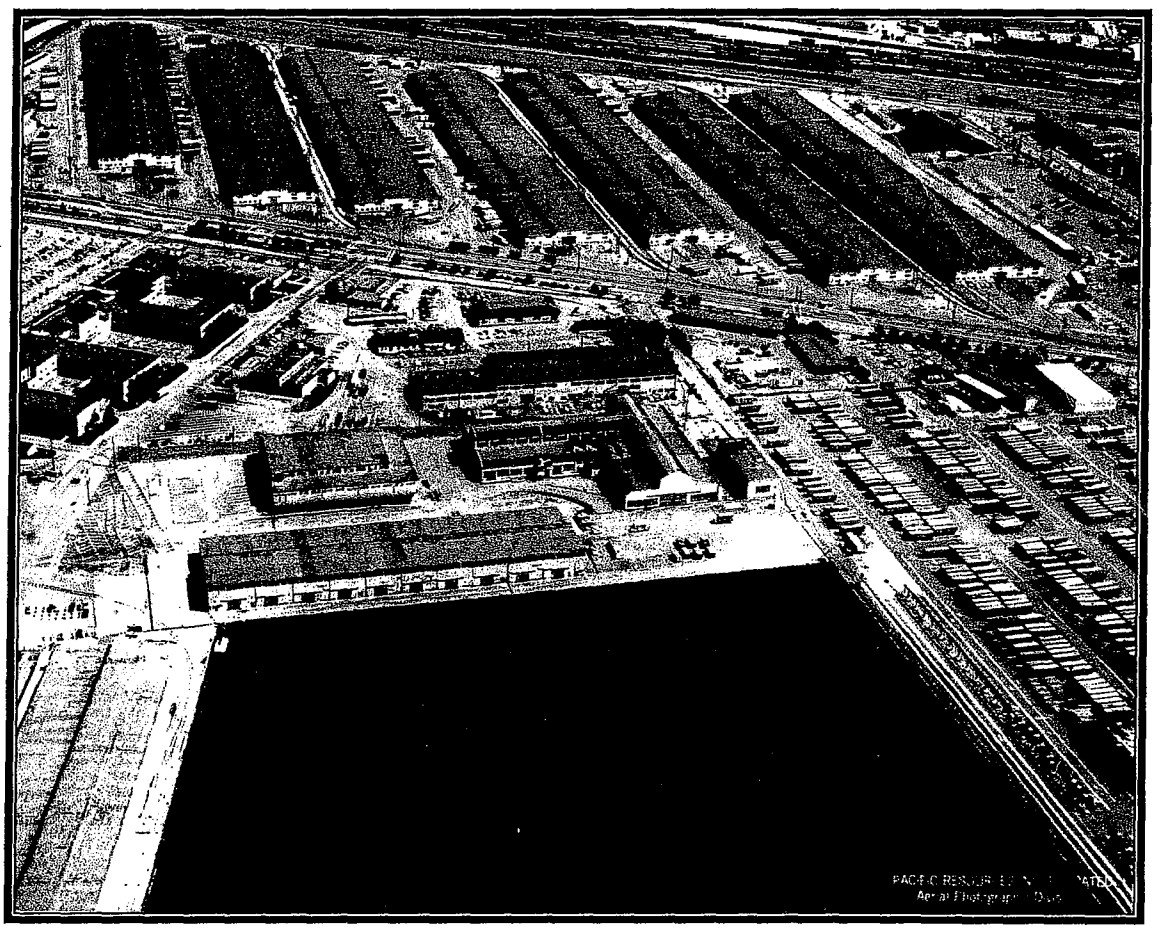
104341

OAKLAND ARMY BASE
HISTORIC BUILDING REUSE ALTERNATIVES REPORT
Buildings 1, 60, 88, 99, 808 and 812



Draft **April 18, 2002**

Prepared for the Oakland Base Reuse Authority

OAKLAND ARMY BASE
HISTORIC BUILDING REUSE ALTERNATIVES REPORT
Buildings 1, 60, 88, 99, 808 and 812

Draft **April 18, 2002**

Prepared for the Oakland Base Ruse Authority by:

Nancy Elizabeth Stoltz AIA, AICP
Project Manager / Architectural Historian

Ripley Architects - Consulting Architects
Rutherford & Chekene - Structural Engineers
Moffatt & Nichol - Marine Engineers
Davis Langdon Adamson - Cost Estimators

Cover photograph by Pacific Resources Incorporated, April 10, 1974. Courtesy of the Port of Oakland.

Preface

The *Historic Building Reuse Alternatives Report* provides an analysis of the physical suitability and cost of rehabilitating and reusing a number of historic structures on the former Oakland Army Base (OARB). It does not provide an analysis of feasibility of building rehabilitation in terns of meeting the objectives of the Amended Draft Final Reuse Plan for the Oakland Army Base. All of the structures are located within the boundaries of an historic district which has been determined eligible for the National Register of Historic Places and all have been identified as contributing resources to the district. The report was prepared for the Oakland Base Reuse Authority (OBRA) to assist it in assessing the physical and economic feasibility of rehabilitating and reusing these structures. It also includes cost estimates for demolition and/or deconstruction and salvage, and in some cases, the relocation of buildings.

This report provides cost estimates for rehabilitation in a manner consistent with the historic character of each building. It is important to note that these costs are reflective of a certain set of assumptions, including the type of future use which the structure might accommodate; the level of physical improvements that would be most appropriate for that use; and the need to reverse alterations which detract from the historic appearance of the building. In almost every case, these estimates represent one point in a range of possible costs. For certain structures, cost estimates are also provided for an alternative use and reflect a somewhat different set of physical improvements to accommodate that use.

Chapter 1 of this report includes a discussion of the methodology used in this study and a summary of its findings. This report does not delve in depth into the history of the entire base, but a brief overview of its initial construction is provided in Chapter 2. This overview is followed by a physical description of each structure, including alterations, and a discussion of its history and its function during World War II.

Chapter 3 provides a discussion of how reuse options were defined for each building. It identifies which alternatives to rehabilitation and reuse, including demolition, deconstruction and relocation, would be appropriate so that cost estimates could be developed for each. Chapter 4 explains the methodology and assumptions underlying the potential reuse options which led to the development of schematic plan diagrams. These helped to define the scope of physical improvements to be analyzed for each building. It also includes a discussion of relevant code issues.

The methodology and assumptions behind the generation of the actual cost estimates are presented in Chapter 5. A brief description of the physical improvements associated with each potential rehab scheme for each building is also provided, accompanied by the relevant schematic plan diagram. A presentation of the cost estimates for each rehab scheme accompanies the description of its associated improvements. A detailed break down of the cost estimate data is found in Appendix A.

This report was prepared by a team of consultants including the following firms which were responsible for the area of work indicated:

- Nancy Elizabeth Stoltz, AIA, AICP – Project Manager and Historic Preservation Consultant
- Ripley Architects – Consulting Architects for Development of Reuse Schemes & Improvements

- Davis Langdon Adamson – Cost Estimators for all Building Related Cost Estimates
- Rutherford and Chekene – Structural Engineers for Building Rehab Structural Recommendations
- Moffatt & Nichol – Marine Engineers for Review of Wharf Conditions and Recommendations

Table of Contents

Chapter 5 Cost Estimates for Buildings: Rehabilitation, Relocation, Demolition and Deconstruction

List of Acronyms

ACE	Army Corps of Engineers
ADA	Americans with Disabilities Act
BRAC	(Defense) Base Realignment and Closure Commission
Caltrans	California Department of Transportation
CBC	California Building Code
CHBD	California Historical Building Code
CPA	Central Procuring Agency
FEMA	Federal Emergency Management Agency
HAER	Historic American Engineering Record
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OARB	Oakland Army Base
OSD	Oversea Supply Depot
OBRA	Oakland Base Reuse Authority
OHP	(California) Office of Historic Preservation
SFPE	San Francisco Port of Embarkation
SHBC	State (California) Historical Building Code
UBC	Uniform Building Code
USACERL	U. S. Army Construction Engineering Research Laboratory

Chapter 1 Introduction

1.1 Study Location and Description

The structures which were analyzed as part of the historic preservation feasibility study are located on the former Oakland Army Base (OARB) immediately south of the San Francisco – Oakland Bay Bridge toll plaza in Oakland, California. All of the structures lie within the boundaries of an historic district that has been determined eligible for the National Register of Historic Places (NRHP) by the Army and the California Office of Historic Preservation (OHP). Closure of the base was recommended by the Defense Base Realignment and Closure Commission (BRAC) in June of 1995. The recommendation became final on September 28, 1995, and planning for the base closure and reuse commenced under the auspices of the Oakland Base Reuse Authority (OBRA) which commissioned this feasibility study.

1.2 Historic District Description and Boundaries

The historic district was first identified by the California Department of Transportation (Caltrans) in 1990 as part of its evaluation of alternatives for reconstruction of I-880, particularly the elevated Cypress Freeway and Grand Avenue overpass which were severely damaged in the Loma Prieta earthquake of 1989. The Caltrans report identified a single potential National Register eligible district which included "three discontiguous segments." It encompassed 24 contributing structures including 20 buildings, 3 wharves and a rail yard.[1] Building 161, a transit shed at Wharf 7, was initially identified as a contributing structure. It was demolished due to extensive structural damage from the 1989 earthquake and replaced with a smaller building. The 19 surviving historic buildings are representative of 12 distinct types, as some were identical in design. The three wharves bring the total number of remaining historic resources in the district to 22.

Subsequent to the initial Caltrans historic property survey of the Oakland Army Base, an Historic Preservation Plan was prepared under the direction of the Army Corps of Engineers.[2] This plan, prepared in December of 1994 by Hermann Zillgens Associates, included a more detailed documentation of those structures identified by Caltrans as contributors to the potential National Register district. The documentation was performed according to Level II standards of the Historic American Engineering Record (HAER) for 12 individual buildings or building types, with only photographs provided for the Knight Rail Yard and the three historic wharves. Building 161 was documented to HAER standards separately in 1992 by the U.S. Army Construction Engineering Research Laboratory (USACERL) before its demolition.[3]

The district and its contributing structures were evaluated for NRHP eligibility under Criterion A of the National Register, as making a significant contribution to the broad patterns of American history at the local, state and national levels of significance for the role the Base played in World War II. The district and its structures were evaluated for significance during the Korean War period in a separate survey by JRP Historical Consulting Services, using the criteria of the California Register of Historic Resources, but none of the buildings of that era were found to meet the critera.[4] JRP also conducted an inventory of Cold War-era buildings to determine whether they met National Register criteria, but again none of those structures was found eligible.[5]

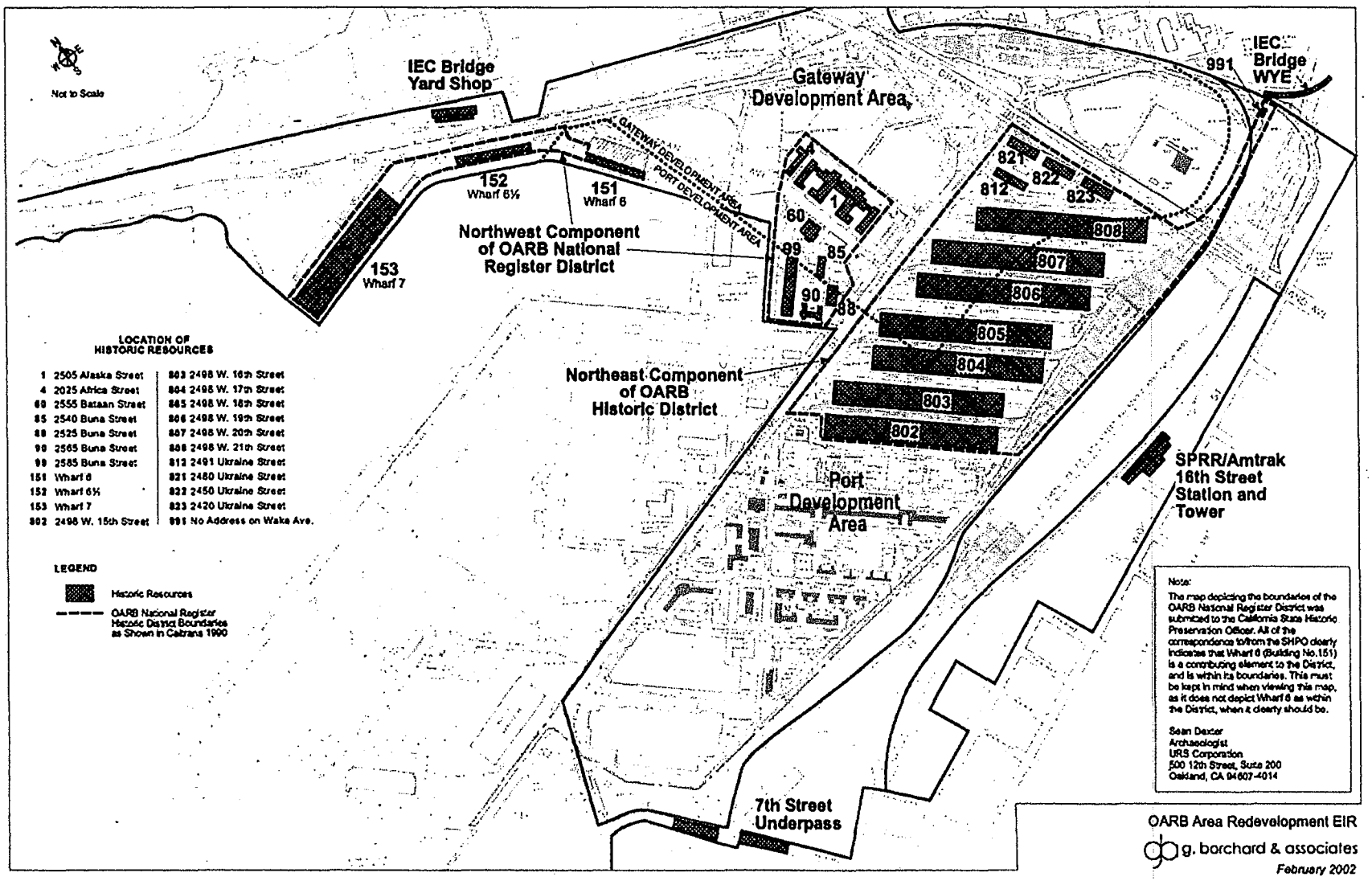


Figure 1.1 Historic District Boundaries and Resources

Source: g. borchard & associates, February, 2002

Though the historic district was identified and determined eligible for the NRHP, it has not been formally listed on the Register. The boundaries of the district are shown in Figure 1.1. The district occupies much of the northern sector of the former Army Base and consists of two geographic sections:

- The **Northwest Section** is located west of Maritime Street, north of Chunking Street and south of Alaska Street, extending westward to include the three wharf structures north of the turning basin.
- The **Northeast Section** lies east of Maritime Street and is bounded by West Grand Avenue on the north, 15th Street on the south and extends eastward to include the Knight Rail Yard.

Although included within the district's boundaries, the Knight Rail Yard is no longer considered as a contributing element due to alterations necessitated by the reconstruction of the Cypress Structure by Caltrans.[6] The six contributing buildings or building types which are the subject of this report are listed below and described in more detail in Chapter 2.

1.3 Purpose

The purpose of this report is to provide OBRA, other decision making bodies and the general public with an evaluation of the physical feasibility and cost of rehabilitating and reusing up to twelve of the historic buildings (5 different buildings and 7 identical warehouses) located on the OARB. This report does not evaluate the feasibility of rehabilitating buildings with respect to meeting the objectives of reuse as articulated in the Amended Draft Final Reuse Plan for the Oakland Army Base. The six individual buildings or building types evaluated in this report include the following:

- Building 1: Administration Building
- Building 60: Cafeteria
- Building 88: Storehouse
- Building 99: Shop Building
- Building 808: Warehouse (typical of seven)
- Building 812 Vehicle Maintenance Shop

With the exception of the large 800 series warehouse buildings which were classified as "temporary," all of the structures evaluated in this report were classified as "permanent" by the Army. The remaining eight buildings in the historic district consist of seven distinct building types which were not evaluated in this study because they were all classified as "temporary" by the Army. These "permanent" and "temporary" designations relate to the Army's intended use of the structure, rather than its actual age, method of construction or life span, necessarily. The condition of the wharves was examined as part of this study as well, but cost estimates for rehabilitating them were not developed because of the complexity and high cost of developing reliable estimates.

At the time this historic preservation feasibility study was commissioned by OBRA, the Army indicated that only the five buildings classified as "permanent" by the Army would be subject to further analysis under Section 106 of the National Historic Preservation Act (NHPA). This section of the NHPA governs federal undertakings and requires that federal agencies take into account the effects of their projects or actions on historic resources. This preservation feasibility study was intended to parallel the federal review process, so only the permanent buildings were initially

included. However, in response to a request by the Oakland Landmarks Preservation Advisory Board, OBRA directed that the 800 series warehouse buildings be included in the study as well. These seven warehouses, represented by Building 808, are a very prominent component of the Base and the district due to their vast size and number.

The evaluation conducted for this feasibility study was both qualitative, relying on the consultant team's professional judgement and expertise, and quantitative, resulting in carefully considered cost estimates for rehabilitating the buildings under study. A summary of the team's findings is presented in Chapter 1.4 below.

1.3.1 Methodology and Organization of Report

The reuse feasibility evaluation included a general assessment of the condition of each of the six structures based on several field visits and a review of the Army's building maintenance and alteration records for each one. The buildings were assessed for their historic integrity, overall physical condition, general level of maintenance, apparent structural integrity and degree of compliance with applicable codes, particularly those relating to access and life safety. With this information in hand, the buildings were evaluated for their suitability to accommodate potential uses listed in the *Amended Draft Final Reuse Plan for the Oakland Army Base*. Building rehabilitation and reuse was not evaluated to determine whether such reuse is feasible in terms of meeting the full range of objectives of the Amended Draft Final Reuse Plan.

The same overall level of assessment and review was provided for the three historic wharf structures directly south of the Bay Bridge toll plaza which are located in the Northwest Section of the historic district: Wharf 6, Wharf 6 1/2 and Wharf 7. However, the assessment of suitability for reuse was limited to uses such as parking and open space that would not require the construction of new buildings on the wharves or the imposition of other additional significant loads on the existing pilings. A separate report outlining the condition of the wharves was prepared by Moffatt & Nichol Engineers as part of this study, as listed below. A summary of the findings and recommendations found in that report is presented in Chapter 1.4.6.

Once a range of appropriate potential reuses was identified in consultation with OBRA, each building was evaluated for its ability to accommodate each of the possible uses. Consideration was given to size requirements, potential for efficient use of existing spatial configurations and compatibility of the proposed use with the historic function and fabric of the building. One or two potential reuse options were defined for each structure for purposes of developing schematic reuse diagrams and identifying the extent of rehabilitation that would be required to accommodate the use(s). Additional information on the evaluation and definition of potential reuse options for each building is provided in Chapter 3.

Original construction drawings and historic photographs of each of building were used to identify inappropriate alterations that might be reversed as part of the building rehabilitation. Schematic floor plans for each potential reuse option were developed and the rehabilitation requirements for each were expressed in detailed charts. These were organized according to standard building systems, such as building shell/structural components, exterior closure (including windows), roof, interiors, vertical transportation, and so on. A discussion of the methodology and assumptions underlying development of these schematics is found in Chapter 4. Recent and historic

photographs of the buildings are found in Chapter 2, along with a brief history of each including a discussion of its original design and subsequent alterations..

The methodology and assumptions underlying the development of the cost estimates are explained in Chapter 5, followed by the actual rehabilitation cost estimates, a summary of the recommended improvements and the schematic plan diagrams for each reuse and rehabilitation option. Cost estimates for alternatives to demolition were also developed and are presented in Chapter 5. These include demolition, deconstruction and salvage, and relocation where appropriate. The rehabilitation cost estimates are presented by general categories such as building shell, interiors, mechanical and electrical systems and so on. A more detailed breakdown of those costs along with the detailed charts listing the rehabilitation requirements for each potential reuse option is found in Appendix A.

1.3.2 Relationship to Other Documents

Members of the consultant team prepared a number of interim working reports at various stages throughout this study as listed below. Copies of these reports are available from OBRA. They form the foundation for this document and should be consulted for more detail or background on certain aspects of the study. They include the following:

- Moffatt & Nichol Engineers. *Oakland Army Base – Wharf 6, 6-1/2 and 7 Condition Study.* 2000.
- Rutherford & Chekene Engineers. *Structural Assessment – Buildings 1, 60, 88 and 812 – Oakland Army Base.* October 6, 2000.
- Ripley Architects. *Oakland Army Base – Preliminary Building Condition Survey.* October 9, 2000.
- Stoltz, Nancy Elizabeth. *Oakland Army Base - Preliminary Building Reuse Suitability Report.* February 8, 2001.

According to the Amended Draft Final Reuse Plan for the Oakland Army Base, adopted July 23, 2001, the majority of the buildings in this report are located within the Port Development Area (Figure 1). This area will eventually be transferred through the City to the Port of Oakland. Included in this area are substantial portions of Buildings 88 and 99, all of 802 and 803 and substantial portions of 804-808. According to the requirements of the San Francisco Bay Area Seaport Plan, the Port will use that land for maritime and maritime-related uses, including the development of a Joint Intermodal Terminal and New Berth 21.

The remainder of the structures are located within the Gateway Development Area, which will be transferred from OBRA to the Oakland Redevelopment Authority for redevelopment by the City of Oakland. Buildings 1, 60, portions of 804-808 and Building 812 are located in this area. The Amended Draft Final Reuse Plan identifies the preferred alternative as including development of 2,297,000 square feet of flex-office, R&D, light industrial, warehousing, and retail uses. Many of the structures are divided by the boundary line between the Port and Gateway development areas.

Information from this *Historic Building Reuse Alternatives Report* can be used by OBRA and the Port in a separate analysis to determine the extent, if any, to which the structures in the historic district could accommodate reuse in light of the objectives of the Amended Draft Final Reuse Plan

and the San Francisco Bay Area Seaport Plan. These documents, available from OBRA and/or the Port, should be referenced for more information.

It is anticipated that the information provided in this feasibility report will also be incorporated into the Environmental Impact Report being prepared by Gayle Borchard Associates for the broader Redevelopment Plan which encompasses the former Oakland Army Base.

1.4 Summary of Findings

The principal findings of this *Historic Building Reuse Alternatives Report* are summarized and presented below according to key subject areas.

1.4.1 Historic Integrity of the District and Its Structures

The six buildings which are the subject of this report exhibit a range of exterior and interior alterations, but none has been so altered that it no longer possesses integrity. Excellent documentation exists, often in the form of as-built drawings, to aid in the design of historically appropriate replacements for altered or missing architectural features should rehabilitation be undertaken on any of these structures. It is presumed throughout this report that any rehabilitation would be consistent with the *Secretary of Interior's Standards for Rehabilitation.* This is reflected both in the identification of rehabilitation work components, for example, replacement of missing historic window sash, and in the cost estimates.

Historic Integrity

With respect to eligibility for the National Register of Historic Places, *integrity* is "the ability of a property to convey its significance."[7] To retain its historic integrity, a property must retain at least several of seven key aspects. These include location, design, setting, materials, workmanship, feeling and association. For a district to retain integrity, the majority of its contributing resources must possess integrity even though they may be individually undistinguished or unremarkable.[8]

All of the structures documented in this report are in their original locations and retain their essential form that dates to the historically significant period of World War II. Only Building 88, the Storehouse, which was originally part of the Union Construction Company's Shipyard, has been altered from its original two story (plus) form to a single story; but this alteration pre-dated the development of the Army Base and the War. Despite some changes to surrounding land uses, the setting of the structures, particularly the configuration of the shoreline in the immediate vicinity and the essential relationship to the wharves and the water, remains largely intact as well.

With respect to materials, all of the structures retain their original exterior cladding material, though in several cases, it has been covered over with other siding such as plywood (Building 88) or asbestos cement panels (Building 99 and portions of Building 812). With respect to other architectural features and materials, the most common alteration found to these buildings is the removal and replacement of historic window sash. In some cases, for example, that of the Administration Building (Building 1), the effect on integrity has been negligible because the replacement sash is similar in appearance to the original. In other cases where the sash has been removed entirely, the change has had a negative effect on the building's integrity. This has

occurred in varying degrees at the Cafeteria (Building 60) and the Vehicle Maintenance Shop (Building 812), the Shop Building (No. 99) and several of the large 800 series warehouses.

Though the workmanship of the structures is straightforward and plain for the most part, it is still clearly evident in all the structures, particularly those with exposed interior structural systems - whether of heavy timber, as in the warehouses and the Vehicle Maintenance Shop (Building 812), or of lightweight steel trusses as in Building 99. Individually, the structures still convey the historic sense of a particular period of time, that is the World War II era, which represents the aspect of integrity referred to as *feeling*. This aspect is closely linked with that of *association* which is defined as "the direct link between an important historic event or person and a historic property."[9] This quality still exists if a property is known to be the place where an actual historic event occurred and it is sufficiently intact to convey that to an observer.

Design Aspects of Individual Structures

Particular design aspects of each building are discussed in Chapter 2. However, in summary, some generalizations can be made. From the information at hand, there is conclusive evidence that only one of the six buildings was built to a standard Army Quartermaster Corps or Corps of Engineers design. That is the Vehicle Maintenance Shop (Building 812). Although all seven of the huge 800 series warehouses were built from the same set of plans and were designed by the Army Corps of Engineers, there has been no evidence yet found to conclude that this design was used elsewhere. Further research at the Army Corps of Engineers Office of History, where all the standard plans are archived, would probably be required for conclusive documentation.

Both the Administration Building and the Cafeteria were designed in a similar Art Moderne style by Bechtel-McCone-Parsons Corporation of Los Angeles. There is no evidence to date that these buildings were based on standard Army designs either. In addition to designing these buildings, the firm was one of four firms that comprised the Army Port Contractors. This consortium, aided by the Army Corps of Engineers, built the Base and many of its facilities, including these two buildings, the 800 series warehouses and the wharves, as well as other structures, site improvements, and the roads, harbor and rail facilities. All four of the firms were members of or had ties to another consortium known as the Six Companies. That consortium built the Hoover Dam, the largest construction project undertaken in the country up to that time.

Buildings 88 and 99 were on the site when it was acquired by the Army from the Port of Oakland and the designer is unknown, although the steel frame of Building 99 was erected by the Pacific Coast Steel Company of San Francisco. Both buildings were part of the larger facilities of an early twentieth century shipyard, the Union Construction Company. Building 99 is likely a relatively rare surviving example of its type, an early twentieth century shop building for the assembly of steel hulled ships and fabrication of ship's parts. Building 88 was dramatically altered in the 1930s and its historical significance is more closely related to that of the Army Base and the district as a whole.

1.4.2 Condition of Structures and Need for Architectural Upgrade

The buildings under study were thoroughly investigated for rehabilitation feasibility through site visits and careful analysis of the available construction drawings and maintenance records. The buildings were generally found to be in excellent condition because they have been regularly maintained and all but two, the Administration Building (Building 1) and the Cafeteria (Building 60), remain in active use. Only Building 1, which has been vacated, showed noticeable signs of

deterioration due to lack of maintenance and these were localized areas of water leakage, probably from the roof. However, over the years, incompatible materials or architectural elements were introduced in nearly all the buildings as part of on-going maintenance, repairs or reconfiguration and modernization of interior spaces. These introduced materials or elements were often different from the materials that were used at the time the buildings were constructed.

So in large part, the architectural improvements called for in the reuse options are recommended to achieve historically compatible adaptive reuse and/or rehabilitation of the buildings. They are predicated on the assumption that if rehabilitation is undertaken, it should be consistent with *The Secretary of Interior's Standards for Rehabilitation*, as all of the structures are contributors to a National Register eligible historic district. A number of the alterations and improvements listed for each building would be necessary to reverse incompatible alterations. These range from replacing corrugated fiberglass panels with missing window sash similar in design and materials to the original, to removing exterior paneling such as plywood or asbestos cement that has been applied over the original wood siding. In addition, damaged or deteriorated original building elements may need to be repaired or replaced with historically compatible ones.

The other category of improvements called for are those mandated to meet fire and life safety codes. Some of these, such as way finding signage, are relatively minor, while others, particularly structural and seismic upgrades can be major. Other improvements, like providing accessible building entrances and toilet rooms, fall somewhere in between. In all cases these types of improvements would be mandated under applicable codes, including the *California Historical Building Code*. Improvements related to structural upgrades are discussed below.

It was decided early in the process to continue to utilize the buildings for the same or a similar purpose for which they were originally designed, so long as the use was compatible with the potential uses listed in the Amended Draft Final Reuse Plan. In general, this approach is preferable as it minimizes unnecessarily costly and potentially invasive building alterations required as part of additional mandated code upgrades which might be triggered by a change in use and occupancy classification under the building code. In certain cases more than one reuse option was explored for a building, but in all but one case, the use which was most similar to the original use was the most cost effective option. Regardless of the extent of improvements proposed under any given reuse option, the overall approach reflected by the building improvement program calls for a uniform and thorough upgrading of all building systems at the time of rehabilitation. In this way the projected life cycle of the improvements for the entire structure would be more or less uniform.

1.4.3 Need for Structural Upgrade

In general, the buildings appeared to be well maintained by the Army during their tenure. Recently, however, maintenance has been deferred, particularly in unoccupied structures, and some deterioration is evident. At this time, the observed deterioration does not appear to have led to any appreciable structural damage. Observed distress in the buildings is generally limited to the effects of settlement. Based on the lack of structural damage, distress and deterioration, the buildings are judged adequate to support loads imposed by occupancies similar to those housed in the past, in accordance with the "test of time" provisions of California's *Historical Building Code*.

It is expected that the on-going effects of settlement would be tolerable in all of the buildings with the exception of Building 1, due to its presumed continued office use. Building 1 has continually

require re-leveling to counteract the effects of differential settlement and will continue to require this treatment. Therefore it is recommended that re-leveling occur in conjunction with any substantive rehabilitation of this building.

For purposes of this study it was assumed that the structures would need to be brought into conformance with the seismic requirements of the California Building Code, specifically with the applicable requirements and seismic provisions of the 1998 California Historical Building Code. The structures do not presently meet these requirements for seismic resistance and, in fact, have essentially no provision for lateral force resistance. From a structural perspective, seismic improvement is where the major costs associated with reuse occur. Seismic bracing is recommended in conjunction with any future rehabilitation of the buildings to achieve better seismic resistance. The bracing would be accomplished by the addition of new steel braced frames, including new foundation piles (micropiles) installed beneath the lateral-force-resisting elements.

The Army Base also has a high potential for liquefaction during design earthquake events, resulting in probable ground settlements of several inches. Despite the relative flexibility of the buildings, these distortions would be expected to result in greater than average damage to them. In the proposed seismic rehabilitation schemes, no work is proposed to mitigate the effects of liquefaction due to the high costs associated with such a program.

1.4.4 Cost Estimates for Rehabilitation

Davis Langdon Adamson (DLA) prepared the cost estimates for rehabilitation based on the methodology described in Chapter 5. The one page summary cost estimates apply to the schematic floor plan diagram for each building reuse option which immediately follows it. The diagrams and an outline list of building improvements recommended for each reuse option were developed by Ripley Architects to address issues of code compliance and historically appropriate building rehabilitation as summarized above in Chapter 1.4.2. Detailed assumptions of the cost estimator's quantities and unit prices can be reviewed in Appendix A, along with the list of building improvements.

In order to prepare the estimate, DLA staff visited the buildings and reviewed original construction documents and historic photographs. They also reviewed the schematic plan diagrams for building reuse and discussed the intentions of the diagrams with regard to implied systems and components with other team members, including the structural engineer. The type of estimating that has been done for this study relies on DLA's extensive database of past projects that allows them to extrapolate information from past built projects. If the buildings were built according to the standards described in this report they would cost not more than what is estimated. If construction documents were prepared, the cost estimate could be further refined, of course.

Listed below are the overall cost estimate summaries for rehabilitation for each of the reuse options evaluated. The construction costs were estimated in April 2002 values. A contingency for design development and an allowance for rising construction costs was added to those values to generate the recommended budget numbers for October of 2003 which appear on the chart below. Further detailed information regarding assumptions and limitations underlying these estimates can be found in Chapter 5 and Appendix A.

Table 1.1 Overall Reuse Cost Estimate Summary

Building	Proposed Use	Gross Floor Area	$ / SF	$ x 1,000
Building 1	Multi-Tenant Office	162,000 SF	120.10	19,456
Building 60	Food Service	13,250 SF	259.74	3,442
Building 88	Warehouse	11,134 SF	135.05	1,504
Building 99	Warehouse	65,550 SF	66.59	4,365
Building 99	Light Industrial w/ Office	"	69.97	4,587
Building 808	Multi-tenant Warehouse	233,640 SF	38.82	9,069
Building 808	Multi-tenant Retail	"	63.46	14,827
Building 812	Market Hall	18,345 SF	124.70	2,288
Building 812	Exhibit/Gallery Space	"	136.57	2,505

1.4.5 Cost Estimates for Alternatives to Rehabilitation

The alternatives to rehabilitation are relocation, deconstruction, where the best material is sold for salvage as reused or recycled material; and demolition. Relocation cost estimates are provided for Buildings 60 and 88, the only two structures which were judged good candidates. It was assumed that they would be relocated on public land within the Army Base. For Building 60, the Cafeteria, the moving cost was estimated at $36 per sq. ft. to which the rehabilitation cost of $259.74 per sq. ft was added, for a total cost of $3,919,000. The unit cost for moving Building 88, the Storehouse, was somewhat less at $26.67 per sq. ft., with a total cost of $1,801,000. Detailed cost estimates for relocation are found in Chapter 5.1.2.

Cost estimates for deconstruction/salvage and straight demolition were provided for all six structures. The findings indicate that selective demolition or deconstruction and salvage would be more expensive than straight demolition with no salvage, as the increased labor costs would not be offset by the salvage value of the material. This assumes that labor costs are at market rate, not subsidized by government agencies as is sometimes the case for this type of work. Detailed cost estimates for salvage and demolition are found in Chapter 5.1.3 and summarized below in Table 1.2. A mark-up of up to 20% for budget and planning purposes should be added to these individual values to allow for fluctuations in market conditions.

In order to estimate salvage value, DLA talked to several lumber and systems salvage companies. Without a more detailed appraisal by individuals who operate such a business, which exceeds the scope of this report, DLA has applied varied percentage values to materials that can be salvaged, based on the general condition and demand for specific building elements in each of these buildings. If this aspect of the study needs further substantiation a process should be established to receive accurate quotations from companies who do deconstruction and salvage work.

Table 1.2 Selective Demolition and Salvage Costs Compared to Demolition Costs

Building	Cost of Demolition with Salvage	Cost of Demolition without Salvage	Cost Difference
1 Administration	$ 1,445,850	$ 972,000	$ 473,850
60 Cafeteria	61,944	58,300	3,644
88 Storehouse	56,783	35,629	21,154
99 Shop Building	292,517	183,540	108,977
808 Warehouse	774,517	485,971	288,546
812 Vehicle Maintenance Shop	58,475	36,690	21,785
		TOTAL	$917,956

In the case of the 800 series warehouses, represented in this study by Building 808, the option of retention and rehabilitation of only a portion of the building was also considered. Several of the warehouses, including Building 808, are located partially within the Gateway Development Area and the Port Development Area. It is anticipated that a new street will be required along the boundary of the two areas which, together with the Port's planned development, would require at least partial demolition of one or more of these warehouses. This option is presented and discussed and cost estimates for retention of half the structure are provided in Chapter 5.2.5. Due to the cost of demolition and reconstruction associated with this reuse option, it is approximately 28.5% higher than the cost of rehab only for a multi-tenant warehouse use for the same floor area.

1.4.6 Condition of Wharves

A separate report on the condition of the wharves was prepared as part of this study (*Wharf 6, 6-1/2, and 7 Condition Study* by Moffatt & Nichol. The authors found that preparation of reliable cost estimates for rehabilitation of the wharves would require an underwater inspection of the existing wharf piles which number over 9,000 and vary as to type. The wharf piles include precast concrete, timber (with gunite or precast concrete jackets) and a number of large diameter steel piles. The wharves have undergone a number of repairs over their 60-year life span. The most recent major repairs apparently occurred after the 1989 Loma Prieta earthquake, as a repair study by Earl & Wright was commissioned by the Army and completed in 1991. However, it was not possible, based on available Army records, to verify whether the work recommended by the Earl & Wright Study was in fact completed. No as-built drawings or completion reports were located. Therefore, rehabilitation cost estimates have not been included in this study. Estimates of demolition costs for the wharves were also not part of this study.

However, the wharf condition study concluded that the above water condition of the wharves was fair to good and they appeared to be structurally adequate for open space use or surface car parking. The underside of the deck appeared to be in good condition, as did the deck slab. Only the fender system at the perimeter of the wharves showed visible signs of damage or deterioration, including missing timber fender piles. The construction of structures on the wharves was not recommended without further investigation and analysis of the structural capacity of the affected piles.

Endnotes for Chapter 1

[1] King, Gregory. Historic Architecture Survey Report, Part VII: Subarea D: Oakland Army Base. Office of Environmental Analysis, Department of Transportation, Sacramento, California. August 1990.
[2] The *Historic Preservation Plan* affirmed the findings of the Caltrans study but labeled two separate historic districts potentially eligible for the NRHP. The two, identified as the Northwest and Northeast Districts, were separated only by Maritime Street. However, they are thematically related and constitute a single district for all intents and purposes. As per the Caltrans document and the subsequent Memorandum of Agreement between the Army and the California Historic Preservation Officer, it is one district.
[3] Andrews, Pamela and Stephen Turner. HAER Report: Oakland Army Base, Transit Shed (Building 161). Tri-Services Cultural Resources Research Center, U. S. Army Construction Engineering Research Laboratory. January 1992.
[4] JRP Historical Consulting Services. Oakland Army Base Area Redevelopment Plan EIR Supplemental Cultural/Historic Resources Analysis, for URS Corporation, December, 2001, p.1.
[5] Ibid, p. 2
[6] JRP Historical Consulting Services. Letter Report on the Impact of the Cypress Structure Project on the Oakland Army Base Historic District, for Foster Wheeler Environmental, March 15, 2000.
[7] National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation. U.S. Department of the Interior, National Park Service, 1991, p.44.
[8] Ibid, p. 5.
[9] Ibid, p. 45.

Chapter 2 Building Descriptions and Histories

2.1 Historic Overview of the Oakland Army Base

Development of the Oakland Army Base began in 1941 prior to the Japanese attack on Pearl Harbor. It was operated as one of four major military facilities as a sub-port of the San Francisco Port of Embarkation (SFPE) which was headquartered at Fort Mason in San Francisco. Although the SFPE owned or leased numerous piers and cargo facilities in San Francisco, the OARB would become its largest single cargo terminal upon its completion in 1943.[1] Its facilities were unique in the nation due to its integration of transportation modes, facilities and functions. It encompassed rail marshalling yards, wharves providing deep water berths for the largest cargo ships, a dry dock and marine repair shops, wharfside transit sheds and immense warehouses capable of holding the stockpiles of materiel destined for the Pacific theater. The entire operation was linked by a complete rail system and overseen by on site administrators and support staff operating out of a sprawling administrative office facility. It was the only complete Army port installation of its kind in the nation.[2]

Among the several divisions of the SFPE housed at the Base were the Oversea Supply Division, the Transportation Division, the Water Division and the Training Division. The Oversea Supply Division was relocated from Fort Mason to Oakland and housed along with the Technical Services in the Base's newly built Administration Building in June of 1942. The immense warehouses east of Maritime Street were built to house supplies of the Technical Services.[3] The Transportation Division was responsible for coordinating and routing all incoming rail and truck traffic and overseeing the unloading and reloading of cargo for overseas shipment. The division's motor pool expanded to the point that it took over the Palace of Fine Arts in San Francisco for its garage and repair shop. Its most notable innovation was in pioneering the use of pallets for warehouse-to-pier loading, which resulted in an 800 per cent increase in efficiency.[4]

The Water Division oversaw the actual loading of the ships, from preparing cargo loading lists to handling heavy cargo - ranging from trucks to locomotives - which sometimes required the use of one of its barge derricks supplied by the Tug and Barge Office. The Division had to ensure that all available space aboard the ship was utilized efficiently and that cargo could be unloaded at its destination in the exact order required. The Division was responsible for hiring ship's crews and longshoremen, as well as overseeing the work of the Marine Repair Shops at the Base. The primary job of the Repair Shops was converting freighters to transports but they also converted foreign ships and would expend up to two and a half million dollars on a single conversion job.[5]

Closely allied with the Water Division was the Training Division, which trained troops to provide skilled stevedore battalions for overseas duty using the *Jolly Roger*. This facsimile of the deck of a ship was constructed some 300 yards from the Bay, equipped with masts, cargo booms, steam winches and a large boiler room. Once operations on the *Jolly Roger* were mastered, the trainees graduated to the SS *Humphries*, an actual concrete ship berthed alongside one of the piers at the Base. The Training Division had other duties as well. In any given month it would train 500 officers and 10,000 men, most of whom were destined for overseas duty.[6]

In addition to these specialized facilities, the base also housed Camp John T. Knight, which provided support activities and housed a training camp for troops in cantonment structures of

standard designs widely employed on World War II era Army bases. The more specialized structures and cargo handling facilities were developed at the northern end of the base while Camp Knight occupied the area generally to the south of the warehouses on either side of Maritime Street. The buildings of the former Camp Knight were not included within the boundaries of the historic district. The area was not considered significant because it lacked a sufficient number of intact buildings from the historic period of World War II. In addition all of the barracks built west of Maritime Street to house the troops had been demolished.[7]

2.1.1 Development on the Site Before 1940

The San Francisco Port of Embarkation began to seriously explore expansion options beyond the confines of Fort Mason and San Francisco when Brigadier General John C.H. ("Court House") Lee assumed command of the SFPE on October 18,1940. He immediately appointed a board which submitted a report to him on November 23, 1940, recommending acquisition of 276 acres at the Oakland Outer Harbor and construction of a number of service buildings at an estimated total cost of $5,448,000 for acquisition and construction. The lands and facilities were owned and operated by the Port of Oakland with a scattering of other tenants on site. Though sparsely developed, they were equipped with docks, storage sheds and railroad tracks.

The War Department accepted the board's proposal, greatly enlarging its scope with the addition of piers, pier sheds and warehouses. Eminent domain proceedings were initiated to acquire the lands over objections of the City and the Port. The contract for construction for the initial phase of construction of the *Oakland Subport of the San Francisco Port of Embarkation*, as it was called, was awarded to the firm of Bechtel-McCone-Parsons in January of 1941.[8] Though equipped with some essential facilities, the 276 acre plot consisted largely of submerged tidelands, forming a reverse "C" shape with the Port of Oakland's Outer Harbor terminal facility to the south and the recently built approach to the Bay Bridge defining the northern boundary. Between the two lay the shops, offices and shipways, now filled in, of a former shipyard, the Union Construction Company.

These facilities are visible in the photograph below (Figure 2-1), with the newly built approach to the Bay Bridge visible at left. The Port's 7th Street Unit, a new facility begun in 1926, defines the southern limit of the planned turning basin. Maritime Street, running north to south, and 14th Street (east to west) are the major axial streets serving the area. The Union Construction Company's shipyard, constructed in 1918-19 on land leased from the City, gradually curtailed its operations, subleasing some of its facilities to the Pacific Coast Engineering Company beginning in the early 1920s.[9] Pacific Coast Engineering manufactured steel pipe and other equipment for dredges there from around 1925 until the Army acquired the site in 1941. Union Construction continued to hold the lease on the site until 1933, though the operation appears to have ceased before then. After that time, Pacific Coast Engineering continued to lease the property directly from the Port of Oakland.[10] The remaining buildings of the original Union Construction Company's complex are visible near the center of the photograph.

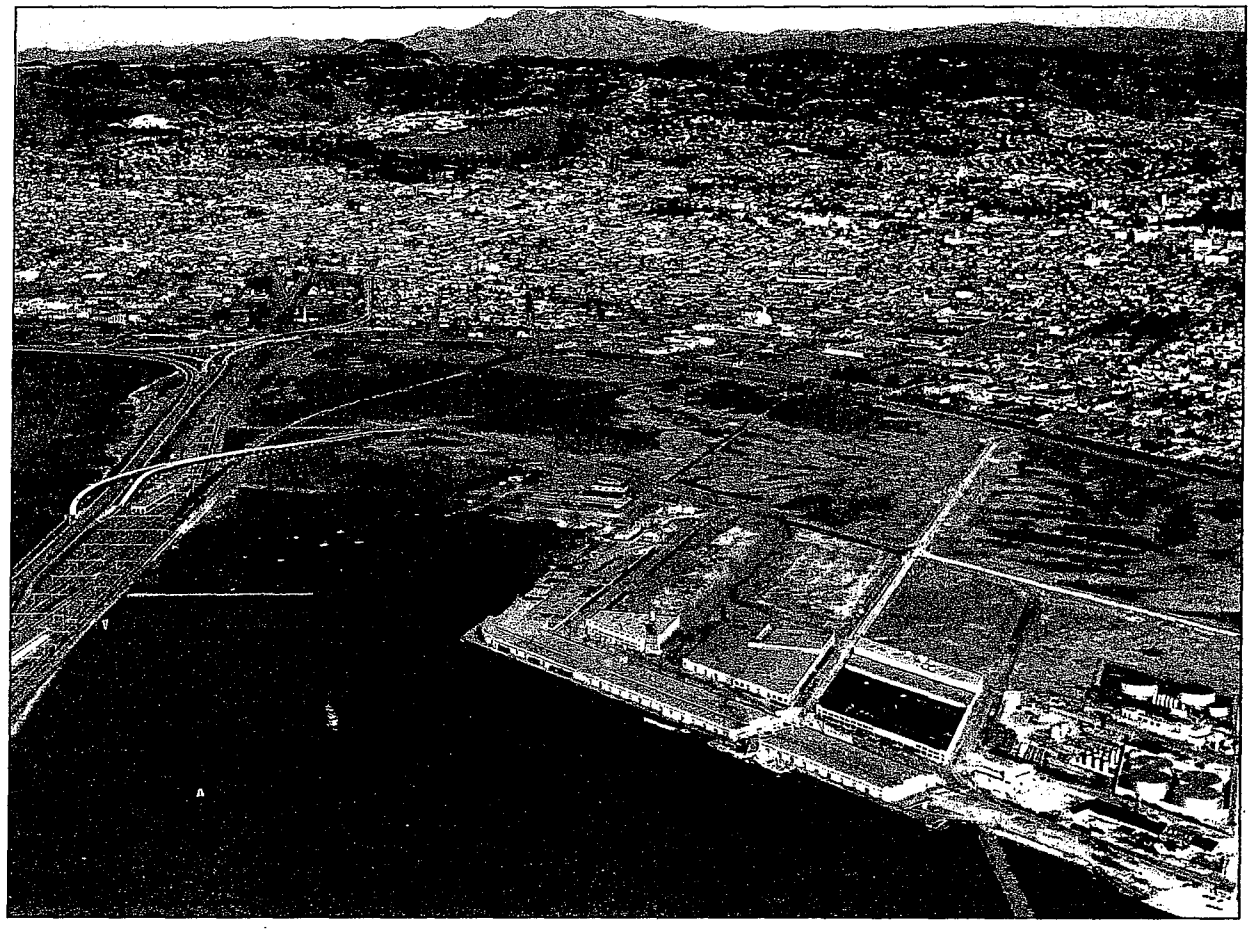


Figure 2.1 Site of the Oakland Army Base before 1940 - looking east
Source: Port of Oakland Archives

Even before construction of the Base began, the Oakland branch of the Transportation Division of the Quartermaster Corps was organized under Major E. W. Peach, the Port Quartermaster, in April of 1941. The office was headed by Thomas Harrison Fox who transferred there with 7 other civilian employees. By the outbreak of hostilities on December 7, there were only ten employees[11], including one woman, Dorothy O'Brien Edwards, to handle the receiving and shipment of freight items.[12] These intrepid souls worked out of one of the few existing buildings located on what passed for high ground in the area, though they were still forced to don hip boots to gain entrance during the rainy season. The Port Transportation Division alone would grow to include 2300 military and civilian employees by August of 1945.[13]

2.1.2 Development of the Oakland Army Base: 1941-1944

The firm of Bechtel-McCone-Parsons of Los Angeles was selected as the Architect-Engineer for the proposed Port of Embarkation and General Depot Facilities at Oakland, working under the direction of the Office of the Constructing Quartermaster of the Army. A contract was entered into on March 18, 1941, for the design of initial facilities including buildings, docks, railroad track, utilities, dredging, and hydraulic and dry land fill. Construction was authorized four days later and commenced in earnest in June. The construction contract for this initial work, identified as programs "A" and "B", had a cost of $8,656,262 and was awarded to a consortium known as the Army Port Contractors.[14] In June of that year, one of the Port of Oakland's 6 quay wharves was purchased outright by the Army and the remaining ones were eventually leased so that the Port's Outer Harbor Terminal functioned as part of the Oakland Army Base as well.[15]

The Army Port Contractors was comprised of the following four firms:

- Bechtel-McCone-Parsons - also the Architect - Engineer for the project
- MacDonald and Kahn, Inc.– construction firm
- The Utah Construction Company, headed by William H. Wattis,[16] - construction/ engineering firm, and
- W. A. Bechtel of San Francisco – construction/ engineering firm.

The latter three firms all had San Francisco offices, though they may have been headquartered elsewhere. [17] All of these firms were well connected and had the experience to undertake large scale, fast-track government construction contracts. The latter three had participated in another consortium, known as the Six Companies, which was formed to build the Hoover Dam and the nearby town of Boulder City to house its construction workers. It was the largest construction project ever undertaken by the federal government up until that time. W. A "Dad" Bechtel was partnered with Henry J. Kaiser for that project. Kaiser went on to build the huge shipyards in Richmond, California, while Bechtel worked on the Oakland Army Base project. Felix Kahn was the brother of famed industrial designer, Albert Kahn, and business partner with the late Alan McDonald. Among their other construction projects were the Hotel Mark Hopkins and the Fox Theater in San Francisco.[18]

John A. McCone, one of the partners of Bechtel-McCone-Parsons, was also president of the California Shipbuilding Company in Los Angeles which was one of the three largest shipyards operating in the country during World War II. It was owned by the Six Companies with Stephen Bechtel serving as its Board Chairman. The firms that comprised the Six Companies also acquired a controlling interest in Sunnyvale's Joshua Hendy Iron Works in 1940. The Hendy plant produced approximately one-third of the steam engines for the World War II Liberty Ships, the majority of which were built by California Shipbuilding and Kaiser Shipyards. Together with California Shipbuilding, General Construction Company and Bechtel-McCone Corporation's Aircraft Division, those six companies acquired the Hendy plant outright after the War, and appointed John McCone as its president at age 44.[19] Felix Kahn served as Vice President and Treasurer and K. K. Bechtel, son of W. A. Bechtel, was Secretary.[20] The plant was sold to Westinghouse in 1947 and John McCone eventually went on to become director of the Central Intelligence Agency under President John F. Kennedy.

These were the men in charge of excavating and hauling in over 6 million cubic yards of rock and dirt, dredging 2 million cubic yards of mud from the harbor and building much of the Base

improvements. These would, in the space of little over two years' time, include 13 deep draft ship berths and a floating drydock capable of handling ships up to 200 feet long; 27 miles of track; and 175 structures to provide millions of square feet of storage area.[21] Much of the rock used for dry fill came from the hills of Berkeley and Richmond and was evidently brought on site for splitting by means of blasting. Army Base employees quickly learned to cover their office windows with wood panels to avoid having rocks hurled through their windows onto their desks. The blasts were strong enough to stun fish in the harbor, providing many employees with the side benefit of fish to fry for dinner. In addition to the two million cubic yards of silt - some of it used to provide hydraulic fill - the remains of old ships were also dredged up from the harbor. One was reportedly filled with concrete. During construction, freight placed on the ground would sometimes become imbedded in the mud and could only be freed with much effort.[22]

Gradually the outlines of the site as it appears today took shape. The Army Port Contractors had nearly completed three-quarters of the construction work for Programs "A" and "B" by December 1, 1941, when they submitted a proposal for additional work as requested to the Office of the Constructing Quartermaster. Many of the structures identified as contributors to the historic district were built as part of these initial programs, including the Administration Building, Cafeteria, and four of the seven massive 800 series warehouses east of Maritime Street. The south and east wharves (Wharves 4 and 5) and transit sheds were also constructed as part of Programs "A" and "B", along with an infirmary and other buildings to house the 394th Quartermaster Battalion, an African-American unit which was the first unit assigned to the camp.[23]

Figure 2.2 View of the Northwest Section of the Historic District
Build. 99 (far left), Build. 88 (bottom left) and Build. 1 (right foreground)
Circa 1980

(Source: Port of Oakland)

Program C-1, as proposed, included construction of the three remaining 800 series warehouses (Buildings 806, 807 and 808) and wharves 6, 6-1/2 and 7, all of which are contributing resources to the historic district. This program also included construction of Marine Repair Shops and facilities that were located adjacent to the existing Building 99 to the west and northwest. These buildings had been demolished by the time of the photograph above (Figure 2.2). The Marine Repair Shops of the SFPE were overseen by the Water Division and were engaged in ship repair and conversions

of all types. A primary job was converting freighters to transports which involved installing refrigeration equipment, a complete hospital, berth and mess facilities and modern navigation aids.[24] The adjacent former shops of the Union Construction Company were once again pressed into service in partial support of these functions.

The total cost estimate of $16,284,391 for Program C-1 did not include the cost of constructing troop housing and quarters for an additional Quartermaster Battalion and Quartermaster Port Company.[25] These facilities evidently came later as it was not until July 28, 1942, that the post of Camp John T. Knight was created and camp headquarters established at the Base. Camp Knight eventually housed 5,000 troops in the area south and southwest of the Port and General Depot facilities of the Army Base.[26] Also not included in Program C-1 was the Ordnance (Vehicle) Maintenance Shop, Building 812. It was evidently constructed under a later program in May of 1944. The base was essentially completed in 1943 and was officially designated *Oakland Army Base* effective on New Year's Day of 1944. Camp Knight retained its separate designation until April of 1946 when it was unified with the Oakland Army Base.[27]

The work of constructing the Base was begun under the direction of the Construction Division of the Quartermaster Corps and was overseen by the constructing quartermaster. The Quartermaster Corps was one of two construction divisions in the Army at that time and had been explicitly charged by the War Department with the bulk of barracks construction at the cantonments needed to house troops during training, as well as building facilities for the Army Air Corps.[28] The constructing quartermaster was responsible for overseeing construction on a particular site and dealing with the private contractors building the facilities. Responsibility for overseeing the work would have shifted to the Army Corps of Engineers just as the proposal for Program C-1 was submitted. As of December 1, 1941, all war construction was turned over to the Army Corps of Engineers and the two Construction Divisions of the Army were essentially consolidated, with constructing quartermasters free to transfer into equivalent positions as district engineers with the Corps.[29]

Construction of the Army Base would prove to be the largest construction job completed in the Bay Area by the San Francisco district office of the USACE. The project was assigned to the office in January of 1942 and was overseen by Jack Tavelle, head of the San Francisco Construction Division. Project design was performed in some instances by the district's staff engineers and in other cases by consulting architects and engineers. Inspection of the contractors' work was performed by the Engineering Division, while field inspection of (its) construction work was done by the Construction Division of the Corps. [30]

Historical Context

Among the west coast Army Port of Embarkation facilities, Oakland was evidently fairly unique in being conceived from the beginning largely as a new, purpose-built facility. Prior to the outbreak of hostilities on December 7, 1941, the San Francisco Port of Embarkation was in the process of negotiating lease agreements to operate sub-port facilities in San Diego, Los Angeles, Seattle and Portland. Seattle was immediately divorced from San Francisco and was made a separate Port of Embarkation to handle troops and supplies bound for Alaska, Canada, the Aleutian Islands and other areas in the Pacific Northwest. The Portland Sub-Port and its nearby Vancouver Staging Area (Camp Hathaway) were eventually transferred to Seattle's jurisdiction in November of 1944. The Los Angeles Sub-Port was activated in March of 1942 under San Francisco's jurisdiction. SFPE had initially planned to construct a new facility at San Pedro, but was instead directed by the War

Department to lease existing port facilities at Wilmington in Los Angeles Harbor. In September of 1943, Los Angeles was also made a separate Port of Embarkation to supply the China-Burma-India theater of operations.[31]

The site selected for the Oakland Sub-Port of the SFPE was ideally situated geographically but required a near Herculean effort to build upon. Its dry and hydraulic fill requirements combined amounted to over eight million cubic yards of earth, requiring a fleet of dredges and earth movers. By the spring of 1942, heavy construction equipment was in critically short supply, with 85 per cent of manufacturers' output going to equip army and navy combat units or lend-lease.[32]

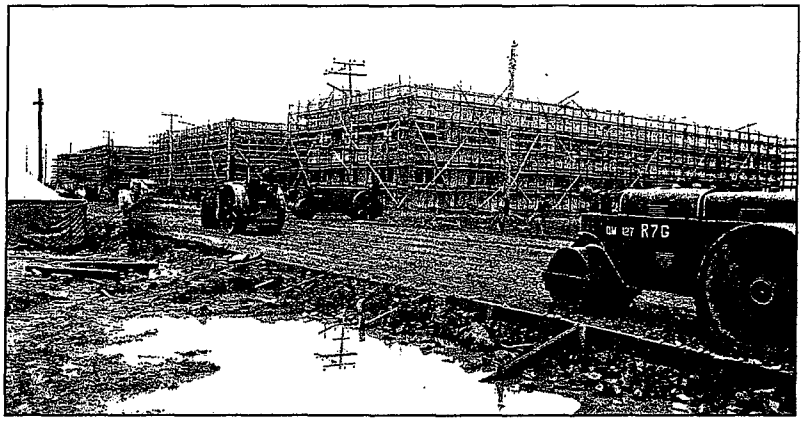


Figure 2.3 Construction of Bataan Avenue in 1942
Source: Port of Oakland Archives

This shortage of construction equipment precipitated a clamp down on proposed domestic military construction projects on sites that required extensive grading. Among the rejected proposals was an Air Force training installation north of Memphis, Tennessee, that would have required some three million cubic yards of fill. That project and a number of others were vetoed by the Army Corps of Engineers for the same reason.

According to General Plank, who issued the veto, "You simply can't get that project built. There simply isn't enough construction machinery. You can pick it, but you'll never get it done in time."[33] Construction of the Oakland Army Base, which required nearly three times the grading, was well under way before the extent of the crisis was recognized.

2.2 Historic Structures: Descriptions

This section includes a description and brief history of each of the six buildings or building types which are the subject of this Rehabilitation and Reuse Report. A separate report was prepared for the three historic wharves (Wharf 6, Wharf 6-1/2 and Wharf 7). The wharf structures have been little altered, however, neither of the two World War II era transit sheds, nor the classification sheds, originally located adjacent to Wharves 6 and 7, survive. The two rail mounted "whirly" cranes originally installed at Wharf 7 have also been replaced. Those 25 ton capacity cranes were moved to the former Fleet Industrial Supply Center (Naval Supply Depot) in 1985 when the present 100 ton "whirly" crane (serial number R1181) was installed at a cost of $6.5 million.[34]

2.2.1 Building 1: Administration

The sprawling two story Administration Building on Alaska Street, just west of Maritime, was built to house the Oversea Supply Division (OSD) and the Technical Services divisions of the SFPE which moved from Fort Mason to the new Oakland facility on June 29, 1942, although the building had been completed since February. It was on that date that the installation was officially renamed as the Oakland Army Base of the San Francisco Port of Embarkation, replacing the earlier designation as the Oakland Subport of the SFPE.[35] The building was eventually named Gilbreath Hall in honor of General Frederick Gilbreath, who as a colonel had been one of the initial Base staff members and was soon elevated to the position of commanding general of the SFPE.[36]

Figure 2.4 Building 1
Shortly after completion in 1942

(Source: Port of Oakland Archives)

Building History and Description

Bechtel-McCone-Parsons Corporation was the architect for the wood-framed two story stucco building that encompasses just over 160,000 square feet of office space, over 3.5 acres. It was designed in the Art Moderne style as a series of four wings connected at right angles by symmetrical front arcades to a central pavilion which marks the main entrance to the building. The western and eastern wings (Nos. 1 and 4 respectively) are identical rectangular blocks, while the two interior wings (Nos. 2 and 3) are mirror images of a C-shaped plan, with the addition of a projecting front bay which flanks the entrance pavilion on either side. The four wings define partially enclosed courtyards on the southwest side of the building.

Though not strictly speaking a "streamlined" variant of the Moderne style, the building does incorporate several Streamline features such as the curved profile of the main entrance canopy and planters and the curved recess of the entry portal itself. Except at the entrance pavilion, the emphasis is strictly on the horizontal - another Moderne feature that was accomplished by the expansive flat profile of the roof and the use of horizontal bands of combed plaster between the window units. These were painted a darker color than the wall surface to simulate the look of a band of ribbon windows at both floor levels. By contrast, vertical combed plaster panels were used to achieve a vertical emphasis at the building entry. The exterior building signage at the entrance, comprised of individual bronze letters in an elegant sans-serif type is also characteristic of the building's style. Interior features of note include the main interior stair inside the building entry, which retains several large World War II era wall paintings, and the Commanding General's office at the top of the stairs. The office is finished in birch veneer plywood with an uplit coved ceiling. Vietnam War-era murals had evidently been removed and placed in storage in Building 590 prior to commencement of this study.

As noted above, the entry planters and flagpole are other original exterior features of the design. No information was obtained about the history of the site landscaping. A large parking lot is located immediately in front of the building to the northeast. Some of the contractor's early plot plans depict the building as being planned in two stages, with the center pavilion and wings 2 and 3 coming first, but, in fact, it was not built in phases. Early plot plans and a Post Map dated May 18, 1948, do not indicate the location of a parade ground in the vicinity of this building or elsewhere. The only identified open space is an athletic field with baseball diamond located on the west side of Maritime Street, opposite Building 640, in the Camp Knight portion of the base. An advertising map published in 1956 shows a parade ground located in the area of the Administration Building's parking lot adjacent to Maritime Street. The date of that map and lack of an identified parade ground on the 1948 Post Map indicate that it was likely a post-World War II feature.[37]

Design Context

The design of the building is reported to be based on a standard army hospital design of the period, but this statement could not be substantiated. Many of the wide "hospital type" corridors in fact are not original to the design but were added as modifications over the years. An on-line search of the limited number of HAER documents available in electronic format from the Library of Congress turned up nothing similar to this design, neither hospitals nor office buildings. A much smaller contemporary Army administration building constructed at the Benicia Arsenal in 1942 was built in the more traditional Spanish Mediterranean Revival style which had fallen out of fashion by that time. This may be an indication that the Benicia building was built from a pre-existing standard plan, perhaps modified for that particular installation. However, there is little reason to assume that the Oakland Administration building was built from standard plans for several reasons.

First, the drawings display the title block of the architects rather than that of the U. S Army Corps of Engineers or the Quartermaster Corps. Prior to World War II, standard plans were developed and codified by the Construction Division of the Quartermaster Corps, a division of the U.S. Army. That function was reassigned to the Army Corps of Engineers by an act of Congress signed by President Roosevelt on December 1, 1941.[38] These standard plans included barracks and other structures typical of cantonments to house and accommodate the troops in training camps and provide for their daily needs. The structures were typically of light wood framing and might include barracks, mess halls, chapels, recreation buildings and small to mid-size office buildings and warehouses. In

all, over 300 structures were included in what was termed the 700 series of standardized plans. The cantonments were erected all over the country, typically by local contractors, wherever training camps were needed. The buildings were typically finished with wood siding, not stucco.

Secondly, the Art Moderne style is not typical of the architecture of World War II military bases. Although an occasional Moderne building might be found on a base, for example the tiny photo lab building at the Benicia Arsenal, this style was relatively uncommon. The Long Beach Naval Station, a World War II military base, made extensive use of modern design in the buildings that comprised the Roosevelt Historic District (since demolished). That design was the work of a team headed by an individual architect, Paul Revere Williams, not a standard design carried over from other bases.

More research would be necessary to establish whether the building was based on a standard Army design. The standard drawings for the 700 series buildings, and the earlier 600 and later 800 series designs are available from the Office of History of the U.S. Army Corps of Engineers in Alexandria, Virginia. However these drawings must be requested by applicable plan number. Generally, if the drawings were standard plans or adaptations thereof, the number will appear in the title block and/or be referenced in the drawing notes. Regardless of the origin of the building's design, it is a good example of the Art Moderne style, particularly for a large military office building.

Design Integrity and Building Alterations

Overall, the level of design integrity of the building remains high despite a number of alterations over the years. On the exterior, these include the removal of the textured, combed exterior plaster between the window units and replacement with smooth finished stucco; removal of the original wood sash windows and replacement with aluminum sash windows in the same openings; replacement of all exterior double doors with contemporary ones; and alterations in the text of the building signage. Although the window units have been replaced, the design of the sash is similar to the original wood sash in appearance. The replacement signage appears to be in the same bronze letters and typeface as the original – only the text has been changed above the front entrance from "Administration" to "U. S. Army Oakland Army Base." Together these changes do not substantially affect the exterior appearance or design integrity of the building. Some of these, such as replacement of the double doors, can be easily reversed.

Figure 2.5 Original Interior of Building 1
Source: Port of Oakland Archives

On the interior, the most noticeable change has been the addition of corridors and interior partition walls to subdivide the space. The original plans indicate that the ground floor of Wing #1 was partitioned by a double-loaded corridor into a number of special purpose rooms and offices. However, the more typical layout was to divide each wing into two to three large open work areas without internal corridors. Smaller rooms were provided as needed within each area.

Other interior changes include the partial removal of painted chair rails which defined a wainscot along the walls, removal of original light fixtures and the replacement of original birch veneered hollow core doors with contemporary hollow core doors. The interior of the commanding general's office on the second floor is still largely intact, as is the grand staircase of the main lobby. Many of the original wood floors have been covered with carpeting or resilient flooring. Many of these alterations are reversible and could be accomplished in an appropriate rehabilitation of the building for reuse.

2.2.2 Building 60: Cafeteria

The tall, single story Exchange Cafeteria Building was designed to accommodate 500 diners at a single seating. It was sited on axis with the Administration Building and fronts on Bataan Avenue, facing that building's central rear courtyard. The footprint of the building is approximately square and originally occupied 12,641 square feet. A small addition at the rear increased the square footage to 13,256 square feet. The structure was completed in February of 1942 as part of the initial construction program for the Port and General Depot facilities and was intended to serve those workers. Mess halls were provided at Camp John T. Knight for the troops stationed there.

Figure 2.6 Cafeteria (Building 60) in January,1942 Source: Port of Oakland Archives

Building History and Description

Bechtel-McCone-Parsons Corporation was the architect for the wood-framed stucco building that was clearly designed as a complementary structure to the Administration Building. Though not as individually prominent as the Administration Building, the Cafeteria has an important site and stylistic relationship to it. The buildings share the same Art Moderne style as well as certain stylistic elements including the curved profile of the main entrance canopy, the curved recess of the entry portal and the use of the same typeface for the exterior signage. Largely because of its smaller scale, its Art Moderne design is more readily perceived.

The form of the Cafeteria is defined by a tall rectangular volume which was designed to accommodate the main dining hall. The central entrance, recessed under a curving canopy is accessed by a flight of stairs and marked by a row of fixed clerestory windows above the canopy. Two symmetrical lower bays project forward from the entrance. One of these originally housed the lunch room, the other was an adjunct to the main dining area. Another lower block of the building at the rear (southwest side) houses the kitchen and originally housed the Officers' Dining Room. Aside from these spaces, the building was conceived and built as a nearly open-plan structure, lit all around by natural light from a row of clerestory windows on all sides of the main dining area. Two central u-shaped serving counters projected forward into the dining area from the kitchen. But the overall effect was one of openness and light as evidenced by an early photo (Figure 2.7).

Figure 2.7 Cafeteria Interior in 1942
Source: Port of Oakland Archives

The original design featured the same ribbon window effect achieved on Building 1 through the use of a contrasting combed horizontal stucco finish between the window units. In this case, the windows are more closely spaced so the effect is more pronounced. The bronze letters above the entrance are another common design feature.

Design Context

The design of the building is very clearly closely related to that of the Administration Building. There is no evidence to indicate that either of these buildings were built from standard Army Quartermaster or Corps of Engineer plans as discussed above under Building 1. As with that building, the drawings for the Cafeteria indicate the name of Bechtel-McCone-Parsons in the title block. Similarly, its Art Moderne style is not typical of the architecture of World War II military bases and is another good indicator that this was an original design by the project architect.

Design Integrity and Building Alterations

The level of design integrity of the Cafeteria building has been compromised by a number of alterations, particularly the removal of the clerestory windows in the mid-1980s. Most of these were apparently removed and the openings filled in and plastered over; however, some of the units were left in place and walled over. Some first floor window units have also been removed and all the original wood sash windows on the first floor replaced with aluminum windows with a different sash configuration. The only exception is the large clerestory window unit above the entrance canopy. As with Building 1, the textured, combed exterior plaster between the window units has been replaced with smooth finished stucco. Most of the doors have also been replaced.

Fig. 2.8 Cafeteria in 2001 Ripley Architects

Numerous interior alterations have occurred as well. The once open space has been partitioned into several rooms with accordion type partitions. A dropped ceiling was added, presumably to conceal the air conditioning ducts which were also added. The original fixtures have been removed and the maple floor boards covered over with resilient tile. Some of these alterations are not as easily reversed as others, but the original design drawings are available to guide an historically appropriate rehabilitation effort.

2.2.3 Building 88: Storehouse

Building 88 is located south of Building 1 and southeast of the Cafeteria. It is aligned in a north-south orientation, rather than parallel to Maritime Street, though its east elevation faces onto that street. It is an unassuming single story structure, rectangular in plan that encloses slightly more than 11,000 square feet of space. It is one of two buildings, along with Building 99 to the west, that predates the acquisition of the site by the Army in 1941. It was part of the shipyard complex of Union Construction Company until the buildings were sub-leased to the Pacific Coast Engineering Company in the 1920s.

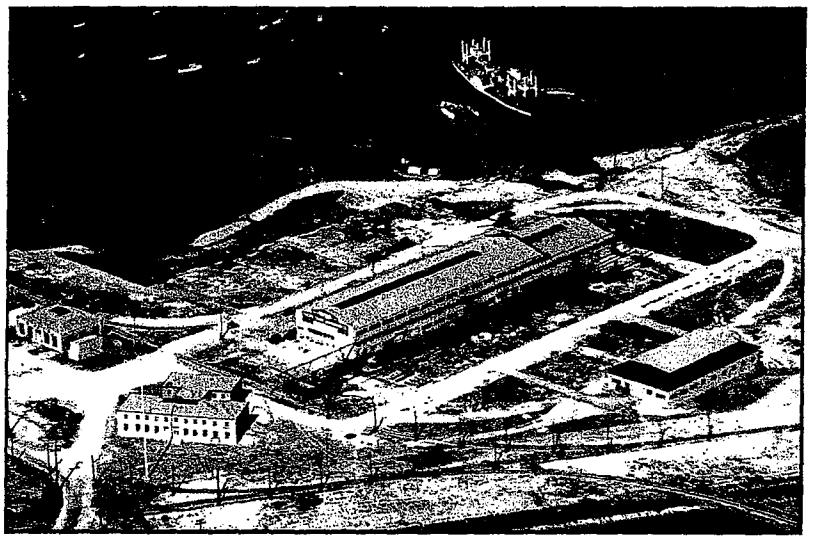


Figure 2.9
Former Union Construction Company Complex - 1930s
Building 88 at lower right, Building 99 in center.

Source: Port of Oakland

Building History and Description

At the time it was acquired by the Army as part of the purchase of the surrounding 276 acre site, Building 88 had already undergone radical changes. Sometime after the lease on the site reverted back to the City and Port of Oakland in 1933, the building was transformed from a tall two story structure to a rather squat one story building. The structure, built in 1919, appears in historic photographs of the site to be a three-story building, but was recorded on Sanborn Insurance Maps as two stories. Evidently the ground floor, used as a pattern shop for the shipbuilding operation, was the equivalent of two stories in height.

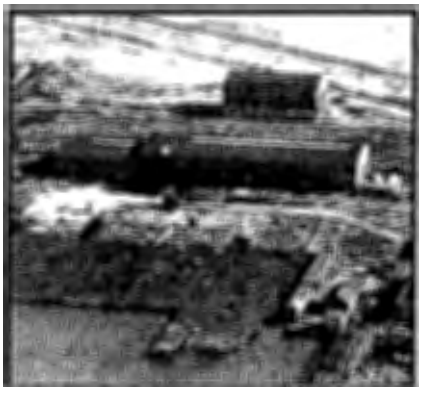


Figure 2.10 Building 88 (top), Building 99 (center) in the 1920s
Source: Port of Oakland Archives

The upper floor was used as a storage loft for the molds from which various metal parts were fabricated. Some time around 1935, the height of the building was reportedly reduced to its present single story by the Port of Oakland. Exactly how and why the height of the structure was reduced remains a mystery. The building's unusual roof profile, which is somewhere between a hip and a mansard, was common to several of the shipyard buildings visible in old photographs, but differs from this building's original roof which had vertical gable ends and a roof monitor. The structure retains the original building footprint and the proportions of the original wall and/or window openings are still evident, so it does not appear to be a new structure. According to one source, the Port removed the second floor in 1935 and installed a new hip roof.[39]

Photographic evidence indicates that the building was used by the Port of Oakland as a storehouse prior to its acquisition by the Army. The photograph of the building from the Army Port Contractors' Completion Report of 1942 shows the north façade with the words "Port of Oakland Store House" painted above the central sliding door. Army building maintenance records for Building 88 indicate that a series of interior alterations were made, principally in June and July of 1941, to the convert it into a mess hall. The need for a "temporary" mess hall became clear when several hundred troops had arrived unexpectedly for several days before shipping out overseas. The men had to be put up in one of the partially completed warehouses while food was trucked in from the Presidio. To avoid this situation from reoccurring while awaiting the completion of more permanent facilities, Building 88 was transformed into a Mess hall and a temporary "Tent City" with 96 tents on platforms was erected to shelter 768 soldiers in an emergency.[40]

Design Context

As described above, this building has been radically altered since its initial construction in 1919. No records of the original designers or contractors have been found to date. However, it is clear that the most significant alterations to the structure were made in the mid -1930s either by the Port of Oakland or its contractors. The design of the building appears to have remained relatively unchanged from that time through the end of World War II. As a contributor to the historic district, its historical significance relates to the role it played as part of the military port of embarkation during World War II. As a fairly non-descript wood frame warehouse, the building's design is not particularly noteworthy. Due to alterations, its historical context and significance is clearly related to World War II, not its earlier function as part of the shipyard operation.

Design Integrity and Building Alterations

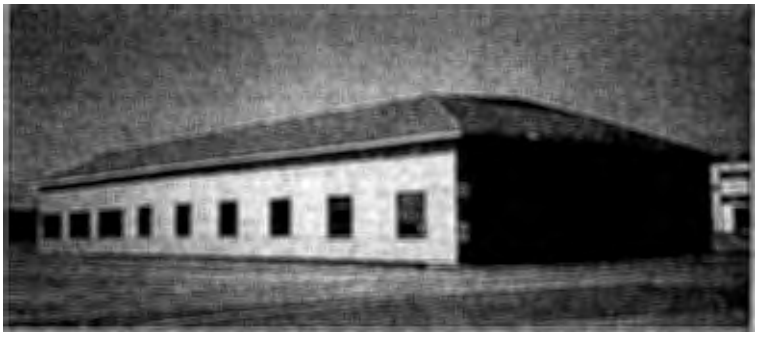


Figure 2.11 Building 88 in 2001
Source: Ripley Architects

A set of documentary drawings prepared in 1937 labeled "WPA Project"[41] and a photograph from the Army Port Contractors' Completion Report dated 1942 provide fairly good documentation of the appearance of the structure during the war years. Some alterations have been made in the window and door openings since that time, but on the whole the fenestration pattern is quite similar. The building retains its 1930s era steel window sash and one of two wood-paneled rolling doors from that time period. The original door on the south elevation has been replaced with a set of standard double doors. The 1" by 8" horizontal rustic siding was covered with vertical grooved plywood siding in 1972. The kitchen equipment for the mess hall was removed long ago and the building was returned to service by the Army as a storehouse. There are some interior partitions, including a small loft area which cannot be dated with any certainty. However, for the most part, the interior is an open plan.

The building's integrity and World War II exterior appearance could be relatively easily restored with the removal of the plywood siding and refurbishment of the wood siding. Replacement of the rolling door on the south elevation would also be relatively easy to accomplish.

2.2.4 Building 99: Shop Building

Building 99 is located to the south of the Cafeteria and is aligned in a north-south orientation parallel to Corregidor Avenue to the west and Building 88 to the east. It is separated from Building 88 by an expanse of paving and surface parking. Across Corregidor Avenue are container facilities of the Port of Oakland. Together with Building 88, it is one of two surviving buildings that predate the acquisition of the site by the Army in 1941. It was a major component of the Union Construction Company's shipyard complex until the buildings were sub-leased to the Pacific Coast Engineering Company in the early1920s.

Building History and Description

Building 99 was acquired by the Army as part of the purchase of the surrounding 276 acre site, along with Building 88 and several other existing structures which have since been demolished. At the time it was built in 1918 it was near the water's edge, with several large timber shipways for shipbuilding located immediately west of the building. It was one of the main shop buildings of the Union Construction Company's shipyard operation and was outfitted with a variety of travelling and stationery cranes on the exterior of the building.

The shipyard operation was evidently short-lived as the property was sub-leased to the Pacific Coast Engineering Company by the mid 1920s. Pacific Coast Engineering manufactured steel pipe and other equipment for dredges and remained on the site until 1941. A Sanborn Insurance Company map of the property from1935 indicated that the buildings were only partly in use and that the shipyards were being dismantled. The ground floor was described as including a blacksmith and machine shop as well as a plate rolling operation. The partial second floor was a "molding loft."

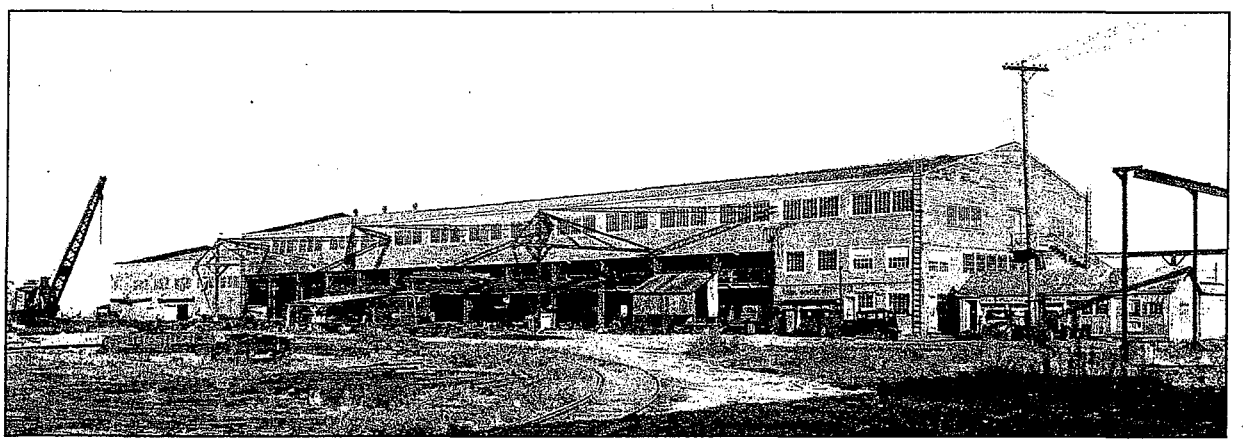


Figure 2.12 Building 99 in the1930s Source: Port of Oakland Archives

The two-story building was designed with a partial second floor (the mold loft) over a tall ground floor. The height was required for an overhead conveying system which was suspended by steel struts from the structural framing. The system was used to move the steel plate into and through the building and out to the waterside. The tall single story space at the north end, marked by a drop in the roof height was the location of the furnace. The mold loft was probably used for pattern making for machined parts, and possibly storage as well. Additional space for pattern making and mold storage was available nearby in Building 88.

Building 99 encompasses approximately 38,500 square feet of ground floor space in 21 equal bays of 20 feet each, with a row of steel columns bisecting the 90 - foot span. Approximately 22,750 square feet of additional space is provided at the partial second floor loft. A small mezzanine between the ground floor and loft floor occupied the two southernmost bays of the building. Its location is evidenced by the line of intermediate-level windows visible in the preceding photograph. (Figure 2.12). This intermediate mezzanine floor has been removed, though the second floor loft remains.[42] The building is the only steel frame structure in the historic district. Its original cladding is horizontal rustic 1" by 8" wood siding, similar to that of Building 88.

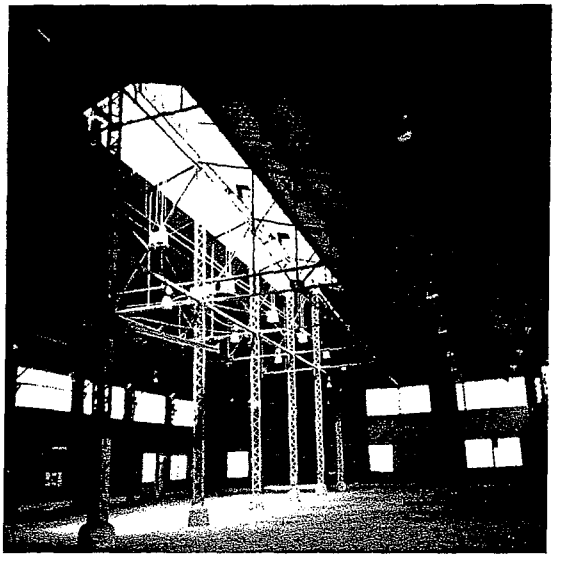


Figure 2.13 Present Interior of Building 99
Looking North (Toward Former Angle Shop)

Historic documentation of the original building design is available principally from exterior photographs. However, copies of the original steel erection drawings were located at the Port of Oakland's archives. The structural steel erection drawings were prepared by the Pacific Coast Steel Company of San Francisco and are dated August 1918. The drawings depict the steel framing largely as it was built, however two additional bays were added at the south (two story) end of the structure. Pacific Coast Steel presumably erected the steel frame, if not the entire structure. It has not been established whether the company had any direct or indirect connection to the Pacific Coast Engineering Company which later leased the Union Construction Company's facilities.

These 1918 drawings also show how the north elevation of the building was to be closed in, but the other elevation drawings were not found. The north elevation was designed with eight large paneled doors, each over 10 feet wide and 8 feet tall, at the ground level. These were mounted overhead to pivot open so that virtually the entire north end of the shop could be opened up. Above the overhead doors, four groups of three 15-light fixed sash windows provided light to the tall interior space. No photographs of this facade of the building have been located to verify whether it was actually built according to this design.

Documentation of the building's appearance under Port of Oakland ownership just prior to the Army's acquisition is provided by a set of record drawings dating from1937, which include elevations of all sides of the building, as well as a structural cross-section.[43] Aside from removal of the outrigging for the cranes, the drawings indicate that the building's exterior appeared essentially as shown in Figure 2.12, at least on the visible south and west sides. Sometime between the date of the photograph and the 1937 drawings, some changes were made to the large openings on the western side of the building (visible in the photograph). Three of the twelve openings, which spanned nearly the entire west wall of the two-story portion of the building, were closed in and replaced with much smaller window openings. The remaining openings were equipped with exterior-mounted rolling wire mesh doors. The doors measured 20 feet wide by 13.5 feet tall and were set below a new header, with fixed mesh panels 4 feet tall above each door.

On the interior, the struts for the conveyor system, which were originally suspended from the steel trusses, had been removed by this time. Notations on the 1937 floor plan indicate the same ground floor uses as shown on the steel erection plan. The north end housed the angle shop, the next three bays, which are column free, were the location of the press shop. The southern end of the building, slightly over half its overall length, was the location of the plate shop. No interior partitions are shown on this plan view. However, the location of openings shown for the north wall indicates that the continuous wall of overhead doors shown on the 1918 drawing was not present. Instead there were two rolling doors placed symmetrically on the façade, each flanked by a wide and narrow window grouping.

The few photographs located of the structure during the War, including one in the Army Port Contractors' completion report, show a continuation of the trend of enclosing the open bays on the west side of the building.[44] A photograph dated September 5, 1942, indicates that only six of the twelve original bays were still equipped with the rolling mesh doors. A canopy had been added above the rolling mesh doors on the west side. The Contractor's Completion Report lists some of these alterations and also provides some clues as to how the building was used by the Army.

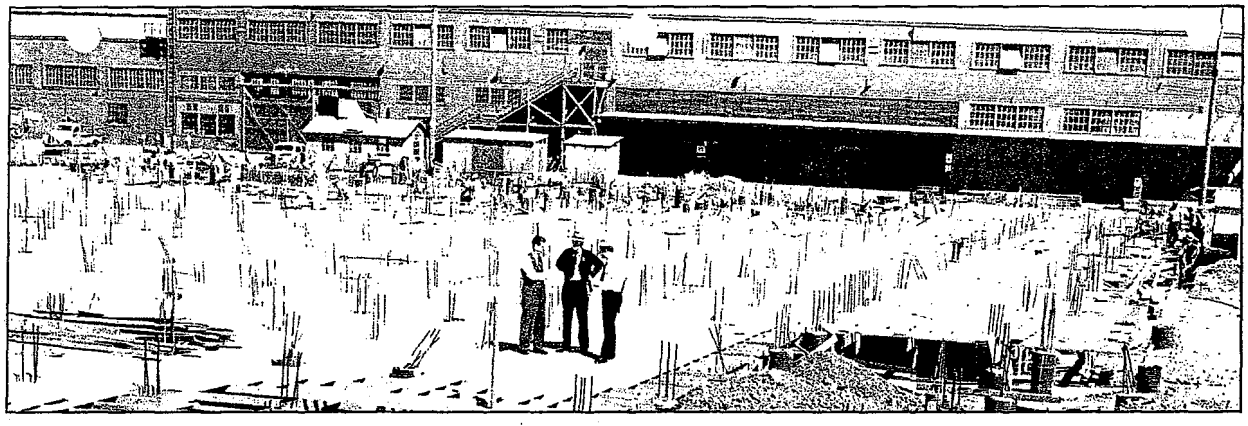


Figure 2.14 Exterior of Building 99 - Sept. 5, 1942 Source: Port of Oakland Archives
West Elevation with Marine Repair Shop under construction in foreground.

The Army Port Contractors completed a number of alterations to the building from November of 1941 to March of 1942; most were minor in nature. The most costly was the construction of fire escapes which were apparently on the exterior of the building. Some portion of the building was improved for use as firemen's quarters and one fire engine was housed in the building. This was not the primary use of the building as the contractor's notes indicate that a temporary fire house was constructed nearby and a more permanent one planned at the corner of Wharf and Maritime Streets. The building also housed a barber shop.

Building 99 was listed on the contractor's site plan as "existing engineering shop." Presumably the large open plan spaces at the north end of the shop building continued to serve in that capacity. Given its historic use and its proximity to the new Marine Repair Shop and Marine Storage buildings immediately adjacent to it on the water side, it would have been ideal for that purpose. The report makes reference to the "shop of the 394th Q. M. Bn. Hq." (Quarter Master's Battalion Headquarters) located in the building. The smaller spaces at the south end may have been adapted for a variety of uses, including some of those described above.

Design and Historical Context

This building has seen a succession of tenants and has been altered numerous times since its initial construction in 1918. However, historic record drawings and photographic documentation indicate that the essential form and massing of the building is unchanged. Like Building 88 it predates the construction of the Army Base. But it differs from Building 88 in that it has not been so radically altered that its original form is no longer distinguishable. Therefore, this building is the only surviving structure from the Union Construction Company's shipyard operations that retains the potential to convey its historic associations with the development of Oakland's Outer Harbor, as well as its associations with World War II.

Design Integrity and Building Alterations

As noted above, the essential original form and massing of the shop building is still intact and much of its original fabric remains. The building's original use for shipbuilding was very short lived. For the building to have survived in use for over 80 years, it underwent several cycles of adaptive reuse and changes to ensure its on-going viability. These changes reflect the changing uses of the building over time. The majority of these have occurred at the ground floor level of the structure and consist primarily of alterations to the openings and the construction of some interior partitions as described below. In the context of this building's contribution to the historic district and its design integrity, it is noteworthy that a number of the changes appear relatively minor and are reversible.

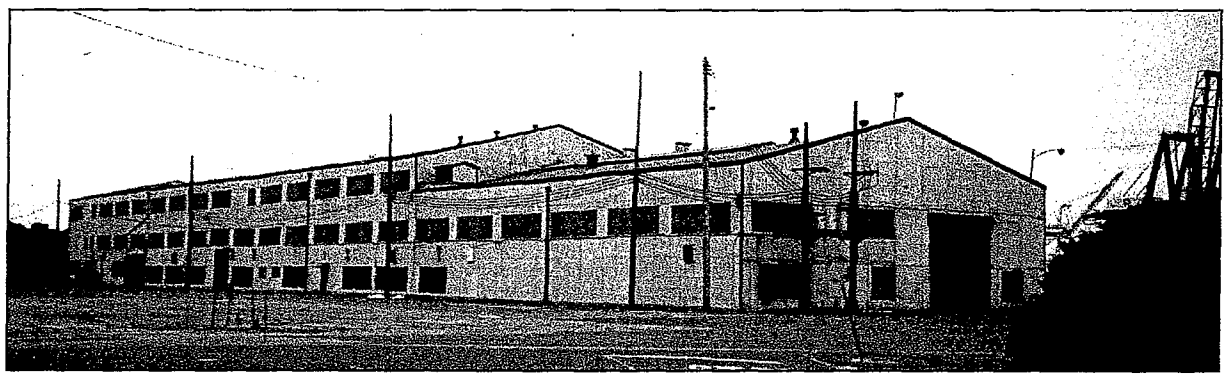


Figure 2.15 Building 99 from the Northwest in 2001 Source: Ripley Architects

Based on the available information it is not certain whether the building had a significant number of interior partitions prior to its acquisition by the Army, as there are no floor plans to document the interior layout. According to the Contractor's Completion Report, the Army did install some interior partitions as well as an exterior stairway, fire escapes and a number of interior utilities including plumbing, electrical equipment and lighting, some in conjunction with equipping the firemen's quarters. There is also a reference to the "removal of sliding doors and replacement with wainscoting and salvage windows" as described above.

The replacement of the sliding doors was an on-going process necessitated in all likelihood by the basic need for protection from the elements. As originally designed and built, the shop, though not an open shed by any means, was very open to the weather on the ground floor. Its changing uses dictated the need for more weatherproof enclosures over time. The need to provide security for the

building was probably another factor in the eventual enclosure of the ground floor. On the whole, however, the changes made to the exterior of the building by the Army during World War II do not appear to have been substantial and did not alter its appearance significantly from that of the 1930s.

More significant than the on-going changes to the ground floor openings to enclose the building were the changes made by the Army in 1965 and 1971. These changes included installing transite (asbestos cement) panels over the existing horizontal board siding (1965) and removal of all of the window sash in the upper floor window openings in 1971. The openings were in-filled with corrugated fiberglass panels. In terms of visual impact and changes to the design character of the structure, these alterations were significant and should be reversed if any future rehabilitation of the structure occurs. Another alteration was the removal of the ridge skylight glazing above the second floor loft. The interior skylight framing remains, so the skylight could be reinstalled as part of a rehabilitation that called for an adaptive reuse of that floor of the building.

Attempts to restore the western ground floor façade to its original open air design would not be appropriate as part of an historic rehabilitation for two reasons. First, the enclosure of the ground floor is largely consistent with the building's appearance during World War II. Given the number of alterations to the building over time, this would be the most appropriate period of significance on which to base a rehabilitation. Second, the likelihood of finding an appropriate use for such an open building is extremely low. The purpose of an historic rehabilitation, according to the *Secretary of Interior's Standards for Rehabilitation*, is to make possible a compatible use of the property while preserving its character defining features.

2.2.5 Building 808: Warehouse

Building 808 is one of seven identical or mirror image plan warehouse buildings located east of Maritime Street in the northeast section of the historic district. The seven buildings, numbered 802 through 808, are sited parallel to one another and oriented east-west. Together they occupy nearly all of the acreage between 14th Street on the south and West Grand Avenue (formerly 22nd Street) on the north. Building 808, the northernmost warehouse, described in this report, is typical of the seven buildings. Every other warehouse is identical in plan, i.e. numbers 802, 804 and 806, while the odd-numbered buildings reflect a mirror image in plan. Since the standardized building design is essentially symmetrical, the buildings appear identical from the exterior. The Knight Rail Yard is located immediately east of the warehouses, with the track alignment running parallel to Maritime Street.

Building History and Description

The buildings were completed in two stages according to the Army Port Contractor's records. Construction began at the south end, with Buildings 802 - 805 completed as part of Programs "A" and "B" between November 11, 1941, and February 2, 1942.[45] The other three warehouses were authorized under Program "C-1" and were completed in June of 1942 according to Army Real Property Records. The buildings were constructed by the Army Port Contractors (see Chapter 2.1.2) but they were evidently not designed by Bechtel-McCone-Parsons Corporation, the firm that designed the Administration Building and the Cafeteria. Although the firm was also one of the member firms of the Army Port Contractors, its name does not appear on the construction drawings for the buildings. They were prepared by the Army Corps of Engineers in San Francisco.

In its Engineering Report dated December 1, 1941, Bechtel-McCone-Parsons describes the principal facilities planned for the Port of Embarkation and the General Depot, which would eventually become known as the Oakland Army Base. The Port of Embarkation facilities were principally "ships' berths, apron wharves, transit sheds, storage sheds" and support services and utilities located west of Maritime Street. Distinct from these were the facilities of the General Depot, which were to consist "principally of single-story permanent warehouses for the storage of Quartermaster, Engineer, Medical, Signal, Ordnance Corps, C.W.S and other supplies." [46] It is these seven warehouses, commonly referred to as the 800 series[47] warehouses, that constituted the principal facilities of the General Depot.

Figure 2.16
Aerial View of Buildings 802-805 after completion in mid - 1942.

Source: Port of Oakland Archives

These impressive wood structures are each nearly 1,300 feet long, just short of a quarter-mile, and enclose 233,640 gross square feet of space, providing over 5.3 acres of protected storage area. These were the largest structures built at the original sub-port. Only two buildings at nearby Camp John T. Knight, Buildings 590 and 640 at 8th and Maritime Streets, would eventually rival them in size on the entire Army Base. The 800 series warehouses were built from a single set of drawings and were designed to be symmetrical about both axes. Raised loading docks were provided along each side. Access within is provided by pairs of exterior mounted rolling doors set along the length of the building. Rail access was provided on one side and truck access on the opposite. Projecting canopies provide shelter at both types of loading docks. The locations of the docks were reversed at alternate buildings so that they could be paired to group and segregate rail spurs from truck loading docks and maneuvering areas.

Each tall single story building is divided internally into five transverse sections, nearly equal in dimension. These internal divisions are expressed externally by the fire walls that project through the roof and can be seen in the photo above (Figure 2.16). The central section is eleven bays long, while each of the two flanking sections has twelve bays, with each bay measuring 22 feet. A wide central bay extends down the length of each structure and is expressed on the exterior by the line of continuous clerestory windows that bring light into the 52-foot wide central bay. The flanking side "aisles" of the building are each comprised of two bays, each measuring 32 feet across, giving the building an overall width of approximately 180 feet, exclusive of the loading docks. Vertical clearance from the asphalt concrete floor is approximately 18 feet, allowing for stacking of goods within.

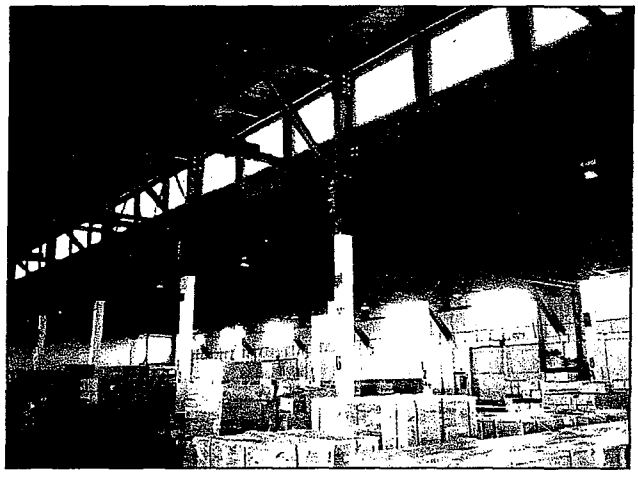


Figure 2.17
Interior View of Building 808 in 2001
Source: Nancy Stoltz

The horizontal siding appears to be redwood, as does the original window sash. The high, central clerestory windows form a continuous band, while those above the freight doors and at the east and west elevations are paired. At ground floor level, only the offices originally located at the west end of each building were provided with windows, which were operable. They were double hung sash; all other windows were fixed sash. In the case of Building 808, a small mezzanine was added at the west end of the building above the offices, utilizing the upper windows for light and air. The drawings called for select structural grade Douglas fir[48] framing and structural members, a material that became increasing difficult to obtain as the war mobilization and construction intensified.

The demand for select grades of Douglas fir was so intense among the branches of the military that the construction of the Army's port facilities in Oakland and Boston created a supply crisis that gave

rise to the creation of a Central Procuring Agency (CPA) in September of 1942. This agency was set up in less than two weeks' time upon the recommendation of Frederick K. Weyerhaeuser, one of the country's top lumber suppliers. He had been asked for his recommendation by Colonel Fred G. Sherrill, chief of the Materials and Equipment Section (M & E), the central purchasing agency for the Army Corps of Engineers. The new CPA was also placed under the Corps' jurisdiction. Its buying authority was expanded so that it coordinated lumber buying for and allocated the resources among the Army, Navy and Maritime Commission, as well as the War Shipping Administration, the Veterans' Bureau, the Defense Plant Corporation, the U. S. Coast and Geodetic Survey, and the lend-lease program. In addition, a special office was established at Portland, Oregon, to take over the buying of Douglas fir for the Navy, whose need for timber to construct floating dry docks had given rise to the crisis.[49]

Design Context

The design of the warehouses most resembles a typical industrial heavy timber building type, but on a much a grander scale than most. The building design is straightforward and efficient, reflecting its specific purpose, which was the short-term storage and rapid shipment of vast quantities of equipment and supplies for overseas installations and troops. The long, relatively narrow linear shape allowed easy access for both rail and truck loading. It was clearly the most efficient configuration for these special purpose warehouses. By contrast, the two larger buildings at Camp Knight were approximately twice as wide, with less access to loading docks of either kind.

Though individually somewhat smaller in floor area than those neighboring buildings, the 800 series warehouses are more impressive due to their overall length and the sheer mass and uniformity of the building grouping. They make a very strong visual impression and can be seen from the elevated freeway and from many distant higher vantage points. These structures can be compared to their contemporaries at the Joshua Hendy Plant in Sunnyvale, which was owned in part by the same construction companies that built the Army Base. Aerial views of the plant show the impressive heavy timber structures built there under contract for the United States Maritime Commission, primarily from 1942 to 1943 (Figure 2.18). The structures were paid for by the Maritime Commission and used for the manufacture of Liberty ship engines. Most were foundry and industrial machine shop buildings, equipped with travelling cranes and rail spurs to move the heavy components and engines. Many of the smaller buildings on the site date from the early twentieth century; some to the relocation of the plant there from San Francisco in 1906.

Despite their impressive size and similarities in construction methods and materials, the Hendy buildings do not quite measure up to the Army Base warehouses. The largest single structure at the Hendy plant was approximately 211,500 square feet in area, with the next largest one smaller by nearly one-third. By contrast the 800 series warehouses each enclose 233,640 square feet of floor area. These structures, though smaller, still appear to dwarf the airship hangars of nearby Moffett Field in Mountain View. The Hendy structures vary in plan, but the dominant forms are also long and linear, like the OARB warehouses, though the roof profiles vary. Two of the buildings are nearly as wide as the 800 series warehouses, but none is even 1,000 feet long. In addition, no two buildings are exactly alike, so their overall visual impression is not as strong. There may be other industrial complexes that possess one or two buildings of similar scale, but finding one with seven such structures, all built of heavy timber framing and wood siding would be a challenge. The Hendy Plan at least provides some basis of comparison.

Figure 2.18 Aerial View of the Joshua Hendy Plant in Sunnyvale looking toward Moffett Field
Mid twentieth century Source: Northrup Grumman / Hendy Archives

There has been some confusion as to who designed the 800 series warehouse structures. The HAER documentation by Hermann Zillgens Associates (1994) identifies Bechtel-McCone-Parsons Corporation as the architect. However the construction drawings were prepared on Army Corps of Engineers drawing sheets and are signed by officers and engineers from the U. S. (Army) Engineer Office in San Francisco. There is no reference to Bechtel-McCone-Parsons on the drawings, although they are correctly identified as one of the contractors for the buildings and seemed to have taken the lead role for the Army Port Contractors in interfacing with the Army. Therefore, it seems more likely that these buildings were designed by the Army Corps of Engineers. There is no reference to a standard building plan or series number on the drawings, which was often the case when a standard Corps of Engineers or earlier Quartermaster Corps design was utilized. So, based on the available information, it appears that the design was executed for this particular project.

The original transit shed at Wharf 7, Building 161, was reportedly based on a standard Army design from the 700 series plans by the Quartermaster Corps, according to the HAER documentation for that structure.[50] However, no standard plan reference number could be found on those drawings and the plan number given in the documentation report (700-3099) did not match a check of that plan number in the Army Corps of Engineers archives.[51] Those drawings were also put on ACE

drawing sheets, although the transit shed was clearly built by the Army Port Contractors, not the Corps. That building was demolished in the early 1990s due to damage from the Loma Prieta earthquake of 1989. Although it was a fairly large, heavy timber frame structure, its design bore little resemblance to that of the warehouses.

So, although Bechtel-McCone-Parsons Corporation was listed as the architect-engineer for the project, the firm clearly did not design all of the buildings. Many of the structures at the neighboring Fort Knight, which was a cantonment housing some 5,000 troops, were likely built to standard designs from either the 700 or 800 series ACE plans. It remains unclear, however, which structures at the Port of Embarkation and General Depot were built from standard plans, apart from Building 812 which is discussed below.

Historical Context

The 800 series warehouses witnessed a major development in the movement and shipping of supplies - that of palletizing warehouse-to-pier loading. First tried as a controlled experiment at the base in early 1943, the new system utilized wooden pallets that were carried on fork-lift trucks from warehouse to boxcar or truck, then to the pier.[52] This system replaced the old method of "spotting" a boxcar or truck at the warehouse, hauling supplies to it by hand truck and loading the car by hand. It typically took a crew of eight men four to five hours to complete. Using pallets, they were able to accomplish the same task in thirty-one minutes, for an 800 per cent increase in efficiency.

Another historical role played by the Army Base and its buildings, including at least one of the warehouses, was that of temporary mortuary. More than 50,000 World War II dead were brought back from the Pacific in designated funeral ships which carried from 3,500 to as many as 5,800 "Passengers Deceased." The first arrived on Friday, October 10, 1947, including some 3,000 soldiers and some civilians who had been interred in temporary cemeteries in Hawaii. Priority was give to those who died in the attack on Pearl Harbor. After a solemn national ceremony at San Francisco's Marina Green, the ship made its way to Pier 3 at the Oakland Army Base.[53]

The dead were returned as passengers, with each name entered on the "passenger list deceased." Each casket, placed in its own shipping container, was unloaded from the ship and placed on a trailer to be towed directly to the rail head for the journey to its final resting place. They were then transported on special trains, or cars attached to regular trains, supplied with train guards and a military staff and returned to the next of kin. The funeral ships called at Pier 3 until it was returned to the Port of Oakland by the SFPE on June 30, 1949. However the base would continue to serve in this somber role during the Korean War when building 804 was used as the Mortuary Building.[54]

Design Integrity and Building Alterations

The 800 series warehouse buildings have been little altered over time. Alterations to Building 808 include the addition of the partial mezzanine and the removal of some of the upper wood sash windows and replacement with aluminum sliding sash. Some of the buildings have had the sash and glazing in the south side clerestory windows removed or covered with translucent corrugated plastic panels. However, they are intact in Building 808 and this change is fairly easily reversed elsewhere. On the whole, the level of integrity is very good. There have been no significant changes to the building form, exterior materials, basic loading dock configuration and overhanging canopies. Most of the large freight doors appear to be intact and functional. Few changes have

been made to the interior, which still conveys a strong sense of the vastness and openness of each building. Even the original fire doors that separate the five areas within are still present and functional if needed.

One of the most impressive features of the buildings is their sheer size, both individually and collectively. They can be seen from higher vantage points both near and far and their distinctive red roofs make them easy to spot, even among the taller cranes of the Port facilities. The buildings have continued to function in their original use as warehouses, despite the changes in trucking equipment and trailer heights and the abandonment of their rail spurs. With little more than maintenance they could continue in warehouse use, or be adapted to other uses by making use of the five smaller spatial divisions inherent in their design. In that way, their open plans could be preserved while at the same time providing, smaller leasable areas for other compatible uses.

2.2.6 Building 812: Vehicle Maintenance Shop

Originally built as the Ordnance Maintenance Shop, Building 812 is located directly north of building 808, but is sited more or less perpendicular to Maritime Street, rather than parallel to Building 808. At 64 feet wide by 280 feet long, its 18,345 sq. ft. rectangular form is dwarfed by the scale of the neighboring 800 series warehouse buildings.

Figure 2.19 Building 812 in 2001 Source: Nancy Stoltz

Building History and Description

The Ordnance Maintenance Shop was the last of the buildings in the historic district to be constructed. It was completed in May of 1944 according to the HAER documentation. The construction drawings are dated September 16,1943, and, like the 800 series warehouses, were prepared by U.S. Engineer's Office (Army Corps of Engineers) in San Francisco. This building was not included in the Army Port Contractors' initial construction program (Programs "A" and "B") nor was it authorized under Program "C". It is not clear whether it was built later by the Army Port Contractors, by another private contractor, or perhaps the Army Corps itself.

The building was used to maintain and repair weapons and ordnance of the rolling type such as tanks and other heavy artillery. Just as the nearby Marine Repair shops repaired, overhauled and outfitted ocean going vessels, the Ordnance Repair shop maintained and repaired artillery either before it was shipped overseas or upon its return. The building was equipped with an overhead rolling crane with a 10-ton capacity, mounted on a pair of massive heavy timber crane rails that run unobstructed down the length of the building at the tall central bay. The load of the crane is supported by an independent heavy timber framework, so there is a double row of built up timber posts down either side of the tall central bay. The building is currently equipped with an operational 5-ton Shepard Niles crane. As the original construction drawings called for a 10-ton crane, its is presumably not original.

Figure 2.20 Building 812 Source: Nancy Stoltz
Interior View with Crane Rail, showing double column line

Although it is not certain who built the structure, it is known that the building was built to a standard ACE design, as the title sheet of the drawing set incorporates by reference eight sheets of standard drawings numbered 652-1550 to 652-1557. These standard drawings were for an ordnance maintenance shop virtually identical in form, profile, fenestration and door openings and styles to Building 812.[55] The principal difference between the standard design and the building as constructed is that Building 812 employs horizontal wood siding, while the standard design called for vertical siding. As drawn, the standard plans show the same overall width and bay dimensions, for an overall width of 64 feet, and are drawn to a length of 98 feet. However, the building was designed to be increased (as in the case of Building 812) or decreased to any length in 28 ft. increments, which encompasses one door bay and one window bay. In the case of Building 812, an additional thirteen bays were added to the seven-bay base plan to achieve an overall length of 280 feet.

The Maintenance Shop's form is similar to that of the adjoining warehouses, being long and linear with a tall projecting monitor running down the central spine of the building. In this case, the purpose of the increased roof height is primarily to accommodate a travelling overhead crane and secondarily to provide additional light by means of the monitor window units. The roof profile of the monitor bay is essentially flat, whereas the flanking bays have sloping shed roofs with composition shingles. A distinctive design feature of the building is the slightly projecting line of the façade above the window and door headers. There the profile has been extended so that the siding forms a continuous eyebrow above the door and windows. This feature served to conceal and protect the hardware for the exterior mounted rolling freight doors.

The building as originally designed did not strictly adhere to the alternation of door and window bays as called for in the standard drawings. Two or three window bays are found occurring in sequence to accommodate interior offices or other particular needs of the Army Base. A mezzanine has been included at the west end of the building to house an air conditioned optical repair room. Drawing notes called for the installation of four tall, double hung window units at this level rather than the pair of stacked, fixed 12 over 12 light windows shown on the standard plans. Aside from this change, the doors and windows for building 812 were the same as those for the standard design.

The exterior mounted, paired rolling freight doors had two stacked, fixed window units, each with 8 lights. The lower door panel was of wood boards with a diagonal brace. The standard window was a four sash unit, stacked and paired, each sash had 12 lights, configured four over three. Both tiers of the ground floor sash were designed to slide horizontally on fixed interior rails, unobstructed by interior wall finishes. The upper level monitor windows were identical in appearance, but had pivoting sash at the upper tier and fixed sash at the lower one.

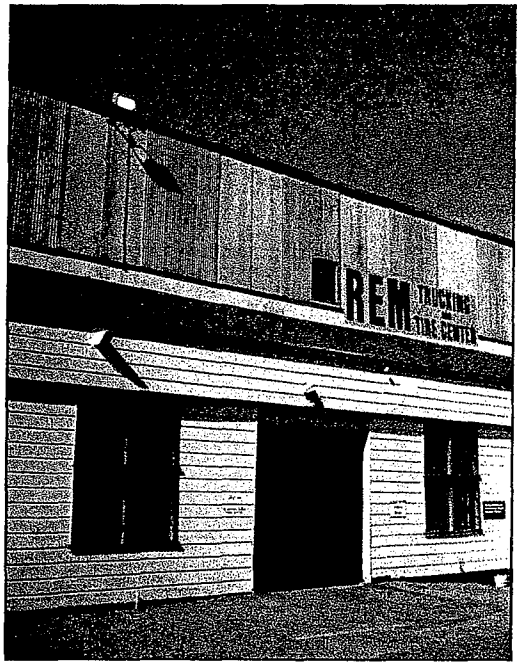


Figure 2.21 Building 812 Partial South Elevation in 2001
Typical window and door bays

Source: Nancy Stoltz

Design and Historical Context

Little specific historical information particular to this building was discovered aside from the fact that it was clearly based on a standard 600 series design. The 600 series drawings were a holdover from the World War I era and were developed under the auspices of the Construction Division of the Quartermaster Corps. This was one of two construction divisions of the Army at that time, the other being the Army Corps of Engineers. Due to dissatisfaction with the Quartermaster Corps' performance in the early days of World War II mobilization construction, all war construction was turned over to the Corps of Engineers on December 1, 1941, and the work of the two divisions was essentially consolidated.[56]

The 700 series drawings were developed by the Quartermaster Corps under the direction of Colonel Charles D. Hartman who had served with its Construction Division during World War I. After a flurry of activity to recreate and update many of the drawings which had been misplaced or altered in the interim, Hartman was able to provide a series of plans for over 300 assorted structures to fulfill the pressing need for mobilization construction. The revised drawings became standard as of July 19, 1940, and constructing quartermasters were told to destroy all prior "obsolete" plans immediately. These drawings were for building types required to house and train the army's 300,000 troops at that time, as well as an additional 100,000 national guard troops, and 400,000 draftees expected to arrive by January 1941, with another 400,000 arriving shortly thereafter.[57] These cantonments, or training camps, were envisioned as temporary facilities to include barracks, mess halls, storehouses and essential office and medical facilities. Standardization of plans and economy of materials was essential to their rapid construction, which was usually undertaken by local contractors.

One of the first Camps – Camp Edwards in Massachusetts - was begun in September 1940. Camp Edwards had an extensive variety of 700 series building types, though the barracks was by far the most common. The base was documented by the U. S. Army Construction Engineering Research Laboratory (USACERL) in 1988-89 under the auspices of the United States Department of Defense under the terms of the June 6, 1986 Programmatic Agreement for the demolition of World War II temporary buildings.[58] Fort McCoy, Wisconsin, which utilized the subsequent 800 series of plans was also documented under that agreement in conjunction with HABS/HAER staff. A review of the report prepared under the terms of the agreement revealed that this Ordnance Maintenance Shop design (Building 812) was not among the buildings documented at either base.[59]

One curious aspect of the drawings for Building 812 is that the original drawings identify the Ordnance Maintenance Shop in the title block as being located at Camp John T. Knight. Camp Knight is generally described as being located to the south and west of the 800 series warehouses and was a separate and distinct operation from the General Depot. The building is correctly shown in its current location on the Plot Plan on Sheet 1, however. On-going changes in the official name of the Base may have led to some confusion and a mislabeling of the drawing.

Design Integrity and Building Alterations

Although Building 812 has undergone a number of alterations, more so than the virtually unaltered 800 series warehouses, it still maintains a high level of design integrity. A number of the original ground floor wood sash windows have been replaced with aluminum ones, but most of those that remain are still operational and provide good prototypes for replacement of the others should

rehabilitation be undertaken in the future. The most jarring and obvious alteration, visible in Figure 2.21, is the installation of transite (asbestos cement siding) panels over the horizontal board siding at the monitor walls on both the north and south sides of the building. These flat gray panels alternate with corrugated fiberglass panels that cover the original window openings. Unfortunately the sash units have been removed entirely. The other major change to the building is the removal of the exterior sliding freight doors and replacement with metal overhead rolling doors. However, these changes are easily reversible and excellent documentation exists to fabricate replacements according to the original design should rehabilitation occur.

The building's interior is remarkably intact and clearly conveys a sense of its original design with the overhead rolling crane, though probably a replacement, still in place and functioning. Apart from the installation of some partial height partitions that are not original, there are few changes to the interior. Most importantly, it maintains its high open central bay unobstructed and undivided by interior partitions. This openness should be maintained as part of any proposed future rehabilitation and reuse of the building in order to preserve its design integrity.

Endnotes for Chapter 2

[1] Hermann Zillgens Associates. Historic Preservation Plan – Oakland Army Base, CA. Prepared for US Army Corps of Engineers, Sacramento District, December 1994, p. II-7.
[2] King, Gregory. Historic Architecture Survey Report, Part VII: Subarea D: Oakland Army Base. Office of Environmental Analysis, Department of Transportation, Sacramento, California, August 1990.
[3] Hamilton, James W. and William J. Bolce, Jr. Gateway to Victory. Stanford (Palo Alto) , California: Stanford University Press, 1946, p.18.
[4] Hamilton, James W. and William J. Bolce, Jr. op. cit., p.67.
[5] Ibid, p.85.
[6] Ibid, p.96.
[7] King, Gregory. op. cit.
[8] Sullivan, James A. Chapter 14 – Fort Mason Overflows as the Nation Awakens and Girds for War. Unpublished manuscript – "James A. Sullivan Papers", Box 4. Park Archives Collection, Golden Gate National Recreation Area, Presidio of San Francisco, No date.
[9] Minor, Woodruff. Pacific Gateway – An Illustrated History of the Port of Oakland. Oakland, California: Port of Oakland, 2000, p. 28.
[10] According to various Port and City resolutions, Union Construction Company still owed rent in May of 1933.
[11] Fox, T. H. History of Transportation Division S.F.P.E. for period of World War II. Part of the "James A. Sulllivan Papers", Box 3. Park Archives Collection, Golden Gate National Recreation Area, Presidio of San Francisco, December 10, 1945, p. 20.
[12] Sullivan, James A. op. cit.
[13] Ibid.
[14] Bechtel-McCone-Parsons Corp. "Proposed Additions – Port and General Depot "Program C-1." U.S. Army Oakland, California. Engineering Report No. 1282-2, Rev. 1, December 1941.
[15] Hamilton, James W. and William J. Bolce, Jr. op. cit., p.18
[16] San Francisco Chronicle, March 8, 1931, Section 4, p. 2.
[17] See "Completion Report" by Bechtel-McCone-Parsons Corp., June 1942 for addresses of each office.
[18] San Francisco Chronicle, June 9, 1935, Section 4, p. 14.
[19] Gayer, George F. The Iron Men of Hendy. In-house publication by the Marine Division of Westinghouse available at the Iron Man Museum, Sunnyvale, California. Compiled from the original manuscript in 1985
[20] "This is Hendy." In-house publication by the Joshua Hendy Iron Works, Sunnyvale, California, c. 1947. Available at the Iron Man Museum, Sunnyvale, California.
[21] United States Army. "Oakland Army Base - A Pictorial History and Official Closure Program." United States Government Printing Office, 1999.
[22] Sullivan, James A. op. cit.
[23] The 394th was an all African American Battalion that arrived at Oakland by train on July 5, 1941. (Fox, p.22.)
[24] Hamilton, James W. and William J. Bolce, Jr. op. cit., p.85.
[25] Bechtel-McCone-Parsons Corp. op. cit, p.2.
[26] Hamilton, James W. and William J. Bolce, Jr. op. cit., p.19.
[27] Hermann Zillgens Associates. op.cit., p. II-9.
[28] Kriv, Arlene R. (ed). World War II and the U.S. Army Mobilization Program: A History of the 700 and 800 Series Cantonment Construction. United States Department of Defense Legacy Resources Management Program with the United States Department of the Interior – National Park Service, Cultural Resources. 1992 p. 12.
[29] Ibid, p. 40.
[30] Hagwood, Joseph J. Engineers at the Golden Gate. San Francisco, Calif.: U.S. Army Corps of Engineers, San Francisco District, 1982, p. 250.

[31] Hamilton, James W. and William J. Bolce, Jr. op. cit., pp. 19-22.
[32] Engineering News Record, April 23, 1943, p. 172, as cited in The Corps of Engineers: Construction in the United States, p. 543.
[33] Fine, Leonore and Jesse A. Remington. The Corps of Engineers: Construction in the United States. United States Army in World War II, the Technical Services. Center of Military History, Office of the Chief of Military History, United States Army, Washington, D.C., 1972, p.543.
[34] Based on information supplied from Port of Oakland and Army records by Jerome Battle, Port Wharfinger, and Lynn Kreigbaum, Base Transition Coordinator on January 31, 2001.
[35] Hamilton, James W. and William J. Bolce, Jr. op. cit., p.19.
[36] Sullivan, James A. op. cit. and Fox, T. H. op. cit, p.25.
[37] See Post Map dated May 28, 1948, from the Office of the Post Engineer located in the drawing files of the Port of Oakland. Also see 1956 Map of Oakland Army Terminal by Hubbard Advertising Agency on file at Oakland Army Base.
[38] Kriv, Arlene R. (ed). op. cit., p. 40.
[39] Hermann Zillgens Associates. op. cit. The HAER documentation for Building 88 cites the 1941 appraisal by E. E. Malloy of the proposed Army Base site as the source of this information.
[40] Fox, T. H. op. cit., p.23.
[41] These drawings, which are marked "WPA Project", appear to be documenting existing conditions rather than proposed alterations. There are no notes calling out proposed work or references to specifications.
[42] Although the Army's real property records indicate that the second floor was removed in 1967, it was evidently only removed from service, as it remains there today.
[43] See note 28 above.
[44] Two sheets of drawings showing alterations made in 1942-43 were noted in the Hermann Zillgens Report/ HAER documentation, but these drawings were not found among the OARB file drawings.
[45] Hermann Zillgens Associates. op. cit.
[46] Bechtel-McCone-Parsons Corp. op. cit., Section A, page 5.
[47] The term "800 series" used to identify these warehouses should not be confused with the identification number of the standard Army Corps of Engineers drawings, also called the 800 series, that were developed during World War II.
[48] "Select structural" is an industry term for lumber that is specifically graded for its performance in load bearing applications, according to the Western Wood Products Association. Although its physical appearance is secondary to its physical working characteristics and superior structural performance, select structural grade Douglas fir is typically tight knotted and close grained and therefore suitable for visually exposed uses. Select structural timbers are still available today, but may be harder to obtain in the larger sizes due to the requisite growing time to produce them. The specific origin of the timber used in the 800 series warehouses is unknown and it cannot be readily determined from visual inspection whether it was harvested from "old growth" forests.
[49] Fine, Leonore and Jesse A. Remington. op.cit., pp. 550-552.
[50] Andrews, Pamela and Steve Turner. Oakland Army Base Transit Shed (Building 161) HAER No. CA-125-A. Tri-Services Cultural Resources Research Center. U.S. Army Construction Engineering Research Laboratory, January, 1992.
[51] The archives search was conducted by William Baldwin, Historian at the USACE Office of History, Alexandria, Virginia. That drawing number was for a coal bin. However, Julie Webster of USACERL confirmed by phone, after examining the file, that it was apparently a standard design for a 700 series mobilization warehouse, plan #700-1480 through1484. This was the only temporary mobilization warehouse of the 700 series located in their database.
[52] Hamilton, James W. and William J. Bolce, Jr. op. cit., p.67.
[53] See "James A. Sullivan Papers", Box 1. Park Archives Collection, Golden Gate National Recreation Area, Presidio of San Francisco, No date.
[54] Photo of Mortuary Building T-804, dated February 12, 1953, in Box 1 of the James A. Sullivan Papers.
[55] Electronic copies of the standard building plans were obtained from William Baldwin, Historian at the USACE Office of History, Alexandria, Virginia.

[56] Kriv, Arlene R. (ed)., op. cit., p.40.
[57] Ibid, pp. 11-13.
[58] Letter from Lewis D. Walker, Deputy Assistant Secretary of the Army, to Dr. Robert Bush, Executive Director, Advisory Council on Historic Preservation, November 16, 1993.
[59] The report is available from the National Park Service's Park Archives Collection, Golden Gate National Recreation Area, Presidio of San Francisco.

Chapter 3 Future Options: Reuse and Alternatives to Reuse

3.1 Defining Potential Reuse Options

The rehabilitation and reuse options upon which the cost estimates presented in this report are based were developed following the process outlined in the *Preliminary Building Reuse Suitability Report* dated February 8, 2001. The uses considered for the six historic buildings ranged from light industrial and warehousing to retail. Housing and/or live/work space were not considered as viable reuse options because of the potential for conflict with other aspects of base reuse, particularly the planned expansion of the port operations. These uses were also not consistent with those identified through the base reuse planning process as identified in the Amended Draft Final Reuse Plan.

By and large the uses selected for evaluation for each of the six structures were similar to those for which the buildings were originally used. This approach minimized the need for code upgrades triggered by changes in occupancy type and also minimized the potential need for alterations which might adversely affect the historic character of the buildings.

Four of the historic structures are located in the northwest section of the historic district which encompasses the site of the former administrative operations and ocean-going cargo operations of the base. It includes three historic wharves in addition to a number of buildings. Included in this group are the following historic buildings, all located west of Maritime Street:

- Building # 1 – Administration Building
- Building # 60 – Cafeteria
- Building # 88 – Pattern Shop
- Building # 99 – Equipment Maintenance / Plate Shop & Loft

Cost estimates for rehabilitation of the wharves have not been included, although a separate report on the condition of the wharves was prepared as part of this study (*Wharf 6, 6-1/2, and 7 Condition Study* by Moffatt & Nichol). The authors found that preparation of reliable cost estimates for rehabilitation of the wharves would require an underwater inspection of the existing wharf piles which number over 9,000 and vary as to type. They include precast concrete, timber (with gunite or precast concrete jackets) and a number of large diameter steel piles. However the report also concluded that the above water condition of the wharves was fair to good and appeared to be structurally adequate for open space use or surface car parking. The construction of structures on the wharves was not recommended without further investigation and analysis of the structural capacity of the affected piles.

The other two historic structures under study are located in the northeast section of the historic district which includes that portion of the base east of Maritime Street. This area of the Base was primarily operational in nature and is dominated by seven identical large warehouses adjacent to the Knight Rail Yard. The buildings studied in this group include the following:

- Building # 812 – Maintenance Shop
- Building # 808 - Warehouse

Although only two individual buildings are included in this group, the warehouse building is representative of the other six warehouses in the historic district (Building #802-807), as their construction is identical.

3.2 Alternatives to Rehabilitation and Reuse

In addition to providing cost estimates associated with rehabilitation and reuse of each structure, costs for demolition and hauling are provided for each of the six buildings. Selective demolition (or deconstruction) and salvage cost estimates are provided as well. In some cases, relocation cost estimates are also provided. These alternatives are described briefly below; the cost estimates are presented and discussed in more detail in Chapter 5.1.

3.2.1 Relocation

Few buildings were considered as possible candidates for the option of relocation, in part because most lack structural floor diaphragms. Therefore, they may not have sufficient structural integrity to be lifted off their foundations and moved without installing extensive temporary bracing. Only two of the buildings, the Administration Building (No.1) and the Cafeteria (No. 60) possess structural floor diaphragms. Building No. 1, though modular in plan, was considered excessively large to consider relocating. In addition, its historic significance and prominence on the base would be compromised by relocation. For these reasons, relocation of Building 1 has not been included in the cost estimates presented in this report.

Of the smaller buildings, only the Cafeteria has a structural floor. However, it is sited on axis with the Administration Building and is designed in a similar style. Though not as individually prominent as the Administration Building, the Cafeteria has an important site and stylistic relationship to it. This relationship would also be compromised by its relocation. Therefore, it is not recommended that relocation be seriously considered, but costs are provided as a basis for comparison with other options, as relocation appears physically possible.

The only other structure considered as a possible candidate for relocation was Building 88, the Storehouse. Though it lacks a structural floor, it has relatively small footprint (76 feet by 146 feet), and is constructed of wood stud framing and sills set on a perimeter concrete foundation. With some temporary bracing to provide rigidity, it could be relocated. In both cases the cost estimates for relocation assume that the buildings would be relocated somewhere on the base where transportation would not be impeded by overhead obstacles or road restrictions and where the land is already in public ownership. For this reason, the cost estimates for relocation do not include an additional amount for site acquisition.

Building 99 would be difficult to relocate intact or to move in sections. However consideration was given to costing out the relocation of Building 99 by means of disassembly and reconstruction on another site. It is the oldest structure on the site, predating the Army's acquisition and use of the area in 1941 by over twenty years. Built as a shop for the Union Construction Company's shipyard complex, it has lost its historic site relationship to the waterfront over the years due to infill to the west of the building. Nevertheless, its site location is important as it marks the edge of the shoreline at that time period. Disassembly and reconstruction would likely necessitate extensive use of replacement materials, particularly wood siding, due to damage during the disassembly process and possible deterioration of the wood siding beneath the transite panels. The result would

likely be a building with little physical integrity and even less site integrity. Therefore this option was rejected and no cost estimate for relocation was provided.

In summary, though relocation may be physically possible for one or two of the buildings, it alters the physical context and historic setting of the historic resource and therefore it is not a recommended approach. Moving a building can affect a resource's eligibility for the National Register of Historic Places, particularly when it has qualified for listing under Criterion A for its historic significance.[1] Therefore, it should only be seriously considered when it is the only viable alternative to demolition, with the knowledge that it may disqualify the resource and/or the district for National Register eligibility.

3.2.2 Selective Demolition and Salvage

Cost estimates have been provided for selective demolition (or deconstruction) and salvage for each building. The larger structures with exposed structural framing members would clearly be good potential candidates for this approach. Their lack of interior wall finishes would make it relatively easy to perform the selective demolition and deconstruction necessary to ensure that the building materials would be in salvageable condition. The larger framing members and perhaps the siding in these buildings might be salvaged for reuse rather than recycled and manufactured into other products. They include Buildings 99 (Shop Building), 812 (Vehicle Maintenance Shop) and the 800 series warehouse buildings of which Building 808 is a typical example. The latter two buildings employ extensive quantities of timber as a building material, including heavy timber framing, much of which is select structural grade material. All three buildings have wood siding and/or floor planking of redwood or Douglas fir.

Building 99 is a steel frame structure and its steel would also have some salvage value as scrap. Building 88 employs heavy timber in the roof trusses and has board siding but is much smaller than the other structures. Though its total potential salvage value may not be high compared to the others, its salvage value per cubic foot may not be appreciably different.

The Administration Building and the Cafeteria (Buildings 1 and 60) employ stud frame construction rather than heavy timber framing and so their structural framing members are not visible. Nevertheless, their construction materials would have salvage value, probably for recycling into other manufactured wood products. Both buildings employed 2" by 4" wood studs in the framing, as well as diagonal board sheathing beneath the exterior plaster walls. Building 1 in particular, due to its large floor area, could yield appreciable quantities of salvageable building materials.

None of the buildings have many elements that might be salvaged for their architectural value, rather than for their raw materials, either for reuse or recycling Perhaps elements such as exterior sliding doors on the 800 series warehouses could be sold for reuse, but the overall salvage value of those structures is not likely to be greatly affected whether the material is salvaged for reuse or for recycling. The cost estimates provided in Chapter 5.1.3 include general allowances for removal and appropriate disposal of hazardous building materials but do not include remediation costs to clean up any potential site contamination, nor removal of pilings below grade.

3.2.3 Demolition and Hauling

The demolition and hauling cost estimates provided are based on the assumption that the buildings would be knocked down and all materials hauled away and disposed of at an appropriate landfill without attempting to salvage them for reuse or recycling into other products. The estimates include allowances for the removal of floor slabs and footings as well as all building materials, but not removal of pilings below grade. These costs, presented in Chapter 5.1.3, include general allowances for removal and appropriate disposal of hazardous building materials but do not include remediation costs to clean up any potential site contamination. Estimation of such costs was beyond the scope of this study.

3.2.4 Partial Retention

In the case of the 800 series warehouses, represented in this study by Building 808, the option of retention and rehabilitation of only a portion of the building was also considered. Several of the warehouses, including Building 808, are located partially within the Gateway Development Area and the Port Development Area. It is anticipated that a new street will be required along the boundary of the two areas which, together with the Port's planned development, would require at least partial demolition of one or more of these warehouses.

Partial demolition of an historic resource clearly results in a loss of historic fabric, and depending on the extent of the demolition, can also result in a loss of integrity. If a portion of the building is demolished to the extent that the building's form, plan, spatial organization, scale and materials are substantially altered or lost, it would no longer retain integrity of design and/or materials. Loss of substantial portions of a building would also adversely affect its associative values that link it with important historic events.[2] All of these attributes, particularly its grand scale, are essential physical features of Building 808.

There is no hard and fast rule regarding how much of a building would have to be retained to avoid a loss of its essential physical features and design integrity. However if half the structure were to be demolished, and probably much less, a clear loss would result and the structure would likely lose its eligibility for the National Register of Historic Places. As with relocation, partial retention should only be seriously considered when it is the only viable alternative to demolition, with the knowledge that it may disqualify the resource and/or the district for National Register eligibility.

The option of partial retention for Building 808 is presented and discussed in Chapter 5.2.5. For purposes of cost estimation, it was assumed that 50 per cent of the structure's area would be retained, though this may not be sufficient to ensure maintenance of its integrity.

3.3 Summary of Options

In summary, the following options were considered potentially feasible for each structure and cost estimates for each have been provided in Chapter 5.

Table 3.1 Summary of Options for Alternatives to Reuse

Building 1	Reuse, Selective Demolition and Salvage, Demolition
Building 60	Reuse, Relocation, Selective Demolition and Salvage, Demolition
Building 88	Reuse, Relocation, Selective Demolition and Salvage, Demolition
Building 99	Reuse (2 options), Selective Demolition and Salvage, Demolition
Building 808	Reuse (3 options), Selective Demolition and Salvage, Demolition, Partial Retention
Building 812	Reuse (2 options), Selective Demolition and Salvage, Demolition,

Endnotes for Chapter 3

[1] National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation. U.S. Department of the Interior, National Park Service, 1991, pp. 29-30. When an individually eligible moved property is significant under Criterion A, it must be demonstrated to be "the single surviving property most importantly associated with a particular historic event" to retain its National Register eligibility. Since portions the Oakland Army Base were determined eligible for the NRHP as a district rather than as individual resources under Criterion A, it is difficult to assess the impact of moving a given structure on the district's eligibility. However, moving is likely to disqualify the relocated building from NR eligibility as a district contributor because its historical associations would likely be considered directly dependent on its location.

[2] Ibid. See Part VII, p. 44-49, for a discussion of the aspects of integrity.

Chapter 4 Development of Building Rehabilitation Options

4.1 Methodology and Assumptions

The consultant team's methodology in approaching this project began with a thorough investigation of the individual building histories. This included archival research as well as field visits to the buildings. The team visited and photographed each building at the outset of the study. The photographs, along with the Army's construction drawings and maintenance record files, were then reviewed and analyzed. Other relevant reports from the Army's and OBRA's files were also reviewed. The existing structures were analyzed to understand their original design, use and layout and identify later alterations, based on both observation and archival plans and photographs. The consultant team than identified and weighed the various options for building reuse that would be appropriate given the historic qualities and features of each building which, at the same time, would be consistent with the goals of the Amended Draft Final Reuse Plan for the Base. These options were then narrowed down to the proposals presented in the following chapters. They the basis for the cost estimates for building reuse and rehabilitation presented below in Chapter 5.

4.1.1 Development of Schematic Layouts for Adaptive Reuse Options

Once one or two potential reuse schemes were identified for each of the six buildings, the next stage of the study focussed on identifying specific rehabilitation work that would be required to accommodate them. The buildings were revisited as required to identify building components and systems that would need to be upgraded as part of a rehabilitation and/or adaptive reuse scheme. The upgrade might be necessitated by code-mandated requirements, deferred maintenance, the need for greater energy efficiency and/or general modernization needs. In addition, missing or altered historic features were noted so that their appropriate repair, rehabilitation or replacement in kind, consistent with the *Secretary of Interior's Standards for Rehabilitation*, could be included in the scope of the rehabilitation scheme and the corresponding cost estimates.

The rehabilitation and reuse schemes were developed in the form of schematic plan diagrams which provide a general guide to the types of improvements that would be included in each building rehabilitation scheme. A more detailed list of improvements for each reuse option, organized according to standard building systems and specification sections, was then prepared and keyed to each diagram. From these diagrams and list of recommended improvements, the cost estimator, Davis Langdon Adamson, then prepared the cost estimates. These are presented in summary form in Chapter 5, along with the reuse diagrams prepared by Ripley Architects. These diagrams show reuse intent but should not be construed as actual floor plans. They demonstrate how to use the space in the most efficient way, minimize significant structural and architectural changes, and preserve and restore the historic qualities of the buildings.

Appendix A includes the detailed list of improvements that corresponds to each plan diagram, as well as the more detailed cost estimate worksheets from which the cost estimate and budget summaries found in Chapter 5 were prepared.

4.1.2 Health and Safety and Disabled Access Code Compliance Issues

It was decided early in the process of this investigation to recommend the reutilization of the buildings for the same or similar purpose for which they were originally designed and, in most cases, for which they are currently being used for the following reasons:

- The existing uses appear to correspond to potential uses listed in the Amended Draft Final Reuse Plan for the Base and
- Change in use often necessitates more extensive remodeling, and may trigger required code upgrades and adversely affect the historic features and character of historic buildings.

In order to make the buildings usable for the next 50 years or so, a major concern was whether they could be made compliant with current codes. For the uses that have been proposed, the team determined that they could be made code compliant. The necessary work to achieve compliance is covered in the scope of work descriptions and the cost estimates presented in Chapter 5.

The buildings were assessed according to various model codes in use in the United States, however the primary code referred to was the State Historical Building Code (SHBC). The intent of the State Historical Building Code is to protect California's Architectural Heritage by recognizing the unique construction problems inherent in historic buildings and offering an alternative code to deal with these problems. The code provides for alternative regulations for the rehabilitation, preservation, restoration or relocation of structures designated as historic buildings. The rehabilitation recommendations would bring each building into line according to the standards for rehabilitation. The code provides for a cost effective approach to preservation, it also provides for occupant safety, encourages energy conservation and facilitates access for people with disabilities.

The International Conference of Building Officials publishes the Uniform Building Code (UBC). It is the code referenced by the California Building Code (CBC) and used by California Jurisdictions. Local jurisdictions generally use a combination of state law and the CBC for enforcement purposes. The 1997 UBC contains a provision relating to historic structures, Section 3403.5, which encourages code enforcement officials to consider retaining historic and architectural integrity while providing for an acceptable level of life safety.

The State Historical Building Code has been used as the primary code reference. This code cross-references the California Building Code, which goes beyond Section 3403.5 by providing a specific and comprehensive set of alternative regulations. The SHBC is contained in Part 8, Title 24 California Code of Regulations. Title 24 (California Building Standards Code) contains all state agency regulations relating to building construction. State law requires that all jurisdictions maintain a copy of Title 24.

Aside from structural code compliance issues, discussed above, the major area of non-compliance in the existing buildings relates to exiting in general, and access for people with disabilities as required to meet the provisions of the Americans with Disabilities Act, which was passed after the buildings were constructed. Several of the buildings were designed primarily for vehicular access and are flanked with continuous loading docks and warehouse sliding doors. Appropriate code compliant access doors and hardware, and access ramps have been included in the scope, for this reason. Sprinkler system upgrades, new elevators and stairs have also been added where required. Toilet rooms have been modified and new fixtures called for as appropriate. The diagrammatic

studies and scope of work descriptions in the following chapter demonstrate what needs to be done to accommodate changed uses and satisfy current building codes. The cost estimates incorporate what is described in the written scopes and what is shown in the diagrams.

Codes consulted as part of this study include the following:

- *California Code of Regulations; Title 24, part 8* - California Historical Building Code
- *Uniform Building Code, 1997*
- *American with Disabilities Act*
- *National Fire Protection Association Standards.*

4.1.3 Structural and Seismic Code Compliance Issues

As input to the study of the reuse potential of these historic buildings, Rutherford & Chekene, structural engineers, made a determination of structural improvements that would likely be judged appropriate for the proposed uses. This evaluation was conducted at a planning level.

A preliminary structural and seismic assessment of each building was performed. The assessment consisted of a brief review of available drawings and reports, a single site visit by an experienced structural engineer to observe conditions that are exposed to view, and completion of a seismic assessment checklist using FEMA's *NEHRP Handbook for the Seismic Evaluation of Existing Buildings*. The findings were used to establish the general nature and scope of measures needed to correct identified structural deficiencies so that overall building rehabilitation costs could be estimated. A more detailed evaluation of each structure would be necessary to establish a scope for actual building rehabilitation.

In general, the buildings appeared to be well maintained by the Army during their tenure. Since decommissioning of the Base, however, maintenance has been deferred and deterioration of some of these older structures has commenced. At this time, the observed deterioration does not appear to have led to any appreciable structural damage. Observed distress in the buildings is generally limited to the effects of settlement, which is discussed below. Because all of the subject buildings are flexible wood or steel construction, they are able to accommodate these settlements with little adverse impact on structural elements. Based on the lack of structural damage, distress and deterioration, the buildings are judged adequate to support loads imposed by occupancies similar to those housed in the past, in accordance with the "test of time" provisions of California's *Historical Building Code*.

The Army Base is sited on bay margin that was reclaimed between 1894 and 1930 using hydraulically placed dredged material topped with dry fill placed over the underlying soft bay mud.[1] Substantial settlement of the site has occurred over the subsequent years due to the weight of the added fill. The superstructures (not the floors on grade in the warehouses) of the subject buildings, with the exception of the 800 series warehouses (Buildings 802 – 808) were founded on wood piles to protect against settlement. Unfortunately, the piles were driven to too shallow a depth in many cases and the result has been building settlement. By way of example, a geotechnical investigation report prepared by Dames and Moore in 1947 indicated that Building 1 had already experienced nearly 5 inches of differential settlement from the northwest corner to the center line of the building in the 5 years since its original construction.[2] Other buildings and portions of some wharves were found to be severely damaged in 1947 by Dames and Moore due

primarily to problems with the pilings. Some structures had to be completely or partially demolished.[3] However, Building 1 remained in service and the Army adopted a maintenance approach of periodic re-leveling of the building to address the settlement problem.

It is expected that the on-going effects of settlement are tolerable in all of the buildings with the exception of Building 1, due to its presumed continued office use. Army building maintenance records indicate that Building 1 was re-leveled in 1965 and again 1986. It is considered likely that it was also re-leveled prior to that time. Re-leveling has been accomplished in this two-story building by installing jacks or shims where the floor framing is attached to the individual pile cap or pier. Since the first floor of Building 1 is some two to three feet above grade, this area is accessible via the crawl space below the first floor for installation of the shims.

Based on visual observations, Building 1 is currently in need of re-leveling. Therefore it is recommended that re-leveling occur in conjunction with any substantive rehabilitation. The costs for that work are included in the rehabilitation cost estimates for Building 1, presented in Chapter 5. Structural intervention to eliminate future settlement has not been considered because of its high cost. Therefore, it should be expected that the building will continue to settle even after rehabilitation and that there will continue to be nuisance cracking of finishes that would require periodic repair over approximately 20 years until any future re-leveling should occur.

Associated with converting the buildings from military control, conformance with the seismic requirements of the California Building Code will likely be required for the structures.[4] For purposes of this study it is assumed that compliance will be required. Therefore, the applicable requirements would be the seismic provisions of the 1998 California Historical Building Code. Typical of older buildings, the structures do not presently meet these requirements for seismic resistance. In fact, they have essentially no provision for lateral force resistance. From a structural perspective, seismic improvement is where the major costs associated with reuse occur and it is the focus of this portion of the study.

Seismic bracing is proposed to achieve better seismic resistance in conjunction with the rehabilitation and reuse options for all of the buildings which are the subject of this study. The bracing would be accomplished by the addition of new steel braced frames, including new foundation piles (micropiles) installed beneath the lateral-force-resisting elements. This decision is based on two factors: the expectation that the existing piles have little capacity for downward loads and the knowledge that they have essentially no capacity to resist uplift.

The Army Base also has a high potential for liquefaction during design earthquake events, resulting in probable ground settlements of several inches.[5] Although these buildings are quite flexible, these distortions should be expected to result in greater than average damage to the buildings. In the proposed seismic rehabilitation schemes, no work is proposed to mitigate the effects of liquefaction due to the high costs associated with such a program.

4.1.4 Rehabilitation Standards for Cost Estimating Purposes

The recommended level of improvements suggested if these buildings are rehabilitated as outlined in the following chapter was based on incorporating efficient planning strategies, while rehabilitating the buildings using elements, materials and systems appropriate to the original

historic character of the buildings. The consultants attempted to maintain existing plan elements and architectural features wherever possible.

In selecting a construction quality level for rehabilitation the following standards were used:

- The investment should provide for 50 years of further utilization,
- All exterior systems and materials should be similar to the historic materials and systems,
- Interior finishes and elements in public areas would be consistent with historic elements, however contemporary technologies such as elevators, security systems, lighting, fabrics and flooring would be used
- All systems and materials would be refurbished to the same level, unless they could meet the time test without refurbishment.

The cost estimating methodology for this study does not include costs for parking, landscaping or any site improvements other than foundation drainage, nor does it include costs for geotechnical remediation of any site contamination.

Endnotes for Chapter 4

[1] For more information on underlying soil conditions see OAB Utility Study – Geotechnical Review by Earthtech (and Geomatrix), April, 2001, as well as Report on Foundation Investigation and Studies of Proposed Oakland Port and General Depot prepared for Bechtel-McCone-Parsons Corporation by R. V. Labarre, Foundation Engineer, May-June, 1941.

[2] Dames and Moore. Structural Damage and Recommendations Foundation Investigation – Oakland Army Base, Oakland, California. March 28, 1947. Report prepared for War Department, Corps of Engineers, San Francisco District.

[3] Among the adversely affected structures were Building 120 (Marine Warehouse); Wharf 5 and Transit Shed 5; Wharf 6, Ramp and Shed 6A; and Classification Shed 7A. All of those buildings have been demolished and the wharves repaired. The Dames and Moore engineering study was to have included the 800 series warehouses, but they were eliminated from the scope of work. Although there was some unequal settlement present in the area of those structures, the problem was deemed minor.

[4] Based on our understanding of Oakland Ordinance 012150 (6/22/99), the City may issue a Limited Duration Certificate of Occupancy for uses that the Building Official and Fire Marshal find will be no more hazardous, based on life and fire risk, than the existing use. Although it may be possible to extend the duration of this certificate beyond the maximum seven year phase-in period - possibly indefinitely - by enactment of future legislation, this possibility is speculative. Therefore it was assumed for purposes of this study that compliance with the CBC and SHBC would be required for rehabilitation work.

[5] Earthtech. op. cit.

Bibliography

Andrews, Pamela and Stephen Turner. Oakland Army Base Transit Shed (Building 161) HAER No. CA-125-A. Tri-Services Cultural Resources Research Center. U.S. Army Construction Engineering Research Laboratory, January, 1992.

Bechtel-McCone-Parsons Corp. "Proposed Additions – Port and General Depot "Program C-1." U.S. Army Oakland, California. Engineering Report No. 1282-2, Rev. 1, December 1941.

Dames and Moore. Structural Damage and Recommendations Foundation Investigation – Oakland Army Base, Oakland, California. March 28, 1947. Report prepared for War Department, Corps of Engineers, San Francisco District.

Earthtech and Geomatrix. OAB Utility Study – Geotechnical Review. April, 2001.

Fine, Leonore and Jesse A. Remington. The Corps of Engineers: Construction in the United States. United States Army in World War II, the Technical Services. Center of Military History, Office of the Chief of Military History, United States Army, Washington, D.C., 1972.

Fox, T. H. History of Transportation Division S.F.P.E. for period of World War II. Part of the "James A. Sulllivan Papers", Box 3. Park Archives Collection, Golden Gate National Recreation Area, Presidio of San Francisco, December 10, 1945.

Gayer, George F. The Iron Men of Hendy. In-house publication by the Marine Division of Westinghouse available at the Iron man Museum, Sunnyvale California. Compiled from the original manuscript in 1985

Hagwood, Joseph J. Engineers at the Golden Gate. San Francisco, Calif.: U.S. Army Corps of Engineers, San Francisco District, 1982.

Hamilton, James W. and William J. Bolce, Jr. Gateway to Victory. Stanford (Palo Alto), California: Stanford University Press, 1946.

Hermann Zillgens Associates. Historic Preservation Plan – Oakland Army Base, CA. Prepared for US Army Corps of Engineers, Sacramento District, December 1994.

JRP Historical Consulting Services. Letter Report on the Impact of the Cypress Structure Project on the Oakland Army Base Historic District, for URS Corporation, December, 2001.

JRP Historical Consulting Services. Supplemental Cultural/Historic Resources Analysis – Oakland Army Base Area Redevelopment Plan EIR, for Foster Wheeler Environmental, March 15, 2000.

King, Gregory. Historic Architecture Survey Report, Part VII: Subarea D: Oakland Army Base. Office of Environmental Analysis, Department of Transportation, Sacramento, California, August 1990.

Kriv, Arlene R. (ed). World War II and the U.S. Army Mobilization Program: A History of the 700 and 800 Series Cantonment Construction. United States Department of Defense Legacy Resources Management Program with the United States Department of the Interior – National Park Service, Cultural Resources. 1992.

Labarre, R. V. Report on Foundation Investigation and Studies of Proposed Oakland Port and General Depot. Prepared for Bechtel-McCone-Parsons Corporation, May-June, 1941.

Minor, Woodruff. Pacific Gateway – An Illustrated History of the Port of Oakland. Oakland, California: Port of Oakland, 2000.

National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation. U.S. Department of the Interior, National Park Service, 1991.

Sullivan, James A. Chapter 14 – Fort Mason Overflows as the Nation Awakens and Girds for War. Unpublished manuscript – "James A. Sullivan Papers", Box 4. Park Archives Collection, Golden Gate National Recreation Area, Presidio of San Francisco, No date.

"This is Hendy." In-house publication by the Joshua Hendy Iron Works, Sunnyvale, California, c. 1947. Available at the Iron Man Museum, Sunnyvale, California.

Weeks, Kay D. and Anne E. Grimmer. The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & reconstructing Historic Buildings. Washington, D. C.: U. S. Department of the Interior, National Park Service - Heritage Preservation Services, 1995.

United States Army. "Oakland Army Base - A Pictorial History and Official Closure Program." United States Government Printing Office, 1999.

Chapter 5 Cost Estimates for Buildings: Rehabilitation, Relocation, Demolition and Deconstruction

5.1 Cost Estimating Methodology and Assumptions

Cost Planning is both an art and a science. The art of cost estimating forecasts the future value of construction. The science aspect analyzes vast amounts of past and present data and synthesizes the information into applicable functions. Davis Langdon Adamson has utilized thousands of differing projects and compiled the data systematically into building component cost systems.

Davis Langdon Adamson utilizes a component cost system that separates elements of the building according to its' function. The main categories or functions of a building are the shell, the interior finishes, equipment, mechanical systems and site work. We take these functions and further define them in terms of individual characteristics. For example, the building shell is composed of foundations, vertical structure, floor and roof structure, exterior cladding, roofing and waterproofing.

As an example, the individual characteristics are further refined by the components that make up the foundation such as concrete, reinforcing steel, formwork and footing drainage. Our typical unit rates include labor and material. This allows for historical comparison to previous work and bid evaluations.

The cost estimating methodology for this study does not include costs for parking, landscaping or any site improvements other than foundation drainage, nor does it include costs for geotechnical remediation of any site contamination.

Assumptions

The following estimates are based on the measurement and pricing of quantities wherever information is provided and/or reasonable assumptions for other work not covered in the drawings or specifications, as stated within this document. Unit rates have been obtained from historical records and/or discussion with contractors. The unit rates reflect current bid costs in the area. All unit rates relevant to subcontractor work include the subcontractor's overhead and profit unless otherwise stated. The mark-ups cover the costs of field overhead, home office overhead and profit and range from 15% to 25% of the cost for a particular item of work.

Pricing reflects probable construction costs obtainable in the project locality on the date of this statement of probable costs. This estimate is a determination of fair market value for the construction of this project. It is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the construction work for all subcontractors and general contractors, with a minimum of 4 bidders for all items of subcontracted work and 6-7 general contractor bids. Experience indicates that a fewer number of bidders may result in higher bids; conversely an increased number of bidders may result in more competitive bids.

Since Davis Langdon Adamson has no control over the cost of labor, material, equipment, or over the contractor's method of determining prices, or over the competitive bidding or market

conditions at the time of bid, the statement of probable construction cost is based on industry practice, professional experience and qualifications, and represents Davis Langdon Adamson's best judgment as professional construction consultant familiar with the construction industry. However, Davis Langdon Adamson cannot and does not guarantee that the proposals, bids, or the construction cost will not vary from opinions of probable cost prepared by them.

Exclusions include: Owner supplied and installed furniture, fixtures and equipment; loose furniture and equipment except as specifically identified; security equipment and devices; audio-visual equipment; hazardous materials handling, disposal and abatement other than allowances shown in Section 14.0 of the component budgets located in the appendix; compression of schedule, premium or shift work, and restrictions on the contractor's working hours; design, testing, inspection or construction management fees; architectural and design fees; scope change and post contract contingencies; assessments, taxes, finance, legal and development charges; environmental impact mitigation; builder's risk, project wrap-up and other owner provided insurance program; land and easement acquisition; and cost escalation beyond a start date of October 2003.

Estimates have been prepared for four circumstances which may occur: rehabilitation of the buildings; moving the buildings; demolishing the buildings and salvaging material for reuse (deconstruction); and demolishing them.

5.1.1 Rehabilitation

Reuse of six existing buildings of various sizes, structures and materials is analyzed herein. We have included the cost for basic seismic upgrades to each building including steel brace frames and shearwall improvements.

Building shell improvements include upgrades to existing foundations and piers, wall and floor framing renovation with cladding, patching, new doors or windows where required, and new roofing as called out in specifications.
Interior finishes typically include new steel stud framing as required with gypsum board surfacing, new doors, frames and hardware to match existing, all new interior finishes on floors, walls and ceilings.

Equipment includes basic wayfinding signage, new ADA compliant toilet partitions and accessories, core area cabinetry. Vertical transportation includes hydraulic elevators as specified, upgrade to existing stairwells and new ramps.

Plumbing includes reuse of existing piping as much as possible with new fixtures and water heating. HVAC includes restoration work, new work as specified and mechanical ventilation at restroom facilities. No fire suppression is included except at the telecom room in Administration Building #1.

All building rehab costs include selective demolition with an allowance for hazardous material removal. The hazardous material allowances are subject to revision based on certified friability and quantification of lead and asbestos. No site work or site utilities are included. We have allowed for hookup of existing utilities.

The scope of rehabilitation work estimated in this study was limited to interior and exterior building improvements only. Limited exterior improvements beyond the building envelope were included

in the cost estimates, such as required handicapped ramps, exterior stairs, limited improvements to truck loading docks and foundation drainage. Site improvements such as grading, paving, parking area improvements, landscaping, walkways and so on were not included, nor was geotechnical remediation of any site contamination.

The rehabilitation cost estimates for each building are summarized in Chapter 5.2; the detailed cost estimates are found in Appendix A. The planned construction costs are stated in April 2002 values. A contingency for design development and an allowance for rising construction costs was added to those values to generate the recommended budget numbers (bottom line values) for October of 2003.

5.1.2 Relocation

Building moving is very generalized and subject to several caveats. First, no restrictions such as bridges, height limitations or ground improvements have been included. Second, we have assumed that the following structures can be sawn into moveable parts at an appropriate column line. Third, no road restrictions are allowed for in this pricing regime. Cost estimates for relocation include allowances for new building foundations at the receiving site, but do not include land acquisition costs. It was assumed that they would be relocated on the Base on publicly owned land. As discussed in Chapter 3.2.1, only the Cafeteria and Storehouse were considered for relocation, as the other buildings would involve substantially more cost due to construction and size considerations or may be impractical or impossible to move because of their size, their lack of structural floor diaphragms or both,

Table 5.1 Building Relocation Cost Estimates

Building	Building SF	$ / SF to Move	$ / SF to Rehab	Cost to Move $	Cost to Rehab $	Total Cost to Relocate $
Building 60 Cafeteria	13,250	36.00	259.74	477,000	3,442,000	3,919,000
Building 88 Storehouse	11,134	26.67	135.05	296,000	1,504,000	1,800,000

5.1.3 Selective Demolition and Salvage/ Demolition and Hauling

In order to estimate salvage value, DLA talked to several lumber and systems salvage companies. Without a more detailed appraisal by individuals who operate such a business, which exceeds the scope of this report, DLA has applied varied percentage values to materials that can be salvaged, based on the general condition and demand for specific building elements in each of these buildings. If this aspect of the study needs further substantiation a process should be established to receive accurate quotations from companies who do deconstruction and salvage work.

The buildings can be demolished in either of two ways:

- Selective demolition and salvage
- Demolition and hauling

Demolition and hauling is less expensive overall, but results in none of the materials being reused; they would simply be hauled away to a landfill. Selective demolition allows the material to be protected so that it is salvageable and therefore reusable in another location or in another form.

Demolition and salvage values are similar to commodities; the price is supply and demand driven. In other words, as the economy cools, less demand for salvaged materials tends to depress prices. As the economy heats up, the demand forces prices to increase. We have chosen a mid range unit rate for assumptions both in demolition costs and salvage values.

The demolition/ salvage unit rate includes separation of all building materials and hauling to appropriate sites. For instance, the concrete slabs and footings would be broken up and hauled either to the landfill or to an appropriate site to be used as rip-rap. Electrical wiring and copper plumbing would be sent to a recycling center. Wood members would be separated and stacked by size. All other non-recyclable material would go to the landfill.

Cost estimates for deconstruction/salvage and straight demolition were provided for all six structures. The following summary table details the estimated demolition costs (Table 5.2). The cost estimates are based on total building volume in cubic feet multiplied by a per cubic foot cost. Chart 1 shows the cost of selective demolition to allow materials to be salvaged, the projected salvage value of the materials and the net total demolition costs that would result if the material is salvaged for its estimated value. Unit costs for demolition are higher under this scenario due to the labor involved in removing or separating items by hand.

Chart 2 shows the cost of demolition for each building with no salvage of materials, but does include hauling and disposal of debris. The demolition unit rate includes a large bulldozer and dump trucks to haul the demolished pile of building materials to a landfill. Both rates include removal of slabs and footings and all building materials, plus all dump fees. Removal of pilings below grade is not included in either scenario. A mark-up of up to 20% for budget and planning purposes should be added to the individual values in all charts to allow for fluctuations in market conditions. This mark-up is reflected in the total cost shown at the bottom of Charts 1 and 2. Demolition costs for the buildings can be substantial. For the six buildings studied, the total cost for demolition and salvage could exceed that for demolition and hauling by up to approximately $1.1 million, depending on market conditions at the time.

Table 5.3 compares the cost of selective demolition and salvage to straight demolition and hauling (with no salvage). The findings indicate that selective demolition or deconstruction and salvage would be more expensive than straight demolition with no salvage, as the increased labor costs would not be offset by the salvage value of the material. This assumes that labor costs are at market rate, not subsidized by government agencies as is sometimes the case for this type of work. A mark-up of up to 20% for budget and planning purposes should be added to these individual values to allow for fluctuations in market conditions.

The demolition cost estimates include general allowances for removal and appropriate disposal of hazardous building materials but do not include remediation costs to clean up any potential site contamination. Estimation of such costs was beyond the scope of this study.

Table 5.2 Demolition Cost Estimates (with and without salvage)

Building	*Total CF*	*$/ CF*	*Demolition Costs*	*Salvage Factor*	*Salvage Value $*	*Total Cost*
Selective Demolition/ Salvage - Chart 1						
Building #1, Administration	4,860,000	0.35	1,701,000	15.00%	255,150	1,445,850
Building #60, Cafeteria	291,500	0.25	72,875	15.00%	10,931	61,944
Building #88, Storehouse	445,360	0.15	66,804	15.00%	10,021	56,783
Building #99, Shop	2,294,250	0.15	344,138	15.00%	51,621	292,517
Building #808, Warehouse	6,074,640	0.15	911,196	15.00%	136,679	774,517
Building #812, Vehicle Maintenance Shop	458,625	0.15	68,794	15.00%	10,319	58,475
Markups				20.00%	2,690,085	538,017
						3,228,102
Demolition/ Haul Away Only - Chart 2						
Building #1, Administration	4,860,000	0.20	972,000			972,000
Building #60, Cafeteria	291,500	0.20	58,300			58,300
Building #88, Storehouse	445,360	0.08	35,629			35,629
Building #99, Shop	2,294,250	0.08	183,540			183,540
Building #808, Warehouse	6,074,640	0.08	485,971			485,971
Building #812, Vehicle Maintenance Shop	458,625	0.08	36,690			36,690
Markups				20.00%	1,772,130	354,426
						2,126,556

Table 5.3 Selective Demolition and Salvage Costs Compared to Demolition Costs

Building	Demolition Cost with Salvage	Demolition Cost without Salvage	Cost Difference
1 Administration	$ 1,445,850	$ 972,000	$ 473,850
60 Cafeteria	61,944	58,300	3,644
88 Storehouse	56,783	35,629	21,154
99 Shop Building	292,517	183,540	108,977
808 Warehouse	774,517	485,971	288,546
812 Vehicle Maintenance Shop	58,475	36,690	21,785

x7= 2,019,822

5.1.4 Partial Retention of Building 808

$2649232

In the case of the 800 series warehouses, represented in this study by Building 808, the option of retention and rehabilitation of only a portion of the building was also considered. Several of the warehouses, including Building 808, are located partially within the Gateway Development Area and the Port Development Area. It is anticipated that a new street will be required along the boundary of the two areas which, together with the Port's planned development, would require at least partial demolition of one or more of these warehouses This option is presented and discussed in section 5.2.5 of this chapter.

5.2 Building Rehabilitation Recommendations and Cost Summaries

5.2.1 Building 1: Administration

Rehabilitation Recommendations

Building 1 was built in 1942 as the base Administration Building and served as office use. The floor plan has been altered from the relatively open plan layout by the addition of numerous modern interior partitions. Building 1 lends itself to its historic use - office or educational space due to the current plan layout, as well as minimizing the need for code mandated upgrades if other uses were proposed. Some of the interior and exterior elements have been altered, and we recommend that if this building is rehabilitated, it be restored to its original historic appearance.

Generally the condition of the building is in good shape, but improvements will be required for tenant occupancy if the building is rehabilitated. Improvements above and beyond the following minimally outlined requirements, would be provided by the future tenants. The following is a brief description of specific proposed component recommendations. The costs below do not address the site contamination issues under the building.

Reuse Option: Multi-Tenant Office

Size: 162,000 gross sf
Occupancy: Group B (office), alternate Group E (educational)

The proposed schematic diagram is located at the end of this section. Ideally several large tenants can more cost effectively occupy the space. Our design proposal would create 4 cores at the existing bathrooms, to allow them to be used by specific tenants, or several tenants, in a subdivided space. Each wing lends itself to a single tenant use. The proposed layout would accommodate one tenant occupying both floors of a wing, or separate tenants on different floors. More subdivisions of the space would require additional cost due to occupancy separation requirements, additional rated corridors and the possible need for increased vertical circulation (not included in estimate). The central area of the building would remain accessible to all tenants for general and ADA access. This area would also contain core building systems and maintenance areas, as well as smaller tenant spaces, which may include food service or retail. Several new entry points would serve larger tenants and provide required emergency egress.

The cost estimate component summary for Building 1 is outlined below. This is followed by a descriptive summary of the buildings' proposed rehabilitation components for this reuse option.

BUILDING #1, ADMINISTRATION COMPONENT SUMMARY

Gross Area: 162,000 SF

		$/SF	$x1,000
1. Foundations		3.96	641
2. Vertical Structure		8.91	1,444
3. Floor & Roof Structures		2.97	481
4. Exterior Cladding		2.59	419
5. Roofing & Waterproofing		4.42	715
Shell (1-5)		22.84	3,700
6. Interior Partitions, Doors & Glazing		5.65	915
7. Floor, Wall & Ceiling Finishes		13.99	2,266
Interiors (6-7)		19.64	3,181
8. Function Equipment & Specialties		2.58	418
9. Stairs & Vertical Transportation		1.70	275
Equipment & Vertical Transportation (8-9)		4.28	693
10. Plumbing Systems		3.10	502
11. Heating, Ventilating & Air Conditioning		9.00	1,458
12. Electric Lighting, Power & Communications		19.25	3,119
13. Fire Protection Systems		0.09	15
Mechanical & Electrical (10-13)		31.44	5,093
Total Building Construction (1-13)		**78.20**	**12,668**
14. Site Preparation & Demolition		2.76	446
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		0.46	75
Total Site Construction (14-16)		**3.22**	**521**
TOTAL BUILDING & SITE (1-16)		**81.42**	**13,189**
General Conditions	14.00%	11.40	1,847
Contractor's Overhead & Profit or Fee	6.50%	6.03	977
PLANNED CONSTRUCTION COST	***April 2002***	**98.85**	**16,013**
Contingency for Design Development	12.50%	12.36	2,002
Allowance for Rising Costs	8.00%	8.90	1,441
RECOMMENDED BUDGET	***October 2003***	**120.10**	**19,456**

Building Shell

Some of the building's foundations and footings are in need of repair, and if rehabilitated this would be provided. Additionally, seismic upgrades such as lateral bracing would be required. As a minimum, the building needs to be leveled, as uneven settling has affected the structure. This would greatly effect how tenants can utilize the space in terms of furniture planning and safety. Significant bracing of the vertical structure would be required to meet the CBC. Internal bracing would be preferred to minimize alteration of the historic external appearance. Minimal floor and roof structure upgrades would be required as well.

The addition of several exterior stairs from new first floor exits to grade, would be required for code mandated egress travel distances. Three new accessible ramps would be required as well. Additional stairs may be implemented for emergency egress and/or convenience access if further subdivisions warrant them. Minor sheathing replacement and upgrades to deteriorated exterior finishes would be recommended. New windows and doors would be recommended in some areas, to replace deteriorated or non-historically compatible units. It also would be recommended that the roof be repaired and upgraded, due to leaking and the need to improve its insulation value and efficiency for the entire building. Basic structural and seismic upgrades would be provided per the structural engineer's broad recommendations, including steel brace frames and shear wall improvements. Refer to Chapter 4.1.2 for more information.

Interior Partitions and Finishes

For proposed occupancy separations - new partition framing, surfacing, sound insulation, and doors would be required. Patching and/or replacement of interior wall finishes where seismic bracing is installed would be necessary. Proper handling and disposal of asbestos containing materials and mold removal would be required as well. Finishes to the floors would include carpeting and linoleum. Walls and ceilings would also have to be repaired and repainted.

Equipment and Vertical Transportation

ADA approved signage for emergency egress routes and basic wayfinding would need to be provided. The existing bathrooms would remain as core facilities to serve the entire building; they would be located in common areas, so that all occupants can use them. These bathrooms would be required to be updated for ADA acceptability. This would include new toilet partitions, and accessories. All existing egress stairs will remain, but would need to meet ADA requirements and CBC standards regarding fire ratings, and therefore would have to be enclosed. A minimum of two interior stairs would have to be added, due to non-conforming existing paths of travel. Additionally, the two existing freight elevators would be converted to ADA acceptable passenger elevators. The one existing passenger elevator would also have to conform to ADA standards.

Mechanical and Electrical

The bathrooms noted above would need to be renovated and fitted with new plumbing and fixtures. Roof drainage systems would be tested and updated as required. The existing steam radiators can be restored. Where existing radiators are beyond renovation, new radiators, to match the existing historic ones, would be provided. The existing boilers would be replaced with smaller more efficient units with separate zoned controls. Piping throughout the heating system network

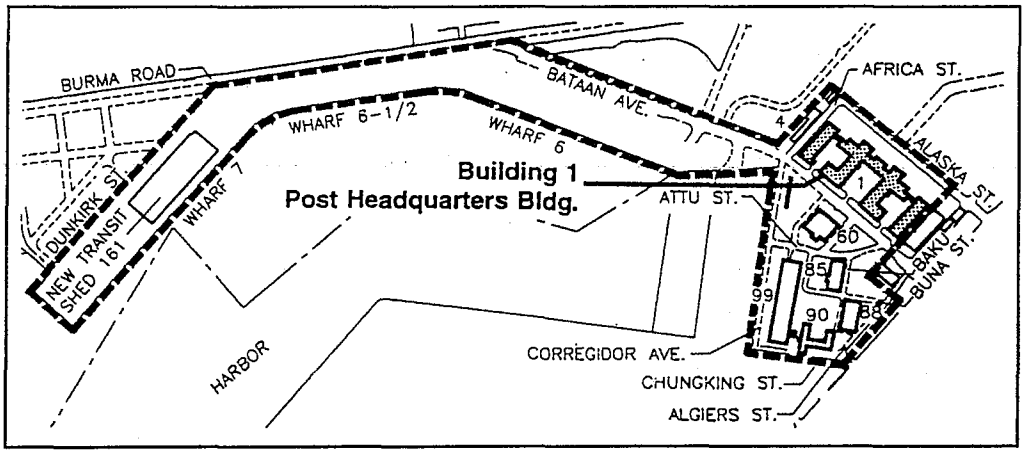
would be replaced, where necessary. A new wet fire protection system would be implemented in the telephone room only, to replace the existing halon system, which is no longer acceptable due to its ozone depleting and toxic characteristics. Fire extinguishers would be provided as required by the CBC, using where possible restored existing extinguishers. The building-wide fire alarm system would be updated or implemented to comply with the CBC. Minimum required air ventilation would be required in areas where fumes are generated and in areas that are internally located, with no exterior window access. Air conditioning would not be required, due to adequate natural building ventilation via operable windows.

Lighting throughout the building would be updated to historically appropriate fixtures at a level of Class-B office space. The tenants would provide additional task lighting. Basic power throughout the building would be updated to accommodate modern equipment, computer networking and phone systems.

Insert Building 1 Schematic Diagram – First Floor

Appendix A Building Rehabilitation Cost Estimate Data

Building 1 Administration



Rehabilitation Cost Estimate Data

Building 1 **Oakland Army Base Reuse**

Proposed Use: Multi-Tenant Office Size: 161,983 gross sf

Occupancy: Group B (Office), Alternate: Group E (Educational)

No.	Section	description
02520	Demolition	
	Site Demolition	Demo existing asphalt paving in (2) side courtyards
	Shell Demolition	Demo Shell in locations as indicated on plans for new entrances
	Interior Partition Demolition	Demo all non-historic interior partitions (see 1941 & 1986 dwgs)
		Demo approx. 20% of existing historic walls for open office space
		Demo acoust. ceiling tile in lobby space, Demo halon sprinkler
		Demo walls as required, for new entrances, lobbies, etc. per plan
1	Building Site	
02070	Selective Protection and Salvage	Refurbish and clean historic trim, woodwork, plaster, sell existing freight elev. cabs for salvage
02080	Hazardous Materials Abatement	Remove asbestos panels, plaster + pipe cov. where encountered
		Remove asbestos-containing vinyl floor tile,1135sf, linoleum,420sf
03300	Cast-in-place concrete	Provide expanded platform in loc. of historic loading dock, per plan
2	Building Shell	
2a	Foundations	R+C see attached notes
02455	Driven Piles	R+C
02480	Foundation Walls	R+C
	Foundation Drainage	R+C
03700	Concrete Restoration and Cleaning	R+C
2b	Vertical Structure	R+C see attached notes
06310	Heavy Timber Construction	R+C
	Columns and Bracing	R+C
2c	Horizontal Structure	R+C see attached notes
06310	Heavy Timber Construction	R+C
	Heavy Timber Roof Construction	R+C
3	Exterior Closure	
06160	Sheathing	Replace 3% of diagonal wood board sheathing
09215	Plaster	Replace 10% of exterior plaster finish system
07200	Insulation	Add blown-in insulation in exterior walls if not insulated
08211	Metal Door Restoration (N)	Refurbish and clean historic metal + glass entrance doors
		Provide approx. (6) single and (8) double doors to match historic
08410	Alum. Entrances and Storefronts	Provide (2) new Storefront entrances to match historic
08515	Metal Windows	Refurbish and clean (E) windows. Provide approx. 25 new windows match (E), where in worst condition
08710	Hardware	Provide new hardware for doors and windows to match existing
4	Roofing	
07510	Built up Bituminous Roofing	Provide (N) bituminous roofing on flat roof
07200	Insulation	Provide ext. rigid insulation on roof, if not already insulated
07720	Roof Accessories	Provide Vents, hatches, curbs and walks as required

Building 1 **Oakland Army Base Reuse**

Proposed Use: Multi-Tenant Office Size: 161,983 gross sf

Occupancy: Group B (Office), Alternate: Group E (Educational)

No.	Section	Description
5		
5a	Interior Partitions	
06200	Finish Carpentry	*Provide necessary wood studs and furring for interior partitions per plan*
09100	Metal Support Systems	*Provide necessary metal studs and furring for interior partitions per plan*
09253	Gypsum Sheathing	Provide over metal or wood framing
09500	Acoustical Systems	Provide Batt insul. in a double stud wall between restrooms, mechanical room and other noise producing spaces
08110	Steel Doors and Frames	Provide approx. 30 new interior rated doors
08410	Alum. Entrances and Storefronts	Provide (30) new interior entrances to match historic
5b	**Flooring Systems**	
09780	Floor Treatment	see finish schedule
5c	**Finishes**	see finish schedule
09300	Tile	see finish schedule
09650	Resilient Flooring	see finish schedule
09680	Carpet	see finish schedule
09900	Painting	see finish schedule
09950	Wall Covering	see finish schedule
6	**Functional Equipment**	
11160	Loading Dock Equipment	Provide necessary equipment to make delivery entrance accessible to delivery trucks
11400	Food Service Equipment	Provide adequate equipment to serve up to 50 people
12356	Kitchen Casework	Provide kitchen cabinetry and counter tops for equip. above
11460	Unit Kitchens	Provide (6-8) staff break room equip. ie. refrig.,counter,sink
7	**Vertical Transportation**	
	Stairs	Provide (10) new conc. exterior stairs to first level per plan Provide (2) new enclosed, rated stairs per plan + nec. foundations Provide rated enclosures around (8) existing stairs
	Accessible Ramps	Provide (3) new conc. exterior ramps to first level
14240	Elevators	Provide (2) new passenger elev. cabs, per code at (E) freight elev.
8	**Mechanical**	
15300	Fire protection	Provide (N) water sprinkler at tel. room, provide FE per code
15400	Plumbing	Update plumbing to accommodate new restrooms per plan
15750	Heat Transfer	Restore existing steam radiators, Provide approx. 40 new radiators to match historic. Verify adequacy of (E) piping, update if nec.
15510	Boiler	Provide (N) energy efficient boilers + controls as req. for tenant sep.
15838	Power Ventilators	Provide as required for ventilation and air circulation
9	**Electrical**	
15050	Basic Electrical Materials & Methods	Update and provide basic power to level of class-b office space
16500	Lighting	Update to class-b off. where (E) fixtures are not historically relevant.
16700	Communications	Update and provide basic telecommunications to level of class-b office space
16900	Building Controls	Provide security and controls systems to level of class-b offices

Building 1 **Oakland Army Base Reuse**

Proposed Use: Multi-Tenant Office Size: 161,983 gross sf

Occupancy: Group B (Office), Alternate: Group E (Educational)

Space	Finish		
	Floor	Base	Walls
General tenant office spaces	4	5,8,(E)	9,10,11
Retail or café spaces	14	8	10,11,12
Building corridors	14	8	9,11
Tenant corridors	2	5	9
Restrooms	3	7	3,9
Service spaces	1,2	13	9
Executive offices, (E) + (N)	4	6,7	9,10,11

Key	
Concrete	1
VCT	2
Ceramic Tile	3
Carpet	4
Resilient base	5
Stone base	6
Tile Base	7
Wood Base	8
Paint	9
New Plaster to match existing	10
Repair Existing Plaster	11
Fabric Panels	12
Unfinished - No gyp. board or base	13
Treated Existing wood floor	14
Unfinished wood decking	15

BUILDING #1, ADMINISTRATION AREAS & CONTROL QUANTITIES

Areas

	SF	SF	SF
Enclosed Areas			
Building #1, Administration	162,000		
SUBTOTAL, Enclosed Area		162,000	
Covered area			
SUBTOTAL, Covered Area @ ½ Value			
TOTAL GROSS FLOOR AREA			162,000

BUILDING #1, ADMINISTRATION COMPONENT SUMMARY

Gross Area: 162,000 SF

		$/SF	$x1,000
1. Foundations		3.96	641
2. Vertical Structure		8.91	1,444
3. Floor & Roof Structures		2.97	481
4. Exterior Cladding		2.59	419
5. Roofing & Waterproofing		4.42	715
Shell (1-5)		22.84	3,700
6. Interior Partitions, Doors & Glazing		5.65	915
7. Floor, Wall & Ceiling Finishes		13.99	2,266
Interiors (6-7)		19.64	3,181
8. Function Equipment & Specialties		2.58	418
9. Stairs & Vertical Transportation		1.70	275
Equipment & Vertical Transportation (8-9)		4.28	693
10. Plumbing Systems		3.10	502
11. Heating, Ventilating & Air Conditioning		9.00	1,458
12. Electric Lighting, Power & Communications		19.25	3,119
13. Fire Protection Systems		0.09	15
Mechanical & Electrical (10-13)		31.44	5,093
Total Building Construction (1-13)		**78.20**	**12,668**
14. Site Preparation & Demolition		2.76	446
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		0.46	75
Total Site Construction (14-16)		**3.22**	**521**
TOTAL BUILDING & SITE (1-16)		**81.42**	**13,189**
General Conditions	14.00%	11.40	1,847
Contractor's Overhead & Profit or Fee	6.50%	6.03	977
PLANNED CONSTRUCTION COST	***April 2002***	**98.85**	**16,013**
Contingency for Design Development	12.50%	12.36	2,002
Allowance for Rising Costs	8.00%	8.90	1,441
RECOMMENDED BUDGET	***October 2003***	**120.10**	**19,456**

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
1. Foundations				
New reinforced concrete footings				
New stairs	12	EA	3,800.00	45,600
New ramps	3	EA	8,000.00	24,000
New elevator pit	2	EA	9,500.00	19,000
Brace frame foundations including excavation, shoring, formwork, reinforcement and	427	CY	325.00	138,667
Structural work				
Existing perimeter footing upgrade	3,500	LF	55.00	192,500
Existing piers	203	EA	550.00	111,375
Miscellaneous metals	1	LS	50,000.00	50,000
Foundation drainage	1	LS	60,000.00	60,000
				641,142
2. Vertical Structure				
Shearwall and bracing				
Plywood and tie-downs	43,200	SF	12.00	518,400
Tube steel reinforcement	36,000	LB	2.50	90,000
New brace frames, two stories each	48	EA	11,000.00	528,000
Columns and pilasters				
Hold-down hardware	1,620	EA	125.00	202,500
Top and bottom plate hardware				
Bolt into existing structure	10,500	EA	10.00	105,000
				1,443,900

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
3. Floor and Roof Structure				
Floor at lowest level				
Reinforced concrete including formwork				
Stairs and ramps	419	CY	375.00	157,292
Suspended floors				
Replace existing wood floors as needed, new joists, blocking and plywood, assume 5% of gross area	8,100	SF	15.00	121,500
Tie into new brace frame system	48	EA	2,100.00	100,800
Roof system				
Replace existing joists, blocking and plywood as needed. Assume 2.5% of gross roof area	2,050	SF	12.50	25,625
Tie into new brace frame system	48	EA	1,575.00	75,600
				480,817
4. Exterior Cladding				
Exterior cladding				
Diagonal sheathing, 3% of area	2,520	SF	8.00	20,160
Plaster, 10% of area	8,400	SF	10.00	84,000
Paint entire building	84,000	SF	1.15	96,600
Exterior wall insulation	71,400	SF	0.95	67,830
Doors, frames and hardware				
Refurbish existing	160	HR	65.00	10,400
New doors to match existing				
Single	6	EA	1,800.00	10,800
Double	8	EA	2,800.00	22,400
New hardware on existing doors	1	LS	12,000.00	12,000

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
Windows				
Aluminum storefront	840	SF	55.00	46,200
New metal windows	625	SF	45.00	28,125
Refurbish existing windows	320	HR	65.00	20,800
				419,315

5. Roofing, Waterproofing & Skylights

Roof insulation				
Rigid insulation, 4"	81,000	SF	4.50	364,500
Roof surfacing				
Built-up roof, with flashing etc.	81,000	SF	3.75	303,750
Traffic pads	600	LF	55.00	33,000
Roof accessories				
Roof access	1	LS	14,000.00	14,000
				715,250

6. Interior Partitions, Doors & Glazing

Partition framing and cores				
New steel stud framing, 18 ga.	72,000	SF	6.00	432,000
Partition surfacing				
New gypsum board, taped, sanded	123,429	SF	2.25	277,715
Existing wall with new gypsum board	9,000	SF	2.25	20,250
Gypsum board underlayment	30,857	SF	2.00	61,715
Sound insulation				
Batt insulation in walls	32,400	SF	0.90	29,160

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
Doors, frames and hardware				
Single	50	EA	1,400.00	70,000
Double	10	PR	2,400.00	24,000
				914,840

7. Floor, Wall & Ceiling Finishes, Class B Office Space

Floor finishes, allowances				
Entry areas, high use quarry tile/ linoleum	4,050	SF	20.00	81,000
Core areas, ceramic tile	12,150	SF	10.00	121,500
Potential office areas, carpet/ VCT	137,700	SF	5.00	688,500
Service areas, sealed surfaces	8,100	SF	1.50	12,150
Wall finishes, allowances				
Entry areas, wood panel, architectural	7,290	SF	15.00	109,350
Core areas, ceramic tile	21,870	SF	12.00	262,440
Potential office areas, paint, acoustic walls	247,860	SF	1.25	309,825
Service areas, paint only	14,580	SF	0.50	7,290
Ceiling finishes, allowances				
Entry areas, gypsum board and soffits, mixed	4,050	SF	12.00	48,600
Core areas, gypsum board	12,150	SF	8.00	97,200
Potential office areas, acoustic ceiling tile	137,700	SF	3.75	516,375
Service areas, exposed structure painted	8,100	SF	1.50	12,150
				2,266,380

8. Function Equipment & Specialties

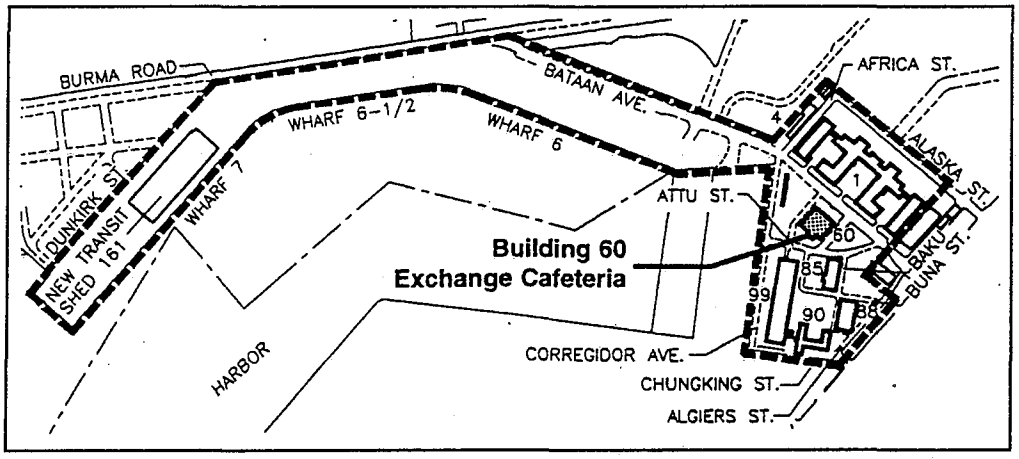
Allowance for wayfinding signage, restore/ refurbish building I.D. signage "Administration"	162,000	SF	0.45	72,900
Partitions & Accessories				
Toilet partitions	108	EA	900.00	97,200
Toilet accessories	270	EA	400.00	108,000

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
Cabinets & Casework				
Reception desk	60	LF	575.00	34,500
Core area counters & cabinets	420	LF	250.00	105,000
				417,600
9. Stairs & Vertical Transportation				
ADA compliance with existing stairs	16	FLT	4,200.00	67,200
New stairs, enclosed, rated	4	FLT	12,000.00	48,000
New hydraulic elevator, two stop	2	EA	80,000.00	160,000
				275,200
10. Plumbing Systems				
New fixtures with realigned piping, supply and vent	146	FX	2,800.00	408,800
Roof drainage	81,000	SF	1.15	93,150
				501,950
11. Heating, Ventilation & Air Conditioning				
Restore existing steam radiators, provide new radiators to match existing, update piping as needed, upgrade energy efficient boilers with	162,000	SF	7.75	1,255,500
Provide ventilation as required at restrooms, IT closets and mechanical rooms	162,000	SF	1.25	202,500
				1,458,000

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
12. Electrical Lighting, Power & Communication				
Update power systems	162,000	SF	6.00	972,000
Update lighting to class b	162,000	SF	8.00	1,296,000
Communications and life safety	162,000	SF	3.00	486,000
Building controls	162,000	SF	2.25	364,500
				3,118,500
13. Fire Protection Systems				
New wet fire protection system at telecom room	2,500	SF	6.00	15,000
				15,000
14. Site Preparation & Building Demolition				
Site demolition	800	HR	55.00	44,000
Shell demolition	1,200	HR	65.00	78,000
Interior demolition	1,536	HR	55.00	84,480
Hazardous material allowance	1,600	HR	150.00	240,000
				446,480

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
15. Site Paving, Structures & Landscaping				
16. Utilities on Site				
Tie into existing utilities, no upgrades	1	LS	75,000	75,000
				75,000

Building 60 Cafeteria



Rehabilitation Cost Estimate Data

Building 60 **Oakland Army Base Reuse**

Proposed Use: Food Service Size: 12,690 gross sf

Occupancy: Group A (Assembly), Division 2.1 (Assembly room with occupant load over 300)

No.	Section	description
02520	Demolition	
	Site Demolition	Demo existing Accessible lift in front of building
	Shell Demolition	Demo non-historic addition, approx. 100 lf + assoc. foundations
		Demo plastered over existing clearstory window openings
		remove (E) non-historic metal windows; approx. 56
	Interior Partition Demolition	Demo existing + non-historic interior partitions, approx. 185 lf
		Demo existing dropped acoustic tile ceiling, ductwork, non-historic suspended sprinkler system, and other associated piping
		Demo (E) kitchen partitions, counters and obsolete appliances
1	Building Site	
02070	Selective Protection and Salvage	Refurbish and clean historic trim, woodwork and historic kitchen elements
02080	Hazardous Materials Abatement	Remove asbestos pipe covering and joints where encountered
		Remove asbestos-cont. vinyl floor tile only in main dining(7,000 sf)
02740	Asphaltic Concrete Paving	Provide allowance for loading dock improvements
2	Building Shell	
2a	Foundations	R+C see attached notes
02455	Driven Piles	R+C
02480	Foundation Walls	R+C
	Foundation Drainage	R+C
03700	Concrete Restoration and Cleaning	R+C
2b	Vertical Structure	R+C see attached notes
06310	Heavy Timber Construction	R+C
	Columns and Bracing	R+C
2c	Horizontal Structure	R+C see attached notes
06310	Heavy Timber Construction	R+C
	Heavy Timber Roof Construction	R+C
3	Exterior Closure	
06160	Sheathing	Replace 10% of diagonal wood board sheathing
09215	Plaster	Replace 10% of exterior plaster finish system
07200	Insulation	Add blown-in insulation in exterior walls
08211	Metal Door Restoration (N)	Refurbish (3) double entrance doors, (4) single entrance doors, if historically compatible. Add (2) new entrance doors to match
08515	Wood Windows	Provide (50) new windows to match historic
		Provide (60) new clerestory windows to match historic
08710	Hardware	Provide new hardware for doors and windows to match existing
4	Roofing	
07510	Built up Bituminous Roofing	Provide (N) bituminous roofing on flat roof
07200	Insulation	Provide Exterior Rigid insulation on exterior of roof
07720	Roof Accessories	Provide Vents, hatches, curbs and walks as required

Building 60 **Oakland Army Base Reuse**

Proposed Use: Food Service Size; 12,690 gross sf

Occupancy: Group A (Assembly), Division 2.1 (Assembly room with occupant load over 300)

No.	Section	Description
5	**Interiors**	
5a	**Interior Partitions**	
06200	Finish Carpentry	*Provide necessary wood studs and furring for interior partitions per plan*
09100	Metal Support Systems	Provide necessary metal studs and furring for interior partitions per plan
09253	Gypsum Sheathing	Provide over metal or wood framing
09500	Acoustical Systems	Provide Batt insul. in a double stud wall between restrooms, mechanical room and other noise producing spaces
08110	Steel Doors and Frames	Provide (8) new interior rated doors per plan
5b	**Flooring Systems**	
09780	Floor Treatment	Refinish maple floor in main dining space only, 7000 sf
5c	**Finishes**	see finish schedule
09300	Tile	see finish schedule
09650	Resilient Flooring	see finish schedule (apply over existing vinyl tile, approx. 3000sf)
09680	Carpet	see finish schedule
09900	Painting	see finish schedule
09950	Wall Covering	see finish schedule
6	**Functional Equipment**	
11160	Loading Dock Equipment	Provide necessary equipment to make delivery entrance accessible to delivery trucks, in historic location
11400	Food Service Equipment	Provide adequate equipment to serve up to 400 people Walk-in coolers to be maintained and reconditioned
12356	Kitchen Casework	Provide kitchen cabinetry and counter tops for equip. above
7	**Vertical Transportation**	
	Stairs	Provide (3) new conc. exterior stairs to first level, per plan
	Accessible Ramps	Provide (3) new conc. exterior ramps to first level, per plan
	Loading Dock	Reinstate conc. loading dock in historic location, per plan
8	**Mechanical**	
15300	Fire protection	Remove susp. sprinkler system, provide extinguishers per code
15400	Plumbing	Update plumbing to accommodate new restrooms per plan
15750	Heat Transfer	Restore existing steam radiators, Provide (-) new radiators
15510	Boiler	Add boiler if req. for load of 4 bathrooms and kitchen uses
15838	Power Ventilators	Provide as required for ventilation and air circulation, including (2) supply and exhaust ducts in coffered surround in main dining
9	**Electrical**	
15050	Basic Electrical Materials & Methods	Update and provide basic power to level of food service
16500	Lighting	Update and provide basic lighting to level of food service
16700	Communications	Update and provide basic telecommunications to level of food service
16900	Building Controls	Provide security and controls systems to level of food service

Building 60 **Oakland Army Base Reuse**

Proposed Use: Food Service Size: 12,690 gross sf

Occupancy: Group A (Assembly), Division 2.1 (occupant load over 300)

Space	Finish		
	Floor	Base	Walls
Main Dining Space	14	8	9
(3) smaller dining spaces	2	5	9
Restrooms	3	7	3,9
Service spaces	2	5	9
Kitchen	2	5	9

Key	
Concrete	1
VCT	2
Ceramic Tile	3
Carpet	4
Resilient base	5
Stone base	6
Tile Base	7
Wood Base	8
Paint	9
New Plaster to match existing	10
Repair Existing Plaster	11
Fabric Panels	12
Unfinished - No gyp. board or base	13
Treated Existing wood floor	14
Unfinished wood decking	15

BUILDING #60, CAFETERIA AREAS & CONTROL QUANTITIES

Areas

	SF	SF	SF
Enclosed Areas			
Building #60, Cafeteria	13,250		
SUBTOTAL, Enclosed Area		13,250	
Covered area			
SUBTOTAL, Covered Area @ ½ Value			
TOTAL GROSS FLOOR AREA			13,250

BUILDING #60, CAFETERIA COMPONENT SUMMARY

Gross Area: 13,250 SF

		$/SF	$x1,000
1. Foundations		11.88	157
2. Vertical Structure		14.83	197
3. Floor & Roof Structures		11.40	151
4. Exterior Cladding		22.47	298
5. Roofing & Waterproofing		9.21	122
Shell (1-5)		69.80	925
6. Interior Partitions, Doors & Glazing		9.14	121
7. Floor, Wall & Ceiling Finishes		17.57	233
Interiors (6-7)		26.72	354
8. Function Equipment & Specialties		22.94	304
9. Stairs & Vertical Transportation		0.00	0
Equipment & Vertical Transportation (8-9)		22.94	304
10. Plumbing Systems		7.07	94
11. Heating, Ventilating & Air Conditioning		17.33	230
12. Electric Lighting, Power & Communications		19.25	255
13. Fire Protection Systems		0.00	0
Mechanical & Electrical (10-13)		43.64	578
Total Building Construction (1-13)		**163.10**	**2,161**
14. Site Preparation & Demolition		9.17	121
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		3.77	50
Total Site Construction (14-16)		**12.94**	**171**
TOTAL BUILDING & SITE (1-16)		**176.04**	**2,333**
General Conditions	14.00%	24.68	327
Contractor's Overhead & Profit or Fee	6.50%	13.06	173
PLANNED CONSTRUCTION COST	***April 2002***	**213.78**	**2,833**
Contingency for Design Development	12.50%	26.72	354
Allowance for Rising Costs	8.00%	19.25	255
RECOMMENDED BUDGET	***October 2003***	**259.74**	**3,442**

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
1. Foundations				
New reinforced concrete footings				
New stairs	3	EA	3,800.00	11,400
New ramps	3	EA	8,000.00	24,000
Loading dock	1	EA	7,500.00	7,500
Brace frame foundations including excavation, shoring, formwork, reinforcement and	107	CY	250.00	26,667
Structural work				
Existing perimeter footing upgrade	630	LF	55.00	34,650
Existing piers	33	EA	550.00	18,219
Miscellaneous metals	1	LS	15,000.00	15,000
Foundation drainage	1	LS	20,000.00	20,000
				157,435
2. Vertical Structure				
Shearwall and bracing				
Plywood and tie-downs	6,840	SF	12.00	82,080
Tube steel reinforcement	9,000	LB	2.50	22,500
New brace frames, one story each	12	EA	5,500.00	66,000
Columns and pilasters				
Hold-down hardware	133	EA	125.00	16,563
Top and bottom plate hardware				
Bolt into existing structure	939	EA	10.00	9,390
				196,533

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
3. Floor and Roof Structure				
Floor at lowest level				
Reinforced concrete including formwork				
Stairs and ramps	197	CY	375.00	73,958
Suspended floors				
Replace existing wood floors as needed, new joists, blocking and plywood, assume 5% of gross area	663	SF	15.00	9,938
Tie into new brace frame system	12	EA	2,100.00	25,200
Roof system				
Replace existing joists, blocking and plywood as needed. Assume 2.5% of gross roof area	331	SF	12.50	4,141
Tie into new brace frame system	12	EA	1,575.00	18,900
Tie into new brace frame system	12	EA	1,575.00	18,900
				151,036
4. Exterior Cladding				
Exterior cladding				
Diagonal sheathing, 10% of area	1,127	SF	8.00	9,014
Plaster, 10% of area	1,127	SF	10.00	11,268
Paint entire building	11,268	SF	1.15	12,958
Exterior wall insulation	9,578	SF	0.95	9,099
Doors, frames and hardware				
Refurbish existing	64	HR	65.00	4,160
New doors to match existing				
Single	4	EA	1,800.00	7,200
Double	5	EA	2,800.00	14,000
New hardware on existing doors	1	LS	5,000.00	5,000

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
Windows				
New wood windows to match historic	2,817	SF	70.00	197,190
New wood clerestory windows to match historic	328	SF	85.00	27,880
				297,770
5. Roofing, Waterproofing & Skylights				
Roof insulation				
Rigid insulation, 4"	13,250	SF	4.50	59,625
Roof surfacing				
Built-up roof, with flashing etc.	13,250	SF	3.75	49,688
Traffic pads	150	LF	55.00	8,250
Roof accessories				
Roof access	1	LS	4,500.00	4,500
				122,063
6. Interior Partitions, Doors & Glazing				
Partition framing and cores				
New steel stud framing, 18 ga.	5,360	SF	6.00	32,160
Partition surfacing				
New gypsum board, taped, sanded	9,189	SF	2.25	20,675
Existing wall with new gypsum board	10,710	SF	2.25	24,098
Gypsum board underlayment	2,297	SF	2.00	4,595
Sound insulation				
Batt insulation in walls	5,360	SF	0.90	4,824

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
Doors, frames and hardware				
Single	18	EA	1,400.00	25,200
Double	4	PR	2,400.00	9,600
				121,151
7. Floor, Wall & Ceiling Finishes				
Floor finishes				
Refinish existing ceramic tile	1,012	SF	6.00	6,072
New ceramic tile	1,613	SF	12.00	19,356
Refinish existing wood floor	7,000	SF	4.50	31,500
VCT	3,313	SF	5.00	16,563
Unfinished	1,926	SF	1.50	2,888
Wall finishes				
Ceramic tile	1,822	SF	12.00	21,859
Dinning	12,600	SF	2.50	31,500
Kitchen areas	5,963	SF	1.25	7,453
Service areas	3,466	SF	0.50	1,733
Ceiling finishes				
Entry areas, soffits, gypsum board	1,012	SF	12.00	12,144
Dining areas, gypsum board repaired	8,613	SF	8.00	68,900
Kitchen areas, grease resistant, acoustic tile	3,313	SF	3.75	12,422
Service areas, paint only	313	SF	1.50	470
				232,859
8. Function Equipment & Specialties				
Equipment				
Loading dock leveler	1	EA	2,500.00	2,500
Food service equipment	1	LS	#########	150,000
Kitchen cabinetry	245	LF	390.00	95,550

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
Allowance for wayfinding signage, restore/ refinish building I.D. signage "Cafeteria"	13,250	SF	0.45	5,963
Partitions & Accessories				
Toilet partitions	20	EA	900.00	18,000
Toilet accessories	50	EA	400.00	20,000
Cabinets & Casework				
Storage shelving	400	LF	30.00	12,000
				304,013

9. Stairs & Vertical Transportation

10. Plumbing Systems

New fixtures with realigned piping, supply and vent	28	FX	2,800.00	78,400
Roof drainage	13,250	SF	1.15	15,238
				93,638

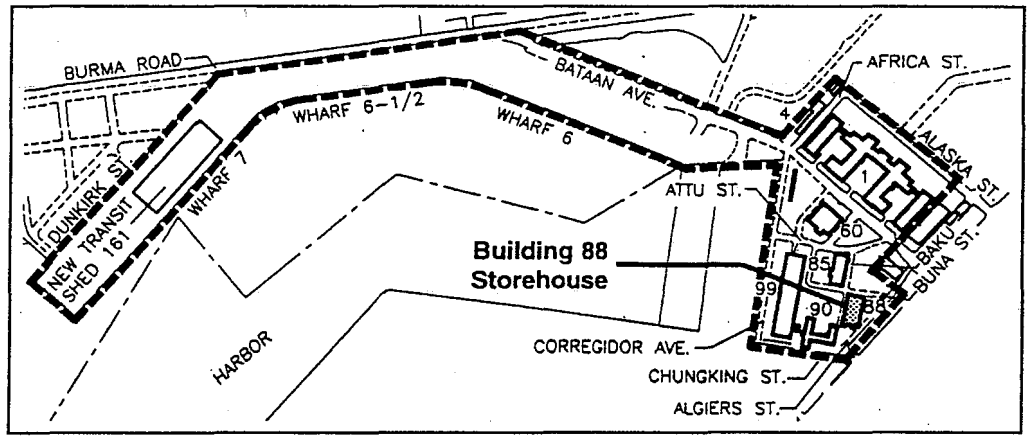
11. Heating, Ventilation & Air Conditioning

Restore existing steam radiators, provide new radiators to match existing, update piping as needed, upgrade energy efficient boilers with	13,250	SF	7.75	102,688
Provide ventilation as required	13,250	SF	5.50	72,875
Kitchen fume hoods	3	EA	18,000.00	54,000
				229,563

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
12. Electrical Lighting, Power & Communication				
Update power systems	13,250	SF	6.00	79,500
Update lighting for food service	13,250	SF	8.00	106,000
Communications and life safety	13,250	SF	3.00	39,750
Building controls	13,250	SF	2.25	29,813
				255,063
13. Fire Protection Systems				
None specified				
14. Site Preparation & Building Demolition				
Site demolition	160	HR	55.00	8,800
Shell demolition	576	HR	65.00	37,440
Interior demolition	320	HR	55.00	17,600
Hazardous material allowance	384	HR	150.00	57,600
				121,440

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
15. Site Paving, Structures & Landscaping				
16. Utilities on Site				
Tie into existing utilities, no upgrades	1	LS	50,000	50,000
				50,000

Building 88 Storehouse



Rehabilitation Cost Estimate Data

Building 88 **Oakland Army Base Reuse**

Proposed Use: Warehouse Size: 11,134 gross sf

Occupancy: Group S (Storage), Division 2 (Low-hazard storage)

No.	Section	description
02520	Demolition	
	Shell Demolition	Demo Steel door/wood framing assembly per plan
		Demo non-historic plywood exterior siding.
	Interior Partition Demolition	Demo existing, non-historic interior partitions, approx. 153 lf
		Demo existing, non-historic mezzanine, approx 1536 sf
1	Building Site	
02070	Selective Protection and Salvage	Stable historic lumber should be protected, other removed lumber should be sold for salvage, approx. 10%
02080	Hazardous Materials Abatement	Remove asbestos vinyl tile (750sf), linoleum (100sf), mezz. east wall gasket, and all pipe covering, approx. 65'x4"
2	Building Shell	
2a	Foundations	R+C see attached notes
02455	Driven Piles	R+C
02480	Foundation Walls	R+C
	Foundation Drainage	R+C
03700	Concrete Restoration and Cleaning	R+C
2b	Vertical Structure	R+C see attached notes
06310	Heavy Timber Construction	R+C
	Columns and Bracing	R+C
2c	Horizontal Structure	R+C see attached notes
06310	Heavy Timber Construction	R+C, provide new mezzanine level
	Heavy Timber Roof Construction	R+C
3	Exterior Closure	
06160	Sheathing	Replace 15% of diagonal wood board sheathing
06260	Wood siding	Replace 15% of horizontal wood siding, refurbish all
07200	Insulation	Add in unfinished walls of heated office space
08200	Wood Doors	Add (1) new man-door in new hinged wood door
08211	Wood Door Restoration (N)	Provide (1) new hinged wood door to match original sliding door delete (E) double Metal stl. Doors
08515	Metal Window Restoration	Refurbish, clean and repair all (E) metal windows
08710	Hardware	Provide new hardware for new door to match existing
08715	Hardware Restoration	Refurbish (E) historic hardware
4	Roofing	
07510	Built up Bituminous Roofing	Provide (N) bituminous roofing on flat roof
07311	Asphalt shingles	Provide (N) asphalt shingles and underlayment on gambrel
07720	Roof Accessories	Provide Vents, hatches, curbs and walks as required

Building 88 **Oakland Army Base Reuse**

Proposed Use: Warehouse Size: 11,134 gross sf

Occupancy: Group S (Storage), Division 2 (Low-hazard storage)

No.	Section	Description
5		
5a	Interior Partitions	
06200	Finish Carpentry	Provide necessary wood studs and furring for interior partitions per plan, approx. 140 sf
09100	Metal Support Systems	*Provide necessary metal studs and furring for interior partitions per plan, approx. 140 sf*
09253	Gypsum Sheathing	Provide over metal or wood framing
09500	Acoustical Systems	Provide Batt insul. in a double stud wall between restrooms, mechanical room and other noise producing spaces
08110	Steel Doors and Frames	Provide (9) new interior rated doors per plan
08510	Steel Windows	Provide (3) new interior borrowed light windows
5b	**Flooring Systems**	
09780	Floor Treatment	see finish schedule
5c	**Finishes**	see finish schedule
09300	Tile	see finish schedule
09650	Resilient Flooring	see finish schedule
09680	Carpet	see finish schedule
09900	Painting	see finish schedule
09950	Wall Covering	see finish schedule
6	Functional Equipment	
11160	Loading Dock Equipment	Provide necessary equipment to make entrance accessible to delivery trucks
11460	Unit Kitchen	Provide staff break-room equip. ie. refrig. counter, microwave, sink...
7	Vertical Transportation	
	Stairs	Provide (N) wood stairs to mezz. and mezz. over office space
8	Mechanical	
15300	Fire protection	Restore sprinkler system, provide extinguishers per code
15400	Plumbing	Update plumbing to accommodate new restrooms per plan
15750	Heat Transfer	Restore existing individually controlled space heaters Provide radiant heat for office space, provide small furnace and hot water heater for 1400sf of office/restroom space
15838	Power Ventilators	Provide as required for ventilation and circulation
15834	Air Curtains	Provide over (2) large door entrances
9	Electrical	
15050	Basic Electrical Materials & Methods	Update and provide basic power to level of warehouse
16500	Lighting	Update and provide basic lighting to level of warehouse
16700	Communications	Update and provide basic telecommunications to level of warehouse
16900	Building Controls	Provide security and controls systems to level of warehouse

Building 88 **Oakland Army Base Reuse**

Proposed Use: Warehouse Size: 11,134 gross sf

Occupancy: Group S (Storage), Division 2 (Low-hazard storage)

Space	Finish		
	Floor	Base	Walls
Main warehouse	1	13	13
Restrooms	3	3	3,9
Office space	4	5	9
Mezzanine	15	13	13

Key	
Concrete	1
VCT	2
Ceramic Tile	3
Carpet	4
Resilient base	5
Stone base	6
Tile Base	7
Wood Base	8
Paint	9
New Plaster to match existing	10
Repair Existing Plaster	11
Fabric Panels	12
Unfinished - No gyp. board or base	13
Treated Existing wood floor	14
Unfinished wood decking	15

BUILDING #88, STOREHOUSE AREAS & CONTROL QUANTITIES

Areas

	SF	SF	SF
Enclosed Areas			
Building #88, Storehouse	11,134		
SUBTOTAL, Enclosed Area		11,134	
Covered area			
SUBTOTAL, Covered Area @ ½ Value			
TOTAL GROSS FLOOR AREA			11,134

BUILDING #88, STOREHOUSE COMPONENT SUMMARY

Gross Area: 11,134 SF

		$/SF	$x1,000
1. Foundations		6.49	72
2. Vertical Structure		15.62	174
3. Floor & Roof Structures		6.79	76
4. Exterior Cladding		9.10	101
5. Roofing & Waterproofing		9.05	101
Shell (1-5)		47.04	524
6. Interior Partitions, Doors & Glazing		4.25	47
7. Floor, Wall & Ceiling Finishes		3.26	36
Interiors (6-7)		7.51	84
8. Function Equipment & Specialties		2.76	31
9. Stairs & Vertical Transportation		0.58	7
Equipment & Vertical Transportation (8-9)		3.34	37
10. Plumbing Systems		4.67	52
11. Heating, Ventilating & Air Conditioning		11.20	125
12. Electric Lighting, Power & Communications		12.00	134
13. Fire Protection Systems		0.00	0
Mechanical & Electrical (10-13)		27.87	310
Total Building Construction (1-13)		**85.76**	**955**
14. Site Preparation & Demolition		4.38	49
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		1.35	15
Total Site Construction (14-16)		**5.73**	**64**
TOTAL BUILDING & SITE (1-16)		**91.49**	**1,019**
General Conditions	14.00%	12.84	143
Contractor's Overhead & Profit or Fee	6.50%	6.83	76
PLANNED CONSTRUCTION COST	***April 2002***	**111.16**	**1,238**
Contingency for Design Development	12.50%	13.92	155
Allowance for Rising Costs	8.00%	9.97	111
RECOMMENDED BUDGET	***October 2003***	**135.05**	**1,504**

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
1. Foundations				
Structural work				
Existing perimeter footing upgrade	440	LF	55.00	24,200
Existing piers	28	EA	550.00	15,309
Brace frame foundations including excavation, shoring, formwork, reinforcement and concrete for mezzanine and office areas only	71	CY	250.00	17,778
Miscellaneous metals	1	LS	10,000.00	10,000
Foundation drainage	1	LS	5,000.00	5,000
				72,287
2. Vertical Structure				
Shearwall and bracing				
Plywood and tie-downs	7,068	SF	12.00	84,816
Tube steel reinforcement	12,600	LB	2.50	31,500
New brace frames, one story each	8	EA	5,500.00	44,000
Columns and pilasters				
Hold-down hardware	56	EA	125.00	6,959
Top and bottom plate hardware				
Bolt into existing structure	660	EA	10.00	6,600
				173,875

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
3. Floor and Roof Structure				
Floor at lowest level				
Reinforced concrete at slab on grade patch and repair	11,134	SF	1.50	16,701
Suspended floors				
Replace existing wood floors as needed, new joists, blocking and plywood, mezzanine area	1,504	SF	15.00	22,560
Tie into new brace frame system	8	EA	2,100.00	16,800
Roof system				
Replace existing joists, blocking and plywood as needed. Assume 5% of gross roof area	557	SF	12.50	6,959
Tie into new brace frame system	8	EA	1,575.00	12,600
				75,620
4. Exterior Cladding				
Exterior cladding				
Diagonal sheathing, 15% of area	2,046	SF	8.00	16,368
Horizontal wood siding, 15% of area	2,046	SF	10.00	20,460
Paint entire building	13,640	SF	1.15	15,686
Exterior wall insulation	11,594	SF	0.95	11,014
Doors, frames and hardware				
Refurbish existing	160	HR	65.00	10,400
New doors to match existing				
Single to match existing	2	EA	3,100.00	6,200
New hardware on existing doors	1	LS	4,500.00	4,500
Windows				
Refurbish existing windows	256	HR	65.00	16,640
				101,268

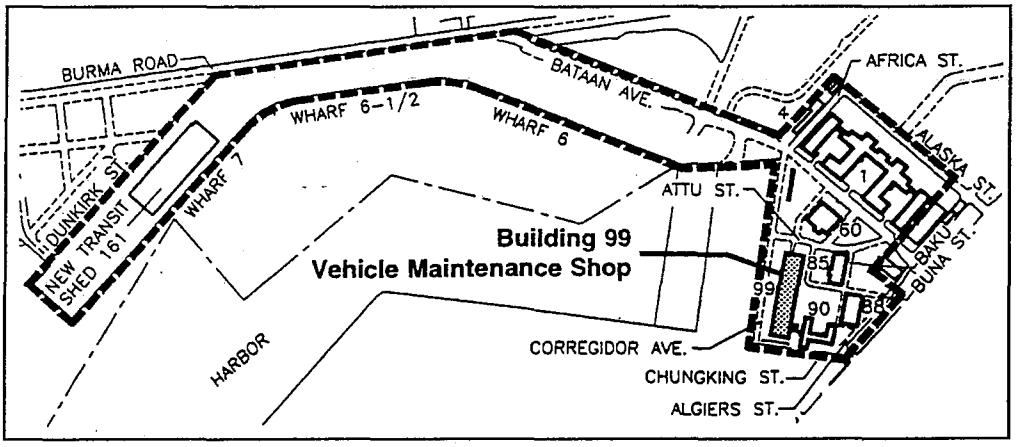
COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
5. Roofing, Waterproofing & Skylights				
Roof insulation				
Rigid insulation, 4"	11,134	SF	4.50	50,103
Roof surfacing				
Built-up roof, with flashing etc.	11,134	SF	3.75	41,753
Traffic pads	125	LF	55.00	6,875
Roof accessories				
Roof access	1	LS	2,000.00	2,000
				100,731
6. Interior Partitions, Doors & Glazing				
Partition framing and cores				
New steel stud framing, 18 ga.	140	SF	14.00	1,960
Partition surfacing				
New gypsum board, taped, sanded	240	SF	2.25	540
Existing wall with new gypsum board	1,000	SF	2.25	2,250
Gypsum board underlayment	60	SF	2.00	120
Sound insulation				
Batt insulation in walls	140	SF	0.90	126
Doors, frames and hardware				
Single	9	EA	1,400.00	12,600
Double	10	PR	2,400.00	24,000
Interior glazing				
Steel windows	144	SF	40.00	5,760
				47,356

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
7. Floor, Wall & Ceiling Finishes				
Floor finishes				
Concrete sealer	9,882	SF	1.50	14,823
Ceramic tile	260	SF	12.00	3,120
Carpet	992	SF	5.00	4,960
Wall finishes				
Paint	2,480	SF	1.00	2,480
Ceramic tile	468	SF	12.00	5,616
Ceiling finishes				
Paint	260	SF	1.15	299
Acoustic ceiling tile	992	SF	5.00	4,960
				36,258
8. Function Equipment & Specialties				
Allowance for wayfinding signage, restore/ refinish building I.D. signage "Storehouse"	11,134	SF	0.45	5,010
Partitions & Accessories				
Toilet partitions	7	EA	900.00	6,300
Toilet accessories	18	EA	400.00	7,000
Cabinets & Casework				
Storage shelving	100	LF	30.00	3,000
Kitchen cabinets	25	LF	275.00	6,875
Equipment				
Kitchen equipment	1	LS	2,500.00	2,500
				30,685

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
9. Stairs & Vertical Transportation				
Upgrade mezzanine stair	1	EA	6,500.00	6,500
				6,500
10. Plumbing Systems				
New fixtures with realigned piping, supply and vent	14	FX	2,800.00	39,200
Roof drainage	11,134	SF	1.15	12,804
				52,004
11. Heating, Ventilation & Air Conditioning				
Restore existing space heaters, provide radiant heat to office with controls	11,134	SF	6.00	66,804
Provide ventilation as required	11,134	SF	4.50	50,103
Air curtains	2	EA	3,900.00	7,800
				124,707
12. Electrical Lighting, Power & Communication				
Update power systems	11,134	SF	4.50	50,103
Update lighting	11,134	SF	5.25	58,454
Communications and life safety	11,134	SF	1.75	19,485
Building controls	11,134	SF	0.50	5,567
				133,608

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
13. Fire Protection Systems				
None specified				
14. Site Preparation & Building Demolition				
Shell demolition	240	HR	65.00	15,600
Interior demolition	80	HR	55.00	4,400
Hazardous material allowance	192	HR	150.00	28,800
				48,800
15. Site Paving, Structures & Landscaping				
16. Utilities on Site				
Tie into existing utilities, no upgrades	1	LS	15,000	15,000
				15,000

Building 99 Shop



Rehabilitation Cost Estimate Data

Building 99 **Oakland Army Base Reuse**

Proposed Use: Warehouse Size: 62,283 gross sf
Occupancy: Group S (Storage), Division 2 (Low-hazard storage)

No.	Section	description
02520	**Demolition**	
	Shell Demolition	Remove all exterior asbestos-cement siding
		Remove all exterior corrugated fiberglass panels
		Remove all metal roll-up doors
	Interior Partition Demolition	Demo existing, non-historic + historic int. partitions, per plan approx. 330 lf. Demo approx. 200 sf opening into 2nd fl. wall
1	**Building Site**	
02070	Selective Protection and Salvage	Stable historic metal structure should be protected, damaged steel should be sold for salvage and replaced, approx. 5%
02080	Hazardous Materials Abatement	Remove asbestos-vinyl tile , approx. *4215 sf &* pipe cov. Where encountered. Perform min. req. abate per N. Stoltz memo attached
2	**Building Shell**	
2a	Foundations	R+C see attached notes
02455	Driven Piles	R+C
02480	Foundation Walls	R+C
	Foundation Drainage	R+C
03700	Concrete Restoration and Cleaning	R+C
2b	Vertical Structure	R+C see attached notes
05120	Structural Steel	R+C
05400	Cold-formed metal framing	R+C
	Columns and Bracing	R+C
2c	Horizontal Structure	R+C see attached notes
05400	Cold-formed metal framing	R+C
06150	Wood decking	R+C
3	**Exterior Closure**	
06160	Sheathing	Replace 8% of diagonal wood board sheathing
06260	Wood siding	Replace 10% of horizontal wood siding
07200	Insulation	Add in unfinished walls in office areas
08110	Steel Doors and Frames	Add (3) new exterior rated entrance doors per plan
08211	Wood Door Restoration (N)	Provide (9) new sliding wood door to match original per plan
08515	Metal Window Restoration	Refurbish, clean and repair all (E) metal windows
		Provide approx. (212) new steel window units to match existing
08710	Hardware	Provide new hardware for doors and windows to match existing
08715	Hardware Restoration	Refurbish (E) historic hardware
4	**Roofing**	
07510	Built up Bituminous Roofing	Provide (N) bituminous roofing on entire roof
07720	Roof Accessories	Provide Vents, hatches, curbs and walks as required

Building 99 **Oakland Army Base Reuse**

Proposed Use: Warehouse Size: 62,283 gross sf

Occupancy: Group S (Storage), Division 2 (Low-hazard storage)

No.	Section	Description
5		
5a	Interior Partitions	
09100	Metal Support Systems	Provide necessary metal studs and furring for upgrading interior partitions, per plan
09253	Gypsum Sheathing	Provide over metal framing
09500	Acoustical Systems	Provide Batt insul. in a double stud wall between restrooms, mechanical room and other noise producing spaces
08110	Steel Doors and Frames	Provide (5-10) new interior rated doors per plan
08510	Steel Windows	Provide (5) new interior borrowed light windows
5b	**Flooring Systems**	
09780	Floor Treatment	see finish schedule
5c	**Finishes**	see finish schedule
09300	Tile	see finish schedule
09650	Resilient Flooring	see finish schedule
09680	Carpet	see finish schedule
09900	Painting	see finish schedule
09950	Wall Covering	see finish schedule
6	Functional Equipment	
11160	Loading Dock Equipment	Provide necessary equipment to make entrance accessible to delivery trucks
11460	Unit Kitchen	Provide staff break-room equipment, ie. refrig., counter, microwave, sink...
7	Vertical Transportation	
	Stairs	Provide (N) wood stairs to mez. and 2nd flr. storage space per plan
	Freight Lift	Provide Autoquip - 4 post freight lift or simmilar for freight access to loft space via new loft opening per plan
05500	Metal Fabrications - Fire escape	Provide (N) metal fire escape stair from 2nd floor loft per plan
8	Mechanical	
15300	Fire protection	Restore sprinkler system, provide extinguishers per code
15400	Plumbing	Update plumbing if necessary
15750	Heat Transfer	Restore existing individually controlled space heaters Provide radiant heat for office space, provide small furnace and hot water heater for 8,700 sf of office/restroom space
15838	Power Ventilators	Provide as required for ventilation and circulation
15834	Air Curtains	Provide over (9) large door entrances
9	Electrical	
15050	Basic Electrical Materials & Methods	Update and provide basic power to level of warehouse
16500	Lighting	Update and provide basic lighting to level of warehouse
16700	Communications	Update and provide basic telecommunications to level of warehouse + warehouse office space
16900	Building Controls	Provide security and controls systems to level of warehouse

Building 99 **Oakland Army Base Reuse**

Proposed Use: Warehouse Size: 62,283 gross sf

Occupancy: Group S (Storage), Division 2 (Low-hazard storage)

Space	Finish		
	Floor	Base	Walls
Main warehouse	1	13	13
Loft storage	15	13	13
Restrooms	3	7	3,9
Ground floor offices	2	5	9,13
Mezzanine offices	2	5	9,13

Key	
Concrete	1
VCT	2
Ceramic Tile	3
Carpet	4
Resilient base	5
Stone base	6
Tile Base	7
Wood Base	8
Paint	9
New Plaster to match existing	10
Repair Existing Plaster	11
Fabric Panels	12
Unfinished - No gyp. board or base	13
Treated Existing wood floor	14
Unfinished wood decking	15

BUILDING #99, SHOP WAREHOUSE OPTION AREAS & CONTROL QUANTITIES

Areas

	SF	SF	SF
Enclosed Areas			
Building #99, Shop Warehouse Option	65,550		
SUBTOTAL, Enclosed Area		65,550	
Covered area			
SUBTOTAL, Covered Area @ ½ Value			
TOTAL GROSS FLOOR AREA			65,550

BUILDING #99, SHOP WAREHOUSE OPTION COMPONENT SUMMARY

Gross Area: 65,550 SF

		$/SF	$x1,000
1. Foundations		3.32	218
2. Vertical Structure		5.01	328
3. Floor & Roof Structures		2.62	172
4. Exterior Cladding		4.72	309
5. Roofing & Waterproofing		5.26	345
Shell (1-5)		20.94	1,372
6. Interior Partitions, Doors & Glazing		1.59	104
7. Floor, Wall & Ceiling Finishes		2.69	176
Interiors (6-7)		4.27	280
8. Function Equipment & Specialties		0.92	60
9. Stairs & Vertical Transportation		1.62	106
Equipment & Vertical Transportation (8-9)		2.54	166
10. Plumbing Systems		1.47	97
11. Heating, Ventilating & Air Conditioning		2.18	143
12. Electric Lighting, Power & Communications		12.00	787
13. Fire Protection Systems		0.00	0
Mechanical & Electrical (10-13)		15.65	1,026
Total Building Construction (1-13)		**43.40**	**2,845**
14. Site Preparation & Demolition		1.53	100
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		0.23	15
Total Site Construction (14-16)		**1.75**	**115**
TOTAL BUILDING & SITE (1-16)		**45.15**	**2,960**
General Conditions	14.00%	6.32	414
Contractor's Overhead & Profit or Fee	6.50%	3.34	219
PLANNED CONSTRUCTION COST	***April 2002***	**54.81**	**3,593**
Contingency for Design Developmert	12.50%	6.85	449
Allowance for Rising Costs	8.00%	4.93	323
RECOMMENDED BUDGET	***October 2003***	**66.59**	**4,365**

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
1. Foundations				
New reinforced concrete footings				
New stairs	2	EA	3,800.00	7,600
Elevator pit	1	EA	9,500.00	9,500
Brace frame foundations including excavation, shoring, formwork, reinforcement and concrete for mezzanine and office areas only	160	CY	250.00	40,000
Structural work				
Existing perimeter footing upgrade	1,100	LF	55.00	60,500
Existing piers	82	EA	550.00	45,066
Miscellaneous metals	1	LS	30,000.00	30,000
Foundation drainage	1	LS	25,000.00	25,000
				217,666
2. Vertical Structure				
Shearwall and bracing				
Plywood and tie-downs	8,525	SF	12.00	102,300
Tube steel reinforcement	36,000	LB	2.50	90,000
New brace frames, one story each	18	EA	5,500.00	99,000
Columns and pilasters				
Hold-down hardware	164	EA	125.00	20,484
Top and bottom plate hardware				
Bolt into existing structure	1,650	EA	10.00	16,500
				328,284

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
3. Floor and Roof Structure				
Floor at lowest level				
Reinforced concrete at slab on grade patch and repair	40,154	SF	1.50	60,231
Suspended floors				
Replace existing wood floors as needed, new joists, blocking and plywood, mezzanine area, assume 15 percent of area	3,413	SF	6.00	20,475
Tie into new brace frame system	18	EA	2,100.00	37,800
Roof system				
Replace existing joists, blocking and plywood as needed. Assume 5% of gross roof area	2,008	SF	12.50	25,096
Tie into new brace frame system	18	EA	1,575.00	28,350
				171,952
4. Exterior Cladding				
Exterior cladding				
Diagonal sheathing, 8% of area	2,534	SF	8.00	20,275
Horizontal wood siding, 10% of area	3,168	SF	10.00	31,680
Paint entire building	31,680	SF	1.15	36,432
Exterior wall insulation	3,440	SF	0.95	3,268
Doors, frames and hardware				
Refurbish existing	160	HR	65.00	10,400
New doors to match existing				
Single to match existing	3	EA	3,100.00	9,300
Sliding to match existing	9	EA	7,500.00	67,500
New hardware on existing doors	1	LS	6,000.00	6,000

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
Windows				
Refurbish existing windows	480	HR	65.00	31,200
New window units	1,696	SF	55.00	93,280
				309,335
5. Roofing, Waterproofing & Skylights				
Roof insulation				
Rigid insulation, 4"	40,100	SF	4.50	180,450
Roof surfacing				
Built-up roof, with flashing etc.	40,100	SF	3.75	150,375
Traffic pads	150	LF	55.00	8,250
Roof accessories				
Roof access	1	LS	6,000.00	6,000
				345,075
6. Interior Partitions, Doors & Glazing				
Partition framing and cores				
New steel stud framing, 18 ga.	3,780	SF	14.00	52,920
Partition surfacing				
New gypsum board, taped, sanded	6,480	SF	2.25	14,580
Existing wall with new gypsum board	1,500	SF	2.25	3,375
Gypsum board underlayment	1,620	SF	2.00	3,240
Sound insulation				
Batt insulation in walls	3,780	SF	0.90	3,402

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
Doors, frames and hardware				
Single	8	EA	1,400.00	11,200
Double	2	PR	2,800.00	5,600
Interior glazing				
Steel windows	240	SF	40.00	9,600
				103,917

7. Floor, Wall & Ceiling Finishes

Floor finishes				
Concrete sealer	35,166	SF	1.50	52,749
Ceramic tile	1,656	SF	12.00	19,872
VCT	5,278	SF	5.00	26,390
Wall finishes				
Paint	13,195	SF	1.00	13,195
Ceramic tile	2,981	SF	12.00	35,770
Ceiling finishes				
Paint	1,656	SF	1.15	1,904
Acoustic ceiling tile	5,278	SF	5.00	26,390
				176,270

8. Function Equipment & Specialties

Allowance for wayfinding signage, restore/ refinish building I.D. signage "Shop"	65,550	SF	0.45	29,498
Partitions & Accessories				
Toilet partitions	8	EA	900.00	7,200
Toilet accessories	20	EA	400.00	8,000

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
Cabinets & Casework				
Storage shelving	200	LF	30.00	6,000
Kitchen cabinets	25	LF	275.00	6,875
Equipment				
Kitchen equipment	1	LS	2,500.00	2,500
				60,073

9. Stairs & Vertical Transportation

ADA compliance with existing stairs	4	FLT	4,200.00	16,800
New stairs, exterior	1	EA	9,500.00	9,500
New hydraulic elevator, two stop	1	EA	80,000.00	80,000
				106,300

10. Plumbing Systems

New fixtures with realigned piping, supply and vent	18	FX	2,800.00	50,400
Roof drainage	40,100	SF	1.15	46,115
				96,515

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
11. Heating, Ventilation & Air Conditioning				
Restore existing space heaters, provide radiant heat to office with controls	5,278	SF	6.00	31,668
Provide ventilation as required				
Office	5,278	SF	4.50	23,751
Warehouse	34,822	SF	1.50	52,233
Air curtains	9	EA	3,900.00	35,100
				142,752
12. Electrical Lighting, Power & Communication				
Update power systems	65,550	SF	4.50	294,975
Update lighting	65,550	SF	5.25	344,138
Communications and life safety	65,550	SF	1.75	114,713
Building controls	65,550	SF	0.50	32,775
				786,600
13. Fire Protection Systems				
None specified				

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
14. Site Preparation & Building Demolition				
Shell demolition	960	HR	65.00	62,400
Interior demolition	160	HR	55.00	8,800
Hazardous material allowance	192	HR	150.00	28,800
				100,000
15. Site Paving, Structures & Landscaping				
16. Utilities on Site				
Tie into existing utilities, no upgrades	1	LS	15,000	15,000
				15,000

Building 99 **Oakland Army Base Reuse**

Proposed Use: Multi-Tenant light industrial/office Size: 62,283 gross sf

Occupancy: Group F (Factory-Industrial), Division 2 (Low-hazard)/ Group B (office)

No.	Section	description
02520	Demolition	
	Shell Demolition	Remove all exterior asbestos-cement siding
		Remove all exterior corrugated fiberglass panels
		Remove all metal roll-up doors
		Demo roof where historic skylight existed, approx. 2600 sf
	Interior Partition Demolition	Demo existing, non-historic + historic int. partitions, per plan approx. 600 lf. Demo approx. 200 sf opening into 2nd fl. wall
1	Building Site	
02070	Selective Protection and Salvage	Stable historic metal structure should be protected, damaged steel should be sold for salvage and replaced, approx. 5%
02080	Hazardous Materials Abatement	Remove asbestos-vinyl tile, *4215 sf,* pipe cov. where encountered perform min. req. abatement per N.Stoltz memo 04.20.01 attached
2	Building Shell	
2a	Foundations	R+C see attached notes
02455	Driven Piles	R+C
02480	Foundation Walls	R+C
	Foundation Drainage	R+C
03700	Concrete Restoration and Cleaning	R+C
2b	Vertical Structure	R+C see attached notes
05120	Structural Steel	R+C
05400	Cold-formed metal framing	R+C
	Columns and Bracing	R+C
2c	Horizontal Structure	R+C see attached notes
05400	Cold-formed metal framing	R+C
06150	Wood decking	R+C
3	Exterior Closure	
06160	Sheathing	Replace 8% of diagonal wood board sheathing
06260	Wood siding	Replace 10% of horizontal wood siding
07200	Insulation	Add in unfinished walls in office areas
08110	Steel Doors and Frames	Add (11) new exterior rated entrance doors per plan
08211	Wood Door Restoration (N)	Provide (8) new sliding wood door to match original per plan
08515	Metal Window Restoration	Refurbish, clean and repair all (E) metal windows
		Provide approx. (212) new steel window units to match existing
08710	Hardware	Provide new hardware for doors and windows to match existing
08715	Hardware Restoration	Refurbish (E) historic hardware
4	Roofing	
07510	Built up Bituminous Roofing	Provide (N) bituminous roofing on entire roof
07720	Roof Accessories	Provide Vents, hatches, curbs and walks as required
08630	Metal-Framed Skylights	*Provide approx. 2600 sf skylights over 2nd flr to match historic*
07200	Insulation	Provide Rigid Insulation above 2nd floor office roof

Building 99 **Oakland Army Base Reuse**

Proposed Use: Multi-tenant light industrial/office Size: 62,283 gross sf

Occupancy: Group F (Factory-Industrial), Division 2 (Low-hazard)/ Group B (office)

No.	Section	Description
5		
5a	Interior Partitions	
09100	Metal Support Systems	Provide necessary metal studs and furring for upgrading interior partitions, per plan, approx. 600 lf (270 lf of fire walls)
09253	Gypsum Sheathing	Provide over metal or framing, provide for perimeter 2nd flr walls
09500	Acoustical Systems	Provide Batt insul. in a double stud wall between restrooms, mechanical room and other noise producing spaces
08110	Steel Doors and Frames	Provide (30-35) new interior rated doors per plan
08510	Steel Windows	Provide (14) new interior borrowed light windows
5b	**Flooring Systems**	
09780	Floor Treatment	see finish schedule
5c	**Finishes**	see finish schedule
09300	Tile	see finish schedule
09650	Resilient Flooring	see finish schedule
09680	Carpet	see finish schedule
09900	Painting	see finish schedule
09950	Wall Covering	see finish schedule
6	Functional Equipment	
11160	Loading Dock Equipment	Provide necessary equipment to make entrance accessible to delivery trucks
11460	Unit Kitchen	Provide equipment for (2) staff break rooms, ie. refrig., counter, microwave, sink...
7	Vertical Transportation	
	Stairs	Provide (1) new mtl. fire stairs to 2nd flr. office space
		Provide (1) new elevator to mezz. and 2nd floor space
05500	Metal Fabrications - Fire escape	Provide (1) mtl fire escape from 2nd floor loft+mezz. per plan
8	Mechanical	
15300	Fire protection	Restore sprinkler system, provide extinguishers per code
		Provide sprinkler system in new office spaces + entire 2nd flr
15400	Plumbing	Update plumbing to accommodate new restrooms per plan
15750	Heat Transfer	Restore existing individually controlled space heaters
		Provide forced air heating for 2nd flr. office space, provide (1) lg furnace and hot water heaters for 33,320 sf of office space
15838	Power Ventilators	Provide as required for ventilation and circulation
15834	Air Curtains	Provide over (8) large door entrances
9	Electrical	
15050	Basic Electrical Materials & Methods	Update and provide basic power to level of warehouse
		Provide basic power to office class-B for 33,320 sf
16500	Lighting	Update and provide basic lighting to level of warehouse
		Provide basic lighting to office class-B for 33,320
16700	Communications	Update and provide basic telecommunications to level of warehouse + 33,320 sf of warehouse office + typ. office space
16900	Building Controls	Provide security and controls systems to level of warehouse
		Provide security and controls systems to level of class-B office

Building 99 **Oakland Army Base Reuse**

Proposed Use: Multi-tenant light industrial/office Size: 62,283 gross sf

Occupancy: Group F (Factory-Industrial), Division 2 (Low-hazard)/ Group B (office)

Space	Finish		
	Floor	Base	Walls
Main warehouse	1	13	13
2nd Floor office space	4	5	9,13
Restrooms	3	7	3,9
Ground floor warehouse offices	2	5	9,13
Mezzanine offices	4	5	9

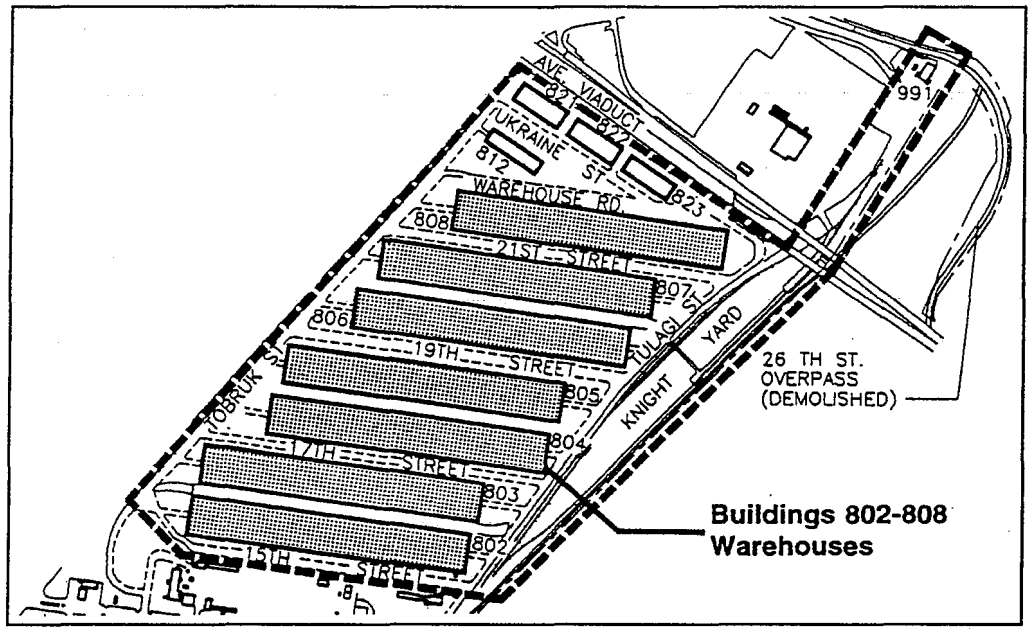
Key	
Concrete	1
VCT	2
Ceramic Tile	3
Carpet	4
Resilient base	5
Stone base	6
Tile Base	7
Wood Base	8
Paint	9
New Plaster to match existing	10
Repair Existing Plaster	11
Fabric Panels	12
Unfinished - No gyp. board or base	13
Treated Existing wood floor	14
Unfinished wood decking	15

BUILDING #99, LIGHT INDUSTRIAL OPTION WITH ADDITIONAL OFFICE

Gross Area: 65,550 SF

		$/SF	$x1,000
1. Foundations		3.32	218
2. Vertical Structure		5.01	328
3. Floor & Roof Structures		2.62	172
4. Exterior Cladding		4.72	309
5. Roofing & Waterproofing		5.26	345
Shell (1-5)		20.94	1,372
6. Interior Partitions, Doors & Glazing		1.72	113
7. Floor, Wall & Ceiling Finishes		2.99	196
Interiors (6-7)		4.72	309
8. Function Equipment & Specialties		1.07	70
9. Stairs & Vertical Transportation		1.62	106
Equipment & Vertical Transportation (8-9)		2.69	176
10. Plumbing Systems		1.62	107
11. Heating, Ventilating & Air Conditioning		2.95	194
12. Electric Lighting, Power & Communications		12.76	837
13. Fire Protection Systems		0.00	0
Mechanical & Electrical (10-13)		17.34	1,137
Total Building Construction (1-13)		**45.68**	**2,995**
14. Site Preparation & Demolition		1.53	100
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		0.23	15
Total Site Construction (14-16)		**1.75**	**115**
TOTAL BUILDING & SITE (1-16)		**47.44**	**3,110**
General Conditions	14.00%	6.64	435
Contractor's Overhead & Profit or Fee	6.50%	3.51	230
PLANNED CONSTRUCTION COST	***April 2002***	**57.58**	**3,775**
Contingency for Design Development	12.50%	7.20	472
Allowance for Rising Costs	8.00%	5.19	340
RECOMMENDED BUDGET	***October 2003***	**69.97**	**4,587**

Building 808 Warehouse (Typical)



Rehabilitation Cost Estimate Data

Building 808 **Oakland Army Base Reuse**

Proposed Use: Multi-Tenant Warehouse Size: 233,640 gross sf

Occupancy: Group S (Storage), Division 1 (moderate-hazard storage), Division 2 (Low-hazard storage)

No.	Section	description
02520	Demolition	
	Shell Demolition	Demo existing, non-historic metal windows, approx. 16
	Interior Partition Demolition	Demo existing, non-historic partitions, per plan
1	Building Site	
02070	Selective Protection and Salvage	Stable historic heavy timber structure should be protected, damaged lumber should be sold for salvage and replaced, approx. 2%
02080	Hazardous Materials Abatement	Remove all asbestos-vinyl tile (750 sf), linoleum (100sf), mezz. east wall gasket and pipe covering where encountered.
02740	Asphaltic Concrete Paving	Provide allowance for parking and loading docks improvements as indicated on the plan, approx. 10 locations
2	Building Shell	
2a	Foundations	R+C see attached notes
02455	Driven Piles	R+C
02480	Foundation Footings	R+C
	Foundation Drainage	R+C
03700	Concrete Restoration and Cleaning	R+C
2b	Vertical Structure	R+C see attached notes
06310	Heavy Timber Construction	R+C
	Columns and Bracing	R+C
2c	Horizontal Structure	R+C see attached notes
06310	Heavy Timber Construction	R+C
06150	Heavy Timber Roof Construction	R+C
3	Exterior Closure	
06160	Sheathing	Replace 2% of diagonal wood board sheathing
06260	Wood siding	Replace 3% of horizontal wood siding, repaint
07200	Insulation	Add in unfinished walls in office areas
08200	Wood Doors	Add (16) new exterior entrance doors per plan 10 of which are in original openings, verify existance of openings
08211	Wood Door Restoration (E)	Refurbish approx. 20% of most damaged existing sliding wood doors, clean and repaint all. Fix close approx. 24 sliding doors
08515	Wood Window Restoration	Refurbish, clean and repair all (E) wood windows Provide approx. (16) new wood windows to match existing Refurbish approx. 10% of most damaged existing wood wind.
08710	Hardware	Provide new hardware for doors and windows to match existing
08715	Hardware Restoration	Refurbish (E) historic hardware
4	Roofing	
07510	Built up Bituminous Roofing	Provide (N) bituminous roofing on approx. 15% of roof
06150	Wood Decking	Provide (N) wood decking on approx. 2% of roof
07720	Roof Accessories	Provide Vents, hatches, curbs and walks as required

Building 808 **Oakland Army Base Reuse**

Proposed Use: Multi-Tenant Warehouse Size: 233,640 gross sf

Occupancy: Group S (Storage), Division 1 (moderate-hazard storage), Division 2 (Low-hazard storage)

No.		
5		
5a	Interior Partitions	
06200	Rough Carpentry	*Provide necessary wood studs and furring for interior partitions per plan, approx. 832 lf* Verify 1hr. rating on fire wall occupancy separations
09100	Metal Support Systems	*Provide necessary metal studs and furring for interior partitions per plan, approx. 832 lf*
09253	Gypsum Sheathing	Provide over metal or wood framing
09500	Acoustical Systems	Provide Batt insul. in a double stud wall between restrooms, mechanical room and in all (N) partition walls
08211	Wood Door Restoration	Fix-in-place (4) large interior fire doors, maintain 1hr. Separation
08110	Steel Doors and Frames	Provide (30-40) new interior rated doors per plan
08510	Steel Windows	Provide (25) new interior borrowed light windows
5b	**Flooring Systems**	
09780	Floor Treatment	see finish schedule
5c	**Finishes**	see finish schedule
09300	Tile	see finish schedule
09650	Resilient Flooring	see finish schedule
09680	Carpet	see finish schedule
09900	Painting	see finish schedule
09950	Wall Covering	see finish schedule
6	**Functional Equipment**	
11160	Loading Dock Equipment	Provide min. nec. equip. to make ent. accessible to deliveries
11460	Unit Kitchen	Provide equipment for (5) staff break rooms, ie. refrig., counter, microwave, sink...
7	**Vertical Transportation**	
	Stairs	Upgrade stairs to mezz. Provide (11) new conc. exterior stairs
	Ramps	Provide (9) new exterior accessible ramps, per plan
05500	Metal Fabrications - Fire escape	Provide (1) metal fire escape stair from mezzanine office per plan
8	**Mechanical**	
15300	Fire protection	Adapt (E) sprinkler + cont. to accom. 5 zones, provide FE per code
15400	Plumbing	Update plumbing to accommodate new restrooms per plan
15750	Heat Transfer	Restore existing gas air heating units in (E) offices Provide radiant heat for (N) office space. Provide (4) sm. furnace and hot water heaters for 9,360 sf of office/restroom space
15838	Power Ventilators	Provide as required for ventilation and circulation
9	**Electrical**	
15050	Basic Electrical Materials & Methods	Update and provide basic power to level of warehouse and warehouse offices
16500	Lighting	Update and provide basic lighting to level of warehouse and warehouse offices
16700	Communications	Update and provide basic telecommunications to level of warehouse + warehouse office space
16900	Building Controls	Provide security and controls systems to level of warehouse

Building 808 **Oakland Army Base Reuse**

Proposed Use: Multi-Tenant Warehouse Size: 233,640 gross sf

Occupancy: Group S (Storage), Division 1 (moderate-haz.), Division 2 (Low-haz.)

Space	Finish		
	Floor	Base	Walls
(4) main warehouses	1	13	13
Existing office space	2	5	9,11
Restrooms	3	7	3,9
New office spaces	2	5	9
New mechanical spaces	1	13	9,13
Mezzanine offices	4	5	9

Key	
Concrete	1
VCT	2
Ceramic Tile	3
Carpet	4
Resilient base	5
Stone base	6
Tile Base	7
Wood Base	8
Paint	9
New Plaster to match existing	10
Repair Existing Plaster	11
Fabric Panels	12
Unfinished - No gyp. board or base	13
Treated Existing wood floor	14
Unfinished wood decking	15

BUILDING #808, WAREHOUSE AREAS & CONTROL QUANTITIES

Areas

	SF	SF	SF
Enclosed Areas			
Building #808, Warehouse	233,640		
SUBTOTAL, Enclosed Area		233,640	
Covered area			
SUBTOTAL, Covered Area @ ½ Value			
TOTAL GROSS FLOOR AREA			233,640

BUILDING #808, MULTI-TENANT WAREHOUSE OPTION COMPONENT SUMMARY

Gross Area: 233,640 SF

		$/SF	$x1,000
1. Foundations		1.84	431
2. Vertical Structure		2.61	610
3. Floor & Roof Structures		4.68	1,094
4. Exterior Cladding		1.00	233
5. Roofing & Waterproofing		0.72	168
Shell (1-5)		10.86	2,537
6. Interior Partitions, Doors & Glazing		0.58	135
7. Floor, Wall & Ceiling Finishes		2.08	487
Interiors (6-7)		2.66	622
8. Function Equipment & Specialties		0.60	140
9. Stairs & Vertical Transportation		0.07	16
Equipment & Vertical Transportation (8-9)		0.67	155
10. Plumbing Systems		1.39	325
11. Heating, Ventilating & Air Conditioning		1.93	450
12. Electric Lighting, Power & Communications		6.85	1,600
13. Fire Protection Systems		1.50	350
Mechanical & Electrical (10-13)		11.67	2,726
Total Building Construction (1-13)		**25.85**	**6,039**
14. Site Preparation & Demolition		0.25	58
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		0.21	50
Total Site Construction (14-16)		**0.46**	**108**
TOTAL BUILDING & SITE (1-16)		**26.31**	**6,147**
General Conditions	14.00%	3.69	861
Contractor's Overhead & Profit or Fee	6.50%	1.95	456
PLANNED CONSTRUCTION COST	***April 2002***	**31.95**	**7,464**
Contingency for Design Development	12.50%	3.99	933
Allowance for Rising Costs	8.00%	2.88	672
RECOMMENDED BUDGET	***October 2003***	**38.82**	**9,069**

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
1. Foundations				
New reinforced concrete footings				
Loading dock footings	10	EA	12,500.00	125,000
Structural work				
Existing perimeter footing upgrade	1,200	LF	55.00	66,000
Existing piers	240	EA	400.00	96,000
Brace frame foundations including excavation, shoring, formwork, reinforcement and	444	CY	225.00	100,000
Miscellaneous metals	1	LS	20,000.00	20,000
Foundation drainage	1	LS	24,000.00	24,000
				431,000
2. Vertical Structure				
Shearwall and bracing				
Plywood and tie-downs	8,928	SF	12.00	107,136
Tube steel reinforcement	60,000	LB	2.50	150,000
New brace frames, one story each	50	EA	5,500.00	275,000
Columns and pilasters				
Hold-down hardware	480	EA	125.00	60,000
Top and bottom plate hardware				
Bolt into existing structure	1,800	EA	10.00	18,000
				610,136

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
3. Floor and Roof Structure				
Floor at lowest level				
Loading docks	10	EA	16,000.00	160,000
Reinforced concrete at slab on grade patch and repair	233,640	SF	3.00	700,920
Suspended floors				
Replace existing wood floors as needed, new joists, blocking and plywood, mezzanine area	1,400	SF	6.00	8,400
Roof system				
Replace existing joists, blocking and plywood as needed. Assume 5% of gross roof area	11,682	SF	12.50	146,025
Tie into new brace frame system	50	EA	1,575.00	78,750
				1,094,095
4. Exterior Cladding				
Exterior cladding				
Diagonal sheathing, 2% of area	624	SF	8.00	4,992
Horizontal wood siding, 3% of area	936	SF	10.00	9,360
Paint entire building	31,200	SF	1.15	35,880
Exterior wall insulation	3,654	SF	0.95	3,471
Doors, frames and hardware				
New doors to match existing				
New single door to match existing	16	EA	1,800.00	28,800
Refurbish existing doors	640	PR	75.00	48,000
New hardware on existing doors	1	LS	25,000.00	25,000

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
Windows				
Refurbish existing windows	704	HR	65.00	45,760
New window units	576	SF	55.00	31,680
				232,943

5. Roofing, Waterproofing & Skylights

Roof surfacing				
Built-up roof, with flashing etc. on 15% of roof area	35,046	SF	3.75	131,423
Traffic pads	400	LF	55.00	22,000
Roof accessories				
Roof access	1	LS	15,000.00	15,000
				168,423

6. Interior Partitions, Doors & Glazing

Partition framing and cores				
New steel stud framing, 18 ga.	832	SF	14.00	11,648
Partition surfacing				
New gypsum board, taped, sanded	1,426	SF	2.25	3,209
Existing wall with new gypsum board	1,250	SF	2.25	2,813
Gypsum board underlayment	357	SF	2.00	713
Sound insulation				
Batt insulation in walls	832	SF	0.90	749

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
Doors, frames and hardware				
Large fire door restoration	256	HR	65.00	16,640
Single	35	EA	1,400.00	49,000
Double	5	PR	2,800.00	14,000
Interior glazing				
Steel windows	900	SF	40.00	36,000
				134,771

7. Floor, Wall & Ceiling Finishes

Floor finishes				
Concrete sealer	225,406	SF	1.50	338,109
Ceramic tile	1,339	SF	12.00	16,068
VCT	6,895	SF	5.00	34,475
Carpet	1,400	SF	4.00	5,600
Wall finishes				
Paint	20,738	SF	1.00	20,738
Ceramic tile	2,410	SF	12.00	28,922
Ceiling finishes				
Paint	1,339	SF	1.15	1,540
Acoustic ceiling tile	8,295	SF	5.00	41,475
				486,927

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
8. Function Equipment & Specialties				
Allowance for wayfinding signage, restore/ refinish building I.D. signage "Warehouse"	233,640	SF	0.45	105,138
Partitions & Accessories				
Toilet partitions	10	EA	900.00	9,000
Toilet accessories	25	EA	400.00	10,000
Cabinets & Casework				
Storage shelving	200	LF	30.00	6,000
Kitchen cabinets	25	LF	275.00	6,875
Equipment				
Kitchen equipment	1	LS	2,500.00	2,500
				139,513
9. Stairs & Vertical Transportation				
ADA compliance with existing stairs, remodel	2	FLT	4,200.00	8,400
New fire escape	1	EA	7,500.00	7,500
				15,900
10. Plumbing Systems				
New fixtures with realigned piping, supply and vent	20	FX	2,800.00	56,000
Roof drainage	233,640	SF	1.15	268,686
				324,686

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
11. Heating, Ventilation & Air Conditioning				
Restore existing gas air heaters, provide radiant heat to office with controls	8,295	SF	9.00	74,655
Provide ventilation as required				
Office	8,295	SF	4.50	37,328
Warehouse	225,345	SF	1.50	338,018
				450,000
12. Electrical Lighting, Power & Communication				
Update power systems	233,640	SF	2.25	525,690
Update lighting	233,640	SF	3.50	817,740
Communications and life safety	233,640	SF	0.90	210,276
Building controls	233,640	SF	0.20	46,728
				1,600,434

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
13. Fire Protection Systems				
Adapt existing wet fire protection system	233,640	SF	1.50	350,460
				350,460
14. Site Preparation & Building Demolition				
Shell demolition	320	HR	65.00	20,800
Interior demolition	128	HR	55.00	7,040
Hazardous material allowance	200	HR	150.00	30,000
				57,840
15. Site Paving, Structures & Landscaping				
16. Utilities on Site				
Tie into existing utilities, no upgrades	1	LS	50,000	50,000
				50,000

Building 808 **Oakland Army Base Reuse**

Proposed Use: Multi-Tenant Size: 233,640 gross sf
Mercantile/Retail/Food Service
Occupancy: Group M (Mercantile), Group A (Assembly), Division 2.1 (occupant load over 300)

No.	Section	description
02520	Demolition	
	Shell Demolition	Demo existing, non-historic metal windows, approx. 16
	Interior Partition Demolition	Demo all existing, non-historic + historic partitions
1	Building Site	
02070	Selective Protection and Salvage	Stable historic heavy timber structure should be protected, damaged lumber should be sold for salvage and replaced, approx. 3%. Sell approx. 20 existing sliding wood doors
02080	Hazardous Materials Abatement	Remove all asbestos-vinyl tile (750 sf), linoleum (100sf), mezz. east wall gasket and pipe covering where encountered.
02740	Asphaltic Concrete Paving	Provide allowance for parking and loading docks improvements as indicated on the plan, approx. 5 locations
2	Building Shell	
2a	Foundations	R+C see attached notes
02455	Driven Piles	R+C
02480	Foundation Footings	R+C
	Foundation Drainage	R+C
03700	Concrete Restoration and Cleaning	R+C
2b	Vertical Structure	R+C see attached notes
06310	Heavy Timber Construction	R+C
	Columns and Bracing	R+C
2c	Horizontal Structure	R+C see attached notes
06310	Heavy Timber Construction	R+C
06150	Heavy Timber Roof Construction	R+C
3	Exterior Closure	
06160	Sheathing	Replace 2% of diagonal wood board sheathing
06260	Wood siding	Replace 3% of horizontal wood siding
07200	Insulation	Add in unfinished walls in office areas, repaint
08200	Wood Doors	Add (16) new exterior entrance doors per plan 10 of which are in original openings, verify existance of openings
08410	Alum. Entrances and Storefronts	Provide (5) recessed storefront entrances per plan. Provide (18) new storefront windows, in historic door loc. see plan
08211	Wood Door Restoration (E)	Refurbish approx. 20% of most damaged existing sliding wood doors, clean and repaint all. Fix close approx. 11 sliding doors
08515	Wood Window Restoration	Refurbish, clean and repair all (E) wood windows Provide approx. (16) new wood windows to match existing Refurbish approx. 10% of most damaged existing wood wind.
08710	Hardware	Provide new hardware for doors and windows to match existing
08715	Hardware Restoration	Refurbish (E) historic hardware

Building 808 **Oakland Army Base Reuse**

Proposed Use: Multi-Tenant Mercantile/Retail/Food Service — Size: 233,640 gross sf

Occupancy: Group M (Mercantile), Group A (Assembly), Division 2.1 (occupant load over 300)

No.	Section	description
4	**Roofing**	
07510	Built up Bituminous Roofing	Provide (N) bituminous roofing on approx. 15% of roof
06150	Wood Decking	Provide (N) wood decking on approx. 2% of roof
07720	Roof Accessories	Provide Vents, hatches, curbs and walks as required
5	**Interiors**	
5a	**Interior Partitions**	
06200	Rough Carpentry	*Provide necessary wood studs and furring for interior partitions per plan, approx. 3,224 lf*
		Verify 1hr. rating on fire wall occupancy separations
09100	Metal Support Systems	*Provide necessary metal studs and furring for interior partitions per plan, approx. 3,224 lf*
09253	Gypsum Sheathing	Provide over metal or wood framing
09500	Acoustical Systems	Provide Batt insul. in a double stud wall between restrooms, mechanical room and in all (N) partition walls
08211	Wood Door Restoration	Fix Close (4) large interior fire doors, maintain 1hr. Separation
08110	Steel Doors and Frames	Provide (60-70) new interior rated doors per plan
08410	Alum. Entrances and Storefronts	Provide (11) new interior storefront windows in small retail spaces
		Provide (9) new interior storefront entrances in small retail spaces
08510	Steel Windows	Provide (25) new interior borrowed light windows
5b	**Flooring Systems**	
09780	Floor Treatment	see finish schedule
5c	**Finishes**	see finish schedule
09300	Tile	see finish schedule
09650	Resilient Flooring	see finish schedule
09680	Carpet	see finish schedule
09900	Painting	see finish schedule
09950	Wall Covering	see finish schedule
6	**Functional Equipment**	
11160	Loading Dock Equipment	Provide min. nec. equip. to make ent. accessible to deliveries
11400	Food Service Equipment	Provide full outfit for (4) spaces, each to service max. 50 people
11460	Unit Kitchen	Provide equipment for (5) staff break rooms, ie. refrig., counter, microwave, sink...
7	**Vertical Transportation**	
	Stairs	Upgrade stairs to mezz. Provide (16) new conc. exterior stairs
	Ramps	Provide (11) new exterior accessible ramps, per plan
05500	Metal Fabrications - Fire escape	Provide (1) metal fire escape stair from mezzanine office per plan
8	**Mechanical**	
15300	Fire protection	Adapt (E) sprinkler + cont. to accom. 5 zones, provide FE per code
15400	Plumbing	Update plumbing to accommodate new restrooms per plan
15750	Heat Transfer	Provide radiant heat for all offices. Provide (4) sm. furnaces and hot water for 16,560 sf of office/restroom space. Provide zoned forced hot air + hot water for 30,360 sf of small retail space.

Building 808 **Oakland Army Base Reuse**

Proposed Use: Multi-Tenant Mercantile/Retail/Food Service
Size: 233,640 gross sf
Occupancy: Group M (Mercantile), Group A (Assembly), Division 2.1 (occupant load over 300)

No.	Section	description
8	Mechanical, cont.	
15750	Heat Transfer, cont.	Provide minimal space heaters for remainder 186,720 sf of mercantile spaces
15838	Power Ventilators	Provide as required for ventilation and circulation
9	Electrical	
15050	Basic Electrical Materials & Methods	Update and provide basic power to level of mercantile mercantile offices, and small retail
16500	Lighting	Update and provide basic lighting to level of mercantile mercantile offices, and small retail
16700	Communications	Update and provide basic telecommunications to level of mercantile, mercantile offices, and small retail
16900	Building Controls	Provide security and controls systems to level of mercantile mercantile offices, and small retail

Building 808 **Oakland Army Base Reuse**

Proposed Use: Multi-Tenant Mercantile/Retail/Food Service — Size: 233,640 gross sf

Occupancy: Group M (Mercantile), Group A (Assembly), Division 2.1 (over 300)

Space	Finish		
	Floor	Base	Walls
(4) main mercantile warehouses	1	5,13	9,13
(4) main mercantile offices	2	5	9
Restrooms	3	7	3,9
(1) larger retail space	4	5	9
(8) smaller retail spaces	2	5	9
Retail space galleria	1	13	9
Retail office spaces	2	5	9
New mechanical spaces	1	5	9,13
Mezzanine offices	4	5	9

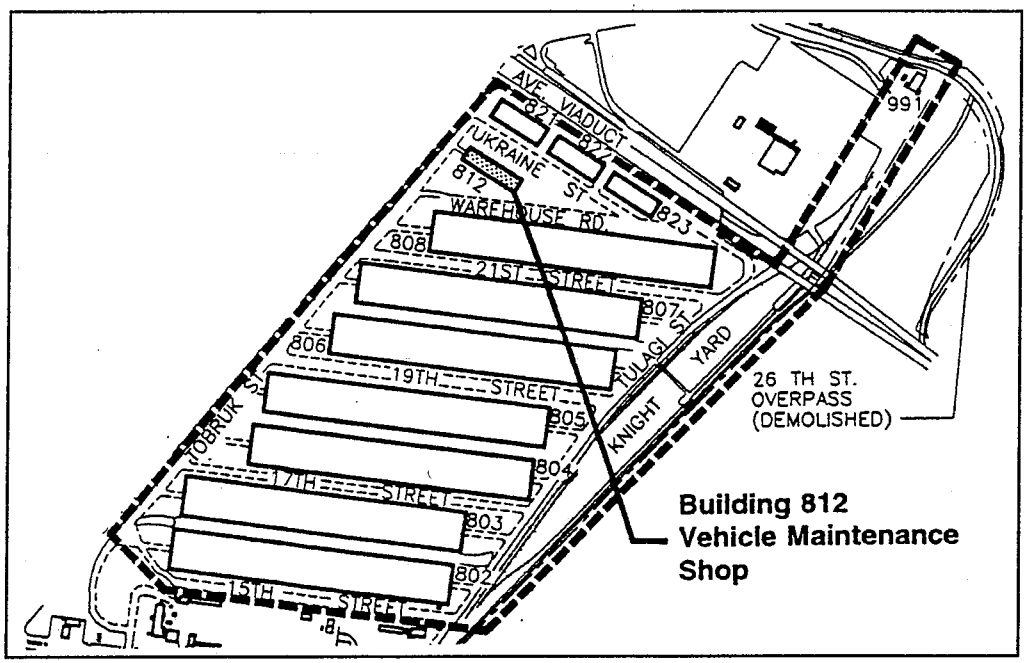
Key	
Concrete	1
VCT	2
Ceramic Tile	3
Carpet	4
Resilient base	5
Stone base	6
Tile Base	7
Wood Base	8
Paint	9
New Plaster to match existing	10
Repair Existing Plaster	11
Fabric Panels	12
Unfinished - No gyp. board or base	13
Treated Existing wood floor	14
Unfinished wood decking	15

BUILDING #808, MULTI-TENANT MERCANTILE/ RETAIL/ FOOD SERVICE

Gross Area: 233,640 SF

		$/SF	$x1,000
1. Foundations		1.84	431
2. Vertical Structure		2.61	610
3. Floor & Roof Structures		4.68	1,094
4. Exterior Cladding		1.00	233
5. Roofing & Waterproofing		0.72	168
Shell (1-5)		10.86	2,537
6. Interior Partitions, Doors & Glazing		3.54	828
7. Floor, Wall & Ceiling Finishes		7.22	1,687
Interiors (6-7)		10.76	2,514
8. Function Equipment & Specialties		4.02	940
9. Stairs & Vertical Transportation		0.07	16
Equipment & Vertical Transportation (8-9)		4.09	955
10. Plumbing Systems		2.30	536
11. Heating, Ventilating & Air Conditioning		4.49	1,050
12. Electric Lighting, Power & Communications		8.56	2,000
13. Fire Protection Systems		1.50	350
Mechanical & Electrical (10-13)		16.85	3,937
Total Building Construction (1-13)		**42.56**	**9,944**
14. Site Preparation & Demolition		0.25	58
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		0.21	50
Total Site Construction (14-16)		**0.46**	**108**
TOTAL BUILDING & SITE (1-16)		**43.02**	**10,052**
General Conditions	14.00%	6.02	1,407
Contractor's Overhead & Profit or Fee	6.50%	3.19	745
PLANNED CONSTRUCTION COST	***April 2002***	**52.23**	**12,204**
Contingency for Design Development	12.50%	6.53	1,525
Allowance for Rising Costs	8.00%	4.70	1,098
RECOMMENDED BUDGET	***October 2003***	**63.46**	**14,827**

Building 812 Vehicle Maintenance Shop



Rehabilitation Cost Estimate Data

Building 812 **Oakland Army Base Reuse**

Proposed Use: Market Hall Size: 18,345 gross sf

Occupancy: Group A (Assembly), Division 2.1 (Occupant load over 300)

No.	Section	description
02520	Demolition	
	Shell Demolition	Demo non-historic vestibule on north side of exterior
		Remove all non-historic roll-up metal doors, approx. 12
		Remove all non-historic wall/openings - covering orig. window and door openings, approx.11 windows, 4 doors, per plan
	Interior Partition Demolition	Demo all non-historic and historic int. partitions, approx.430 lf
1	Building Site	
02070	Selective Protection and Salvage	Stabilize historic lumber, protect. Any damaged or removed lumber to be sold for salvage, approx. 5%
02080	Hazardous Materials Abatement	Remove asbestos vinyl tile, *1309 sf* , pipe cov. where encountered
		Remove all ext. asbestos-cement boards on clerestory, 3360 sf
		Remove all ext. corr. fiberglass panels on clerestory, 3360 sf
		Remove all interior transite panels, 3710 sf
02740	Asphaltic Concrete Paving	Provide additional layer of paving to level floor
2	Building Shell	
2a	Foundations	R+C see attached notes
02455	Driven Piles	R+C
	Perimeter Grade Beams	R+C
	Foundation Drainage	R+C
03700	Concrete Restoration and Cleaning	R+C
2b	Vertical Structure	R+C see attached notes
06310	Heavy Timber Construction	R+C
	Columns and Bracing	R+C
2c	Horizontal Structure	R+C see attached notes
06310	Heavy Timber Construction	R+C
	Heavy Timber Roof Construction	R+C
3	Exterior Closure	
06160	Sheathing	Replace 8% of horizontal wood board sheathing
06260	Wood siding	Replace 10% of horizontal wood siding
08211	Wood Door Restoration (N)	Provide (14) new historic *fixed* double wood doors per plan
		Provide (2) new lg. historic operable double wood dr's per plan
08410	Alum. Entrances and Storefronts	Provide (2) new recessed storefront entrance per plan
08550	Wood Window Restoration	Refurbish, clean and repair all (E) windows. Provide approx. (15) windows & (40) clearstory window units to match historic, per plan
08710	Hardware	Restore (E) and provide new for drs + wind. to match existing
		Provide (N) locks for all operable historic windows
4	Roofing	
07510	Built up Bituminous Roofing	Provide (N) bituminous roofing on flat roof
07311	Asphalt shingles	Provide (N) asphalt shingles and underlayment on sloped roofs
07720	Roof Accessories	Provide Vents, hatches, curbs and walks as required

Building 812 **Oakland Army Base Reuse**

Proposed Use: Market Hall Size: 18,345 gross sf

Occupancy: Group A (Assembly), Division 2.1 (Occupant load over 300)

No.		
5		
5a		
06200	Finish Carpentry	*Provide necessary wood studs and furring for interior partitions per plan, approx.800 lf (only if wood is applicable)*
09100	Metal Support Systems	*Provide necessary metal studs and furring for interior partitions per plan, approx.800 lf (only if metal is applicable)*
09253	Gypsum Sheathing	Provide over metal or wood framing
09500	Acoustical Systems	Provide Batt insul. in a double stud wall between restrooms, mechanical room and other noise producing spaces
08110	Steel Doors and Frames	Provide (10) new interior rated doors per plan
08510	Steel Windows	Provide (5) new interior borrowed light windows
5b	**Flooring Systems**	
09780	Floor Treatment	see finish schedule
5c	**Finishes**	see finish schedule
09300	Tile	see finish schedule
09650	Resilient Flooring	see finish schedule
09680	Carpet	see finish schedule
09900	Painting	see finish schedule
09950	Wall Covering	see finish schedule
6	**Functional Equipment**	
11160	Loading Dock Equipment	Provide necessary equipment to make entrance accessible to delivery trucks
11460	Unit Kitchen	Provide staff break-room equipment ie. refrig. counter, microwave, sink...
7	**Vertical Transportation**	
	Stairs	Upgrade (E) wood stairs to mezzanine
8	**Mechanical**	
15300	Fire protection	Provide extinguishers per code
15400	Plumbing	Update plumbing to accommodate new restrooms per plan Provide water outlet in eah stall.
15750	Heat Transfer	Restore existing infrared heaters, provide controls @ 4 zones Provide radiant heat for office & restroom space, provide small furnace and hot water heater for 2200sf of office/restroom space
15838	Power Ventilators	Provide as required for ventilation and circulation
15834	Air Curtains	Provide over (2) large door entrances
9	**Electrical**	
15050	Basic Electrical Materials & Methods	Update and provide basic power to level of assembly, min. 2 duplexes per each tenant stall. Disable crane, remove power preserve connections for possible future restoration
16500	Lighting	Update existing, and provide basic individually controlled lighting per each stall, as well as office and restroom spaces
16700	Communications	Update and provide basic telecommunications to level of assembly, (1) phone jack per each stall.
16900	Building Controls	Provide security and control systems to level of assembly

Building 812 **Oakland Army Base Reuse**

Proposed Use: Market Hall Size: 18,345 gross sf

Occupancy: Group A (Assembly), Division 2.1 (Occupant load over 300)

Space	Finish		
	Floor	Base	Walls
Main Space	1	13	13
Entrance vestibules	1	9,mtl. Frame	9,mtl. frame
Office space	2	5	9,13
Restrooms	3	7	3,9
Mezzanine Office	14	8	9

Key	
Concrete - with sealer	1
VCT	2
Ceramic Tile	3
Carpet	4
Resilient base	5
Stone base	6
Tile Base	7
Wood Base	8
Paint	9
New Plaster to match existing	10
Repair Existing Plaster	11
Fabric Panels	12
Unfinished - No gyp. board or base	13
Treated Existing wood floor	14
Unfinished wood decking	15

BUILDING #812, MARKET HALL OPTION AREAS & CONTROL QUANTITIES

Areas

	SF	SF	SF
Enclosed Areas			
Building #812, Market Hall Option	18,345		
SUBTOTAL, Enclosed Area		18,345	
Covered area			
SUBTOTAL, Covered Area @ ½ Value			
TOTAL GROSS FLOOR AREA			18,345

BUILDING #812, MARKET HALL OPTION COMPONENT SUMMARY

Gross Area: 18,345 SF

		$/SF	$x1,000
1. Foundations		6.70	123
2. Vertical Structure		13.05	239
3. Floor & Roof Structures		4.97	91
4. Exterior Cladding		15.00	275
5. Roofing & Waterproofing		6.64	122
Shell (1-5)		46.37	851
6. Interior Partitions, Doors & Glazing		2.42	44
7. Floor, Wall & Ceiling Finishes		4.58	84
Interiors (6-7)		7.00	128
8. Function Equipment & Specialties		2.33	43
9. Stairs & Vertical Transportation		0.87	16
Equipment & Vertical Transportation (8-9)		3.20	59
10. Plumbing Systems		3.01	55
11. Heating, Ventilating & Air Conditioning		3.18	58
12. Electric Lighting, Power & Communications		12.33	226
13. Fire Protection Systems		0.37	7
Mechanical & Electrical (10-13)		18.89	347
Total Building Construction (1-13)		**75.45**	**1,384**
14. Site Preparation & Demolition		8.31	152
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		0.82	15
Total Site Construction (14-16)		**9.13**	**167**
TOTAL BUILDING & SITE (1-16)		**84.58**	**1,552**
General Conditions	14.00%	11.83	217
Contractor's Overhead & Profit or Fee	6.50%	6.27	115
PLANNED CONSTRUCTION COST	***April 2002***	**102.68**	**1,884**
Contingency for Design Development	12.50%	12.81	235
Allowance for Rising Costs	8.00%	9.21	169
RECOMMENDED BUDGET	***October 2003***	**124.70**	**2,288**

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
1. Foundations				
Structural work				
Existing perimeter footing upgrade	672	LF	55.00	36,960
Existing piers	42	EA	750.00	31,500
Brace frame foundations including excavation, shoring, formwork, reinforcement and	124	CY	225.00	28,000
Miscellaneous metals	1	LS	8,500.00	8,500
Foundation drainage	1	LS	18,000.00	18,000
				122,960
2. Vertical Structure				
Shearwall and bracing				
Plywood and tie-downs	8,700	SF	12.00	104,400
Tube steel reinforcement	15,000	LB	2.50	37,500
New brace frames, one story each	14	EA	5,500.00	77,000
Columns and pilasters				
Hold-down hardware	84	EA	125.00	10,500
Top and bottom plate hardware				
Bolt into existing structure	1,008	EA	10.00	10,080
				239,480
3. Floor and Roof Structure				
Floor at lowest level				
Reinforced concrete at slab on grade patch and repair	18,345	SF	3.00	55,035
Suspended floors				
Replace existing wood floors as needed, new joists, blocking and plywood, mezzanine area	425	SF	6.00	2,550

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
Roof system				
Replace existing joists, blocking and plywood as needed. Assume 5% of gross roof area	917	SF	12.50	11,466
Tie into new brace frame system	14	EA	1,575.00	22,050
				91,101
4. Exterior Cladding				
Exterior cladding				
Diagonal sheathing, 8% of area	1,720	SF	8.00	13,763
Horizontal wood siding, 10% of area	2,150	SF	10.00	21,504
Paint entire building	21,504	SF	1.15	24,730
Exterior wall insulation	2,368	SF	0.95	2,250
Doors, frames and hardware				
New doors to match existing				
Double to match existing	14	PR	6,600.00	92,400
Double to match existing, large	2	EA	9,000.00	18,000
New hardware on existing doors	1	LS	7,500.00	7,500
Windows				
Refurbish existing windows	384	HR	65.00	24,960
New window units	1,180	SF	55.00	64,900
New aluminum storefront doors	2	EA	2,600.00	5,200
				275,206
5. Roofing, Waterproofing & Skylights				
Roof insulation				
Rigid insulation, 4"	9,010	SF	4.50	40,545
Roof surfacing				
Asphalt shingles at sloping roof	10,971	SF	3.00	32,913
Built-up roof, with flashing etc.	9,010	SF	3.75	33,788
Traffic pads	120	LF	55.00	6,600

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
Roof accessories				
Roof access	1	LS	8,000.00	8,000
				121,846

6. Interior Partitions, Doors & Glazing

Partition framing and cores				
New steel stud framing, 18 ga.	800	SF	14.00	11,200
Partition surfacing				
New gypsum board, taped, sanded	1,371	SF	2.25	3,085
Existing wall with new gypsum board	1,400	SF	2.25	3,150
Gypsum board underlayment	343	SF	2.00	686
Sound insulation				
Batt insulation in walls	800	SF	0.90	720
Doors, frames and hardware				
Single	8	EA	1,400.00	11,200
Double	2	PR	2,400.00	4,800
Interior glazing				
Steel windows	240	SF	40.00	9,600
				44,440

7. Floor, Wall & Ceiling Finishes

Floor finishes				
Concrete sealer	15,176	SF	1.50	22,764
Ceramic tile	969	SF	12.00	11,628
VCT	2,200	SF	5.00	11,000
Wall finishes				
Paint	5,500	SF	1.00	5,500
Ceramic tile	1,744	SF	12.00	20,930

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
Ceiling finishes				
Paint	969	SF	1.15	1,114
Acoustic ceiling tile	2,200	SF	5.00	11,000
				83,937
8. Function Equipment & Specialties				
Allowance for wayfinding signage, restore/ refinish building I.D. signage "Vehicle Maintenance Shop"	18,345	SF	0.45	8,255
Partitions & Accessories				
Toilet partitions	12	EA	900.00	10,800
Toilet accessories	30	EA	400.00	12,000
Cabinets & Casework				
Storage shelving	80	LF	30.00	2,400
Kitchen cabinets	25	LF	275.00	6,875
Equipment				
Kitchen equipment	1	LS	2,500.00	2,500
				42,830
9. Stairs & Vertical Transportation				
ADA compliance with existing stairs, remodel	2	FLT	4,200.00	8,400
New fire escape	1	EA	7,500.00	7,500
				15,900

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
10. Plumbing Systems				
New fixtures with realigned piping, supply and vent	16	FX	2,800.00	44,800
Roof drainage	9,010	SF	1.15	10,362
				55,162
11. Heating, Ventilation & Air Conditioning				
Restore existing infrared heaters, provide radiant heat to office with controls	2,200	SF	7.50	16,500
Provide ventilation as required				
Office	2,200	SF	4.50	9,900
Warehouse	16,145	SF	1.50	24,218
Air curtains	2	EA	3,900.00	7,800
				58,418
12. Electrical Lighting, Power & Communication				
Update power systems	18,345	SF	4.50	82,553
Update lighting	18,345	SF	5.25	96,311
Communications and life safety	18,345	SF	1.75	32,104
Building controls	18,345	SF	0.50	9,173
Selective demolition of crane power	80	HR	75.00	6,000
				226,140

COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
13. Fire Protection Systems				
Fire extinguishers with cabinets	8	EA	850.00	6,800
				6,800
14. Site Preparation & Building Demolition				
Shell demolition	576	HR	65.00	37,440
Interior demolition	128	HR	55.00	7,040
Hazardous material allowance	720	HR	150.00	108,000
				152,480
15. Site Paving, Structures & Landscaping				
16. Utilities on Site				
Tie into existing utilities, no upgrades	1	LS	15,000	15,000
				15,000

ALTERNATES COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
Building #99, Light Industrial Option with Additional Office				
Additional scope				
Component Sections 6.0, 7.0, 8.0	7,100	SF	5.72	40,612
Component Sections 11.0, 12.0, 14.0	7,100	SF	15.70	111,470
Markups	47.51	%	152,082	72,259
				224,341
Building #808, Multi-Tenant Mercantile/ Retail/ Food Servic				
Additional scope				
Component Sections 6.0, 7.0, 8.0	53,856	SF	50.00	2,692,800
Component Sections 11.0, 12.0, 14.0	53,856	SF	22.50	1,211,760
Markups	47.51	%	3,904,560	1,855,179
				5,759,739
Building #808, Partial Retention				
Demolition				
Demolish 50% of Building, salvage timbers	3,037,320	CF	0.20	607,464
Demolish loading docks	20	EA	4,500.00	90,000
New construction				
New footing on end wall	180	LF	110.00	19,800
New framing and sheathing, siding and interior finish	4,680	SF	26.00	121,680
Glazing at 15% of area	702	SF	55.00	38,610
Building #808, Multi-Tenant Mercantile/ Retail/ Food Service	116,820	SF	63.47	7,414,433
Markups	47.51	%	8,291,987	3,939,784
				12,231,772

ALTERNATES COMPONENT BUDGET	*Quantity*	*Unit*	*Rate/ Unit Cost*	*Total $*
Building #812, Market Hall/ Gallery Option				
Additional scope				
Component Sections 6.0, 7.0, 8.0	2,240	SF	40.00	89,600
Component Sections 11.0, 12.0, 14.0	2,240	SF	25.00	56,000
Markups	47.51	%	145,600	69,179
				214,779
Demolition of Existing Buildings				
Demolition by building, includes hauling and disposal, no reuse or salvage				
Building #1, Administration	4,860,000	CF	0.35	1,701,000
Building #60, Cafeteria	291,500	CF	0.25	72,875
Building #88, Storehouse	445,360	CF	0.15	66,804
Building #99, Shop Warehouse Option	2,294,250	CF	0.15	344,138
Building #808, Warehouse	6,074,640	CF	0.15	911,196
Building #812, Market Hall Option	458,625	CF	0.15	68,794
Markups	20.00	%	3,164,806	632,961
				3,797,768

Building 812 **Oakland Army Base Reuse**

Proposed Use: Exhibit Hall/Gallery Space Size: 18,345 gross sf

Occupancy: Group A (Assembly), Division 2.1 (Occupant load over 300)

No.	Section	description
02520	Demolition	
	Site Demolition	Demo interior asphalt paving
	Shell Demolition	Demo non-historic vestibule on north side of exterior
		Remove all non-historic roll-up metal doors, approx. 12
		Remove all non-historic wall/openings - covering orig. window and door openings, approx.11 windows, 4 doors, per plan
	Interior Partition Demolition	Demo all non-historic and historic int. partitions, approx.430 lf
1	Building Site	
02070	Selective Protection and Salvage	Stabilize historic lumber, protect. Any damaged or removed lumber to be sold for salvage, approx. 5%
02080	Hazardous Materials Abatement	Remove asbestos vinyl tile,*1309 sf,* pipe cov. where encountered
		Remove all ext. asbestos-cement boards on clerestory, 3360 sf
		Remove all ext. corr. fiberglass panels on clerestory, 3360 sf
		Remove all interior transite panels, 3710 sf
02740	Concrete	Provide new level concrete floor, see finish schedule
2	Building Shell	
2a	Foundations	R+C see attached notes
02455	Driven Piles	R+C
	Perimeter Grade Beams	R+C
	Foundation Drainage	R+C
03700	Concrete Restoration and Cleaning	R+C
2b	Vertical Structure	R+C see attached notes
06310	Heavy Timber Construction	R+C
	Columns and Bracing	R+C
2c	Horizontal Structure	R+C see attached notes
06310	Heavy Timber Construction	R+C
	Heavy Timber Roof Construction	R+C
3	Exterior Closure	
06160	Sheathing	Replace 8% of horizontal wood board sheathing
06260	Wood siding	Replace 10% of horizontal wood siding
08211	Wood Door Restoration (N)	Provide (12) new historic *fixed* double wood doors per plan
		Provide (2) new historic *operable* double wood doors per plan
		Provide (2) new lg. historic *operable* sliding wood dr's per plan
08410	Alum. Entrances and Storefronts	Provide (3) new recessed storefront entrance per plan
08550	Wood Window Restoration	Refurbish, clean and repair all (E) windows. Provide approx. (15) windows & (40) clearstory window units to match historic, per plan
08710	Hardware	Restore (E) and provide new for drs + wind, provide window locks
4	Roofing	
07510	Built up Bituminous Roofing	Provide (N) bituminous roofing on flat roof
07311	Asphalt shingles	Provide (N) asphalt shingles and underlayment on sloped roofs
07720	Roof Accessories	Provide Vents, hatches, curbs and walks as required

Building 812 **Oakland Army Base Reuse**

Proposed Use: Exhibit Hall/Gallery Space Size: 18,345 gross sf

Occupancy: Group A (Assembly), Division 2.1 (Occupant load over 300)

No.	Section	Description
5		
5a	Interior Partitions	
06200	Finish Carpentry	*Provide necessary wood studs and furring for interior partitions per plan, approx.480 lf*
09100	Metal Support Systems	*Provide necessary metal studs and furring for interior partitions per plan, approx.480 lf*
09253	Gypsum Sheathing	Provide over metal or wood framing
09500	Acoustical Systems	Provide Batt insul. in a double stud wall between restrooms, mechanical room and other noise producing spaces
08110	Steel Doors and Frames	Provide (14) new interior rated doors per plan
08510	Steel Windows	Provide (5) new interior borrowed light windows
5b	**Flooring Systems**	
09780	Floor Treatment	see finish schedule
5c	**Finishes**	see finish schedule
09300	Tile	see finish schedule
09650	Resilient Flooring	see finish schedule
09680	Carpet	see finish schedule
09900	Painting	see finish schedule
09950	Wall Covering	see finish schedule
6	Functional Equipment	
11160	Loading Dock Equipment	Provide necessary equipment to make entrance accessible to delivery trucks
11460	Unit Kitchen	Provide staff break-room equipment ie. refrig. counter, microwave, sink...and min. equipt. for small cafe
7	Vertical Transportation	
	Stairs	Upgrade (E) wood stairs to mezzanine, provide fire escape
8	Mechanical	
15300	Fire protection	Provide extinguishers per code
15400	Plumbing	Update plumbing to accommodate new restrooms per plan
15750	Heat Transfer	Restore existing infrared heaters, provide controls @ 4 zones Provide radiant heat for office & restroom space, provide small furnace and hot water heater for 2200sf of office/restroom space
15736	Self-contained air conditioning units	Provide (1) small < 15 tons for back of house climate control
15838	Power Ventilators	Provide as required for ventilation and circulation
15834	Air Curtains	Provide over (2) large door entrances
9	Electrical	
15050	Basic Electrical Materials & Methods	Update and provide basic power to level of exhibition, min. 1 duplex per each bay. Restore crane, maintain and service connections, apply safety devices and warnings per code
16500	Lighting	Update existing, and provide basic individually controlled lighting per each stall, as well as office and restroom spaces
16700	Communications	Update and provide basic telecommunications to level of media exhibition, (1) phone jack per each 2 bays.
16900	Building Controls	Provide security and control systems to level of exhibition

Building 812 **Oakland Army Base Reuse**

Proposed Use: Exhibit Hall/Gallery Space Size: 18,345 gross sf

Occupancy: Group A (Assembly), Division 2.1 (Occupant load over 300)

Space	Finish		
	Floor	Base	Walls
Main exhibit space	1	13	13
Entrance vestibules	1	9,mtl. Frame	9,mtl. frame
Office space	4	5	9
Restrooms	3	7	3,9
Mezzanine Office	14	8	9
Back of House Storage	1	5	9,13

Key	
Concrete - with sealer	1
VCT	2
Ceramic Tile	3
Carpet	4
Resilient base	5
Stone base	6
Tile Base	7
Wood Base	8
Paint	9
New Plaster to match existing	10
Repair Existing Plaster	11
Fabric Panels	12
Unfinished - No gyp. board or base	13
Treated Existing wood floor	14
Unfinished wood decking	15

Building #812, Exhibit Hall/ Gallery Option COMPONENT SUMMARY

Gross Area: 18,345 SF

		$/SF	$x1,000
1. Foundations		6.70	123
2. Vertical Structure		13.05	239
3. Floor & Roof Structures		4.97	91
4. Exterior Cladding		15.00	275
5. Roofing & Waterproofing		6.64	122
Shell (1-5)		46.37	851
6. Interior Partitions, Doors & Glazing		4.04	74
7. Floor, Wall & Ceiling Finishes		6.76	124
Interiors (6-7)		10.79	198
8. Function Equipment & Specialties		3.42	63
9. Stairs & Vertical Transportation		0.87	16
Equipment & Vertical Transportation (8-9)		4.29	79
10. Plumbing Systems		3.33	61
11. Heating, Ventilating & Air Conditioning		4.82	88
12. Electric Lighting, Power & Communications		13.42	246
13. Fire Protection Systems		0.37	7
Mechanical & Electrical (10-13)		21.94	403
Total Building Construction (1-13)		**83.39**	**1,530**
14. Site Preparation & Demolition		8.31	152
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		0.82	15
Total Site Construction (14-16)		**9.13**	**167**
TOTAL BUILDING & SITE (1-16)		**92.52**	**1,697**
General Conditions	14.00%	12.97	238
Contractor's Overhead & Profit or Fee	6.50%	6.87	126
PLANNED CONSTRUCTION COST	***April 2002***	**112.36**	**2,061**
Contingency for Design Development	12.50%	14.06	258
Allowance for Rising Costs	8.00%	10.14	186
RECOMMENDED BUDGET	***October 2003***	**136.57**	**2,505**

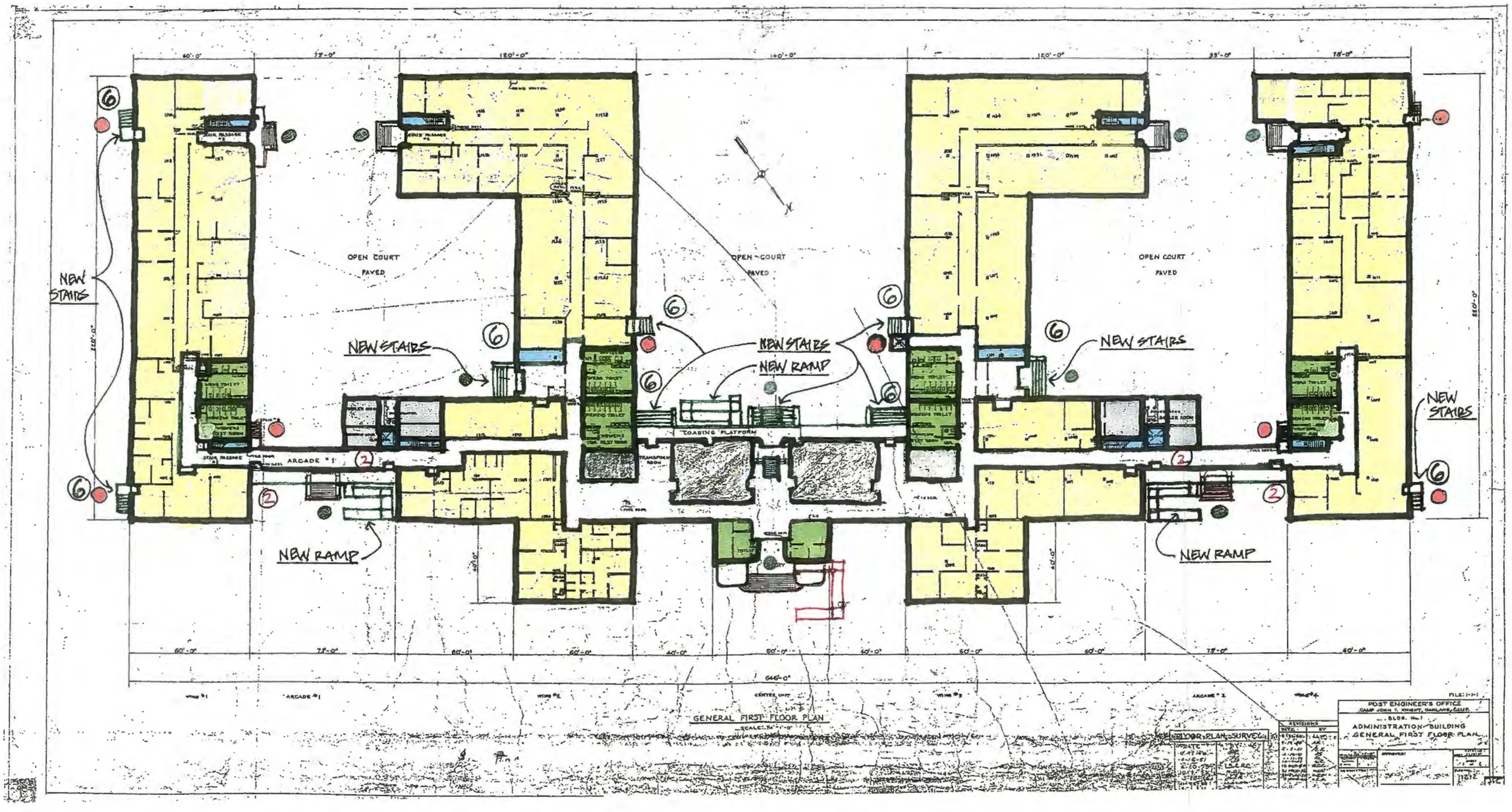
Insert Building 1 Schematic Diagram – Second Floor

Building 1

First Floor

Multi-Tenant Office

RIPLEY

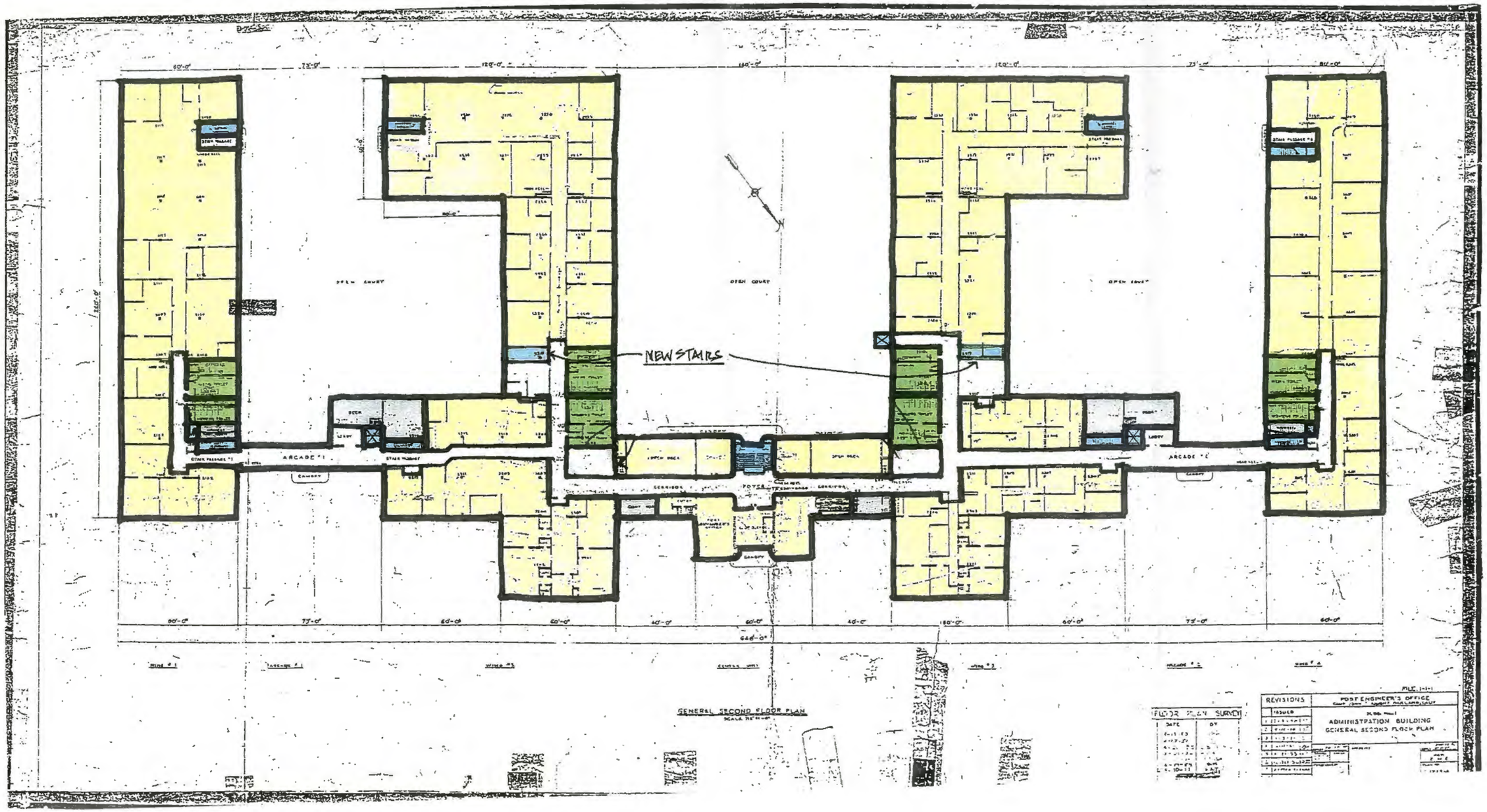


Building 1

Second Floor

Multi-Tenant Office

RIPLEY ARCHITECTS



5.2.2 Building 60: Cafeteria

Rehabilitation Recommendations

Building 60 was built in 1942 as a cafeteria serving the occupants of the Administration Building and rest of the nearby warehouses. Modern use of the building has also mirrored its historic use. An operable partition and other minor plan changes have been implemented in the building for dining and meeting uses. Like Building 1, if this building is rehabilitated, we would recommend that it be restored to it historic use.

Though in reasonable condition, the building has been significantly altered from its original appearance. Improvements would be necessary to bring the building up to code, and restore it's original character. The following is a brief description of specific proposed building component recommendations.

Reuse Option: Food Service

Size: 12,690 gross sf
Occupancy: Group A (Assembly) Div. 2.1 (Assembly room with occupancy load over 300)

The proposed schematic diagram is located at the end of this section. The basic intent for a possible rehabilitation of this building would be to restore it to its original character, namely one large open space flanked by lower scaled dining and support spaces. Reintroduction of clerestory lighting and interior characteristics would be important. Two new public bathrooms would be proposed behind the main space. New stairs and ramps would be required to bring this building up to ADA requirements for an assembly space, and are indicated on the schematic diagram in the most efficient locations. All the historic access points would be restored, with the exception that the exterior located access to the existing bathrooms will be moved to the interior.

The cost estimate component summary for building 60 is outlined below. This is followed by a descriptive summary of the buildings' proposed rehabilitation components for this reuse option.

BUILDING #60, CAFETERIA COMPONENT SUMMARY

		Gross Area: 13,250 SF	
		$/SF	$x1,000
1. Foundations		11.88	157
2. Vertical Structure		14.83	197
3. Floor & Roof Structures		11.40	151
4. Exterior Cladding		22.47	298
5. Roofing & Waterproofing		9.21	122
Shell (1-5)		69.80	925
6. Interior Partitions, Doors & Glazing		9.14	121
7. Floor, Wall & Ceiling Finishes		17.57	233
Interiors (6-7)		26.72	354
8. Function Equipment & Specialties		22.94	304
9. Stairs & Vertical Transportation		0.00	0
Equipment & Vertical Transportation (8-9)		22.94	304
10. Plumbing Systems		7.07	94
11. Heating, Ventilating & Air Conditioning		17.33	230
12. Electric Lighting, Power & Communications		19.25	255
13. Fire Protection Systems		0.00	0
Mechanical & Electrical (10-13)		43.64	578
Total Building Construction (1-13)		**163.10**	**2,161**
14. Site Preparation & Demolition		9.17	121
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		3.77	50
Total Site Construction (14-16)		**12.94**	**171**
TOTAL BUILDING & SITE (1-16)		**176.04**	**2,333**
General Conditions	14.00%	24.68	327
Contractor's Overhead & Profit or Fee	6.50%	13.06	173
PLANNED CONSTRUCTION COST	***April 2002***	**213.78**	**2,833**
Contingency for Design Development	12.50%	26.72	354
Allowance for Rising Costs	8.00%	19.25	255
RECOMMENDED BUDGET	***October 2003***	**259.74**	**3,442**

Building Shell

Minor structural work to the foundation would be necessary for the proposed removal of the non-historic addition. Foundation drainage would also be necessary to prevent future damage to the building. If the building is renovated, the existing plaster infill over the historic clerestory windows in the main dining space should be removed and the historically compatible windows be refurbished or replaced if required. The repair and patching of the exterior sheathing and finish would be necessary at these and other damaged areas. Minimal seismic upgrades would be necessary. For future efficiency, the exterior walls would be insulated; this can be blown into the walls to minimize disruption of historic fabric, and reduce costs. To increase efficiency, a new roof system including a rigid insulation substrate would be installed. As noted above, concrete stairs and ramps conforming to the CBC would be necessary for accessibility. The existing 1st floor windows are not historically compatible, and these would be replaced as well. Several exterior doors would be replaced and the existing historic doors restored. Basic structural and seismic upgrades would be provided per the structural engineer's broad recommendations, including steel brace frames and shear wall improvements. Refer to Chapter 4.1.2 for more information.

-

Interior Partitions and Finishes

To restore the space to its historic appearance it would be necessary to remove the non-historic moveable partition. Additionally, several partitions would be removed and/or changed to accommodate the new plan. A counter, similar to that in the original space would be provided to match the historic appearance. The current suspended ceiling would be removed and the original appearance restored. This process would require removal of the modern duct system and removal or rerouting of the sprinkler system. The historic appearance of the floor would be restored with the removal of the resilient flooring which now covers the original wood flooring in the main dining space only. VCT would be provided in the other areas. Minor plaster repair and complete ceiling refurbishing would be provided as well.

Equipment and Vertical Transportation

ADA approved signage for emergency egress routes and basic wayfinding would need to be provided. The existing bathrooms would be demolished, as they are located in the historic main dining space. Two small staff bathrooms would be provided in the historic location in the southwest corner of the building. Two larger public bathrooms would be provided in part of the current kitchen location. All bathrooms would be required to be fitted for ADA accessibility, including the installation of new toilet partitions and accessories. The existing wheelchair lift would be removed as it is not historically compatible nor is it acceptable under CBC guidelines (Section 1104.1.4).

Mechanical and Electrical

The bathrooms noted above would need to be fitted with new plumbing and fixtures. New roof drainage systems would be provided as part of the roofing upgrade. Many of the existing steam radiators could be restored. Where existing radiators are beyond renovation, new radiators, to match the existing historic ones, would be provided. Provision of a new energy efficient boiler would be recommended. Piping throughout the heating system network would be replaced. Fire extinguishers would be provided as required by the CBC, restoring existing extinguishers where

possible. The building-wide fire alarm system would be updated to comply with the CBC. Minimum required air ventilation would be needed in areas where fumes are generated, such as in the kitchen. If renovated, we would recommend that minimum ventilation in the main dining space be supplied through the large furred out beams; slight alteration to the beams would be acceptable. Restoration of adequate ventilation in the kitchen space would be required. Air conditioning is not required, due to adequate natural building ventilation. Controls to operate clerestory windows would be provided as well.

Lighting throughout the building would be updated as required for food preparation, serving and dining while using historically appropriate fixtures. Basic power throughout the building would be updated to accommodate modern equipment.

Insert Building 60 Schematic Diagram

Building 60

Food Service

RIPLEY

REMOVE ADDITION

FLOOR PLAN

GENERAL NOTES

REVISIONS

BECHTEL McCONE PARSONS CORPORATION

CAFETERIA
FLOOR PLAN

OAKLAND PORT AND GENERAL DEPOT

5.2.3 Building 88: Storehouse

Rehabilitation Recommendations

Building 88 is one of the oldest buildings on the base, dating back to 1919. The original structure was two tall stories. Originally used as a pattern shop and storehouse, the building remains in use presently as a storehouse. Changing the use of this building would require extensive upgrades, therefore it is recommended that the current use remain.

The building is in fairly good condition. If rehabilitated, the bulk of the work on the building would be in restoring its original character. This would include removing the plywood siding and rehabilitating the existing historic wood siding and other historic features. The following is a brief description of specific proposed building component recommendations.

Reuse Option: Warehouse

Size: 11,134 gross sf (not including mezzanine)
Occupancy: Group S (Storage) Div. 2 (Low Hazard Storage)

The proposed schematic diagram is located at the end of this section. The basic approach for a possible rehabilitation of this building would be to restore it to its original character, namely one large open space with interior low partitions for a small office space with reconfigured bathroom placement and a rebuilt mezzanine on the south end. Reintroduction of an historic operable door on the south end would greatly improve the building's historic character.

The cost estimate component summary for building 88 is outlined below. This is followed by a descriptive summary of the building's proposed rehabilitation components for this reuse option.

BUILDING #88, STOREHOUSE COMPONENT SUMMARY

		Gross Area: 11,134 SF	
		$/SF	$x1,000
1. Foundations		6.49	72
2. Vertical Structure		15.62	174
3. Floor & Roof Structures		6.79	76
4. Exterior Cladding		9.10	101
5. Roofing & Waterproofing		9.05	101
Shell (1-5)		47.04	524
6. Interior Partitions, Doors & Glazing		4.25	47
7. Floor, Wall & Ceiling Finishes		3.26	36
Interiors (6-7)		7.51	84
8. Function Equipment & Specialties		2.76	31
9. Stairs & Vertical Transportation		0.58	7
Equipment & Vertical Transportation (8-9)		3.34	37
10. Plumbing Systems		4.67	52
11. Heating, Ventilating & Air Conditioning		11.20	125
12. Electric Lighting, Power & Communications		12.00	134
13. Fire Protection Systems		0.00	0
Mechanical & Electrical (10-13)		27.87	310
Total Building Construction (1-13)		**85.76**	**955**
14. Site Preparation & Demolition		4.38	49
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		1.35	15
Total Site Construction (14-16)		**5.73**	**64**
TOTAL BUILDING & SITE (1-16)		**91.49**	**1,019**
General Conditions	14.00%	12.84	143
Contractor's Overhead & Profit or Fee	6.50%	6.83	76
PLANNED CONSTRUCTION COST	***April 2002***	**111.16**	**1,238**
Contingency for Design Development	12.50%	13.92	155
Allowance for Rising Costs	8.00%	9.97	111
RECOMMENDED BUDGET	***October 2003***	**135.05**	**1,504**

Building Shell

Minor structural work to the foundation would be necessary as deterioration threatens the historic exposed heavy timber construction, as well as the roof trusses. Foundation drainage would also be necessary to prevent future damage to the building. Minimal seismic bracing upgrades would be recommended. The original wood cladding has been covered with plywood, and if the building is rehabilitated, this should be removed so that the existing horizontal wood siding can be repaired and refinished. To increase efficiency and prevent further damage to the roof trusses, a new roof system including a rigid insulation substrate and composition shingles would be recommended. The existing windows are believed to be historic, and we would recommend that these be repaired and, where necessary, restored to operating condition for general building ventilation. On the south side, the non-historic standard metal egress doors would be replaced with an exterior mounted double wood rolling door which would be historically compatible with the historic door at the north wall. A standard access door could be located within one of its panels to provide required egress. Basic structural and seismic upgrades would be provided per the structural engineer's broad recommendations, including steel brace frames and shear wall improvements. Refer to Chapter 4.1.2 for more information.

Interior Partitions and Finishes

The interior partitions for the small office space are in poor condition and the haphazard and inconsistent construction of the partitions through the life of the building has created an unsympathetic assemblage in the space. If rehabilitated, we would recommend that this office area be reconstructed, and slightly reconfigured to make better use of the southwest corner. All new construction would be independent of the historic structure, to allow for future opening of the entire space if desired. The mezzanine in the southeast corner, though dilapidated, adds valuable storage space for smaller freight, and it is recommended that it be reconstructed in a manner consistent with the character of the existing space. The new partitions and mezzanine would be characteristic of the rough finish of the exposed interior structure. Minor patching of the concrete floor where necessary would be provided. The floor would also be resealed, and VCT or carpeting provided in the office areas.

Equipment and Vertical Transportation

ADA approved signage for emergency egress routes and basic wayfinding would need to be provided. The existing non-ADA compliant bathroom would be demolished, and two small staff bathrooms provided in the new office area. All bathrooms would be required to be fitted for ADA accessibility. This would include new toilet partitions, and accessories. Cabinetry for a small staff kitchenette would be provided. New stairs to the storage mezzanine would also be necessary. Freight handling to the mezzanine level would be tenant provided via forklift.

Mechanical and Electrical

The bathrooms noted above would need to be fitted with new plumbing and fixtures. New roof drainage systems would be provided as part of the roofing upgrade. The existing space heaters would be restored and replaced where necessary. Provision of a new radiant heating system and small efficient furnace for the office area would be proposed. Fire extinguishers would be provided as required by the CBC and NFPA, using where possible restored existing extinguishers. A building wide fire alarm system would be implemented per the CBC. Minimum required air ventilation

would be needed in areas where fumes are generated such as in the kitchenette. Central controls to operate existing space heaters would be needed as well.

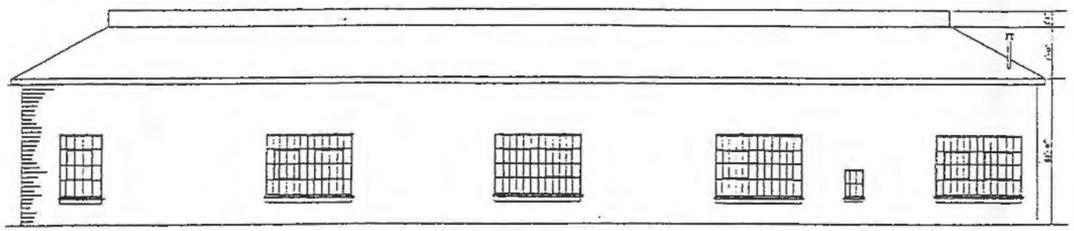
Lighting throughout the building would be updated to historically appropriate fixtures for warehouse and warehouse office use. Basic power throughout the building would be updated to accommodate modern needs. This power upgrade would include necessary computer networking and phone system upgrades in the office area.

Insert Building 88 Schematic Diagram

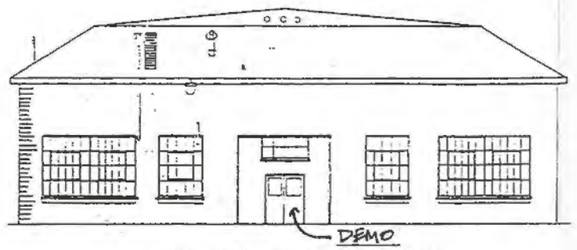
Building 88

Warehouse

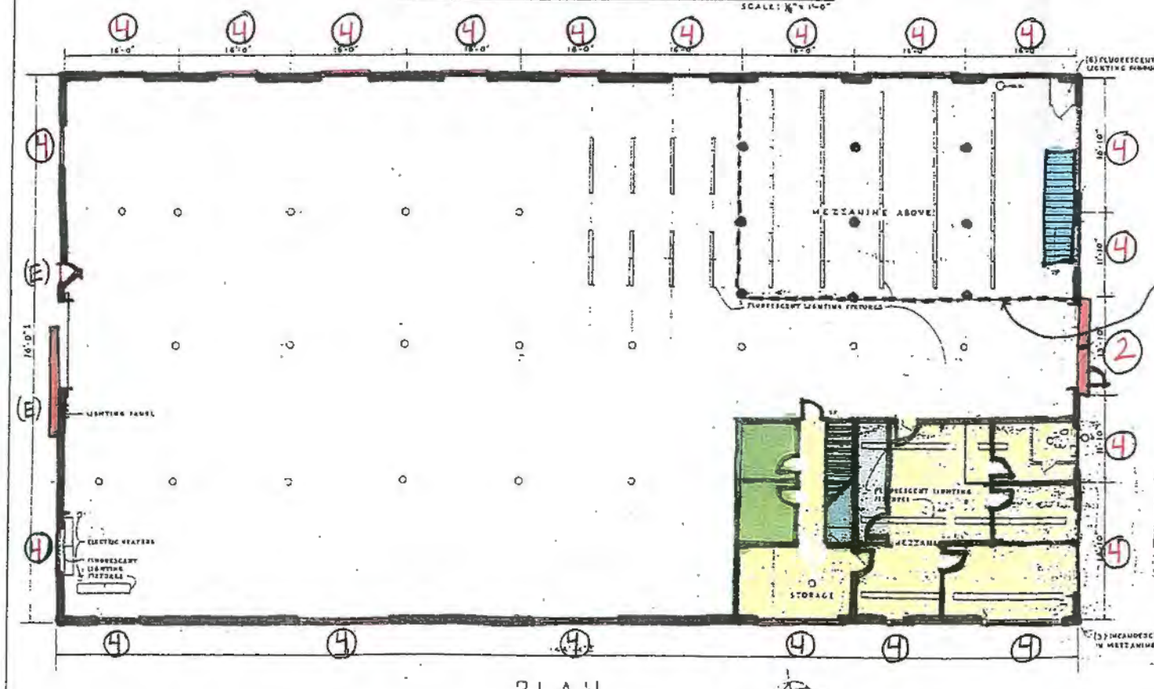
RIPLEY



EAST ELEVATION



SOUTH ELEVATION



PLAN

FLOOR PLAN SURVEY

LEGEND

NOTE: THIS DRAWING SUPERSEDES PLAN NO. [illegible]

FACILITIES ENGINEER
HEADQUARTERS WESTERN AREA
MILITARY TRAFFIC MANAGEMENT AND TERMINAL SERVICE
OAKLAND ARMY BASE, OAKLAND, CALIFORNIA

FLOOR PLAN - BLDG. S-88
(WITH UTILITY SYMBOLS)
OAKLAND ARMY BASE, OAKLAND, CALIFORNIA

SP-1-72

FILMED

FILE: 1-1-1

5.2.4 Building 99: Vehicle Maintenance Shop

Rehabilitation Recommendations

Building 99, built in 1918, is the oldest building in this study. Originally a large manufacturing shop, including a plate shop and mold loft, the building has significant historical value, and is ideal to continue as either a light industrial facility or storage space for small to moderate size freight as it is presently being used. Only minor plan changes have altered the original character of the space.

The structure of the building is in relatively good condition but the exterior appearance has been dramatically altered from its historical character. Transite, asbestos containing siding, would have to be removed if the building is rehabilitated. Building fenestration has been changed, and we would recommend that it be restored to approximate its World War II configuration and appearance, with slight modifications where necessary to accommodate modern access to the building.

Reuse Option: Warehouse

Size: 62,283 gross sf (existing floor area)*
65,550 gross sf (total floor area with 2,267 sf mezzanine rebuilt)
Occupancy: Group S (Storage) Division 2 (Low-hazard Storage)

The proposed schematic diagram is located in this chapter. The basic intent for this building would be to restore it to world War II era original character, as essentially one large open space with a large enclosed loft area, which could provide additional storage area for lightweight materials This building would be ideally suited to one tenant. If rehabilitated, the building's existing office space at the south end should be maintained and slightly reconfigured. The mezzanine office space there would be reintroduced to restore the historic interior layout of the building, while increasing overall office square footage. The dilapidated non-historic interior partitions outside the southern office space would be removed to maximize the storage space. New and updated stairs would be required to bring the office spaces and loft egress up to ADA standards. Most of the historic access points would be restored to operation.

The cost estimate component summary for Building 99, warehouse option, is outlined below. This is followed by a descriptive summary of the building's proposed rehabilitation components for this reuse option.

* HAER documentation and Army records give the area of the ground floor plus mezzanine only, for a total of 40,154 gross sf. This figure is based on Army records indicating that the second floor loft was removed in 1967. In fact the loft is still in place, but may have been removed from service at that time due to inadequate access. Areas shown are based on take-offs from as built drawings, verified by site review.

BUILDING #99, SHOP WAREHOUSE OPTION COMPONENT SUMMARY

Gross Area: 65,550 SF

		$/SF	$x1,000
1. Foundations		3.32	218
2. Vertical Structure		5.01	328
3. Floor & Roof Structures		2.62	172
4. Exterior Cladding		4.72	309
5. Roofing & Waterproofing		5.26	345
Shell (1-5)		20.94	1,372
6. Interior Partitions, Doors & Glazing		1.59	104
7. Floor, Wall & Ceiling Finishes		2.69	176
Interiors (6-7)		4.27	280
8. Function Equipment & Specialties		0.92	60
9. Stairs & Vertical Transportation		1.62	106
Equipment & Vertical Transportation (8-9)		2.54	166
10. Plumbing Systems		1.47	97
11. Heating, Ventilating & Air Conditioning		2.18	143
12. Electric Lighting, Power & Communications		12.00	787
13. Fire Protection Systems		0.00	0
Mechanical & Electrical (10-13)		15.65	1,026
Total Building Construction (1-13)		**43.40**	**2,845**
14. Site Preparation & Demolition		1.53	100
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		0.23	15
Total Site Construction (14-16)		**1.75**	**115**
TOTAL BUILDING & SITE (1-16)		**45.15**	**2,960**
General Conditions	14.00%	6.32	414
Contractor's Overhead & Profit or Fee	6.50%	3.34	219
PLANNED CONSTRUCTION COST	***April 2002***	**54.81**	**3,593**
Contingency for Design Development	12.50%	6.85	449
Allowance for Rising Costs	8.00%	4.93	323
RECOMMENDED BUDGET	***October 2003***	**66.59**	**4,365**

Building Shell

Minor structural work to the perimeter foundation would be necessary, as is repair of settling concrete slabs in the main space. Foundation drainage would also be necessary to prevent future damage to the building. New foundation work would need to be provided for the added stairs. If rehabilitated, the building's existing asbestos containing transite exterior cladding should be removed, as well as the translucent corrugated fiberglass over the historic clerestory and loft window openings throughout the building. The existing wood siding under the transite would be repaired where necessary and finish paint applied. Extensive seismic upgrades would be necessary, which may impact the quality of interior space. The loft level would need to be reinforced and seismically tied to the rest of the structure for the expected increased loads. The existing metal roof trusses would be reinforced and repaired as necessary, while attempting to minimize dramatic alteration of their historic appearance. To increase efficiency, a new roof system including a rigid insulation substrate would be recommended. Insulation for the existing and proposed office space would also be provided. The existing historically compatible windows and doors would be restored. Where historic windows have been removed, compatible new units would be provided. The non-historic exterior metal roll-up doors would be replaced with historically compatible wood sliding doors. Basic structural and seismic upgrades would be provided per the structural engineer's broad recommendations, including steel brace frames and shear wall improvements. Refer to Chapter 4.1.2 for more information.

Interior Partitions and Finishes

To restore the space closer to its historic appearance, it would be appropriate to remove the non-historic partitions in the main space. Additionally, several partitions in the office areas would be removed and/or changed to accommodate the new plan as indicated in this section. As noted above, new stairs to both the new mezzanine office space and the loft area would be required per the CBC. Interior doors and windows per the schematic diagram would be provided for the office areas. Finishes in the office space, including insulation, would be provided. The concrete floor would be patched and sealed. The wood flooring at the loft level would be restored and protected from the future moving of freight. VCT would be provided in the office areas. Complete ceiling refinishing in the office spaces would be provided as well. Proper handling and disposal of asbestos containing materials would also be required.

Equipment and Vertical Transportation

ADA approved signage for emergency egress routes and basic wayfinding would need to be provided. The existing bathrooms would be reconfigured. These bathrooms are required to be updated for ADA compliance. This would include new toilet partitions, and accessories. Some basic cabinetry for a kitchen/staff lounge space would be provided. All existing egress stairs would be upgraded and would need to meet CBC standards regarding fire ratings. An exterior located fire stair would have to be added, due to non-conforming existing paths of travel. An elevator would not be necessary to serve the loft, as it would remain an uninhabited storage space. Similarly, the mezzanine offices would not require an elevator considering that disabled users can access all services on the lower level.

Mechanical and Electrical

The bathrooms noted above would need to be fitted with all new plumbing and fixtures. New roof drainage systems would be provided as part of the roofing upgrade. The existing space heaters would be restored and replaced where necessary. A new radiant heating system and small efficient furnace for the office area would be provided. Fire extinguishers would be provided as required by the CBC and NFPA, using where possible restored existing extinguishers. Air curtains would be provided over sliding door locations. Minimum required air ventilation would be needed in areas where fumes are generated such as in the kitchenette. Central controls to operate existing space heaters would need to be provided. Controls to operate clerestory windows would be necessary as well.

Lighting throughout the building would be restored and provided to warehouse standards where necessary. Basic power throughout the building would be repaired and/or updated as needed to accommodate modern needs. This power upgrade would include necessary computer networking and phone system upgrades in the office area.

Reuse Option: Light Industrial with Office Space

Size: 62,283 gross sf (existing floor area)*
65,550 gross sf (total floor area with 2,267 sf mezzanine rebuilt)
Occupancy: Group F (Factory-Industrial) Division 2 (Low-hazard), Group B (Office)

The proposed schematic diagram is located in this chapter. The basic intent for this building would be to restore it to its original character, namely one large essentially open space with a separate large loft area to be converted for use as office space. This building is ideally suited to one tenant, though due to occupancy separation requirements, separate tenants can be accommodated easily. If rehabilitated, the building's existing office space at the south end should be maintained and slightly reconfigured. The mezzanine office space there would be reintroduced to restore the historic interior layout of the building, while increasing overall office square footage. The dilapidated non-historic interior partitions outside the southern office space would be removed to maximize the storage space. New and updated stairs as well as an elevator would be required to bring the office spaces and loft-office egress up to ADA standards. Most the historic access points would be restored to operation.

The cost estimate component summary for building 99, light industrial with office space option, is outlined below. This is followed by a descriptive summary of the building's proposed rehabilitation components for this reuse option.

* HAER documentation and Army records give the area of the ground floor plus mezzanine only, for a total of 40,154 gross sf. This figure is based on Army records indicating that the second floor loft was removed in 1967. In fact the loft is still in place, but may have been removed from service at that time due to inadequate access. Areas shown are based on take-offs from as built drawings, verified by site review.

BUILDING #99, LIGHT INDUSTRIAL OPTION WITH ADDITIONAL OFFICE

Gross Area: 65,550 SF

		$/SF	$x1,000
1. Foundations		3.32	218
2. Vertical Structure		5.01	328
3. Floor & Roof Structures		2.62	172
4. Exterior Cladding		4.72	309
5. Roofing & Waterproofing		5.26	345
Shell (1-5)		20.94	1,372
6. Interior Partitions, Doors & Glazing		1.72	113
7. Floor, Wall & Ceiling Finishes		2.99	196
Interiors (6-7)		4.72	309
8. Function Equipment & Specialties		1.07	70
9. Stairs & Vertical Transportation		1.62	106
Equipment & Vertical Transportation (8-9)		2.69	176
10. Plumbing Systems		1.62	107
11. Heating, Ventilating & Air Conditioning		2.95	194
12. Electric Lighting, Power & Communications		12.76	837
13. Fire Protection Systems		0.00	0
Mechanical & Electrical (10-13)		17.34	1,137
Total Building Construction (1-13)		**45.68**	**2,995**
14. Site Preparation & Demolition		1.53	100
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		0.23	15
Total Site Construction (14-16)		**1.75**	**115**
TOTAL BUILDING & SITE (1-16)		**47.44**	**3,110**
General Conditions	14.00%	6.64	435
Contractor's Overhead & Profit or Fee	6.50%	3.51	230
PLANNED CONSTRUCTION COST	***April 2002***	**57.58**	**3,775**
Contingency for Design Development	12.50%	7.20	472
Allowance for Rising Costs	8.00%	5.19	340
RECOMMENDED BUDGET	***October 2003***	**69.97**	**4,587**

Building Shell

The basic rehabilitation recommendations for the warehouse option outlined above apply for this light industrial use as well. Additionally, we would recommend that the original light monitor above the loft space be reinstalled to provide additional daylighting and to rehabilitate the loft to its historic World War II era appearance. The exterior walls at the loft level would be insulated for energy efficiency with interior finishes installed. New historically compatible operable windows would be provided at the loft level as needed. Basic structural and seismic upgrades would be provided per the structural engineer's broad recommendations, including steel brace frames and shear wall improvements. Refer to Chapter 4.1.2 for more information.

Interior Partitions and Finishes

The basic rehabilitation recommendations for the warehouse option outlined above apply for this light industrial use as well. Additionally, finishes in the office space and loft office space, including insulation, would be provided at a level of Class-B office space. A required rated wall with interior windows at the north wall of the loft office space would be proposed for occupancy separation. Vinyl composition floor tile would be provided in the loft space. Leveling of the loft space would also be required to assure proper installation of future tenant furniture.

Equipment and Vertical Transportation

As in the warehouse option, ADA approved signage for emergency egress routes and basic wayfinding would need to be provided. The existing bathrooms would be reconfigured and additional bathrooms provided on the loft level. These bathrooms would be required to be updated for ADA compliance, including installation of new toilet partitions and accessories. Basic cabinetry for two kitchen/staff lounge spaces would be recommended. All existing egress stairs would be upgraded to meet CBC standards regarding fire ratings. An exterior and an interior located fire stair would have to be added, due to non-conforming existing paths of travel. Additionally a new passenger elevator would be required per CBC.

Mechanical and Electrical

The basic rehabilitation recommendations outlined in the previous warehouse section apply for this light industrial use as well.

Lighting throughout the building would be restored and provided to light industrial standards and Class-B office space standards where necessary. Basic power throughout the building would be repaired and/or updated as needed to accommodate modem needs. This power upgrade should include necessary computer networking and phone system upgrades in the office areas.

Insert Building 99 Warehouse Schematic Diagram

Building 99

Warehouse

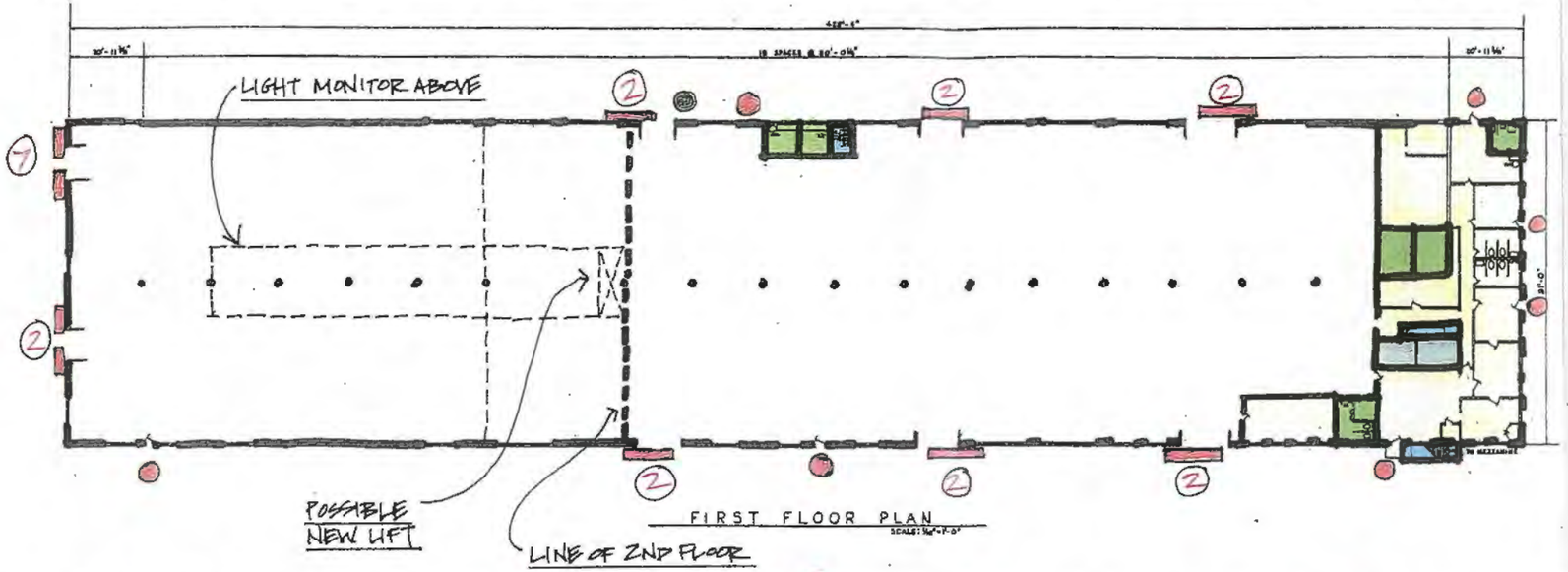
RIPLEY

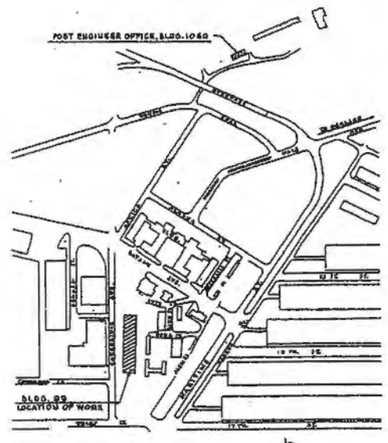
ARCHITECTS

E. PAINTING: PRIME AND PAINT ALL EXTERIOR SURFACES EXCEPT ASBESTOS SIDING, GLASS AND CONCRETE SURFACES AS SPECIFIED.

D. NOTES

1. ALL MEASUREMENTS AND QUANTITIES SHOWN ON THE DRAWING ARE APPROXIMATE AND FOR ESTIMATING PURPOSE ONLY. IT SHALL BE THE RESPONSIBILITY OF THE BIDDER TO VISIT THE JOB SITE AND DETERMINE EXACT MEASUREMENTS AND QUANTITIES TO BE USED IN BID QUOTATIONS.
2. SHADES OF COLORS FOR EXTERIOR PAINTING WILL BE SELECTED BY THE CONTRACTING OFFICER.





VICINITY MAP

SCHEDULE OF DRAWINGS

SHEET NO.	TITLE
1	FLOOR PLANS, VICINITY MAPS & SCHEDULE OF DRAWINGS
2	ROOF PLAN & ELEVATION
3	ROOFING & SIDING

PWC. 95.128

REVISIONS

POST ENGINEER
U.S. ARMY TERMINAL COMMAND, PACIFIC
OAKLAND ARMY TERMINAL
OAKLAND, CALIFORNIA

MAINTENANCE AND REPAIRS TO BLDG. 99
REROOFING & SIDING
FLOOR PLANS, VICINITY MAPS & SCHEDULE OF DRAWINGS
OAKLAND ARMY TERMINAL

AS SHOWN	C.L. PECKSTEIN, CHIEF, ENGINEERING PLANS & SPECIFICATIONS		THOMAS R. HICK, CAPT., C.E., POST ENGINEER
4-1			
DRAWN BY: Wm			DATE: 22 MARCH 1965
CHECKED BY			
0-8-65	3437		1 OF 3

FILMED

Insert Building 99
Light Industrial with Office Space Schematic Diagram

Building 99

Light Industrial and Office

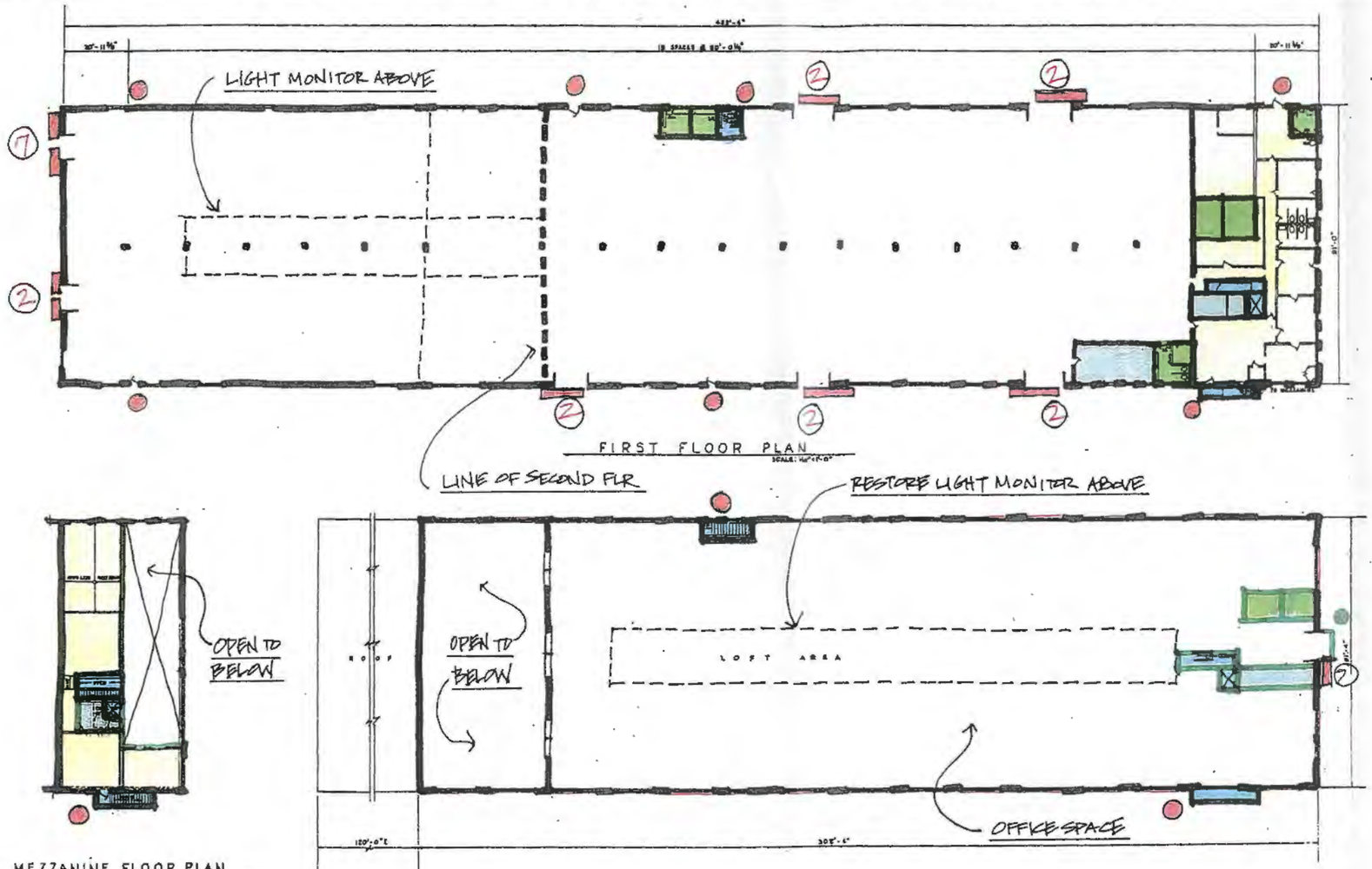
RIPLEY

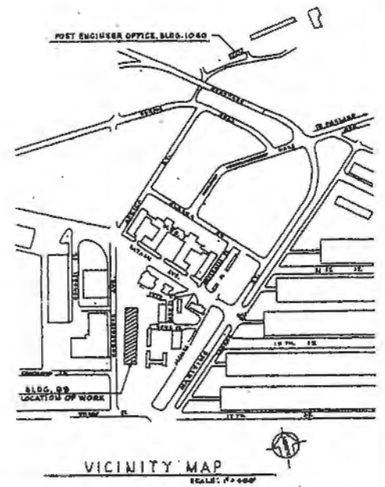
ARCHITECTS

C. PAINTING: PRIME AND PAINT ALL EXTERIOR SURFACES EXCEPT ASBESTOS SIDING, GLASS AND CONCRETE SURFACES AS SPECIFIED.

A. NOTES

1. ALL MEASUREMENTS AND QUANTITIES SHOWN ON THE DRAWING ARE APPROXIMATE AND FOR ESTIMATING PURPOSE ONLY. IT SHALL BE THE RESPONSIBILITY OF THE BIDDER TO VISIT THE JOB SITE AND DETERMINE EXACT MEASUREMENTS AND QUANTITIES TO BE USED IN BID QUOTATIONS.
2. SHADES OF COLORS FOR EXTERIOR PAINTING WILL BE SELECTED BY THE CONTRACTING OFFICER.





VICINITY MAP

SCHEDULE OF DRAWINGS

SHEET NO.	TITLE
1	FLOOR PLANS, VICINITY MAPS & SCHEDULE OF DRAWINGS
2	ROOF PLAN & ELEVATION
3	ROOFING & SIDING

PWC 95.128

REVISIONS

NO.	DESCRIPTION	BY	DATE	APPD.	APPD.

POST ENGINEER
U.S. ARMY TERMINAL COMMAND, PACIFIC
OAKLAND ARMY TERMINAL
OAKLAND, CALIFORNIA

MAINTENANCE AND REPAIRS TO BLDG. 99
REROOFING & SIDING
FLOOR PLANS, VICINITY MAPS & SCHEDULE OF DRAWINGS
OAKLAND ARMY TERMINAL

	SUBMITTED	APPROVAL RECOMMENDED	APPROVED
SCALE: AS SHOWN	C.L. SILVESTERS, CHIEF, ENGINEERING PLANS & DESIGNS	ASSISTANT POST ENGINEER	THOMAS R. VOGE, LT.COL., C.E., POST ENGINEER
DESIGNED BY: AA	RAY MASSARA, ARCHITECT, PROJECT ENGINEER		
DRAWN BY: AA			
CHECKED BY: [illegible]			

DATE: 27 MARCH 1968

PROJECT NO.	PLAN NO.	SHEET
0-8-65	3437	1 OF 3

FILMED

5.2.5 Building 808: Warehouse

Rehabilitation Recommendations

Building 808 is one of seven large identical warehouses. Built in 1942 as a supply warehouse, building 808 lends itself to its historic use due to the current plan layout, as well as minimizing the need for significant code mandated upgrades if other uses were proposed. The simple yet handsome structural detailing and abundant clerestory natural light make this space ideal for use as storage space, or large retail space. Additionally, the current firewalls can easily be updated to allow subdivision of the enormous space. Some of the interior and exterior elements have been altered, and if this building is rehabilitated, it should be restored to its original historic appearance.

The structure of the building is in good condition but some aspects of the exterior appearance have been altered from its historical character. Some of the building's fenestration has been changed, and if rehabilitated, it should be restored, or in some places slightly modified, to accommodate modern access to the building. Two rehabilitation options for reuse of these buildings were examined, both of which are outlined below.

Reuse Option: Multi-Tenant Warehouse

Size: 233,640 gross sf
Occupancy: Group S (Storage) Div.1 (Moderate-hazard Storage) Div.2 (Low-hazard Storage)

The proposed schematic diagram is located in this chapter. The basic intent for a possible rehabilitation of this building is to restore it to its original character, namely five large open spaces with a renovated, later added mezzanine office area. This building is ideally suited for adaptive reuse by five tenants due to its current interior layout with five roughly equal discrete interior spaces. If rehabilitated, the existing office space would be maintained and slightly reconfigured, and the mezzanine office space reused. Additionally, office and service spaces would be provided in each of the other four spaces. Updated stairs and fire escapes would be required to bring the mezzanine office space egress up to ADA standards. Most the historic access points would be restored to operation.

The cost estimate component summary for Building 808, multi-tenant warehouse option, is outlined below. This is followed by a descriptive summary of the building's proposed rehabilitation components for this reuse option.

BUILDING #808, MULTI-TENANT WAREHOUSE OPTION COMPONENT SUMMARY

Gross Area: 233,640 SF

		$/SF	$x1,000
1. Foundations		1.84	431
2. Vertical Structure		2.61	610
3. Floor & Roof Structures		4.68	1,094
4. Exterior Cladding		1.00	233
5. Roofing & Waterproofing		0.72	168
Shell (1-5)		10.86	2,537
6. Interior Partitions, Doors & Glazing		0.58	135
7. Floor, Wall & Ceiling Finishes		2.08	487
Interiors (6-7)		2.66	622
8. Function Equipment & Specialties		0.60	140
9. Stairs & Vertical Transportation		0.07	16
Equipment & Vertical Transportation (8-9)		0.67	155
10. Plumbing Systems		1.39	325
11. Heating, Ventilating & Air Conditioning		1.93	450
12. Electric Lighting, Power & Communications		6.85	1,600
13. Fire Protection Systems		1.50	350
Mechanical & Electrical (10-13)		11.67	2,726
Total Building Construction (1-13)		**25.85**	**6,039**
14. Site Preparation & Demolition		0.25	58
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		0.21	50
Total Site Construction (14-16)		**0.46**	**108**
TOTAL BUILDING & SITE (1-16)		**26.31**	**6,147**
General Conditions	14.00%	3.69	861
Contractor's Overhead & Profit or Fee	6.50%	1.95	456
PLANNED CONSTRUCTION COST	***April 2002***	**31.95**	**7,464**
Contingency for Design Development	12.50%	3.99	933
Allowance for Rising Costs	8.00%	2.88	672
RECOMMENDED BUDGET	***October 2003***	**38.82**	**9,069**

Building Shell

Minor structural work to the perimeter foundation would be necessary, as would repair of settling floor slabs in the main space. Foundation drainage would also be necessary to prevent future damage to the building. New foundation work would need to be provided for the added egress stairs and ramps as well as to upgrades of the loading docks. The existing wood cladding would be repaired where necessary and finish paint applied. Seismic upgrades would be necessary, which may impact the quality of interior space. The mezzanine level would need to be reinforced and seismically tied to the rest of the structure. The heavy timber roof trusses would be reinforced and repaired as necessary, minimizing dramatic altering of the appearance. Minor repairs and upgrades to the roof substrate and bituminous surfaces would be recommended. Insulation would also need to be provided for the existing and proposed office and service spaces. The existing historically compatible windows and doors would be restored. Where historic windows have been changed to non-historic metal windows, new compatible wood units would be provided. The historic exterior wood doors would be restored, and where non-historic doors exist, we would recommend replacement with historically compatible units. Basic structural and seismic upgrades would be provided per the structural engineer's broad recommendations, including steel brace frames and shear wall improvements. Refer to Chapter 4.1.2 for more information.

Interior Partitions and Finishes

New partitions in the proposed office areas would be necessary to accommodate the new plan as indicated on the schematic plan and in section 6.5. The existing firewall separations would be required to be upgraded to provide a one-hour rating. Doors in these firewalls would remain for they have significant historical value. These doors would be fixed closed and covered with a one-hour rated wall on one side, if they do not comply with this requirement. Interior doors and windows per the schematic diagram would be provided for the new office areas. Finishes in the office space, including insulation would be provided. The concrete floor would be patched and sealed. Vinyl composition tile or carpet would be provided in the office areas. Complete ceiling and roof structures would be provided for the office areas, independent of the existing building fabric. Existing and new offices would be provided with new finishes to a level of Class-B as well. Proper handling and disposal of asbestos and toxic containing would also be required.

Equipment and Vertical Transportation

ADA approved signage for emergency egress routes and basic wayfinding would need to be provided throughout the building. If the building were rehabilitated, the existing bathrooms would be reconfigured. These bathrooms would be required to be updated for ADA conformance. This would include the installation of new toilet partitions and accessories for new and existing bathrooms. Some basic cabinetry for kitchen/staff lounge spaces in each of the five tenant spaces would be provided. The existing egress stairs would be upgraded and would need to meet CBC standards regarding fire ratings. Two exterior located fire escapes would have to be added, due to non-conforming egress requirements. An elevator would not be necessary to serve the mezzanine, considering that disabled users can access all services on the lower level.

Mechanical and Electrical

The new and existing bathrooms and staff lounges noted above would need to be fitted with all new plumbing and fixtures as existing fixtures are inadequate. Roof drainage systems would be

renovated as part of the roofing repair. The existing gas air heaters would be restored or replaced where necessary. New radiant heating systems and small efficient furnaces for each of the office areas would be provided. Fire extinguishers would be provided as required by the CBC and NFPA, using where possible restored existing extinguishers. Minimum required air ventilation would be needed in areas where fumes are generated such as in the kitchenette and bathroom spaces. Minimum air ventilation in the warehouse spaces and central controls to operate existing space heaters and ventilation would also be provided.

Lighting throughout the building would be restored and provided to warehouse standards where necessary. Basic power throughout the building would be repaired and/or updated as needed to accommodate modern needs. This power upgrade would include necessary computer networking and phone system upgrades in the office areas.

Reuse Option: Multi-Tenant Mercantile/ Retail/ Food Service

Size: 233,640 gross sf
Occupancy: Group M (Mercantile), Group A (Assembly) Div. 2.1 (Occupant load over 300)

The proposed schematic diagram is located in this chapter. The basic intent for this rehabilitation option would be to adaptively reuse the building while minimizing changes to its original historic character. To accomplish this, the existing five discrete areas of the building would renovated into four large open spaces and one large subdivided retail space. This building is ideally suited to five or more tenants, as it is currently subdivided into five approximately equal spaces. This proposal for adaptive reuse and rehabilitation, would require the demolition and reconfiguration of the existing office space section of the warehouse to provide 9 new subdivisions with a central bathroom and service facility. Additionally, office and service spaces would be provided in each of the other four tenant spaces. Most the historic access points would be restored to operation.

The cost estimate component summary for Building 808, multi-tenant mercantile/retail/food service option, is outlined below. This is followed by a descriptive summary of the buildings' proposed rehabilitation components for this reuse option.

BUILDING #808, MULTI-TENANT MERCANTILE/ RETAIL/ FOOD SERVICE

Gross Area: 233,640 SF

		$/SF	$x1,000
1. Foundations		1.84	431
2. Vertical Structure		2.61	610
3. Floor & Roof Structures		4.68	1,094
4. Exterior Cladding		1.00	233
5. Roofing & Waterproofing		0.72	168
Shell (1-5)		10.86	2,537
6. Interior Partitions, Doors & Glazing		3.54	828
7. Floor, Wall & Ceiling Finishes		7.22	1,687
Interiors (6-7)		10.76	2,514
8. Function Equipment & Specialties		4.02	940
9. Stairs & Vertical Transportation		0.07	16
Equipment & Vertical Transportation (8-9)		4.09	955
10. Plumbing Systems		2.30	536
11. Heating, Ventilating & Air Conditioning		4.49	1,050
12. Electric Lighting, Power & Communications		8.56	2,000
13. Fire Protection Systems		1.50	350
Mechanical & Electrical (10-13)		16.85	3,937
Total Building Construction (1-13)		**42.56**	**9,944**
14. Site Preparation & Demolition		0.25	58
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		0.21	50
Total Site Construction (14-16)		**0.46**	**108**
TOTAL BUILDING & SITE (1-16)		**43.02**	**10,052**
General Conditions	14.00%	6.02	1,407
Contractor's Overhead & Profit or Fee	6.50%	3.19	745
PLANNED CONSTRUCTION COST	***April 2002***	**52.23**	**12,204**
Contingency for Design Development	12.50%	6.53	1,525
Allowance for Rising Costs	8.00%	4.70	1,098
RECOMMENDED BUDGET	***October 2003***	**63.46**	**14,827**

Building Shell

The basic rehabilitation recommendations outlined in the previous multi-tenant warehouse section would apply for this multi-tenant mercantile use as well. The mezzanine level would be maintained and upgraded to comply with CBC standards. If rehabilitated, this mezzanine could possibly serve as management offices. In locations indicated on the schematic diagram, new recessed aluminum storefront entrances would be provided. To maintain the historic character of the exterior, the sliding doors at the new entry points would remain, and be operable. Note: Structural and seismic information has not been verified by the engineer, refer to section 1.4.3 for specific recommendations.

Interior Partitions and Finishes

The basic rehabilitation recommendations outlined in the previous multi-tenant warehouse would apply for this multi-tenant mercantile use as well. Additionally, standard finishes and construction for the nine smaller individual retail spaces including Vinyl composition tile flooring would be provided.

Equipment and Vertical Transportation

The basic rehabilitation recommendations outlined in the previous multi-tenant warehouse apply for this multi-tenant mercantile use as well. Additional food service and basic cabinetry for two of the smaller retail spaces would be provided.

Mechanical and Electrical

The basic rehabilitation recommendations outlined in the previous multi-tenant warehouse would apply for this multi-tenant mercantile use as well. Radiant heating systems in each of the nine smaller retail spaces, with individual controls would be provided. Ventilation would be provided for the smaller retail spaces as well.

Lighting throughout the building would be restored and provided to mercantile and Class-B office standards where necessary. Basic power throughout the building would be repaired and/or updated as needed to accommodate modern needs. This power upgrade would include necessary computer networking and phone system upgrades in the office and small retail areas.

Partial Retention and Reuse Option: Warehouse

Size: variable (assume 116,820 gross sf, or 50% of the existing area)
Occupancy: Group S (Storage) Div.1 (Moderate-hazard Storage) Div.2 (Low-hazard Storage)

No schematic diagram is provided for this reuse option.

For Building 808, the option of retention and rehabilitation of only a portion of the building was also considered. This building is located partially within the Gateway Development Area and partially within the Port Development Area. It is anticipated that a new street will be required along the boundary of the two areas which, together with the Port's planned development, would

require at least partial demolition of one or more of these warehouses. For purposes of this cost estimate, it is assumed that 50 percent of the structure, or 116,820 gross sf, would be retained. Unit costs are provided where applicable, so that the cost of other retention scenarios could also be estimated.

Under this reuse option, it is assumed that half the building, including footings, would be demolished, with the long north and south walls cut to the same length. The open end of the building would be closed off using timber salvaged from the building if possible. Additional structural framing would need to be added if the building is not cut at an existing structural bay. The reconstructed end wall would be built to the same design as the original. The raised loading docks on either side of the demolished portion would also be removed and the site leveled in that area. The remaining area of the building would then be rehabilitated for warehouse use as under the first option described for Building 808 above. Due to the cost of demolition and reconstruction associated with this reuse option, it is approximately 28.5% higher than the cost of rehab only for multi-tenant warehouse use for the same floor area.

BUILDING #808, PARTIAL RETENTION COST SUMMARY **Gross Area: 116,820 SF**

	Quantity	*Unit*	*Rate/ Unit Cost*	*Total $*
Demolition				
Demolish 50% of Building, salvage timbers	3,037,320	CF	0.20	607,464
Demolish Loading docks	20	EA	4,500.00	90,000
New Construction and Rehab				
New Footing on end wall	180	LF	110.00	19,800
New framing and sheathing, siding and interior finish, reuse some salvage	4,680	SF	26.00	121,680
Rehab glazing at 15% of area	702	SF	55.00	38,610
Rehab Remainder of Building #808 for Multi-Tenant Warehouse (50% of total)	116,820	SF	26.31	3,073,534
Subtotal Construction Costs				**3,951,088**
General Conditions	14.00%			553,152
Contractor's Overhead & Profit or Fee	6.50%			292,776
Planned Construction Costs – April 2002				**4,797,016**
Contingency for Design Development	12.50%			599,627
Allowance for Rising Costs	8.00%			431,731
Recommended Budget – October 2003				**5,828,375**

Insert Building 808 Multi-Tenant Warehouse Schematic Diagram

SECT. 1 SECT. 2 SECT. 3 SECT. 4 SECT. 5

SEE ENLARGED PLAN OF OFFICE AREA BELOW

SEE ENLARGED PLAN OF JANITORIAL ROOM BELOW

SEE ENLARGED PLAN

J

FLOOR PLAN, BLDG. 808

SCALE: 1"=40'-0"

EXIST. EXIT STAIRWAY

REPLACE EXISTING GLASS W/ METAL & INSUL. PANEL

RECEIVING & SHIPPING OFFICE

OFFICE

OFFICE

OFFICE

OFFICE

RELOCATE EXISTING COAT RACK AND PATCH WALL AS REQUIRED

RELOCATE CONSTR. FROM BLDG. 808 ALTER. AS REQUIRED

REMOVE CLOSET AND PATCH WALL AS REQ'D

ENLARGED PLAN OF OFFICE AREA

SCALE: 1/4"=1'-0"

TYPICAL STRIPPING LAYOUT SECT. 2-5

SECT. 2

TYPICAL ENLARGED STRIPPING LAYOUTS

SCALE: 1"=20'-0"

SECT. 2

MEN

WOMEN

ENLARGED PLAN OF LATRINE FACILITIES

SCALE: 1/4"=1'-0"

UNIFORM ROOM

ENLARGED PLAN OF UNIFORM ROOM

ELEVATION A

SCALE: 1/4"=1'-0"

ELEVATION B

SCALE: 1/4"=1'-0"

ELEVATION C

SCALE: 1/4"=1'-0"

HEAD

MULLION

SILL

TYPICAL INTERIOR WINDOW DETAIL W/1

HEAD

JAMB

DETAIL FOR DOORS 1 & 2

JAMB

DETAIL FOR DOORS 3 & 4

SECTION

LOCKER ROOM

BREAK ROOM

EXIST TRAILER UNITS

REVISIONS

Building 808

Multi-Tenant Warehouse

RIPLEY

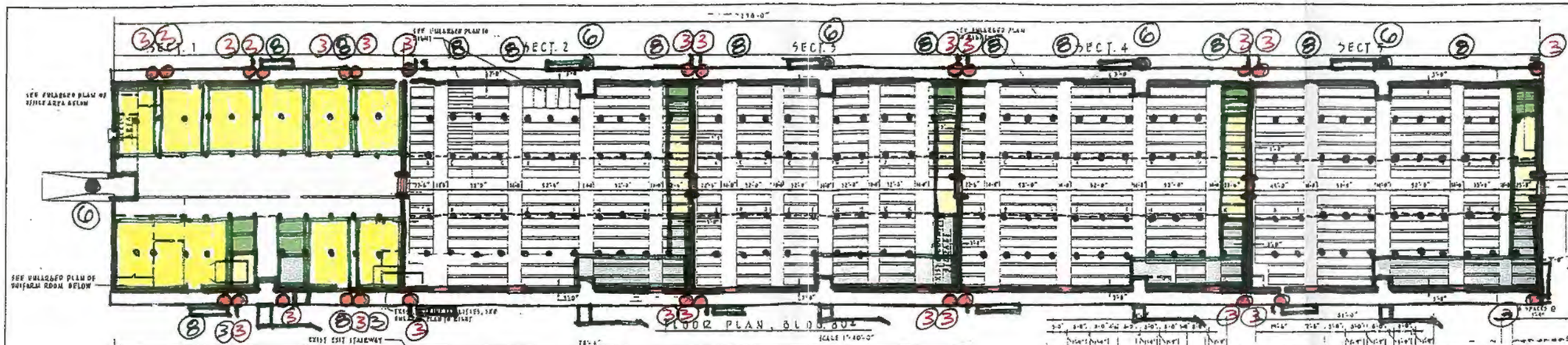
ARCHITECTS

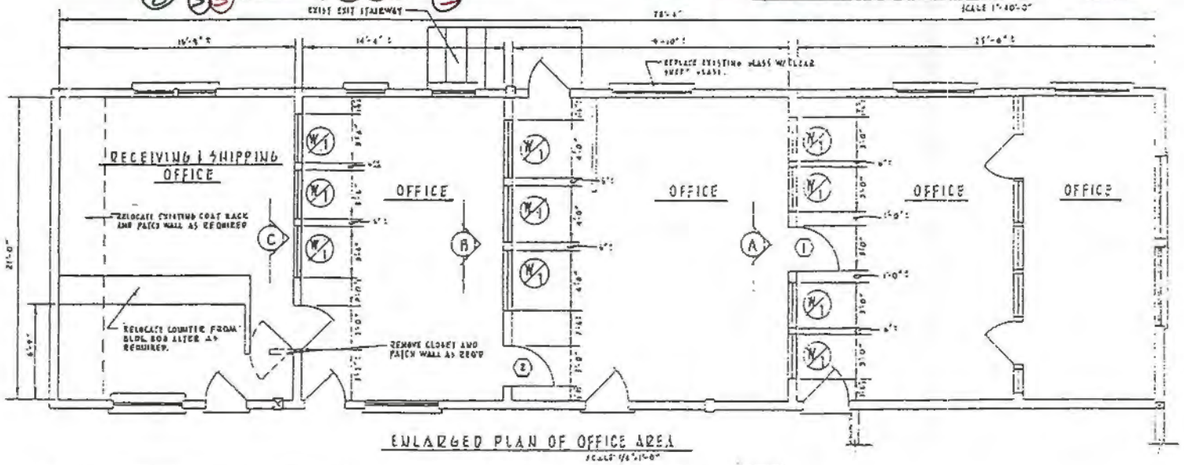
PLANNED

10-30-74 | 8026 | 2

FILE

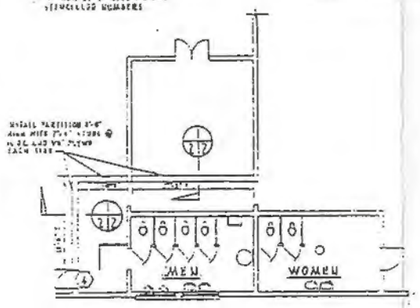
Insert Building 808
Multi-Tenant Mercantile / Retail / Food Service Schematic Diagram



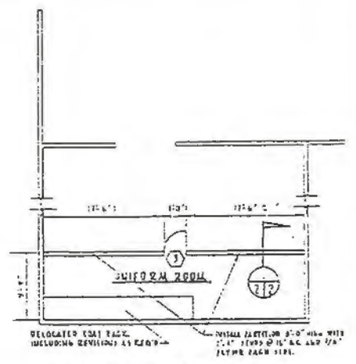


ENLARGED PLAN OF OFFICE AREA

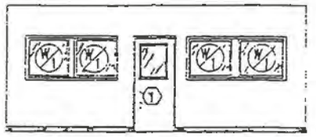
TYPICAL ENLARGED STRIPPING LAYOUTS



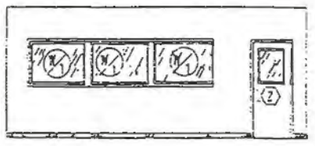
ENLARGED PLAN OF LATRINE FACILITIES



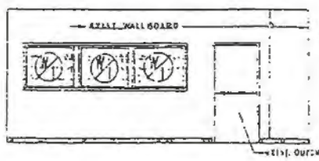
ENLARGED PLAN OF UNIFORM ROOM



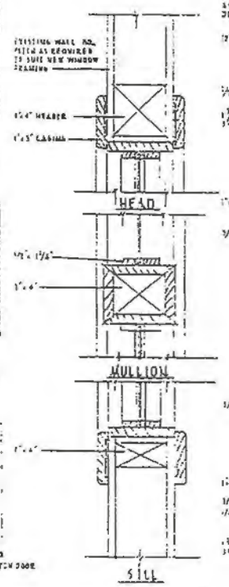
ELEVATION A



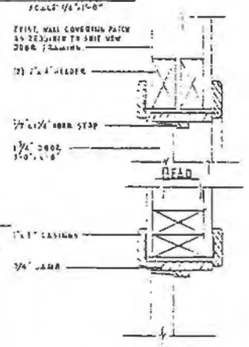
ELEVATION B



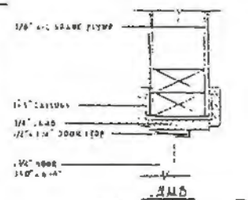
ELEVATION C



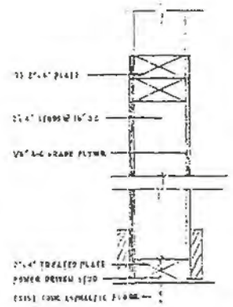
TYPICAL INTERIOR WINDOW DETAIL W/1

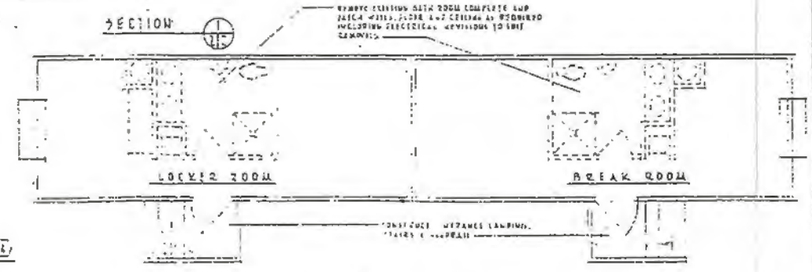


DETAIL FOR DOORS (1) & (2)



DETAIL FOR DOORS (1) & (2)





EXIST TRAILER UNITS

REVISIONS

Building 808

Multi-Tenant Retail

RIPLEY

ARCHITECTS

FILMED

0-30-74 | 1826 | 2

FILE

5.2.6 Building 812: Vehicle Maintenance Shop

Rehabilitation Recommendations

Building 812 was built in 1944 as a maintenance shop for repairing military ordnance equipment and vehicles. The clerestory natural lighting, dramatic structural characteristics and other unique features lend the building to be showcased for a use such as an exhibit space or as an open marketplace. Some of the interior and exterior elements have been altered, and if rehabilitated should be restored to their original appearance.

The structure of the building is in good condition but some of the exterior appearance has been altered from its historic appearance. If rehabilitated, the buildings' transite, asbestos containing, siding, would have to be removed. Some of the building's fenestration has been changed or historic windows removed and replaced with fiberglass panels. It should be restored to its original appearance if the building is rehabilitated. In some places door openings might be slightly modified to accommodate modern access to the building.

Reuse Option: Market Hall

Size: 18,345 gross sf
Occupancy: Group A (assembly) Division 2.1 (occupant load over 300)

The proposed schematic diagram is located in this chapter. If rehabilitated, the basic intent for this building would be to restore it to its original character, namely one large open space with equally sized, partial height tenant bays/stalls and added public bathrooms. The building is well suited for use as a multi-tenant market type facility for food, flowers, art or other goods, as the requisite subdivisions for tenants could be made without dividing the tall open space with full height partitions. The building's historic overhead travelling crane could be maintained, whether operational or not, according to specific tenant needs. A common café would also be provided. The historic mezzanine space would remain as a managing office, for overseeing operations of the facility. An updated stair would be required to bring the mezzanine space up to ADA standards, as well as an exterior fire escape. The historic access doors would be restored and fixed in place as a security measure.

The cost estimate component summary for building 812, market hall option, is outlined below. This is followed by a descriptive summary of the buildings' proposed rehabilitation components for this reuse option.

BUILDING #812, MARKET HALL OPTION COMPONENT SUMMARY

Gross Area: 18,345 SF

		$/SF	$x1,000
1. Foundations		6.70	123
2. Vertical Structure		13.05	239
3. Floor & Roof Structures		4.97	91
4. Exterior Cladding		15.00	275
5. Roofing & Waterproofing		6.64	122
Shell (1-5)		46.37	851
6. Interior Partitions, Doors & Glazing		2.42	44
7. Floor, Wall & Ceiling Finishes		4.58	84
Interiors (6-7)		7.00	128
8. Function Equipment & Specialties		2.33	43
9. Stairs & Vertical Transportation		0.87	16
Equipment & Vertical Transportation (8-9)		3.20	59
10. Plumbing Systems		3.01	55
11. Heating, Ventilating & Air Conditioning		3.18	58
12. Electric Lighting, Power & Communications		12.33	226
13. Fire Protection Systems		0.37	7
Mechanical & Electrical (10-13)		18.89	347
Total Building Construction (1-13)		**75.45**	**1,384**
14. Site Preparation & Demolition		8.31	152
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		0.82	15
Total Site Construction (14-16)		**9.13**	**167**
TOTAL BUILDING & SITE (1-16)		**84.58**	**1,552**
General Conditions	14.00%	11.83	217
Contractor's Overhead & Profit or Fee	6.50%	6.27	115
PLANNED CONSTRUCTION COST	***April 2002***	**102.68**	**1,884**
Contingency for Design Development	12.50%	12.81	235
Allowance for Rising Costs	8.00%	9.21	169
RECOMMENDED BUDGET	***October 2003***	**124.70**	**2,288**

Building Shell

Minor structural work to the foundation would be necessary as deterioration threatens the historic exposed heavy timber construction as well as the roof trusses. Foundation drainage would also be necessary to prevent future damage to the building. Minimal seismic bracing upgrades would be recommended. Portions of the original wood cladding at the clerestory level have been covered with transite siding, which should be removed as part of any rehabilitation. The existing horizontal wood siding would need to be repaired and refinished. To increase efficiency and prevent further damage to the roof trusses, a new roof system including a rigid insulation substrate and composite shingles would be recommended. Basic structural and seismic upgrades would be provided per the structural engineer's broad recommendations, including steel brace frames and shear wall improvements. Refer to Chapter 4.1.2 for more information.

The existing historic windows would be restored and repaired where necessary. We would propose that operation be restored to the operable windows where necessary for general building ventilation. All non-historic metal windows would be replaced with historically compatible wood units. All the exterior non-historic metal roll-up access doors would be replaced with fixed double wood barn type or single sliding historically compatible doors to match the historic doors. New aluminum storefront entrances would be provided as shown on the schematic diagram in this section. These entrances would be recessed into the building, so that the exterior character remains intact. Additionally, we would recommend providing operable historically compatible double doors at these locations.

Interior Partitions and Finishes

The interior partitions for the small office space are in poor condition and the haphazard and inconsistent construction of the partitions through the life of the building has created an unsympathetic assemblage in the space. We would recommend that these office areas be reconstructed, and slightly reconfigured to make better use of the western side. All new construction would be made independent of the historic fabric, in the event future opening of the entire space would be required. The new bay partitions and office partitions would be characteristic of the exposed finish of the exposed interior structure. We would recommend providing a new finished concrete floor throughout the space to replace the inconsistent asphalt. The floor in the office spaces would be vinyl composition tile or carpeting.

Equipment and Vertical Transportation

ADA approved signage for emergency egress routes and basic wayfinding would need to be provided. The existing non-ADA compliant bathrooms would be demolished, and two large central public bathrooms would be provided. All bathrooms would be required to be fitted for ADA requirements, including installation of new toilet partitions and accessories. Cabinetry for a small staff kitchenette would be provided as well. New stairs to the mezzanine would be provided. An exterior fire escape would be adequate as a second means of egress from the mezzanine level. Disabled access would not required to the mezzanine, if all services in this office are provided at the ground level office space as well.

Mechanical and Electrical

The bathrooms noted above will need to be fitted with new plumbing and fixtures. New roof drainage systems would be provided as part of the roofing upgrade. The existing infrared heaters would be restored and replaced where necessary. A new radiant heating system and small efficient furnace for the office area would be recommended. Fire extinguishers would be provided as required by the CBC and NFPA, using where possible restored existing extinguishers. A building wide fire alarm system would be necessary to comply with the CBC. Minimum required air ventilation would be needed in areas where fumes are generated such as in the kitchenette or cafe. Proper operation of windows would need to be ensured for further ventilation. Central controls to operate existing infrared and radiant heating would also be required.

Lighting throughout the building would be updated to historically appropriate fixtures for assembly standards. Tenants would provide additional task lighting. Basic power throughout the building would be repaired and/or updated as needed to accommodate modern needs. This power upgrade would include necessary computer networking and phone system upgrades in each of the tenant bays/stalls and the office area.

Reuse Option: Exhibit Hall / Gallery Space

Size: 18,345 gross sf
Occupancy: Group A (Assembly) Division 2.1 (Occupant load over 300)

The proposed schematic diagram is located in this chapter. If rehabilitated, the basic intent for this building is to allow for an adaptive reuse, while essentially maintaining the building's historic open character. The building would be configured with one large open space, with back of house production and storage space in the southeastern bays and public restrooms located adjacent to the front entrance on the northwest side. An ideal use for this intimate and unique space would be as an exhibition type space. The building's historic overhead travelling crane could be maintained operational if needed for installation of exhibits. Additionally, a café would be provided for patrons. The historic mezzanine space would remain as a managing office, for overseeing operations. An updated stair would be required to bring the mezzanine space up to ADA standards, as is an exterior fire escape. The historic access doors would be restored and fixed in place as a security measure.

The cost estimate component summary for building 812, exhibit hall/gallery space option, is outlined below. This is followed by a descriptive summary of the buildings' proposed rehabilitation components for this reuse option.

Building #812, Exhibit Hall/ Gallery Option COMPONENT SUMMARY

Gross Area: 18,345 SF

		$/SF	$x1,000
1. Foundations		6.70	123
2. Vertical Structure		13.05	239
3. Floor & Roof Structures		4.97	91
4. Exterior Cladding		15.00	275
5. Roofing & Waterproofing		6.64	122
Shell (1-5)		46.37	851
6. Interior Partitions, Doors & Glazing		4.04	74
7. Floor, Wall & Ceiling Finishes		6.76	124
Interiors (6-7)		10.79	198
8. Function Equipment & Specialties		3.42	63
9. Stairs & Vertical Transportation		0.87	16
Equipment & Vertical Transportation (8-9)		4.29	79
10. Plumbing Systems		3.33	61
11. Heating, Ventilating & Air Conditioning		4.82	88
12. Electric Lighting, Power & Communications		13.42	246
13. Fire Protection Systems		0.37	7
Mechanical & Electrical (10-13)		21.94	403
Total Building Construction (1-13)		**83.39**	**1,530**
14. Site Preparation & Demolition		8.31	152
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		0.82	15
Total Site Construction (14-16)		**9.13**	**167**
TOTAL BUILDING & SITE (1-16)		**92.52**	**1,697**
General Conditions	14.00%	12.97	238
Contractor's Overhead & Profit or Fee	6.50%	6.87	126
PLANNED CONSTRUCTION COST	***April 2002***	**112.36**	**2,061**
Contingency for Design Development	12.50%	14.06	258
Allowance for Rising Costs	8.00%	10.14	186
RECOMMENDED BUDGET	***October 2003***	**136.57**	**2,505**

Building Shell

The basic rehabilitation recommendations outlined in the previous market hall section apply for this exhibit hall / gallery space use as well. Basic structural and seismic upgrades would be provided per the structural engineer's broad recommendations, including steel brace frames and shear wall improvements. Refer to Chapter 4.1.2 for more information.

Interior Partitions and Finishes

The basic rehabilitation recommendations outlined in the previous market hall section apply for this exhibit hall / gallery space use as well. Future tenants would provide additional exhibit display wall construction.

Equipment and Vertical Transportation

The basic rehabilitation recommendations outlined in the previous market hall section apply for this exhibit hall / gallery space use as well. Note that this alternative would have a total of three bathrooms.

Mechanical and Electrical

The basic rehabilitation recommendations outlined in the previous market hall section apply for this exhibit hall / gallery space use as well. Additionally it is recommended that centrally located flush floor mounted power and data outlets be provided at every other bay.

Insert Building 812 Market Hall Schematic Diagram

DEPARTMENT

CORPS OF ENGINEERS, U. S. ARMY

SIDE ELEVATION (SOUTH)

TYPICAL TENANT STALL

REPAIR AND GREASE AREA

10'CLR. CLEAR

10'OFF CLEAR LANE

CRANE RAIL

LIMIT OF STALL PROVIDED BY TENANT

LINE OF CLERESTORY ABOVE (W/HO#5)

FLOOR PLAN

Scale: 1/8" = 1'-0"

MEZZANINE OFFICE ABOVE

FIRE ESCAPE

DOOR X

ELEV. SEC.

3'0" x 6'0" x 1 3/4" Dutch Door

Scale: 1/2" = 1'-0"

SIDE RAIL AT MACHINE SHOP

Scale: 1/2" = 1'-0"

OMIT

THREE DAYS WITH FIXED RAIL

ONE DAY WITH GATES

GATES

Building 812

Market Hall

RIPLEY

PWCR 66781

Insert Building 812
Exhibit Hall / Gallery Space Schematic Diagram

DEPARTMENT

CORPS OF ENGINEERS, U. S. ARMY

SIDE ELEVATION (SOUTH)

LINE OF CLERESTORY ABOVE (W/40 #9)

OFFICE

SHOP

REPAIR AND GREASE PIT

JANITOR MEN'S TOILET

10'-0" CLEAR LANE

CAFE

BACK OF HOUSE STORAGE + OFFICES

FLOOR PLAN

Scale: 1/8" = 1'-0"

MEZZANINE OFFICE ABOVE

FIRE ESCAPE

DOOR X

ELEV. SEC.

RIB RAIL AT MACHINE SHOP

Scale: 1/2" = 1'-0"

OMIT

THREE DAYS WITH FIXED RAIL

ONE DAY WITH GATES

Building 812

Exhibit Hall / Gallery Space

RIPLEY