limited vehicular access, existing buildings, and access to the utility grid including electricity and gas. Access to the site Dawson Ranch Headquarters is via approximately 10 miles of unpaved county road, and some ranch road with limited improvement.

This report addresses the condition of the proposed interim facilities at Dawson Ranch Headquarters and access to the site. Preliminary cost estimates have been outlined for an interim facility and operation support.

Design criteria outlined based upon preliminary programming includes consideration that this particular Park Unit is a massacre site and that even interim facility development respond to the site as a sacred site that maintains a high level of sensitivity and dignity.

Cody Waggoner at Bent's Old Fort had produced PMIS statements, cost estimates for demolition of the Underground Storage Tank (UST) , had a Asbestos Containing Materials (ACM) and Lead Based Paint (LBP) material testing for within the Dawson Ranch House, and an estimate for demolition of the Dawson Ranch House.

Roberts indicated that no planning documents have been prepared. SEPA Funding for a General Management Plan was requested in 2004 for FY 2005 funding.

Conference with Rich Niemeyer Program Manager for IMRO SF DFM indicated that the Park needed assistance with start up components including demolition of one building rehabilitation of another, outline work for visitor services (toilets) and outline work for an information Kiosk. Niemeyer requested that immediate and interim Park needs be identified. Niemeyer instructed to outline these improvements as temporary that are reversible should through future planning that these components conflict with final design of the Park facilities.

No planning documents, programming, or construction costs have been prepared for the National Historic Site. The only costs produced for the National Historic Site are labeled as *Operations and Staffing Costs* included in the *Sand Creek Massacre Project Volume II Special Resource Study (SRS) and Environmental Assessment (EA) June 2003*, prepared under contract with RMC Consultants Inc. Pueblo, Colorado. Development costs at \$11,600,000.00 that were defined to include a visitor contact station, curatorial storage, access road, parking and trails, and administrative and maintenance facilities are inadequate. Based upon preliminary cost estimates within this report the *Special Resource Study* estimate may not be accurate. Roadway improvements alone may cost as much as \$11,193,280.00 or more with a small visitor center at \$4,386,000.00. Should interim programming costs outlined within this report be cross referenced with further development definitions of the estimate should be referenced.

Current tribal trust status should be implemented through standing legislation that the land be owned by NPS and that the tribes were to donate facilities and improvements to NPS in Fee. This was expected to occur by November 2004, however, is currently delayed and pending.

Upon transfer of the property the strategy that was outlined included demolition of the existing 1950-1960 era Ranch House, rehabilitation of the 1970 era pre-engineered metal vehicular storage shop building, re-establishment of one of three well systems, rehabilitation of electrical, natural gas service, abandonment of the existing septic system and implementation of a new septic system.



Condition Assessment:

The site of the Dawson Ranch Complex was reviewed as a site for establishment of interim facilities on or in close proximity to the Sand Creek Massacre Site. The site components were reviewed during the site visit noting description, current condition, and treatment recommendations. Recommendations were based upon development of an interim facility that maintains a sustainable ecologically based site design philosophy through a strategy of reuse of previously disturbed areas, an integration of the existing landscape within the new development, and recognition of the site context. Future Park planning may or may not include use of the Dawson Ranch Headquarters Unit based on its location near a potential flood plain and proximity and sensitivity to the traditionally located massacre site. All recommendations are based upon an interim facility to be placed on site rather than be remotely managed. Future development should include a Sustainable Design Philosophy that respects the landscape and recognizes changes to the landscape that have been inherited.

Code Compliance:

The National Park Service has adopted the Uniform Building Code of 1997, with a current intent to address buildings under the International Building Code, 2003 edition, including its Appendix Chapters, as published by the International Code Council. There are potential amendments by the Colorado State Code Council and adoption by the state of Colorado. There is also the International Existing Building Code, 2003 that can be referenced and used in the repair, alteration, change of occupancy, addition, and relocation of existing buildings, including historic buildings (historic building component may not be applicable to Sand Creek Massacre – pending concurrence by the Colorado State Historic Preservation Office); the State of Colorado requires permits for septic systems and may require notification of well drilling. Regulations, provisions, penalties, conditions and terms of the International Building Code are the responsibility of the legally responsible individual of the Park, which in most cases is the Park Superintendent. Though on Federal Property in most cases Parks choose to respect International, National, State, and local codes.

Access:

Approximately ten miles of unimproved and semi improved county roads must be traveled before access to the Dawson Ranch Site. Additional Ranch roads and jeep trails exist to access the Massacre Site and monument location.

Further study is recommended to outline level of improvements to the roadways. Strategy may be outlined to develop the road as a seasonal road much like those of Chaco Canyon National Monument where certain sections and lengths of the road were periodically improved through placement of certain base courses and stabilized gravel. Certain areas need to be identified where drainages require improvement or implementation of culverts and or low water crossings. A sustainable and economical approach to improvement of the road may include placement of additional base course and width of road maintained as a gravel road. This approach will be more cost effective and less impact on the local environment than comprehensive and contiguous pavement.

Signage, roadside kiosk, gated entry, new cattle guards, and fence line should also be considered.

Site:

Located on the grasslands of southeastern Colorado the previously and only developed area of the Sand Creek Massacre National Historic Site includes the Dawson Ranch Headquarters located some ten miles from the nearest paved county road. Access to this site is by vehicle from the town of Eads, Colorado 25 miles along paved and unpaved county and ranch roads. There are gated entries at the paved and unpaved county road transition and cattle guard entries along the route.

The physical terrain of the landscape associated with the time of the Massacre has been altered little except for the historic canal to the northeast of the Dawson Ranch Headquarters. The canal has been breached in one area close to a concrete discharge culvert. Further study is recommended to determine the impact of the condition of the canal and discharge system and possibility of flooding of the Dawson Ranch Headquarters Site.

Roadways on the site are simple ranch roads that have varying levels of condition and composition. The immediate area of the Ranch headquarters has some gravel distributed in front of the vehicular storage building and house. This is the limit of improvement of road and parking surfaces, beyond a concrete apron in front of the vehicular storage building.

Common jeep trail serves as a roadway from the headquarters to the barn and corral. Local and intrusive grasses have begun to take over the jeep trail to the barn and corral.

Recommend at minimum that parking areas and roads within the Dawson Ranch Headquarters area have a roadway, parking area, and access road to the barn, designed by a professional engineer with design criteria to include at minimum a road base material, and gravel surface. The Professional Engineer should size limited



improved parking areas based upon current and projected visitation to the site, and number of employees. Accessible parking based upon 28 *CFR Part 36 A4.6 Parking and Passenger Loading Zones* is required by law. Access to the visitor center by Directors Order cannot include stairs.

Electric Power:

Electric power and gas are located at the Dawson Ranch Headquarters site; however the existing systems had been outlined for domestic or residential use. Systems appear to be in place but without connectivity. Electric meters are non existent.

Recommend that the interim electrical supply be inspected by a licensed professional engineer for proper sizing and connectivity. Recommend that the engineer outline specific recommendations to upgrade the extant system to meet current International Electric Code for power supply to an interim park headquarters complex.

Recommend that the Park also consider alternative energy sources. Based upon the cultural and landscape context the site lends itself to renewable energy sources like wind generated systems for well water pumping. Photovoltaic systems could be used for Barn and Corral use for simple stock pumps, and limited lighting.

Fuel Tanks:

Existing underground storage tanks for vehicular fuel have been outlined for removal. Removal and mitigation of potentially contaminated soil must follow all federal, state, and local laws and regulations.



Waste Water Management:

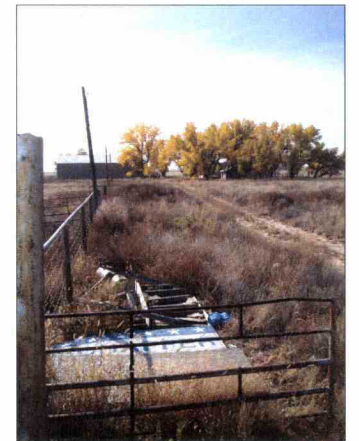
The existing septic system appears partially collapsed. It is not recommended to reestablish the existing system. A new septic system designed by a licensed professional engineer is recommended. Design criteria should include sizing the septic system based on loads outlined for visitor restrooms, and headquarters based plumbing needs. The design criteria must also include adherence to the International Plumbing Code and be compliant with the State of Colorado regulations for permitting purposes.

Drinking Water and Water Wells:

Three water wells are present on the site with various levels of condition and components for operation. The wellhead at one site has been removed.

Wells that are to be abandoned should be properly sealed and capped off. One well should be re-established for interim use as supply for barn and agricultural use. A new well and well house should be designed by a licensed professional engineer as a new water supply for the headquarters area.

Design criteria should consider a subterranean well house so that a visually intrusive structure will not be present should future Park planning determine another location for a Park Headquarters.





Dawson Ranch House:

The Dawson Creek Ranch house is a modern house in the neo-eclectic style with a shadow of incorporating elements of Japanese architecture specifically accentuated in the roof line and profile. The plan is a typically modern rambling ranch type of the period 1950 through 1980 s with a formal entrance into a living area and site line into the kitchen with service area entrance to the side of the house. Bedrooms are typical of the period with closets and close proximity to the baths. The use of the neo-eclectic styles spread rapidly in the 1960 and 70 s in the United States. Unlike most architectural styles that were introduced by high fashioned architect designed landmark houses, the neo-eclectic movement in contrast was introduced by builders of modest houses with a sense of public's resurgent interest with traditional designs (McAllester 1991). The style is ubiquitous.

Evaluation for National Register significance requires consultation with the Colorado State Historic Preservation Officer. However, clearly the building does not embody significant distinctive characteristics of a type, period, or method of construction. The building does not possess high artistic value or that it was designed or retains characteristics that is was built by a master builder.

The building is not associated with a significant event, it being constructed well after the time of the massacre and not being associated with a significant person.

The ranch house was built in the 1950-60 s. The concrete masonry unit and wood frame ranch house includes alterations and rehabilitation phases up into the 1990's. Significant amount of material has been changed from construction including finishes, fixtures, and fenestration. The building has been altered and retains no significant architectural design components it being common for the period.

The ranch house structure is considered derelict and shows significant structural deficiencies within the foundation and floor system that is reflected in the wall systems. The building is infested with rodents and other animals. Biological concerns include potential presence of hanta virus and toxic mold.

Concur with strategy to mitigate through full demolition of the structure after consultation with the Colorado SHPO.



Comparative Costs Demolition/Rehabilitation/New Construction:

Costs for demolition and disposal of the structure including hazardous materials, miscellaneous site components (train box car, underground fuel storage, vehicle, refrigerator, small shed building) may be as much as \$70.00/sft approximately \$194,000.00.

Cost comparison based on square footage and related project upgrades with existing structures within the National Park Service for adaptive reuse from housing units to office units usually are \$140.00 to \$300.00 / sft with approximately 2700 sft at \$140.00/sft puts a rehabilitation in approximately \$378,000.00 to \$810,000.00 - including implementation of a nonexistent mechanical system, mitigation of hazardous materials for occupation, and mitigation of biological hazardous components including hanta virus causing feces, and toxic mold, to meet current International Building Code, and 28 CFR Part 36 for ADA Accessibility as well as NPS policy for implementation for Fire Detection and Suppression Systems.

Costs for new facilities including an Administrative Office may exceed \$723,025.00. Costs outlined within this report are derived from a basic building model with basic components. Differences in scope of the project, local market conditions, remoteness of the site, and federal project factors can cause the costs to vary significantly.

Dawson Ranch Vehicular Storage Building:

The vehicular storage or garage building is a rigid frame steel structure with galvalume siding and roofing, the structure is semi exposed in the interior laid out on a three bay system. Steel purlins, girts, and studs make up the secondary structural members all attached to the rigid steel frame. The structure may have been purchased used and reassembled on site.

The cast-in-place concrete slab and associated apron is contemporaneous with construction of the building. The slab is most likely lightly reinforced with a limited amount of reinforcing steel around the perimeter (shallow footer less than one foot deep). There may be welded wire mesh within the field of the slab as supplemental reinforcement which was typical of the period.

One bay of the building was in filled with wood framing including a raised wood floor as office and storage space. Also possibly used as a secondary living area with a single bath unit. The wood framing is typical of the period with sheetrock placed as wall sheathing. The mezzanine level above the finished areas serves as storage.

Aluminum windows and a single steel door serve the office bay, while two large fiberglass panel overhead doors serve each of the remaining bays. There is a skylight above along the ridge line. Blown in insulation is throughout retained in place against the exterior wall panels by pvc based sheathing.

The foundation of the building is in good condition, however, composition of the foundation and slab and reinforcement is unknown. The anchorage points of the rigid steel frame appear in good condition, however, not all anchors were implemented during construction, Depths and type of anchor bolts are unknown.

A combination of non-destructive (ultrasound) and destructive testing core drilling should be implemented as one component of a licensed structural engineer's condition assessment. This is necessary should the buildings use change from storage to office space or a combination there of impacting compliance with code. Updating the buildings structural system to meet current code may include outlining additional structural components and anchorage points to be more windstorm resistant.

Strategy for rehabilitation includes mitigation of biological hazardous material which may include removal, disinfection, and replacement of the blown in insulation. A prefabricated office space could be inserted following structural upgrades to the building shell. The office could be inserted within one of the bays following demolition of the wood frame living quarters.



Comparative Costs Demolition/Rehabilitation/New Construction:

Costs for demolition and disposal of the structure including hazardous materials, may be as much as \$50.00/sft approximately \$142,500.00.

Cost comparison based on square footage and related project upgrades with existing structures within the National Park Service for adaptive reuse from maintenance buildings to office units usually are \$150.00 to \$300.00 / sft with approximately 2625 sft at \$150.00/sft puts a rehabilitation in approximately \$393,750.00 to \$787,500.00 - including implementation of a nonexistent mechanical system, mitigation of hazardous materials for occupation, and mitigation of biological hazardous components including hanta virus causing feces, and toxic mold, to meet current International Building Code, and 28 CFR Part 36 for ADA Accessibility as well as NPS policy for implementation for Fire Detection and Suppression Systems.

Costs for new facilities including a vehicle storage building (warehouse w/ limited office and storage) may exceed \$433,415.00. Costs outlined within this report are derived from a basic building model with basic components. Differences in scope of the project, local market conditions, remoteness of the site, and federal project factors can cause the costs to vary significantly.

Dawson Ranch Barn and Corral:

The barn is a simple rectangular gable roofed steel frame building with two vehicular bays and three paddocks. There is no improved floor. Attached and integral with the barn is the corral with cattle loading chutes and associated well. Various steel pipe fencing makes up the perimeter of the corral. The condition of the building is good. Vegetation has overgrown the area.

Ultimate use of the building may include incorporation as part of park services to provide an area for horses for visiting tribe members during the annual healing runs.

The current placement and status of the barn and corral can be considered visually non-intrusive to the landscape it being low profile and non-descript ranch building. The building can be easily removed if needed.

Recommend re-establishment of the well at the barn location for providing water for horses.

Recommend removal of various ranch type trash and debris, including miscellaneous structures as follows.

Miscellaneous Site Components:

Adjacent to the barn there is a 20th century steel railroad box car used as storage. The building is full of various ranch related components and trash infested with rodents. Hanta virus and biological contamination is an issue.

Recommend removal and disposal. The box car may require biological mitigation prior to removal and disposal.



Immediate Needs for limited Development of Park Presence on Site:

The most cost effective approach following the Park design philosophy to show a physical full time presence at the Sand Creek Massacre National Historic Site rather than it being remotely managed from a nearby town or city is outlined within these cost estimates. Costs for development of new facilities are outlined; however, note that costs are derived based upon building models with basic components. These costs may vary significantly as the General Management Plan and Preliminary Park planning further develops the scope of the park development.

The costs are prioritized as interim and long term. Equipment is also included to provide fire safety for existing facilities and to maintain simple firebreaks.

Utility Tractor mower, scraper, and baler	\$ 56,000.00
New Supply Water Well	\$ 22,020.00
Well House	\$ 17,280.00
General Conditions (O/P)	\$ 9,825.00
A/E Services	\$ 4716.00
Subtotal:	\$ 53,841.00
Site work, Access Drive, Parking (gravel surface)	\$ 158,400.00
General Conditions (O/P)	\$ 39,600.00
A/E Services	\$ 19,008.00
Subtotal:	\$ 217,008.00
Rehabilitate Utilities to Current Code	\$ 24,000.00
Septic System	\$ 38,864.00
General Conditions (O/P)	\$ 69,968.00
A/E Services	\$ 7,543.00
Subtotal:	\$ 140,375.00
Demolition of Existing Structure and Site Components	\$ 145,500.00
General Conditions (O/P)	\$ 36,375.00
A/E Services	\$ 17,460.00
Subtotal:	\$ 199,335.00
Rehabilitation of Existing Metal Building	\$ 355,750.00
(includes mitigation of hazmat upgrade shell to code)	
Temporary Prefabricated Offices	\$ 24,000.00
Temporary Prefabricated Services	\$ 14,000.00
General Conditions (O/P)	\$ 98,437.50
A/E Services	\$ 47,250.00
Subtotal:	\$ 539,437.00

Supply and Construction of Prefabricated Restroom Building	\$ 178,000.00
General Conditions (O/P)	\$ 44,500.00
A/E Services	\$ 21,360.00
Subtotal:	\$ 243,860.00

Supply and Construction of Outdoor Shelter and Information Kiosk	\$ 48,000.00
Signage	\$ 18,000.00
General Conditions (O/P)	\$ 16,500.00
A/E Services	\$ 7,920.00
Subtotal:	\$ 90,420.00

IMMEDIATE NEEDS and RELATED COSTS	
Total:	\$1,540,276.00

INTERIM NEEDS for PARK and RELATED COSTS:

Supply and Construction of Prefabricated Restroom Building
Healing Run Site

Supply and Construction of Prefabricated Restroom Building
\$ 178,000.00

Accessible Parking Area \$ 38,000.00

Kiosk Node / Shelter Water Supply \$ 85,000.00

General Conditions (O/P) \$ 75,250.00

A/E Services \$ 36,120.00

Subtotal: \$ 412,370.00

Total Interim Needs: \$ 412,370.00

LONG TERM NEEDS for PARK and RELATED COSTS:

Road Improvements (minimally road base with gravel surface)

Approximately 10 miles of road at (\$226.00 lf = \$1,193,280.00/mile) =

	\$11,193,280.00
General Conditions (O/P)	\$2,798,320.00
A/E Services	\$ 1,343,193.60
Subtotal:	\$15,334,793.00

Administrative Building Basic Model:

Offices	\$ 516,525.00
General Conditions (O/P) 25%	\$ 129,131.00
Architectural Services at 16%	\$ 82,644.00
Construction Administration 7.5%	\$ 38,739.00
Electrical Engineering 10.1%	\$ 51,652.00
Mechanical Engineering 10.1%	\$ 51,652.00
Structural Engineering 2.5%	\$ 12,913.13
Subtotal:	\$ 883,256.00

Ranger Station Basic Model:

Station	\$ 665,825.00
General Conditions (O/P) 25%	\$ 166,456.00
Architectural Services at 16%	\$ 106,532.00
Construction Administration 7.5%	\$ 49,936.00
Electrical Engineering 10.1%	\$ 67,248.00
Mechanical Engineering 10.1%	\$ 67,248.00
Structural Engineering 2.5%	\$ 16,645.00
Subtotal:	\$ 1,139,890.00

Vehicular Storage Building:

Building	\$ 316,362.00
General Conditions (O/P) 25%	\$ 79,090.00
Architectural Services at 16%	\$ 50,617.00
Construction Administration 7.5%	\$ 23,727.00
Electrical Engineering 10.1%	\$ 31,952.00
Mechanical Engineering 10.1%	\$ 31,952.00
Structural Engineering 2.5%	\$ 7,909.00
Subtotal:	\$ 541,519.00

Small Visitor Center including basic functions, w/ visitor contact small auditorium, parking, and offices.

National Park Visitor Center	\$3,000,000.00
(average based upon GAO Report 7/24/01)	
General Conditions (O/P) 25%	\$ 750,000.00
Architectural Services at 16%	\$ 480,000.00
Construction Administration 7.5%	\$ 225,000.00
Electrical Engineering 10.1%	\$ 303,000.00
Mechanical Engineering 10.1%	\$ 303,000.00
Structural Engineering 2.5%	\$ 75,000.00
Subtotal:	\$5,136,000.00
Total Long Term Needs:	\$23,035,458.00

Appendix A: Supporting Data Estimates

Preliminary Cost Report

Project Name: SAND CREEK MASSACRE NATIONAL HISTORIC SITE

02/25/2005

Model Type: Office 1 Story, Brick on Block / Wood Truss

Stories (Ea.): 1

Location: National Average Costs

Story Height (L.F.): 12

Data Release: 2005

Floor Area (S.F.): 3200

Wage Rate: Union

Basement: Included in costs but not in Building Floor Area

Costs are derived from a building model with basic components. Scope differences and local market conditions can cause costs to vary significantly.

		\$Cost/ Per S.F.	\$ Total Cost	% Of Sub-Total
A Substructure				20.0%
A1010	Standard Foundations	6.72	21,500.00	
A1030	Slab on Grade	3.97	12,700.00	
A2010	Basement Excavation	2.76	8,825.00	
A2020	Basement Walls	18.91	60,500.00	
B Shell				37.1%
B1010	Floor Construction	19.06	61,000.00	
B1020	Roof Construction	7.03	22,500.00	
B2010	Exterior Walls	22.97	73,500.00	
B2020	Exterior Windows	5.84	18,700.00	
B2030	Exterior Doors	1.95	6,225.00	
B3010	Roof Coverings	3.12	9,975.00	
C Interiors				13.8%
C1010	Partitions	4.88	15,600.00	
C1020	Interior Doors	3.04	9,725.00	
C1030	Fittings	2.96	9,475.00	
C3010	Wall Finishes	1.18	3,775.00	
C3020	Floor Finishes	6.03	19,300.00	
C3030	Celling Finishes	4.09	13,100.00	
D Services				27.7%
D2010	Plumbing Fixtures	2.27	7,275.00	
D2020	Domestic Water Distribution	0.54	1,725.00	
D3050	Terminal & Package Units	18.28	58,500.00	
D4020	Standpipes	1.51	4,825.00	
D5010	Electrical Service/Distribution	9.44	30,200.00	
D5020	Lighting and Branch Wiring	10.59	33,900.00	
D5030	Communications and Security	1.91	6,125.00	
D5090	Other Electrical Systems	0.16	500.00	
E Equipment & Furnishings				1.4%
E1090	Other Equipment	2.21	7,075.00	
	Sub-Total	161.41	516,525.00	100%
	GENERAL CONDITIONS (Overhead & Profit)	25%	40.31	129,000.00
	ARCHITECTURAL FEES	12%	24.22	77,500.00
	USER FEES	0%	0.00	0.00
	TOTAL BUILDING COST	225.95	723,025.00	

Preliminary Cost Report

Project Name: SAND CREEK MASSACRE NATIONAL HISTORIC SITE

02/24/2005

Model Type: Ranger Station, Decorative Concrete Block / R/Conc. Frame

Stories (Ea.): 2

Location: National Average Costs

Story Height (L.F.): 12

Data Release: 2005

Floor Area (S.F.): 3500

Wage Rate: Union

Basement: Included in costs but not in Building Floor Area

Costs are derived from a building model with basic components. Scope differences and local market conditions can cause costs to vary significantly.

		\$Cost/ Per S.F.	\$ Total Cost	% Of Sub-Total
A Substructure				11.9%
A1010	Standard Foundations	6.40	22,400.00	
A1030	Slab on Grade	1.99	6,975.00	
A2010	Basement Excavation	1.38	4,825.00	
A2020	Basement Walls	12.91	45,200.00	
B Shell				31.4%
B1010	Floor Construction	20.57	72,000.00	
B1020	Roof Construction	7.11	24,900.00	
B2010	Exterior Walls	19.57	68,500.00	
B2020	Exterior Windows	7.60	26,600.00	
B2030	Exterior Doors	1.29	4,525.00	
B3010	Roof Coverings	3.63	12,700.00	
C Interiors				11.5%
C1010	Partitions	3.37	11,800.00	
C1020	Interior Doors	3.03	10,600.00	
C1030	Fittings	1.43	5,000.00	
C2010	Stair Construction	1.40	4,900.00	
C3010	Wall Finishes	4.77	16,700.00	
C3020	Floor Finishes	3.80	13,300.00	
C3030	Ceiling Finishes	4.09	14,300.00	
D Services				23.3%
D1010	Elevators and Lifts	5.37	18,800.00	
D2010	Plumbing Fixtures	3.94	13,800.00	
D2020	Domestic Water Distribution	1.12	3,925.00	
D2040	Rain Water Drainage	2.35	8,225.00	
D3010	Energy Supply	7.40	25,900.00	
D3050	Terminal & Package Units	7.86	27,500.00	
D4010	Sprinklers	2.25	7,875.00	
D5010	Electrical Service/Distribution	4.46	15,600.00	
D5020	Lighting and Branch Wiring	8.66	31,000.00	
D5030	Communications and Security	0.60	2,100.00	
D5090	Other Electrical Systems	0.17	600.00	
E Equipment & Furnishings				21.6%
E1020	Institutional Equipment	34.29	120,000.00	
E1030	Vehicular Equipment	1.80	6,300.00	
E1090	Other Equipment	5.09	17,800.00	
G Building Sitework				0.2%
G2040	Site Development	0.34	1,175.00	
	Sub-Total	190.24	665,825.00	100%
	GENERAL CONDITIONS (Overhead & Profit)	25%	47.57	166,500.00
	ARCHITECTURAL FEES	12%	28.57	100,000.00
	USER FEES	0%	0.00	0.00
	TOTAL BUILDING COST		266.38	932,325.00

Preliminary Cost Report

Project Name: SAND CREEK MASSACRE NATIONAL HISTORIC SITE PLA

02/24/2005

Model Type: Warehouse, Galvanized Steel Siding / Steel Frame

Stories (Ea.): 1

Location: National Average Costs

Story Height (L.F.): 24

Data Release: 2005

Floor Area (S.F.): 2280

Wage Rate: Union

Basement: Not Included

Costs are derived from a building model with basic components. Scope differences and local market conditions can cause costs to vary significantly.

	\$Cost/ Per S.F.	\$ Total Cost	% Of Sub-Total
A Substructure			19.5%
A1010 Standard Foundations	7.28	16,600.00	
A1030 Slab on Grade	9.43	21,500.00	
A2010 Excavation	0.14	320.00	
B Shell			39.9%
B1010 Floor Construction	1.52	3,475.00	
B1020 Roof Construction	7.28	16,600.00	
B2010 Exterior Walls	41.67	95,000.00	
B2030 Exterior Doors	0.79	1,800.00	
B3010 Roof Coverings	6.58	15,000.00	
B3020 Roof Openings	2.58	5,875.00	
C Interiors			14.4%
C1010 Partitions	0.54	1,225.00	
C1020 Interior Doors	0.12	277.00	
C2010 Stair Construction	5.44	12,400.00	
C3010 Wall Finishes	10.26	23,400.00	
C3020 Floor Finishes	1.40	3,200.00	
C3030 Ceiling Finishes	4.09	9,325.00	
D Services			21.7%
D2010 Plumbing Fixtures	0.77	1,750.00	
D2020 Domestic Water Distribution	2.37	5,400.00	
D2040 Rain Water Drainage	13.99	31,900.00	
D3010 Energy Supply	3.61	8,225.00	
D3050 Terminal & Package Units	0.72	1,650.00	
D4010 Sprinklers	2.20	5,025.00	
D5010 Electrical Service/Distribution	4.82	11,000.00	
D5020 Lighting and Branch Wiring	4.01	9,150.00	
D5030 Communications and Security	0.36	815.00	
E Equipment & Furnishings			3.1%
E1030 Vehicular Equipment	2.19	5,000.00	
E1090 Other Equipment	2.50	5,700.00	
G Building Sitework			1.4%
G4020 Site Lighting	2.08	4,750.00	
Sub-Total	138.74	316,362.00	100%
GENERAL CONDITIONS (Overhead & Profit)	25%	34.69	79,090.50
ARCHITECTURAL FEES	12%	20.81	37,963.44
TOTAL BUILDING COST	332.98	433,415.94	

Appendix B: Supporting Data

SUPPORTING DATA:

Roberts provided the following:

- Site Location Study for the Sand Creek Massacre Project by NPS 2000
- *Sand Creek Massacre Project Volume II Special Resource Study (SRS) and Environmental Assessment (EA) June 2003*
- Land Status Map by NPS January 2004
- Right of Way Analyst Letter (Gas Line) June 25, 2003
- Hydro geologist Analyst Letter NPS August 6, 2004
- Water Well Locations w/in Vicinity
- ACM/LBP Potential Hazardous Waste Report RMC May 20, 2004
- Cost Proposal for Mitigation of ACM/LBP/UST by RMC July 22, 2003
- Cost Proposal for Mitigation of UST by

Western Environmental & Ecology Inc.

Appendix C: Site Visit Photographs















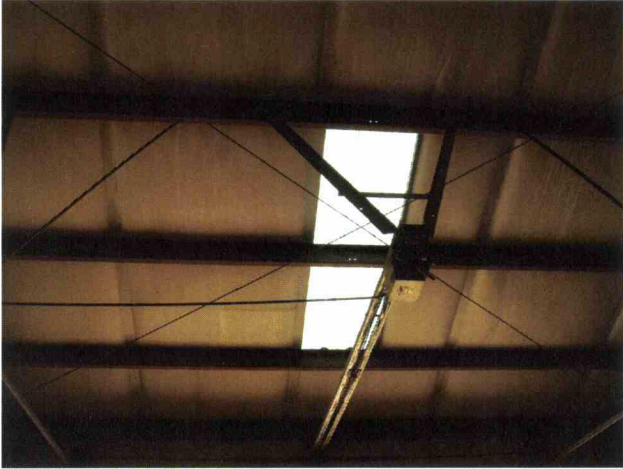














Composition of Costs

PROJECT COSTS

NPS IN HOUSE A/E Services

SAND CREEK MASSACRE NHS

2/25/05

Description:

Regionalized, site specific, architectural and planning assistance provided in the areas of site development foundation investigation, compliance with codes and requirements related to preliminary assessment and park planning.

Preliminary cost estimating was provided including report production.

Site Visit:

	Rate	Hours	Total
Project Manager	\$ -	0	\$ -
Clerical (Architectural)	\$ -	0	\$ -
Lead Architect	\$ 50.89	30	\$ 1,526.70
Clerical	\$ 28.26	1	\$ 28.26
Airfare			\$ -
Lodging and meals (\$65 lodging, \$75 per diem, per person)			\$ 140.00
GOV			\$ 200.00
Miscellaneous			\$ -
Total			\$ 1,894.96

Title I and II Services:

	Rate	Hours	Total
Architectural:			
Lead Architect	\$ 50.89	80	\$ 4,071.20
Project Manager	\$ 58.78	8	\$ 470.24
Senior Architect	\$ -	0	\$ -
Associate	\$ -	0	\$ -
Clerical	\$ 23.93	4	\$ 95.72
Subtotal			\$ 4,637.16

Goals Accomplished

In accordance with the Government Performance Results Act (GPRA), the accomplishment of tasks described in this report assisted Sand Creek National Historic Site to fully or partially achieve selected GPRA goals established at the beginning of fiscal year 2005. Specifically, this project facilitated full and/or partial achievement of the following GPRA Goals:

Ia5 – Historic Site

IIa1 – Visitor Satisfaction

IIa2 – Visitor Safety

IIb1 – Visitor Understanding and Appreciation



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

National Park Service
U.S. Department of the Interior

Division of Facilities Management, Historic Preservation Projects
Intermountain Support Office
Santa Fe, New Mexico



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