



WATSON SCHOOL

Core Historic Structures Report

Prepared for
County of Sonoma
Department of Parks and Recreation



Prepared by
Garavaglia Architecture, Inc

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Innovating Tradition

WATSON SCHOOL
BODEGA, CALIFORNIA

Core Historic Structure Report
Final Report
12 DECEMBER 2008

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CHAPTER 1: INTRODUCTION

PROJECT DESCRIPTION

Garavaglia Architecture, Inc. was contracted by the County of Sonoma (County), as the owners of the Watson School, in May of 2008 to provide preservation consulting services in connection with the proposed restoration of this recognized local, state and national historic landmark. The County wishes to use Watson School as an interpretive space to educate the public about the early development of the area and the role of the one-room school. Such buildings were once commonplace throughout the region. Today, Watson School is the one remaining schoolhouse in public ownership, on its original site within the County. Garavaglia Architecture, Inc.'s involvement in this project includes the preparation of a core historic structures report to guide future restoration work in accordance with the Secretary of the Interior's Standards, development of a maintenance plan for the resource, development of a management plan for the historic site and assistance on guidance documents for collections management. This document represents the first of these reports.

EXECUTIVE SUMMARY

Watson School remains largely intact and in good condition. It has structural deficiencies that make it unable to resist lateral forces from the persistent wind. Additionally, it requires minor modifications to improve its seismic stability. The most pressing issue effecting Watson School is its poor condition wood post-on-grade foundation. Garavaglia Architecture, Inc. recommends that new concrete spread footings be installed at the building edges and down the building's centerline. These footing should be interconnected to create a reinforced grid. As an alternative, it may be possible to implement a slab foundation that approximates the grid of spread footings. The applicability of this option is dependent upon review by a geotechnical engineer. To improve structural capabilities, the building should be bolted to its foundation with additional anchors installed to connect the roof to the top of the walls. Plywood shear panels should be installed on the roof and at the north and south elevations. This work should be done from the exterior to minimize disruption of interior finishes. These efforts should also serve to straighten the building and return it to a more perpendicular form.

On the interior, the building retains most of its historic appearance and many original materials. Most are in fair to good condition, suffering from limited weathering from prolonged UV exposure (mostly on the windows). There is limited moisture damage in the walls on the west side. This water damage is likely from gaps in the exterior cladding. These gaps have been filled with plaster and/or caulking during past repairs but this infill material has failed, allowing moisture to penetrate the building envelope. Additional investigation should be undertaken during seismic work on this elevation to determine the extent of the damage. Repairs should be made in kind, reusing as much existing material as possible.

The following is a prioritized list of the immediate concerns regarding Watson School. Further recommendations for these and less critical items are provided at the end of this document

- Install new concrete foundation.
- Bring building back to square, or as close as possible.
- Secure building to its new foundation and to the roof.
- Install plywood sheathing to the roof, ceiling, north and south walls. All work should be done from the exterior to avoid damage to historic finishes.
- Repair siding on west wall to limit moisture infiltration. Use existing material whenever

possible. New material should be similar in species, size, style, form and dimension.

LOCATION & SETTING

Watson School is located at 15000 Bodega Highway approximately eight miles west of Sebastopol and one mile east of the Town of Bodega. It is one mile west of Valley Ford-Freestone Road in rural Sonoma County. The one room Greek Revival school is at the western side of Running Fence Wayside park. It shares the approximately 3/4-acre parcel with a small picnic area and a portable restroom unit.

The 1856 Watson School is a small, one-story rectangular plan building with a front gable roof. The front (north) of the building is topped with a small bell tower that houses a working bell behind four wood louver covered openings. At the south end of the roof peak a small flue remains from the former wood burning stove chimney. The roof is covered with wood shakes, installed in the late 1970s to replace a composition roof. The building is clad in white, simple drop siding with flat sawn cornerboards, a wide frieze board and shallow eaves. It is entered at the front through two, non-original four-panel wood doors, placed symmetrically under the gable peak and bell tower. While the doors are not original, their locations are. The doors are topped with fixed glass transoms. "Watson Dist., 1856" is painted above the doors and a half-circle louvered attic vent opening sits above the lettering.

The south side of the building has a single, non-original wood four-panel door accessed via a set of wooden steps and a small wood landing. This door location is approximately that of a previous non-original opening that was enclosed in the early 1970s. A second half-circle louvered attic vent opening is approximately centered on the rear elevation.

The east and west elevations are marked with four original window openings placed roughly symmetrically across the façade. These openings originally held six-over-six double-hung wood sash. Today they are filled with diamond wire obscure panels to prevent unauthorized entry. The siding near grade has been removed on both these sides to allow for ready foundation access. Metal screening has been installed with staples to prevent rodents from gaining access to the underside of the building. On the west side, these staples are rusting and staining the siding.

The interior is composed of three rooms. Two entry rooms are behind the two front doors. Both of these secondary spaces directly accesses the main classroom space. An early tongue-and-groove wood floor, built at an angle to facilitate views of the front teacher's podium, remains in good condition. Original slate blackboards are hung on three walls. Some original, faux-grained trim remains but most has been replaced with unfinished or salvaged materials. The exterior walls are covered with horizontal wood boards. The interior partition is of board construction with vertical board orientation.

STATEMENT OF SIGNIFICANCE

Watson School is the only one-room schoolhouse in public ownership within Sonoma County that remains located on its original site. It is believed to be the longest operating one-room school in California's public school history, operating for more than 111 years (1856-1967). It has had minimal alterations since its construction and retains its original layout and many of its original finishes and materials.

PRIORITIZATION METHODOLOGY

Beyond historic document research, specific steps were carried out in order to compile data necessary to develop architectural rehabilitation recommendations, these include:

- Architectural research, which included: development of interior and exterior character defining elements; analysis of historic interior and exterior building configurations; identification of materials and finishes; and analysis of methods of construction.
- Architectural documentation included: photographing building configurations and details and analysis of existing architectural drawings.
- A building conditions survey and assessment was conducted for the various building components.
- A review of relevant related documentation, previous reports and studies, historical articles, DPR forms, photographs, books and personal interviews.

Initial evaluation and survey work was completed on 3 June 2008 to determine overall conditions, document the configuration and details with measurements and photographs and to assess the building's current material state and potential for rehabilitation. A team was assembled to conduct the surveys and record the property. Major exterior elements and interior spaces of the building were surveyed, recorded and assigned two evaluation values: condition and significance.

EVALUATIVE FRAMEWORK

National Register of Historic Places (NRHP)

The National Register of Historic Places is the official list of properties, structures, districts, and objects significant in American history, architecture, archeology, engineering, and culture. National Register properties have significance to the prehistory and history of their community, state, or nation.

The National Register Criteria for Evaluation is...“the basis for judging a property's significance for their association with important events or persons, for their importance in design or construction, or for their information potential...” National Register Bulletin 15. The National Register Criteria recognizes the following categories:

- Criterion A: Associative Value: properties significant for their association or linkages to events
- Criterion B: Associative Value: properties significant for their association to persons important to the past
- Criterion C: Design or Construction Value: properties significant as representatives of the fabricated expression of culture or technology
- Criterion D: Information Value: properties significant for their ability to yield important information about prehistory or history

California Register of Historical Resources (CRHR)

The California Register program encourages public recognition and protection of resources of architectural, historical, archeological and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding and affords certain protections under the California Environmental Quality Act.¹

To be potentially eligible for individual listing on the CRHR, a structure must usually be more than 50 years old, must have historic significance, and must retain its physical integrity. In terms of historic significance, the California Register of Historical Resources evaluates a resource based on the following four criteria:

- Criterion 1 (Event): Resources associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- Criterion 2 (Person): Resources associated with the lives of persons important to local, California or national history.
- Criterion 3 (Design/Construction): Resources that embody the distinctive characteristics of a type, period, region or method of construction, or that represent the work of a master or possess high artistic values.
- Criterion 4 (Information Potential): Resources that have yielded or have the potential to yield information important to the prehistory or history of the local area, California or the nation.

Sonoma County Landmark Designation

Sonoma County maintains a list of recognized historical and cultural landmarks within the county limits. Provisions are included in the County zoning regulations for identifying what properties would qualify for listing. These provisions are quoted below.

Sonoma County Zoning Regulations
Sec. 26-68-010. Designation of historic structures and historic districts.

Pursuant to the normal zoning procedures:

(a) An individual structure or an integrated group of structures on a single lot or lots having a special historical, architectural or aesthetic interest or value as a historic structure may be designated; and

(b) An area having special historical, architectural or aesthetic interest or value as a historic district may be designated. Before creating a historic district the advice of local citizens and committees may be sought. (Ord. No. 4643, 1993.)

At this time, the procedure for listing an property on the County Landmarks list is not definitive. Typically, a resource is identified through a survey conducted by a person or firm specializing in historic preservation and cultural resources. Once identified, the property is brought before the County Landmarks Board for consideration. A motion of the Landmarks Board determines final listing or denial of listing.

¹ California Office of Historic Preservation website: http://www.ohp.parks.ca.gov/?page_id=21238.

Integrity

Integrity is the measure by which properties are evaluated. To retain integrity a property must have most of the seven aspects of integrity as defined by the National Register Criteria for Evaluation. The seven aspects of integrity are quoted as follows:

- Location - Location is the place where the historic property was constructed or the place where the historic event occurred.
- Design - Design is the combination of elements that create the form, plan, space, structure, and style of a property.
- Setting - Setting is the physical environment of the historic property.
- Materials - Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration form a historic property.
- Workmanship - Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- Feeling - Feeling is a property's expression of the aesthetic or historic sense of a particular period of time.
- Association – Association is the direct link between an important historic event or person and a historic property.

According to the Office of Historic Preservation's Technical Assistance Series Bulletin #6:

Integrity is the authenticity of an historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Historical resources eligible for listing in the California Register must meet one of the criteria of significance described above and retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. It is possible that historical resources may not retain sufficient integrity to meet the criteria for listing in the National Register, but they may still be eligible for listing in the California Register.²

CURRENT HISTORICAL STANDING

The historical value of Watson School has been recognized for some time. It was first designated a *California Point of Historical Interest* in 1966, when it was still operating as a school. Ten years later, the County of Sonoma named it Sonoma County Landmark #23. It was placed on the National Register of Historic Places in 1978.

EVALUATION OF INTEGRITY

² Office of Historic Preservation, Department of Parks and Recreation. California Register and National Register: A Comparison. Technical Assistance Series No. 6.

The evaluation of historic significance is a two-step process. First, the historic significance of the property must be established. If the property appears to possess historic significance, then a determination of its physical integrity is conducted; that is, its authenticity as evidenced by the survival of physical characteristics that existed during the resource's period of significance.

Location

Watson School has not been moved since the time of construction and therefore retains integrity of location.

Design

Over the course of its 152 year life, Watson school has never been substantially altered. It retains its original configuration, plan and most of its building materials. Those additions at the rear of the building were constructed in such a manner that their removal did not alter the overall circulation within the building or the experience of the interior spaces.

Therefore, Garavaglia Architecture, Inc. finds that Watson School has a high degree of integrity of design.

Setting

The original setting for Watson School was decidedly rural, having been carved out of a larger piece of ranchland, surrounded by other large parcels of ranch and farming lands. Today, the school is bound on three sides by open space, some wooded and some used to pasture herds of cows and sheep. The viewshed across the street is also pastureland. Very few modern interruptions into the landscape have occurred in 152 years. Access to the site is largely as it was when constructed, although the road may not have been quite as far above the floor level of the school in 1856.

The introduction of a wayside park adjacent to the building does not significantly impact the overall setting. This space traditionally would have been used for recess and other outdoor activities for the children. Today it is still used for passive recreation. Site furniture such as picnic tables and fences, as well as facilities such as portable latrines, are temporary in nature and have not permanently altered the landscape.

Watson School has a high degree of setting integrity.

Materials

This building retains much of its original framing, and almost all of its siding, interior finishes and trim date to within the period of significance. The only exceptions to this are the windows. Given the age of the building, it is assumed that some material replacement of the exterior siding and trim has taken place. While the exact dates of this replacement are unknown, these replacements have been done with in-kind materials, maintaining a consistent appearance. Historic photographs of the building show the same or similar materials as those on the building currently.

Further research is needed to determine exactly what dates to the original construction and what elements might be from later repairs or remodels. Some work was carried out on the interior near the turn of the century. Because these changes were carried out during the period of significance, Watson School retains a high level of material integrity.

Workmanship

Previous construction and repair work at Watson School has been carried out to carefully match those elements (interior finishes and exterior siding) original to the building. The building materials and construction idiosyncrasies of the building remain as evidenced in the uneven spacing of the floor joists and the marks on the hand-hewn beams. The original marks of the craftsmen are still evident and in their original locations.

Watson School has a high degree of integrity of workmanship.

Feeling

Watson School remains virtually unchanged from its early days as a community school. Its interior spaces, while largely devoid of desks and furniture, convey a sense of purpose. The blackboards, teacher's podium, canted floor and entry remain untouched. The experience within the space is largely the same now as it was during its period of significance.

Approaching the school, the drive is flanked on both sides by rural farms, small houses and largely open fields, much as it has been historically. The sense of isolation remains, providing a link to the rural existence of the pioneering families who constructed the building.

Watson School conveys its purpose and setting just as it has for 152 years. It has a high degree of integrity of feeling.

Association

Watson School was constructed for the community surrounding Bodega Corners, California. The small hamlet remains and exhibits a great deal of its 19th century character through its architecture and rural setting. Most of the countryside around the school and Bodega Corners remains rural and populated by multiple generations of families firmly rooted to the area. A good deal of this population attended Watson School and their experiences continue to be part of the collective community memory. The building and site evoke strong memories and attachments in this community and it is their love of the site that has been a key motivator in its restoration.

Watson School retains a high degree of association with the community it traditionally served.

SUMMARY

In summary, Garavaglia Architecture, Inc. concludes that Watson School retains a high degree of historical integrity. All of the aspects of integrity should be very carefully considered when undertaking any repairs or modifications to the building. This includes the site and the general setting of the wayside park.

ADDITIONAL RESEARCH

There has been a great deal written about the early history of Sonoma County and the development of area around Watson School. However, the school served the Bodega Corners community for many generations. The stories of the later generations should be collected to provide a fuller interpretation of the one-room school house experience. This is particularly of interest in the later years of the school's operation in the 1950s and 1960s when most children were attending larger schools with single-grade classroom settings. The contrast in experiences and setting deserves additional research time and could significantly broaden the social history

value of interpretive work at Watson School.

CHAPTER 2: HISTORICAL BACKGROUND

HISTORICAL SUMMARY

Area History

The area around Watson School was first settled in the early 19th century by Russian fur trappers. They established a small settlement just north of the present town of Bodega, a few miles from Watson School. Little is known of this settlement as the buildings were destroyed soon after abandonment around 1840. It was at this time that they sold the land to John Sutter who then sold the land to a Captain Smith, the first permanent European settler in the area. He built a ranch house on the site of the Russian settlement after receiving an official grant of the area from the Mexican government.³ Smith built a saw mill soon after his grant, followed by a tannery in 1851. A diary from the carpenters hired to build the tannery note that the tanners name was Watson.⁴ It does not specify if this was James Watson or another Watson in the area.

When Watson School was established, the area was known as Bodega Township. The closest towns were Bodega (or Bodega Corners) and Freestone located west to east respectively. Valley Ford was to the south. This section of the county was known for its heavy fogs and strong winds. The fogs fostered great stands of redwood and wide range of vegetables, potatoes and grains. An account from 1880 notes that the soil was wearing out under constant potato cultivation and that more and more farmers were turning to dairy cattle and grazing on the steep hillsides.⁵ The redwoods supplied a large and profitable lumber industry and it was here that the first steam saw mill on the Pacific Coast was supposedly established.⁶

Bodega Corners was founded in 1853 by George Robinson. He built a saloon at the crossroads of three county routes. It was soon followed by blacksmith shops and a hotel. It received its first post office in 1854 when the settlement was known as Smith's Ranch. At its height in the 1870s, it was the largest town in the region.⁷

One Room Schools

When General Vallejo founded his Sonoma pueblo in 1835, he brought in tutors and teachers for his many children. The instruction ranged from reading and writing (both English and Spanish) to music and dancing. Visiting relatives often brought their children for extended stays so they could take advantage of the education provided at the pueblo. This custom of families bringing in private instructors for their children was continued when the land grants were made in the 1840s. Captain Smith established a private school for his children and those of his extended family on his ranch at Bodega Corners. Typically the teacher was provided room and board as well as a small salary.⁸

In 1856, Sonoma County included all of Mendocino County and part of Napa County but was sparsely settled. The Gold Rush was subsiding, and the families who remained were mainly European immigrants who planned to make California a permanent home. However, the

³ *History of Sonoma County*. San Francisco: Alley Bowen & Co., 1880. Ibid. 191.

⁴ Ibid. 193.

⁵ Ibid. 181.

⁶ Ibid.

⁷ *County of Sonoma Local Coastal Program: Part I, Local Coastal Plan. II-2* Available online: <http://www.sonoma-county.org/prmd/docs/lcp/>

⁸ *History of Sonoma County*. Santa Rosa, California: The Press Democrat Publishing Co., 1937.

struggling State and County governments, just recently organized, were in no financial condition to provide for school facilities.⁹ Following the precedent set by General Vallejo and the wealthier early settlers, these pioneers banded together to pool resources to educate their children. Watson School was just one of dozens of schools born out of this collective effort.

The first County Superintendent of Common Schools was Dr. B. B. Bonham in 1854. At that time, there were approximately 1200 children of school age (ages 4 to 18) in the county of Sonoma. This was distributed across 23 schools, 31 teachers and 8 school districts.¹⁰ Two of the eight original districts were Analy and Bodega.¹¹ By 1859, there were 43 schools and 70 teachers.¹² This represents the population increase after both the discovery of gold and California statehood. This trend continued with the total number of schools increasing to 138 in 1876. In spite of the rise of private schools and consolidation of the urban schools, there were still 122 elementary schools in the County in 1936.¹³ By the 1870s, high schools were being established in the more populated area to provide for education beyond that offered in the rural one-classroom schools.

In 1886, Fannie Martin became County School Superintendent, and the rural schools underwent several significant organizational changes. First and most importantly, graduation examinations were now offered twice a year at the local school. Prior to this, students wishing to receive a certificate of completion, a diploma, had to travel to Santa Rosa to sit for the once-a-year exam. This was enough of a deterrent that many country residents never bothered. Once it became more convenient, the diploma took on a new stature and encouraged more individuals to seek recognition for their accomplishments. She also changed the way that the rural teachers were certified and examined, making the process a review by committee rather than the responsibility of a single individual. Over the course of her tenure, more and more teachers were being drawn from formal education programs, some from local Normal schools, rather than from the ranks of generally well-educated individuals.¹⁴ This improved the quality of education as well as the level of commitment from the teachers themselves.

To augment the instruction in the basics, by the 1930s, the rural schools shared a group of specialized instructors who spent half a day a week at each of the schools. These instructors gave lessons in “art, penmanship, music, orchestra work, community mechanics and home-making.”¹⁵ The last two were meant to serve as vocational training for the boys and girls respectively.

Watson School represents the classic schoolhouse typology that was once so common in rural Sonoma County. Even today, privately owned former schoolhouses dot the landscape as homes and businesses. These buildings were simple rectangular boxes, topped by a front gable roof with bell tower and bell for ringing out the major divisions of the day.

Watson School¹⁶

⁹ National Register Nomination

¹⁰ 1937. 268.

¹¹ It is uncertain to which Watson School belonged.

¹² Sonoma County History 1937. 269.

¹³ Ibid. 271.

¹⁴ Ibid.

¹⁵ Ibid

¹⁶ Information is primarily taken from the National Register Nomination for Watson School, prepared in 1978. To this information is added greater detail provided in the *Watson School Reader*, a promotional brochure published by the County of Sonoma in 2006 for the sesquicentennial celebration of Watson School. Other sources are noted.



Three pioneer families took a leading part in establishing Watson School: Watson, Purrine and Robertson. James Watson came to Sonoma County from Illinois in 1849. He worked for Jasper O'Farrell prior to purchasing land from O'Farrell for his own farm. A.S. Purrine left Indiana for the California gold fields. William Riley Robertson, a native of Missouri, fought as a Texas Ranger in the war with Mexico some years prior to his journey west.

Watson donated the land for the school. Everyone for miles around was consulted about the need to build a school and how the task should be undertaken. It was decided to ask each pioneer family for aid in some form—materials, teams to haul wood from the mill, labor, or financial assistance. Redwood was gathered from nearby and milled at a sawmill located at what is now known as Joy Woods. This mill was established in 1855 by the Thurston brothers.¹⁷ Labor was plentiful and many of the settlers were good mechanics. In a short time, the building was ready, crude furniture installed, and Watson opened its doors. The total census of children in the newly formed Watson District showed 74 children from 4 to 18 years of age, with 11 attending and an average daily attendance of 10.

While much about the Watson School is typical for its use and era, it has an unusual sloping floor. Higher in the back (south) than in the front (north), this floor allows those children at the rear of the room to more easily see the instruction at the chalkboard.

James Watson

James Watson was born on December 25, 1811 in county Donegal, Ireland. He emigrated to New York in 1833, soon moving to New Jersey. While in New Jersey he married Hannah Jackson, a native of England, and was employed as a teamster. Two years later he and Hannah moved to Illinois to take up farming. In 1853, he moved to Sonoma County with his wife and five children, purchasing a parcel of land approximately two and a half miles east of Bodega Corners. Six more children were born in this location and Watson remained on this farm until 1877. At that point he moved closer to Freestone, in Analy township, where he remained until his death.¹⁸

CONSTRUCTION CHRONOLOGY

Previous reports have been done on Watson School to assess the material and structural deficiencies of the building. The following highlights some of the findings of those reports and provides insight on recurring problems and relative dates of repairs.

1968

A 1968 letter to the Director of Parks and Recreation noted the following

- Deteriorated, substandard foundation
- Rot and termite infestation
- Leaning, listing and sagging structural frame
- Substandard plumbing
- Substandard lean-to structure at rear
- Lack of an adequate lateral load resisting system to withstand code specified wind and earthquake forces.
- Furnace installation requires repairs and/or modification.

¹⁷ History of Sonoma County 1880, 201.

¹⁸ Ibid. 481-482

The recommendations at that time were:

- Remove the small lean-to structure at rear. [This was done in the 1970s.]
- Repair foundation by removing lower 6-12 inches of the posts where rotted and installing a reinforced concrete slab foundation. The recommendation was to remove the flooring entirely and reinstall it after foundation work was completed. [The foundation was repaired in the late 1970s-early 1980s. The floor was left intact.]
- Sheath walls from the interior for seismic strengthening.
- Remove ceiling finish and sheath with plywood to increase rigidity of ceiling diaphragm.
- Rewire.
- Remove plumbing and install new facilities elsewhere on site. [This was done when the lean-to was removed.]
- Replace deteriorated doors and broken glass.
- Repaint. [This has been done many times both before and after 1968.]

1974

Another internal memo from 1974 outlines the state of the building and recommendations for its repair at that time. The highlights are as follows:

- Remove south wall addition. [This was done by the late 1970s.]
- Raise the building six inches and level it.
- Replace the existing wood foundation with pressure treated wood on concrete piers with concrete spread footings. [Foundation repairs were completed twice, once in the late 1970s and again around 1990.]
- Replace rotted and damaged wood siding and substructure material with pressure treated wood.
- Wire brush exterior and repaint.
- Replace roofing with "sugar pine split shakes lain shake style."
- Replace existing front doors with four-panel doors to fit opening and swing as originally hung. Install new doors on the south end to match. [The doors were eventually replaced with the four-panel doors seen there today. However, the date is unknown. Photos from the late 1970s show solid, no-panel doors.]
- Remove concrete slab at the north and replace with 2x random width wood deck. [The deck has been removed only recently.]
- Repoint chimney. [The chimney has been removed.]
- Repair and reputty window sash. [The windows have been replaced, c. 1990.]

The following construction chronology outlines known alterations to Watson School and its surroundings.¹⁹ Items in bold are directly related to construction of the building.

c. 1856	Constructed by members of the community with donated materials.
c.1920	Electricity added. Rear shed-roof addition built to house restroom facilities. Two doors cut into the back wall to provide access.
1967	Watson School is closed as a public school.
1966	Designated a California Point of Interest
1968	Property is transferred to the County of Sonoma to be operated as a wayside park and for public tours.

¹⁹ Information represented here is from previously completed reports and verbal descriptions by the County employees.

- 1971** Nominated to the National Register of Historic Places.
- 1972-1976** Christo and Jeanne-Claude's "Running Fence" art installation routed through Watson School park property.
- Pre-1977** **Wood shingle roof partially replaced with asphalt shingles.**
- c.1975** **Rear bathroom addition removed. Filling in the door openings required partial replacement of the rear siding and interior wood panel finish**
- c. 1978** **Foundations replaced in kind – wood sill and posts on grade.**
- Post-1977** Faux-grained wood wainscot removed from east and west walls.
4-panel wood doors installed on front and rear entries.
Concrete deck removed.
Chimney dismantled.
New wood shingle roof installed.
- 1990** Watson School permanently closed due to deteriorating conditions. **Double-hung windows removed and replaced with current fixed glazing.**
Foundation repaired/replaced in kind.
- 2001** Park renamed "Running Fence Park" in honor of the 25th anniversary of art installation of the same name.
- c.2006** **Bracing installed to support east wall.**
- Unknown*** **Door cut into rear wall to provide egress to wood deck at the rear of the building.**

*A great number of former Watson School students still reside in the immediate vicinity. Interviews with these individuals are part of a proposed oral history project through the County of Sonoma Regional Parks Department and local history groups. Some portion of these interviews should focus on material finishes, furniture and general appearance of the interior and exterior of Watson School to help clarify the unknown aspects of the construction chronology.

CHAPTER 3: AFFECTED ENVIRONMENT

ARCHITECTURAL RESOURCES

This section of the report establishes the Character-Defining Features (CDF) of the property. For the sake of brevity and clarity, the results are presented in tabular format in the following pages. The major exterior features are discussed first, followed by interior features and site CDFs. All are presented in with their historical and architectural significance (see below). Each element and interior space is listed in the first column. Next is its historical ranking: premier (P), important (I), contributing (C), or non-contributing (NC). If the element or space cannot be listed then it is unknown (UK) - either because there is no valid historical research to verify its importance or it was not accessible for visual inspection. After this, its condition ranking is provided: Excellent (E), Good (G), Fair (F) and Poor (P). A diagram representing the prioritization of spaces can be found on pages 17 of this document.

Condition Evaluation

Assessment of various features and spaces is done according to a double evaluation system. First, the elements are recorded and assigned a conditions rating that corresponds to their physical condition and potential for reuse. This system utilizes an “Excellent-Good-Fair-Poor” ranking.

Excellent - building or element requires little to no repair or replacement

- element is in a new or pristine condition
- no work is required to maintain current condition

Good - building or element requires minor repair or replacement

- routine maintenance should be sufficient to maintain the current condition and / or
- a cyclical maintenance or repair / rehabilitation project is not specifically required to maintain the current condition or correct deficiencies.

Fair - building or element requires moderate repair or replacement

- the feature generally provides an adequate level of service to operations, but
- the feature requires more than routine maintenance attention.
- Also indicates that cyclical maintenance or repair / rehabilitation work may be required in the future.

Poor - feature is in need of immediate attention

- Routine maintenance is needed at a much higher level of effort to meet significant safety and legal requirements
- Cyclical maintenance should be scheduled for the current year and / or
- A special repair / rehabilitation project should be requested consistent with property requirements, priorities and long-term management objectives.

Significance Evaluation

Second, each of these elements is assigned a priority rating to create a sense of the relative historical importance of these spaces and features. In assessing the historic importance of each building, a rating scale of “Premier-Important-Contributing-Non-Contributing” is used. This system allowed for the analysis of the structure as a whole to guide what types of work should be done, and where such work could be completed with the least damage to the historic

integrity of the building. The recommendation scale is described as the following:

Premier

A premier rating is given to those elements and areas that are directly associated with the identified period or periods of significance and whose contribution to the interpretation and communication of a historic resource is of primary importance. If these buildings, areas or features are removed, the historic integrity of the overall resource is highly compromised. Depending on the size, scale, and relationship of these items with the period of significance, historic integrity could be lost altogether. For these reasons, when developing mitigation plans for rehabilitation work, all elements labeled “premier” should not be altered in any fashion without consultation with the National Trust and/or a preservation architect or related professional who meets, or exceeds, the Secretary of the Interior’s Professional Qualifications. Failing to do so could result in a significant impact to the resource.

Important

Buildings, areas and elements given a rating of important are also directly associated with the identified period or periods of significance and they also inform the interpretation and communication of the historic resource. These elements differ from premier elements because they embody, to a lesser degree, historical aspects of the resource. Sometimes they are secondary buildings or building elements, which if removed or altered would effect the resource, but still allow the historic nature of the resource to be discerned, even if in a more limited way. Other times they are associated with lesser aspects of the period of significance. The removal or alteration of these elements and spaces should be done only when other options have been exhausted, or to protect items given a premier rating.

Contributing

Contributing features augment the interpretation of historic significance but do not hold a high level of historic value themselves. They could be features that have been previously compromised, modern replacements for original elements, been installed after the period of significance but are still of a high artistic or cultural value, still available for replacement in kind, or simply related to the period of significance but not of primary historic importance. The loss of, or modification to, contributing elements lessens the overall level of integrity of the historic resource but not to a level where its interpretation of significance or historical importance is severely compromised.

Non-Contributing

These elements are typically from outside the period of significance, are of poor quality, are still commercially available or are not related to the period of significance or any figures or events associated with the historic interpretation of the resource. When possible, all alterations and modifications should be undertaken with designs that only effect non-contributing elements, or that limit their disruptions to mostly non-contributing elements. Such designs will retain the maximum level of historic integrity and result in the least amount of damage and disruption to the resource as a whole.

KEY

Priority Key: P=Premier, I=Important, C=Contributing, NC=Not Contributing, UK=Unknown
Condition Key: E=Excellent, G=Good, F=Fair, P=Poor, UK=Unknown

WATSON SCHOOL - CHARACTER-DEFINING FEATURES

Exterior				
Feature	Notes	Locations	Priority	Condition
Wood simple drop siding	Some replacement on south side (rear), west side heavily caulked	Throughout	P	F
Flat sawn fascia and corner boards		Throughout	I	G
Semi-circular attic vents (2)		North and south and	I	G
"WATSON DIST. 1856"		North	P	E
Bell tower		North	P	G
Bell		North	I	G
Simple rectangular plan		Throughout	P	G
Simple flat sawn and low profile door and window trim	Heavy paint on some	Throughout	I	G
Opaque diamond wire plastic window panels (8)	Original windows removed	Throughout	NC	F
Wood soffitt		Throughout	C	G
Four-panel wood doors (3)		North and south	I	G
Transom windows (2)		North	I	G
Raised wood deck		South	NC	F
Wood post-on-grade foundation	Replaced in 1990s	Throughout	C	P
Wood shingle roof		Throughout	C	F
Galvanized metal gutters and downspouts	modern	North and south	NC	E
Interior				
Feature	Notes	Locations	Priority	Condition
Horizontal wood board walls	Gaps filled with plaster	Exterior walls	I	F
Vertical wood board wall	Single boardwall construction	Interior partitions	I	G
Black slate chalkboards (3)	Original	Classroom	P	G
Amphitheater-style sloped floor	Slopes down to front	classroom	P	G
T&G narrow plank wood floor	Early 20 th century	Throughout	I	G
T&G wider plank wood floor	Original	Antechambers, under shelving	P	F
Teaching platform	Early 20 th century, after floor		I	G
Wood cupboard	Handmade, Date is uncertain. Does not appear on late 1970s HABS drawings.	East wall, classroom	UK	G
Flat sawn window and door trim	Originally faux grained, Some are replacements, some have had heavy paint stripping	Throughout	I	F

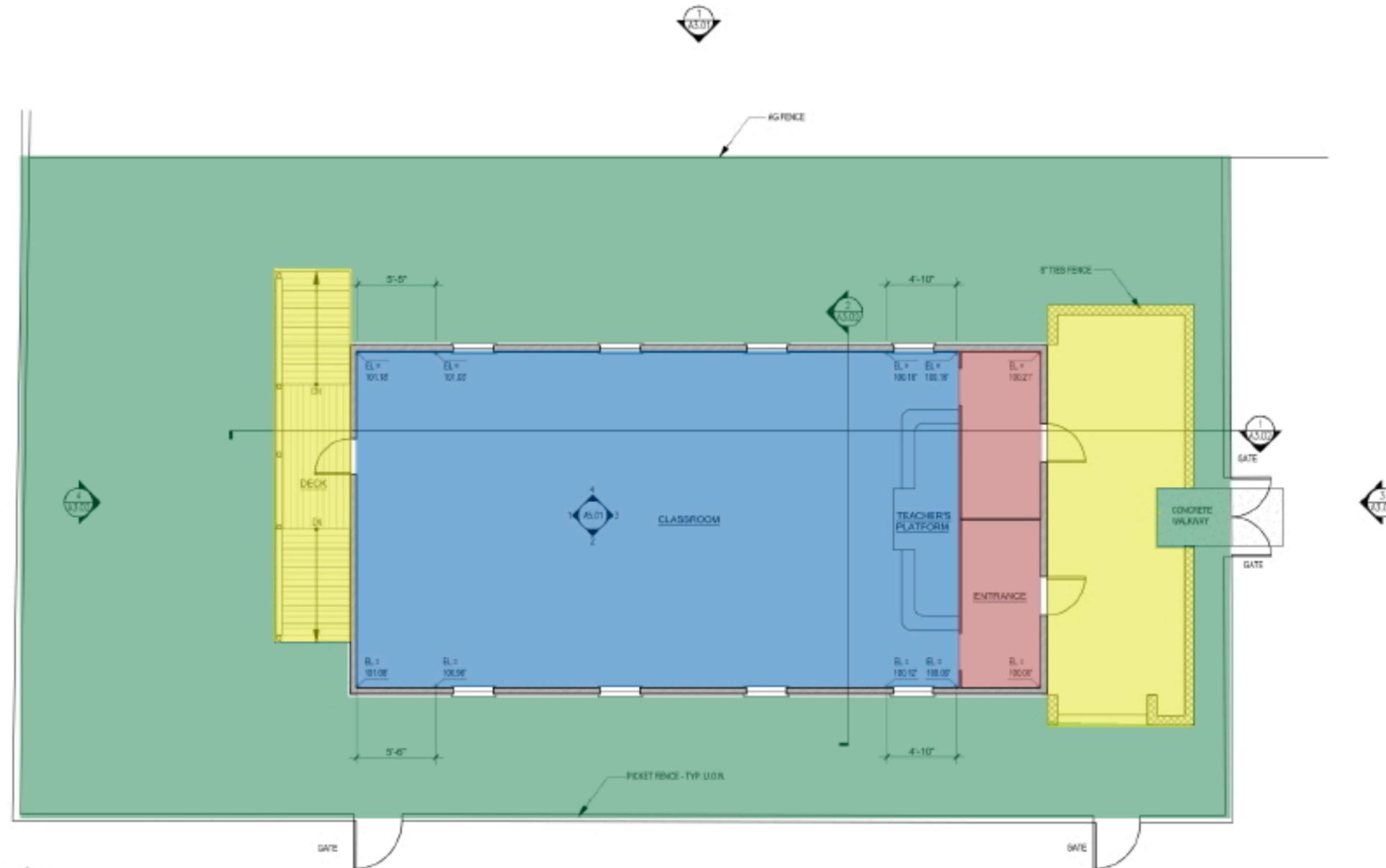
Picture rail	Differs on south wall, date uncertain	Classroom	C	F
Chair rail	Not on late 1970s HABS	Classroom	NC	F
Baseboard	Not on late 1970s HABS	Throughout	NC	F
Concave corner molding	Heavily painted	Throughout at wall and ceiling junctions	C	G
Bell rope		Antechamber	I	G
Built in shelving	Crudely constructed	Antechambers	C	G
Electrical panel		Antechamber	NC	G
Bare bulb light pendants (6)	c.1920s	throughout	C	G
Site				
Feature	Notes	Locations	Priority	Condition
Wood picket fence	Encloses 3 sides of school, some posts missing wood collar trim	North, east and south sides	NC	G
Split rail fence	Weathered	West and at back of site	NC	F
Barbed wire fence	For adjacent field	West	NC	G
Picnic grounds	Created in early 1970s	North of building	NC	G
Mature landscaping		In picnic grounds	C	G
Concrete walkway	Appears to date to school period	North	I	F
Gravel parking lot	modern	Northeast	NC	G

PRIORITIZATION OF SPACES

For Watson School, the prioritization of spaces is fairly straight forward, simply because there have been limited uses within the very few spaces over the course of the building's history. Modifications have been minimal and most took place during the period of significance. Even though Restoration is the selected preservation methodology, some adaptation of the spaces must be considered to accommodate modern environmental controls and other relevant systems upgrades, as well as structural strengthening to improve seismic stability.

Therefore, when prioritizing spaces, it is important to consider a relative balance of priorities to effectively and responsibly guide the programming of new uses and associated architectural modifications, within the building. The categories are similar to those used for individual features used above, but the interpretation is slightly different when applied to overall spaces. For Watson School, the prioritization of spaces is shown on the following diagram.

WATSON SCHOOL
 REHABILITATION
 LOCATED AT
 15000 BODEGA HIGHWAY
 FOR
 SONOMA COUNTY
 REGIONAL PARKS



- Premier
- Important
- Contributing
- Non-Contributing

1 CLASSROOM FLOOR PLAN
 SCALE: 1/4"=1'-0"



PROGRESS PRINT
 NOT FOR CONSTRUCTION
 00 MONTH YEAR

FLOOR PLAN
 EXISTING CLASSROOM

PROJ. NO. 2008-081
 SCALE: AS NOTED
 DATE: 08 JUN 2008
 PHASE: XXXXXXXXX
 DRAWN: MS
 CHECKED: JW

NO. DATE REVISION
 14 NOV 2007 PLANNING COMPLETE

SHEET NO.
A-2.01

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EXISTING CONDITIONS

Watson School exhibits many of the most typical material conditions for wood buildings in Northern California. It has areas of minor water damage, failing finishes and deteriorated surfaces where UV exposure is most concentrated, suffers from past pest damage and generally lacks a structurally adequate foundation. There are no surprising conditions at Watson School, a fact that means most can be handled in a very systematic way with relatively common approaches. Below is a summary of the major building spaces and elements and the typical conditions observed. Recommendations for addressing these issues are provided in the following chapter, along with information on the proposed upgrades to the building.

Drawings showing the locations of existing conditions are provided at the close of this Chapter.

Site

Watson School is located below Bodega Highway. The grade difference between the roadbed and average grade around the building is approximately ten feet. The resource is located near Salmon Creek. This active watershed is prone to periodic flooding and Watson School's proximity to the creek and location within the flood plain are concerns. No fault lines are known to exist in the immediate vicinity, with the closest active fault, the San Andreas Fault, located approximately six miles to the southwest.

General - Building

The building is in good condition and should regain its proper shape after structural issues are addressed at the foundation level. Seismic work at the roof and foundation levels can be done with no impact to the interior spaces and provided that shear panels can be installed from the exterior, no impact on the interior walls should result.

Limited replacement of some exterior siding is required to remove those localized pieces that are severely damaged from pest and weather-related causes.

Limited replacement of interior wood finishes will be required to address those areas on the west wall that have sustained moisture damage. Beyond this minor material replacement, there does not appear to be extensive work involved to return Watson School to a weather-tight building, ready for future restoration phases.

Building Envelope

The building walls are constructed of simple drop wood siding nailed directly to vertical framing members. The wall framing of 2" x 3-3/4" at 16" o.c. appears to be in good condition. The only structural issue noted is the lack of shear transfer from the roof sheathing to the wall top plate.

In this environment, the western side of the building receives the harshest weather. It is consistently buffeting by strong winds and unrelenting sun exposure. As a consequence, the siding on the west of the building is more weathered than that on the other three facades. The surface finish is slightly more uneven but continual paint coverage has limited the material degradation from weather-related causes. At the ends of the siding lengths, however, there is evidence of material shrinkage. This has opened up gaps in the siding. Many of these gaps have been repeatedly filled with plaster or flexible caulking. This material should be entirely removed so the extent of the damage can be more fully assessed. Partial replacement of siding on this elevation may be necessary.

Many of the boards within three feet of grade were removed circa 2006 to facilitate pest removal and to insulate the floor of the classroom. When this work was finished, wire screen was placed over the gap to prevent rodents from reoccupying the space. The removed boards have not been reinstalled at this time.

Roof/Attic

The roof is framed with 1x straight skip sheathing over 2" x 5-3/4" rafters at 30" o.c. The ceiling is framed with 2" x 5-3/4" joists at 30" o.c.

The framing is in good condition. There are some signs of past water intrusion but the current roof appears in good repair. In addition there are a few rafters where previous damage has been repaired. There is no sign of distress due to vertical load, the framing appears to be performing adequately.

Windows

The original six-over-six double-hung wood windows were removed around 1990 and replaced with the current diamond wire plastic panels. These panels sit in the original window frames and are fixed in place. Most have gaps between the window frame and the wall sheathing. The trim has been largely replaced with unfinished flat sawn wood boards. The exception to this is the lower trim below the sill. Some of these trim elements appear to date to the period of significance, although they have been modified. These boards are hand beveled along their sides and lower edges. For seven of the eight windows, two vertical narrow wood pieces have been added. They don't appear to provide any support function and their crude nature does not suggest a design choice. Their purpose is unknown at this time.

Those lower trim boards that are of historical significance have largely been stripped of all finishes. This has left the wood dry and faded in many cases. Several have been less drastically treated, however, and show evidence of faux graining and heavy varnish.

Overall the windows appear to be adequately weathertight and in fair condition. The sashes have been replaced and some modifications to the frames and trim have occurred, but they retain enough clues to inform recreation of their original appearance if necessary.

Foundations

The floor is framed with 2"x5-3/4" joists at an average of roughly 24" o.c. supported on 6"x7-3/4" girders at approximately 6'-0" o.c. The girders are supported on 6"x6" posts and mud sills set directly onto soil without concrete foundations. Overall, the building is twisting in a clockwise direction to the northeast. This is most likely due to a lack of concrete foundations and inadequate shear strength in the walls. There is inadequate earth-to-wood separation at all post/footing junctions. This wood-on-grade foundation has been replaced several times. The most recent work was completed c.1990. Each time it was repaired in kind utilizing traditional methods. While this is an accepted and typically desirable preservation methodology, it has not addressed the inherent inability of the wood foundation to evenly support the building. Presently, the foundation requires complete replacement to accommodate seismic strengthening work, as well as to bring the building into a more vertical position.

Interior

The interior remains largely untouched and appears much as it did during the period of significance. The wall finishes, flooring, lighting, trim and storage areas remain with very little

alteration. No alterations to the floor plan have occurred apart from the removal of a non-original addition at the rear of the building in the 1970s. The exterior walls are clad in horizontal tongue-and-groove wood boards. Many of these boards have shrunk over the years, creating small gaps in the wall. Traditionally, these gaps have been filled with a plaster-like compound. This appears to have happened fairly early on, as the paint layer over the filler is as thick as that over the boards. The interior walls are simple vertical board walls. These interior wall surfaces are more even and uniform.

The walls are unadorned apart from minimal trim elements. In the classroom, picture rail, chair rail and baseboard trim are found on all walls. In the corners between walls and between the walls and the ceiling, a concave piece of wood trim has been added. The picture rails are not uniform throughout the building. The picture rails, chair rails and baseboards are of uncertain date and do not appear to date to the period of significance. Earlier reports mention a wainscot in the classroom space, but none exists at the present time.

The former rear addition housed restroom facilities. Earlier reports cite two doors between the south wall of the classroom and this addition. Drawings from the 1970s show no door in the south wall. At present, one door exists and opens to the exterior and a wood deck.

Systems

Mechanical

The building currently does not have a mechanical heating or cooling system. There is no ductwork within walls or in the attic space.

Electrical

Service is currently provided via an underground conduit. There is one electrical panel rated at 100A that is serviceable without upgrades. The current electric panel contains three (3) 20A and one (1) 30A circuit breakers. Of the four installed circuit breakers, two (2) 20A breakers are currently not used. The building contains one ungrounded duplex outlet and four electric lights located within the building's main room. The building's existing electrical wiring is of the "knob and tube" type.

Plumbing

There is currently no water supply connected to the building. Also, there are no plumbing fixtures located within the building. On site, galvanized pipes (condition unknown) connect the current, separate portable restroom area to the existing wellhead behind the Watson School. The current operational condition of the wellhead is unknown. The wellhead electric motor appears to be connected to the 30A circuit breaker within the electric panel.

Cable

The location of the closest cable television trunk cable or splice box is unknown. It is unclear as to whether a cable television distribution line is mounted on the utility poles located closest to the building.

Telecommunication

Service is brought to the school building via an underground conduit. Currently there is one operable telephone installed in the building near the fire alarm control panel. No structured cabling exists within the building to support additional telephones or any data communication outlets.

Gas

Currently, the building has no gas service or infrastructure installed within the building to support gas service and appliances. The location of the nearest gas connection point is unknown.

Fire Alarm and Security

Currently, there is a fire alarm panel installed in the entrance of the building and connected to it are two (2) smoke detectors, which are mounted to the ceilings of the entrance and main rooms, and a motion detector, which is mounted to the building's back wall. The fire alarm panel is not currently configured to remotely dial the authorities in the event a fire or security threat is detected. An alarm bell is currently installed that presumably annunciates if commanded by the fire alarm control panel.

GENERAL NOTES

1. (10) : CIRCLED NUMBERS ARE (E) FINISH SAMPLE LOCATIONS

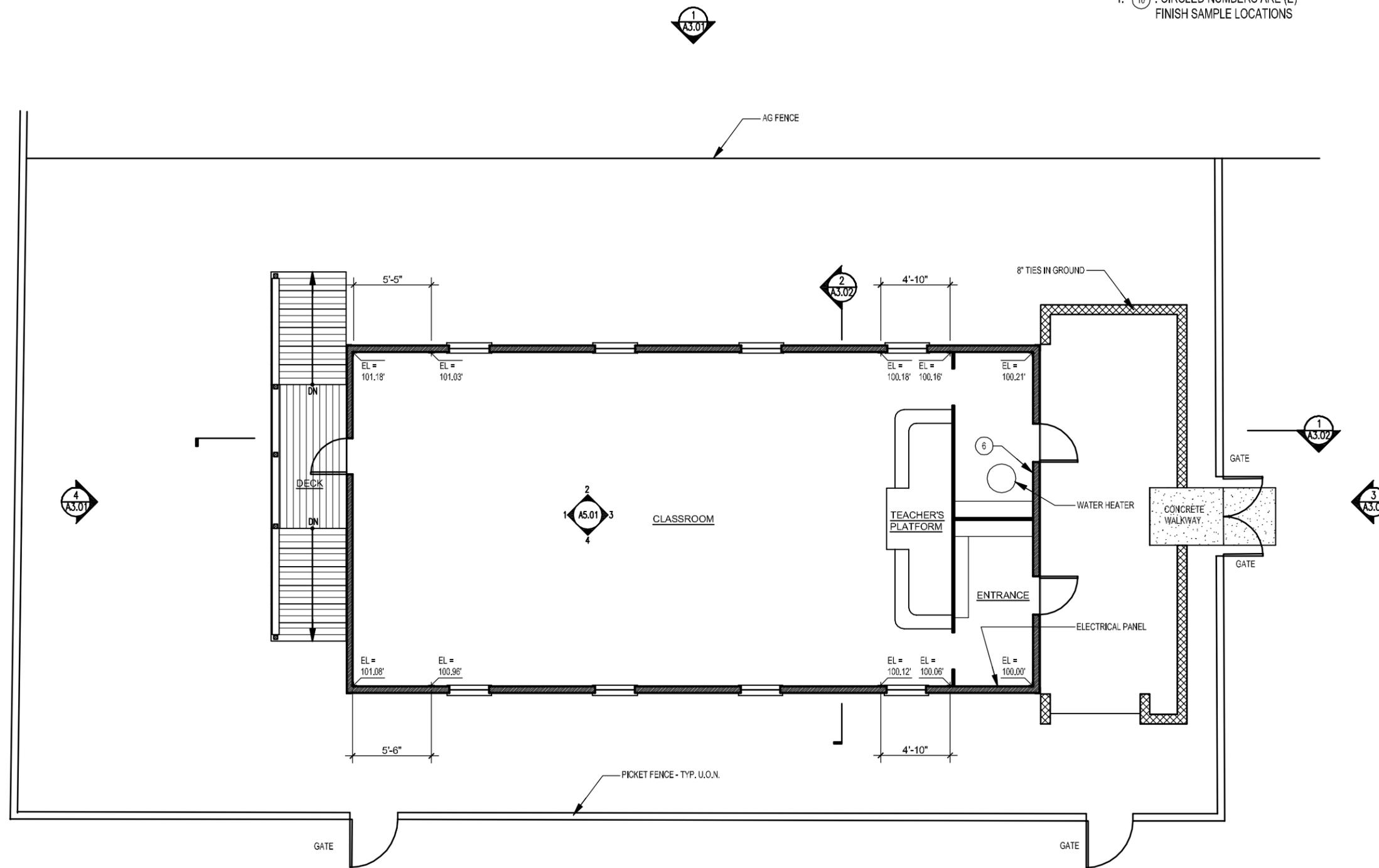
WATSON SCHOOL
 REHABILITATION
 LOCATED AT
 15000 BODEGA HIGHWAY
 FOR
 SONOMA COUNTY
 REGIONAL PARKS

PROGRESS PRINT
 NOT FOR CONSTRUCTION
 NOV. 2008

FLOOR PLAN
 EXISTING CLASSROOM

PROJ. NO. 2008-001
 SCALE AS NOTED
 DATE 09 JUL 2008
 PHASE RECOMMENDATION PHASE
 DRAWN MS
 CHECKED AW

NO.	DATE	REVISION
15	JUL 2008	RECOMMENDATIONS

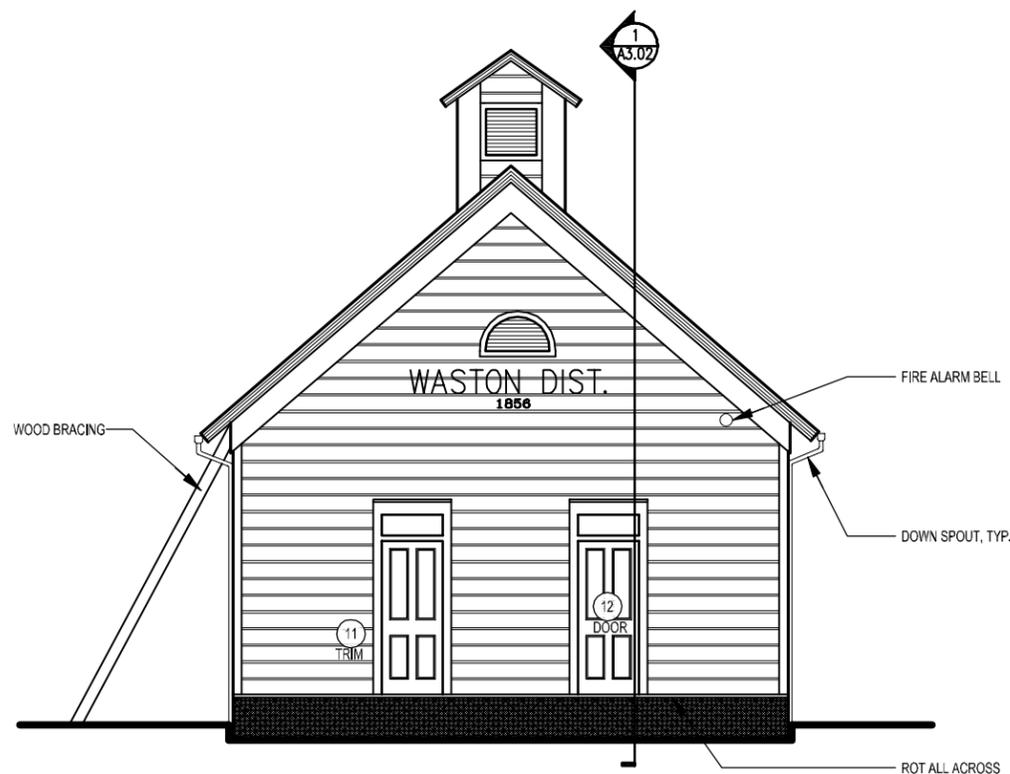


1 CLASSROOM FLOOR PLAN
 1/8" = 1'-0"

WATSON SCHOOL
 REHABILITATION
 LOCATED AT
 15000 BODEGA HIGHWAY
 FOR
 SONOMA COUNTY
 REGIONAL PARKS

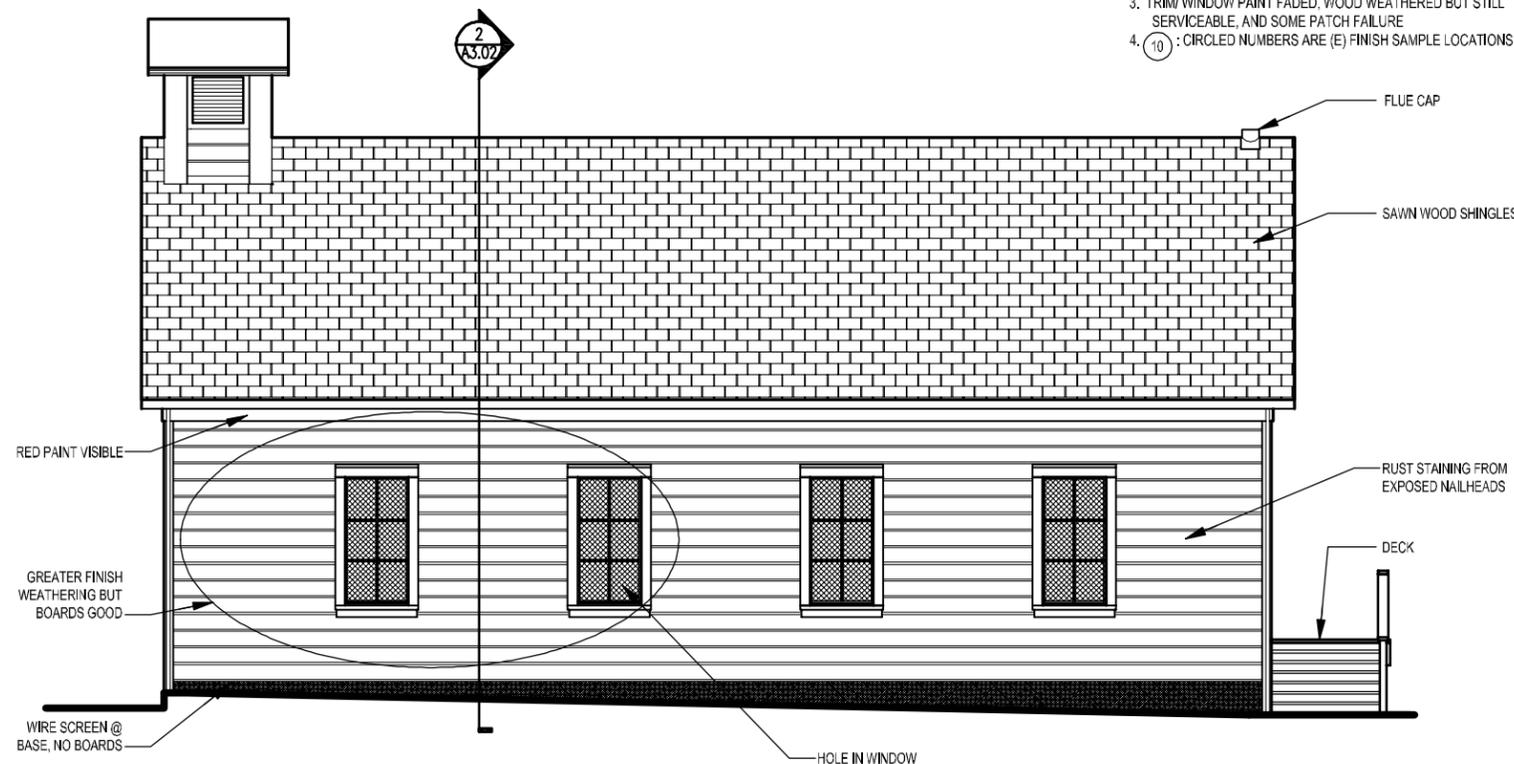
GENERAL NOTES

1. CHINKING BETWEEN SOME BOARD ENDS
2. STAPLES FOR FOUNDATION SCREEN ARE RUSTING
3. TRIM/ WINDOW PAINT FADED, WOOD WEATHERED BUT STILL SERVICEABLE, AND SOME PATCH FAILURE
4. (10) : CIRCLED NUMBERS ARE (E) FINISH SAMPLE LOCATIONS



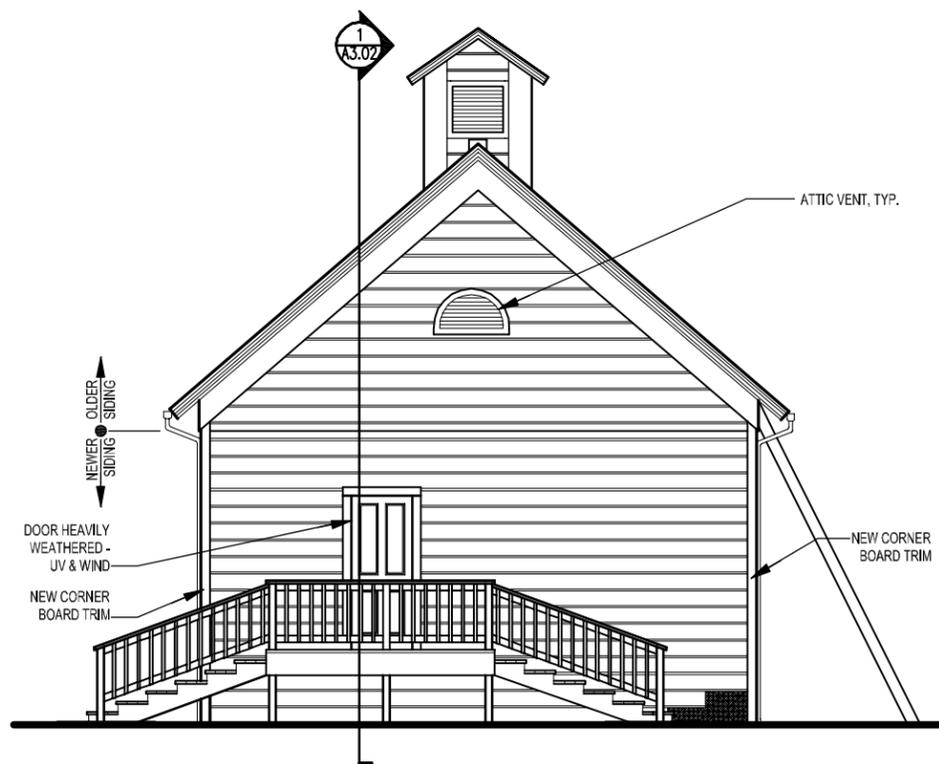
3 NORTH ELEVATION

1/8" = 1'-0"



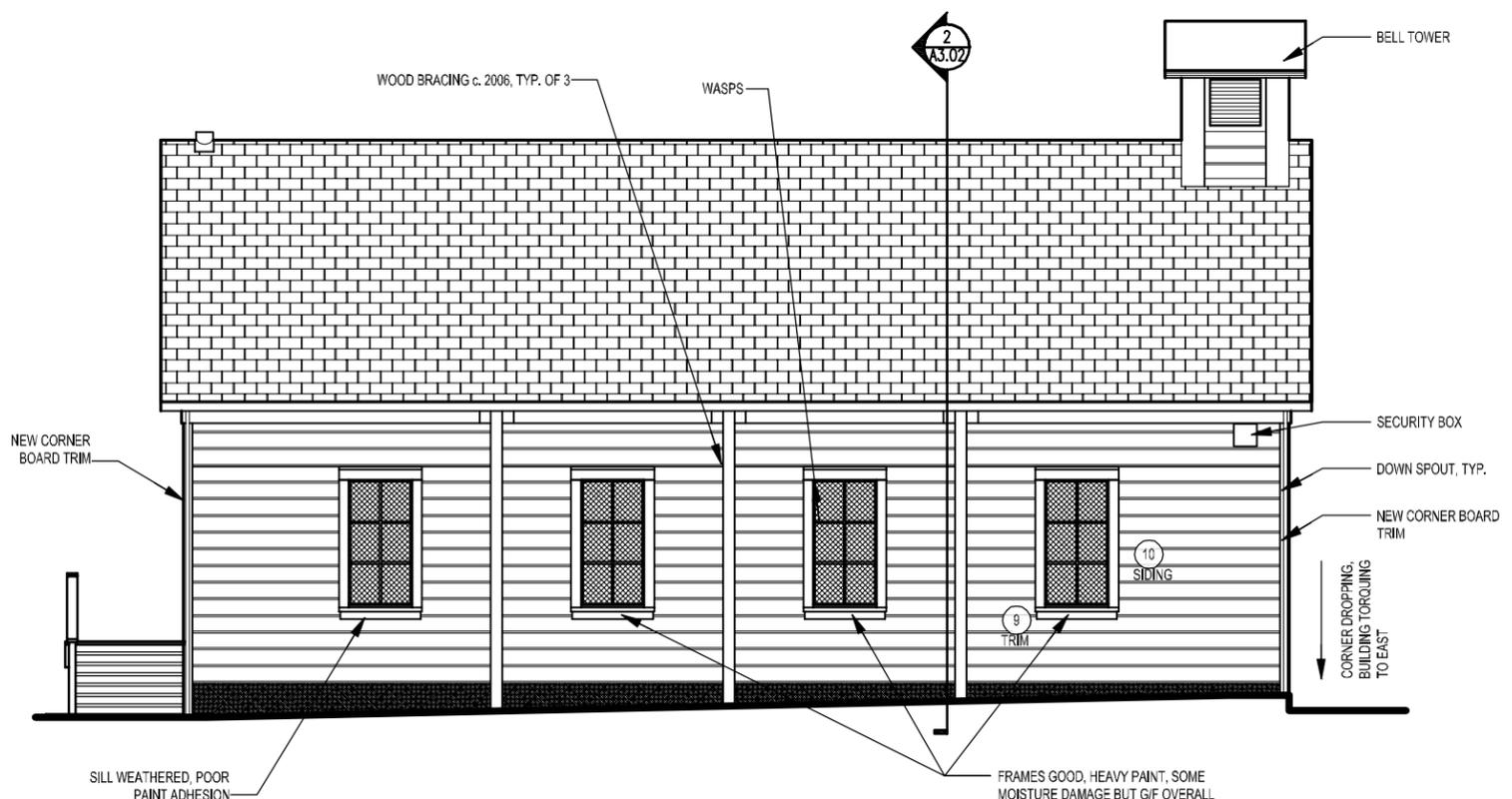
1 WEST ELEVATION

1/8" = 1'-0"



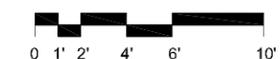
4 SOUTH ELEVATION

1/8" = 1'-0"



2 EAST ELEVATION

1/8" = 1'-0"



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ELEVATIONS
 EXISTING EXTERIOR

PROJ. NO.	2008-001
SCALE	AS NOTED
DATE	09 JUL 2008
PHASE	RECOMMENDATION PHASE
DRAWN	MS
CHECKED	AW

NO.	DATE	REVISION
15	JUL 2008	RECOMMENDATIONS



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 LOCATED AT
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 FOR
 SONOMA COUNTY
 REGIONAL PARKS

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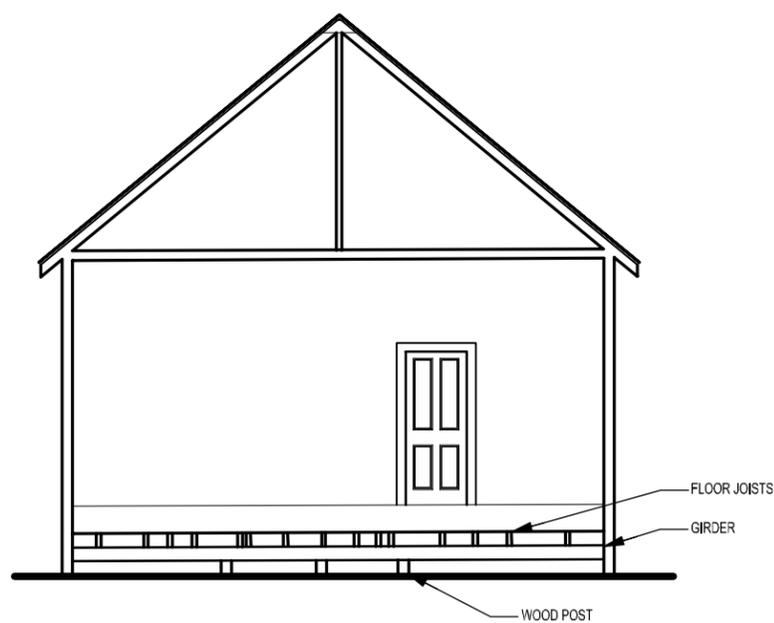
SECTIONS
 EXISTING

PROJ. NO. 2008-001
 SCALE AS NOTED
 DATE 09 JUL 2008
 PHASE RECOMMENDATION PHASE
 DRAWN MS
 CHECKED AW

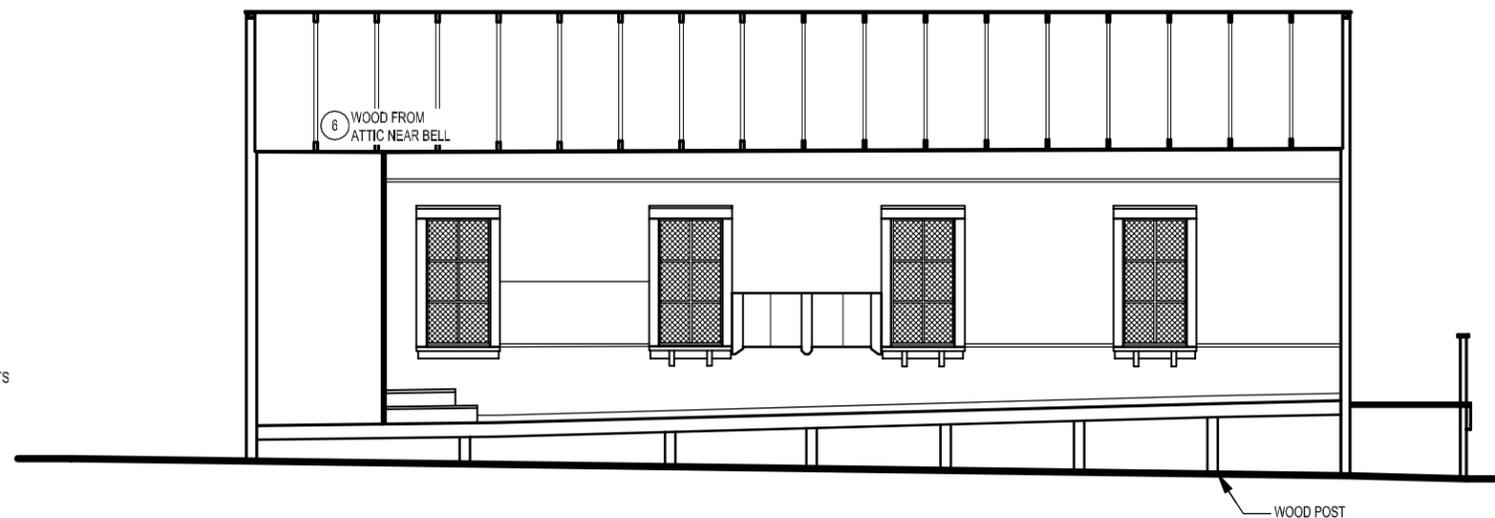
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2 BUILDING SECTION
 1/8" = 1'-0"

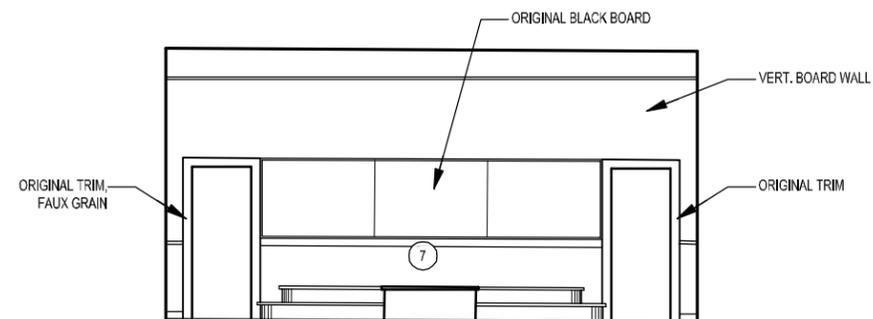


1 BUILDING SECTION
 1/8" = 1'-0"

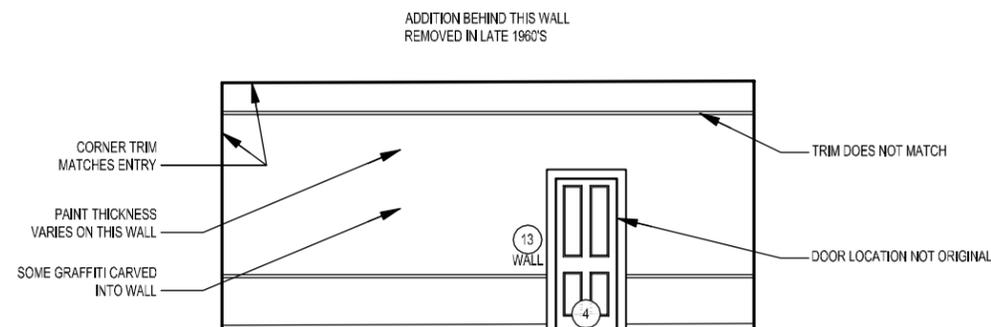


- GENERAL NOTES**
1. WALLS ARE CHINKED
 2. SOME WEATHERING (UV) ON SILLS
 3. WALLS ARE T&G BLIND NAILED
 4. SOME GRAFFITI CARVED INTO WALLS
 5. (10) : CIRCLED NUMBERS ARE (E) FINISH SAMPLE LOCATIONS

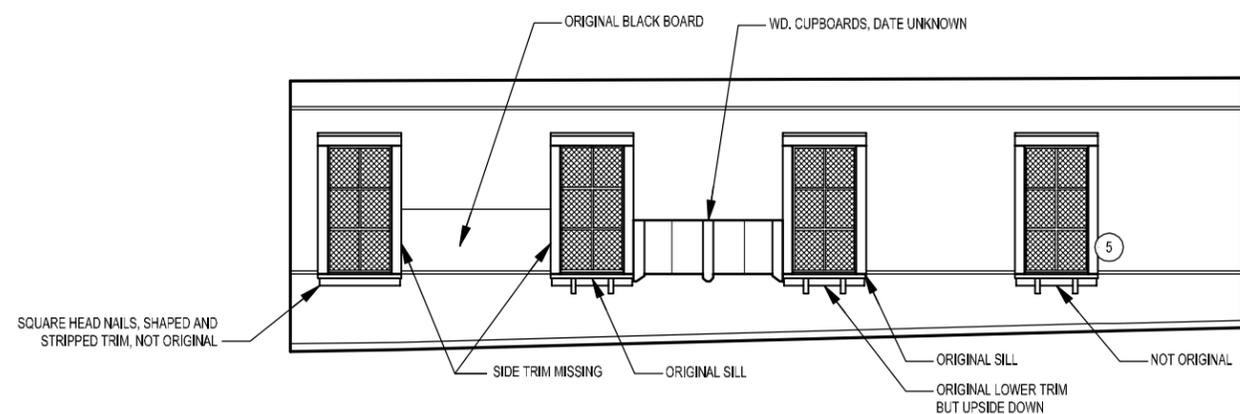
WATSON SCHOOL
 REHABILITATION
 LOCATED AT
 15000 BODEGA HIGHWAY
 FOR
 SONOMA COUNTY
 REGIONAL PARKS



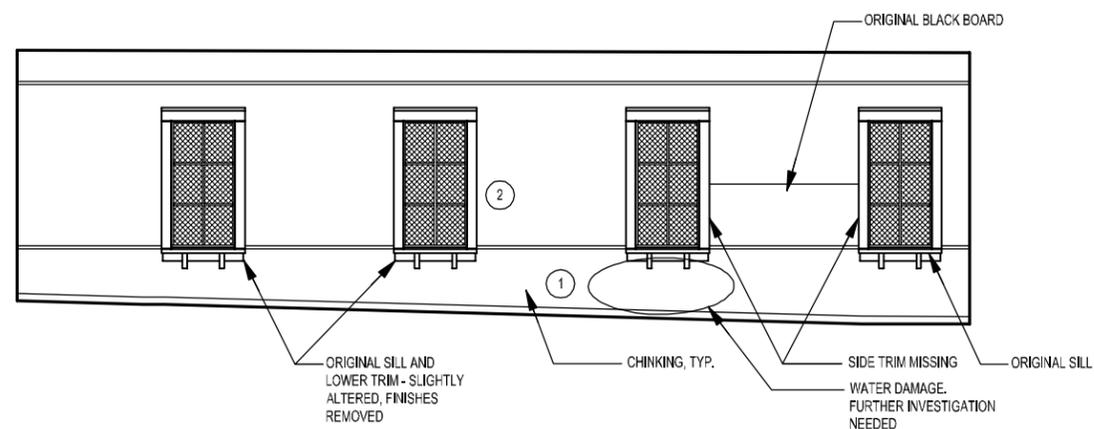
3 NORTH
 1/8" = 1'-0"



1 SOUTH
 1/8" = 1'-0"



4 EAST
 1/8" = 1'-0"



2 WEST
 1/8" = 1'-0"

PROGRESS PRINT
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 NOV. 2008

ELEVATIONS
 INTERIOR

PROJ. NO. 2008-001
 SCALE AS NOTED
 DATE 09 JUL 2008
 PHASE RECOMMENDATION PHASE
 DRAWN MS
 CHECKED AW

NO.	DATE	REVISION
15	JUL 2008	RECOMMENDATIONS

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CHAPTER 4: PROPOSED WORK & RECOMMENDATIONS

The County of Sonoma intends to reopen Watson School to the public as an interpretive space representing early 20th century one-room schoolhouses. These building types were once common throughout the area and shaped the educational experiences of many generations. The intention is to recreate the classroom space as it appeared c.1900 for educational purposes and for public enjoyment. The building will be open limited hours or by appointment. Additionally, the building may be utilized for community gatherings or meetings on a limited basis.

The overall goal of the project is to accurately represent the building in its c.1900 appearance with some upgrades to systems to allow for modern climate controls, safety, security and electrical loads.

Drawings summarizing the proposed work and recommendations will be included in this section upon review and completion of this document.

HISTORIC STATUS AND RELATED IMPLICATIONS

As a National Register listed historical resource, any work to the Watson School should follow the Secretary of the Interior's Standards for the Treatment of Historic Properties. Therefore, it is important that these guidelines be included as a vital part of the planning and implementation processes.

The Secretary of the Interior has developed a series of Treatments and Guidelines for dealing with historic properties. There are four types of treatments, each with their own very specific definitions, standards and guidelines for implementation: Preservation, Rehabilitation, Restoration and Reconstruction. Of these four treatments, Restoration is the most appropriate for guiding work on the Watson School.

Restoration

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

- 1) A property will be used as it was historically or be given a new use which reflects the property's restoration period.
- 2) Materials and features from the restoration period will be retained and preserved. The removal of materials or alteration of features, spaces, and spatial relationships that characterize the period will not be undertaken.
- 3) Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate and conserve materials and features from the restoration period will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.
- 4) Materials, features, spaces, and finishes that characterize other historical periods will be

documented prior to their alteration or removal.

- 5) Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize the restoration period will be preserved.
- 6) Deteriorated features from the restoration period will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials.
- 7) Replacement of missing features from the restoration period will be substantiated by documentary and physical evidence. A false sense of history will not be created by adding conjectural features, features from other properties, or by combining features that never existed together historically.
- 8) Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
- 9) Archeological resources affected by a project will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
- 10) Designs that were never executed historically will not be constructed.

Restoration as a Treatment

When the property's design, architectural, or historical significance during a particular period of time outweighs the potential loss of extant materials, features, spaces, and finishes that characterize other historical periods; when there is substantial physical and documentary evidence for the work; and when contemporary alterations and additions are not planned, Restoration may be considered as a treatment. Prior to undertaking work, a particular period of time, i.e., the restoration period, should be selected and justified, and a documentation plan for Restoration developed. This CHSR is part of the documentation plan for the restoration of Watson School. It is designed to be used with the Maintenance Plan and Management Plan being developed as part of this phase of work. These documents will be included in appendices at the end of this document once this report is finalized.

BUILDING CODE ANALYSIS

All building projects must meet a defined minimum level of life / safety requirements to protect human life and the building resource itself. The State of California adopted the 2006 International Building Code (IBC) along with specific additions, deletions, and classifications and is known as the 2007 California Building Code (CBC). This code includes requirements for disabled access to sites and buildings, and has developed extensive energy conservation requirements. This code typically applies to projects when more restrictive than the IBC. In addition, the State has specific methodologies for addressing "historic" structures. This code is referred as the California Historical Building Code (CHBC). This specific project, being a qualified historic property, allows the CHBC to be utilized for code evaluations.

The CHBC is utilized for qualified historic buildings and provides alternative methods for meeting the spirit of the "regular" code and a level of safety, which protects the occupants of the structure. It is *the* code, which may be used for historic structures when desired by the project sponsor. As a nationally listed historic landmark, Watson School is eligible to use the CHBC if so granted by the County of Sonoma.

General sections that establish the intent of the 2007 California Historical Building Code are quoted as follows:

8-101.2 Purpose

The purpose of the CHBC is to provide regulations for the preservation, restoration, rehabilitation, relocation or reconstruction of buildings or properties designated as qualified historical buildings or properties (Chapter 8-2). The CHBC is intended to provide solutions for the preservation of qualified historical buildings or properties, to promote sustainability, to provide access for persons with disabilities, to provide a cost-effective approach to preservation, and to provide for the reasonable safety of the occupants or users. The CHBC requires enforcing agencies to accept solutions that are reasonably equivalent to the regular code (as defined in Chapter 8-2) when dealing with qualified historical buildings or properties.

8-101.3 Intent

The intent of the CHBC is to facilitate the preservation and continuing use of qualified historical buildings or properties while providing reasonable safety for the building occupants and access for persons with disabilities.

8-102.1 Application

The CHBC is applicable to all issues regarding code compliance for qualified historical buildings or properties. The CHBC may be used in conjunction with the regular code to provide solutions to facilitate the preservation of qualified historical buildings or properties. The CHBC shall be used by any agency with jurisdiction and whenever compliance with the code is required for qualified historical buildings or properties.

8-103.1 Authority

The state or local enforcing agency, pursuant to authority provided under Section 18954 of the Health and Safety Code, shall administer and enforce the provisions of the CHBC in permitting repairs, alterations and additions necessary for the preservation, restoration, reconstruction, rehabilitation, relocation or continued use of a qualified historical building or property.

8-104.1. State Historical Building Safety Board (SHBSB).

In order to provide for interpretation of the provisions of the CHBC and to hear appeals, the SHBSB shall act as an appeal and review body to state and local agencies or any affected party.

8-104.2 SHBSB Review

When a proposed design, material or method of construction is being considered by the enforcing agency, the agency chief, the building official or the local board of appeals may file a written request for opinion to the SHBSB for its consideration, advice or findings. In considering such request, the SHBSB may seek the advice of other appropriate private or public boards, individuals, or state or local agencies. The SHBSB shall, after considering all of the facts presented, including any recommendation of other appropriate boards, agencies or other parties, determine if, for the purpose intended, the proposal is reasonably equivalent to that allowed by these regulations in proposed design, material or method of construction, and it shall transmit such findings and its decision to the enforcing agency for its application. The Board may recover the costs of such reviews and shall report the decision in printed form, copied to the California Building Standards Commission.

8-104.3 CHBC Appeals.

If any local agency administering and enforcing the CHBC or any person adversely affected by any regulation, rule, omission, interpretation, decision or practice of the agency enforcing the CHBC wishes to appeal the issue for resolution to the SHBSB, either of these parties may appeal

directly to the Board. The Board may accept the appeal only if it determines that issues involved are of statewide significance. The Board may recover the costs of such reviews and shall make available copies of decisions in printed form at cost, copied to the California Building Standards Commission.

Watson School Code Analysis

Basic building code analysis was undertaken to define the context for applicable codes and areas of non-compliance. Because this is a qualified historical building we start with the California Historical Building Code (CHBC) prior to utilizing the California Building Code (CBC) parameters. The building was evaluated for its construction type, occupancy, proximity to other buildings, etc. Overall, the building meets minimum requirements with a range of future uses in most of the general life-safety code arenas.

To recap, the proposed uses for Watson School include interpretive space, collections display and limited community gathering space. If the building were to be returned to its original Educational Use, i.e. Montessori school, further code research would be required.

Life Safety Issues for Building

Evaluation for Watson School is based on Type 5 non-rated construction. Compliance with the CBC wall rating, property line, and unprotected opening proximity are not an issue for this building. The area and height of the building are also within limits for the existing (and similar proposed) uses.

Occupancy (Use)

This discussion utilizes the occupancy classification of A-3 as the basis of the code analysis. This occupancy is defined as "Assembly uses intended for worship, recreation or amusement and other assembly uses ..." Examples of such uses are, but not limited to, art galleries, community halls, lecture halls, conference or meeting rooms and museums, typically without fixed seating. All would be appropriate uses for Watson School.

Building Height

Under the CHBC the building height and number of stories are not limited as long as they do not exceed the historical design. Since there are currently no plans for additional levels, height and number of stories are not an issue.

Egress Compliance

Based on the probable uses the occupant load of the building will require only two means of egress. Three means of egress presently exist.

Fire Detection and Suppression

The building contains a smoke detector and a fire alarm system. There were no fire extinguishers or sprinkler systems present at the time of evaluation. According to CBC Section 903.2.1.3 sprinklers are not required. Code compliance should be re-evaluated if a fire suppression system is installed.

Exterior Wall Openings

One hour rated wall is required if the building is less than 5 ft. from the property line as per CBC Table 602. No opening protections are required. Watson School is within this boundary, therefore wall rating upgrades are not required at this time.

Universal Access

The building has no accessibility components in place. They will generally only be required to become compliant when certain types of construction work and use changes are undertaken. There is general non-compliance with disabled access (excepting for residential use). Major construction work may trigger full compliance for accessibility depending upon the local building authority.

The County of Sonoma is advised to consider the potential implications of utilizing the accessibility provisions of the Americans with Disabilities Act (ADA) [28 CFR, Part 36] when completing accessibility upgrades to the building. It is important to note compliance with the ADA may require adherence to provisions that are stricter than those found in the California Historic Building Code (CHBC). For instance, the ADA requires that at least one entrance be part of an accessible route requiring 32" minimum clearance at doorways and 36" minimum clearance in a hallway. The CHBC encourages full compliance where possible; however, offers alternative accessibility provisions to accommodate retention of character-defining features. The CHBC, for example, allows for a 29 1/2" clear opening at doorways (typically swing-away hinges are utilized to generate a clearance as minimal as this). This discussion is for example purposes only and should not be construed as a final evaluation of the Watson School.

Parking

There is one accessible parking space and is located near the north entry. Currently there is no proper identification or signage for accessible parking. The entrance to the site from the parking space is via a concrete walkway, which is currently at grade level but does not extend to an entry point for the building. Please see below for further discussion.

The CBC states that one accessible parking space is required for the existing size of the on site lot. The accessible parking size shall be 14 feet wide and lined to provide a 9-foot parking area and a 5-foot loading and loading access aisle on the passenger side of the vehicle. Parking access aisle shall be a part of an accessible route of travel to the building entrance. The minimum length of each accessible parking space shall be 18 feet. The words "No Parking" shall be painted on the ground within each 5-foot loading and unloading access aisle. (CBC Sect. 1129B.3). Proper identification of parking spaces shall be as follows: Each parking space reserved for persons with disabilities shall be identified by a reflectorized sign permanently posted immediately adjacent to and visible from each stall or space, consisting of the international symbol of accessibility in white on a dark blue background. The sign shall not be smaller than 70 square inches in area and, when in a path of travel shall be posted at a minimum height of 80 inches from the bottom of the sign to the parking space finished grade, (CBC, Sect. 1129B.4).

Such a sign should be installed to bring the existing space up to current code. The current unpainted gravel lot poses no space limitations on the accessible parking spot. Should the lot be paved at any point in the future, careful attention should be paid to the size and placement of the designated accessible parking in relation to the other parking spaces in the lot.

Accessible Entrance

Two doors at front of building (each 32 in. wide) located on the north elevation currently do not provide disabled access. These entrances are over a foot above adjacent grade due to the absence of the entry porch landing.

Back Entrance



One back door (30 in. wide) located on the south elevation currently does not provide disabled access. The entrance is significantly above adjacent grade and is accessed via a set of wood stairs and wood deck.

Interior-

The original amphitheater style classroom floor slopes toward the teacher's desk or teaching platform at the front of the class. This slope is less than 1:20 and is therefore not considered a ramp. No railing is required.

Restrooms

There are no toilets or plumbing in the building and currently no plans for the installation of toilets. There is an accessible public portable toilet on site at the adjacent wayside park.

Directory Signage

There is no signage for disabled parking, access, or ability to locate assistance for the disabled.

Seismic Stability

The building has been well maintained. The structure is in good condition with only two major structural deficiencies, which in general are the post and girder foundation and the lateral stability in the east-west direction. The combination of these two deficiencies has caused a bow in both the roof and floor diaphragm, as well as a visible lean in the structure.

RECOMMENDATIONS

As previously discussed, the County of Sonoma wishes to open Watson School to the public as an interpretive site demonstrating the appearance and function of an early 20th century one-room schoolhouse. It will serve as an educational facility as well as a community focal point for the many local individuals who attended the school before it closed in 1967. The intention is to restore the school to its c.1900 appearance while accommodating seismic safety, universal access and climate control concerns.

General

Restoration of Watson School to its early 20th century appearance does not require a large amount of alteration. The most pressing issues for the building are structural and include constructing a new concrete foundation to replace the wood-on-grade conditions and to more evenly support the floor girder and beam system. As part of the foundation work, the building should be pulled back into a vertical state and braced with additional plywood sheathing. This will improve structural stability in general as well as provide code compliant seismic strengthening. Firm bolted connections between the roof and the walls, and between the foundation and the floor, and plywood sheathing of the ceiling are also recommended seismic strengthening options. All are discussed in further detail below.

Exterior

Although the building's existing straight sheathing diaphragms are flexible enough that they will tolerate the return to close to original geometry with little distress, the north and south walls should be sheathed with plywood to improve the structural capabilities of the building. This should be done from the exterior to avoid disturbance of the interior wall finishes. The existing exterior siding should be documented for re-installation prior to removal for installation of the new plywood.

Any new exterior cladding should match the existing in size, style, species and dimension.

Limited replacement of siding has occurred in the past but was done with compatible materials. This practice should be continued. For those areas that have experienced the most severe weathering (west elevation) and have been caulked, all caulking and filler should be removed to facilitate more detailed investigation. All salvageable material should be reused. Based on current understanding, less than 20% of the siding should need replacement.

Windows

Historic photographs and descriptions of the building indicate that the original windows were six-over-six double-hung wood sashes. None of these windows exist today. Historical materials should be used to verify configurations and to inform the recreation of these windows for reinstallation. If security is an issue, special glass or films can be used to improve glazing strength and can be installed during manufacture.

Doors

According to earlier reports, the existing front doors do not appear to date to within the period of significance. However, they are historically appropriate for the building and should not be replaced. Based on the results of finish analysis, they should be painted to recreate a historically appropriate painting scheme. These two doors do not meet current ADA compliance.

The rear door is not original and does not date to the period of significance. It's location may be that of one of the former restroom access doors, but this can only be verified after partial deconstruction of the rear wall. Because this restroom was a later addition and is not being recreated, this rear door and door opening represent the most appropriate location for an accessible entrance. This entry can be widened to meet code requirements and the necessary ramp can be constructed adjacent to the building without impacting historic circulation patterns or appearances.

Attic / Roof

After the building is raised and pulled back to as near the original geometry as possible, the roof diaphragm should then be sheathed with plywood. As a part of this sheathing installation process the shear transfer connection will be provided to the wall top plates. This work can be done from the attic to avoid impacts on historic ceiling finishes below.

Foundation

The foundation for Watson School has been replaced several times. In each case, the wood post-and-beam system was replaced in-kind. While this is an acceptable and often recommended preservation approach, the poor soil compaction, potential for flooding, seismic concerns and wind loads upon the building warrant a more stable and permanent foundation solution. Installing such a system will allow for a more stable and long-lived base to guard against further damage to the rest of the historical resource.

Any foundation work to Watson School will require the building to be raised off its current foundation. As part of this process, the building will have to be squared and braced to restore its original geometry. The existing braces should be carefully removed to prevent further damage to historical finishes and materials. It may be desirable to leave some bracing in place during foundation work until the building has been properly shored and the framing supplemented to provide adequate support.

A new concrete foundation is recommended first to provide a more stable support for the girder and joist system of the floor framing and second to separate the wood supports from contact

with the ground. This will inhibit moisture infiltration and discourage termite and insect damage. Several types of foundation are appropriate choices to address both the seismic requirements of this building type as well as the soil conditions found at this site. However, implementation of any foundation should be designed and reviewed by a geotechnical engineer for appropriateness to the site.

Based on the results of recent soils analysis, a grid foundation consisting of a series of interconnected spread footings, reinforced in both directions is recommended. Footings should be no further than 16-feet apart in each direction. This type of foundation should not contain any isolated footings.

A potential second option is to install an eight-inch concrete mat foundation, poured at grade. This is a more economical option and approximates the conditions obtained in the interconnected grid foundation system. The slab should turn down at least 12-inches below grade at the perimeter. The surface should be sloped to a single drain outfitted with a sump pump to prevent water from building up under the building.

The foundation solution should be chosen to best fit the historic architecture. In this case, either are acceptable options because both can be masked by the reinstallation of wood siding down to near grade. Both allow for a crib wall at the perimeter that can effectively separate any framing members from grade while allowing for the building to maintain its historic height above grade. Siding to match the existing should be installed down to at least 8" above grade (as determined by code.) Any exposed concrete should be painted to match the siding to minimize its appearance. This will hide most of the foundation improvements and restore the historic appearance of the building.

The two options have various cost and practical benefits. Regardless of the chosen solution, a more substantial barrier should be installed at the foundation level to prevent pests from gaining access to the crawl space beneath the building. Heavy stainless steel or fiberglass mesh should line any vents and openings.

Interior

Classroom

The primary interior space is the classroom. No changes are proposed at this time to the configuration of the space. Systems modifications can be undertaken to minimize loss of historic fabric and are discussed in the appropriate sections below.

Finishes

Prior work in this space has resulted in the loss of potentially historic finishes. Faux wood graining is still extant on the door trim near the main blackboard, but evidence of it has been found on several window trim elements as well. These window trim elements have been chemically stripped to bare wood, largely destroying the graining finish.

Finish samples were collected during the course of this report. Their locations are noted on the existing conditions drawings included with this document. When time and money are available, these finishes should be analyzed for chemical content and color chronology to determine the order and approximate dates of finish layers. A less costly measure would be to analyze the samples for color chronology only and make appropriate recommendations for recreation in modern materials.

No alteration to the floor, wall or ceiling finishes should be done without further investigation of what would be historically appropriate for the space and the use. This could range from period appropriate recommendations to identification of actual finish colors, types and chemical makeup based on the collected samples.

Attachments and Furniture

Interpretation of this classroom space should be done with easily removable items so as to not damage any historic finishes. Holes in the walls, floors and ceilings are highly discouraged. Frequent attachments to the walls are also discouraged. Attachments should be limited and should be reversible. Utilize the existing molding to hang pictures and paintings, as would be historically appropriate.

Front rooms

There are two front rooms that currently serve as an entry and as storage. Both have built in shelving. One currently contains an old hot water tank and the other has an access hatch to the attic, a pass-through for the bell rope and the electrical panel. These two rooms should remain in their current configurations, but they are of less historical importance than the main classroom. Any systems modifications should be accommodated in these spaces as a first course of action.

The water tank can be removed. Its historical context and date are unknown but it currently does not serve any purpose in the space and is no longer needed in the building.

Once any upgrades to the electrical panel are made, it should be enclosed in a small historically appropriate cabinet to maintain the utilitarian appearance of the entry space. If this space is to remain the primary entry to the building, the electrical panel should be relocated to the other front room. If both rooms will be used as entry points, the electrical panel should remain where it is.

Systems

Mechanical

Currently, there are no plans to install any mechanical systems i.e., heating, ventilation, and air conditioning, within the restored building. Building ventilation can be accomplished by opening doors and windows as needed. There is the possibility that a period wood stove will be used for heating the building's main room.

A heating system of baseline capacity is recommended. Some form of temperature control is desirable in a space that will house historical artifacts. This will limit temperature extremes and help to control moisture, limiting impacts on the collections. Such a system should be located out of direct site in secondary spaces. Options include under the building (preferred), in one of the front rooms (if not used as a point of egress) or in a secondary structure adjacent to the building (but not attached.) All ducting can be run from either below or above to limit impacts on historic finishes.

Electrical

Replace the main power feed junction box with a new junction box and short conduit run. Currently, the main power feed junction box has several sharp edges, which potentially could create an electrical short circuit that could cause an electrical fire within the building. Add approximately three (3) duplex receptacles to the school building's main room: one on each of the side walls and one in the storage box located at the front of the main room. All new

electrical cabling can be run within the walls and crawl space of the building so that they are hidden from view. Replace or repair the currently installed lights so that they are operable.

There is evidence of previously installed outlets along the base of the west wall. These openings should be utilized for new outlets as a first course of action if possible. Period lighting should be installed or the current lighting refurbished to be compatible with modern circuitry.

Plumbing

If city water service is desired, the local water company should be contacted to determine what options exist. Leave currently installed wellhead, galvanized piping, and electrical cabling in place unless otherwise required to remove these items. If onsite restrooms are being considered for the site, add a new well and electrical service to the new wellhead. Install new plumbing from the newly installed wellhead to the onsite restrooms. No electric water heater needs to be installed since only coldwater service is expected to be onsite. Suitable restroom drainage plumbing will need to be installed between the restrooms and a septic field that will need to be properly located on the adjoining property.

Cable

If cable service is desired, the local cable television operator should be contacted to see what options exist.

Gas

If gas service is desired, the local gas service operator should be contacted to see what options exist.

Telecommunications

Depending on proposed use and data communication requirements a structured cabling system can be installed to provide the necessary connections. Local service providers would have to be contacted to determine what services are available. This may be desirable if multimedia displays are under consideration in the interpretive space. It will also be necessary if any credit card transactions are anticipated on site, for a gift shop or other retail.

Fire Alarm and Security

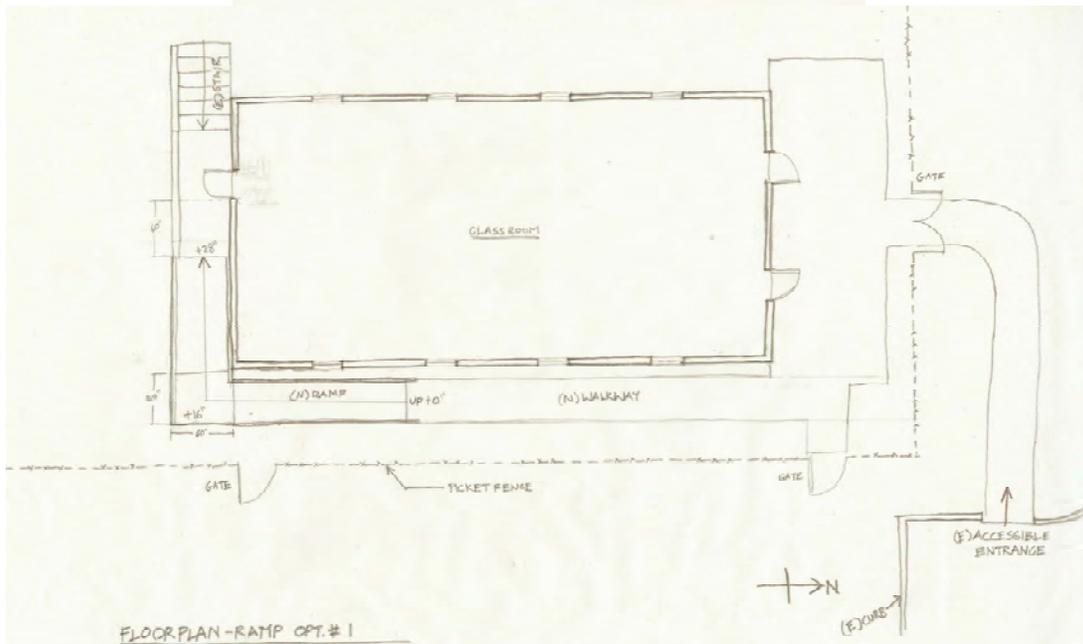
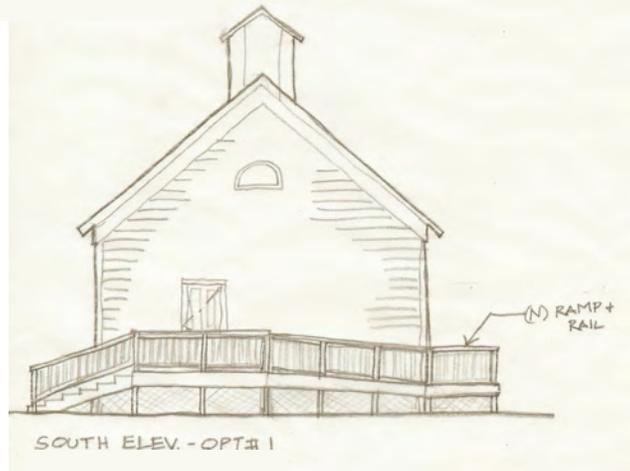
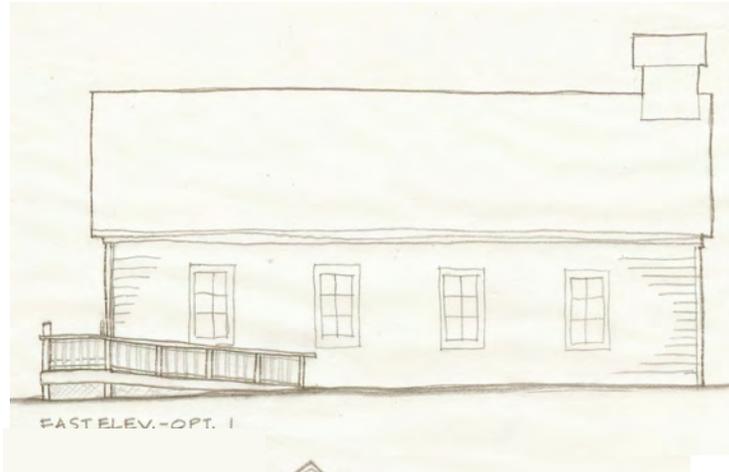
Adjust the sensitivity of the motion detector to minimize nuisance trips. If a sprinkler system is installed, the monitoring panel will need to be upgraded to accommodate the additional equipment. It should be considered whether the panel should remotely dial to notify local authorities in the event of an alarm in addition to triggering the existing bell.

If the County decides to install a sprinkler system in the building, it should be done with as little impact on the historic finishes as possible. Sprinkler heads should be retractable and/or mounted flush with the ceiling. All piping should be routed through the attic and any water tank should be stored either under the building or in a secondary space such as an unused entry room. Further study may be necessary to more fully develop implementation options if sprinklering is required.

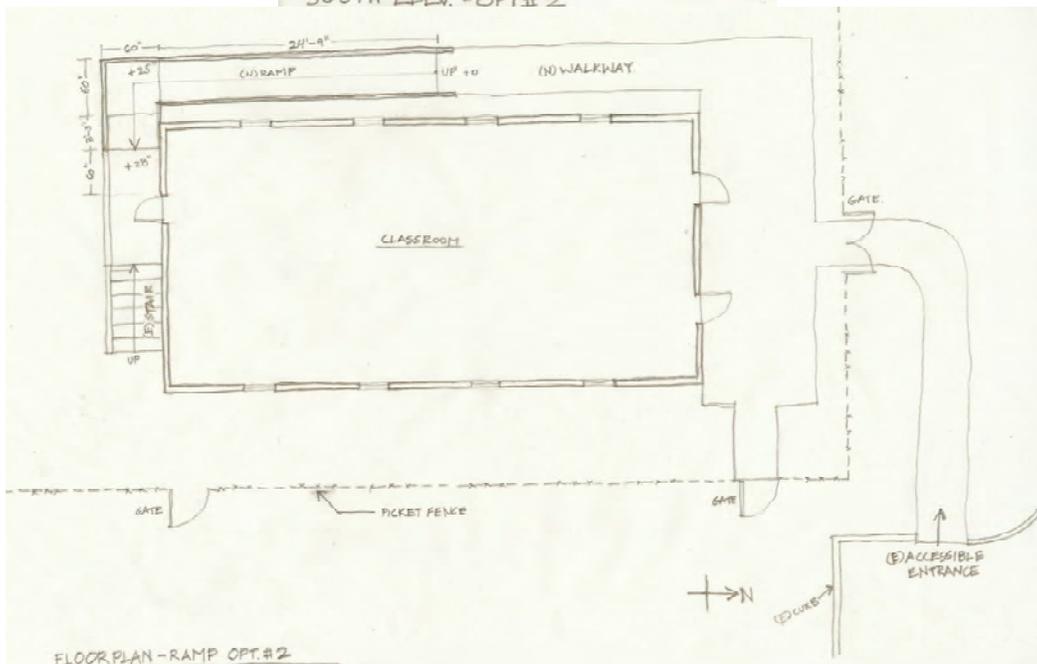
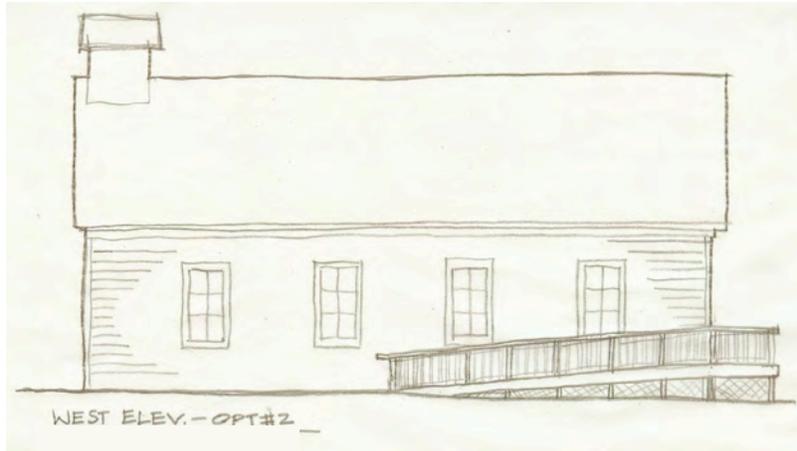
Universal Access

A dedicated parking space reserved for persons with disabilities should be properly identified with standard signage as discussed above. The path from the parking space to the building should be directed along the east side of the building, along the outer edge of the current picket fence.

A new accessible entry will have to be constructed. This will require the construction of an accessibility ramp as well as a properly sized entryway. It is recommended that the ramp be located along the east side of the building, ramping from grade near the northeast corner up to the rear wood deck. (See following sketches for current preferred ramp locations.) The current south entry is non-historic and is the most appropriate entry point to modify for universal access. This will provide access to all interior spaces. No further access-related modification to the interior is required by current code standards.



This sketch illustrates first preferred option for the accessible ramp location and configuration.



This sketch illustrates second preferred option for the accessible ramp location and configuration.

PHASED WORK PLAN

To facilitate planning and fundraising, the restoration work at Watson School can be completed in several phases. With completion of each phase, the building will be incrementally upgraded seismically as well as improving the general weatherability and functionality of the building. Occupancy of the building could occur after any of the following phases, but to provide the highest level of public safety and accessibility, as well as for the highest protection of the anticipated collections, it is recommended that all work be completed before the building is put into regular use.

All cost estimates provided here are based on the following assumptions:

Work will be completed at prevailing wages,

- Minimum of 5 competitive bids,
- Construction timeline will be approximately six (6) months,
- A 32.5% escalation rate has been included to cover construction escalation costs over the next 5 years (through 2014),
- And a series of industry standard contingencies including but not limited to:
 - General allowances
 - Contractor fees
 - Design/estimating fluctuations

Phase 1: Foundation and Site work

Sub-Phase 1a: New Foundation Installation

- Raise building and secure to facilitate installation of new concrete foundation. Some excavation may be necessary.
- Remove damaged wood piers.
- Replace damaged floor joists and beams as required. Replacement should be in kind with same species, dimension and orientation as that found in the selections being removed.
- Construct concrete foundation.
- Tie floor framing to foundation for increased seismic stability
- Install siding boards salvaged from onsite (if available) or new boards to match existing. Siding should extend down to grade to cover the new concrete foundation. All trim should also be extended to grade where appropriate.

Total estimated construction costs for Phase 1a with escalation fees and contingencies: \$99,733.00.

Sub-Phase 1b: Site Enhancement

This work should be completed before public access is provided on a regular basis. These improvements are primarily concerned with general access to and movement within the resource site.

- Drainage – Any material excavated and replaced during foundation construction should be graded to direct water runoff away from the building. French drains should be considered as an additional moisture management option at this time.
- Walkways – An accessible pathway and entry ramp will be required. This work should take place after all foundation and drainage work has been completed. Decomposed granite is a recommended pathway covering because it will promote drainage while still

- providing a universally accessible surface.
- Ramp and rear deck – A ramp for wheelchair access to the south entry should be located on the east side of the building, making a right turn onto the rear deck. A wood ramp and deck is recommended. It should be independent from Watson School and should provide for adequate ventilation and air circulation where it is adjacent to the building.
- Parking enhancements – Universal access requires the installation of at least one parking space reserved for disabled visitors. While this space currently exists, additional signage and limited surface improvements are needed.
- Front landing – Construction of a new, self-supporting wood or concrete landing is needed to provide access through the front doors. The landing should be independent from Watson School and proper protections against impact damage during an earthquake should be included. The historic design of this element is unknown, therefore its design should be compatible with the historic resource, but should not attempt to provide any false sense of historical development. A simple, contemporary interpretation of a traditional landing is the most appropriate course of action.

Total estimated construction costs for Phase 1b with escalation fees and contingencies:
\$36,454.00.

**Total estimated construction costs for Phase 1 with escalation fees and contingencies:
\$136,187.00.**

Phase 2: Seismic Stabilization

Sub-Phase 2a: Building Envelope

- Carefully remove siding from north and south ends. Siding should be removed with the intention of reinstallation after plywood sheathing is installed.
- Install diagonal bracing between north and south framing members as needed to return and maintain building in a squared configuration.
- Modify existing south entry for universal access. Installation of a period-appropriate 30" wide door is recommended.
- Install continuous plywood sheathing over north and south exterior framing.
- Reinstall salvaged siding. If some siding is damaged and cannot be reinstalled, replacement siding in the same wood species and configuration can be used. If a large amount of material is damaged, usable original material should be reinstalled on the north façade first, starting at the roofline. New material should be used at grade and/or on the south elevation if possible.

Total estimated construction costs for Phase 2a with escalation fees and contingencies:
\$46,426.00.

Sub-Phase 2b: New Systems (electrical, HVAC, Security)

Installation of new systems should be undertaken at this time. Any new piping and conduit that may need to extend up from the foundation can be installed while the north and south walls are open and exposed. The few interior partitions are single-board construction and cannot conceal ductwork or wiring.

Total estimated construction costs for Phase 2b with escalation fees and contingencies:
\$31,796.00.

Sub-Phase 2c: Windows

Installation of reproduction wood windows built to match those removed in 1990 should be done concurrently with other building envelope work. However, this sub-phase can be completed at a later date. It is recommended that it be completed prior to installation of any interpretive displays in the interior space.

- All existing windows should be removed.
- Remaining frames and openings should be assessed for fit, stability and condition. There is some evidence that the original frames may be present, in whole or in part. These elements should be repaired and reused to the greatest level possible.
- Reproduction windows should be operable and glazed with single-pane, tempered glass. All doors and windows should be connected to a monitored security system.

Total estimated construction costs for Phase 2c with escalation fees and contingencies: \$17,711.00.

Phase 2d: Roof

When the roof is replaced, work should be completed to strengthen the connections between roof framing members and the walls of the building. This requires that the roof be removed, therefore it is most cost effective to do this work at the same time as the roof material is being replaced.

- Remove existing (non-historic) roofing material. Retain existing framing and sheathing.
- The roof diaphragm should then be sheathed with continuous plywood to transfer sheer stresses to the top of the wall plates.
- Install through-bolts at regular intervals to connect roof framing to the wall plates.

Total estimated construction costs for Phase 2d with escalation fees and contingencies: \$41,333.00.

Total estimated construction costs for Phase 2 with escalation fees and contingencies: \$136,966.00.

Phase 3: Interior work

Any interior improvements should wait until major building construction has been completed. This would include foundation installation and seismic retrofitting of the building envelope and roof. Environmental systems and security monitoring should also be complete prior to beginning interior restoration.

- Preparation of the 12 finish samples collected during the site visit for this study is recommended. Preparation includes embedding of the samples in stable, non-yellowing, non-reactive conservation-grade epoxy and mounting of a thin section on slides for microscopic viewing. Having the samples ready for analysis will decrease later analysis costs and protect the samples for deterioration in the interim period. This preparation is estimated to cost \$300 for the mounting of 12 samples.
- Depending on the level of detail desired, most of the interior finishes should remain in their current state. Once a finish analysis has been completed, more information on the appropriate colors and finish selections will be available to inform the aesthetics of the primary exhibit space. Until then, the interior appears to be fairly accurate to its final days as a one-room schoolhouse.
- Interior work should be limited to painting, installation of trim as necessary, installation of period appropriate lighting and repair to existing paneling and finishes.
- Installation of additional lighting for displays is not recommended. As an alternative,

display boxes can be wired for individual lights or temporary area lighting could be used.

Total estimated construction costs for Phase 3 with escalation fees and contingencies but including sample preparation for 12 finish samples: \$38,105.00.

The full cost of phase 3 work is highly variable depending on the level of detail afforded by finish analysis, availability of a skilled maintenance and/or volunteer force and the extent of collections intended for display.

Total estimated projected costs with all escalations and contingencies:
\$311,257.00

CHAPTER 5: MAINTENANCE PLAN

The timely maintenance of an historic building is the first line of attack against deterioration of the resource. In many cases deferred maintenance is the primary reason degradation begins, with negative effects rapidly escalating over time. Non-supervised maintenance of the building can also cause damage through well-intentioned work that is not in keeping with the Secretary of the Interior's Standards for Restoration.

In addition to the actual development of a plan, the identification and ongoing training of knowledgeable maintenance personnel should be considered so that all individuals working on the building are familiar with proper procedures. All contractors involved with the work should also be qualified for preservation work and have experience working with historic wood frame buildings constructed with traditional framing/joinery techniques.

It is evident that Watson School has been maintained appropriately. There is very little deterioration of finishes or substrates beyond limited amounts of general wear and tear that occurs in a building of this age and institutional past. It is important that appropriate and regular uses for the building be established to enable continued maintenance and occupation of the building.

As part of continuing the good stewardship that has been exercised at Watson School, ongoing maintenance training should be conducted to insure that all individuals charged with care of the structure and the property remain up-to-date on proper care for historic materials and assemblies. Individuals working on historic structures need a complete understanding of what is, by definition, an appropriate type of procedure and material to be used for maintenance and upgrade work. Ongoing training of maintenance personnel, pre-qualifications of contractors, and supervision of the work on this historic building is warranted and necessary to carry out the stewardship responsibilities of the County of Sonoma Regional Parks Department and tenants in the building. All work undertaken should meet the Secretary of the Interior's Standards for the Treatment of Historic Properties and follow the Guidelines for Restoring Historic Buildings. A complete copy of the standards and guidelines should be acquired and be made accessible for all parties involved with planning or implementing work on the building. Please see the website resources section at the end of this document for further guidance.

The long-term success of Watson School as a historic and community resource is dependant upon its upkeep and frequency of addressing routine maintenance issues. The exact nature of the needs of the resource will be dependent upon the level of work executed. The recommendations that follow take into consideration the existing conditions of the building and site. Some items may not be applicable immediately after the building is restored but may still be applicable at a future date. For ease of reference, the tasks are described by location first. After this several timeframes are presented, each with a series of tasks. Knowing the frequency with which various tasks should be done will help to prioritize budgets and staffing needs over a range of years. Many of these items could be applied to any number of wood-frame historical resources in the County.

MAINTENANCE REQUIREMENTS BY LOCATION AND/OR TYPE General

Excavation

Any excavation at this site must be carefully considered before any action is taken. The age of

the building and the extensive use of the grounds during this period may have resulted in the deposition of historical archeological resources near the surface. Additionally, sensitive prehistorical archeological resources may reside under and around the structure.

Natural Disasters

Inspection of Watson School for damage should be conducted immediately after any strong weather systems, earthquakes or other natural disaster. This includes strong windstorms which are of particular concern for this resource in its current state. This will prevent damage going unnoticed for prolonged periods of time and limit damage from subsequent event. Any holes, leaks or more severe damage should be dealt with, as soon it is safe to do so to stabilize the building until proper repairs can be made.

Moisture and Wood Rot

Trapped or hidden moisture will contribute to the deterioration of building materials like those found in Watson School through the actions of wood rot, biological growth and damage from wet-dry cycles. Wood rot is usually caused by a high water content maintained in wood with the presence of a fungus. Within the appropriate temperature range the wood fibers start to disintegrate, losing their strength. Areas where wood is in direct contact with the ground are other potential problem areas. Wood-Earth contact allows moisture to move from the cool ground up through the ends of the exposed timber. Addressing this problem in the various building zones is discussed below in the appropriate sections.

Insect Damage

Moisture-rich zones are also prime areas for insect damage. Buffering areas of wood-earth contact with concrete or stone will minimize damage. On the interior, minimizing water and water vapor contact and allowing moist wood to dry out are the primary ways to control rot. Moisture protection and water runoff are discussed in other parts of this report. Look for spongy wood or areas of wood with prolonged observable moisture. Damaged wood can be repaired using epoxy consolidants, wood Dutchman, or replacement of the damaged part after water intrusion is corrected.

Moisture sometimes will also contribute to the presence of termites and other wood boring insects. Maintaining the correct earth to wood clearance minimizes pest infestation. Monitor grade conditions and interior areas around windows and doors, which are locations of potential leaks and initial pest traces.

It is advisable to have a termite and structural pest inspection done periodically for the building to identify areas of activity.

Human Activity

Use

The use of the building by staff, concessionaires, tenants and the public is one source of damage, which can be controlled and these effects minimized. Improper modifications, heavy usage, and unsafe activities are contributors. Proper approvals of all work by concessionaires and activities of tenants, protection of areas under heavy usage (carpet runners at door entries and interior paths), proper usage of electrical systems (avoiding circuit overload which can cause a fire) are all methods of avoiding this type of deterioration or damage. Ongoing observations should be made using facility management policies. These policies can be established through a planning workshop or meeting of the various stakeholders and coordinated with county master plan policies. The exact nature and frequency of this use

monitoring will be dependent upon the frequency of use, the groups involved and the numbers of people participating.

Use of the building by the public should be supervised by staff. Gatherings that may threaten the more fragile nature of the structure should be avoided.

Long term use of the building should be considered after careful planning is completed including master planning goals, proper standards review for the intended use, and stakeholder and occupant training. Some uses may have industry standards to guide proper stewardship of historic resources. Once a use has been established and programmatic needs developed, consultation of available resources is recommended. For example, standards and guidelines have been developed by the American Association of Museums (AAM). Interpretation is well defined in the publication *Historic House Museums, A Practical Handbook for Their Care, Preservation and Management* by Sherry Butcher-Youngmans and a whole host of electronic and print media is available for general reference in addition to the guidelines and recommendations contained in this document and binder.

Use of the building as a general visitor center, gift shop, or other public uses should be considered after a determination on visitor load is established. Other structures constructed on the site may be better suited for heavier public use.

Vandalism

Graffiti, carving, breakage, arson, and other forms of vandalism are serious threats to a building. Although not performed by maintenance staff, the limiting of these types of criminal activities must be planned for, which could include law enforcement. Routine inspections of the site are recommended to find damage early and often before it leads to further problems.

Site

Exterior Grade

The proper grade at the exterior of the building minimizes the potential for pest and wood rot actions to take place and keeps water from ponding under and around the building. This is of particular concern when the wood foundations of the building rest on or near grade. Monitoring of the grade level to maintain at least six-inches clearance between any wood elements and the soil is recommended. (This may only be possible after a new concrete foundation is installed.) Clearing leaves and other organic matter as required from the perimeter of the building yearly is recommended before buildup occurs. Care must be taken to avoid the disruption of large tree roots.

Drainage

The grade's slope can trap water at the base of the building or direct water under the building. Monitoring of water ponding during the rainy season is recommended. Areas where water collects require regrading or the installation of drainage. This includes modifying the current gutter and downspout system to extend the rain leaders all the way to the ground and away from the foundation. In addition, those areas of the building that are shaded should be periodically monitored for prolonged moisture exposure on the exterior surfaces. Signs to look for would be biological growth, discolored and/or peeling paint.

Landscaping

Tree Roots/Canopy

All maintenance and construction work at the site should take this issue into account by using

proper tree protection. Long-range planning for tree maintenance should consider root structures extending under the building, potentially affecting the building foundations and overhanging limbs that could potentially fall on the building in adverse weather conditions.

Landscape maintenance

Large trees can cause extensive damage if they fall or if branches break off. Inspect trees for potential problems and limit damaging effects on the root systems of trees. Do not let shrubs and plants trap moisture against building surfaces. Thin as needed and trim to ensure a minimum 12" clearance to the building.

Irrigation

If irrigation is installed at the site, monitor spray for proper clearance from Watson School and other wooden site features. Verify that it is draining away from the building.

Building Exterior

Foundation

The current foundation consists of wood posts and footers on grade. Historically, the foundation has been replaced in-kind several times. Most recently, repairwork was undertaken in 2006. Until the foundation is replaced, it should be inspected semi-annually for increased deterioration, rapid settlement, debris build-up and general stability. If emergency repairs become necessary, the building should be supported temporarily on house jacks to maintain a level interior surface. In general, monitor and eliminate earth-to-wood contact by clearing soil and humus to a minimum of 6" from all wood surfaces. Clearing of dirt and foliage buildup at decking, porch boards, and other small joints or spaces will minimize decay.

It is recommended that the foundation be replaced as soon as funds become available. A concrete foundation is recommended and discussed in earlier sections of this document. Once installed, the proposed concrete foundation should have few maintenance requirements. Any indications of cracking, settlement or earthquake damage should be addressed as soon as possible however actions of settlement, water, animals and tree roots are usually the primary cause of problems and observations of these aspects are covered in other sections of this part.

Animal control

Control of animals including larger ones such as raccoons is an ongoing concern, particularly in the crawl space around the foundation. Animals can chew, peck, tunnel, claw, etc., causing various types of damage or create situations which allow degradation to occur. Some level of control may be desirable as burrowing activity can undermine soil stability. It is best not to let animals burrow or reside inside the building as they can damage the structure or become a significant nuisance.

Proper screening of all attic access and crawl space vent areas (and the interrelationship with concrete foundation) must take animal control into account. Do not bury wooden frames in the soil to control burrowing as this can cause wood rot and act as a path for termites and other wood destroying pests. Monitor the effectiveness of screening on a monthly basis.

Exterior Paint

Paint protects the building walls, trims, doors and windows from water penetration and UV (sunlight) damage. Too much paint (or too many layers) can also become a problem as the paint coating itself may fail. Rain and wind, trapped moisture, and sunlight erode the painted surface thereby leading to failure. Certain sides of the building receive more of these

deteriorating factors than other sides causing some sides of the building to become maintenance problems while others are performing adequately. Painted surfaces should be inspected yearly for deterioration. Repaint wall surfaces as needed with a compatible paint system. Only wall planes that are deteriorating should be repainted so as to avoid unnecessary paint build-up.

Preparation for new paint is very important. For wood surfaces gentle scraping and sanding with non-metallic tools is appropriate. Chemical removers and/or abrasive removals systems should not be used under most circumstances. Loose paint can be removed with a soft bristle brush, however more complete paint removal requires testing by a trained professional to determine a safe and effective means for removing paint from the masonry surface. Pressure washing is not appropriate and may cause more damage to the historic materials than necessary.

Once the paint is removed down to a sound base layer, prepare the remaining paint surface for the application of an appropriate paint system as per the manufacturer's recommendations. The type of paint used should be compatible with that already existing on the building. Many modern paints will not adhere properly to older paint binders. Testing should be done prior to wholesale paint application. Color should match the existing or be selected based on an analysis of past finishes. Do not touch up limited areas as this can cause a spotty appearance – repaint entire wall surface to a change of material direction or other obvious edge. Window frames and sashes may need more frequent attention, as the type of wood used is often not as resistant to the actions of wind, water, and sunlight. When painting windows, care should be taken to paint the glazing putty but not the glazing itself.

Roofing

Wood shingles need to dry out after becoming wet so as to extend the life of the material. Generally this is not a problem although moisture can be trapped under plant debris and moss. Regular removal of leaves is necessary both to limit trapped moisture and to limit clogging of the gutters and rainwater leaders. Moss, lichens, and mold buildup can also become problematic. While this does not appear to be an issue at Watson School, as the roof ages, it may become more of a problem. Treatments to destroy these organic materials may be considered if they are causing accelerated decay of the roofing, especially if localized. Removal of moss and lichens can be accomplished with careful scraping, a broom, or if needed, pressure washing (careful implementation is imperative). Chemical treatments can be applied if moss and lichens are a problem but must be carefully selected, as they are herbicides and could have an effect on surrounding vegetation. Large scale or intense environmental problems as discussed may warrant more frequent roof replacement if maintenance is too difficult or if chemical treatments are unacceptable.

Gutters / rain water leaders

Roof runoff can contribute to excessive water collection at the base of the building, leading to wood rot and erosion of the foundation and soil. Proper collection and piping of the run-off is imperative. Runoff should be directed away from the building. Annual monitoring, preferably during a heavy rain, is recommended to identify problem drainage areas. Gutters will also collect leaves and organic material. Regular clearing is recommended. The roof must be kept clear of leaves especially at the beginning of the rainy season.

Building Interior

Interior Cleaning

Proper cleaning of interior finishes helps prolong the life of the finish and material. Floors,

walls, ceilings, and other building elements can usually be handled without major concern. Wood floors, and wood wall and ceiling surfaces can be cleaned with a slightly damp mop or rag and gentle cleaner. Dust mopping or vacuuming a floor to minimize gritty dirt is recommended on a regular basis. Flooding wood surfaces with water and cleaners is not recommended. Application of wax or other surface treatment to the floors is not recommended, as no such finish currently exists. Dusting also helps minimize dirt build-up, which can trap fungus and moisture especially around doors and windows. Use a soft bristle attachment on vacuum cleaners and use rugs or runners for sensitive areas that receive heavy foot traffic.

Thoroughly clean ceilings once a year. Walls can be cleaned twice a year. Dusting of horizontal surfaces including the floor should occur once a week but depends on environmental conditions.

Moisture Management

Interior moisture build-up can also be a problem at various times of the year due to weather conditions. Activities that generate large amounts of moisture (cooking and showering) should occur in areas that are properly ventilated with items such as operable windows or exhaust fans. Do not store large amounts of wood for the fireplace indoors or near any wood construction materials. The wood contains excess moisture as the wood may also contain termites.

If needed, additional vents can be installed in inconspicuous locations. For the attic, end vents, eave vents, or continuous ridge vents are used and appear adequate. Provide screening as required. The foundation crawl space should also be properly vented once it is enclosed with siding. Leaks and ponding should be monitored during the rainy season and eliminated. Doors and windows should be inspected for water intrusion on a regular basis.

Building Systems

Electrical

Once a proper electrical system has been designed and installed, the primary maintenance function is to monitor the load that is connected to it and incidental modifications. Overloading of electrical systems is a common cause of fires in historic buildings. The proper connection of needed equipment to each circuit, verifying that a circuit has an appropriate level of current being used, minimize extension cords, and forbidding surface wiring will minimize or eliminate accidents.

Heating

If a heating system is installed, maintenance will be key to its effective and efficient use. Properly clean the vents and ducts every several years if heavily used. Proper operation and monitoring while in use are essential.

Fire Protection

Install and check fire extinguishers as per manufacturer's recommendations and as required by the local building authority. Smoke detectors should be installed and inspected as per manufacturer's recommendations and as required by the local building authority. If a sprinkler system is installed, it should be inspected regularly, at least as frequently as recommended by the manufacturer and as mandated by the County of Sonoma.

MAINTENANCE REQUIREMENTS BY FREQUENCY

After Every Use

- Sweep interior
- Remove garbage

Weekly

- Inspect property for damage
- Clean up garbage

Monthly

- Sweep interior (when building not in use)
- Dust interior surfaces with dry cloth
- Cut grass (if needed)
- Inspect effectiveness of animal screening and other rodent barriers.

Semi-Annually

- Inspect building perimeter for signs of moisture retention. This should be done at the beginning and at the end of the rainy season to provide the best comparison of conditions. Photographic documentation during inspection is recommended to provide a readily accessible database to monitor conditions.
- Inspect crawl space and attic for moisture retention and proper ventilation.
- Clean walls with a dry cloth. Water is not recommended as it may damage the plaster chinking between the wall boards.

Annually

- Clean gutters
- Inspect windows for damage and moisture infiltration. Be sure to visually inspect all trims and glazing putty.
- Prune trees and other vegetation to prevent unstable limbs and overgrowth of plant materials on the site.
- Fill in any drainage channels in driveway
- Inspect building for paint failure (especially on west side). Repaint wall surfaces as needed with a compatible paint system. Only wall planes that are deteriorating should be repainted so as to avoid unnecessary paint build-up.
- Visually inspect for insect damage (especially important until concrete foundation is installed)
- Clear debris (organic and otherwise) from around the building foundations to maintain grade and protect proper wood-to-earth separation.
- Clean ceilings with a damp cloth. Use a mild, non-ionic cleaner as necessary.
- Inspect heating ducts and vents (if applicable).

Every 5 Years

- Paint building (or earlier if needed in some areas)
- Inspect roof
- Inspect health of surrounding trees
- Inspect root growth near the building for impacts on the foundations and/or siding.
- Inspect parking for adequate gravel cover
- Clean heating ducts and vents (if applicable).

CHAPTER 6: SUMMARY AND CONCLUSIONS

USES

Watson School has remained mostly vacant since it ceased to be an operating school in the late 1960s. It retains a high level of integrity and is materially sound. As such, uses that respect the historic finishes and layout, are sensitive to the building's historic function as a school and community gathering place and are minimally intrusive on the building and the grounds are the most appropriate choices. Sonoma County Regional Parks recognizes these factors and is pursuing the following anticipated use(s):

- Interpretive space for educational purposes
- Limited access public resource
- Limited use as a community space

RECOMMENDATIONS

While all seismic and systems upgrade work should be completed prior to regular occupancy, this work can be phased to fit within budget and planning constraints. Phasing recommendations are to start with the foundation, then secure and upgrade the building envelope, including roof, and finally to complete interior repairs and modification related to exhibition preparation. More specifically with each of these phases, the following work is recommended.

Foundation

- Install new interconnected grid of concrete spread footings or an eight-inch minimum slab foundation to support the building. Crib walls for either type of foundation should maintain the current floor height above grade and should be covered with wood siding to match the existing.
- Anchor floor to foundation with through-bolt anchors.

Exterior

- Carefully remove siding for structural bracing, reinstall.
- Remove caulking between boards and determine extent of interior damage.
- Repair water damage from deteriorated siding.
- Replace deteriorated boards in kind.
- Lightly sand to sound paint surface and paint with low-gloss exterior grade paint.
- Repair window sills and trim – consolidate and fill sills on west wall with an appropriate wood epoxy consolidant and putty, formulated for exterior use.²⁰ Fillers and putty should be a cellulose-based latex or linseed oil based wood filler. It should be a non-hardening type that maintains flexibility over time. Some replacement of material may be necessary. Replace in kind with wood of the same species and similar graining, strength and water retention properties. Further inspection of the window frames during construction is recommended. This should be done when the existing sash has been removed so all interior portions of the frame can be accessed.
- Recreate historic six-over-six wood double-hung windows.

²⁰ Abatron (www.abatron.com), Conserv Epoxy LLC, (www.conservepoxy.com), and Advanced Repair Technology (www.advancedrepair.com) each make restoration-grade wood repair products that can address the conditions found at Watson School. Follow all manufacturer's recommendations.

- Replace missing siding at building perimeter after installation of new concrete foundation.
- Install plywood sheathing on north and south walls from the exterior. Reinstall siding when completed.
- Paint building according to historically appropriate color scheme determined by analysis of finish samples.

Attic/Roof

- Install plywood sheathing on roof. This will require the installation of new roofing.
- Anchor roof to top of wall with through-bolt anchors.

Interior

- Install replica pot belly stove.
- Replicate windows based on historic photographs and material evidence.
- Retain blackboards.
- Retain cabinetry.
- Limit wall, floor and ceiling penetrations.
- Refinish (oil and seal) floor, teacher's podium, platform and chalk trays.
- Analyze finish samples to determine appropriate finish scheme.

Systems

- Leave knob and tube in place but disconnect.
- Install modern wiring and circuitry.
- Install HVAC system to regulate interior temperature to protect artifacts and interpretive displays. Installation should be from above to aesthetic impacts on the interior spaces. The exact system chosen will depend on the extent and types of artifacts housed within the space. Design of the system should be included in the preparation of construction documents and should be analyzed for impacts on the historic resource at that time by a qualified preservation consultant.

Accessibility

- Install new front porch/ platform level with the primary entry.
- Widen rear entry to accommodate 29 1/2" width requirements.
- Enlarge rear deck for turning radius.
- Install ramp from grade to rear entry. 28+ foot ramp.
- Install new walkway (concrete or decomposed granite) from parking space to rear entry. Walkway should parallel the building. Two potential locations are along the existing picket fence or in a similar location on the west side of the building. The walkway and ramp should be at least three (3) feet from the foundation to maintain proper drainage around the building perimeter.

Collections

As of the completion of this document, a formal historical collection to inform the use of Watson School as an interpretive center for early 20th century education, was being developed. Materials that once belonged to the school – desks, chairs, etc. – were taken in by local individuals for safekeeping until such time that the County could properly house and use the pieces. The process for gathering these items has yet to commence.

When materials are acquired for use in the interpretation of Watson School, careful records of their ownership, condition, maintenance needs and intended use should be maintained.

Backups of all collections data should be made regularly and stored offsite. Proper packaging and handling guidelines should be developed to guide volunteers on the proper handling and storage of different types of materials and artifacts. Some measure of climate regulation and security should be installed in Watson School prior to its use as an interpretive space with museum quality artifacts.

A full set of recommendations for gathering and managing the Watson School collection is provided in Appendix A.

CONCLUSIONS

Watson School is a tremendous resource to Sonoma County and the local community. It serves as a common thread that connects many of the current residents in the area. It also presents an authentic experience for younger generations seeking to understand how their predecessors settled and thrived during the early days of California's statehood. Currently it is vacant but in good condition. Overall the building is relatively stable and the materials are sound. With a limited amount of structural strengthening and adjustment, Watson School will continue to be a resource to new generations of Sonoma County visitors and school children.

TEAM ACKNOWLEDGEMENTS

Garavaglia Architecture, Inc. is a full-service architecture firm in San Francisco, California specializing in historic preservation. They provide a full complement of architectural and historical services including analysis, peer review, design, construction management, surveys and documentation. For Watson School, additional services were provided by a team of professionals committed to the preservation of historical and cultural resources. This team included structural engineering by Duquette Engineering, building systems analysis by Salas O'Brien Engineers, Inc., cost estimating by Jeff Saylor of Leland Saylor Associates and collections management consulting by Joe Evans.

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USEFUL WEBSITES

Office of Historic Preservation and California State Historical Building Code:
<http://ohp.parks.ca.gov/>

Secretary of Interior Standards for Treatments of Historic Properties:
http://www.nps.gov/history/hps/tps/standards_guidelines.htm

The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes:
http://www.nps.gov/history/hps/hli/landscape_guidelines/index.htm

National Park Service: Technical Preservation Services:
<http://www.cr.nps.gov/hps/tps/index.htm>

Preservation Briefs:
<http://www.cr.nps.gov/hps/tps/briefs/presbhom.htm>

Preservation Tech Notes:
<http://www.cr.nps.gov/hps/tps/technotes/tnhome.htm>

National Register Bulletins:
<http://www.cr.nps.gov/nr/publications/bulletins.htm>

National Register CRM Articles:



APPENDIX A: COLLECTIONS MANAGEMENT REPORT

The Watson School: Guidelines for Collections Management

Submitted by Joe Evans
November 24, 2008

General Guidelines for Collection Management: The Watson School

About the Guidelines:

This document is intended to provide assistance with outlining and developing documents for a collections management program. The guidelines are meant to be used as a general reference for developing the collections management program at the Watson School. The areas of collections management that are addressed are: object handling and storage, development of collections policy, discussion of accessioning, de-accessioning, inventory, recommendations for object database, and disaster preparedness. These recommendations and guidelines are intended to support a strong collections management program for the interpretation of the Watson School in Sonoma County.

Section One outlines some of the basic policies, principles and standards related to collections management and museum administration and provides a framework for the development of museum policy. Section Two outlines basic object handling and the physical management of collections with recommendations for particular practices and tools.

Introduction: Collections Management

A collection of objects is what distinguishes a museum from other cultural and educational institutions. One of the primary reasons a museum exists is to harbor the collection. The objects are used for careful study by scholars, scientists and collectors, and as the basis of exhibitions and other educational programs. The museum collection is a means to learn about our past and a tool to teach about our heritage. Consequently, museums properly emphasize the preservation and display of the objects in their custody.

Since the collection is so essential and critically important to a museum, it is incumbent on every museum, no matter how small, to practice responsible collection management. Good collection management ensures that all affairs related to the preservation and use of the collection are directed in a controlled and professional manner. This begins with a strong, clear statement of the policies which govern collection activities and is followed by a concise set of consistently applied procedures. Thoughtful policies and procedures are the keystone to a creditable collection management program.

Collections Management is defined as the deliberate development, documentation, maintenance, use, and disposition of museum collections. The objective of collections management is to:

1. protect the museum collections and their associated information from degradation, theft, and destruction and;
2. permit physical and intellectual access to the objects and specimens.

The dual goals of accountability and accessibility underlie all collections management activities. In order to carry out all of its functions, a museum relies upon the collections being stored appropriately to prevent deterioration, and being protected against damage, loss, and exposure to harmful environmental conditions. In addition, collections must be documented to a standard, so that the museum is able to account, locate, and provide information about them. Collections must be accessible, via public exhibition, information services, reference inquiry, and loans, and finally, they must be legally accounted for, to ensure that the museum operates in a responsible and ethical fashion.

Section I: Collection Policies, Standards and Principles for Museums

Introduction: What Are Standards?

Accountability begins with compliance with laws and regulations. Going beyond legal requirements, many museums voluntarily choose to adhere to ethical codes and accountability standards to ensure good stewardship of assets held in the public trust and to maintain public confidence.

Standards are consensus documents or written statements of generally accepted principles. Standards provide a common language to enable museums to communicate about their performance and increase accountability. Coupling standards with examples of implementation (best practices) allows a museum to compare its own practices with those of others. Comparisons can validate a museum's work, raise expectations about performance, replace outmoded or weak thinking, and focus energies on improvement.

There is no single set of museum standards. In some instances, museums rely on the standards that have been imposed upon them from outside the profession, such as accounting standards. In other instances they use standards developed outside the profession but within the nonprofit sector, such as those concerning fundraising from the public. The American Association of Museums (AAM) established their museum accreditation program in part to ensure that the essential standards, the core principles by which museums are judged, originate from within the profession. In addition to AAM, a number of organizations have issued statements of standards and best practices for particular aspects of museum operations or for segments of the museum profession.

General Resources for Museum Standards and Guidelines:

The following list of organizations and websites represent those within the museum community that offer guidance and information that includes standards and ethical codes that are specific to museums as well as those that have been developed outside the profession but are applicable.

- Directory of North American House Museums, Cultural Centers, Living History Museums and Organizations:
http://www.preservationdirectory.com/housemuseums_main.html
- American Association of Museums
<http://www.aam-us.org/index.cfm>
- Historic House Museum Initiative
<http://www.aaslh.org/hhouses.htm>
- American Association for State and Local History
<http://www.aaslh.org/>
- International Council of Museums
<http://icom.museum/ethics.html>
- The Secretary of the Interior's Standards for the Treatment of Historic Properties
<http://www2.cr.nps.gov/tps/standguide/index.htm>
- California Association of Museums
<http://www.calmuseums.net/sitecontents/home.html>

Chapter One: Ethics and Standards

Introduction

Ethical codes evolve in response to changing conditions, values, and ideas. A professional code of ethics must, therefore, be periodically updated. It must also rest upon widely shared values. Although the operating environment of museums grows more complex each year, the root value for museums, the tie that connects all of us together despite our diversity, is the commitment to serving people, both present and future generations.

Ethical Guidelines for Museums

Museums make their unique contribution to the public by collecting, preserving, and interpreting the things of this world. Historically, they have owned and used natural objects, living and nonliving, and all manner of human artifacts to advance knowledge and nourish the human spirit. Today, the range of their special interests reflects the scope of human vision. Their missions include collecting and preserving, as well as exhibiting and educating with materials not only owned but also borrowed and fabricated for these ends. Their numbers include both governmental and private museums of anthropology, art history and natural history, aquariums, arboreta, art centers, botanical gardens, children's museums, historic houses, nature centers, planetariums, science and technology centers, and zoos. The museum universe in the United States includes both collecting and non-collecting institutions. Although diverse in their missions, they have in common their nonprofit form of organization and a commitment of service to the public. Their collections and/or the objects they borrow or fabricate are the basis for research, exhibits, and programs that invite public participation.

Taken as a whole, museum collections and exhibition materials represent the world's natural and cultural common wealth. As stewards of that wealth, museums are compelled to advance an understanding of all natural forms and of the human experience. It is incumbent on museums to be resources for humankind and in all their activities to foster an informed appreciation of the rich and diverse world we have inherited. It is also incumbent upon them to preserve that inheritance for posterity.

Museums in the United States are grounded in the tradition of public service. They are organized as public trusts, holding their collections and information as a benefit for those they were established to serve. Members of their governing authority, employees, and volunteers are committed to the interests of these beneficiaries. The law provides the basic framework for museum operations. As nonprofit institutions, museums comply with applicable local, state, and federal laws and international conventions, as well as with the specific legal standards governing trust responsibilities. But legal standards are a minimum. Museums and those responsible for them must do more than avoid legal liability, they must take affirmative steps to maintain their integrity so as to warrant public confidence. They must act not only legally but also ethically. These guidelines outline ethical standards that frequently exceed legal minimums.

Loyalty to the mission of the museum and to the public it serves is the essence of museum work, whether volunteer or paid. Where conflicts of interest arise, actual, potential, or perceived, the duty of loyalty must never be compromised. No individual may use his or her position in a museum for personal gain or to benefit another at the expense of the museum, its mission, its reputation, and the society it serves.

For museums, public service is paramount. In subscribing to this code, museums assume responsibility for the actions of members of their governing authority, employees, and volunteers in the performance of museum-related duties. Museums, thereby, affirm their chartered purpose, ensure the prudent application of their resources, enhance their effectiveness, and maintain public confidence. This collective endeavor strengthens museum work and the contributions of museums to society for the present and for the future. The following discussion outlines some of the basic ethical standards for museums and historical collections.

1. Historical Resources

Historical Resources including Collections and other evidence of the past, provide the tools through which we interact with the past and are the bedrock upon which the practice of history rests. In fulfillment of their public trust, historical organizations and those associated with them must be responsible stewards of the collections within their direct care and are challenged to be advocates on behalf of the historical resources within their communities.

- A. Association members shall give priority to the care and management of the collections within their care and always shall act to preserve their physical and intellectual integrity.
- B. Institutions shall manage historical resources, including collections, in accord with comprehensive policies officially adopted by their governing authorities.
- C. Collections shall not be capitalized or treated as financial assets.
- D. Collections shall not be de-accessioned or disposed of in order to provide financial support for institutional operations, facilities maintenance or any reason other than preservation or acquisition of collections, as defined by institutional policy.
- E. Historical resources shall be acquired, cared for and interpreted with sensitivity to their cultural origins.
- F. It is important to document the physical condition of collections, including past treatment of objects, and to take appropriate steps to mitigate potential hazards to people and property.

2. Access

Providing non-discriminatory access to historical resources through exhibitions, tours, educational programs, publications, electronic media and research is critical in fulfilling the public trust and mission of historical organizations. Access and limitations of access are governed by institutional policies and by applicable rights of privacy, ownership and intellectual freedom.

3. Interpretation

Historical interpretation may be presented in a variety of formats.

- A. All interpretation must be based upon sound scholarship and thorough research.
- B. Intellectually honest interpretation reflects the cultural context of the subject matter and recognizes the potential for multiple interpretations.
- C. No interpretation shall use collections in a consumptive manner, except as categorically delineated and specifically allowed within the collection policy.

4. Management

The primary responsibility for governance, institutional policies, financial stability and legal accountability of a historical organization rests with the governing authority. Operational responsibility rests with the staff, paid or volunteer.

A. Individuals employed in the practice of history deserve respect, pay and benefits commensurate with their training, dedication and contribution to society. Volunteers deserve the same consideration as their paid colleagues.

B. Institutions shall maintain personnel policies, adopted by the governing authority and distributed to all staff, documenting the terms of employment.

C. Institutions have the responsibility to engage personnel, including volunteers, who have appropriate training and expertise and to provide them with opportunities for additional training necessary to continue to meet their responsibilities.

D. If the governing authority employs an administrator, that person alone is responsible for the employment, discipline and release of all other staff, subject to established personnel policies.

E. Institutions shall maintain financial records from which accurate information can be generated to manage in a fiscally sound manner.

5. Revenue Producing Activities

Activities that involve the marketing and sale of products, programs, services, and facilities are acceptable ways to produce support revenues and increase public awareness of, and participation in, historical activities.

A. No such activities shall be undertaken that violate or compromise the integrity of an institution's mission, the ability of an institution or individual to meet professional standards or an institution's not-for-profit status.

B. Control of a product (e.g., exhibition, publication, program) shall neither be delegated nor abrogated to outside parties in order to obtain financial support.

C. Historical organizations shall review the potential cultural sensitivity of materials considered for commercial use with representatives of the appropriate affiliated communities.

6. Conflict of Interest

Historical organizations and agencies exist to serve the public interest and must always act in such a way as to maintain public confidence and trust.

A. All governing authority members, employees and volunteers shall be careful to avoid the appearance and the reality of using their positions or the information and access gained from their positions for personal gain or for the benefit of another organization. They must exercise discretion and maintain the confidential nature of proprietary information.

B. Board members, volunteers and employees shall refrain from personal collecting in any manner that conflicts with the interests or credibility of the institution and its policies. Institutions are encouraged to obtain statements of personal collecting interests before individuals become associated with them.

C. Collections shall not be made available to any individual on any basis for personal use, either on or off the premises or for any other purpose and contrary to the adopted collections policies.

D. Historical organizations and their representatives must protect the integrity of their institutions from both the reality and the appearance of undue influence by donors, sponsors and other sources of financial support.

7. Social Responsibility

Historical organizations and agencies shall act to ensure that the breadth of American cultural experiences and perspectives is represented accurately in all programmatic, staffing and operational activities. Historical organizations shall provide leadership to the field in becoming representative of our diverse society through equity in staffing, training, collecting, programming and marketing.

8. Intellectual Freedom

Historical scholarship and interpretation depend upon free and open exploration and interpretation of the human experience.

A. At the same time, historical institutions must respect other legal, ethical, and cultural standards regarding individual privacy, human-based research and access to and use of sensitive cultural materials.

B. Historical institutions and their representatives shall respect the rights and authority of individuals and cultures that had no voice in the disposition of those collections related to them.

Chapter Two: Developing a Collections Management Policy

A fully developed collections management policy - which incorporates all aspects of collections management - allows museum management to demonstrate that consideration has been given to the museum's position on all collections-related activities. The following discussion is an introduction to the components to be considered in the development of a collections management policy.

A. Statement of Purpose (Mission statement)

Policies governing the management of collections cannot be written without a mission statement for the museum. The mission statement provides a mechanism for focusing and directing the functions and activities of the collections, for setting priorities, and for determining resource needs. A mission statement helps guide priorities and decision-making.

The first step is to develop a clear, sensible mission statement that broadly describes the museum's mandate with regard to collections and the general purpose of the institution and collection. Usually drafted by the museum director, in collaboration with advisory boards, trustees and staff, the mission statement defines the goals and objectives of the museum as they relate to the collections and identifies all relevant legal documents, such as the museum's charter, bylaws, founder's gift instrument, pertinent statutes or laws pertinent to the operation of the institution.

B. Primary Statement of Authority

The primary statement of authority describes the operational authority of the museum. It stipulates the role of any museum boards or committees, advisory commissions, director, and staff regarding the delegation of authority for collection activities. The statement of authority also highlights the chain of command for decision-making and designates responsibility for extraordinary decisions.

C. Scope of Collections

This section defines the present nature and scope of the collections (e.g. subject area, geography, time period, object / specimen type, and history of collection) and the intended use of the collections (e.g. study, research, interpretation/exhibition, education programs etc). If the museum maintains more than one type of collection (e.g. accessioned collection, study collection, school collection), describe each type and its rationale, distinguishing any procedural differences, as appropriate, throughout the policy when guidelines may vary from one collection type to the next.

D. Documentation

Policies should identify standards for the extent and quality of documentation, completeness and level of accuracy, and proper maintenance and management of legal and collection records. The maintenance of accurate and complete records regarding all collection-related decisions and activities should be highly stressed. Standards should be established for the nature and quality of both the data collected for collection objects and the information maintained as part of the collection record. Collection records should be accurate, timely, complete and securely stored.

Stipulate what information or data is required to record specific activities and who is responsible for the creation and maintenance of such records. If possible, duplicate records should be maintained at a site separate from the originals as a security precaution and electronically automated data should be routinely backed up.

Accession records should include a descriptive catalog record, documentation of legal ownership or possession, reflect the prior ownership of each object and all activity of such object (e.g. loan, exhibit, location, restoration, deaccession). Record systems should identify objects by a unique museum number (e.g. accession number, loan number). Records of objects on loan to the museum should reflect all activity of such objects while under the control of the museum and identify who has access to records, and who is responsible for monitoring and documenting such access and who is responsible for creating and revising forms and reviewing legal terminology on agreements and contracts?

E. Acquisition

The major purpose of an acquisitions policy is to ensure that the growth of collections is in harmony with the mission, goals, resources, and priorities of the museum. The acquisitions policy should identify what is the purpose of collecting and stipulate the responsible official, the chain of command, and the documentary procedures for acquisition activity.

The policy should state clearly the procedures to be followed in the acquisition and accessioning process, what records must be produced and maintained and by whom, and describe the method of acquisition (e.g. gift, bequest, purchase, exchange, transfer, field collecting). It is important to establish the criteria for evaluating and determining whether an object should be added to the collection (e.g. consistency with museum's mission and collecting goals; quality, rarity, intellectual value; provenance; ability to properly care for and store; research and exhibition use; restrictions on use etc) as well as determine the responsible official to approve acquisitions and any restrictions.

All local, national and international laws, treaties, and conventions applicable to an object should be observed and documented. State the museum's policy on such issues and specify who is responsible of deciding if provenance is satisfactory.

F. Deaccession / Disposal

If a museum de-accessions, there must be a policy in place that addresses legal issues, ethical concerns and professional standards. De-accessioning can be a sensitive activity and a sound de-accessions policy helps to anticipate and address concerns. Stipulate the responsible official, chain of command, and documentary procedures for de-accession and disposal of collections.

State who has the authority to initiate and approve de-accessions and disposals; what records must be made of the process; when the records are to be created and by whom; and when the type and value of the object under consideration may dictate such additional precautions as a higher level of approval than ordinarily required and the need for outside appraisals.

Establish appropriate criteria for de-accessioning (e.g. no longer relevant to museum's purpose, beyond the scope of the collections, inferior quality, deteriorated beyond usefulness, repatriation etc) and establish suitable methods of disposal (e.g. donation, transfer, exchange, sale [public auction, restricted sale], return to donor, destruction). Complete and accurate de-accession records should be maintained in perpetuity and identify the official that is responsible.

G. Access

The museum must balance access for use and preservation of collections. Besides loans, the policy must address issues such as research and study, photography, sampling, reproduction, and use of collection data (manual and electronic). The policy should affirm access to the museum's collection and collection information under controlled conditions. The policy should also stipulate the responsible official, the chain of command, the documentary procedures for access to collections. The policies and procedures for requesting access to collections and evaluation criteria should be clearly established as well as staff responsibility to protect, control, and provide access to the collections and collection records. It may also be helpful to review freedom of information and/or privacy laws regarding access to public records.

H. Preservation

The policy should emphasize the importance of proper storage, handling, conservation, exhibition and adequate documentation of such activities and stipulate the responsible official, the chain of command, and the documentary procedures for collections care and maintenance. The preservation policy should also establish staff responsibility and internal controls for physical care, handling, security, and maintenance of the collections as well as establish minimum standards of physical care and schedules for collections maintenance. The responsibility for such duties as monitoring conservation needs, collections storage, access to storage, and control over the movement of objects within the museum as well as entering and exiting the museum (loans) should be clearly outlined. Additional considerations to outline are responsibility for arranging, supervising, and undertaking packing and shipping of objects, are the collections, whether on exhibition or in storage, adequately protected against fire, theft, vandalism, and natural disaster? Are there established procedures for handling such emergencies? Who in the museum has oversight responsibilities in these areas? How are such activities monitored and documented?

I. Inventory

A current, reconciled inventory of collections is the primary tool for maintaining accountability and providing access to collections. Regular, periodic comparison between inventory records and the physical collections is necessary for prudent collections management. Effective collections management demands that an established inventory system be in place if intelligent decisions are to be made regarding collection use, growth, storage and security.

Stipulate the responsible official, the chain of command, and the documentary procedures for collections inventory and establish an inventory process appropriate to the character of the collections.

J. Risk Management

Prudent collections management requires identification and elimination or reduction of risks to the collection. Risk management requires thoughtful review of potential hazards including natural disasters, vandalism, theft, human error, mechanical or operational failure, and deterioration. Stipulate the responsible official, the chain of command, and the documentary procedures for determining risk management and insurance conditions as well as who has the authority to contract for collection insurance and to approve deviations from established insurance procedures.

K. Loans

Lending and borrowing objects and specimens for exhibition, research, study, and educational purposes is an integral part of any museums mission to make their collections accessible to the widest possible audience. Objects are potentially at a greater risk while on loan. In order to reduce such risk, museums should develop policies that permit responsible use of the objects while ensuring their physical integrity and security by proper care and handling. Again, stipulate the responsible official, the chain of command, and the documentary procedures for lending and borrowing collections. Establish the conditions under which the museum will lend and borrow collection objects. Provide a statement of guideline to ensure that there is a good faith effort to examine provenance of borrowed objects and whether material borrowed may require special permits.

Conclusion

The Collections Management Policy is the key document for outlining the policies of the institution and those responsible for their management. It is helpful to research the Collections Management Policies of similar institutions. Most museums and institutions have similar Collections Management policies that can be used for inspiration in developing a sound and through policy.

Section II: Collection Handling and Management

The following chapters list specific guidelines for specific areas of museum practice. Beginning with an introductory statement and followed by sample guidelines, these chapters are offered as an initial discussion and sample of standards and best practices followed by museum professionals. These guidelines are not intended to be exhaustive. They are the beginning point intended to provide guidance in developing professional standards and practices necessary for interpretation, exhibition, and collections management of historic objects and structures. These guidelines also provide information on creating an environment of professionalism that is basic to qualifying and obtaining grant funding.

Chapter One: Care and Maintenance of Collections

Introduction

Objects of beauty and usefulness surround us in our daily lives. The clothes we wear, the tools we use, and the furnishings and adornments in our homes are objects of cultural significance. We value older objects because they form a tangible link to the past. Artifacts made by people of other cultures provide insights into the lives of their creators and stimulate connections with our own experiences

Over time, all objects change or deteriorate as a result of environmental conditions, use, accidents, and natural forces of decay. How an object is handled, displayed, and stored can mean the difference between preserving it for many years or for only a short time. The following guidelines give a brief introduction to the basic principles of object preservation

The objects in your collection may be damaged either by external forces such as mishandling, an unstable environment, or by the intrinsic nature of the materials used to make them. Some materials are much more fragile than others and may have special requirements for care. By becoming familiar with the materials used to create artifacts and the hazards that may affect them, care is more effective.

Types of materials and common damage

There are two basic types of materials: inorganic and organic. Inorganic materials-nonliving substances such as stone, glass, ceramics, and metals-are generally considered to be very durable and stable but not immune from damage. Organic materials include those made from animal products, such as leather, fur, horn, feathers, ivory, or wool, and those made from plant products, including wood, paper, and fibers. These materials are more susceptible to environmental damage than their inorganic counterparts. Colorants and coatings can also be organic materials. Synthetic materials, such as plastics, are also typically organic. Plastics have been produced for more than 100 years and are increasingly popular with collectors. Some synthetic materials tend to be unstable and deteriorate quickly.

Inorganic materials may be easily broken, scratched, cracked, and worn by exposure to harsh weather. Glass may appear cloudy or drizzled (covered by a network of fine cracks), or it may occasionally even have moisture droplets on its surface, appearing to "weep." White crystals of salts may grow on porous ceramics and stone, disrupting their surfaces. Metals may corrode in contact with acidic materials and excessive moisture. Corrosion appears as rust on iron, as the uneven green patina on outdoor bronze sculptures, or as the condition called "bronze disease." It also appears as green corrosion on brass or silver objects, tarnish on silver, fingerprints, or marks from packing materials etched into metal surfaces.

High light levels, drastic humidity fluctuations, and pests can be especially damaging to organic materials. Excessive light may cause fading in textiles or in watercolors painted on paper. Pulp paper products such as mats and cardboard storage boxes may yellow, and their color may

"migrate" into the matted work of art on paper or the stored textile. Excessive humidity may cause molds and fungi to grow on certain organic materials. Mildew on textiles or baskets stored in a damp basement may appear or spotting ("foxing") on works of art on paper hung on a damp exterior wall. On furniture, veneer and joints may loosen or cracks may develop as adhesives fail or wood expands and contracts. Surface darkening, color changes, or cracking, buckling, or flaking may appear in a painting hung over a fireplace or next to a heating duct. Leather bindings may turn to dust, and the pages of books may become brittle and yellow

Photographic images such as daguerreotypes may tarnish; the paper other photographic images are printed on may yellow or imbrittle due to acidic vapors in the environment.

The Environment and Collections Maintenance Guidelines

The major environmental factors that affect the long-term preservation of objects are light, relative humidity, temperature, air pollution, pests, and human error.

Radiant energy, the most familiar type of which is visible light, can initiate or accelerate damage by chemical reaction, especially in organic materials. The three types of radiant energy most likely to effect objects are: ultraviolet light, infrared radiation (heat), and visible light. Ultraviolet light is the most harmful, causing irreversible damage by initiating chemical reactions on a molecular level. Both fluorescent lamps and daylight may contain high levels of ultraviolet light. Daylight also contains infrared radiation, or heat, which can initiate and accelerate damaging chemical reactions. Visible light includes all the wavelengths of radiant energy that let us see color.

Relative humidity refers to the amount of moisture in air. It is stated as a percentage, with 100% being air fully saturated with water vapor. Organic materials absorb or give off moisture in a continuous attempt to achieve equilibrium with the atmosphere. These materials tend to be more stable in a moderate relative humidity (45%-55%), a condition rarely present in normal exterior or interior environments. Inorganic materials usually are not affected by relative humidity levels unless they contain salts or are otherwise unstable. Metals, however, are best preserved at low relative humidity. Serious damage can occur when materials are subjected to dramatic, sudden changes in relative humidity over short periods. Prolonged exposure of organic materials to relative humidity above 60% - 65% will encourage the growth of molds and fungi.

Temperature is significant because it affects relative humidity. When moist air is heated, the relative humidity decreases; when it is cooled, the relative humidity increases. Temperature is also important because deterioration progresses much more quickly at higher temperatures than at lower ones. Exposure to heat can drastically accelerate the aging of organic materials and of many modern synthetics.

Air pollution can be generated inside buildings as well as outside. Its components include acidic gases, particulate material, and ozone. Many of the chemicals known to cause human health problems can also harm objects. Indoor sources of air pollution include smoke, dust, paints, stains, cleaning agents, and new synthetic materials such as insulation or carpeting. Both inorganic and organic materials can be damaged by exposure to pollutants. The effects of indoor pollutants, such as acidic gases from wood products or coatings, may be intensified when they are allowed to build up inside cabinets or other closed environments over long periods.

Pests found in the home vary widely in nature and size, from insects to rodents. Wood, textiles, basketry, paper, photographs, books, leather, feathers, and especially organic substances with food residues are very attractive to insect populations. High relative humidity may encourage the propagation of insects. Low temperature may make them dormant but probably will not kill them.

Human error also affects the long-term preservation of special objects. Mishandling may lead to irretrievable loss. Breakage is the most obvious form of damage, but you may also see

fingerprints etched into highly polished metal surfaces, smudged pigments, torn canvases, pulled or torn textile fibers, and accidents that could have been prevented with forethought.

Guidelines for Preservation of Collections

1. Minimize the effects of light.

Avoid displaying organic materials in direct sunlight, even for short periods. Block ultraviolet light from fluorescent bulbs and windows with ultraviolet filtering transparent films. Use incandescent lighting when possible. Halogen light is higher in ultraviolet radiation than incandescent light but much lower than daylight. Do not exhibit works of art close to incandescent bulbs, which give off heat. Avoid using frame-attached incandescent lamps on your paintings. Because light damage is cumulative and irreversible, your most sensitive objects should not be on display all the time but should be rotated periodically.

2. Provide stable, moderate relative humidity and temperature.

Extremes in temperature and relative humidity probably occur most often in basements, attics, and garages. Store important objects elsewhere, such as in an internal closet. Do not place sensitive objects over active fireplaces, next to heating or cooling vents, in direct sunlight, or in bathrooms. To prevent the growth of mold and mildew and to discourage insect activity, keep organic materials in stable conditions, around 50% relative humidity. Provide cooling and good air circulation in the hotter summer months; use a dehumidifier in humid areas. In dry climates and during the heating season, use a portable evaporative-type humidifier. Make sure framed works of art are not in direct contact with the glass by using window mats made of archival quality (rag) paper products.

3. Minimize the effects of air pollution.

Reduce the amount of dust in your home by upgrading and cleaning the filters in heating and air conditioning units regularly. Framing works of art on paper and small textiles behind glass will protect them from the acidic, abrasive effects of dust. Avoid exhibiting objects where cooking or other combustion takes place. Limit the use of new wood products, coatings, adhesives, new carpeting, and chemicals around your collection. Avoid using spray polishes, commercial cleaners, or products containing silicone on important objects; use paste wax no more than once a year on furniture. Slightly damp cotton cloths, magnetic wiping cloths, or soft natural bristle brushes are appropriate for routine dusting.

4. Minimize pest activity.

Good housekeeping and proper storage can help keep your collection free of pests. Display or store organic materials away from sources of food and excessive dampness. Inspect objects both on display and in storage at least once a year for the signs of insect activity: adult insects, small wormlike juvenile insects, powdery deposits, and small holes or missing areas. If evidence is found, place the object in an airtight plastic bag immediately and call a conservator for advice.

5. Know how to handle your objects.

Many objects are much more fragile than they appear. Observe carefully the condition and size of the object before you attempt to move it. Be sure that you can carry it alone, or arrange for help. Before you begin, clear space to set the object down. Move small or light objects in a padded tray or basket. Always handle objects with clean, dry, lotion-free hands or preferably with clean cotton or plastic gloves. The acids, oils, and salts in human skin will tarnish and corrode metals and may damage lacquer and other materials such as porous ceramics.

Lift sculpture and other three-dimensional objects by the base or body, never by handles or protruding elements such as extended limbs. Lift furniture by structurally sound elements such as the seat frame or base, never by appendages such as arms or legs. Move framed works of art in a vertical position by handling secure areas of the frame, supporting the bottom and side. Support

paper or textile objects from underneath on a sheet of acid-free white mat board or white blotter paper.

Do not touch the front or back surfaces of oil paintings; touching can cause cracks and other damage. Never apply cleaning solutions, sprays, alcohol, or insecticides near any work of art. Use a soft natural-bristle brush to clean objects and paintings when the surfaces are in good condition. Feather dusters are not recommended, as they can catch in small cracks and dislodge fragments of paint or surface.

Remove jewelry and watches before handling your collection. Make sure buttons, belt buckles, and other accessories will not contact the object as you handle it. Avoid the presence of food or drink. Keep work surfaces clean and free of extraneous objects such as keys, paper clips, tools, and writing implements.

6. Know how to display your objects.

Be sure that the hanging devices on paintings and other framed pieces are strong and secure. Use wall hangers appropriate to the weight of the work of art and the nature of the wall on which it will hang.

Locate fragile and breakable objects away from areas of activity where they may be bumped or knocked over. Protect objects in vitrines or under glass or acrylic. Avoid the use of sticky substances other than microcrystalline wax to secure unstable inorganic objects on shelves or other surfaces. Ask a conservator to help prepare mounts for objects.

7. Know how to store your objects.

Choose the materials you use for display and storage carefully to ensure that they are compatible with the objects. Wood, wood products, and many paper products made from wood contain harmful acids and should not be used with artifacts because they can accelerate damage and cause staining. Archival-quality storage boxes, mats, and wrapping tissue made from cotton fibers (rag) or from purified wood pulp are a better choice. These products are available in buffered or unbuffered form; both are acid-free, but buffered products contain a reserve calcium carbonate, or chalk, which can neutralize acidity in the object or the environment. While buffered products are the best choice for many paper objects, unbuffered products should be used for photographs, wool, silk, and leather, which are somewhat acidic by nature.

Use archival-quality materials sold by companies recommended by conservators or museum staff. Have your framer use archival-quality mat board, and insist that archival framing procedures are followed. House photographs in archival albums or inside inert plastic envelopes. Make sure to record the significance of each of your objects.

Some types of plastic storage products, such as page protectors, photo sleeves, and albums, can be harmful to your photographs, slides, and negatives. Choose stable materials such as polyester (Mylar D), polyethylene, polypropylene, and polycarbonate. Avoid polyvinyl chloride plastics and self-adhesive photo pages. Photo corners on archival paper are a better choice. Objects should not be in direct contact with rubber bands, paper clips, rubber cement, or other adhesives; self-adhesive labels or papers; plasticine or other clays. Do not use bubble wrap, rubber, polyurethane foam rubber, newspaper, or excelsior to wrap or pack objects. Safe polyethylene foams are available through conservation suppliers.

Store three-dimensional objects in labeled boxes that are sufficiently large. Do not overcrowd the objects in a box. Separate them with neutral pH tissue or with unbleached cotton muslin that has been machine-washed in hot water (once with soap and once without) and dried. Place heavier and less intricate objects on the bottom. If textiles must be folded, pad the folds with tissue to prevent permanent creasing.

Protect large, unboxed objects in storage with soft, prewashed muslin cloth or neutral pH tissue and drape them loosely with polyethylene sheeting. Framed paintings and framed works of art on paper can be stored vertically, edges protected with padding, and protected from one another with archival cardboard.

Store metals under dry conditions. To retard tarnish, store silver wrapped in Pacific silver cloth (available at jewelry and department stores) or acid free buffered tissue.

Pastels, charcoal drawings, and other objects with delicate surfaces require specialized handling; consult a conservator.

Getting Help

Professional conservators are skilled in preservation and treatment techniques that can prolong the life of objects in your collection. Combining a knowledge of materials science with artistic ability they work to repair physical weaknesses, diminish chemical instability, and, to the extent possible, restore an object to its original appearance.

Talk with a professional conservator

- about the display, storage, and preservation of your special objects
- about the preservation of our collective culture such as public statuary and historic buildings and sites
- about disaster planning for your area
- when you notice instability or changes in an object, such as a flaking surface or fading
- before you try to repair a damaged object yourself
- immediately, if your object is infested with insects or mold
- before you unframe a textile, print, or photograph

Chapter Two: Display and Interpretation:

Introduction

Exhibitions are the public face of museums. The effective presentation of collections and information in exhibitions is an activity unique to museums, and it is through their exhibitions that the vast majority of people know museums.

Museum exhibitions are complex, and even modest ones require the time, energy, and expertise of many people. Museums now realize that effective planning, management of resources, research and interpretation, collections care, marketing, merchandising, design and fabrication, public programs, publications, and fund raising all contribute to the fulfillment of a museum's mission. However, it is vital that we as a profession not lose sight of the importance of the exhibition in its own right.

Standards for Museum Exhibitions

An exhibition is successful if it is physically, intellectually, and emotionally engaging to those who experience it. What follows is an outline of exhibition features that generally result in success. A competent exhibit need not demonstrate all of these features. The outline should be viewed as suggestive rather than precisely prescriptive. In fact, there is little that can be--or should be prescriptive about good exhibition design. We should always allow for purposeful--and often brilliant--deviation from the norm.

The following standards for museum exhibitions are organized in six major categories followed by descriptions of what constitutes effectiveness for each category and a listing of specific ways the category might be expressed in an exhibition.

1. Audience awareness

Did the audience respond well to the exhibition, and was the response consistent with the exhibition's goals?

Some specific ways this standard is achieved and demonstrated are:

- There is convincing evidence that the exhibition achieved its purpose(s) for its intended audiences and/or there is convincing evidence that the exhibition surpassed its intended goal(s) and resulted in unanticipated, positive experiences for visitors.
- Decisions about content, means of expression, and design are based on decisions about the intended audience.
- Visitors are given information in a variety of formats to accommodate various needs and preferences. If not, why not?
- The exhibition is designed to accommodate those who wish to skim as well as those who wish to take more time. If not, why not?

2. Content

Does the exhibition respect the integrity of its content?

Some specific ways this standard is achieved and demonstrated are:

- Subject is appropriate to an exhibition format, with its use of collections, environments, phenomena, and other means of physical presentation of content.

- Significant ideas, based on appropriate authority, are clearly expressed through reference to objects in the exhibition.
- The content reflects current knowledge of the subject.
- The subject is of current interest or the exhibition contributes to creating interest in a subject of importance.
- There is a sufficient number of objects to present the subject of the exhibition.

3. Collections

Have conservation and security matters been appropriately addressed?

Some specific ways this standard is achieved and demonstrated are:

- Objects are mounted appropriately.
- The requirements of good conservation (light levels, climate control) and security are met.

4. Interpretation/Communication

Is the information/message of the exhibition clear and coherent? If not, is there a good reason why not?

Some specific ways this standard is achieved and demonstrated are:

- The exhibition title communicates the subject and sounds appealing.
- There is a clear idea or set of ideas expressed, and those ideas are clear to viewers.
- There is a discernible pattern to the way content is presented, and if not, there is a good reason why not.
- There are coherent, easy-to-follow, and consistent formats for presenting information and eliciting responses, and if not, there is a good reason why not.
- Assumptions and points-of-view are clearly identified. If appropriate to the subject matter, the exhibition need not provide definitive answers. Raising questions and providing a forum for ideas may suffice.
- Specific topics and individual objects are treated in a manner appropriate to their importance.
- Interpretive media (labels, lighting, interactives, video, etc.) are appropriate to the exhibition's goals, content, and~intended audiences.
- The exhibition is engaging. Efforts are made to make the subject matter come alive through attractive presentation and opportunities for establishing personal connections and meaning.

5. Design and production

Are the media employed and the means used to present them in spatial planning, design, and physical presentation appropriate to the exhibition's theme, subject matter, collection, and audiences?

Some specific ways this standard is achieved and demonstrated are:

- Design elements (i.e. color, lights graphic treatments, exhibit furniture) contribute to and support the exhibition's ideas and tone.
- Orientation at the start and throughout the exhibition provides visitors with a conceptual, physical, and affective overview of the exhibition. Spatial organization supports the exhibition's organization.
- Traffic patterns are obvious to visitors and support the exhibition's sequencing of information and experiences. If not, there is a good reason why not.
- For each element of the exhibition (furnishings, audio-visuals, sound, printed materials, graphics), the materials used and the quality of production are appropriate to the design concept audiences, duration, and budget of the exhibition.

6. Ergonomics: human comfort, safety, and accessibility

Is the exhibition physically accessible? Are visitors comfortable and safe while viewing the exhibition?

Some specific ways this standard is achieved and demonstrated are:

- If the exhibition includes any potentially troubling material, visitors are forewarned so they can make informed decisions about whether they want to see it.
- Instructions are given when needed; they are clear and easy to understand.
- There is seating, as appropriate.
- Labels are engaging, informative, legible, and easily understood.
- The exhibition is fully accessible to all its visitors, and the needs of all potential visitors are addressed.

Standards for Museum Exhibits Dealing with Historical Subjects

In a democracy, a knowledge of history forms the context in which citizens make informed decisions. Historical knowledge also provides personal, family, and community links to the past. Historical understandings of other societies assists individuals in identifying commonalities in the human condition and in negotiating the differences that exist in our increasingly pluralistic world.

Museum exhibits play an important role in the transmission of historical knowledge. They are viewed by citizens of diverse ages, interests, and backgrounds, often in family groups. They sometimes celebrate common events, occasionally memorialize tragedies or injustices, and contain an interpretive element, even if it is not readily apparent. The process of selecting themes, photographs, objects, documents, and other components to be included in an exhibit implies interpretive judgments about cause and effect, perspective, significance, and meaning.

Historical exhibits may encourage the informed discussion of their content and the broader issues of historical significance they raise. Attempts to suppress exhibits or to impose an uncritical point of view, however widely shared, are inimical to open and rational discussion.

In aiming to achieve exhibit goals, historians, museum curators, administrators, and members of museum boards should approach their task mindful of their public trust. To discharge their duties appropriately, they should observe the following standards:

1. Exhibits should be founded on scholarship, marked by intellectual integrity, and subjected to rigorous peer review. Evidence considered in preparing the exhibit may include objects, written documentation, oral histories, images, works of art, music, and folklore.
2. At the outset of the exhibit process, museums should identify stakeholders in any exhibit and may wish to involve their representatives in the planning process.
3. Museums and other institutions funded with public monies should be keenly aware of the diversity within communities and constituencies that they serve.
4. When an exhibit addresses a controversial subject, it should acknowledge the existence of competing points of view. The public should be able to see that history is a changing process of interpretation and reinterpretation formed through gathering and reviewing evidence, drawing conclusions, and presenting the conclusions in text or exhibit format.
5. Museum administrators should defend exhibits produced according to these standards.

Chapter Three: Record Keeping and Collections Database

Introduction

An axiom for historical museums is, "An object is only as valuable as the information which accompanies it." This is especially true when the worth of an object is linked to its historical or scientific significance, rather than a simple aesthetic appreciation. Keeping accurate and usable records about the objects in a collection is the cornerstone of a responsible collection management program. A record should be kept for almost every transaction affiliated with an object.

Accession, Registration, and Catalog Records

The first record which is generated for an item is an accession record. An accession is an object or group of objects acquired from a single source at a single time. A legal document showing transference of ownership, such as a deed of gift, or bill of sale, must accompany each acquisition and remain a permanent record. Since these documents are the proof of ownership for the collection, it is a good idea to keep a duplicate set in a separate and secure location. The minimum information required for an accession record is the source, the date of acquisition, a brief description of the object(s) acquired, and the number assigned to the accession.

The museum number, which is marked on the artifact, is the link between the object and its record. Number systems vary among museums, but some type of marking is essential to tie the object back to its documentation. Most contemporary numbering systems use a three-part, meaningful number. The number indicates which year the object was added to the collection and which accession it was within the year; also, each object is assigned a number within the accession. (Example: 985.12.3 indicates that the object marked with this number was acquired in 1985, from the twelfth recorded donor or vender, and is the third object in the accession.)

Numbers are affixed to the object in an unobtrusive place, usually by applying a narrow strip of enamel paint and writing the number on the strip with indelible ink. It is then covered with a protective coat of lacquer. This is done so that the number cannot be inadvertently removed; if necessary, it can be removed with the proper combination of solvents. Numbers should not be permanently attached or engraved, nor should they be applied with gum labels which can either dry and fall off or the adhesive can become extremely gummy and impossible to remove.

After an accession record is generated and the object marked, registration and catalog records are created. Registration records are organized by the object number and include the basic inventory information about each item, such as: location, appraisal value, donor information, and a detailed description or photograph of the object. Catalog records repeat much of the same information about each item but are arranged by useful categories, such as source, object name, subject, style, etc.

Accession, registration and catalog records are created for every object as soon as it becomes part of the collection. But these primary files are only the beginning of the record-keeping process. The information in these files must be updated when necessary, such as when an object is moved to a new location, the condition has changed, or the insurance value is updated. It is a good idea to do periodic inventory checks to make sure everything is as it is recorded.

Depending on the uses of the collection and the sophistication of the collection management operation, there may be other records associated with routine care. These might include: conservation reports for work done on a piece, insurance reports, a record of the people who have used collection items for research, a record of exhibitions or publications in which the object has appeared, or loan records.

Loan Records

It is important to have sensible guidelines with regard to loans in order to protect the collection. The museum should designate who may make decisions about pieces lent to, or borrowed from, the collection, and who will process the loan. Generally, loans from a museum are lent only to other nonprofit, educational institutions and not to private parties or commercial enterprises. Loans are usually granted only for display or research purposes and not for active demonstrations or theatrical props. It is standard practice in museums today not to accept long-term, indefinite, or permanent loans, a common practice not too many years ago. Over the years confusion over ownership, a tendency to become dependent on such borrowed pieces, and responsibility for damage or deterioration in pieces lent with such terms has discouraged this practice. Today the duration of a loan is usually no more than 1-3 years.

Most importantly a loan agreement should include: the name, organizational affiliation, address, and signature of the person responsible for the loan; the name and address of the location where the object will be held; the accession number and description of what is being borrowed; the exact dates of the loan period; the purpose of the loan; insurance requirements; packing and shipping specifications; and any special conditions, provisions, or restrictions such as, security precautions, credit lines, photographic privileges, etc.

In addition to the loan agreement, there are a few other records which typically accompany a loan. These are a facilities report, condition reports, and a proof of insurance certificate. A facilities report is used in evaluating whether the borrowing institution has satisfactory staff, security, and storage and exhibit environments in order to properly care for the items which it has requested. Condition reports should be filed for each object both when it leaves the collection and when it returns. The report describes existing damage and also notes areas of fragility or potential damage. Photographs are recommended. The proof of insurance certificate, or letter of intent to be self-insured, should indicate that the owner will be reimbursed for the full appraised value in the event of loss or damage. The owner should have such documentation before an object is released. If a large number of loans enter and leave the museum, it is a good idea to keep a calendar as a reminder of when loans should be returned.

De-Accession Records

The last major set of records is related to de-accession and disposal of collection material. Here it is important to note in a permanent record when and why a piece was selected for de-accession. It is also necessary to record the details surrounding the disposition of the piece. All accession, registration, and catalog records should be updated to indicate that the piece is no longer in the collection, but under no circumstances should these records be removed from the permanent file. If all the steps to properly care for the collection are being taken, it will be a simple task to keep the records current, complete, and accurate. Likewise, if careful records are being kept on collection transactions, it ensures that all the necessary measures will be followed, and none overlooked. Again, record keeping is the cornerstone to responsible collection management.

Collections Database

The basic tool for managing the record keeping aspect of Collections Management is a collections database. There are several tools available with basic solutions to manage all of the record keeping duties of a small museum. However the most popular and widely used database tool for collections management in small museums is the PastPerfect software.

PastPerfect software is a commercially available software package used by over 2,750 libraries, museums, and historical societies to manage their museum collections. The software conforms to the latest standards for cataloging archive, library, historic object, art object, natural history, archaeology, and photograph collections. It encompasses every aspect of collection and membership management. Automate accessions, cataloging, loans in, loans out, exhibits, condition reporting, and repatriation.

Usability is the element most evident when working with this software. In their training sessions, the practical day-to-day workflow is acknowledged by beginning with "A man comes into your library with a box." Anyone who has worked in a library, museum, or historical society knows this scenario. From intake to dissemination, the designers of the software seem to know the daily routines of data entry personnel, librarians assigning metadata, historians writing narratives, and harried directors who have little time to compose thank you letters and track gifts and loans. Much care has been taken to manage the people side of the business of preservation. Tracking fund-raising, patrons, donors, and volunteers is also a feature of the software.

PastPerfect is the flagship of the Pastime Software Company, Inc. located at 300 N. 300 N. Pottstown Pike, Suite 200, Exton, PA 19341. Their business telephone number is 610.363.7844 and the Sales Department can be emailed at sales@museumsoftware.com. The company was founded in 1998 and remains a small company of about eleven employees in their single location. The main contact person is Vice-President Brian Gomez. Their internet address is <http://www.museumsoftware.com/> and their toll-free telephone number is 1-800-562-6080. Version 4 has just been released and the pricing is \$795 for a single user license but members of AASLH (American Association for School and Local History) receive a 20% discount.

Chapter Four: Disaster and Emergency Preparedness

Fire, flooding, earthquakes, and civil disturbances are among the items in the catalog of catastrophes that potentially can strike museums and other collecting institutions. Preparing for emergencies—and responding effectively when they occur is a critical component of collections care. While natural disasters cannot be prevented, important steps can be taken before a disaster strikes to minimize the threat of damage. It is vitally important to be prepared when a disaster strikes and to know where to turn for help and the steps to take to begin the recovery following a disaster. Unless assessment and remedial action are taken immediately, historic resources will be lost, as they are truly irreplaceable.

The Elements of Disaster Preparedness

Protection involves activities taken to prevent or minimize damage to collections. It requires, first, that a repository assess its vulnerability to floods, earthquakes, hurricanes, and other natural disasters, and to incidents such as roof leaks, plumbing malfunctions, fire, and mold outbreaks. Second, it includes actions to prevent or reduce the impact of disasters. Preventive work takes a variety of forms: installing fire detectors and sprinkler systems, bracing shelves to resist earthquake damage, regularly maintaining plumbing and drainage systems, and storing collections in areas unlikely to sustain water damage from natural or manmade disasters.

Recovery begins after a disaster has occurred and involves three stages: response, salvage, and rehabilitation. In the response stage, the staff organizes the recovery project by notifying necessary personnel, procuring supplies and services for recovery, stabilizing the building's environment, and assessing the damage. The salvage stage involves packing and removing materials from the affected site, stabilizing them (most often through freezing), and drying them by any of a variety of processes (including air-drying, dehumidification, and vacuum thermal- or freeze-drying). The rehabilitation or restoration stage includes such steps as cleaning, fumigation, repair, rebinding, affixing new labels and plates, re-shelving, re-housing archival materials, and deodorization and removal of smoke or soot. Rehabilitation of non-paper materials such as photographic and magnetic media often involves reprocessing and/or copying the salvaged item onto a new, stable medium.

Planning is the third element of disaster preparedness, and the most critical. It overarches protection and recovery. In this activity, discrete lists of facts, resources, procedures, priorities, and options are brought together to form a coherent working document that will guide policy and action not just in a disaster situation, but on a day-to-day basis. The disaster plan should include such informational components as floor plans, lists of suppliers and other resources, personnel directories, insurance and accounting instructions, and various checklists. Perhaps more important, it should serve as a guide for the staff in recovering from disasters of various magnitudes, and it should include instructions and procedures that will be relevant in various scenarios. That is, it should reflect in some detail the repository's plans for coping with incidents ranging from small water leaks to mold outbreaks to devastating fire or natural disaster.

Preparing and Developing a Disaster Plan

Here are the steps typically involved in developing a disaster plan for museums and archives. These steps do not have to happen in the order listed below.

- Assign responsibility. The repository head must authorize the disaster preparedness project. In most cases, it is useful to employ a committee or task force, but one person must be in charge. If one person is acting alone, it is all too easy to let disaster preparedness activities slip to one side. However, if several people are working together, they often motivate one another to continue the activity. Generally, the person in charge should be a manager, and s/he must have skills in project management and group facilitation.

- Establish contact with relevant emergency management units. The fire department, security and safety units, and risk management offices may help educate the staff. You need to learn what support they can offer and what plans they have in place, and they need to understand the museum's particular concerns.
- Define the scope of the plan. It may be prudent to adopt a "phased" planning process--that is, to focus first on your greatest vulnerabilities. Decide which elements of the plan you will develop in this phase of the planning process and which must wait.
- Develop planning parameters. Establish goals and benchmarks so you can monitor progress and have tangible accomplishments throughout the process. Set a schedule for reporting to the repository director.
- Determine and rank potential hazards. Inspections and assessments of the museum structure and collection are key elements of disaster preparedness. As you conduct your planning, you may discover some conditions that increase your vulnerability to disaster (for example, lack of sprinklers or other automatic fire suppression) and others that will complicate your recovery efforts (e.g., the presence of asbestos that could be dislodged in an earthquake, fire, or structural collapse). Such discoveries require two avenues of action. First, seek to remedy the problem--for example, by installing sprinklers, conducting asbestos abatement, and so on. Second, and especially if you cannot provide such remedies, make sure your plan realistically reflects the vulnerabilities you discover.
- Consider financial implications. The planning group must know what funds are available for disaster preparedness and especially what will be available for recovery. If the organization is self insured, there may be no provision for recovery funds. It may be possible to change that situation if you educate financial officers of the museum about the fact that recovery is generally much less expensive than replacement.
- Write the disaster plan. Many conversations will be required to decide on the content of your plan. For example, many staff members should be involved in setting collection priorities. You will need to get information and coordinate planning with outside units--the fire department, security staff, health and safety office, and so on--in order to shape your plans.
- Distribute the plan and train staff. All personnel should understand their responsibilities for basic response actions such as evacuation. In the event of a disaster, they may also have duties such as packing wet records, rinsing muddy books, air-drying materials, rinsing and drying photographic materials--tasks for which their professional education never prepared them. Hold in-house workshops to teach the procedures, and be sure that staff are cross-trained.
- Test the plan and revise it as needed. In the first year after you develop your plan, three or four tests may be needed to determine the feasibility of your plan for the various scenarios it covers (roof leak, fire, earthquake, etc.). Once the plan is well established, conduct fire drills at least annually. It is most important to conduct drills related to disasters that occur infrequently but present a high risk for collection damage, such as earthquakes or fires. In most institutions, there will be plenty of real cases of minor water damage so that you will have ample opportunity to test and refine your plans for those.
- Document and assess the planning process. Identify what problems you encountered, what tactics and resources were most helpful, and so on. To the extent possible, put those in writing and include them in the introduction to your plan as an aid to future planners.

Resources and Contacts for information on Disaster and Emergency Planning:

- The California Preservation Program

Provides disaster assistance to libraries, archives, historical societies and cultural institutions. Institutions are encouraged to call for assistance as soon as possible. The emergency toll-free number 888-905-7737 will connect you with a disaster response specialist. Phone consultation is provided at no charge. If phone consultation is not sufficient, on-site assistance can be arranged at minimal or no charge. The following website offers workbooks and templates for writing a disaster plan:

<http://calpreservation.org/disasters/>

- Heritage Emergency National Task Force

A federal organization with information and resources regarding disasters and emergency planning for cultural collections.

<http://www.heritagepreservation.org/programs/taskfer.htm>

- Center for Great Lakes Culture Disaster Mitigation Planning Assistance

offers sample disaster plans, and an excellent searchable database of disaster supplies, experts, services, and other resources:

<http://matrix.msu.edu/%7Edisaster/>

APPENDIX B: PHOTOGRAPHS



This historic photograph was reprinted in the sesquicentennial celebration newsletter distributed by Sonoma County Regional Parks Department in 2006. The original date is unknown but the concrete walk and porch landing are clearly visible.

WATSON SCHOOL
Core Historic Structure Report



Front (north) elevation, June 2008.



Northeast corner, June 2008.





Front porch where concrete slab has been removed, June 2008. A new concrete or wood platform is recommended.



East elevation with braces, June 2008.

WATSON SCHOOL
Core Historic Structure Report



Southeast corner, June 2008.



Detail of the southeast corner, June 2008. Note how the siding curves down near the northeast corner. The building is twisting and has dropped in the northeast corner. The framing should straighten out when the building is made true.





Rear (south) elevation, June 2008. This is the most historically appropriate location for the new accessible entry and ramp.



West elevation, June 2008.



Detail of a window, June 2008. The original six-over-six wood double-hung windows were replaced with shatter-resistant reinforced polycarbonate sheeting. The original framing appears to remain in at least some locations.



Interior classroom space, looking north, June 2008.



Detail of the teaching stage and desk,, both original to the period of significance, June 2008.



Interior classroom, looking south, June 2008.



West classroom wall showing gaps where moisture has penetrated through the exterior siding, June 2008. These gaps have been historically filled with a plaster-like substance. Repairing the exterior siding should eliminate the moisture condition.



Detail of the period appropriate desks currently housed at Watson School, June 2008.



Original light fixture, June 2008.



Entry space with closet and bell rope, June 2008.



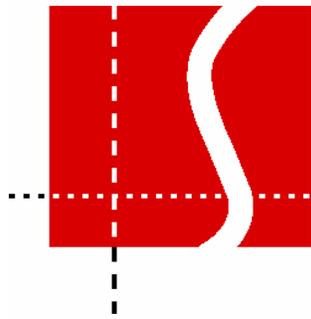
Floor of the front entry showing the original (pre-1900) floor and the current (post-1900) floor. The dates of installation for the “new” floor are unknown. Dating is approximate and is based on general nail manufacturing technology history.



Photo of attic framing, June 2008. The c.1920s knob and tube wiring is still visible.

APPENDIX C: SOILS REPORT (2008)

APPENDIX D: COST ESTIMATE



Leland Saylor
Associates
A Certified DVBE

SCHEMATIC LEVEL ESTIMATE

WATSON SCHOOL

BODEGA, CA

LSA JOB NUMBER:
08-180Br1

December 9, 2008

DRAFT

PREPARED FOR
GARAVAGLIA ARCHITECTURE
BY LELAND SAYLOR ASSOCIATES



DRAFT

PROJECT: **WATSON SCHOOL**
LOCATION: **BODEGA, CA**
CLIENT: **GARAVAGLIA ARCHITECTURE**
DESCRIPTION:

JOB NUMBER: **08-180Br1**
PREPARED BY: **RSD, JS**
BID DATE:
ESTIMATE DATE: **12/9/2008**

PREFACE AND NOTES TO THE ESTIMATE

1.0 PROJECT SYNOPSIS

1.1 TYPE OF STUDY:

SCHEMATIC LEVEL ESTIMATE

1.2 PROJECT DESCRIPTION:

Construction Type:	HISTORICAL
Foundation Type:	CONTINUOUS SPREAD FOOTING
Exterior Wall Type:	WOOD SIDING
Roof Type:	WOOK SHAKE
Stories Below Grade:	NONE
Stories Above Grade:	ONE
Sitework:	RAMP, MINOR UTILS, EXCAVATION
Plumbing System:	NONE
Mechanical System:	MINOR HEATING
Fire Protection System:	NONE
Electrical Service:	NEW

PROJECT: **WATSON SCHOOL**
LOCATION: **BODEGA, CA**
CLIENT: **GARAVAGLIA ARCHITECTURE**
DESCRIPTION:

JOB NUMBER: **08-180Br1**
PREPARED BY: **RSD, JS**
BID DATE:
ESTIMATE DATE: **12/9/2008**

PREFACE AND NOTES TO THE ESTIMATE

1.3 GENERAL NOTES REGARDING PROJECT:

Work will consist of remodeling historic schoolhouse with new finishes, new ramp, stairs and deck, new heating, electrical and lighting.

2.0 DEFINITIONS

2.1 ESTIMATE OF COST:

An Estimate of Cost is prepared from a survey of the quantities of work - items prepared from written or drawn information provided at the design-development, working drawing or bid-documents stage of the design. Historical costs, information provided by contractors and suppliers, plus judgmental evaluation by the Estimator are used as appropriate as the basis for pricing. Allowances as appropriate will be included for items of work which are not indicated on the design documents provided that the Estimator is made aware of them, or which, in the judgment of the Estimator, are required for completion of the work. We cannot, however, be responsible for items or work of an unusual nature of which we have not been informed.

2.2 BID:

An offer to enter a contract to perform work for a fixed sum, to be completed within a limited period of time.



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PROJECT: WATSON SCHOOL
LOCATION: BODEGA, CA
CLIENT: GARAVAGLIA ARCHITECTURE
DESCRIPTION:

JOB NUMBER: 08-180Br1
PREPARED BY: RSD, JS
BID DATE:
ESTIMATE DATE: 12/9/2008

PREFACE AND NOTES TO THE ESTIMATE

3.0 BIDS & CONTRACTS

3.1 MARKET CONDITIONS:

In the current market conditions for construction, our experience shows the following results on competitive bids, as a differential from Leland Saylor Associates final estimates:

Number of Bids	Percentage Differential
1	+25 to 100%
2 - 3	+10 to 25%
4 - 5	0 to +10%
6 - 7	0 to -10%
8 or more	-10 to -20%

Accordingly, it is extremely important to ensure that a minimum of 4 to 5 valid bids are received. Since LSA has no control over the bid process, there is no guarantee that proposals, bids or construction cost will not vary from our opinions or our estimates. Please see Competitive Bidding Statement in the estimate detail section for more information.

PROJECT: **WATSON SCHOOL**
LOCATION: **BODEGA, CA**
CLIENT: **GARAVAGLIA ARCHITECTURE**
DESCRIPTION:

JOB NUMBER: **08-180Br1**
PREPARED BY: **RSD, JS**
BID DATE:
ESTIMATE DATE: **12/9/2008**

PREFACE AND NOTES TO THE ESTIMATE

4.0 ESTIMATE DOCUMENTS

4.1 This Estimate has been compiled from the following documents and information supplied:

DRAWINGS:

Architectural

6/9/2008

Mechanical

None

Landscaping

None

Structural

None

Plumbing

None

Accessibility Standards

None

Civil

None

Electrical

None

Other

None

SPECIFICATIONS / PROJECT MANUAL:

narrative

COSTS PROVIDED BY OTHERS:

none

4.2 The user is cautioned that significant changes in the scope of the project, or alterations to the project documents after completion of the schematic level estimate can cause major cost changes. In these circumstances, Leland Saylor Associates should be notified and an appropriate adjustment made to the schematic level estimate.

PROJECT: **WATSON SCHOOL**
LOCATION: **BODEGA, CA**
CLIENT: **GARAVAGLIA ARCHITECTURE**
DESCRIPTION:

JOB NUMBER: **08-180Br1**
PREPARED BY: **RSD, JS**
BID DATE:
ESTIMATE DATE: **12/9/2008**

PREFACE AND NOTES TO THE ESTIMATE

5.0 GROSS SQUARE FEET

BUILDING	GSF
SCHOOL HOUSE	1,164
TOTAL Gross Floor Area	1,164

6.0 WAGE RATES

6.1 This Estimate is based on market wage-rates and conditions currently applicable in BODEGA, CA.

7.0 PRORATE ADDITIONS TO THE ESTIMATE

7.1 **GENERAL CONDITIONS:** 12.00%

An allowance based on 12.00% of the construction costs subtotal has been included for Contractor's General Conditions.

PROJECT: **WATSON SCHOOL**
LOCATION: **BODEGA, CA**
CLIENT: **GARAVAGLIA ARCHITECTURE**
DESCRIPTION:

JOB NUMBER: **08-180Br1**
PREPARED BY: **RSD, JS**
BID DATE:
ESTIMATE DATE: **12/9/2008**

PREFACE AND NOTES TO THE ESTIMATE

7.2 CONTINGENCY: 10.00%

An allowance based on 10.00% of the construction costs subtotal has been included for Design/Estimating Contingency.

NOTE: This allowance is intended to provide a Design Contingency sum only, for use during the design process. It is not intended to provide for a Construction Contingency sum.

7.3 ESCALATION: 32.50%

An allowance of 32.50% has been included in this estimate for construction material & labor cost escalation up to the anticipated mid-point of construction, based on the following assumptions:

Construction start date:	3/1/2014
Construction period:	6 months
Mid-point of construction:	6/1/2014
Annual escalation rate:	6.50%
Allowance for escalation:	32.50%

No allowance has been made for Code Escalation or Technological Escalation.

7.4 GEOGRAPHICAL FACTOR: 0.00%

This estimate is based on current market prices for work of a similar character, done in BODEGA, CA. No adjustment is required for geographical location factor.



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PROJECT: **WATSON SCHOOL**
LOCATION: **BODEGA, CA**
CLIENT: **GARAVAGLIA ARCHITECTURE**
DESCRIPTION:

JOB NUMBER: **08-180Br1**
PREPARED BY: **RSD, JS**
BID DATE:
ESTIMATE DATE: **12/9/2008**

PREFACE AND NOTES TO THE ESTIMATE

7.6 SMALL JOB FACTOR 10.00%

A Small Job Factor of 10.00% has been included in the prorates section of the estimate. A Small Job Factor is appropriate for all jobs that total less than \$1 million.

7.8 BONDS: 2.00%

An allowance of 2.00% of the construction cost subtotal is included to provide for the cost of Payment and Performance Bonds, if required.

7.9 CONTRACTOR'S FEE: 10.00%

An allowance based on 10.00% of the construction cost subtotal is included for Contractor's office Overhead and Profit. Office overhead of the contractor is always included with the fee.

All field overhead of the contractor is included in the General Conditions section of the estimate.



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PROJECT: **WATSON SCHOOL**
LOCATION: **BODEGA, CA**
CLIENT: **GARAVAGLIA ARCHITECTURE**
DESCRIPTION:

JOB NUMBER: **08-180Br1**
PREPARED BY: **RSD, JS**
BID DATE:
ESTIMATE DATE: **12/9/2008**

PREFACE AND NOTES TO THE ESTIMATE

8.0 SPECIAL NOTES PERTAINING TO THIS ESTIMATE

8.1 SPECIFIC INCLUSIONS:

The following items are specifically included in this estimate:

NONE

8.2 SPECIFIC EXCLUSIONS:

The following items are specifically excluded from this estimate:

HAZMAT

SOIL REMEDIATION

PROJECT: WATSON SCHOOL	LSA JOB NO: 08-180Br1
LOCATION: BODEGA, CA	PREPARED BY: RSD, JS
CLIENT: GARAVAGLIA ARCHITECTURE	CHECKED BY: mk
DESCRIPTION: SCHOOL HOUSE	ESTIMATE DATE: 12/9/2008
	GSF: 1,164

DRAFT

SCHEMATIC LEVEL ESTIMATE

ITEM #	DESCRIPTION	QUANTITY	UNIT	COST	TOTAL
	PHASE 1a			85.68	99,733
	PHASE 1b			31.32	36,454
	PHASE 2a			39.88	46,426
	PHASE 2b			27.32	31,796
	PHASE 2c			14.96	17,411
	PHASE 2d			35.51	41,333
	PHASE 3			32.48	37,805
	TOTAL SITE & BUILDING			267.15	310,957
	PRORATES				
	General Conditions	12.00%			
	Design Contingency	10.00%			
	Escalation - 5 years	32.50%			
	Geographic Factor	0.00%			
	Small Job Factor	10.00%			
				-	
	Bonds	2.00%			
	Overhead and Profit	10.00%			
				-	

PROJECT: **WATSON SCHOOL**
 LOCATION: **BODEGA, CA**
 CLIENT: **GARAVAGLIA ARCHITECTURE**
 DESCRIPTION: **SCHOOL HOUSE**

LSA JOB NO: **08-180Br1**
 PREPARED BY: **RSD, JS**
 CHECKED BY: **mk**
 ESTIMATE DATE: **12/9/2008**
 GSF: **1,164**

DRAFT

SCHEMATIC LEVEL ESTIMATE

ITEM #	DESCRIPTION	QUANTITY	UNIT	COST	TOTAL
Competitive Bidding					
<p>The prices in this Estimate are based on Competitive Bidding. Competitive Bidding is receiving responsive bids from at least five (5) or more General Contractors and three (3) or more responsive bids from Major Subcontractors or Trades. Major Subcontractors are Structural Steel, Plaster / EIFS Contractors, Mechanical, Plumbing and Electrical Subcontractors.</p> <p>Without Competitive Bidding, Contractor bids can and have ranged from 25%-to 100% over the prices in this Estimate, depending on the size of the job.</p> <p>We urge you to notify your client of the existing buyer's market bidding climate, and work with them to ensure that the project is adequately publicized so that they can get the minimum number of bids for competitive bidding. Please contact LSA if you need ideas about how to publicize your project.</p>					

PROJECT: **WATSON SCHOOL**
 LOCATION: **BODEGA, CA**
 CLIENT: **GARAVAGLIA ARCHITECTURE**
 DESCRIPTION: **SCHOOL HOUSE**

LSA JOB NO: **08-180Br1**
 PREPARED BY: **RSD, JS**
 CHECKED BY: **mk**
 ESTIMATE DATE: **12/9/2008**
 GSF: **1,164**

DRAFT

SCHEMATIC LEVEL ESTIMATE

ITEM #	DESCRIPTION	QUANTITY	UNIT	COST	TOTAL
1.0	GENERAL CONDITIONS (SEE PRORATES ABOVE)				
	PHASE 1a				
PHASE 1a	PERIMETER EXCAVATION TO PREPARE FOR RAISING THE BUILDING	32	CY	32.00	1,031
PHASE 1a	RAISE, PULL BACK TO AS NEAR AS THE ORIGINAL GEOMETRY, BRACE AND SECURE BUILDING FOR (N) CONCRETE FOUNDATION	1,164	SF	15.00	17,460
PHASE 1a	TEMPORARY SHORING FOR BUILDING	145	LF	45.00	6,525
PHASE 1a	REMOVE DAMAGED WOOD PIERS AS REQUIRED	18	EA	250.00	4,531
PHASE 1a	(N) 8" CONCRETE MAT FOUNDATION WITH 12" DEEP DROP ALONG EDGE	1,164	SF	9.00	10,476
PHASE 1a	REMOVE DAMAGED FLOOR JOISTS & BEAMS AS REQUIRED	1,164	SF	2.00	2,328
PHASE 1a	GRADING TO SLOPE TOWARD FRENCH DRAIN, HAND	1,164	SF	3.00	3,492
PHASE 1a	REPLACE IN KIND REMOVED FLOOR JOISTS & BEAMS	1,164	SF	6.00	6,984
PHASE 1a	BOLT CONNECT FLOOR FRAMING TO FOUNDATION @ REGULAR INTERVALS	145	LF	9.00	1,305
	SUBTOTAL				54,132
	PRORATES			84.2%	45,601
					-
					-
	TOTAL PHASE 1a				99,733

LELAND SAYLOR ASSOCIATES

PROJECT: WATSON SCHOOL	LSA JOB NO: 08-180Br1
LOCATION: BODEGA, CA	PREPARED BY: RSD, JS
CLIENT: GARAVAGLIA ARCHITECTURE	CHECKED BY: mk
DESCRIPTION: SCHOOL HOUSE	ESTIMATE DATE: 12/9/2008
	GSF: 1,164

DRAFT

SCHEMATIC LEVEL ESTIMATE

ITEM #	DESCRIPTION	QUANTITY	UNIT	COST	TOTAL
	PHASE 1b				-
PHASE 1b	(N) FRENCH DRAIN	48	LF	25.00	1,200
PHASE 1b	(N) SUMP PUMP	1	EA	850.00	850
PHASE 1b	PAINT EXPOSED CONCRETE	22	SF	2.00	43
PHASE 1b	HEAVY STAINLESS STEEL MESH FOR VENTS & OPENINGS	29	EA	120.00	3,480
PHASE 1b	BUILD (N) ACCESSBLE WOOD RAMP ADJACENT TO BUILDING	150	SF	30.00	4,500
PHASE 1b	REAR WOOD DECK	50	SF	30.00	1,500
PHASE 1b	REAR WOOD STAIRS	40	SF	30.00	1,200
PHASE 1b	DECOMPOSED GRANITE WALKWAY	190	SF	5.00	948
PHASE 1b	WOOD GUARDRAIL w/ HANDRAIL	48	LF	70.00	3,360
PHASE 1b	FRONT CONCRETE LANDING	280	SF	6.00	1,680
PHASE 1b	REFINISH (E) ADA PARKING	1	STALL	150.00	150
PHASE 1b	ADD REQUIRED SIGNAGE	1	STALL	375.00	375
PHASE 1b	REMOVE WATER TANK	1	EA	500.00	500
	SUBTOTAL				19,786
	PRORATES			84.2%	16,668
					-
	SUBTOTAL PHASE 1b				36,454
	PHASE 2a				-
PHASE 2a	DOCUMENT & CAREFULLY REMOVE EXTERIOR SIDINGS @ NORTH & SOUTH WALLS	892	SF	6.00	5,350
PHASE 2a	INSTALL DIAGONAL BRACING AS NEEDED BETWEEN NORTH & SOUTH FRAMING MEMBER	1,164	SF	3.00	3,492
PHASE 2a	INSTALL (N) PLYWOOD SHEATHING	892	SF	3.00	2,675
PHASE 2a	REINSTALL REMOVED SIDINGS	892	SF	6.00	5,350
PHASE 2a	ALLOWANCE FOR SIDING REPLACEMENTS	892	SF	4.00	3,567
PHASE 2a	REMOVE CAULKING & FILLERS @ WEST WALL	583	SF	2.00	1,166
PHASE 2a	REMOVE & REPLACE SIDING @ WEST WALL (20%)	117	SF	12.00	1,399

LELAND SAYLOR ASSOCIATES

PROJECT: WATSON SCHOOL	LSA JOB NO: 08-180Br1
LOCATION: BODEGA, CA	PREPARED BY: RSD, JS
CLIENT: GARAVAGLIA ARCHITECTURE	CHECKED BY: mk
DESCRIPTION: SCHOOL HOUSE	ESTIMATE DATE: 12/9/2008
	GSF: 1,164

DRAFT

SCHEMATIC LEVEL ESTIMATE

ITEM #	DESCRIPTION	QUANTITY	UNIT	COST	TOTAL
PHASE 2a	REPAINT (E) FRONT DOORS TO RECREATE HISTORICALLY APPROPRIATE PAINTING SCHEME	2	EA	100.00	200
PHASE 2a	REMOVE (E) EXTERIOR REAR DOOR	1	EA	100.00	100
PHASE 2a	RECONFIGURE DOOR OPENING TO MEET ADA COMPLIANCE	1	EA	250.00	250
PHASE 2a	(N) ADA COMPLIANT EXTERIOR DOOR, FRAME, PAINT, HARDWARE	1	EA	1,650.00	1,650
	SUBTOTAL				25,198
	PRORATES			84.2%	21,227
					-
	TOTAL PHASE 2a				46,426
	PHASE 2b				-
PHASE 2b	(N) HEATING SYSTEM OF BASELINE CAPACITY	1,164	SF	3.00	3,492
PHASE 2b	(N) DUCTING	1,164	SF	1.00	1,164
PHASE 2b	(N) ELECTRICAL SYSTEM	1,164	SF	4.00	4,656
PHASE 2b	(N) CONDUIT & WIRE	1,164	SF	1.50	1,746
PHASE 2b	REPLACE MAIN POWER FEED JUNCTION BOX w/ NEW JUNCTION BOX AND SHORT CONDUIT RUN	1	EA	250.00	250
PHASE 2b	ADD DUPLEX RECEPTACLES	10	EA	115.00	1,150
PHASE 2b	REPLACE OR REPAIR CURRENTLY INSTALLED LIGHTS	6	EA	800.00	4,800
	SUBTOTAL				17,258
	PRORATES			84.2%	14,538
					-
	TOTAL PHASE 2b				31,796

PROJECT: **WATSON SCHOOL**
 LOCATION: **BODEGA, CA**
 CLIENT: **GARAVAGLIA ARCHITECTURE**
 DESCRIPTION: **SCHOOL HOUSE**

LSA JOB NO: **08-180Br1**
 PREPARED BY: **RSD, JS**
 CHECKED BY: **mk**
 ESTIMATE DATE: **12/9/2008**
 GSF: **1,164**

DRAFT

SCHEMATIC LEVEL ESTIMATE

ITEM #	DESCRIPTION	QUANTITY	UNIT	COST	TOTAL
	PHASE 2c				-
PHASE 2c	REMOVE WINDOWS	120	SF	3.00	360
PHASE 2c	RECREATE & INSTALL WINDOWS w/ SIX-OVER-SIX DOUBLE-HUNG SASHES, 4'x6'	120	SF	30.00	3,600
PHASE 2c	REMOVE, REPAIR & REPLACE WINDOW TRIMS, INT & EXT	480	LF	8.00	3,840
PHASE 2c	CONNECT ALL WINDOWS AND DOORS TO MONITORED SECURITY SYSTEM	11	EA	150.00	1,650
	SUBTOTAL				9,450
	PRORATES			84.2%	7,961
					-
	SUBTOTAL PHASE 2c				17,411
	PHASE 2d				-
PHASE 2d	REMOVE (E) ROOFING MATERIALS	1,799	SF	2.00	3,599
PHASE 2d	ADD (N) PLYWOOD ROOF SHEATHING	1,799	SF	1.95	3,509
PHASE 2d	BOLT CONNECT ROOF FRAME & WALL PLATE @ REGULAR INTERVALS	18	EA	250.00	4,531
PHASE 2d	REINSTALL/REPLACE (E) ROOFING MATERIALS, WOOD SHINGLE	1,799	SF	6.00	10,796
	SUBTOTAL				22,434
	PRORATES			84.2%	18,899
					-
	SUBTOTAL PHASE 2d				41,333

PROJECT: WATSON SCHOOL	LSA JOB NO: 08-180Br1
LOCATION: BODEGA, CA	PREPARED BY: RSD, JS
CLIENT: GARAVAGLIA ARCHITECTURE	CHECKED BY: mk
DESCRIPTION: SCHOOL HOUSE	ESTIMATE DATE: 12/9/2008
	GSF: 1,164
DRAFT	

SCHEMATIC LEVEL ESTIMATE

ITEM #	DESCRIPTION	QUANTITY	UNIT	COST	TOTAL
	PHASE 3				-
PHASE 3	RESTORE GRAINING FINISH ON ALL INTERIOR TRIMS FOR WINDOWS & DOORS	514	LF	3.00	1,542
PHASE 3	ALLOWANCE FOR INTERIOR PAINTING	3,222	SF	2.00	6,443
PHASE 3	ALLOWANCE FOR REFURBISHING OF TRIM AS NECESSARY	435	LF	3.00	1,305
PHASE 3	ALLOWANCE FOR REFURBISHING OF (E) PANELING & FINISHES	3,222	SF	2.00	6,443
PHASE 3	ALLOWANCE FOR INSTALLATION OF PERIOD APPROPRIATE LIGHTING	1	LS	4,000.00	4,000
PHASE 3	ALLOWANCE FOR TEMPORARY AREA LIGHTING	1,164	SF	2.00	2,328
	SUBTOTAL				20,519
	PRORATES			84.2%	17,285
					-
	SUBTOTAL PHASE 3				37,805