

MULTNOMAH COUNTY COURTHOUSE RENOVATION STUDY

FINAL REPORT
VOLUME 1

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SERA



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Downtown Courthouse Finance Sub-Committee

In addition to the Courthouse Building Committee, a concurrent committee Chaired by Commissioner Judy Shiprack, is working on financing options for the Courthouse. Members of this committee joined the Building Committee for milestone meetings. The membership of this committee includes:

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Multnomah County Courthouse Key User Groups

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Douglas Bray, Chief Court Administrator

Multnomah County District Attorney's Office

Michael Schrunk, District Attorney

Norm Frink, Chief Assistant District Attorney

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Multnomah County Sheriff's Office

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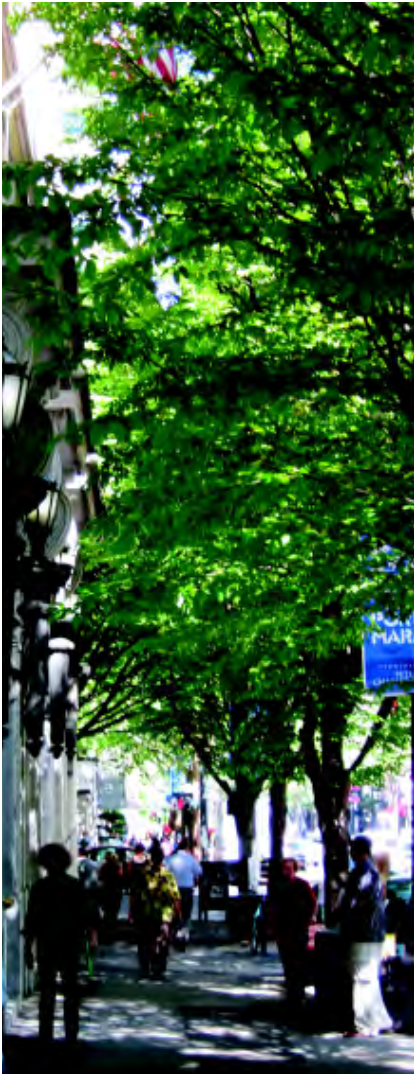
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PURPOSE OF THE STUDY

Courthouse operations are central to the delivery of justice to the citizens of Multnomah County. An average of 3,000 visitors walk through the front door of the Multnomah County Courthouse each day. Over the past 20 years there have been numerous studies on how to address the long-term facilities needs of the State Courts in Multnomah County. Previous studies have looked at the feasibility of building a new courthouse facility and the possibility of renovating the existing courthouse. Previous renovation approaches, however, were based upon the vacation of the courthouse occupants into temporary space, and was considered to be cost prohibitive due to the added cost of building specialized courtroom space for interim use during the construction period. Renovation studies to date have not considered whether the courts could retain central operations in the building during a renovation.

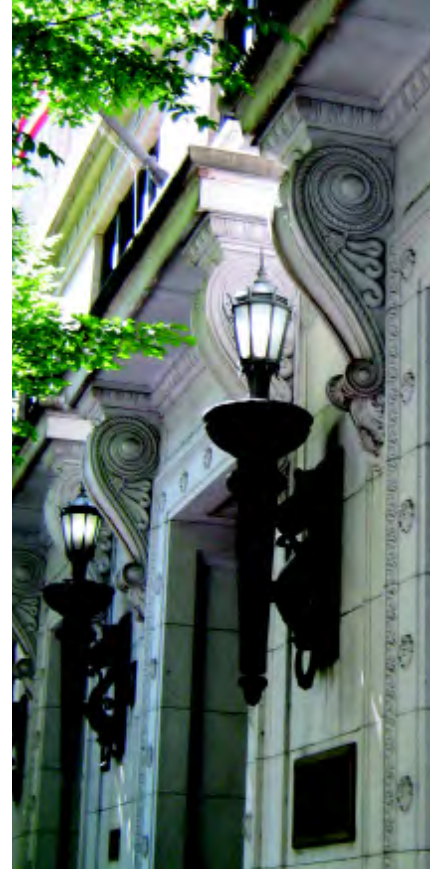
Multnomah County Facilities & Property Management contracted with a consultant team led by SERA Architects to conduct a feasibility study with the express purpose to:

Determine the economic, logistic and redevelopment viability of renovating the downtown courthouse, while simultaneously maintaining a substantial portion of the operations in the building.

Scope of the study

The project study team worked with Multnomah County's facilities management, representatives of the primary courthouse occupants, and an appointed Courthouse Sub-Committee to evaluate the issues and test proposed strategies. This study covered a broad array of scope, but with a limited depth of examination of each issue. This included reconfirming space needs for the primary courthouse occupants; evaluating existing building conditions; recommending major building systems strategies and seismic upgrades; phasing and sequencing of the renovation with a construction schedule; and developing estimated project costs.

This study is the first step in evaluating the renovation of the existing facility while retaining substantial operations. There are more activities that need to be completed to determine the extent of such an undertaking, which will inevitably modify the scope and cost. Further evaluation of building systems and program verification will be required, as well as additional cost estimating, logistical planning, constructability, and determination of funding strategies.





COURTHOUSE RENOVATION OBJECTIVES

Three overarching County objectives must be met by any proposed renovation concept including:

- Seismic upgrade of the building shall meet Life Safety levels as defined by the governing code,
- Court operations take priority in the phasing and sequencing of the renovation strategy to minimize impacts to ongoing operations,
- Security should be improved whenever possible, for the transfer of detainees, in the screening of building visitors, and in the creation of secure circulation for Court staff and judges.

PROPOSED RENOVATION CONCEPT

The renovation will be sequenced to allow the general public's access to the court to remain largely unchanged during the construction period; and careful attention to sequencing of activities and after-hours construction shifts will allow the courts to maintain ongoing daily operations for the duration of the renovation.

The concept for the renovation involves seven major phases of the work. Phase 1 will focus on utility infrastructure work outside the occupied areas of the building, and includes the temporary relocation of certain departments into adjacent buildings to create "flex-space". This will allow the remaining occupants to relocate within the building during construction and remain functional.

In Phase 2 the construction sequencing is focused around the seismic upgrade, where new structural elements will be inserted into the existing light well to brace the building, much like building a "ship in a bottle". Once the new seismic structure is in place, new infill floor construction will allow build out of two new courtrooms at each level, accompanied by the addition of a new 9th floor level and mechanical penthouse. A new elevator and new mechanical/electrical/telcom chases will be inserted into the core, which will support the transition for switching over to new systems during the subsequent construction phases. This work will be conducted after-hours to minimize noise and disruption, and in a manner such that ongoing building functions are uninterrupted.

In phase 3 the Sheriff's in-custody holding cell facilities are built-out in the basement to allow courts construction to occur on the 7th floor.

Phases 4-6 will renovate and restore two to three floors at a time, starting at the top level and working down. Building occupants will need to relocate within the building during the respective phases of the work, but will remain operational. With the earlier insertion of new courtrooms in the infill center of the building, the courts will have access to the maximum number of courtrooms at any given time.

Phase 7 is the completion of the renovation at the main floor and will result in improved public access to the building, and provide a new fully accessible entrance at the southeast corner tying directly into the main building lobby. On completion, the courthouse will have at least forty-one (41) fully functional

courtrooms, and flexible program space on floors 8 & 9 that could be used for the District Attorney, Law Library, or other uses. There is a net gain in gross building square feet (GSF) by approximately 75,300 GSF.

Safety

Protection of the public and the building occupants during an occupied renovation is an especially critical component, which encompasses many areas to be addressed by the contractor and the owner in a project specific safety plan. This includes protection of adjacent occupied zones during demolition and construction, and ongoing air monitoring for pollutants and hazardous materials; which is why the renovation approach is to do work on two floors at a time to minimize the impacts. Site access issues for the public and the staff can pose concerns as well, and the proposed 4:00 PM-1:00 AM construction shift will allow the contractor to work with minimal impact on the occupant's access within the building.

Security

Integral to this concept is the enhanced security and circulation for three types of building occupants. The Sheriff's detention and holding cell area, currently on the 7th floor, will be relocated to the basement. From the basement holding area three new elevators will allow the Sheriff to provide in-custody transportation of detainees to two-thirds of the courtrooms, minimizing the use of public corridors and elevators. This significantly improves the existing shared circulation between judges and court staff, detainees, and the general public. A new elevator on the west side will allow judges and court staff to circulate between floors without entering the public spaces.

Assumptions

A detailed list of assumptions can be found in the body of the report; the most notable are:

- The State Courts intend to implement greater utilization of electronic filing of documents by approximately 2015, thereby reducing the amount of space that has to be devoted to on-site storage of records. The square footage allocation for the Courts reflects a reduction of records storage.
- The historic status of the building must be maintained and all design concepts are contingent upon review by City Landmarks, State Historic Preservation Office and the US National Parks Service.
- The existing condition of the building necessitates an extensive renovation; all building systems including mechanical, plumbing, electrical, telecommunications and audio/video systems must be totally replaced, and the structural condition improved to meet Life Safety level.
- The renovation approach essentially constructs a new building inside the existing light well, which will provide space for new mechanical / electrical services, enhance overall building security by providing secure vertical circulation with the addition of elevators, and offer new space for courtrooms that meet modern courts standards including jury space.



EXECUTIVE SUMMARY

- This approach will require a closely monitored and well orchestrated process. Construction activity will typically be conducted between 4:00 PM and 1:00 AM to allow the construction to be conducted on a regular work schedule, while optimizing safety considerations and minimizing disruptions during normal business hours of the Courts.
- The phased approach to the renovation results in a probable construction duration of (4) to (6) years.
- In order to create “flex - space” within the courthouse during the construction phases, the District Attorney offices, Grand Jury, Law Library, Courts Records, and the Traffic Courts will move out of the building and into temporary leased space in downtown Portland within close vicinity of the Courthouse.
- The County aspires to a LEED Gold certification. This is subject to a Life Cycle Cost Analysis of the entire project.

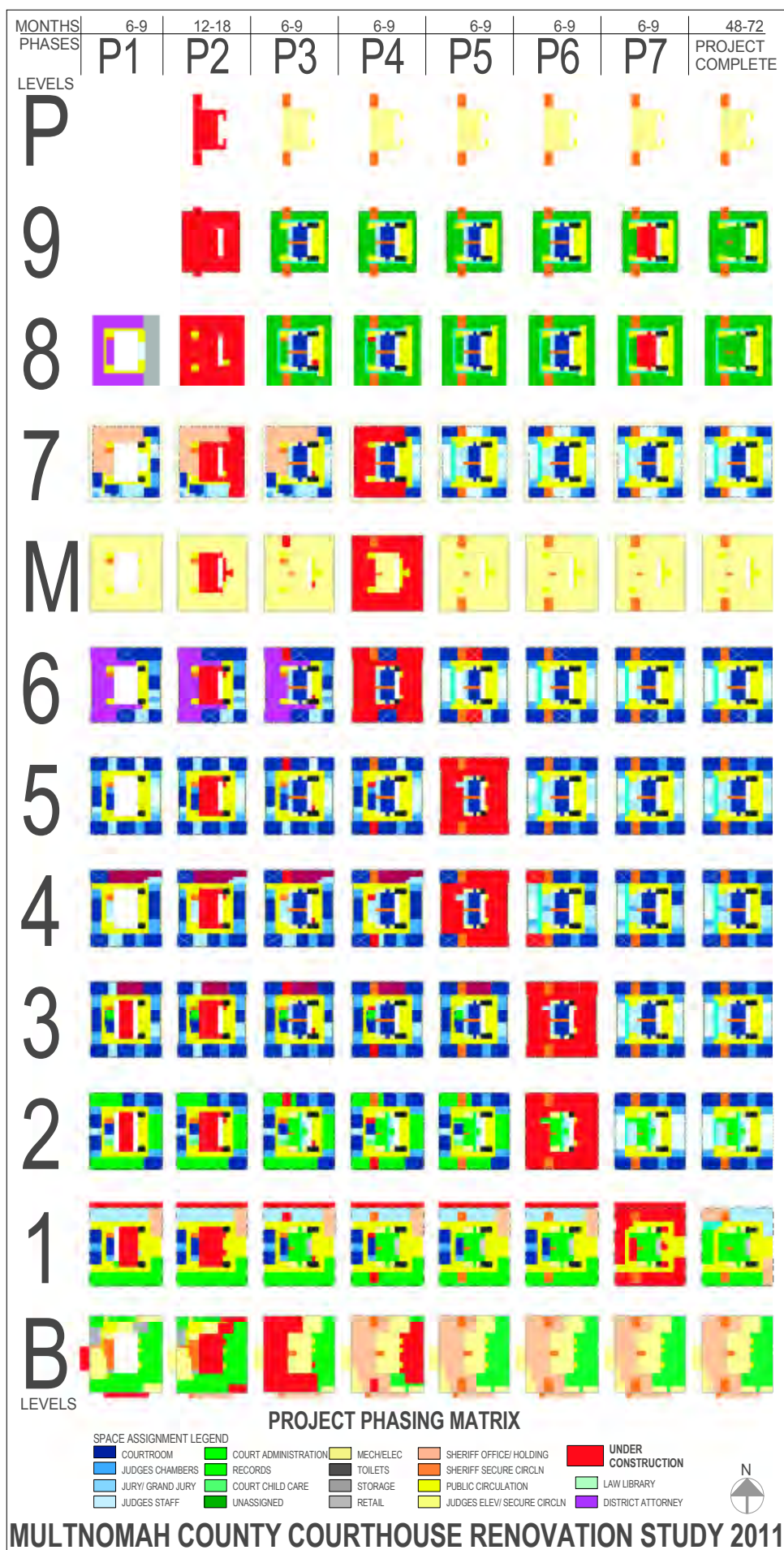
SCHEDULE AND COST

Based on the renovation strategy and basic assumptions, the Estimated Total Project Cost for a four-to-six year phased renovation of the historic courthouse is a range of \$176 - \$220 Million (1st Qtr 2011 dollars). Escalation, using industry standard rates, should be calculated to mid-point of construction once the project start date is established.

The Total Project Cost includes the hard and soft construction costs of \$163 - \$201 Million as illustrated below. Construction related soft costs include items such as design fees, project management, permits and testing, and furniture. Move soft costs of \$13 - \$19 Million for the interim relocation of selected functions includes lease costs, tenant improvements, and related moving expenses.

The costs are shown in a range because of the preliminary nature of this study, and the many variables that can affect the final costs such as discovered conditions, court schedule changes, or unforeseen delays.

	LOW	HIGH
Construction Costs	110,953,454	132,838,130
Construction Soft Costs	36,797,688	49,503,378
Contingency 10%	14,775,114	18,234,151
SUB TOTAL CONSTRUCTION COSTS	162,526,256	200,575,659
Move Soft Costs	11,922,880	17,251,067
Contingency 10%	1,192,288	1,725,107
SUB TOTAL MOVE COSTS	13,115,168	18,976,174
ESTIMATED TOTAL PROJECT COST	\$ 175,641,424	\$ 219,551,833
Building Area GSF (Initial 328,486 GSF)	398,893 GSF	398,893 GSF



EXECUTIVE SUMMARY

PROJECT PHASING MATRIX

(The Quilt)

This reduced version of the phasing matrix tells the graphic story of the proposed renovation process. The columns indicate Phases 1-7 (P1-P7) and their relative time duration. The rows are the levels of the building including the 6th Floor Mezzanine (M) level which will serve as additional mechanical and storage space.

Red indicates the areas under construction. The various departments are coded by color. The graphic provides a quick reference to track the order of construction and to track movement of departments at any given phase.

Phase 1 (P1) will prepare the building for future utility connections and seismic upgrades, including the vacation of Records, the District Attorney's Office, Grand Jury, the Traffic Courts, and the Law Library from the building.

Phase 2 (P2), the longest phase taking up to 18 months, will focus on the insertion of the new structural core in the center of the building to seismically stabilize the building. Usable space will be added as infill within the existing light well analogous to a "ship in a bottle." New "flex space" will be added to the eighth floor east and an entirely new ninth floor. A new mechanical penthouse at the roof will serve the upper floors of the building and the infill core.

In phase 3 the Sheriff's in-custody holding cell facilities are built-out in the basement to allow courts construction to occur on the 7th floor.

Subsequent phases 4-6 (P4-P6) will renovate and restore two to three floors at a time, starting at the top and ending with the first floor.

Phase 7(P7) is the completion phase, wrapping up the work on the first floor and returning the building to regular operations.

A full size poster of the Phasing Matrix is attached in the Appendix of the Final Report.

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FINAL REPORT

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BACKGROUND

The Multnomah County Courthouse was built in two phases between 1909 and 1914 at a total cost of \$1,600,000. In its time, it was the largest courthouse on the west coast and served as the county seat, as well as the county jail.

Designed by Whidden and Lewis in the Neoclassical style, the courthouse is a noted City Landmark and was placed on the National Register of Historical Places in 1979 by Multnomah County. Built in the most up-to-date fireproof techniques at the time, the primary structure is concrete encased steel. Floors are concrete slabs poured over terra-cotta brick inserts and walls are predominantly terra-cotta brick with traditional plaster finish.

There are four confirmed two-story historic courtrooms in the building which retain most or all of the original design and finishes. Others have seen numerous system replacements, and new ceilings and lighting. To add courtroom capacity several of the original two-story courtrooms were modified in the 1950's by splitting the volume to insert new floors, along with updates of more "modern" finishes.

The original county jail occupied both the seventh and eighth floors as revealed by the fact that the floor slopes up on the north and south wings to accommodate thicker floor slabs for the detention cells. Since then, the detention center has been reduced to the west side of the seventh floor, while the north wing still contains vintage holding cells, no longer in service.

Additional information may be found in Appendix 1 - SERA Historic Courthouse Presentation and Appendix 2- NPS Historic Places Nomination.



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THE STUDY IS FOCUSED ON A SINGLE PURPOSE:

Determine the economic, logistic and redevelopment viability of renovating the downtown courthouse, while simultaneously maintaining a substantial portion of the operations in the building.

This Renovation Study was coordinated by the project team representatives of SERA and Multnomah County. The project team met regularly to plan interviews and presentations, work through strategic issues and track the schedule. The team also reviewed the project regularly with the Multnomah County Downtown Courthouse Committee.



Information Gathering and Findings

The information gathering stage included investigation of existing building conditions and systems, as well as space needs discussions with the primary building occupant groups.

The consulting team, consisting of SERA Architects, Hoffman Construction, and the engineering consultants from PAE and KPFF toured the building to familiarize themselves with the structural condition, roof and interior construction elements, and the various mechanical/electrical/telecommunications systems. This evaluation was conducted with the courthouse property manager, facilities operations personnel, and the project team to learn first hand the challenges of the building condition.

The project team interviewed representatives of the primary building occupant groups to discuss basic programmatic parameters that would affect the renovation. These interviews with the Courts, District Attorney's office, and the Sheriff's office formed the core of the basic assumptions used to develop the renovation concept.

Development of the Renovation Strategy

Based upon the findings, the study team held several work sessions to create and test strategies for how to upgrade, replace and/or renovate each building system. This analysis included a complex phasing strategy to sequence the seismic upgrade and systems replacement while the Courts operations are maintained in the building with limited movement of courts functions.

The concept for the renovation was articulated in a visual matrix of the building plans overlaid with the sequence of construction, the user areas, and a construction time line; this phasing diagram is called "The Quilt" and provides an overall snapshot of the approach to the renovation. The renovation concept and phasing is described in more detail in the report sections titled Renovation Strategies and in the Renovation Sequence and Phasing.

Every step of the process has been referenced to the original purpose to assure that a renovation can be well staged, planned, and coordinated without impeding the operations of the Courts.

Estimating the Project Costs

The project costs were developed through a series of work sessions between SERA Architects, the Multnomah County project team leaders and Hoffman Construction. The costs are shown with a low to high range due to the many variables and unknowns of the project.

Involvement of the Multnomah County Downtown Courthouse Committee

The steering committee and members of the renovation study team participated in Downtown Courthouse Building Sub-Committee meetings. Comments, concerns and questions are summarized below:

1) October 2010 Presentation by SERA and Hoffman on the seismic rehabilitation of the existing building

- There are three levels of seismic strengthening
- Life Safety level assures that occupants may leave the building safely
- Building new structure in the lightwell must not disrupt courts operations during the upgrade

2) November 2010 Presentation by SERA on the historic status of the courthouse

- Much of the courthouse interior has been changed over time. Only 4 courtrooms are considered to remain in historic condition.
- Historic status affect the number of stories that may be added
- State Historic Preservation Office role is to guide and review projects
- Renovating an occupied historic building is possible

3) December 2010 Preview of the Renovation Strategy by SERA

- Courts records are a critical issue, both during and after renovation
- Phasing is understandable, seems possible but not without challenges
- Matrix is a useful tool to explain sequence
- Who will move out and who will move back in at the end of construction?

4) March 2011 Presentation of the Process and Costs

- What are the impacts on day to day operations?
- Construction Costs are in predictable ranges. Move costs are significant additions to the total project cost.
- Court projections for future courtroom requirements need updating based on demographic trends, prosecution and crime rates.

ANALYSIS OF PROGRAM AND OPERATIONS

This section provides information developed through the research and analysis of the courthouse building and with the occupant groups.

PRIMARY BUILDING USER GROUPS

The Courts

The Courts are the largest tenant in the building with the greatest requirements regarding operational schedule, space and public access.

Courtrooms

There are 39 courtrooms in the current configuration which consist of 36 district courts, 2 traffic courts, and 1 Forced Eviction Detainment (FED). The current count of 39 courtrooms is fully utilized; maintaining access to that same number of courtrooms is a critical element of the phasing. However, it was agreed that the Traffic Courts and related staff could be relocated to another downtown location during the renovation.

The most recent space needs projections available are the 2002 projections for the number of courtrooms as recommended by the National Center for State Courts.

Each courtroom should serve both criminal and civil cases, which necessitates space for a 12-person jury box. Where feasible, courtrooms should be configured to separate the circulation for courts staff, the public and provide direct access to secure circulation for in-custody transport.

Jury Deliberation

The Jury Deliberation Rooms should be placed as close to their respective courtrooms as possible, and with adjacency to Court staff where possible. The Jury Assembly function has a high amount of traffic flow at peak times, and should be maintained in easily accessible space on the main floor of the courthouse.

Judges Chambers and Court Staff

Information pertinent to future planning for the Courts was provided to the project team. The Judges' Chambers do not require immediate adjacency to a specific courtroom. This allows flexibility in the configuration of space and supports the rationale to place two new courtrooms in the center of the building.

The concept of locating courts staff in shared office areas to jointly serve several Judges was noted as an effective organizational approach, and could be enhanced with new Chambers constructed in direct adjacency to the shared staff area.

Grand Jury

The three (3) Grand Jury rooms and related spaces total about 2,600 square feet. While this is a function of the Courts, the District Attorney supports the schedule and operation of the Grand Jury process, and these functions should be located with the District Attorney's office.



FINDINGS OF RESEARCH AND ANALYSIS



Court Administration

The Court Administration is the second largest occupant of the courthouse. The court staff are allocated at a ratio of five staff per one Judge assigned by the State Court system. These staff are assigned by the Court Administrator to support all functions of the Courts. During the renovation if any court functions are relocated out of the building it may require redundant support.

Currently an average of eight lineal feet of paper is filed with the Courts each business day. These active records are stored in the light well infill on the 1st floor and multiple rooms in the basement in open shelves. In many instances these racks share space with mechanical systems and large ventilation ductwork. Access to the storage is an ongoing operational challenge.

The Courts plan to implement the e-Courts system for digital filing by 2015 in order to improve efficiency. They indicated that paper files prior to that date could be scanned, archived and stored off site; and remaining paper files required for active court cases could be stored in an adjacent location during the renovation. The county also has secure archive storage that could be coordinated with a secure delivery service.

Multnomah County District Attorney

The District Attorney currently uses about 31,500 square feet of office space in the courthouse, which provides space for the majority of the functions directly related to court caseload. The District Attorney controls the number of cases which are brought before the Courts, which has direct impact on the scheduling of court hearings.

Visitors to the District Attorney require security screening, and if moved out of the building temporarily, two (2) full time security officers from the Sheriff's office will be necessary during business hours at their alternative location.

Multnomah County Sheriff's Office

The Sheriff's office is responsible to provide security for building occupants, operate the security screening stations, and to conduct the in-custody transport of detainees. This includes the vehicular transportation of detainees from off-site locations to and from the courthouse, the operation of the courthouse holding facility, and the secure movement of detainees within the courthouse.

The transfer from off-site County detention facilities occurs three times each day. The arrival and transfer of detainees occurs at the street level on 5th Avenue to a sidewalk elevator, which requires additional sheriff's officers each time a transfer occurs. The elevator connects to a basement hallway, that crosses public circulation, before entering the sheriff's transfer elevator to the 7th floor holding cells. The Sheriff's office estimates that an improved transfer process would substantially increase efficiencies.

Currently the movement of in-custody detainees frequently use the same pathways and elevators as the public, the Judges and the Courts staff, compromising security for all building occupants. The Sheriff's office stressed that any renovation design should provide separate circulation routes for the public, the Judicial staff and in-custody movement wherever possible.

Other Building User Groups

The following activities have been described to the study team and have been considered in the renovation concept.

Law Library

The Law Library holds the largest and oldest legal resource for lawyers in the state. Space and staff, by agreement, is provided for by the County through a portion of court filing fees. The Law Library serves the legal profession in the state but is a function that can be relocated without diminishing the operations of the Courts.

Department of Community Justice

DCJ provides Family Court services within the courthouse, and should remain with the central functions of the Court.

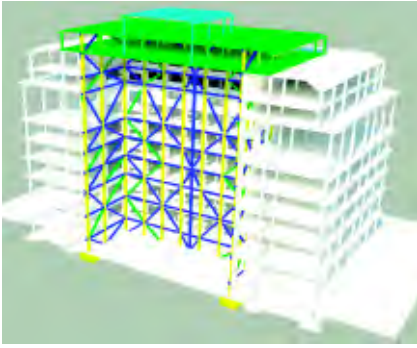
Court Care

Court Care provides child care daily to those persons attending court proceedings with small children. This service is a necessary part of court operations and must remain with the central functions of the Court.

Mental Health Evaluation

The evaluation suite must be secure and accessible to both the MCSO detention and County evaluators. This space may be moved to the basement if the space can be secure and isolated from other detention facilities.





ANALYSIS OF EXISTING BUILDING SYSTEMS

STRUCTURAL ASSESSMENT

The structural engineers from KPFF made visual checks of the structure to establish a general state of the frame and the building foundations. They inspected the basement areas beneath the light well to assess the basic layout of the existing footings. KPFF also reviewed existing drawings from which to build a conceptual structural model of existing conditions

Seismic Analysis

The County is not required by current code to upgrade the seismic response capabilities of the Courthouse until the building undergoes a major renovation and/or there is a change in occupancy designation. Seismic upgrade options were presented by the structural engineer to the Building Sub-Committee.

For the purposes of this Study the level of seismic strengthening will be analyzed as Life Safety Level.

Life Safety Level: Overall damage is moderate. Structural systems may be uneconomical to repair, and non-structural components may be damaged. Occupants may exit the building safely during a seismic event, but the building may not be functional for re-use.

The design would respond to a 500 year recurring seismic event. The exterior stone cladding would need to be anchored to protect exit ways from the building.

See Appendix 4 Seismic Analysis Presentation for further information regarding alternatives.

MECHANICAL/ELECTRICAL/TELECOMMUNICATIONS SYSTEMS ASSESSMENT

PAE surveyed the mechanical, electrical and telecommunications systems and made recommendations to modernize the building to support the new additions of space. New high performance systems would reduce energy and water use. Technology infrastructure would be flexible and adaptable to new systems and support the e-Courts initiative

Mechanical Systems Analysis

Heating Systems

The building is heated by low pressure steam boilers on the ground floor. The boilers are at the end of their useful life and in need of replacement as well as the steam and condensate piping.

Cooling Systems

Building cooling is from water cooled chillers located in the basement, and the condenser water is routed to the cooling towers located on the roof. The chilled water system and cooling towers are at the end of their useful life and in need of replacement.



Ventilation Air Systems

The building is served by a number of air systems located on various levels in the building. All systems are beyond their useful life. Many of the systems lack adequate capacity to serve their current intended purpose, and cannot support any additional square footage loads.

Plumbing Systems Analysis

Domestic Water, Storm Drain, Sanitary Sewer

The piping in the building is in need of a full replacement. Piping leaks are being fixed on a continual basis.

Fire Protection Systems

Description: An automatic fire sprinkler system is installed throughout most of the building. The controls system has been recently upgraded.

Electrical Systems Analysis

Electrical Service

The building service is located in the basement and from this main distribution point, branch panels on common (feed through) feeders serving lighting and power rise vertically through the floors. Risers vary from serving two to three floors on a common feeder, to risers with panels on every floor. Individual floors generally have risers and panels located on the corners of the light well, with additional risers and panels scattered throughout. The service equipment is in poor condition and while maintained as well as possible, is beyond its useful life.

Emergency Power

The existing emergency distribution consists of an emergency distribution board connected on the load side of a single automatic transfer switch. The generator, transfer switch and emergency distribution are located within the generator room. The generator fuel system consists of dual 180 gallon double wall fuel tanks located in an adjacent room. The generator is in good condition as it has been recently refurbished. The transfer switch and distribution, however, are original building vintage and are beyond their useful life.

Distribution

The existing electrical distribution system serves branch panel boards and sub distribution on each floor. Branch panelboards are scattered throughout the building. Over the years panels have been added, consolidated and abandoned, making identification of branch circuit distribution difficult.

The majority of the mechanical equipment is currently fed from the main distribution board in the basement or from a motor control center. The main motor control centers are located in the basement and the sixth floor mezzanine. The age of distribution equipment, MCC and panel boards are, with the possible exception of some newer branch panel boards, beyond their useful life.



FINDINGS OF RESEARCH AND ANALYSIS



Signal Systems Analysis

Fire Alarm

The existing fire alarm systems consists of notification and detection devices. The fire alarm system has undergone a recent upgrade, in conjunction with the Emergency Notification upgrade.

Technology Systems Analysis

Telecommunications

See discussion in MEP/T Strategies section of this report.

Audiovisual

See discussion in MEP/T Strategies section of this report.

INTRODUCTION

The overall strategy for renovating the courthouse is to sequence the construction in a manner that allows for the strengthening of the building structurally and the replacement of the building systems, while the Courts remain operational

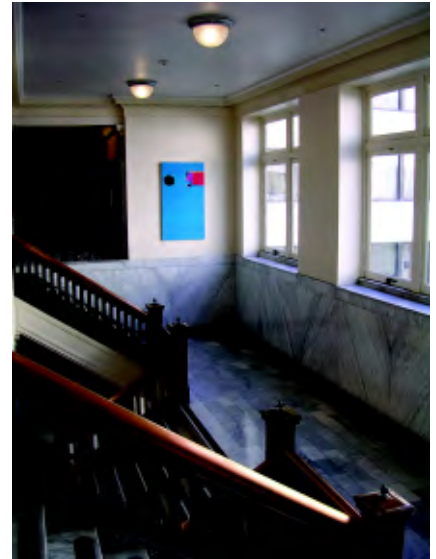
The following objectives and supporting assumptions were determined with Multnomah County and guided the study team in development of the renovation strategies. These were reviewed by the Building Sub-Committee on Dec. 8, 2010.

Objectives

- Priority 1: Upgrade Seismic Response Capability
- Priority 2: Minimize Impact on Court Operations
- Priority 3: Increase Security in Building and In Custody Transfer
- Priority 4: Replace All Infrastructure Systems

Assumptions

- A substantial portion of the Courthouse functions remain operational in the building during renovation.
- E-Courts implemented by 2015
- Construction occurs outside of regular Court business hours
- Availability of specific courtrooms will vary throughout construction and must be managed with daily scheduling and coordination
- Preservation of the historic interior and building exterior is subject to Landmarks, State Historic Preservation Office (SHPO) and National Parks Service review
- Hazardous material must be fully remediated and costs included in the project cost estimate
- Salmon Street traffic will be diverted for 5+ years: close sidewalk and south parking lane for staging, reroute 2 lanes of traffic to the north
- Apply, where appropriate, contemporary courthouse planning, space and design standards
- County aspiration to United States Green Building Council (USGBC) LEED Gold Certification



RENOVATION APPROACH SUMMARY

The renovation will be sequenced to allow the general public's access to the court to remain largely unchanged during the construction period; and careful attention to sequencing of activities and after-hours construction shifts will allow the courts to maintain ongoing daily operations for the duration of the renovation.

The concept for the renovation involves seven major phases of the work. Phase 1 will focus on utility infrastructure work outside the occupied areas of the building, and includes the temporary relocation of certain departments into adjacent buildings to create "flex-space". This will allow the remaining occupants to relocate within the building during construction and remain functional.

Phase 2 is the longest in duration and most extensive phase. It consists of work in the light well including building a new foundation, assembly of a steel superstructure for the seismic bracing, and construction of a new nine story building and mechanical penthouse. The superstructure will act as a backbone for the seismic straps inserted under each floor of the existing building and connected to the exterior walls. Once the structure is complete, a new building will be constructed in the light well much like building a "ship in a bottle". This new building will act as the spine for the entire facility with new mechanical, electrical, and telecom chases constructed through the nine stories. This enables an orchestrated tie-in to the new systems as the existing floors are renovated top-down in subsequent phases. In addition to providing the backbone for the new building systems, the "ship" supports up to two additional courtrooms per floor and another secure transport elevator.

In phase 3 the Sheriff's in-custody holding cell facilities are built-out in the basement to allow courts construction to occur on the 7th floor.

Phases 4-6 will renovate and restore two to three floors at a time, starting at the top level and working down. Building occupants will need to relocate within the building during the respective phases of the work, but will remain operational. With the earlier insertion of new courtrooms in the infill center of the building, the courts will have access to the maximum number of courtrooms at any given time. Phase 7 is the completion of the renovation at the main floor and will result in improved public access to the building, and provide a new fully accessible entrance at the southeast corner tying directly into the main building lobby.

On completion the County will have the equivalent of a new building ready for the next 50-years of useful life.

Seismic Upgrade and Structural Systems Renovation Strategy

In order to seismically upgrade the building a new structural frame will be inserted into the lightwell without disturbing the building occupants. The new frame is then tied into the existing building's structure as the individual floors are remodeled. The structural dampers are designed to minimize the movement of the building to the point where the existing connections of the stone facade are not effected by the building movement. This is done to minimize the cost of re-anchoring the stone to the existing substrate.

The system will require a new mat slab foundation and the excavation of the area beneath the current light well thereby creating additional space at the basement level. Care must be taken to underpin or replace all exposed existing footings that ring the light well. The final design approach and solution must be made by the selected renovation design team.

Mechanical Systems Renovation Strategy

Heating Systems

It is recommended to replace the current steam system with high efficiency heating water boilers and provide all new heating water piping throughout the building.

Heating is currently provided by steam boilers located in the basement with steam mains routed up through the building serving air handling units and steam sub-mains routed up through the building serving exterior heating elements. The proposed system will provide a new heating system throughout the building.

Cooling Systems

Chilled water is currently provided by chillers in the basement and is distributed from the basement to the air handling units located throughout the building. It is recommended to replace the existing chillers with a new chilled water plant to serve the cooling needs of the building. Additionally a condenser water loop for spot cooling loads would be provided through the building. The condenser water loop could be backup with redundancy for 24/7 loads that are critical to the function of the building.

The new system will be located in the basement with the supply and return mains to be located within the new interior structure. During construction there will be temporary connections to the existing air handlers, until all new systems are installed

Ventilation Air Systems

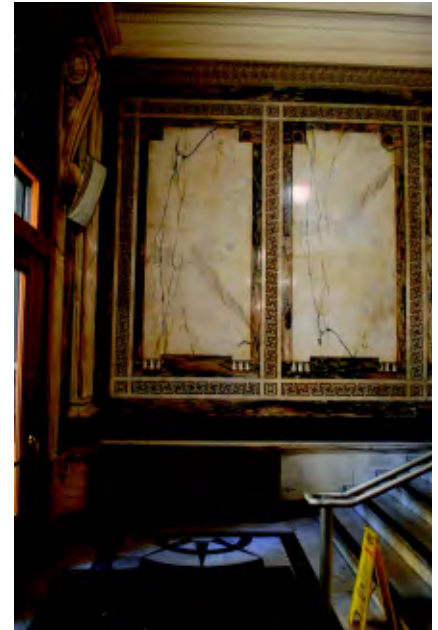
A building study will need to be done to select a mechanical system, and will explore a variety of systems to serve the various space types within the building. Dedicated outside air units could be used to serve the offices, with a possibility of radiant panels for heating and cooling (preserving the height of the space). Displacement ventilation units could serve the high ceiling areas of the court rooms. The high security areas could be served by 100% outside air units with heat recovery.

The air systems are a combination of base air handlers feeding up through the building, distributed small air handlers (a mix of fan coil units and heat pumps serving a small zone located on a single floor) and roof mounted air supply units.

Plumbing Systems Renovation Strategy

Domestic Water, Storm Drain, Sanitary Sewer

Replace the domestic water system including the waste and vent piping and storm water system.





Fire Protection Systems

It is recommended to replace the existing fire protection systems, preserving the main fire header into the building and providing a fully fire sprinkler protected building.

Electrical Systems Renovation Strategy

Electrical Service

Coordinate with PGE to develop a new 480 volt spot network to feed the structure at a more appropriate voltage than the current 208 volt service. Develop new 480 volt main distribution equipment with a main service disconnect including ground fault protection. Provide feeder breakers to sub distribution equipment as appropriate.

Emergency Power

The current generator is adequate for the life safety load of the building in its current configuration. It is recommended to increase the size of the generator to meet required and optional standby loads. It is also recommended to develop three separate emergency systems: Life safety, Legally Required Standby and Optional Standby, each with its own transfer switch to provide proper separation of systems. With the additional square footage that will be added to the building it is recommended to increase the generator capacity.

Distribution

Replace the distribution equipment and branch circuit panels. With the infill of the courtyard, it will be possible to develop a single stacked centrally located electrical room riser for all existing and new floors. These rooms will contain the vertical normal and emergency distribution, as well as housing branch panel distribution for a given floor. By establishing this distribution in new construction, it increases the possibility of renovation while occupied, as long as the new service can be established while the existing is in operation.

Grounding

Review the existing grounding electrode and bonding system. Add additional electrodes and system bonds, as required. Provide a grounding conductor system within the building to ensure the availability of a grounded system to minimize noise and impedance.

Branch Circuits/Lighting Control

Provide new branch panels to support existing and new floor area. Locate panels in new electrical rooms for central maintenance. Install new building-wide low voltage automatic lighting control.

Signal Systems Renovation Strategy

A major telephone switch center that serves additional county buildings is currently located in the southeast corner of the basement. The county is planning to replace this system in the future and the space need will be significantly reduced.

Fire Alarm

Provide all new controls, annunciator panel, distribution and sprinkler heads throughout.

Technology Systems Renovation Strategy

Telecommunications

The systems running the voice and data communications throughout the Courthouse would run on multiple high bandwidth backbones, which would support the diverse communications needs of a modern courthouse as well as the requirements for future systems. Through a system of vertically stacked rooms in the in-filled core, this fiber-optic link or backbone would allow fast and reliable connections to any department.

Audiovisual

Over the years, courtroom audiovisual systems have become complex pieces. With the balance of law relying on effective communication and concise interpretation it is important that the systems utilized are as flexible, easy to use and reliable as possible. All of the systems built within the new space will be able to use the new telecommunications backbone throughout the building.

Architectural Strategies

There are three varying levels of renovation and upgrade that will occur in different areas of the courthouse that are reflected in the construction cost estimate. The overall design will include high performance green building measures to improve thermal performance of walls, windows, roof; and any building materials will be selected as environmentally preferred products.

New construction: All new structure and building systems will be constructed at Floor 8 east side, addition of new 9th floor, and new core / infill at all levels. The new Court spaces in the infill would be designed to meet the State of Oregon Draft General Facilities Design Criteria (2007) where possible.

Replacement: In many areas of the existing building the old systems will be replaced with new systems within the current spatial configuration; and the improvements will meet some, but not all, of the Design Criteria for the Courts. Within this pricing category many spaces will require some re-configuration of walls in addition to all new building systems and finishes.

Renovate: The areas designated for renovation are based on replacement of finishes without modification of existing historic character and design; but with upgrades and systems replacements as feasible. The four existing historic courtrooms and the 4th Avenue entrance lobby will be renovated in this manner.

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RENOVATION SEQUENCE AND PHASING

A full renovation of the courthouse must be done in phases to allow uninterrupted court function. Building a new structural frame and systems chases, along with new infill space at each level, essentially creates a new building constructed within the existing building lightwell. This “ship-in-a-bottle” approach will allow new seismic structure and building services to be put in place prior to beginning any renovation work on the existing facility.

PRE-CONSTRUCTION ACTIVITIES

There are numerous preparations that are necessary to be completed prior to the commencement of any construction activities at the Courthouse. Some of these key activities include:

The county will need to solicit and procure temporary downtown office space for the relocation of the Law Library, Traffic Courts, Courts Records, District Attorney, and Grand Jury.

The Courts will need to implement the transition to e-Courts for active records, and reduce the quantity of hard copy records kept on-site.

Preparatory planning will include the development of a communications plan and an implementation plan. The public and the Courts need to be informed of the renovation process in order to coordinate and plan daily operations. Clear lines of communication should be established for directing personnel and scheduling construction deliveries.

The county and the contractor must obtain the necessary permits for street closing or diversion, which includes the submission of a plan to the City of Portland for a Salmon Street staging area.

PHASE 1: 6-9 MONTHS

In anticipation of construction in the main courthouse complete the following:

- Relocate the Law Library, Traffic Courts, Courts Records, District Attorney, and Grand Jury into temporary downtown locations.
- Move all functions, including active court records, approximately 10 feet clear from the light well walls in the basement. This means the records must be physically moved or transferred electronically to free up approximately 13,000 sf of area.
- PGE builds and installs new vault and transformer on 5th Avenue for future building use and to be able to maintain existing electrical services until last of existing uses are taken off line for the building renovation.
- Set up man-lift in existing light well adjacent to the historic stair to allow a majority of construction access to the infill area.
- Install new water and natural gas services from public Right of Way into basement.
- Remove trees, set up staging area, install tower crane, develop basement access to base of light well from SW Salmon between 4th and 5th Avenue.

LEVELS

P

9

8



7



M



6



5



4



3



2



1



B



PHASE 1

LEVELS

RENOVATION SEQUENCE AND PHASING

LEVELS

P



9



8



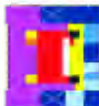
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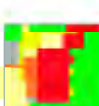
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1



B



LEVELS

PHASE 2

PHASE 2: 12-18 MONTHS

- Demolition of existing three floors currently built within the light well.
- Foundation and underpinning of structural frame around light well walls. This would include the excavation below the first floor at the skylight infill and below the existing basement level.
- Create a construction zone around the light well on West, North, and South sides and protect opening at existing grand stairs on East side. Construction zone will keep construction activity within light well area and separate public use spaces during infill/spine construction.
- Starting with foundations, construct a new building within the light well area, installing the structure and lateral system for the total buildings' seismic loads, the new mechanical systems and vertical shafts, the electrical and data closets for new space, the infill new floor area at each level, and new Sheriff's elevator and Judge's elevator.
- Construct the addition of the 9th floor and the rooftop mechanical penthouse.
- Phase 2 new floor area construction provides usable space at the infilled courtyard and 8th and 9th floors:

Basement: Mechanical

Floor 1: Mechanical Shaft; Court Administration; Judges Elevator; Sheriff's Elevator; Court Care; Records; Retail; Public Toilets

Floor 2: Mechanical Shaft; Light well; Court Administration; Judges Elevator; Sheriff's Elevator; Jury Rooms; Public Toilets

Floor 3-6, 7: Mechanical Shaft; Light well; Courtrooms; Judges Elevator; Sheriff's Elevator; Jury Rooms; Public Toilets

Floor 6 M: Mechanical; Building Storage

Floor 8-9: Temporary courtrooms, Sheriff's Elevator, Public Toilets

Penthouse: Mechanical; Elevator Rooms; Light well Skylight

- Reconnect/relocate/provide as needed connections to existing mechanical, electrical systems to bypass existing electrical/mechanical plant to allow removal of as much existing mechanical/electrical plant systems as possible.

PHASE 3

- Build out existing basement area to accommodate in-custody holding, transport and evaluation unit. Test all new systems prior to making operational.
- The new elevator and stair at the infill become operational for In Custody transport to new courtroom space on floors 1-9.
- New North Interior Sallyport connection: Relocate existing functions and build temporary work enclosure at floors 1-8. Build new elevator shaft, exit stairway, and new secure vestibule.
- Build out two temporary courtrooms in the new construction areas on floors 8 and 9.

PHASE 4

- Demolish existing sheriff's elevator and vestibule.
- Demolish existing in-custody holding facilities at 7th floor.
- Renovate areas on 7th and 6th floors plus 6 Mezzanine.
- New South Sallyport: Relocate existing functions and build temporary work enclosure at floors 1-8. Build new elevator shaft, exit stairway, and new secure vestibule, except no vestibule access at floor 1

PHASE 5

- Renovate areas in 5th and 4th floors

PHASE 6

- Renovate areas in 3rd and 2nd floors

PHASE 7

- The focus of work is on the first floor except for the flex space on floors 8 & 9.
- Possible remodel of temporary courtrooms at floors 8 & 9 into office space.
- Relocate Sheriff offices and security screening to SE corner on 1st floor
- Build out in-custody transfer receiving at NW corner on 1st floor
- Re-configure Jury Assembly at NE corner on 1st floor
- Construct new accessible entry on Main Street
- Reconfigure area of 1st floor for the new entry to security screening at main entry.
- Renovate Main Lobby

Appendix 4 - Court Count provides a summary of the potential number of courtrooms during the renovation process. Other sequencing schemes may alter the number of courtrooms available during each phase of construction.

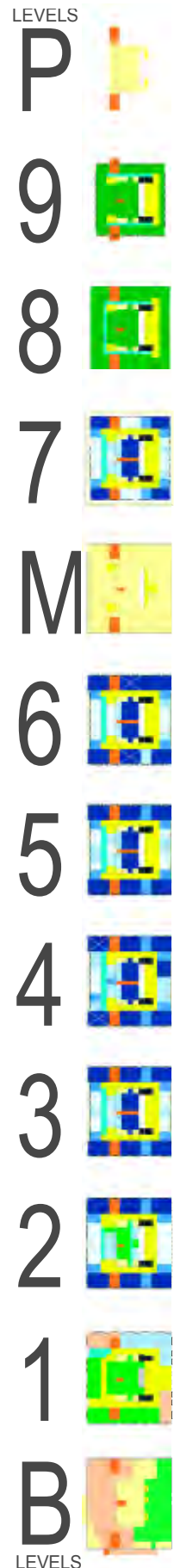
CONSTRUCTION COMPLETE

Appendix 5 - Area Tabulations and Space Assignments summarizes estimated area calculations for the various building users at the end of renovation. Other sequencing schemes may produce different results.

Appendix 6 Illustrates a cross section of the building throughout the renovation process, red indicating the areas under construction during each phase.

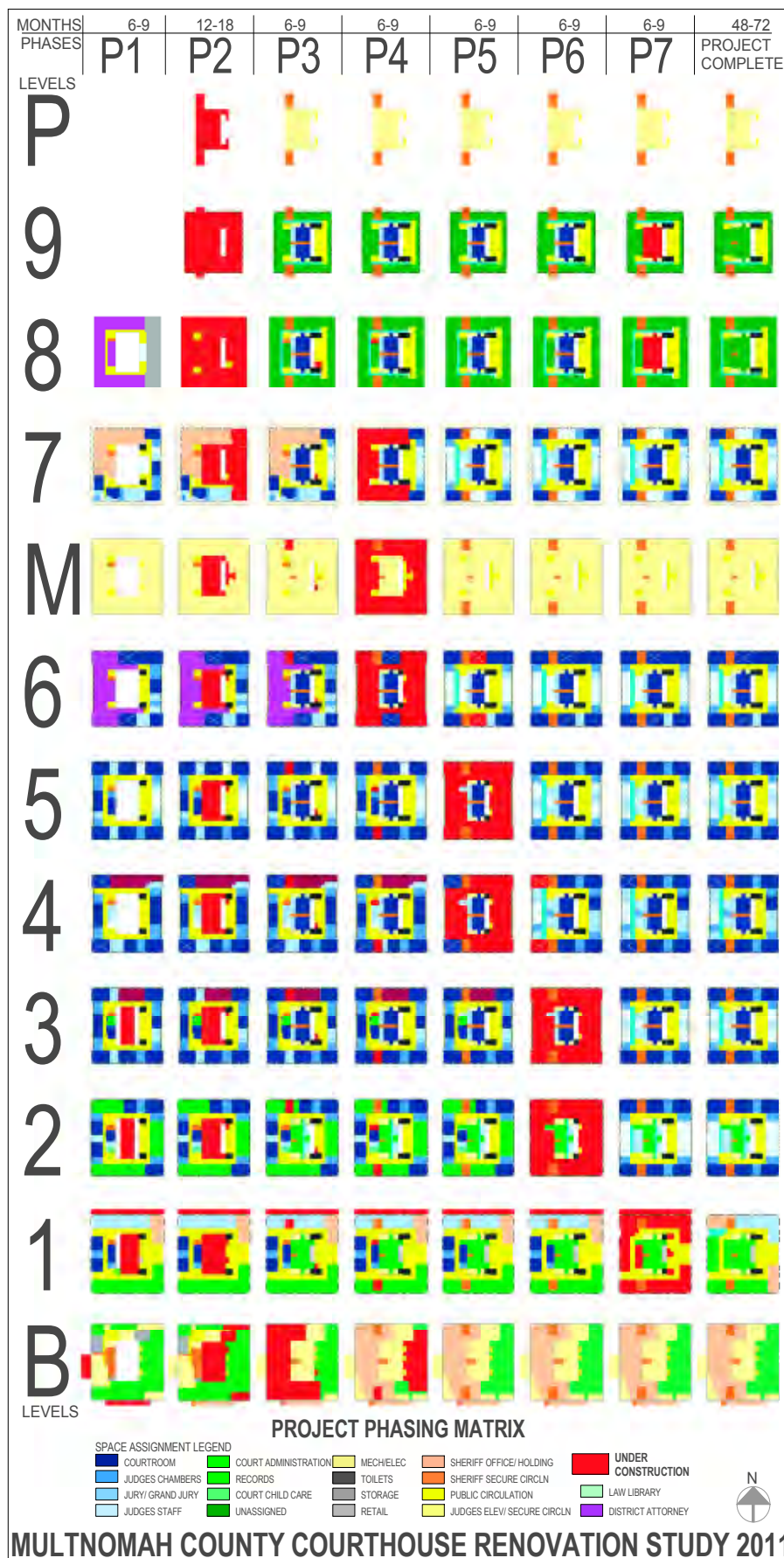
A full-sized Phasing Matrix is attached as Appendix 9. Areas denoted in red on the matrix indicate spaces which are under construction or demolition during a particular phase of the work.

Appendix 10 is a full sized Matrix of the final phase of the completed work at the Courthouse. Note that existing walls of current spaces are shown underlaid to orient the reader and indicate the extent of the renovation on each floor.



COMPLETE

RENOVATION SEQUENCE AND PHASING



PROJECT PHASING MATRIX (The Quilt)

This reduced version of the phasing matrix tells the graphic story of the proposed renovation process. The columns indicate Phases 1-7 (P1-P7) and their relative time duration. The rows are the levels of the building including the 6th Floor Mezzanine (M) level which will serve as additional mechanical and storage space.

Red indicates the areas under construction. The various departments are coded by color. The graphic provides a quick reference to track the order of construction and to track movement of departments at any given phase.

Phase 1 (P1) will prepare the building for future utility connections and seismic upgrades, including the vacation of Records, the District Attorney's Office, Grand Jury, the Traffic Courts, and the Law Library from the building.

Phase 2 (P2), the longest phase taking up to 18 months, will focus on the insertion of the new structural core in the center of the building to seismically stabilize the building. Usable space will be added as infill within the existing light well analogous to a "ship in a bottle." New "flex space" will be added to the eighth floor east and an entirely new ninth floor. A new mechanical penthouse at the roof will serve the upper floors of the building and the infill core.

In phase 3 the Sheriff's in-custody holding cell facilities are built-out in the basement to allow courts construction to occur on the 7th floor.

Subsequent phases 4-6 (P4-P6) will renovate and restore two to three floors at a time, starting at the top and ending with the first floor.

Phase 7 (P7) is the completion phase, wrapping up the work on the first floor and returning the building to regular operations.

A full size poster of the Phasing Matrix is attached in the Appendix of the Final Report.

Mechanical Systems Phasing

Cooling

The existing cooling system would need to be decommissioned as the new systems are placed and brought online in a top down order.

Heating

The steam system is distributed from the basement up to the building. It is recommended to remodel the floors from the top down so the heating system can remain in service while being remodeled. New heating systems would be switched over at the completion of renovation on each floor.

Air Systems

The air systems would be best replaced as a top down remodel approach. The new air handling systems would be located in a penthouse over the new infill space with large duct shafts dropping through the building (suggested two shafts with one on the north and one on the south). As each floor is remodeled connections to the new system would be made and the existing air systems removed.

Electrical Systems Phasing

Lighting and Power

With the building's bottom-up lighting and power feed-through distribution currently in place, the new construction will occur from the top-down, similar to the mechanical system approach. This allows the branch circuit distribution for any given area to be reconnected to new distribution without affecting panels within any given riser, as the load will always be decommissioned from the top, eliminating temporary reconnects or feeds to keep existing distribution in service

Telecommunications/Information Technologies Phasing

Further investigation is necessary to determine the impact of renovation on the telecommunications systems. Record documents and site investigation indicate that while the entrance point of presence and active equipment is located in the basement, the distribution to floors above is only partially documented.

Phasing recommendations for the telecommunication systems will be further defined by the County I/T group during renovation design. It is assumed two vertical distribution locations for backbone and radial feed per floor is preferred. A top down renovation is the safest scenario to allow a logical changeover to a new technology riser with minimized impact to existing distribution.

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PROJECT COST ESTIMATE

Total Estimated Project Cost

Based on the renovation strategy and basic assumptions, the Estimated Total Project Cost for a four-to-six year phased renovation of the historic courthouse is a range of \$176 - \$220 Million (1st Qtr 2011 dollars). Escalation, using industry standard rates, should be calculated to mid-point of construction once a project start date is established.

The Total Project Costs include the hard and soft construction costs of \$163 - \$201 Million as illustrated below. Construction related soft costs include items such as design fees, project management, permits and testing, and furniture. Move soft costs of \$13 - \$19 Million for the interim relocation of selected functions includes lease costs, tenant improvements, and related moving expenses. A summary of the estimated construction and project cost is included on the following pages. Detailed construction soft costs and move soft costs are provided in Appendix 8.

Costs are shown in a range because of the preliminary nature of this study, and the many variables that can affect final costs such as uncertainty, time and difficulty.

	LOW	HIGH
Construction Costs	110,953,454	132,838,130
Construction Soft Costs	36,797,688	49,503,378
Contingency 10%	14,775,114	18,234,151
SUB TOTAL CONSTRUCTION COSTS	162,526,256	200,575,659
Move Soft Costs	11,922,880	17,251,067
Contingency 10%	1,192,288	1,725,107
SUB TOTAL MOVE COSTS	13,115,168	18,976,174
ESTIMATED TOTAL PROJECT COST	\$ 175,641,424	\$ 219,551,833
Building Area GSF (Initial 328,486 GSF)	398,893 GSF	398,893 GSF

Hoffman Construction Company (HCC) prepared construction cost estimates and basic construction schedules based on the renovated building size, proposed systems upgrades and replacements, and level of interior construction proposed for each area. Costs associated with sequencing take into account that the Courts will experience minimal interruption during their normal hours of operation.

PROJECT COST

ESTIMATED CONSTRUCTION COSTS	TOTAL PROJECT		COMMENTS
	398,885 gsf		
	low	high	excludes lightwell gsf
Direct Cost Elements	\$ 206.31	\$ 245.70	
Existing Conditions	10.71	\$ 15.23	includes HazMat Abatement
Structure	32.90	\$ 37.03	
Exterior Façade	14.87	\$ 17.66	
Interiors	45.47	\$ 54.83	
Elevators	8.63	\$ 10.48	
Mechanical Systems	53.51	\$ 62.42	
Electrical Systems	40.22	\$ 48.05	
Indirect Cost Elements	\$ 71.85	\$ 87.32	
Hoisting	5.00	\$ 6.00	walls, MEP, roof
Temporary Construction	4.00	\$ 5.00	
General Conditions / Job Services	16.50	\$ 20.00	
Insurance / Bonding	10.43	\$ 13.32	10% all construction 3% all construction
Contingency	27.82	\$ 33.30	
Construction Mgr General Contractor Fee	8.10	\$ 9.70	
Project Total Cost / GSF	\$ 278.16	\$ 333.02	
Project Total Construction Cost	\$ 110,953,454	\$ 132,838,130	

Cost Assumptions:

- Based on 398,885 total GSF in remodeled/expanded building
- Gross Square Footage (GSF) includes basement sidewalk vaults (3,266 sf) & level 6 mezzanine (32,740 sf)
- Gross Square Feet (GSF) excludes the area of the open light well and the second level area of the two-story existing courtrooms
- All costs are in 2011-Q1 dollars, escalation to the mid-point of construction is not included.
- Short duration schedule is 48 months, long duration is 72 months
- Hazardous material abatement is an allowance of \$4-\$5/sf. Investigation to confirm extent of abatement will be required.

PROJECT COST

	Low	High
Construction Soft Costs TOTAL	\$ 36,797,688	\$ 49,503,378
Miscellaneous moves within courthouse per construction phase x 2 moves, based upon average FTE per floor for 2 floor moves.	2,887,182	3,852,908
Predesign services (Further studies for in depth programming services needed to start design)	2,325,600	3,774,000
Landmarks, planning, appeals, services	50,000	75,000
A/E Fees (Design	8,876,276	13,283,813
Preconstruction Contractor	100,000	150,000
Project Management (County staff)	2,219,069	2,656,763
Special Inspections (Hazardous Materials testing and Oversight, City required tests, other inspections)	2,171,600	2,707,400
Furniture, Fixtures and Equipment	1,490,000	1,765,000
Permits/Fees/Charges	2,294,038	2,706,737
Solar Initiative (1.5% Estimated Construction Cost)	1,664,302	1,992,572
Multnomah County Technical Services (TelCom, AV, CCTV planning, design and implementation)	7,150,000	9,400,000
Building Systems Commissioning	700,000	1,020,000
Other Multnomah County Costs	4,869,621	6,119,185

	Low	High
Move Soft Costs TOTAL	\$ 11,922,880	\$ 17,251,067
District Attorney 31,500 sf (moves out/moves back in) based upon 230 FTE staff.	6,412,800	9,258,200
Grand Jury 2552 sf (moves out/moves back in with District Attorney)	762,960	1,118,520
Law library 9,000 sf (moves out and back in)	1,647,000	2,376,000
Traffic Courts 5526 sf (moves out and back in)	1,605,480	2,350,960
A/E Fees (Tenant Improvement Fees and Move coordination fees)	994,640	1,477,387
Multnomah County Technical Services Costs (Interim telcom infrastructure moves)	420,000	550,000
Other Multnomah County Costs (4 interim security stations)	80,000	120,000

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RENOVATION RESULTS

The study demonstrates the viability of renovating the Courthouse while maintaining a substantial amount of its operations. The analysis identifies the existing building condition deficiencies, outlines strategies to address the deficiencies and upgrade the building, and illustrates a sequence of activities that allow the construction to be conducted with the central Courts functions in the building.

Primary Objectives

Occupant Safety/Seismic Strengthening

- Seismic upgrades protect the safety of the building occupants and public in and outside the building during a seismic event.
- The structural system is braced to prevent the exterior stone cladding from de-coupling and falling into the right-of-way.
- Occupants should be able to safely exit the building.

Courts and Administration Operational Improvements

- Improved Courtroom spaces based upon State of Oregon General Facilities Design Assessment Criteria (2007)
- Improved secure circulation for Judges and Court Staff
- A new elevator for Judge and Court Staff movement between floors
- At least two additional courtrooms
- Flexible office arrangements to allow for collegial sharing of staff

Security Improvements

- Reduced exposure during in-custody transfers at the street level
- Three new elevators provide secure, dedicated transfer of in-custody detainees from the basement holding area directly to 2/3 of the courtrooms
- Security is improved for the public, county and court staff, and detainees with the additional elevators and modifications to the circulation routes within the building
- Improved security screening at building entry frees up congestion in the Main Lobby

Systems Improvements

- 100% new mechanical, electrical and plumbing systems
- 100% new telecommunications and audio/visual systems
- Four new and four upgraded elevators
- Projected 30% operational energy savings

Building Improvements

- 75,300 square feet of additional gross building area
- Improved work environment



Impacts to Users during Construction

Courts

- Careful schedule coordination required between court docket and construction
- Construction activity is determined by the schedule of the Courts.
- Construction work between the hours of 4:00 PM and 1:00 AM minimizes conflicts with daytime downtown traffic and courts operations
- Temporary moves of some agencies allows the civil and criminal court functions to remain in one building
- As each floor is renovated, administrative staff will be moved to temporary space on the 8th and 9th floors , or into newly renovated space completed in prior phases
- Traffic Courts and remaining non-active Court Records will be relocated to alternative space outside of Courthouse
- Court Care remains in building

District Attorney

- Offices must relocate to alternative location during construction
- Additional security staff and screening required
- Grand Jury will relocate with District Attorney
- Immediate accessibility to Courts will be challenging to operations

Sheriff

- Construction coordination requires additional security staff and screening
- Ongoing construction will require coordination of multiple security efforts
- Coordination and reassessment of in-custody transport routes

Other User Groups

- Law Library relocated to alternative space outside of Courthouse
- Mental Health evaluations and hearings remain in building and locate with Sheriff functions

The Public

- During Phases 1-6 the main public entrance remains unchanged
- In Phase 7 the public will be re-directed to an alternative building entrance
- The public will be notified/informed of changes to internal building circulation during the renovation

Historic Impacts Due to Renovation

Consideration has been made to anticipate the restrictions and opportunities presented by the fact that this building is listed with the National Register of Historic Places. The overall renovation and the addition of the ninth floor and mechanical penthouse will require a review with Portland Landmarks Commission, the State Historic Preservation Office (SHPO) and finally the National Parks Service. The renovation concept has anticipated the requirements for setbacks and visual continuity, however the final design will require full review by all concerned governing bodies.

Most of the interior office and court spaces in the building have been altered or modified over the years so little of the historic fabric remains. The renovation concept as described restores the main east hallway, the grand staircase, and the existing historic courtrooms.

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Further study is required to determine the renovation scope for the Multnomah County Courthouse; more in-depth analysis will provide better definition of the scope and costs.

High Priority

- **Update the Courts count and space needs projections:**
This study utilized the Courts projections that were prepared by the National Center for State Courts in 2002. An updated analysis of Courts needs should be considered a high priority before commencing with further design analysis.
- **Assess impact of response to renovation concept by Landmarks, State**
- **Historic Preservation Office, and National Park Service:**
The renovation concept proposed in this study should be tested with the governing review boards before starting any design effort.
- **Geotechnical assessment for new foundations:**
Confirmation of seismic strengthening strategies of the existing building will require a full geotechnical assessment of site soil conditions.
- **Seismic upgrade assessment and structural testing:**
Prior to proceeding with the next steps of an overall renovation design, the county will need to conduct an in depth assessment of the existing structural members and their connections to inform the best strengthening strategy.
- **Hazardous materials assessment and Level 1 report:**
The extent of hazardous materials in the building must be clearly defined prior to beginning any construction work to provide greater certainty to the cost estimate.

Additional Tasks

To proceed with the project the following information will be needed prior to detailed renovation design. These studies will determine the space needs program, the extent of renovation, the level of expected building system performance, and the availability of space for temporary moves.

Pre-Design Programming

- Confirm all department programming needs and future projections
- Establish Owner's Project Requirements (required for LEED and design inception)

Project Management/Project Delivery

- Determine the project delivery approach for design and construction

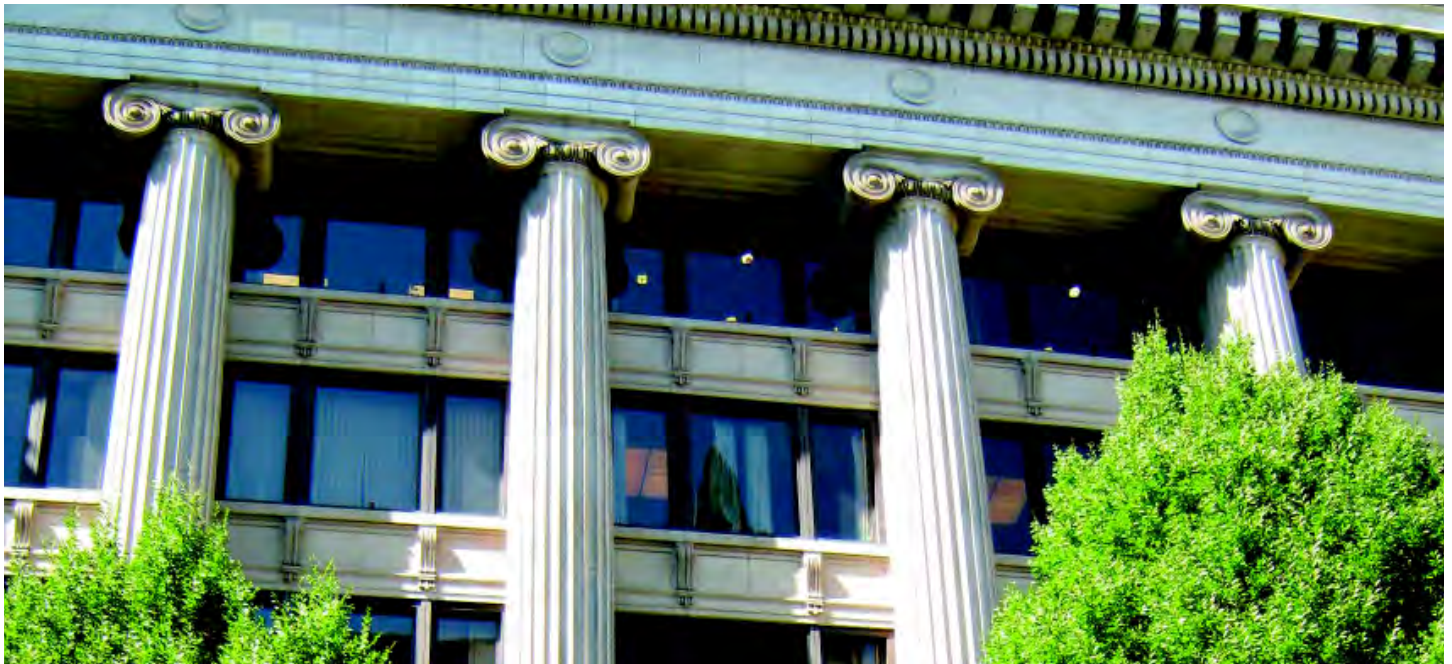
Building Systems Assessments

- Building Systems Study of Mechanical, Electrical & Telecom (full mapping and testing of electrical circuits)
- Building Envelope Improvement Study including Air Infiltration Study
- Initial Energy Study

Tenant Moves

- Evaluate Temporary Space Availability and Cost





Multnomah County Courthouse Renovation Study



**Volume 2
Final Report
Appendix
APRIL 13 2011**

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VOLUME 2 - Appendix

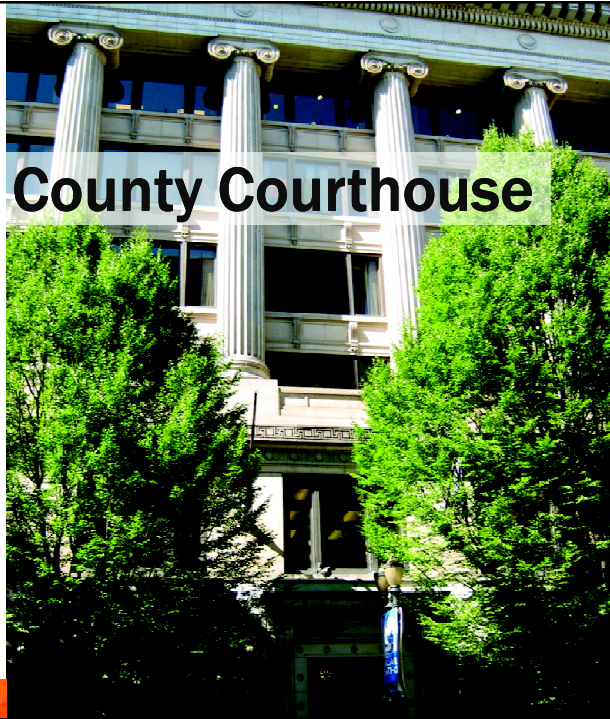
Appendix 1	SERA Historic Courthouse Presentation	A1-1
Appendix 2	NPS Historic Places Nomination	A2-1
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APPENDIX 1
HISTORIC STATUS PRESENTATION

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Multnomah County Courthouse 1909-2010



Multnomah County Courthouse NATIONAL HISTORIC REGISTER

NOMINATED BY MULTNOMAH COUNTY IN 1979

NATIONAL REGISTER NO. 1979-06-11

The National Register of Historic Places is the official list of the Nation's historic places worthy of preservation.

Authorized by the National Historic Preservation Act of 1966, the National Park Service's National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources.

<http://www.nps.gov/nr/research/index.htm>



Multnomah County Courthouse Constructed 1909-1914

Original Cost
\$1,600,000

200ft x 200ft
8 Stories (122ft)

First Phase
Complete: 1911
Second Phase
Complete: 1914



Photo: Marguerite Wright



Multnomah County Courthouse Constructed 1909-1914

Designed by
Whidden and Lewis

- Neo Classical style with Baroque influences

“In 1914 it stood as Portland’s largest building as well as the West Coast’s largest courthouse. Its style harks back to the monumental architecture of Rome while adhering to the modest scale of downtown Portland.”



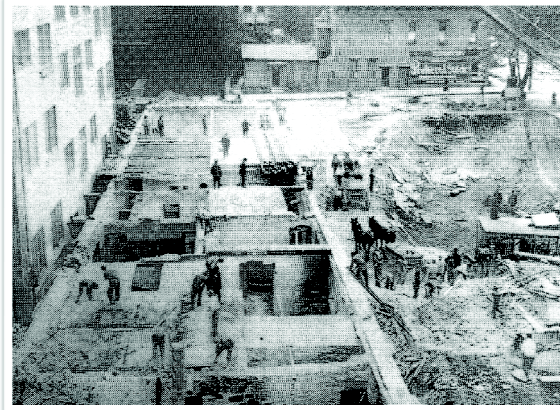
Photo: Marguerite Wright



Multnomah County Courthouse Constructed 1909-1914

“With flexibility and ingenuity little seen today, construction of the new Courthouse was directed so as not to interrupt the proceedings of the old Courthouse sitting on the same block. The east wing of the building was completely finished through the eighth floor and the employees were moved from the old Courthouse into the new; only then was the old structure razed and the remaining three sides of the building begun.”

- NHR Nomination



Multnomah County Courthouse Constructed 1909-1914

“The main staircase is open on all six floors; its marble steps and bronze railing make it the focal point of the structure.”

- NHR Nomination



Photo: Marguerite Wright



Multnomah County Courthouse Constructed 1909-1914

“... the remodeling of the majority of the remaining offices throughout the eight floors and basement, have left only the hallways, stairs and **two courtrooms** in original or near-original condition.”

- NHR Nomination



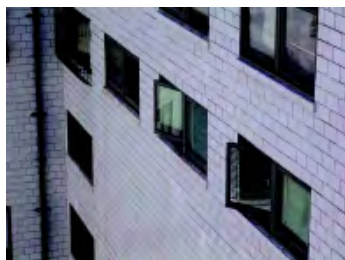
Photo: Marguerite Wright



Multnomah County Courthouse Constructed 1909-1914

“The central courtyard, 64 by 100 feet, contains a three story annex completed in 1951.”

- NHR Nomination



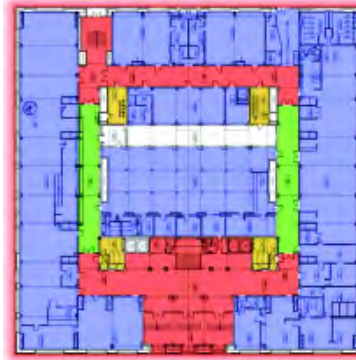
Multnomah County Courthouse Constructed 1909-1914

PRIORITY LEVELS OF PRESERVATION*

HIGHEST



LOWEST



FIRST FLOOR



THIRD FLOOR

* 1998 Courthouse Maintenance Manual



Multnomah County Courthouse 2010 and beyond

“The Multnomah County Board of Commissioners realizes that modernization is inevitable for most vital buildings, but it wishes to focus its efforts in the future on repair, renovation, and restoration activities that will **return the Courthouse to an appearance substantially closer to that which was originally intended.**”

- NHR Nomination



Multnomah County Courthouse Renovation:2010 and beyond

ISSUE

EXISTING ATRIUM

OPPORTUNITY

- Infill will gain additional space
- Allows seismic upgrade with minimal disruption

CHALLENGE

- Windows are unique, save or reuse

SEPARATION OF CIRCULATION

- Renovation may improve in-custody holding and transit

- Preferred circulation patterns for modernization conflict with existing layout and structure

ADDITIONAL 9TH FLOOR

- Extra floor(s) possible to gain space

- New massing must respect visual set-back from street

HAZARDOUS MATERIALS

- Create a building-wide HM mitigation strategy

- Hazardous Materials are extensive, any change will trigger mitigation



Multnomah County Courthouse Renovation:2010 and beyond

ISSUE

CODE COMPLIANCE FOR SEISMIC UPGRADE

OPPORTUNITY

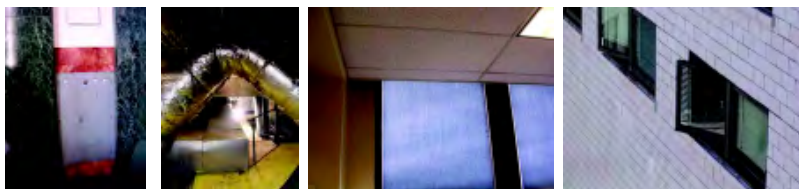
- Raises life safety level of current building
- County requires Gold LEED-CI rating for major renovations, subject to life cycle cost analysis
- Confirm design concept
- May provide route to alternative funding strategies
- Renovate one of the most significant historical buildings in the county

CHALLENGE

- may incur costs to remove and replace finishes, ie. Ceilings and column wraps
- Historic Building Envelope often limits energy improvement
- Statements made in original Nomination must be honored

ENERGY / LEED PERFORMANCE

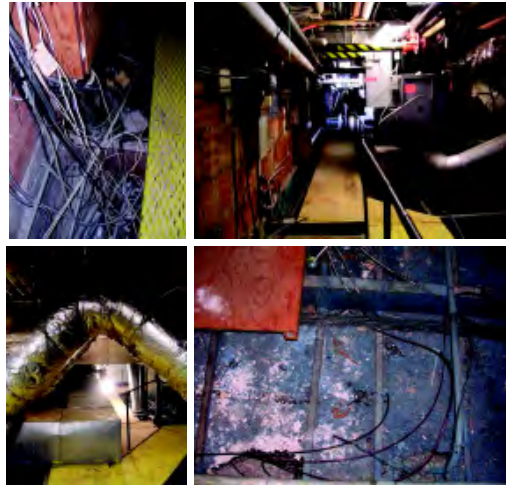
HISTORIC REVIEW PROCESS



Multnomah County Courthouse Renovation: 2010 and beyond

Next Steps towards Renovation

- Complete Concept Plan and Renovation Study Report
- Assess MEP systems and existing zoning
- Assess structural system integrity
- Understand what is essential vs. abandoned
- Map critical electrical and communications paths that may connect outside the building
- Determine required extent of disturbance of hazardous materials



Multnomah County Courthouse Renovation: Similar Projects

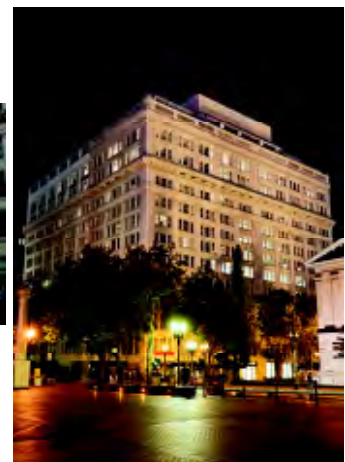


Pioneer Courthouse
Portland, Oregon

State of Oregon
Justice Building
Salem, Oregon



City Hall
Portland, Oregon



The Nines Hotel atop the historic Meier and Frank Building
Portland, Oregon



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APPENDIX 2

**NATIONAL PARK SERVICE
NATIONAL REGISTER OF HISTORIC PLACES
NOMINATION**

APPENDIX 2: HISTORIC PLACES NOMINATION

Form No. 10-300 (Rev. 10-74)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

PH 0675563

FOR NPS USE ONLY

RECEIVED APR 18 1979

DATE ENTERED

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS**1 NAME**

HISTORIC

Multnomah County Courthouse

AND/OR COMMON

LOCATION

STREET & NUMBER

1021 S. W. 4th Avenue

CITY, TOWN

Portland

VICINITY OF

NOT FOR PUBLICATION
CONGRESSIONAL DISTRICT
1st

STATE

Oregon

CODE
041COUNTY
MultnomahCODE
051**CLASSIFICATION****CATEGORY**☐ DISTRICT
☒ BUILDING(S)
☐ STRUCTURE
☐ SITE
☐ OBJECT**OWNERSHIP**☒ PUBLIC
☐ PRIVATE
☐ BOTH
PUBLIC ACQUISITION
☐ IN PROCESS
☐ BEING CONSIDERED**STATUS**☒ OCCUPIED
☐ UNOCCUPIED
☐ WORK IN PROGRESS
ACCESSIBLE
☒ YES: RESTRICTED
☒ YES: UNRESTRICTED
☐ NO**PRESENT USE**☐ AGRICULTURE
☐ COMMERCIAL
☐ EDUCATIONAL
☒ ENTERTAINMENT
☒ GOVERNMENT
☐ INDUSTRIAL
☐ MILITARY
☐ MUSEUM
☐ PARK
☐ PRIVATE RESIDENCE
☐ RELIGIOUS
☐ SCIENTIFIC
☐ TRANSPORTATION
☐ OTHER:**OWNER OF PROPERTY**

NAME

Multnomah County ✓

STREET & NUMBER

1021 S. W. 4th Avenue

CITY, TOWN

Portland

VICINITY OF

Oregon STATE 97204

LOCATION OF LEGAL DESCRIPTIONCOURTHOUSE,
REGISTRY OF DEEDS, ETC.

Multnomah County Courthouse, Recorder's Office, Room 102

STREET & NUMBER

1021 S.W. 4th Avenue

CITY, TOWN

Portland

Oregon STATE 97204

6 REPRESENTATION IN EXISTING SURVEYS

TITLE

Portland Historical Landmark

DATE

May 6, 1970

☐ FEDERAL ☐ STATE ☐ COUNTY ☒ LOCALDEPOSITORY FOR
SURVEY RECORDSPortland Bureau of Planning
424 S. W. Main Street

CITY, TOWN

Portland

Oregon STATE 97204

APPENDIX 2: HISTORIC PLACES NOMINATION

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input type="checkbox"/> UNALTERED	<input checked="" type="checkbox"/> ORIGINAL SITE
<input type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input checked="" type="checkbox"/> ALTERED	<input type="checkbox"/> MOVED DATE _____
<input checked="" type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Occupying an entire block bordering two park blocks in downtown Portland, the Multnomah County Courthouse stands as a model of the prevalent style for governmental buildings erected in the early 20th century. The eight-story Neoclassical Revival structure is 200 feet square and is of riveted structural steel, fireproofed with concrete and faced with terra cotta (the decorative elements and courtyard walls) cementitious plaster (the seventh & eighth floors), and regular course granite (the two-story "pedestal" and limestone (the base, columns, pilasters, and entablature). The central courtyard, 64 by 100 feet, contains a three story annex completed in 1951. The seventh and eighth floors, designed for detention purposes, are recessed from the perimeter 8 to 10 feet and were originally shielded from public view by a 10 feet high terra cotta-faced parapet wall (which has since been removed due to structural weakness). The ribbed metal roof of the two attic stories is very slightly hipped to allow drainage.

The east and west facades contained the primary and secondary entrances, respectively; however, the formal entrance on the west facade was later filled in to allow more courtroom space within, leaving two smaller flanking entrances. Either facade features a four-story colonnade of six Ionic columns resting on a two-story "pedestal", alternating with seven bays of triple wooden windows (original, although in poor condition). The first two floors--the "pedestal"--contain nine bays of windows except where entrances occur in their place. The north and south facades contain three wide bays of windows alternating with two narrower bays, each bay separated by a pilaster. Whereas the east and west facade windows are divided horizontally into four one-story sections reflecting the one-story offices within, the north and south facade windows stretch two stories to indicate the high ceilinged courtrooms within. Originally covered with bronze decorative screens, the north and south windows have been replaced with glass blocks and aluminum frame windows during remodeling of the courtrooms.

Exterior details are rich but subtle, with carved granite and cast terra cotta ornament on entrances, entablature, columns, and base. The style of ornament is neoclassic Roman, with "egg and dart" horizontal bands, carved lions' heads, rondels, and fluted consoles.

The original Courthouse interior was predominately of marble wainscoting, floors, and stairs; plaster walls, ceilings, and cornices; oak doors and molding; bronze stair railings and posts; and Italian statuary newel posts. Courtrooms were two-story spaces, decorated with marble Corinthian columns and tapestry-covered walls. The main staircase is open on all six floors; its marble steps and bronze railing make it the focal point of the structure.

Over the years the demand for courtrooms has grown, and the building has been remodeled on a recurring basis. All but four courtrooms have been changed from a single two-story space to two one-story spaces, effectively doubling the number of courtrooms but necessitating the removal of all original decorative elements. These modifications, plus the remodeling of the majority of the remaining offices throughout the eight floors and basement, have left only the hallways, stairs, and two courtrooms in original or near-original condition.

APPENDIX 2: HISTORIC PLACES NOMINATION

Form No. 10-300a
(Rev. 10-74)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

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RECEIVED APR 18 1979

DATE ENTERED JUN 11 1979

Multnomah County Courthouse, Portland, Multnomah County

CONTINUATION SHEET

ITEM NUMBER 7 PAGE 2

The mechanical system was quite innovative and complex for its time, supplying the building with forced air and radiant heating, on-site generated electricity for emergencies, and a built-in central vacuuming system with outlets for hose attachments located throughout. The original heating system pipe network, in poor condition, is still used, although other heating, ventilation, and cooling systems have been added over the years.

APPENDIX 2: HISTORIC PLACES NOMINATION

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DATE ENTERED

JUN 11 1979

Multnomah County Courthouse, Portland, Multnomah County

CONTINUATION SHEET

ITEM NUMBER 8 PAGE 2

that occurs in tall spaces. Providing forced air from a central source also reduced the noise of individual fans and motors and of creaking radiators that could disrupt courtroom proceedings.

But while the Courthouse functioned beautifully, it is its elegant appearance that gives it its acclaim. In 1914 it stood as Portland's largest building as well as the West Coast's largest courthouse. Its style harks back to the monumental architecture of Rome while adhering to the modest scale of downtown Portland. The somewhat somber exterior serves as a foil to the wealth of detail within. A visitor in 1914 was greeted by inlaid marble floors in the portico and lobby; from there he could travel up the formal marble staircase to the ornate courtrooms or to the plaster-corniced offices throughout. From the bronze grilles covering the courtroom air ducts to the terra cotta lions' heads along the cornice, the careful attention to detail makes the Multnomah County Courthouse a superior and valuable building, not to be lost.

To be sure, the Courthouse property is intensively used; additional floor space has been gained wherever possible, and modern mechanical systems have been introduced. Two facades have lost their bronze screens and wooden windows; many plaster ceilings are hidden beneath modern suspended acoustical ceilings; most courtrooms have been horizontally divided into two more modern, less impressive courtrooms; a three-story annex partially fills the courtyard; and general remodeling and modification of office space have given the Courthouse interior a variety of styles and elements. The Multnomah County Board of Commissioners realizes that modernization is inevitable for most vital buildings, but it wishes to focus its efforts in the future on repair, renovation, and restoration activities that will return the Courthouse to an appearance substantially closer to that which was originally intended. Major structural changes, such as the division of courtrooms, the addition of the annex, and some enlargements of offices are irreversible; but many other modifications--glass blocks, suspended ceilings, bricked-up entrances--are not. Some work has begun, and it is hoped that acceptance on the list of the National Register of Historic Places will provide the guidance and, possibly, some financial assistance to carry out the work in the best manner possible.

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW				
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION	
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE	
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE	
<input type="checkbox"/> 1600-1699	<input checked="" type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN	
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER	
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION	
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input checked="" type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)	
		<input type="checkbox"/> INVENTION			

SPECIFIC DATES	1911 (East Wing) 1914 (Remainder)	BUILDER/ARCHITECT	Whidden & Lewis, Architects
----------------	--------------------------------------	-------------------	-----------------------------

STATEMENT OF SIGNIFICANCE

The Multnomah County Courthouse (1911-1914) is significant to the city of Portland and Multnomah County as an outstanding example of Neo Classical Revival architecture by the preeminent Portland architects of the turn of the century, William H. Whidden and Ion Lewis. Whidden and Lewis also were responsible for another civic monument nearby--the Second Renaissance Revival City Hall of 1895. In the Courthouse project, conventional surface detail and progressive notions of function and utility were successfully combined in a solid academic design which defines the northwesterly border of a two-block park area in the downtown core. Since completion of the initial wing in 1911, the Courthouse has served as the seat of government for Multnomah County, which throughout the intervening 68 years has been the most urbanized and populous local jurisdiction in the state.

During the years 1890-1915, Portland, Oregon experienced a growth rate of phenomenal proportions. Economically and culturally Portland was "coming of age". The buildings and other structures erected during this time reflected the richer, more discerning taste that was prevalent. The premier architects were Whidden and Lewis, two "Easterners" who moved to Portland in the 1880s and who, more than any other architects, shaped the appearance of downtown Portland.

With flexibility and ingenuity little seen today, construction of the new Courthouse was directed so as not to interrupt the proceedings of the old Courthouse sitting on the same block. The east wing of the building was completely finished through the eighth floor and the employees were moved from the old Courthouse into the new; only then was the old structure razed and the remaining three sides of the building begun.

Upon completion, the Courthouse was considered a model of fire safety; the only wood used is for furnishings and trim. All parts of the steel frame are covered with concrete to prevent damage in case of fire, and plaster ceilings are applied directly to the masonry instead of to wooden lath.

Ease of maintainance was also addressed creatively, with the choice of windows that pivot about a vertical axis and thus allow cleaning of both sides from within the building. As mentioned in the building description, a built-in vacuuming system (no longer in use) allowed cleaning of the entire building by hose attachment outlets located throughout.

Mechanically speaking, the Courthouse was quite progressive for its time. Radiant heat was supplied to offices, hallways, and lobbies, while forced air heating kept two-story courtrooms comfortable by eliminating the stratification of hot and cold air

APPENDIX 2: HISTORIC PLACES NOMINATION

9 MAJOR BIBLIOGRAPHICAL REFERENCES

Oregonian Newspaper, March 24, 1912, pg. 6, sec. 2.

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 1 (one).

UTM REFERENCES

A 1 0 5 2 5 4 5 0 5 0 4 0 3 0 0 1 7 5
 ZONE EASTING NORTHING
 B
 ZONE EASTING NORTHING
 C
 ZONE EASTING NORTHING
 D

VERBAL BOUNDARY DESCRIPTION

All of Block 58, Portland Addition, Portland, Multnomah County

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE

Carl P. Moseley, Energy Coordinator

ORGANIZATION

Multnomah County

DATE

January 7, 1978

STREET & NUMBER

2505 S. E. 11th Avenue

TELEPHONE

(503) 248-5200

CITY OR TOWN

Portland

STATE

Oregon 97202

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL

STATE

LOCAL X

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

David G. Talbot

TITLE State Historic Preservation Officer

DATE March 3, 1979

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

ATTEST: *W. Ray* *June* DATE *6-4-78*
 for KEEPER OF THE NATIONAL REGISTER KEEPER OF THE NATIONAL REGISTER
 DATE *June 5, 1975*

GPO 888-445

APPENDIX 3
KPFF SEISMIC ANALYSIS
PRESENTATION

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APPENDIX 3: KPFF SEISMIC ANALYSIS PRESENTATION

Prior to any discussion about sequencing a renovation, the Team analyzed the appropriate structural systems to upgrade the entire building. In a presentation to the Building sub-committee on October XX, 2010, the Team presented the possible options for seismic rehabilitation.

Basic Life Safety Level (3-C) (meets minimum code requirements)

- Overall Damage- Moderate
- Structure - No permanent drift. Structure substantially retains original strength and stiffness. Minor cracking may occur for facades, partitions, and ceilings as well as the structural elements. All systems important to normal operation are functional
- Non Structural Systems - Equipment and contents are generally secure, but may not operate due to mechanical failure or lack of utilities
- Earthquake Level: 500 year return period.

Immediate Occupancy Level (1-B) (exceeds code and allows for quicker recovery of building operations)

- Overall Damage- Very Light
- Structure - No permanent drift. Structure substantially retains original strength and stiffness. Minor cracking may occur for facades, partitions, and ceilings as well as the structural elements. All systems important to normal operation are functional
- Non Structural Systems - Equipment and contents are generally secure, but may not operate due to mechanical failure or lack of utilities
- Earthquake Level: 500 year return period.

Operational (Level 1-A) (No down time. Intended for essential facilities determined by the county)

- Overall Damage- Very Light
- Structure - No permanent drift. Structure substantially retains original strength and stiffness. Minor cracking may occur for facades, partitions, and ceilings as well as the structural elements. All systems important to normal operation are functional
- Non Structural Systems - Non-structural components receive negligible damage. Power and other utilities are available, possibly from standby sources.
- Earthquake Level: 500 year return period.

Attached are notes to the presentation made by KPFF to the Multnomah County Downtown Courthouse Building Committee.



LEVEL 1-A



LEVEL 1-A



LEVEL 1-A

SEISMIC REHABILITATION
RESPONSE

APPENDIX 3: KPFF SEISMIC ANALYSIS PRESENTATION

Multnomah County Courthouse

Seismic Rehabilitation Process

- Selection of Rehabilitation Objective
 - Building Performance Level vs Earthquake Hazard Level
- As-Built Information
 - Existing Drawings, On Site Verification and Testing
- Rehabilitation Method
 - Simplified vs Systematic
- Verification of Rehabilitation Design
 - Costs Estimates for Conceptual or Schematic Designs
- Construction Documents
 - If all goals are met prepare Contract Documents



Multnomah County Courthouse

SERA

Seismic Rehabilitation Process

Rehabilitation Objective

- Selection of a Building Performance Level for a particular Earthquake Hazard
 - How the building performs relative to a particular size earthquake.
 - Building performance is measured relative to damaged suffered.



Multnomah County Courthouse

SERA

Seismic Rehabilitation Process

Definitions

- Building Performance Level
 - Structural Engineer Definition**
 - **Building Performance Levels** are discrete damage states selected from among the infinite spectrum of possible damage states that buildings could experience as a result of an earthquake response.
 - Extent of anticipated building damage ranging from minimal to significant for a given **Building Performance Level**. A buildings performance level is a function of the performance of both the structural systems and nonstructural system components and contents.



Multnomah County Courthouse

SERA

Seismic Rehabilitation Process

Definitions

- Building Performance Level

Lay Person Definition

- Safety afforded building occupants during and after an earthquake.
- Cost and feasibility of restoring the building to its pre-earthquake condition.
- Length of time the building is removed from service to effect repairs.
- Economic, architectural, or historic impacts on the larger community.



Multnomah County Courthouse

SERA

Seismic Rehabilitation Process

Definitions

- Earthquake Hazard

Structural Engineering Definition

Probabilistic Earthquake Hazard Levels frequently used in design and their corresponding mean return intervals (average number of years between events of similar severity) are as follows:

Earthquake Having Probability of Exceedence	Mean Return Period (Years)
50%/50 Year	72
20%/50 Year	225
10%/50 Year	474
2%/50 Year	2500

The larger the earthquake return interval the larger the earthquake hazard.



Multnomah County Courthouse

SERA

Seismic Rehabilitation Process

Definitions

- Earthquake Hazard

Lay Person Definition

- Magnitude of an earthquake measured on the Richter scale
- Landslide
- Tsunamis
- Liquefaction



Multnomah County Courthouse



Seismic Rehabilitation Process

Rehabilitation Objective

- A rehabilitation objective combines a building performance level with a particular earthquake hazard.
- A rehabilitation objective may have more than one combination of building performance levels and earthquake hazards.



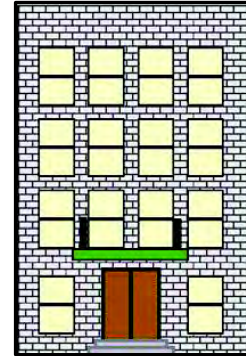
Multnomah County Courthouse



Standard Building Performance Levels

Operational Level (1-A)

- Overall Damage – Very Light
- Structure
 - No permanent drift. Structure substantially retains original strength and stiffness. Minor cracking may occur for facades, partitions, and ceilings as well structural elements. All systems important to normal operation are functional.
- Non-Structural Components
 - Non-structural components receive negligible damage. Power and other utilities are available, possibly from standby sources.



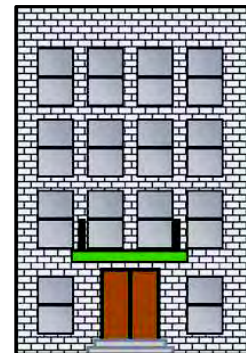
Multnomah County Courthouse



Standard Building Performance Levels

Immediate Occupancy (1-B)

- Overall Damage – Light
- Structure
 - No permanent drift. Structure substantially retains original strength and stiffness. Minor cracking may occur for facades, partitions, and ceilings as well as the structural elements. All systems important to normal operation are functional.
- Non-Structural Components
 - Equipment and contents are generally secure, but may not operate due to mechanical failure or lack of utilities.



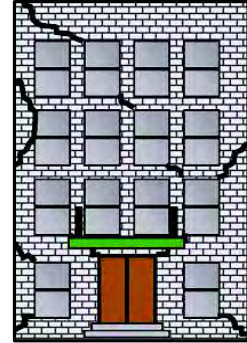
Multnomah County Courthouse



Standard Building Performance Levels

Life Safety Level (3-C)

- Overall Damage – Moderate
- Structure
 - Some residual strength and stiffness left in all stories. Gravity-load bearing elements function. No failure of walls or tipping of parapets. Structural system may have permanent drift. Damage occurs to partitions and non-structural components. Building may be uneconomical to repair.
- Non-Structural Components
 - Falling hazards mitigated. Many architectural, mechanical, and electrical systems are damaged.



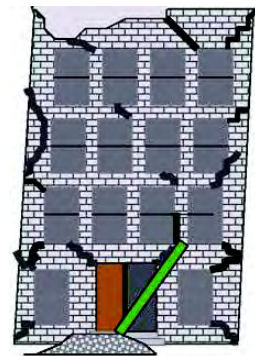
Multnomah County Courthouse

SERA

Standard Building Performance Levels

Collapse Prevention Level (5-E)

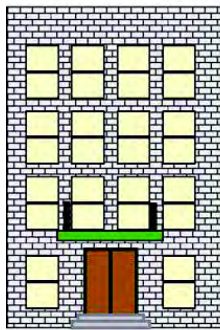
- Overall Damage – Severe
- Structure
 - Little residual stiffness and strength, but load bearing columns and walls function. Large permanent drifts occur. Some exits may be blocked. Infills, unbraced parapets may fail or at incipient failure. Building is very near to collapse.
- Non-Structural Components
 - Extensive Damage



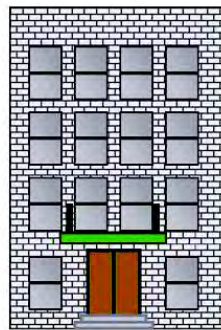
Multnomah County Courthouse

SERA

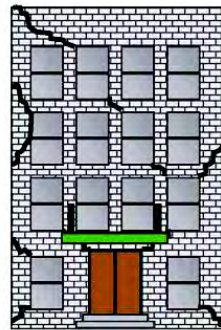
Standard Building Performance Levels



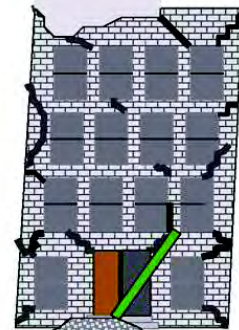
Operational



Immediate
Occupancy



Life Safety



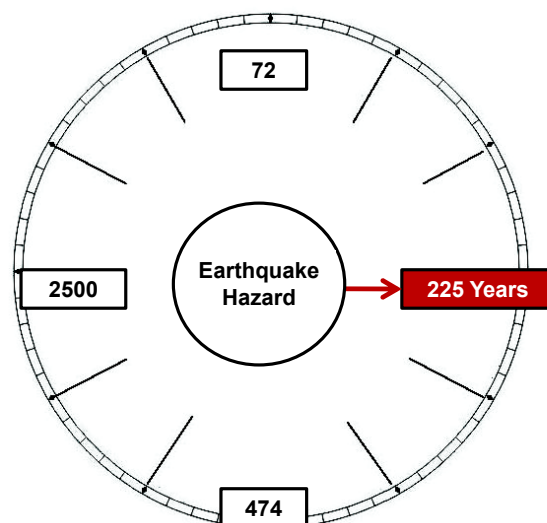
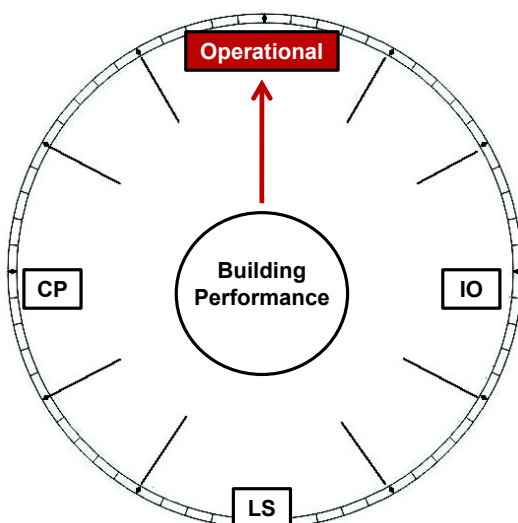
Collapse
Prevention



Multnomah County Courthouse



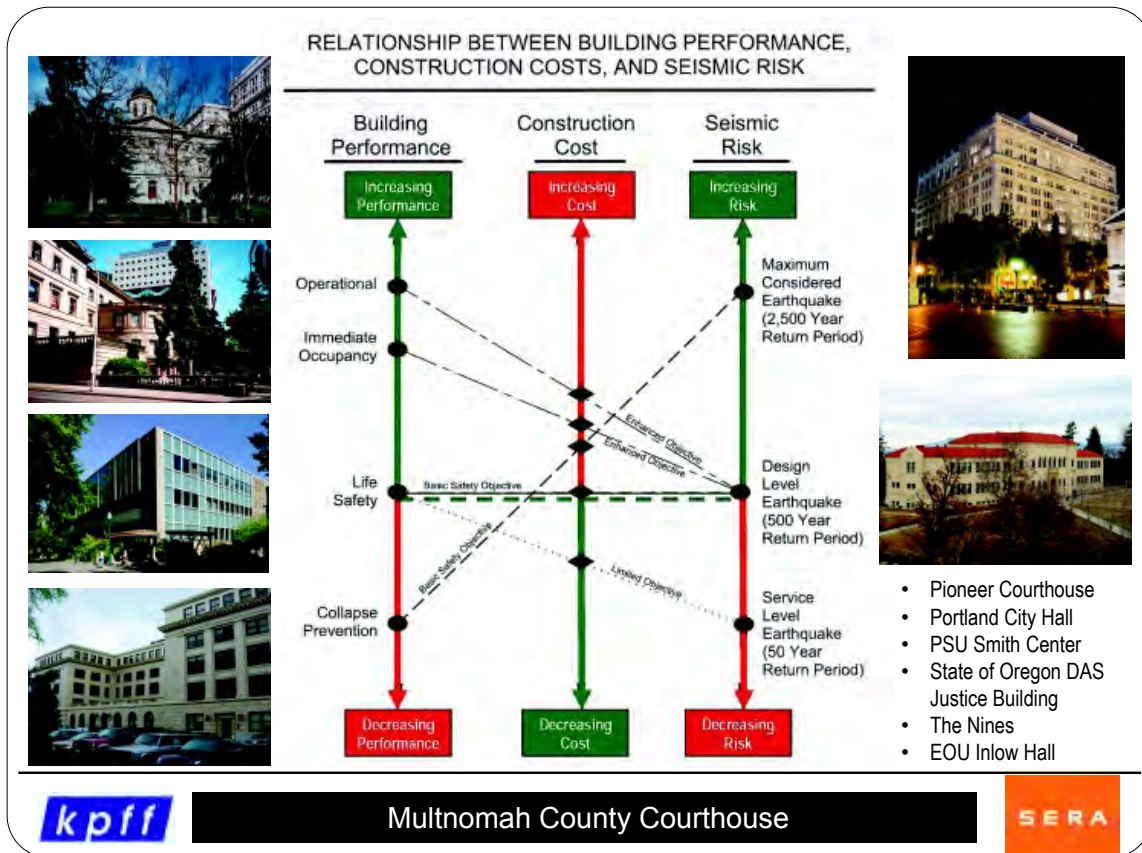
Standard Building Performance Levels



Multnomah County Courthouse



APPENDIX 3: KPFF SEISMIC ANALYSIS PRESENTATION



Occupied Seismic Upgrade

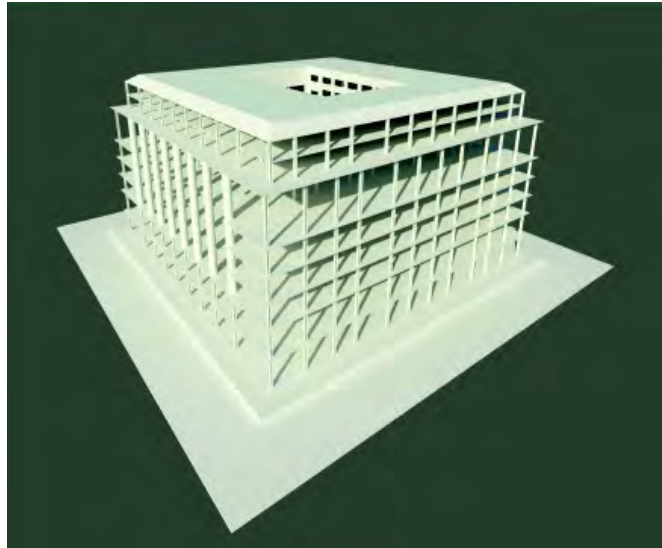


kpff

Multnomah County Courthouse

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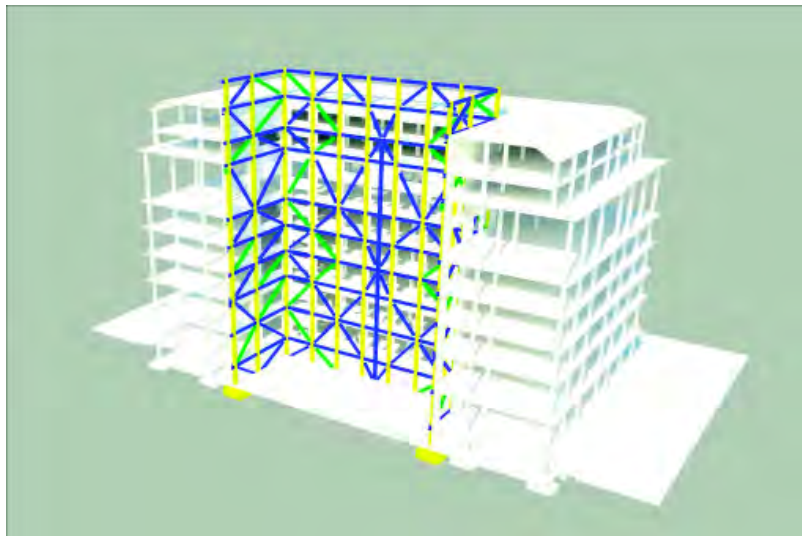
Occupied Seismic Upgrade



Multnomah County Courthouse

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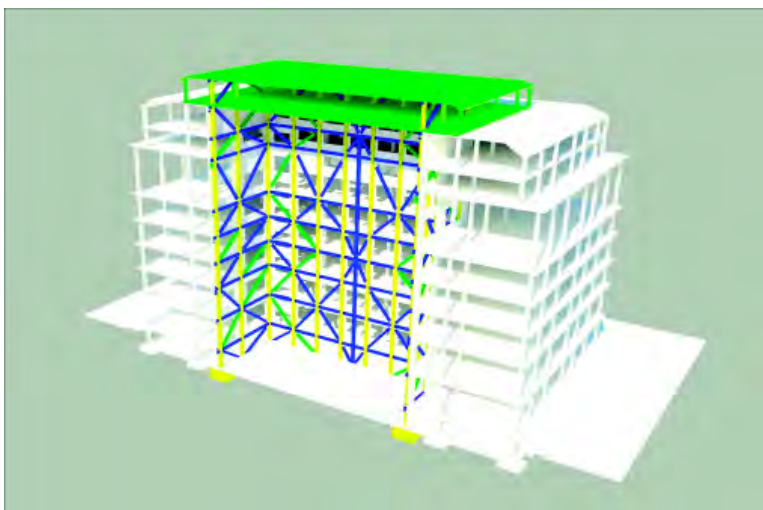
Occupied Seismic Upgrade



Multnomah County Courthouse

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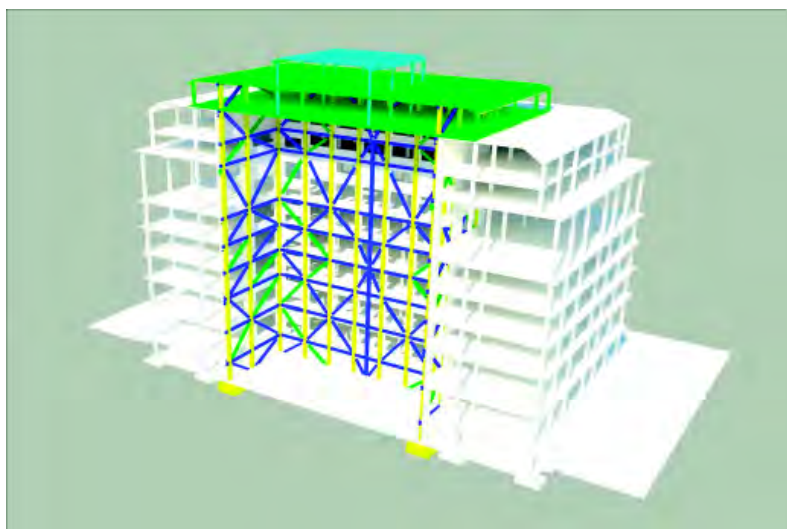
Occupied Seismic Upgrade



Multnomah County Courthouse

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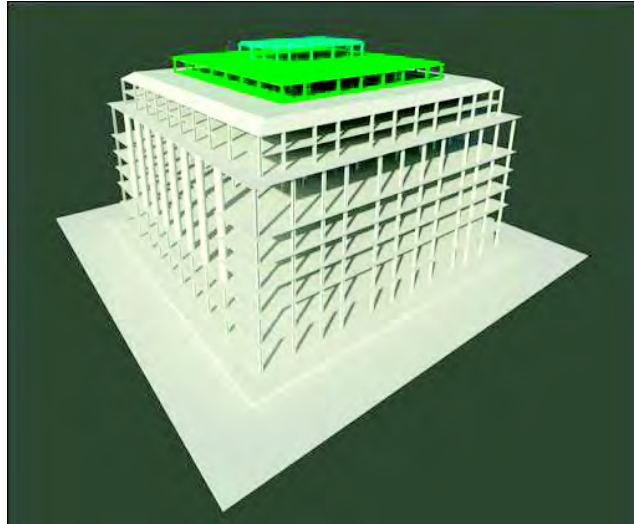
Occupied Seismic Upgrade Option



Multnomah County Courthouse

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Occupied Seismic Upgrade



Multnomah County Courthouse

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Next Steps

- Feasibility Study Completed
 - Workable Solution Achieved
 - Construction Costs Reasonable
- Start Due Diligence
 - As Built Drawing Verification
 - Materials Testing
 - Environmental Testing
- Further Refinement of Concept
 - Preliminary Analysis Completed
 - Preliminary Construction Costs Developed



Multnomah County Courthouse

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**APPENDIX 4
COURT COUNT**

APPENDIX 4: COURT COUNT

Courtroom Availability by Phase

Phase 1: 37 courtrooms available- (2) Traffic Courts move to downtown lease space.

Phase 2: 36 courtrooms available

Phase 3: 46 courtrooms available with 10 new courtrooms in the core and 2 temporary courtrooms on each level 8 & 9.

Phase 4: 41 courtrooms available. (1) new courtroom is isolated by construction

Phase 5: 35 courtrooms available. (4) new courtrooms are isolated by construction for the duration.

Phase 6: 34 courtrooms available. (2) new courtrooms are isolated by construction.

Phase 7: Project complete . 41 courtrooms available. The two Traffic Courts may move back from downtown location.

Construction Sequence and Courtroom Availability

Court count varies at each construction phase. Currently the County operates 39 courtrooms in the Courthouse. 2 of those are Traffic Courts, which will be moved to another location downtown for the duration of construction, leaving 37 courtrooms whose services must be available during construction.

In Phase 2 three courts must move off of the 7th floor. Two will move to the former Traffic courtrooms and one court must move to temporary space on the 6th floor in the vacated District Attorney's office.

During Phase 3, with the addition of 10 new courtrooms in the central core, the court count may potentially exceed the number of appointed judges. Some smaller courtrooms may be decommissioned early for renovation but Phases 5 & 6 may require their use.

In phase 4 available courts drop to 41 as more courtrooms are taken offline. Court count will accommodate all judges plus two referees.

In Phases 5 and 6, temporary courtrooms will be needed on floors 8 and 9 to make up for the remodel of floors 2 through 5, when the most existing courtrooms will be "offline" at one time. The court may be short as many as 3 courtrooms for approximately one year.

At the completion of Phase 7, a total of 41 courtrooms are functioning once again on floors 2 through 7. Floors 8&9 may be returned to office functions as needed.

POTENTIAL COURTROOM COUNT AT EACH CONSTRUCTION PHASE (actual count may vary at any time during construction)

CONSTRUCTION PHASE	1	2	3	4	5	6	7
BUILDING LEVEL							
B	0	0	0	0	0	0	0
1	3	3	3	3	3	3	0
2	6	6	6	6	6	0	6
3	8	8	8	8	10	0	8
4	6	6	8	8	0	7	7
5	8	8	6	6	0	8	8
6	3	3	5	2	6	6	6
6M							
7	5	2	6	4	6	6	6
8	0	0	2	2	2	2	0
9	0	0	2	2	2	2	0
TOTAL	39	36	46	41	35	34	41
Justice Center	4	4	4	4	4	4	4
Juvenile Justice Center	6	6	6	6	6	6	6
East County	3	3	3	3	3	3	3
Traffic Court Downtown Location	2	2	2	2	2	2	2
All County Total	54	51	61	56	50	49	56

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APPENDIX 5
AREA TABULATIONS AND SPACE
ASSIGNMENTS

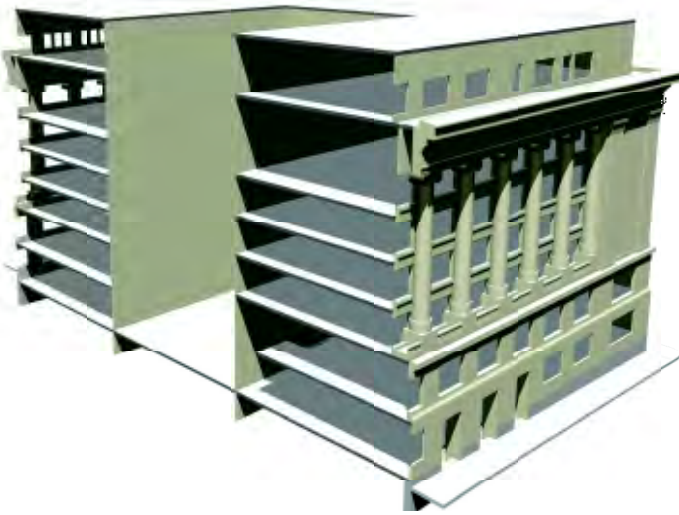
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MCCH RENOVATION STUDY ESTIMATED AREA SUMMARY															
All areas in SF (Square Feet)	Basement	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 6 mezz	Level 7	Level 8	Level 9	Penthouse	Totals	% Usable Gross Floor Area	
BUILDING FACILITIES	10,520	468	-	-	-	-	-	-	-	-	-	-	10,988	2.8%	
COURT ADMINISTRATION	-	13,312	2,852	-	-	-	-	-	-	-	-	-	16,164	4.2%	
FLEX SPACE	-	-	-	-	-	-	-	-	-	23,500	16,789	-	40,289	10.4%	
COURTROOM	-	-	9,924	12,443	10,454	12,376	9,974	-	7,401	-	-	-	62,572	16.2%	
COURT CARE	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0%	
DA	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0%	
FAMILY COURTS	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0%	
JUDGES CHAMBERS	-	-	4,259	3,501	3,477	3,511	1,994	-	3,083	-	-	-	19,825	5.1%	
JUDGES STAFF	-	-	6,036	3,925	1,336	3,038	5,087	-	6,450	-	-	-	25,872	6.7%	
JURY	-	5,236	2,245	2,973	5,200	3,826	2,578	-	2,905	-	-	-	24,963	6.5%	
GRAND JURY	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0%	
LAW LIBRARY	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0%	
MEP	9,821	2,369	1,201	795	800	803	803	32,589	834	803	803	7,665	59,286	15.3%	
PUBLIC_CIRCULATION	399	10,231	6,692	6,978	6,027	7,127	7,171	1,671	7,248	4,175	3,815	221	61,755	16.0%	
RECORDS	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0%	
RETAIL	-	565	-	-	-	-	-	-	-	-	-	-	565	0.1%	
SECURE CIRCULATION	-	934	625	1,318	1,657	1,335	-	-	1,239	-	-	-	7,108	1.8%	
JUDGES ELEV	-	-	561	-	-	-	1,290	-	-	-	-	-	1,851	0.5%	
SHERIFF OFFICE/ HOLDING	13,700	4,103	-	-	-	-	-	-	-	-	-	-	17,803	4.6%	
SHERIFF SECURE CIRCULATION	1,925	1,355	1,723	1,958	1,957	1,944	1,957	1,712	1,648	1,732	1,696	1,570	21,177	5.5%	
STORAGE	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0%	
TOILETS	-	860	894	848	897	900	889	-	860	862	862	-	7,872	2.0%	
Proposed Gross Measured Area	36,365	39,433	37,012	34,739	31,805	34,860	31,743	35,972	31,668	31,072	23,965	9,456	378,090		
Lightwell	-	-	891	881	881	870	876	881	885	881	881	881	8,808	2.3%	
Gross Measured Area+ Lightwell	36,365	39,433	37,903	35,620	32,686	35,730	32,619	36,853	32,553	31,953	24,846	10,337	386,898	100.0%	
PROPOSED RENOVATION AREAS													Factor 1.04678		
Remain	-	-	-	-	-	-	-	26,928	-	-	-	-	26,928	28,188	7%
Restore	9,375	11,165	13,947	20,949	17,523	21,043	15,113	679	4,595	-	-	-	114,389	119,740	30%
Replace	20,437	21,532	17,967	9,964	8,780	8,314	11,127	2,568	21,487	16,586	-	-	138,762	145,253	37%
New	6,553	6,736	5,098	3,826	5,502	5,503	5,503	5,797	5,586	14,486	23,965	9,456	98,011	102,596	26%
Check sum Proposed GMA	36,365	39,433	37,012	34,739	31,805	34,860	31,743	35,972	31,668	31,072	23,965	9,456	378,090	395,777	100%
Exterior New	2,969												2,969	3,108	
Construction Area	39,334	39,433	37,012	34,739	31,805	34,860	31,743	35,972	31,668	31,072	23,965	9,456	381,059	398,885	GSF
Lightwell	-	-	891	881	881	870	876	881	885	881	881	881	8,808	8,808	
DbI Vol Restore	-	-	-	-	3,109	-	3,123	-	-	-	-	-	6,232	6,232	
Estimated Gross Building Area	39,334	39,433	37,903	35,620	35,795	35,730	35,742	36,853	32,553	31,953	24,846	10,337	396,099	413,925	
(County) Existing Gross Building Area	32,819	38,780	37,312	34,661	30,639	30,650	30,769	30,769	30,769	26,318	-	-		323,486	Exist. GBA
	95%	96%	96%	96%	96%	96%	96%	98%	84%	98%			95%		
Net GROSS BLDG AREA INCREASE													75,399	additional GSF	
													plus/minus 5000 gsf		

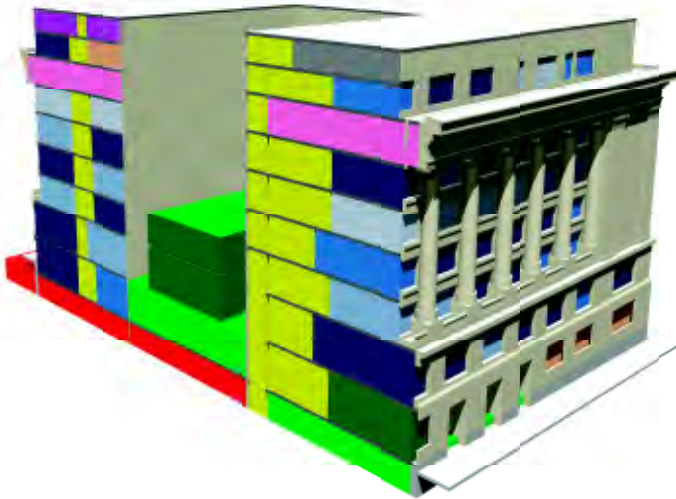
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APPENDIX 6
3-D MODEL VIEWS

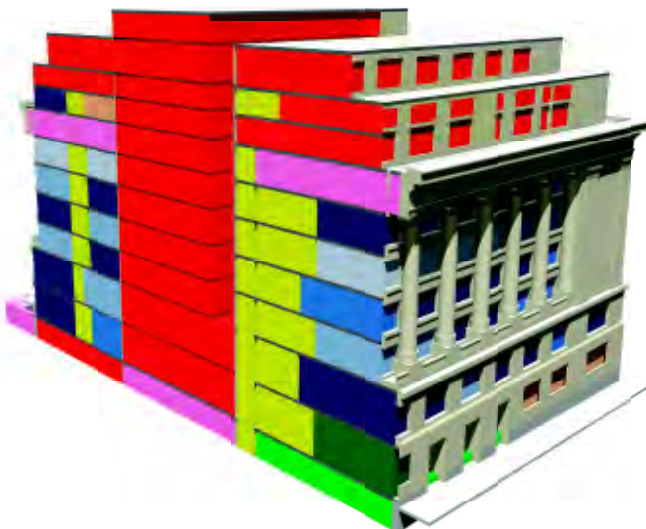
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**PRE
CONSTRUCTION**



PHASE 1

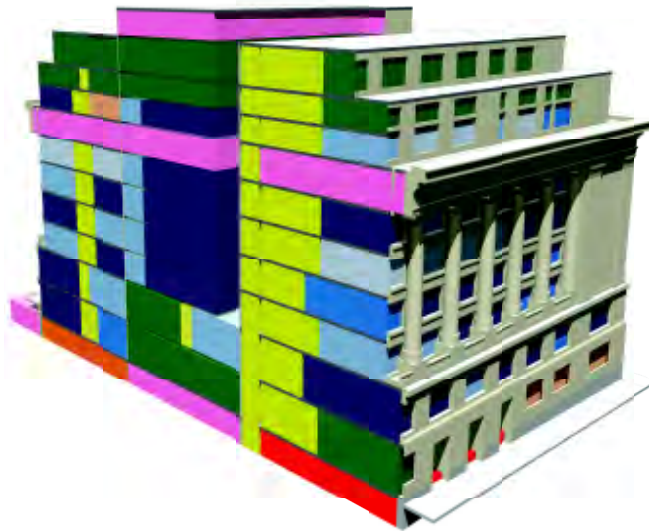


PHASE 2

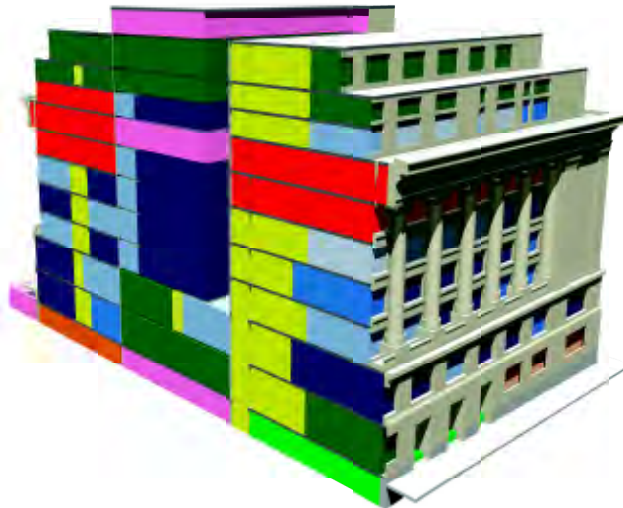


Red indicates construction phase

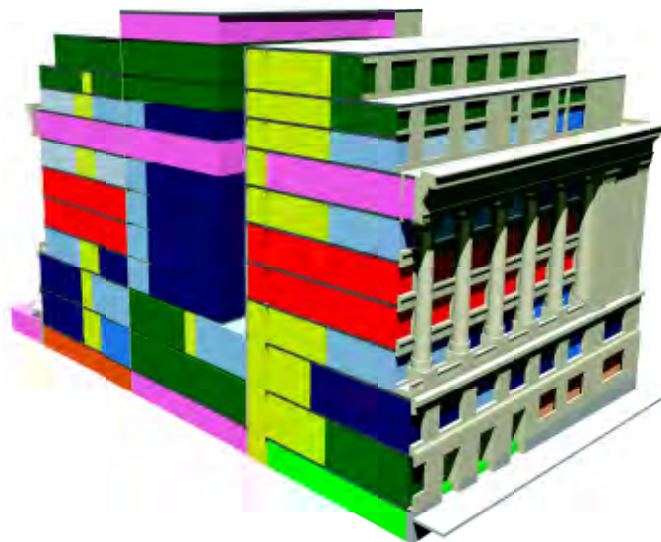
PHASE 3



PHASE 4

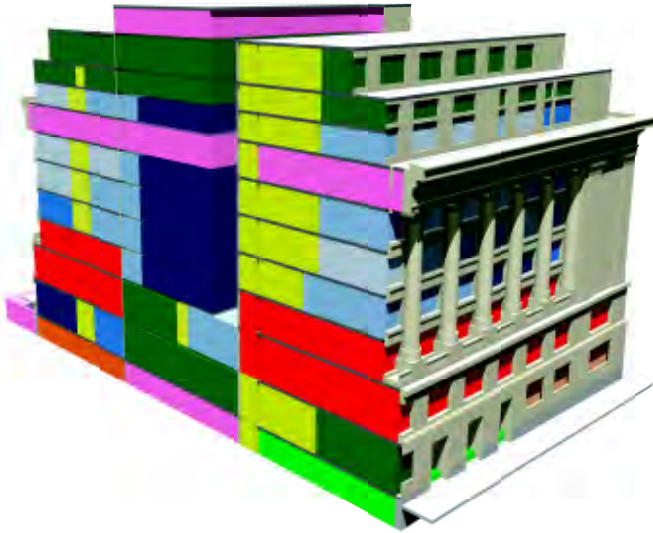


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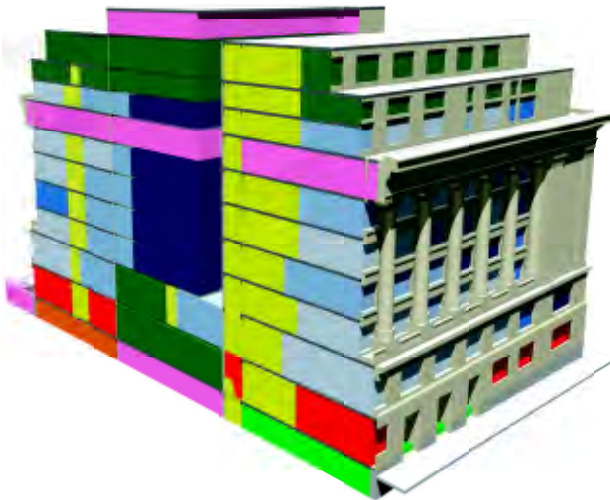


Red indicates construction phase

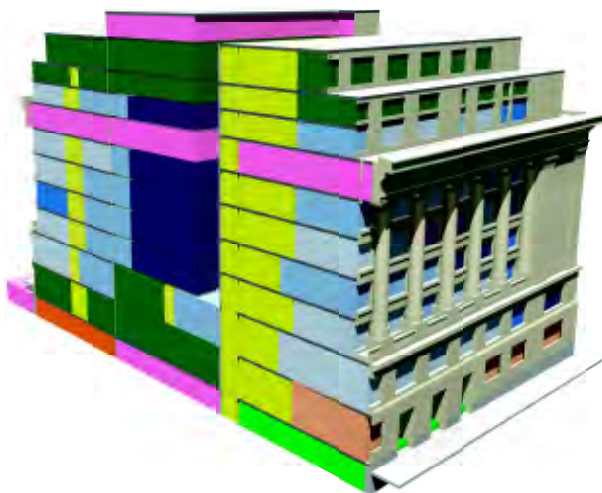




PHASE 6



PHASE 7



**CONSTRUCTION
COMPLETE**



Red indicates construction phase

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APPENDIX 7
DETAILED COST DATA

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APPENDIX 7: DETAILED COST DATA

Estimated Project Construction Costs

	Remaining (L6 mezz) Areas		Restoration Areas		Replacement Areas		New Areas		Total Project		Comments
	28,188 gsf		119,740 gsf		145,253 gsf		105,704 gsf		398,885 gsf		excludes lightwell gsf
	low	high	low	high	low	high	low	high	low	high	
Direct Cost Elements	\$71.90	\$88.68	\$143.00	\$178.60	\$207.50	\$244.10	\$312.24	\$365.78	\$206.31	\$245.70	
Existing Conditions											
Hazardous Materials Abatement	\$4.00	\$5.00	\$4.00	\$5.00	\$4.00	\$5.00			\$2.94	\$3.68	
Demo entire structure							\$4.00	\$5.00	\$1.06	\$1.32	
Light demo			\$5.00	\$7.00					\$1.50	\$2.10	
Demo to structure					\$12.00	\$14.00			\$4.37	\$5.10	
Clean up mech mezzanine	\$2.50	\$3.00							\$0.18	\$0.21	
Excavation							\$2.50	\$3.00	\$0.66	\$0.79	
Structure											
Footings							\$15.00	\$18.00	\$3.97	\$4.77	
Core brace							\$37.74	\$45.28	\$10.00	\$12.00	
Flooring tie-ins	\$13.00	\$15.00	\$13.00	\$15.00	\$13.00	\$15.00			\$9.56	\$11.03	
New structure							\$25.00	\$30.00	\$6.62	\$7.95	
Roof work (leveling or replace)			\$1.60	\$1.92	\$1.60	\$1.92			\$1.06	\$1.28	
Stairs	\$1.40	\$1.68	\$1.40	\$1.68	\$1.40	\$1.68	\$2.50	\$3.00	\$1.69	\$2.03	exit & grand stair
Exterior Façade	\$4.00	\$6.00	\$6.00	\$8.00	\$6.00	\$8.00	\$40.00	\$45.00	\$14.87	\$17.66	
Interiors	\$3.00	\$4.00	\$25.00	\$35.00	\$60.00	\$70.00	\$60.00	\$70.00	\$45.47	\$54.83	
Elevators			\$9.00	\$11.00	\$9.00	\$11.00	\$10.00	\$12.00	\$8.63	\$10.49	
Mechanical Systems									\$53.51	\$62.42	
Common large equipment	\$13.00	\$15.00	\$13.00	\$15.00	\$13.00	\$15.00	\$13.00	\$15.00	\$13.00	\$15.00	
HVAC distribution			\$15.00	\$18.00	\$27.00	\$31.00	\$27.00	\$31.00	\$21.49	\$24.91	
Plumbing	\$2.00	\$3.00	\$7.00	\$8.00	\$7.00	\$8.00	\$22.00	\$25.00	\$10.62	\$12.15	
Controls	\$5.00	\$6.00	\$5.00	\$6.00	\$5.00	\$6.00	\$5.00	\$6.00	\$5.00	\$6.00	
Fire protection	\$2.00	\$2.50	\$3.50	\$4.50	\$3.50	\$4.50	\$3.50	\$4.50	\$3.39	\$4.36	
Electrical Systems									\$40.22	\$48.05	
Common large equipment	\$4.00	\$5.00	\$4.00	\$5.00	\$4.00	\$5.00	\$4.00	\$5.00	\$4.00	\$5.00	
Emergency power	\$8.50	\$10.00	\$8.50	\$10.00	\$8.50	\$10.00	\$8.50	\$10.00	\$8.50	\$10.00	
Fire alarm	\$3.00	\$3.50	\$3.00	\$3.50	\$3.00	\$3.50	\$3.00	\$3.50	\$3.00	\$3.50	
Lighting	\$2.00	\$3.00	\$7.00	\$9.00	\$14.00	\$16.00	\$14.00	\$16.00	\$11.05	\$12.98	
Power	\$3.00	\$4.00	\$6.00	\$8.00	\$8.50	\$10.00	\$8.50	\$10.00	\$7.36	\$8.98	
Low voltage	\$1.50	\$2.00	\$6.00	\$7.00	\$7.00	\$8.50	\$7.00	\$8.50	\$6.31	\$7.59	
Indirect Cost Elements	\$44.97	\$55.36	\$59.19	\$73.66	\$72.09	\$87.00	\$93.03	\$111.77	\$71.85	\$87.32	
Hoisting	\$5.00	\$6.00	\$5.00	\$6.00	\$5.00	\$6.00	\$5.00	\$6.00	\$5.00	\$6.00	
Temporary Construction	\$4.00	\$5.00	\$4.00	\$5.00	\$4.00	\$5.00	\$4.00	\$5.00	\$4.00	\$5.00	walls, MEP, roof
GC's/Job Services	\$16.50	\$20.00	\$16.50	\$20.00	\$16.50	\$20.00	\$16.50	\$20.00	\$16.50	\$20.00	
Insurance/Bonding	\$4.38	\$5.76	\$7.58	\$10.09	\$10.48	\$13.24	\$15.20	\$19.10	\$10.43	\$13.32	
Contingency	\$11.69	\$14.40	\$20.22	\$25.23	\$27.96	\$33.11	\$40.53	\$47.75	\$27.82	\$33.30	10% in all columns
CMGC Fee	\$3.40	\$4.20	\$5.89	\$7.35	\$8.14	\$9.64	\$11.80	\$13.91	\$8.10	\$9.70	3% in all columns
Project Total Cost/GSF	\$116.87	\$144.04	\$202.19	\$252.26	\$279.59	\$331.10	\$405.26	\$477.55	\$278.16	\$333.02	
Project Total Cost	\$3,294,454	\$4,060,231	\$24,210,253	\$30,206,157	\$40,610,767	\$48,092,864	\$42,837,980	\$50,478,877	\$110,953,454	\$132,838,130	

APPENDIX 7: DETAILED COST DATA

MULTNOMAH COUNTY COURTHOUSE RENOVATION STUDY 2011 ESTIMATED PROJECT COST SUMMARY		
	Low	High
1.0 Estimated Construction Cost (ECC)	\$ 110,953,454	\$ 132,838,130
2.0 Soft Cost (SC)	\$ 48,720,568	\$ 66,754,445
2.1 Associated Construction Costs (ACC)	\$ 36,797,688	\$ 49,503,378
2.2 Additional Move Costs (AMC)	\$ 11,922,880	\$ 17,251,067
3.0 Subtotal ECC + SC	\$ 159,674,022	\$ 199,592,575
Project Contingency (10 % of ECC+SC)	\$ 15,967,402	\$ 19,959,258
4.0 TOTAL PROJECT COST	\$ 175,641,424	\$ 219,551,833

APPENDIX 7: DETAILED COST DATA

MULTNOMAH COUNTY COURTHOUSE RENOVATION STUDY 2011 ESTIMATED PROJECT COST SUMMARY		
	Low	High
Soft Costs TOTAL	\$ 48,720,568	\$ 66,754,445
= Construction related soft costs		
= Move related soft costs		
A. District Attorney (moves out/moves back in) based upon 230 FTE staff.	6,412,800	9,258,200
1.0 Lease cost range for 31,500 sq ft for 6 years @ \$20-\$30 / sq. ft./ year.	\$ 3,780,000	\$ 5,670,000
2.0 Tenant improvement cost range for lease space 31,500 sq ft @ \$60-\$80 / sq. ft./ year	\$ 1,890,000	\$ 2,520,000
3.0 Information technology cost for temporary space and final space back in building (by Multnomah County information technology)	see part P	see part P
4.0 Tenant Move 230 FTE out @ \$300-\$350 / FTE	\$ 69,000	\$ 80,500
5.0 Tenant Move 230 FTE back @ \$300-\$350 / FTE	\$ 69,000	\$ 80,500
6.0 Added security cost for temporary space 4-6 years @ \$6300/month each FTE, 2 FTE	\$ 604,800	\$ 907,200
B. Grand Jury (moves out/moves back in with District Attorney)	762,960	1,118,520
1.0 Lease cost for 2552 sq. ft for 6 years @ \$20-\$30 / sq. ft./ year	\$ 306,240	\$ 459,360
2.0 Tenant improvement cost for lease space 2,552 sq. ft. @ \$60-80 / sq. ft.	\$ 153,120	\$ 204,160
3.0 Information technology cost for temporary space and final space back in building	see part P	see part P
4.0 Tenant Move 2 FTE out @ \$300-\$350 / FTE	\$ 600	\$ 700
5.0 Tenant Move 2 FTE back @ \$300-\$350 / FTE	\$ 600	\$ 700
6.0 Added security cost for temporary space 4-6 years @ \$6300/month each FTE, 1 FTE	\$ 302,400	\$ 453,600
C. Law library (moves out and back in)	1,647,000	2,376,000
1.0 Lease cost for 9,000 sq. ft. for 6 years	\$ 1,080,000	\$ 1,620,000
2.0 Tenant improvement cost for lease space for 9000 sq. ft. @ \$60-\$80 / sq. ft.	\$ 540,000	\$ 720,000
3.0 Information technology cost for final space (by Multnomah County Information Technology)	see part P	see part P
4.0 Move out (9,000 sq. ft) @ \$1.50 - \$2.00 / SF	\$ 13,500	\$ 18,000
5.0 Move in (9,000 sq. ft) @ \$1.50 - \$2.00 / SF	\$ 13,500	\$ 18,000

APPENDIX 7: DETAILED COST DATA

MULTNOMAH COUNTY COURTHOUSE RENOVATION STUDY 2011 ESTIMATED PROJECT COST SUMMARY		
	Low	High
D. Traffic Courts (moves out and back in)	1,605,480	2,350,960
1.0 Lease cost for 5526 sq. ft. for 6 years	\$ 663,120	\$ 994,680
2.0 Tenant improvement cost for lease space 5526 sq. ft. @ \$60-\$80 / sq. ft.	\$ 331,560	\$ 442,080
3.0 Information technology cost for temporary space and final space back in building (by Multnomah County information technology)	see part P	see part P
4.0 Move 10 FTE out @ \$300-\$350 / FTE	\$ 3,000	\$ 3,500
5.0 Move 10 FTE back @ \$300-\$350 / FTE	\$ 3,000	\$ 3,500
6.0 Added security cost for temporary space 4-6 years @ \$6300/month each FTE, 2 FTE	\$ 604,800	\$ 907,200
E. Miscellaneous moves within courthouse per phase x 2 moves, based upon average FTE per floor for 2 floor moves.	2,887,182	3,852,908
1.0 Phase 1: Move 7th floor courts to 6th / First floors, 2nd, 3rd floor light well to 6th, 10,430 sq. ft	\$ 15,645	\$ 20,860
2.0 Phase 1: Move first floor records/basement records to offsite location or temporary trailer locations or electronically scan 22,349 sq. ft	\$ 100,571	\$ 134,094
3.0 Move Detention staff and equipment to Basement 9,433 sq. ft	\$ 14,150	\$ 18,866
4.0 Phase 3: Buildout 8th and 9th floors for temporary Courts use including interim court rooms, jury rooms, Judge's Offices, Judicial staff space, etc. plus temporary tenant improvements of 11,126 sq. ft.	\$ 2,407,560	\$ 3,210,080
5.0 Phase 3: Move Courts related functions from 6th floor to 7th, 8th and 9th floors and miscellaneous uses in basement 3000 sq. ft.	\$ 4,500	\$ 6,000
6.0 Phase 4: Move Courts related functions to completed 6th floor, 7th floor and more courts functions from floors 5 and 4 for renovation 12,000 sq. ft.	\$ 18,000	\$ 24,000
7.0 Phase 5: Move courts related functions to completed space on 4th and 5th floors from 3rd and 2nd floors to facilitate construction of 3rd and 2nd floors 12,000 sq. ft.	\$ 18,000	\$ 24,000
8.0 Phase 6: Move Courts related functions from 8th and 9th floor down to occupy completed 3rd and 2nd floor spaces. 12000 sq. ft.	\$ 18,000	\$ 24,000
9.0 Phase 7: Remove interim tenant improvements completed on the 8th and 9th floors for Courts 40,126 SF @ \$6-8 / SF use	\$ 240,756	\$ 321,008
10.0 Phase 7: Relocate during phases 5, 6 and 7, miscellaneous areas around the first floor to accommodate ongoing courthouse operations and final construction during phase 7. 2000 sq. ft.	\$ 50,000	\$ 70,000

APPENDIX 7: DETAILED COST DATA

MULTNOMAH COUNTY COURTHOUSE RENOVATION STUDY 2011 ESTIMATED PROJECT COST SUMMARY		
	Low	High
F. Predesign services (Further studies for in depth programming services needed to start design)	2,325,600	3,774,000
1.0 Programming and Conceptual Design	\$ 1,200,000	\$ 1,800,000
2.0 Geo Technical Assessment	\$ 100,000	\$ 200,000
3.0 Structural Assessment and Testing	\$ 150,000	\$ 300,000
4.0 Envelope Assessment and Testing	\$ 75,000	\$ 125,000
5.0 Elevator Assessment and Upgrade Proposal	\$ 30,000	\$ 50,000
6.0 Electrical System Assessment and Replacement Protocol	\$ 150,000	\$ 300,000
7.0 Mechanical System Assessment and Replacement Protocol	\$ 75,000	\$ 125,000
8.0 IT Assessment & Design Assistance	\$ 100,000	\$ 200,000
9.0 Conceptual Cost Estimate/ Preconstruction CMGC	\$ 200,000	\$ 300,000
10.0 HazMat Material Assessment Level I Report	\$ 200,000	\$ 300,000
11.0 2% County Management	\$ 45,600	\$ 74,000
G. Landmarks, planning, appeals, services	50,000	75,000
1.0 Present Renovation Concept to Landmarks, SHPO, NPS to obtain clarification for Tax Credits	\$ 50,000	\$ 75,000
H. A/E Fees	9,870,916	14,761,200
1.0 Multnomah County Courthouse Renovation Design and Construction Documents 8-10% ECC	\$ 8,876,276	\$ 13,283,813
2.0 Tenant Improvement Fees (for interim moves) 3% Tenant Improvement Construction Costs	\$ 87,440	\$ 116,587
3.0 Tenant Move Coordination Fee 2-3 FTE @ \$6300/month x 6 years	\$ 907,200	\$ 1,360,800
I. Preconstruction Contractor	100,000	150,000
1.0 Building Scan	\$ 100,000	\$ 150,000
J. Project Management	2,219,069	2,656,763
County Management Costs 2% ECC	\$ 2,219,069	\$ 2,656,763

APPENDIX 7: DETAILED COST DATA

MULTNOMAH COUNTY COURTHOUSE RENOVATION STUDY 2011 ESTIMATED PROJECT COST SUMMARY		
	Low	High
K. Special Inspections	2,171,600	2,707,400
1.0 Special Inspections/ Testing (city required tests: embeds, structural welding/connections, concrete, etc)	\$ 75,000	\$ 125,000
2.0 Hazardous Material Oversight 1.25 FTE @ \$150K / FTE x 6 years	\$ 1,125,000	\$ 1,125,000
3.0 Haz Mat Testing 6 locations x 2 floors x 4 tests/month x \$400/ test @ 4-6 years	\$ 921,600	\$ 1,382,400
4.0 Other Inspections	\$ 50,000	\$ 75,000
L. Furniture, Fixtures and Equipment	1,490,000	1,765,000
1.0 New furniture for District Attorney (230 FTE)	\$ 1,150,000	\$ 1,265,000
2.0 New furniture for Grand Jury	\$ 40,000	\$ 50,000
3.0 New casework for (2) interimTraffic Courts (bench seating, Judges Bench, recorders desk)	\$ 150,000	\$ 200,000
4.0 New furniture for miscellaneous moves within existing building.	\$ 50,000	\$ 100,000
5.0 New furniture for public space within existing building.	\$ 100,000	\$ 150,000
6.0 New casework for Courts (fixed furniture, spectator benches, jury box and well bar)	incl. in ECC	incl. in ECC
7.0 New furniture for Judicial / Courts Administration	NA	NA
8.0 New furniture for Law Library	NA	NA

APPENDIX 7: DETAILED COST DATA

MULTNOMAH COUNTY COURTHOUSE RENOVATION STUDY 2011 ESTIMATED PROJECT COST SUMMARY		
	Low	High
M. Permits/Fees/Charges	2,294,038	2,706,737
1.0 Building permit reviews	\$ 665,494	\$ 934,403
2.0 Tree Fund	\$ 50,000	\$ 50,000
3.0 Bicycle Fee	\$ 25,000	\$ 25,000
4.0 Fire Plan and Life Safety Review	\$ 200,392	\$ 238,964
5.0 Mechanical Plans Review and Permit	\$ 259,783	\$ 259,783
6.0 System Development Charges	\$ 402,000	\$ 402,000
7.0 Development Services Charge	\$ 123,262	\$ 146,992
8.0 Zoning	\$ 71,568	\$ 85,344
9.0 Land Use / Site Review	\$ 247,696	\$ 295,408
10.0 BES Water and Stormwater	\$ 56,740	\$ 56,740
11.0 Metro, forestry	\$ 12,103	\$ 12,103
12.0 PGE	\$ 180,000	\$ 200,000
N. Solar Initiative	1,664,302	1,992,572
1.0 Provide Solar Energy production capacity 1.5% of ECC	\$ 1,664,302	\$ 1,992,572
O. Audio Visual costs	-	-
1.0 Design Fees	incl. in part P	incl. in part P

APPENDIX 7: DETAILED COST DATA

MULTNOMAH COUNTY COURTHOUSE RENOVATION STUDY 2011 ESTIMATED PROJECT COST SUMMARY		
	Low	High
P. Multnomah County Technical Services Costs	7,570,000	9,950,000
1.0 Telcom / Data continuing operations and replacement	\$ 5,300,000	\$ 6,900,000
2.0 Security CCTV cameras disk storage, offsite storage	\$ 1,100,000	\$ 1,500,000
1. District Attorney temp space	MCC	MCC
2. Grand Jury for temp space	MCC	MCC
3. Law Library for temp space	MCC	MCC
4. Miscellaneous moves within building	MCC	MCC
5. District Attorney back in building	MCC	MCC
6. Grand Jury back in building	MCC	MCC
7. Traffic Court back in building	MCC	MCC
3.0 Telcom Infrastructure moves / changes (including interim moves out of the	\$ 420,000	\$ 550,000
4.0 Detention Electronics	\$ 750,000	\$ 1,000,000

APPENDIX 7: DETAILED COST DATA

MULTNOMAH COUNTY COURTHOUSE RENOVATION STUDY 2011 ESTIMATED PROJECT COST SUMMARY		
	Low	High
Q. Commissioning/ balancing	700,000	1,020,000
1.0 MEP Systems Commissioning (1) FTE @ \$150K / yr x 4-6 yrs	\$ 600,000	\$ 900,000
2.0 Building Envelope Systems	\$ 100,000	\$ 120,000
R. Other Multnomah County Costs	4,949,621	6,239,185
1.0 On-site Security Screening Stations 3 total@ \$20,000-\$30,000 each	\$ 60,000	\$ 90,000
2.0 Off-site Security Screening Stations 4 total@ \$20,000-\$30,000 each	\$ 80,000	\$ 120,000
3.0 (3) FTE Construction Security screening officers during 4-6 years construction @ \$6300 / mo.	\$ 907,200	\$ 1,360,800
4.0 2% for Art	\$ 2,219,069	\$ 2,656,763
5.0 USGBC LEED Certification Fees (registration, certification, plaque)	\$ 19,050	\$ 19,050
5.0 Builders Risk Insurance 1.5% ECC	\$ 1,664,302	\$ 1,992,572
S. Construction Cost DATA		
Cost per square foot (ECC +ACC) + 10% contingency divided by Renovated building gross square feet	\$ 407	\$ 503
Basis of Costs:		
1.0 All costs reflect 1st Qtr 2011		
2.0 Renovated Courthouse - LEED Gold Minimum		
3.0 Existing building gross square footage sq. ft.	323,486	sq ft
4.0 Renovated building gross square footage sq. ft.	398,885	sq ft
5.0 Tenant move cost range / square foot	\$ 1.50	\$ 2.00
6.0 Tenant move cost range / person (boxes and furniture included)	\$ 300	\$ 350
7.0 Tenant Improvement cost range / square foot	\$ 60	\$ 80
8.0 Tenant Lease cost range / square foot / year	\$ 20	\$ 30

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APPENDIX 8
EXISTING CONDITIONS
PHOTOS

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APPENDIX 8: EXISTING CONDITIONS PHOTOS



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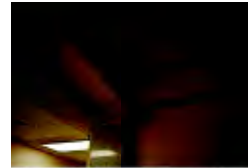
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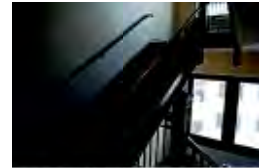
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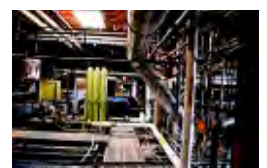
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APPENDIX 8: EXISTING CONDITIONS PHOTOS



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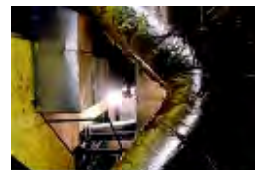
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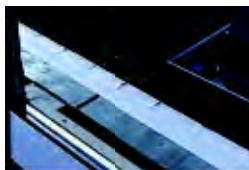
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APPENDIX 8: EXISTING CONDITIONS PHOTOS



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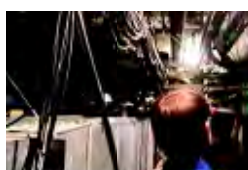
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APPENDIX 8: EXISTING CONDITIONS PHOTOS



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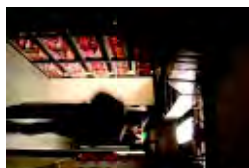
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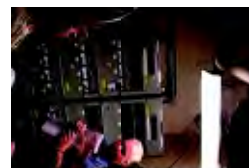
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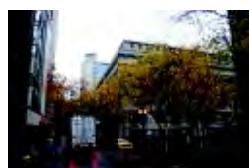
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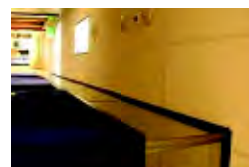
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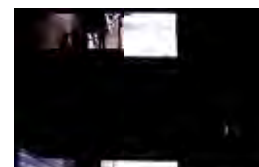
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APPENDIX 8: EXISTING CONDITIONS PHOTOS



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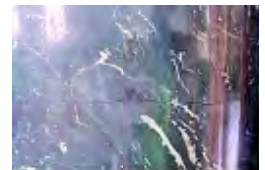
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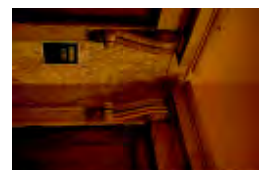
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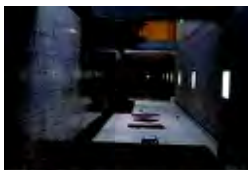
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MCCH LIGHTWELL (3).JPG



MCCH LIGHTWELL (4).JPG

APPENDIX 8: EXISTING CONDITIONS PHOTOS



MCCH LIGHTWELL (5).JPG



MCCH LIGHTWELL (6).JPG



MCCH LIGHTWELL 1-3FL (1).JPG



MCCH LIGHTWELL 1-3FL (2).JPG



MCCH LIGHTWELL 1-3FL (3).JPG



MCCH RECORDS.JPG



MCCH ROOF DETAL (1).JPG



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MCCH SHERIFF BUS (1).JPG



MCCH SHERIFF BUS (2).JPG

