YOLO COUNTY HISTORIC COURTHOUSE
DUE DILIGENCE REPORT

County of Yolo

June 5, 2013

LIONAKIS

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ACKNOWLEDGEMENTS

This study was prepared by Lionakis in collaboration with the Yolo County Administration Office the Yolo County Facilities Division, and with input and assistance from the consultant team listed below.

PREPARED FOR:

Yolo County Administration Office
625 Court Street, Room 202
Woodland, CA 95695

ARCHITECT:

Lionakis
1919 19TH Street
Sacramento, CA 958181
(916) 558-1900
Contact: Mike Davey

CONSULTANTS

HISTORICAL
ARG
Pier 9, The Embarcadero,
Suite 107
1 (415) 421-1680
Contact: Aaron Hyland

STRUCTURAL
Lionakis
191 19th Street
1 (916) 558-1900
Contact: Bill Anders

MECHANICAL/PLUMBING
Glumac
910 Glenn Drive
1 (916) 934-5103
Contact: Todd Bowman

ELECTRICAL
Glumac
910 Glenn Drive
1 (916) 934-5103
Contact: Qui Ngo

INTRODUCTION

STATEMENT OF PURPOSE

The purpose of this Due Diligence Report for the Yolo County Historic Courthouse located in Woodland, California is to assess the basic integrity of the courthouse, its systems and its site, as well as to provide a basis for consideration of future uses when the Court vacates the facility and relocates to the new court building.

The Due Diligence Report will provide an overall assessment of the courthouse and its capacity and fitness, for renovation and re-purposing. A new courthouse is expected to be completed by mid-2015 when the Court operations presently housed in the Historic Courthouse will relocate to this new facility. During the intervening time between now and the Court's relocation to their new facility, the County will consider and assess options for the re-use and re-purposing of the Historic Courthouse.

This Due Diligence Report will accompany a "Request for Ideas" (RFI) that will be submitted by the County to the community at large to generate ideas regarding potential uses for this important civic building.

EVALUATION APPROACH

A team of consultants, experienced in facility evaluation work, and each representative of a specific discipline, was assembled to research the courthouse and prepare findings, indentify constraints and recommend opportunities. The consultants conducted an on-site walk-through of the courthouse and grounds on April 1, 2013. Record drawings of the original building and subsequent improvements were provided to the A/E team for review. The walk-through was conducted with the county maintenance staff present. No destructive investigations were performed. A ladder was used to observe above ceiling conditions. All areas of the courthouse explored were documented with digital photography.

ORGANIZATION OF REPORT

This report is organized into four sections. The acknowledgements make up Section 1. Section 2, the Introduction, identifies the statement of purpose, an explanation of the approach that was used to evaluate the facility, a description of the courthouse and grounds and the Executive Summary which summarizes the condition of the courthouse as well as summarizes the constraints and possible opportunities.

Section 3 is dedicated to the documentation of our findings for the facility. In this section each discipline documents their findings, identifies applicable codes and speaks to the constraints and opportunities that lie within the facility. The last section, Section 4, consists of plans, standards for rehabilitation of historic buildings and photographs of the courthouse that were taken during the site review.

DESCRIPTION OF FACILITY

GENERAL

The Courthouse located at 725 Court Street, Woodland, California 95696 was designed by William Henry Weeks and built in 1917. The courthouse was listed on the National Register of Historic Places in 1987. Approximately 50,000 square feet in area the courthouse includes four floors. The first, second and third floors house court staff and court functions. The fourth floor is a mix of offices and mechanical space.

NEIGHBORING AREA

The historic courthouse is accessed from either County Road 113 to the west or Interstate 5 to the east. County Road 113 and Interstate 5 both provide access to Main Street that in turn provides access to the courthouse. The courthouse which fronts on Court Street to the south is two blocks north of Main Street in close proximity to the center of downtown Woodland. The court facility is also bound by North Street to the North, 3rd Street to the east and 1st Street to the west. All four streets are secondary arterials with Court Street seeing the heaviest amount of traffic.

Yolo Bus provides the only public transportation by way of routes 45, 210, 212 and 242. All four of these routes occur along Court Street. Route 242 occurs between Davis and Woodland along County Road 113. Route 45 occurs between Sacramento and Woodland along Interstate 5. Routes 210 and 212 stay within the Woodland city limits.

Parking for the courthouse exists in a parking lot to the east of the courthouse and on the streets surrounding the courthouse. The parking lot was not investigated and is not discussed in this report.

The court facility is bound on all sides by government facilities and residences.

LAND

The shape of the courthouse site is rectangular containing approximately 2.75 acres. Topography is flat with no noticeable slopes in any direction. It is assumed that the site is served by all public utilities – sewer, water, gas, electricity, phone and TV. The landscape consists of mature trees, shrubs and lawn formally arranged along a wide north-south walkway that extends from Court Street dissects the courthouse and terminates at North Street and along a wide east-west walkway that extends from 3rd Street and terminates at Yolo County Superior Court.

The Yolo County Superior Court, Yolo County Traffic Division and the United Methodists Church are located west of the court facility within the same city block bound by Court Street, North Street, 1st Street and 3rd Street.

BUILDING EXTERIOR

The exterior cladding consists of limestone and terracotta material. Through our research it is our understanding that the limestone was coated in a protective paint material during a restorative remodel to the building approximately 25 years ago. The windows of the courthouse were observed to be a combination of double hung wood windows and fixed wood windows with single pane glazing.

Entry stairs to the public entrance of the courthouse are concrete clad in granite stone. Aluminum tread inserts with abrasive strips were installed across every front entry step.

The roof of the courthouse is divided into three sections; a center section of four stories and east and west sections of three stories. All three sections of roof of are constructed of cast-in-place reinforced concrete. The roofing system is a built-up asphalt that is understood to be approximately 15 years old.

At each section of roof exists a pyramid shaped steel skylight. The skylights utilize true divided single pane glazing.

A freestanding IT shed structure exists on the eastern section of roof.

BUILDING INTERIOR

The slab on grade and elevated floors are constructed of cast-in-place reinforced concrete. The floors are finished with a variety of materials most significantly marble in the main public areas of the second and third floors and carpeting in the staff areas, public hallways and the courtrooms. The restrooms are finished with ceramic tile.

The interior walls, constructed of wood framing and either plaster or gypsum board, are finished with marble, wood and paint. The original walls are constructed using plaster and walls constructed in latter tenant improvements make use of gypsum board. The marble exists in the public areas such as the main lobby areas of the first and second floors and the stairwells. All walls not clad in marble are painted and clad with wood chair rails, base and door and window trim.

There are two types of ceilings seen in the courthouse. Suspended lath and plaster ceilings which are a part of the original construction of the courthouse and suspended acoustical ceiling which was installed in latter tenant improvements.

The interior main stairs are concrete clad in marble. Service stairs to the roof are wood construction.

EXECUTIVE SUMMARY

CONDITION OF BUILDING

The courthouse has been exceedingly well maintained over the years. Continued focus on maintenance and upkeep to such elements as the mechanical system, painting of interior and exterior elements and minor repairs to doors, walls and ceilings should allow this building to remain functional for the foreseeable future.

The largest issue facing the facility is the protective coating that was applied roughly 25 years ago to the exterior stone cladding. As this is an aesthetic issue, it's prevalence to spall off of the original stone exterior is presently not a safety issue. If the spalling continues to accelerate, however, it can be assumed that pieces may fall off above the main entry. These pieces of finish do not have significant weight to cause injury, but will create a stigma and concern by future users.

CONSTRAINTS AND OPPURTUNITIES

Historical and Architectural: Primary and secondary character-defining features shall be kept in place and restored. Tertiary character-defining features may be removed.

Accessibility: Uneven and lifting concrete walks, the exterior ramp serving the basement entry beneath the grand entry stairway, general accessibility of the offices and work areas and the code compliance of the restrooms.

Life Safety: The Authority Having Jurisdiction (AHJ) will likely require the addition of stairs, presumably at the east and/or west ends of the building, to conform to today's codes for adequate exiting separation.

Structural: Opportunities to re-use the building in its current historic configuration will have the following constraints:

1) Retain all current locations of concrete shear walls and columns.
2) Limit proposed floor and roof mechanical shaft opening to occur within joist bays.
3) Limit mechanical upgrades to rooftop units which do not exceed the currently imposed weight.
4) Retain current size of exterior wall openings.
5) Retain existing façade with upgraded anchors and exposure protection.

Opportunities exist for more substantial changes to the structure. However, significant changes of this magnitude will require an extensive seismic retrofit as well as additional vertical support framing.

Mechanical: In general, the mechanical equipment serving the building is in good condition due to replacement of the equipment under the Energy Retrofit project in 2003. By continuing to follow the current preventative maintenance program, the recently replaced equipment can be expected to last an additional 10-15 years.

Plumbing: In general, the plumbing system is in average condition but is beginning to show signs of aging.

Fire Protection: An Upgrade to the fire sprinkler system will be required as it currently only services one floor. The system appears to be sized to accommodate the entire building.

Electrical: The existing electrical infrastructure service appears to be more than adequate to serve the building for future renovation or re-purposing.

If this building gets converted to a critical function building with emergency needs for HVAC ventilation, emergency egress lighting, and any additional critical loads, the emergency electrical system will need to be upgraded to a larger size to accommodate emergency power requirements.

Fire Alarm: For future renovation and re-purposing of the courthouse it is recommended that the fire alarm system be upgraded.

ASSESSMENTS

HISTORICAL

FINDINGS

Introduction

Architectural Resources Group, Inc. (ARG) visited the property to conduct an inspection of the Courthouse and adjacent landscape. ARG noted and photographed key architectural features of, and visible alterations to, the courthouse. ARG also reviewed existing historic documentation available for the building, most notably the National Register nomination that Earl Balch and Shipley Walters completed for the building in 1986.

Based on the site visit and a review of existing documentation, ARG developed the following discussion of the character-defining features of the building and, as appropriate, the adjacent landscape. No additional historical research was conducted. Appended to this report are color coded plans of the building and landscape that identify areas of primary, secondary and tertiary historic importance.

Building Alterations

According to the 1986 National Register nomination, the exterior of the Courthouse looks "almost exactly" as it did upon completion in 1917, with changes limited to the addition of air conditioners. Similarly, there have been no major structural alterations to the Courthouse and the rotundas and corridors are "almost exactly" as they were in 1917. Exceptions include addition of carpeting to the ground floor corridor and glass fire protection doors in the second and third floor corridors. In addition, several transom openings in the corridors appear to have been filled in. Based on the original drawings, many of the transoms appear to never have had door openings beneath them.

The building's individual offices have been remodeled multiple times. Offices have also been added to the building's penthouse, which was formerly used for storage. Architectural plans for the second story (1985) and third story (1982) renovations were completed by Dean Unger, AIA.

Other than the rotundas and corridors at the second and third stories, notable interior spaces include the two original courtrooms (Rooms 300 and 316), and the former Board of Supervisors chambers (Room 207). Though altered, these three rooms retain significant original features.

Unlike the building itself, the surrounding landscape has changed significantly. According to the National Register nomination, much of the original landscaping, designed by the MacRorie and McLaren Co. of San Francisco, has been removed or replaced. In particular, the original circular water fountain midway down the south walkway has been replaced by a flagpole plaza. The Erwin W. Meier Yolo County Administration Building, a large building of Spanish Revival design, was built immediately southwest of the Courthouse in 1984. Trees and shrubs have been planted between the new building and the Courthouse.

Period of Significance

The 1986 National Register nomination does not specify a period of significance for the Yolo County Courthouse, but notes the building is both architecturally significant and significant for its association with politics and government. In identifying character-defining features for the building, ARG used the year 1917 as the period of significance, corresponding to the date of the building's original construction. Features added after this date were deemed secondary in importance or non-contributory.

Character-Defining Features

A character-defining feature is any physical feature that comprises an important aspect of the appearance of a historic building. Character-defining elements typically include the overall shape of the building, its materials, craftsmanship, and decorative details, and can also include interior spaces and features, as well as various aspects of its site and environment.

Central to any assessment of whether a proposed action is in accordance with the *Secretary's Standards for Rehabilitation* is an evaluation of the effect the action will have on character-defining features. To meet

the *Secretary's Standards*, care need be taken to, wherever possible, preserve character-defining features, to repair instead of replace deteriorated features, and to replace-in-kind features that are too severely deteriorated to repair.

Based on the building's current appearance and our understanding of the building's history, ARG has developed the following list of character-defining features for the Yolo County Courthouse building. ARG broke the character-defining features into two categories: *primary* and *secondary*. Preserving the primary character-defining features (repairing or replacing in kind where necessary) is of paramount importance in meeting the *Secretary of the Interior's Standards for Rehabilitation*. Secondary character defining features are features that, while not as significant as the primary character-defining features, are still important and merit careful consideration in any plan for future re-use of the building.

Primary Character-defining Features

General

1. Central location in Courthouse Square with significant setbacks from both Court Street and North Street.
2. Three story height.
3. Rectangular plan.
4. Symmetric design that combines Greek, Roman and Renaissance architectural styles.

Exterior

1. Rusticated masonry cladding at ground story.
2. Portland cement walls faced with Colusa sandstone.
3. Engaged, square, fluted columns with terra cotta Corinthian capitals.
4. Double-hung wood windows separated by bands of horizontal decoration.
5. Simple architrave atop the columns and upper windows.
6. Terra cotta frieze, figures, balustraded parapet and crested cornice.
7. South façade: Main entrance portico with Corinthian columns.
8. South façade: Wall area behind the entry portico heavily decorated with enframement, decorated sills and a broken segmental pediment with a grand classical theme.
9. South façade: Three pairs of glazed, metal doors with pilastered reveals, decorative metal heads, and transoms with metal grillwork.
10. South façade: Grand entry stairway of 21 stone steps.
11. East and west elevations: Engaged round columns.

Interior

1. Interior walls of Vermont marble.
2. Entrance floors of Columbia marble.
3. Additional floors of terrazzo with marble borders.
4. At the second and third stories, prominent central rotundas and central corridors running the length of the building.
5. In second and third story rotundas, marble pilasters that support a decorative frieze and coffered ceiling.
6. In second and third story rotunda, tile mosaics in center of floor.
7. In second story rotunda, four murals that depict "The Procession of the Seasons" painted in pastel.
8. Colors on 60" by 30" cement tablets mounted just below the ceiling.
9. Colored glass skylights framed in oak in the third floor rotunda and corridor.
10. Copper light fixtures with hand-blown egg shaped glass globes in the corridors.

Secondary Character Defining Features

Exterior

1. Cast metal lamp posts flanking entry stairway with multiple light globes.
2. Light sconces flanking main entrance.

Interior

1. Glass and oak doors on the south, east and west of the first story that open onto a wide central corridor.
2. Eastern white oak doors, paneling and woodwork in the corridors, offices and courtrooms.
3. Richly decorated copper handrails at interior marble stairways.
4. Rooms 207, 300 and 316: Tray ceilings with crown molding.
5. Rooms 300 and 316: Marble wainscoting, decorative wall panels with vegetative motifs.
6. Room 300: Hand carved oak furniture with leather trim.
7. Room 300: A low balustrade composed of a wooden rail, metal grillwork, and a marble base.
8. Room 300: Woodwork at the head of the courtroom, including decorative overdoors, a desk with carved decoration, and wood paneling surmounted by an elaborate swan's neck pediment with dentils and central cartouche.

ARCHITECTURAL

FINDINGS

Site

The site is set in a formal layout. The landscaping, although not original, is in good condition. The concrete walks on the other hand have lifted in many locations posing a risk to the public and staff.

A protective paint surface was observed to be deteriorating from the site elements located at the front plaza.

Numerous mechanical units exist around the perimeter of the courthouse. Some of which appeared to no longer be connected to anything.

Building Exterior

On all four sides of the courthouse a protective paint was applied over the stone cladding and is now failing. The extent of the original damage to the exterior cladding which we understand precipitated the protective paint restoration program is unknown.

The grand entry stairway is in good condition but has been covered with aluminum treads, likely in response to safety concerns, which deter from the historic nature of the courthouse.

The paint coating on the exterior windows is peeling/missing from many of the windows.

Standing water and paint deterioration was observed at the cornice overhang around the perimeter of building.

Roof

The existing built-up roofing system is in good condition. The skylights are in good structural order but need aesthetic attention. A few panes of glazing had been replaced with an opaque panel. In many locations the putty that holds the glazing in place was missing. At the roof access point from the third floor there is a set of wood stairs. The stairs seem to be in good condition. The condition of the roofing below the stair is unknown.

Building Interior

The materials found throughout the courthouse consist of Columbia marble flooring, terrazzo with marble borders, carpeting, tile mosaics, flush oak wood doors, panelized wood doors, glass fire-protection doors, vaults, Vermont marble at the walls, marble pilasters, a decorative frieze, murals, white oak paneling and woodwork, marble wainscoting, painted gypsum board, suspended lath and plaster ceilings, suspended acoustic tile ceilings, colored glass skylights framed in oak, tray ceilings with crown molding, copper light

fixtures with hand-blown egg shaped glass globes, copper handrails at interior marble stairways and hand carved oak furniture with leather trim.

Overall the materials and finishes are in excellent condition. Exceptions include minor damage to the ceiling tiles throughout, moderate wear to the carpet throughout, worn finishes at most high use doors, minor wear to painted walls, moderate wear to the painted wood wainscoting and chair rails and paint failing at the rotundas.

APPLICABLE CODES

2010 California Building Code, CCR Title 24, Part 2

2010 California Historic Building Code, CCR Title 24, Part 8

2010 California Fire Code, CCR Title 24, Part 9

CONSTRAINTS AND OPPURTUNITIES

The primary character-defining features will pose the most significant constraint to the re-purposing of the courthouse. The secondary character-defining features pose some constraint to the re-purposing of the courthouse. The tertiary character-defining features do not pose any constraint to the re-purposing of the courthouse.

This stated many of the higher end finishes lie within the primary and secondary character-defining feature areas. These areas and their finishes should be maintained as part of any re-purposing of the courthouse for another use. All areas noted to contain tertiary character-defining features could be re-used with some minor superficial upgrades or they could be modified significantly to serve a new use.

ACCESSIBILITY

FINDINGS

Site and Exterior

Access to the site occurs at three separate curb cuts along 3rd street. Each curb cut appears to be compliant with the possible exception of the red truncated domes. Once on site numerous locations were observed where the concrete walks were uneven or lifting which poses a tripping hazard or barriers to accessibility.

Access to within the courthouse for persons in wheelchairs occurs by going under the grand entry stairway, down a ramp and through a pair of wood doors. Once in the building access to the second and third floors occurs by use of the elevator.

The ramp appeared to be excessively slopped and does not contain proper handrails on both sides. The public is well notified of the ramps location with accessibility signage on the building and within the site.

Two other public access points exist, the main entry at the top of the grand entry stairway and the rear entry on the north side of the courthouse. Both of these entry points are inaccessible for persons in wheelchairs. The main entry to the courthouse exists at the second floor accessed by the grand entry stairway. The main entrance consists of three pairs of glazed metal doors. The doors and the entrance way they lie within are a part of the primary character-defining features as noted by ARG. The rear entrance located on the north side of the building consists of a pair of glazed metal doors. It appeared that the pair of doors on the north side and the three pairs of doors on the south side of the courthouse are accessible per code standards.

The grand entry stairway is considered a primary character-defining features as noted by ARG. This stated consideration of the removal of the aluminum treads, that are not a part of the original construction, and restoration of the original stone stairway should occur. The stairs at the raised plaza at the North entry were not noted as being historically significant nor was it observed that the stairs were not in compliance with current codes. The majority of the exterior stair handrails are not compliant with present

code. The handrails are not original and have no historical significance and should be updated to adhere to current codes.

Interior
As stated previously access to all floors is available by use of the elevator. The elevator appears to be in general compliance with current codes.

Each floor of the courthouse is configured with double loaded corridors on either side of the central lobby space of the courthouse. In general accessibility within the corridors and the central space at each floor appeared to be in good order. An exception to this would be the exit only doors at the east and west sides of the first floor of the courthouse which are only accessed from the interior by use of stairs.

Once within the rooms located off of the central circulation area numerous accessibility issues were noted such as improper clearance on push and pull side of doors, widths of hallways and other tertiary circulation components and door hardware. Many of these compliance issues reside in areas considered secondary or tertiary character-defining areas.

Although the handrails for the interior stairs are not code compliant the stairs and handrails are noted as primary character-defining features which prevent them from needing to be code compliant.

A single Men's and Women's restroom located on the second floor was recently upgraded to be ADA compliant. The remainder of the restrooms appeared to be non-ADA compliant. Detailed measurements were not taken of every bathroom facility.

APPLICABLE CODES

2010 California Building Code, CCR Title 24, Part 2

2010 California Historic Building Code, CCR Title 24, Part 8

2010 California Fire Code, CCR Title 24, Part 9

CONSTRAINTS AND OPPURTUNITIES

The areas of accessibility concern are the uneven and lifting concrete walks, the exterior ramp serving the basement entry beneath the grand entry, the accessibility of the offices and work areas and the code compliance of the restrooms.

Corrective work to the sidewalks can be easily resolved in an ongoing survey and repair as needed basis (The current approach) or a more holistic approach of removing and replacing the walks.

The exterior ramp will need to be removed and replaced with a ramp that is longer to account for the drop in elevation that exists. It should be noted that the ramp is not a part of the original construction of the courthouse.

Both the interior office and work areas and the restrooms lie with the tertiary character-defining areas of the building. This stated there are no historical constraint that exists that would limit the ability to re-purpose and upgrade these areas to make them compliant.

LIFE SAFETY

FINDINGS

Based on the current California Building Code two independent exits a distance not less than one-half the diagonal of the longest line of the building are required for non-sprinklered buildings. The courthouse currently contains a formal staircase that surrounds the rotunda and services the first floor, second floor and third floor. This stairway does not meet the current code requirements. Based on the original drawings the third floor is also served by two sets of stairs that do meet the intent of the code for separation by distance.

Hollow clay tile and wire glass were observed within both primary and secondary character defining areas of the courthouse during our investigation. Both of these materials lead us to believe that there are fire rated doors and walls within the courthouse.

Currently only the third floor of the courthouse is protected by a wet standpipe fire sprinkler system. For any future re-use or re-purposing of the courthouse the fire sprinkler system will need to provide coverage to all portions of the building. Based on our review the system appears to be sized to accommodate the entire building.

The fire alarm system appears to have been upgraded and maintained per current codes. However, the existing fire alarm control panel has been discontinued and not an approved product per current California State Fire Marshal Listing. For any future renovation and re-purposing, it is recommended that a new fire alarm system be installed.

Exit signs were noted in various locations. As a part of the re-use or re-purposing of the courthouse an exiting plan will need to be developed and exit signs will need to be placed and approved by the AHJ.

Fire extinguishers, located within cabinets and mounted on brackets were observed in various locations throughout the courthouse. As a part of the re-use or re-purposing of the courthouse an exiting plan will need to be developed and fire extinguishers will need to be placed and approved by the AHJ.

APPLICABLE CODES

2010 California Building Code, CCR Title 24, Part 2

2010 California Historic Building Code, CCR Title 24, Part 8

2010 California Fire Code, CCR Title 24, Part 9

CONSTRAINTS AND OPPURTUNITIES

The grand entry stairway, as previously mentioned, is considered a primary character-defining feature. The intent behind any re-purposing of the building should be to retain these stairs. The AHJ will likely require the addition of stairs, presumably at the east and/or west ends of the building, to conform to today's codes for adequate exiting.

The other life safety components do not place any significantly constraints on the re-use or re-purposing of the courthouse. The existing rated construction may be the only significant exception as it may need to be re-used and its equivalency to rated construction definitions in today's codes will need to be discussed with the AHJ.

STRUCTURAL

FINDINGS

The following is a structural assessment report consisting of a structural seismic evaluation of the existing structure to determine the present earthquake performance level of the facility and to identify any areas that will require upgrades in future building modifications.

Gravity System
The roof and floor framing consists of cast-in-place reinforced concrete deck, t-beam joists and girders. The floor and roof decks are supported by cast-in-place concrete shear walls, piers, and columns extending down to concrete spread footings. The parapets and cornice supports are constructed of cast-in-place reinforced concrete.

Lateral System
The existing reinforced concrete floor and roof decks provide horizontal transfer of lateral loads to the resisting concrete shear walls and piers. Lateral loads are transferred to concrete spread footings at the foundation level.

ASCE 31 – Evaluation

We have conducted this structural seismic evaluation of the existing structure using ASCE/SEI 31-03, "Seismic Evaluation of Existing Buildings." ASCE 31 consists of three phases that are defined as the following three tiers:

1. Tier 1 – Screening Phase
2. Tier 2 – Evaluation Phase
3. Tier 3 – Detailed Evaluation Phase

Our ASCE/SEI 31-03 structural seismic evaluation consists of an initial screening phase (Tier 1) and evaluation phase (Tier 2). ASCE/SEI 31-03 has two levels of performance and they are Life Safety and Immediate Occupancy. For this project we generally used the Life Safety Level of Performance. By performing an ASCE/SEI 31-03 Tier 1 screening and Tier 2 evaluation we can determine what seismic deficiencies exist at this facility. Once we have determined what seismic deficiencies exist we can define a concentrated scope for the ASCE 41 seismic rehabilitation.

Tier 1 assessment is considered the screening phase that allows rapid evaluation of the structural, nonstructural, and foundation/geologic hazards elements of the building and site conditions. The purpose of a Tier 1 evaluation is to screen out buildings that comply with the provisions of the ASCE/SEI 31-03 standard or quickly identify any potential deficiencies. The Tier 2 assessment is used for quick calculation checks required within the Tier 1 checklist. We did not perform non-destructive and destructive material testing that would typically be required during an ASCE/SEI 41- 06 rehabilitation and Tier 3 assessment.

Document Review

We were able to perform a cursory review of miscellaneous original Architectural and Structural sheets of the original courthouse building. The original documents included plans, elevations, sections, and details of the existing building originally prepared by W. H. Weeks Architects, dated Feb. 2 1916.

Soil reports were not provided for our review. We could not determine if this facility has a potential for earthquake-induced liquefaction and we would recommend that the facility have a geotechnical and geological hazards report prepared by a geotechnical engineer prior to any future work that can determine potential seismic induced site hazards. For this assessment we have assumed soil class D, Stiff Soil, that has a design short-period spectral response acceleration SDS = 0.673g and a design spectral response acceleration parameter at a one-second period SD1 = 0.376g. For the parameters given, the level of seismicity shall be classified as High per ASCE/SEI 31-03, Table 2-1, Footnote 1.

The diaphragm connections to the lateral force resisting shear walls could not be observed. However the existing construction documents indicate reinforcing dowels between floor slabs and the supporting walls and columns. Vertical wall reinforcement was also indicated on the drawings as continuous to the foundation. It is our opinion that a complete load path exists within the lateral resisting system from diaphragm to foundation including out of plane wall support.

ASCE/SEI 31-03 Review

This building is considered a concrete shear wall structure with rigid diaphragm and does conform to the ASCE/SEI 31-03 Common Building Types. We have assumed building type C2 (Concrete Shear Walls) for reviewing this structure. The following items were identified for potential further review using the Tier 2 assessment.

1) Incomplete building frame system:
   a) The concrete shear walls act as both the lateral and gravity support system. Potential damage to walls during an earthquake could compromise the vertical load carrying system.
2) Under reinforced shear walls:
   a) Horizontal reinforcing ratio was found to be below the allowable for wall piers and shear walls.
3) Unsupported wall partitions:
   a) Unreinforced Hollow Clay Tile was observed within building structure.

b) Lack of bracing was observed at the top of interior partition walls.

4) Ceiling system:
   a) Lath and plaster ceilings not braced to underside of deck.
5) Light fixtures:
   a) Light fixtures observed were not supported independently of ceiling grid.
6) Cladding anchorage:
   a) Anchor connection size and spacing, were not indicated in the existing drawings.
   b) All anchors are hidden from visual inspection and we were not able to observe possible deterioration
7) Tall and narrow contents
   a) We recommend that the facility provide positive wall or floor attachments on all tall narrow contents with height-width aspect ratios greater than 3 to 1 and over 4 feet high.

Observations and Recommendations

This seismic evaluation consisted of one site visit and was limited to exposed and observed elements. Hidden and unforeseen conditions are excluded from this report. Based upon our visual observation of the buildings at this facility, we have concluded that the building is generally in good condition. We did observe the following conditions requiring further evaluation and repair:

1) Exterior protective paint surface was observed to be deteriorating in several locations, most notably on the South elevation. The extent of the original damage to stone and terra cotta cladding which we believe precipitated the restoration program is unknown. We recommend an overall exterior investigation program to selectively explore the current condition of the original cladding anchors and the damage that may result from the further deterioration of the restorative paint surfaces.
2) Standing water was observed over cornice overhang around the perimeter of the building. Repetitive Terra Cotta decorative elements below cornice appear shifted in some locations. Water damage at interior face of 2nd floor walls below roof was also observed. We recommend further investigation of water damage to cornice and cladding anchors. Improvements to water drainage system should be incorporated to overall building improvements.
3) Spalled concrete with exposed rebar was observed at underside of concrete floor joist elements. The exposed rebar in some locations appears to be due to lack of consolidation in original construction. Other locations adjacent to original floor drains display evidence of past water damage. In some locations, ceilings and utilities were observed to be supported from exposed rebar. We recommend further exploration of concrete joists to determine extent of concrete damage and repairs required.
4) The original suspended lath and plaster ceiling and later remodels of suspended acoustic tile ceilings appear unbraced. We recommend an overall ceiling investigation and seismic bracing program.
5) Interior partitions walls were observed which do not appear to be braced to the underside of the deck. We recommend a typical kicker bracing repair be incorporated into future remodel plans.
6) A freestanding IT room shed structure has been erected on the roof. Permit drawings for this addition were not available for review. We recommend further investigation of the shed structure, its anchorage to the existing roof and the capacity of existing roof structure to support this additional load.
7) Updated mechanical units have been added to the existing roof supported on either perimeter curb or steel pipe stanchions. Heavy corrosion and scaling of steel was observed at the pipe stanchions. We recommend further investigation of mechanical unit anchorage to the existing roof and the capacity of the existing roof to support this additional load.

8) Suspended mechanical units above ceilings appeared vertically isolated but lacked lateral bracing. We recommend an overall survey of interior utilities suspended from ceiling to determine required bracing repairs.
9) Unreinforced Hollow Clay Tile (HCT) was observed above ceiling level at doorways leading to courtroom waiting rooms. HCT infill construction is commonly found at firewall separation in historic construction and requires bracing or removal under current building codes. We recommend further investigation of the extent of HCT infill throughout the building.
10) Pressurized tanks in the utility rooms were found without anchorage. We recommend lateral bracing to concrete walls and base.

APPLICABLE CODES

1) ASCE/SEI 31-03
2) ASCE/SEI 41- 06

CONSTRAINTS AND OPPURTUNITIES

Based on our engineering judgment and using ASCE/SEI 31-03 Tier 1 and Tier 2 evaluation, we have found several areas of concern that may be resolved with further structural investigations that could include an ASCE 41 seismic rehabilitation analysis. If the county was to rehabilitate the facility and address concerns within this evaluation, it is our opinion that this facility can and will be a viable candidate for future remodel and re-use programs.

Opportunities to re-use the building in its current historic configuration will have the following constraints:

1) Retain all current locations of concrete shear walls and columns.
2) Limit proposed floor and roof mechanical shaft opening to occur within joist bays.
3) Limit mechanical upgrades to rooftop units which do not exceed the currently imposed weight.
4) Retain current size of exterior wall openings
5) Retain existing façade with upgraded anchors and exposure protection

Opportunities also exist for more substantial changes to the structure, for example: opening of floor system in select areas for an open volume space. However, it should be expected that significant changes of this magnitude will require an extensive seismic retrofit as well as additional vertical support framing.

MECHANICAL

FINDINGS

The following is an assessment report evaluating the existing building mechanical systems to determine whether the current system will accommodate future renovation and re-purposing of the building.

The HVAC system has undergone a series of renovations through the years. All of the original 1917 mechanical piping and equipment has been replaced. In 1982, a major renovation of the mechanical system added a water source heat pump system to the building including tenant improvement modifications to the third floor. In subsequent years, the rest of the second floor was remodeled and included installation of WSHPs on the floor. In 2003 the building underwent an energy retrofit project whereby all of the WSHPs, the boilers and first floor RACs were replaced. In 2012, the building automation system was replaced.

Mechanical equipment is located in either of two mechanical rooms at the 1st floor, attic space, a mechanical penthouse at the roof, on the roof or at grade surrounding the perimeter of the building.

Air Distribution
Heating, cooling and ventilation to the building is provided by the following equipment:

1. Rooftop packaged DX cooling, gas heating HVAC units (RACs).
2. Rooftop water source heat pumps (RHPs).
3. Split system air cooled heat pumps (SSHPs).
4. Above ceiling ducted water source heat pumps (WSHPs).
5. Packaged through the wall air cooled heat pumps (PTHPs).

The first floor of the building is served by multiple PTHPs, SSHPs and RACs located exterior to the building at grade. The second floor is served entirely by WSHPs. The third floor is served by WSHPs located in the attic and RACs and RHPs located on the roof. Ventilation air to the WSHPs on the second and third floors is provided by a duct mounted supply fan located in the mechanical penthouse.

Condenser Water System
The building utilizes a condenser water system to circulate water between the building WSHPs. The condenser water system includes the following components:

1. 140 ton closed loop fluid cooler with spray pump.
2. 1.2 MMbh heating hot water boiler (80% efficiency).
3. 2 distribution pumps.
4. Chemical treatment.
5. A water softener.
6. An expansion tank.
7. Make-up water connection and piping distribution system.

A set of 3" condenser water pipe risers provides vertical distribution of the system. 2-1/2" mains at each floor are available although only floors 2 and 3 currently utilize the condenser water system.

Building Automation System
The building currently uses a direct digital control system by Delta to monitor and control the condenser water system and WSHPs. Electronic thermostats are used at the RACs, SSHPs and PTHPs.

APPLICABLE CODES

For new renovation or re-purposing works, areas affected shall comply with the current codes as listed below:

California Building Code, 2010 Edition

California Mechanical Code, 2010 Edition

2008 Building Energy Efficiency Standards, Title 24

Since the building qualifies as a historic structure, any non-historic components of the building such as new or replacement mechanical needs to comply with the Building Energy Efficiency Standards.

CONSTRAINTS AND OPPURTUNITIES

In general, the mechanical equipment serving the building is in good condition due to replacement of the equipment under the Energy Retrofit project in 2003. By continuing to follow the current preventative maintenance program, the recently replaced equipment can be expected to last an additional 10-15 years.

The RACs, PTHPs and SSHP are standard efficiency units that meet the bare minimum requirements for energy usage. The RHPs and WSHPs are high efficiency units that exceed the current energy code requirements for annual energy usage.

The fluid cooler appears to be near the end of its useful life as water leakage was observed below the equipment and mineral deposit buildup identified on the fill.

Overall the condenser water system and pipe sizing appear to be slightly undersized to support the building heating (21 Btuh/sf) and cooling (370 sf/ton) requirements. This is the most likely reason previous designers located the mechanical HVAC equipment serving the first floor on grade instead of connecting to the existing building condenser water loop.

The existing HVAC equipment on grade is less than ideal from an aesthetic standpoint. The ductwork and piping distribution entering the building is very visible as it utilizes the existing window openings to enter the building. For future renovation or re-purposing, the City should consider upsizing the existing fluid cooler, boiler and extending the WSHPs service to the first floor. Other possibilities for removal of the grade level equipment would be replacement with a variable flow refrigerant (VRF) system.

Water quality in Woodland is difficult to maintain due to the water sourcing directly from ground water. Currently, the condenser water and domestic water systems utilize a water softener which is mandatory to maintain the quality of the equipment and piping distribution. Based on conversations with the building maintenance staff, elimination of the condenser water system would be a longer term goal for the City.

The main corridors and entry lobby did not appear to be provided with air distribution or ventilation air. Future renovations of the building will require these spaces to be ventilated per the California Mechanical Code.

PLUMBING

FINDINGS

The following is an assessment report evaluating the existing building plumbing systems to determine whether the current system will accommodate future renovation and re-purposing of the building.

The plumbing system has undergone a series of renovations through the years. With the exception of the plumbing waste and vent systems, most of the original 1917 plumbing and piping equipment has been replaced above the second floor. A majority of the piping in the first floor and all of the under slab piping is original. In 1982, a major renovation of the plumbing system replaced the domestic booster water pump and domestic water heating system.

Plumbing Fixtures
Plumbing fixtures serving the restrooms were observed to be standard flow non-ADA compliant fixtures. A single Men's and Women's restroom located on the second floor was recently upgraded to be ADA compliant.

Domestic Cold and Hot Water
The building is served by a 3" domestic cold water main from the north side of the building. The water meter is located on the north side of the property and with the main entering the building at the first floor mechanical room. A domestic booster water pump serves fixtures on the third floor due to low water pressure issues on site. The booster pump system is located in the first floor mechanical room west of the Lobby.

Domestic hot water is provided by a 50 gallon natural gas water heater for fixtures on the third floor. The remainder of the building utilizes point of use hot water heaters at the sinks and lavatories.

Sanitary Waste & Vent
Two 5" sanitary waste lines exit the east and west sides of the building. The sanitary waste piping below in the first floor and below the slab is original. The second and third floor waste and vent piping was replaced as part of the floor renovations.

Natural Gas
One 4" natural gas line enters the north side of the building via the mechanical room at the first floor. The system includes a utility pressure reducing station, earthquake and isolation valves exterior to the building. Natural gas is utilized by the RACs, heating hot water boiler and domestic water heater.

APPLICABLE CODES

For new renovation or re-purposing works, areas affected shall comply with the current codes as listed below:

California Plumbing Code, 2010 Edition

Americans With Disability Act (ADA)

2008 Building Energy Efficiency Standards, Title 24

Since the building qualifies as a historic structure, any non-historic components of the building such as new or replacement plumbing equipment and new appliances need to comply with the Building Energy Efficiency Standards and Appliance Efficiency Regulations.

CONSTRAINTS AND OPPURTUNITIES

In general, the plumbing system is in average condition but is beginning to show signs of aging. Waste piping on the first floor was identified by the building maintenance staff as leaking. The County should consider on-going replacement of the waste pipe on the first floor as required.

The existing restrooms are not ADA compliant nor do they feature low flow fixtures. Renovation and re-purposing of the building should consider full upgrade of the restrooms and fixtures to meet ADA and CalGreen code requirements for water efficiency.

FIRE PROTECTION

FINDINGS

The building is currently partially protected by a wet standpipe fire sprinkler system. A 6" fire line enters the north side of the building at the first floor mechanical room. The fire riser is located in the first floor mechanical room. Fire sprinklers were observed at the third floor only. The system appears to be sized to accommodate the entire building.

APPLICABLE CODES

California Fire Code, 2010 Edition, NFPA 13

CONSTRAINTS AND OPPURTUNITIES

For future renovation and re-purposing, we would recommend upgrading the fire sprinkler system to include all building areas.

ELECTRICAL

FINDINGS

The following is an electrical assessment consisting of the evaluation of the existing electrical system in the building to determine whether the current system will accommodate future renovation and re-purposing.

Electrical Service
The building electrical system is a 277/480V, 3000 ampere service located in the main electrical room at basement level with remote incoming pull section and utility meter enclosures on the north side of the building exterior. A PG&E pad mounted utility transformer is located adjacent to the incoming pull section

and utility meter enclosures. The main electrical equipment installed as part of the original project build-out in 1917 was replaced with new equipment dated 1974. It appears the electrical service is adequate to serve a 50,000 sf building. There are electrical distribution equipment and panels located at each floor electrical room to serve the associated electrical loads at each floor. There is also a motor control center (MCC) located at 3rd floor mechanical room serving mechanical HVAC equipment.

Emergency Power

There is an existing small emergency generator located on the North side of building exterior next to the utility transformer and the incoming pull section/utility meter enclosures. This generator is sized to provide emergency power for only the elevator. It appears a fairly new 100 ampere, automatic transfer switch has been installed in the basement electrical room as a means to transfer from normal power to emergency power for the elevator in the case of utility power failure. The emergency electrical distribution system does not appear to provide power for emergency egress lighting.

Lighting

The interior lighting for this building is comprised of the following:

1. Corridors and lobbies: Surface and pendant fluorescent light fixtures.
2. Courtrooms: Surface and recessed 2x4 and 2x2 fluorescent fixtures.
3. Mechanical and storage rooms: Compact fluorescent screw in socket type fixtures.
4. File storage rooms: Surface 4 foot wrap around fluorescent light fixtures.
5. Break rooms and open offices: Recessed 2x4 fluorescent light fixtures.
6. There are some acorn pendant light fixtures and chandeliers in the lobbies that are a part of historic lighting components to remain.
7. Many of the light fixtures in various areas are incandescent lamped.

There are skylights located on center, East and West of the Courthouse roof structure. However, there is no day lighting control associated with these skylights. The building does not have an interior automatic lighting system.

The exterior lighting of the Courthouse comprises of architectural post top light fixtures with high pressure sodium lamps and flood lights with incandescent lamp assemblies. The incandescent lamps are enclosed in faux rocks at the perimeter of the site and used to wall wash the exterior of the building. In front of the Courthouse main entrance there are two cast metal post top light fixtures with multiple light globes. These light fixtures are part of the original Courthouse construction and are classified as historic lighting components.

APPLICABLE CODES

For new renovation or re-purposing works, areas affected shall comply with the current codes as listed below:

California Electrical Code, 2010 Edition

Americans With Disability Act (ADA)

2008 Building Energy Efficiency Standards, Title 24

CONSTRAINTS AND OPPURTUNITIES

The existing electrical infrastructure service appears to be more than adequate to serve this 50,000sf building for future renovation or re-purposing.

The emergency generator system is very limited and will not be able to add additional loads in the future to support renovation and re-purposing. If this building gets converted to a critical function building with emergency needs for HVAC ventilation, emergency egress lighting, and any additional critical loads, the

emergency electrical system will need to be upgraded to a larger size to accommodate emergency power requirements.

Many of the interior lighting fixtures appear to be at the end of service life and are not energy efficient. In addition, the interior lighting currently does not meet Title 24 requirements. For renovation and re-purposing, we suggest replacing existing light fixtures with new energy efficient light fixtures and provide controls to meet Title 24 requirements. For light fixtures to remain as part of the historic building lighting components, replace existing lamps with new retrofit energy efficient lamps. Bi-level switching, occupancy sensor, sky light photocell controls and building automatic lighting control panel will need to be installed per Title 24 energy standards for areas without historic lighting components.

The exterior lighting of the Courthouse appears to be recently upgraded. However, there are still some incandescent light fixtures that remain on site. The incandescent light bulb assemblies in the existing faux rocks at the site perimeter needs to be replaced with new energy efficient light fixtures serving the same the purpose since they are not part of historic lighting components.

The lighting recommendation for this report is based on the current 2008 Title 24 Energy Efficiency Standards. The California Energy Commission is in the process of updating the standards which will be adopted in 2014. Recommendations in this report should be reviewed for compliance when the new standards are released.

FIRE ALARM

FINDINGS

There is an existing fire alarm system in the courthouse with a main fire alarm control panel, Silent Knight, model 5207 located in the basement mechanical room. The fire alarm panel seems to be in good condition. It appears there is adequate notification horn/strobe devices located throughout the common areas as required by code. These areas include lobbies, courtrooms and corridors. There are limited smoke detector devices located throughout the building.

APPLICABLE CODES

California Fire Code, 2010 Edition, NFPA 72.

CONSTRAINTS AND OPPURTUNITIES

The fire alarm system appears to have been upgraded and maintained per current NFPA 72 requirements. However, the Silent Knight 5207 model has been discontinued and is not an approved product per current California State Fire Marshal Listing. For future renovation and re-purposing, we would recommend upgrading the fire alarm system.