

ATTACHMENT A:

**KING COUNTY COURTHOUSE REVITALIZATION
BUILDING SYSTEMS REPORT**

King County Courthouse Revitalization

Building Systems Report

Ordinance 18239 Section 41 Proviso P5 Response
Project No. 1124472



King County

**Department of Executive Services
Facilities Management Division**

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3 Executive Summary

The Facilities Management Division is pleased to present this Proviso Response to the King County Council in response to Proviso P5 Ordinance 17941 dated 12/16/2015 project 1124472 Courthouse System Revitalization as described in the Ordinance text. The response is based on the assumption that the County continues to need the King County Courthouse to provide public services to the citizens of King County. The issues raised in this report have been identified to promote action to ensure the short and long term viability of the King County Courthouse, improve the building energy performance, stabilize the building envelope, and promote uninterrupted delivery of King County services to the community.

A team of consultants was engaged to investigate the building and prepare a report that responds to the questions in the proviso request. The consultant's report is included as Exhibit A. The team consisted of the following firms:

Architect:	Clark Design Group PLLC
Structural Engineer:	Coughlin Porter Lundeen, Inc.
Electrical and Mechanical Engineer	Glumac
Cost Estimator:	Rider, Levett, Bucknall
Risk Analysis and Scheduling	McMillen Jacobs Associates
Legal Counsel/Land Use Attorney	McCullough, Hill, Leary PS
Elevator Inspection	Architectural Elevator Consulting LLC
Fire Suppression:	Viking Automatic Sprinkler Company

The team reviewed the facility through inspection tours conducted by building operators of the plumbing, mechanical and electrical systems. The team also reviewed as-built records including many detailed reports and investigation records in County files. Specialty consultants inspected the elevators and the fire protection system and prepared reports. The Architect conducted zoning and code reviews with support from Land Use Attorneys.

Over the last 5 years, three separate project teams of engineers and architects have investigated the King County Courthouse architectural mechanical, electrical and plumbing systems. Based on analysis by these three groups it is apparent that the facility requires significant investment by King County to maintain the facility for the next 25 to 50 years.

An overriding consideration of any major investment in this facility is the City of Seattle Substantial Alteration¹ code application that may come into effect should a major project be undertaken. Should a Substantial Alteration declaration become a reality, this may

¹ Appendix 6 Tip 314 Seattle Building Code for Substantial Alterations to Existing Buildings

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add significant work scope and cost to the project by requiring all life safety systems to be brought up to current code throughout the building.

This Proviso response also briefly considers 8 alternatives to an overall Revitalization project that could be considered in lieu of the Revitalization project. The consultant report indicates that a Revitalization of the Courthouse could cost \$32M (short term option) or \$160M (long term option). A replacement option was estimated to be to be an 8 to 10 year process to achieve full operational status in a new facility which suggests the Courthouse would need to remain operational for at least another 8 to 10 years.

In that time information can be developed to inform a decision to remain in the Courthouse or relocate to a new facility. This information necessary to make a long term Courthouse facility decision will be developed in a master plan effort for the County in the downtown campus. This initiation phase of the planning process will be proposed in the 2017/2018 Executive proposed budget to fund a combination of visioning and facility needs analysis work outlined in the Downtown Civic Campus Scoping Report. This proposed budget will include a recommendation to form a steering committee with membership likely to be drawn from the County Council, separately elected officials, and the Executive Office.

As required by the proviso this response describes the system repairs and replacements that would be undertaken if a Revitalization of the King County Courthouse was ultimately selected as the course of action. The report also includes opinions of cost, net present value analysis, and prioritization of the proposed projects, as well as detailing existing risks and project risks stemming from a Revitalization project. Mitigation strategies for each item are identified in the Risk Register contained in Appendix 7 Risk Matrix.

Historical designations, limitations, impacts on individual projects and mitigation strategies are described in the report. The most historically significant work will occur on the exterior of the building and restore the building to a closer approximation of the original design.

Funding for the project is discussed including public and private sector sources. The report also describes the available energy subsidies and rebates that may be available for energy efficiency projects implemented by Council. Since the scope of the project exceeds the financial capacity of the Major Maintenance and Repair Fund and given the state of the General Fund balance, the only viable option for the necessary improvements may be a Voter approved levy.

4 Ordinance 18239 Section 41 Proviso P5:

Ordinance 18239 appropriated project 1124472 DES FMD KCCH System Revitalization and included a proviso (P5) for this project as follows:

“P5 PROVIDED FURTHER THAT:

Of the appropriation for capital project 1124472, Courthouse System Revitalization, \$500,000 shall not be expended or encumbered until the executive transmits a report on the King County Courthouse building systems and a motion that approves the report and the motion is passed by the council. The motion shall reference the subject matter, the proviso's ordinance, ordinance section and proviso number in both the title and body of the motion. The report shall include, but not be limited to:

- A. A building alternative analysis;
- B. A list of possible projects, reported by system or task;
- C. The estimated costs for each possible project, reported by system or task;
- D. A risk assessment and any risk mitigation plans for possible projects;
- E. A prioritization for possible projects;
- F. The estimated timelines for possible projects;
- G. The status of locating as-built structural documentation;
- H. A discussion of the historical significance of the building and how the
- I. historical designation could affect the project; and
- J. Any work done to investigate or access state, federal or other funding sources
- K. In support of the project.

The executive must file the report and motion required by this proviso by April 1, 2016, in the form of a paper original and an electronic copy with the clerk of the council, who shall retain the original and provide an electronic copy to all councilmembers, the Council chief of staff, the policy staff director and the lead staff for the budget and fiscal management committee or its successor.”

5 Background

The King County Courthouse Revitalization project was originally developed as a project to **mitigate high cost long term deferred maintenance in the King County Courthouse** as identified in recent reports prepared by the and DLR Group (DLR Group, 2013), MENG Analysis, (MENG Analysis, 2014) Clark Design Group (Clark Design Group, 2016). This project was not developed or intended to address broader functional programming issues within the facility, or outside the facility in the context of a redeveloped downtown Civic Campus.

Proviso P5 does not request information regarding the study of current interior space planning in the Courthouse, programming for future growth inside the Courthouse, or re-design of interior spaces to improve operational efficiencies in the Courthouse. Interior space planning issues would be studied as part of the broader Campus Planning effort, where sufficient resources can be brought to bear on studying planning and future growth and needs issues, engaging stakeholders in a planning process, and preparing responses for Council consideration.

As originally conceived, the scope of this project involved a project titled King County Courthouse Revitalization that would undertake to repair the buildings systems, primarily the mechanical, electrical and plumbing systems (MEP) and exterior building envelope.

Therefore the scope of this Proviso response is limited to issues surrounding the Courthouse arising out of repairing the facility for continued use, and a high level examination of alternatives for a replacement facility. The issues include planning, design and implementation of repairs to the following building components:

- service, repair or replacement of the main electrical buss ducts through the building, including code upgrades to electrical rooms;
- replacement of the entire domestic water system, including fixtures
- repairs to the toilet exhaust systems;
- Code upgrades to the Fire Protection sprinkler system
- repairs to the chilled water system including evaluation and replacement of the main chilled water distribution piping as necessary;
- evaluation and replacement of the main heating hot water distribution piping as necessary;
- repairs to the perimeter induction heating system;
- replacement of the fan floor with modern fan equipment;
- replacement of exterior aluminum window system with thermally efficient and historically accurate windows and re-attachment of the brick cladding;
- Repairs and reconstruction of the dual duct, single fan Variable Air Volume air handling system.
- Repair of outside air intakes and addition of heat recovery systems
- Completion of ongoing digital building controls replacements

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- Testing balancing and commissioning for the entire building
- Repair and stabilization of the exterior masonry cladding
- Addition of accessible toilet rooms in Jury rooms
- Replacement of fluorescent lighting with LED lighting including new controls

In 2013, in response to Council Proviso, King County Facilities Management Division (FMD) engaged a building assessment firm to conduct a Facility Condition Assessment (FCA) (MENG Analysis, 2014) of all facilities managed by FMD. This FCA study was an update of the Carter Burgess study completed in 2000 and included evaluation of the King County Courthouse building systems (based on UniFormat level 4 categories) using site rapid visual assessment methodologies. Observation and recording of the existing condition of those building “systems” (at the time of the survey in 2013) was performed.

The FCA final report included a detailed review of the condition of each building system; the planned useful life of each building system; an evaluation or estimate of the actual remaining useful life of each system as it existed at the time of the survey; and a list of “observed deficiencies” for each building system. In addition, the report produced a database which calculated the cyclical replacement cost (based on estimated remaining useful life) and Observed Deficiencies cost for the systems expressed in terms of net present value, and the unescalated and undiscounted cost based on their remaining useful life. “Observed Deficiencies” were defined as system failure issues that required correction within 6 years of the completion of the FCA survey.

The FCA report for the King County Courthouse² identified significant high cost mechanical electrical infrastructure, and window system related “Observed Deficiencies” and overdue cyclical replacements of major building systems. The Observed Deficiencies³ were valued at \$31,553,471 over a six year period and the 20 year cyclical system replacement cost was valued at over \$155,854,306. A list of those systems and their deficiencies is attached in Appendix 1 MENG Facility Condition Assessment (FCA) Report King County Courthouse. The size of this problem exceeds by an order of magnitude the current funding levels of the Major Maintenance and Repair program.

In response to the MENG survey findings, in 2013 FMD engaged the architectural firm DLR Group to prepare a report based on the MENG findings. DLR’s scope of work was to review the MENG findings, conduct on site investigations and evaluations, and assemble hands on operator feedback on the mechanical, electrical and plumbing (MEP) systems. DLR’s scope also included evaluating existing building envelope system reports, and to recommend repairs to windows and masonry cladding systems. DLR was also tasked with preparing cost estimates for Mechanical Electrical and Plumbing (MEP) and Building envelope repairs, and suggesting phasing scenarios for implementation of a project to repair the high cost aging building systems. DLR

² MENG Survey King County Courthouse Appendix 1

³ Detailed Assessment – Observed Deficiencies Appendix 1

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executed their scope of work, and their final report was delivered to the County in April of 2013. The intent of DLR's report was to investigate the findings of the MENG Survey noted above, and develop project cost estimates and phasing for the replacements and observed deficiencies contained in the MENG survey noted above.

Following receipt of DLR's report FMD developed project scenarios to repair the Courthouse infrastructure. A budget request was submitted to commence planning for a repair project for the 2015/16 biennial budget. The project was appropriated by Council, with a proviso noted in Section 4 above.

6 Building Alternatives Analysis

Proviso P5 mandated that “a building alternatives analysis” be included in the Executive’s Proviso response to Council regarding the Courthouse Revitalization project.

The Alternatives presented in this report are suggested only in the context of alternatives to repair and/or replacement of the Courthouse. These alternatives are not intended to address wider campus planning issues, which can be addressed using the methodology outlined in the FMD Downtown Civic Campus Scoping Report. The following alternatives were examined:

1. No Action
2. Short Term Repair Strategy
3. Long Term Repair Strategy
4. Repairs/Upgrades/Alterations to KCCH
5. Vacate and Mothball KCCH and Lease/Purchase somewhere else
6. Vacate and Mothball KCCH and Replace the Courthouse on another site
7. Demolish the KCCH and replace on site
8. Sell KCCH, Construct new KCCH on New Site

6.1 Alternative 1: No Action:

An alternative of No Action would cause deferred and backlog maintenance levels to increase above already high levels. Costs are already beyond the MMRF fund ability to pay. Some systems in the building are reaching a point where emergency repairs would probably be required at some point in the near future which would be disruptive to County operations. With some systems now far beyond industry standard replacement cycles, a failure of any of these systems would require total replacement on an emergency replacement basis. Based on historical experience, emergency repairs tend to be expensive, as the County will lose its market leverage under this scenario, with the result that the facility may be out of service for an extended period. Under this alternative, risks continue to increase.

Cost Opinion: Difficult to estimate given that costs may be higher if there is an infrastructure failure rather than planned facility rehabilitation projects.

Timeline for Implementation: Ongoing as needed

6.1.1 Short Term Repair Strategy

A short term strategy would involve repairs to the facility on a smaller scale. Highest priority repairs would be under taken first. In 2011, MENG Analysis estimated

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Observed deficiencies backlog for this facility at \$32 million. MENG defined Observed Deficiencies as systems that would “fall below an established minimum level of condition/performance” within 6 years⁴.

The immediate short term repairs as of 2010 were listed as “Observed Deficiencies” as follows:

Deficiency Repair (Observed Deficiency) Costs Markup By System 2011-2016						
System	Construction Cost	Contingency	Contractor Overhead Cost	Project Soft Cost	Total Cost	Total
Exterior Closure	\$ 2,790,000	\$ 837,000	\$ 725,400	\$ 2,176,200	\$ 6,528,600	\$ 6,282,259
Interior Finishes	\$ 699,000	\$ 209,700	\$ 181,740	\$ 545,220	\$ 1,635,660	\$ 1,543,962
Vertical Transportation	\$ 705,000	\$ 211,500	\$ 183,300	\$ 549,900	\$ 1,649,700	\$ 1,587,454
Plumbing	\$ 1,064,000	\$ 319,200	\$ 276,640	\$ 829,920	\$ 2,489,760	\$ 2,395,816
HVAC	\$ 4,665,500	\$ 1,399,650	\$ 1,213,030	\$ 3,639,090	\$ 10,917,270	\$ 10,436,702
Electrical	\$ 4,338,989	\$ 1,301,697	\$ 1,128,137	\$ 3,384,411	\$ 10,153,233	\$ 9,307,275
						\$ 31,553,468

Of these listed Observed Deficiencies, some projects have been partially funded by Council through the Major Maintenance and Repair Fund, however most projects are only partially funded and are therefore incomplete due to lack of funding. A short term strategy would continue these projects under the current scenario and likely include small portions of other projects listed above as well.

In the immediate short term it is recommended that several important partially funded projects should be completed including:

- Planning, design and implementation for replacement of the vertical electrical distribution system.
- Replacement of the all 120/208 volt electrical distribution panels (only about 60% are funded for replacement at this time).
- Replacement of the Domestic Water system and it’s fixtures
- Installation of elevator machine room cooling, and miscellaneous elevator repairs
- Water main verification and replacement for domestic water service and fire suppression

Cost Opinion: \$32M

Timeline for Implementation: 5 Years

⁴ Meng Analysis Facility Condition Assessment Appendix H6

6.1.2 Long Term Repair Strategy

A longer term repair strategy would require the County to adopt more risk of catastrophic failure of critical system, the consequence of disruption of County operations, the resulting significant increase in the cost of repairs, and the potential for long term disruption of the use of the building. Taking a long term view of the problem would also require a steadily increasing ongoing maintenance investment to keep the physical plant operational as systems are operated until failure, rather than replaced as they become due for replacement.

Of greatest concern are the systems that are already more than 50 years old dating back to the 1967 renovation. These include the main electrical distribution system, heating and cooling systems, and the domestic water system and fixtures. For these systems, the risk of catastrophic failure is increasing with age. Some of these systems such as the electrical buss duct (there are two such vertical distribution systems) and major piping systems are beyond their normal useful life by 2 times. The Clark report (Clark Design Group, 2016) characterized the main electrical buss duct as follows:

“As electrical equipment ages, the insulation inside of it becomes brittle. Any motion or contact with the equipment can cause brittle insulation to break, which allows for electrical arcing (sparking) to occur, which ultimately can lead to explosions and/or fires.

While life expectancy of insulation ranges based on the ambient temperature, 30-40 years is a typical life expectancy (Siemens is a major electrical equipment manufacturer, and they design products with a 30 year expectancy under normal conditions).

While no one can say exactly when catastrophic failure would (if ever) occur, no known authority can indicate that the bus duct is reasonably safe, as the bus duct is older than the expected 30-40 year life expectancy.”

Courthouse major building systems were evaluated in 2011 and an updated evaluation conducted again in 2014. System remaining useful life was updated into the database. In addition to the Observed Deficiencies and Cyclical Renewals noted in the MENG FCA, there are numerous code compliance issues both with Building Code and Americans with Disabilities Act that need correction, and well as significant energy inefficiencies.

A long term repair strategy should include projects to correct Observed Deficiencies and implement Cyclical Renewals of major building systems. This strategy should also repair remaining Observed Deficiencies noted the MENG survey. Observed Deficiencies and Cyclical Renewals are listed in the Appendix 1 MENG Facility Condition Assessment (FCA) Report King County Courthouse and total \$155,854,306.

At present levels of funding, there is clearly no way for the MMRF fund to accomplish the required system replacements and renewals unless or until another source of funding, or a Revitalization project is undertaken.

Cost Opinion: \$155,854,306

Timeline for Implementation: 14 years

6.2 Repairs/Upgrades/Alterations to the KCCH

This option is contemplates Revitalization of the Courthouse. The intent of this option is to identify for repair or replacement aged building systems, improve energy performance and water conservation, upgrade code compliance triggered by a “Substantial Alteration⁵” improvement project and address indoor air quality issues all while reducing ongoing long term high cost maintenance inputs. This proposed work scope does not and would not address programmatic changes to the building which could include an analysis of how the space could be used more efficiently. The scope of work as defined in this report provides for upgrades to Mechanical, Electrical, Plumbing and other systems, and was derived from three sources: the 2011 MENG Facility Condition report (MENG Analysis, 2014), the Courthouse Systems analysis performed by the DLR Group (DLR Group, 2013), and the Courthouse Revitalization Proviso Response (Clark Design Group, 2016) report prepared by Clark Design Group.

The 2016 report prepared by Clark Design Group (Clark Design Group, 2016) identifies in greater detail, proposed work scope for this project, schedules for execution, and cost opinions regarding probable cost. The intent of the work scope identified in this option is to identify repairs necessary to provide for the long term viability of the Courthouse.

Consultants hired to investigate the building systems noted that the building is a robust facility, and has the potential to last many years, with an investment by County. All three consultants noted that the facility, with investment, can continue to serve the public interest for many years.

According to past experience Impact to the County’s operations, duration of the work and probable cost would be minimized if the Revitalization project is completed as a single project. The impact, duration, cost would be maximized if done as discreet individual projects over many years. A series of partially funded projects would substantially increase probable project cost and is difficult to predict with certainty.

A revitalization project would also examine the non-structural seismic risk to building occupants from materials and equipment falling from the building both inside and outside of the building. This hazard represents significant risk to occupants and the Public and needs to be addressed.

⁵ Appendix 6 Tip 314 Seattle Building Code Requirements for Existing Buildings

In order to execute a project of this work scope, relocations would need to occur similar to those experienced in the Courthouse Seismic Project. Relocation of a large block of occupants could occur into the Yesler building, which could serve as the “empty chair” for the revitalization project. With 66,000 square feet of space available in Yesler, a significant portion of the Courthouse could be made available for upgrades at any one time at an estimated cost of \$7.3M. By making more of the Courthouse available to contractors, this approach would decrease project risk, and schedule. A cost to provide limited tenant improvements in Yesler and time limited lease payments has been included in the Revitalization overall project budget.

A project of this type would be considered by the Authority having Jurisdiction as a “**Substantial Alteration**”⁶ and trigger code upgrades for the building. The Clark report studied the Courthouse for compliance with current Building Codes including life safety, mechanical, electrical, fire protection systems and identified those systems that would require updating to meet current code. The Clark Report listed specific improvements to those systems to meet code. The results are contained in that report (Clark Design Group, 2016).

Cost Opinion: \$267 million (without exterior seismic/window repairs cost opinion is \$161million).

Timeline for Implementation: 6 Years

6.3 Vacate and Mothball KCCH and Lease/Purchase somewhere else:

Any option that contemplates relocation of the Courthouse should be carefully examined for zoning risk. Recent experience with CCD illustrates the difficulty in siting Work Release and similar functions, other than where they currently are located in the Courthouse.

The lease option requires active participation of the private sector to develop suitable facilities. Without new construction (beyond currently planned projects in the area) to support a lease, there are few, if any, contiguous 450k to 550k sf office complexes available, no institutional options, and none that offer the amenities and cultural significance of the Courthouse and none that are proximal to the King County Correction Facility. An RFP for proposals may identify opportunities in the marketplace for this option, although results for this type of approach for the Children and Family Justice Center were not successful. An RFP to evaluate market interest for leasing a facility of this type is beyond the currently authorized project.

⁶ Appendix 6 Tip 314 Seattle Building Code Requirements for Existing Buildings

The Courthouse is a facility with unique occupancy and use. Several current Courthouse tenants such as Work Release, and the FMD Shops would not fit well into currently available typical triple A office lease space in the immediate area. Both these current Courthouse tenants would have to be relocated elsewhere, should the County elect to continue these programs. Work Release would be very difficult to site, based on the issues with CCD relocation that stalled the Yesler Redevelopment Project. In addition, transfer of in-custody prisoners into and out of a leased, shared public building would likely be subject to complex negotiations with a landlord.

Leasing would also run contrary to the Real Asset Management Plan (RAMP) which promotes use of County owned buildings. Another issue is the movement of large amounts of County revenue out of the County, i.e. rents paid to landlords vs rents paid back to the County, which would further strain cash flow and already badly underfunded General funds.

6.4 Vacate and Mothball KCCH and Purchase:

In the purchase option the building would be prepared for mothballing, and a new building purchased to replace the Courthouse. Purchase of an existing facility presents challenges some of which are mentioned above. There are no Courthouse buildings readily available nearby the current KCCF for purchase. According to CBRE a national real estate firm, recent purchase prices for triple A office space in Seattle are exceeding \$560 per square foot. Locating and closing a real estate transaction for an appropriate site for such a specialized function is unlikely, especially given the siting restraints required by proximity to the KCCF.

A major disadvantage with this option is the inability of the County to realize the economic value of the Courthouse property if it was mothballed.

If it is determined that the property has economic value it could be monetized to help repay the existing bond debt incurred in the 2005 Courthouse seismic project. The ongoing cost of a mothballed Courthouse would add expense to the operating budget of the County for costs such as security.

6.5 Vacate and Mothball KCCH and Build a Replacement Courthouse on another site

Replacing the Courthouse on another site would have to address high replacement cost, parking requirements, satisfy severely restricted co-location criteria and be sited on currently available property in the local market and preferably located on existing County property. There would be several ways to deliver this type of project: a developer delivered 63-20 lease leaseback transaction such as the Chinook Building, a

GCCM delivery or a Design Bid Build project done under RCW 39.10 Alternative Public Works.

The Goat Hill site immediately adjacent to the King County Correctional Facility could potentially house this type of Facility.

Regardless of the delivery method selected by Council, any replacement project contemplated would have to go through Major Institutional Master Planning process or a Community Development planning process, Master Use Permitting (MUP), Environmental Impact Statement reporting, and other lengthy administrative processes to address demolition and relocation of the Courthouse. Permitting this option is a 5 year process from the start of planning as shown below and in pages 17 – 21 in the report prepared by Clark Design Group.

Site Rezone:	540 -740 Days
Land Use Amendment:	365-540 Days
PCD Process:	360 days
Design Procurement:	200 Days
Design:	365 Days
Construction Procurement:	365 Days
Construction	840 – 1000 days
Mothball Process:	120 Days
Total Duration:	3,155 days or 8.6 Years

This duration assumes no legal challenges and a willing City Council to approved re-zoning and land use amendments. There would be two possible locations that could potentially address siting issues regarding proximity to the KCCF: the Goat Hill property or the Admin Building Site.

Cost Opinion: Goat Hill	\$557,352,402,	618,420 GFAC
Admin Building Site	\$976,281,515	1,279,185 GFAC

Timeline for Implementation: 8-10 years

6.6 Demolish the KCCH and replace on site

The Courthouse is the seat of King County Government and a designated historical building with both exterior and interior building features designated as historically significant. Demolition of this facility would be highly controversial and likely legally contested. Lawsuits or injunctions could delay this option by several years.

Rental/Lease cost for temporary location would make this option very expensive including the cost to move everyone to a new location and move them all back into the same site. This option was studied during the CSP project, and rejected as unworkable by the executive project oversight committee at that time.

6.7 Sell KCCH, Construct new KCCH on New Site

Selling the existing Courthouse would be expensive for the County. The marketability and re-use of the Courthouse building is extremely limited due to Historic Landmarked status of the building, HAZMAT issues, lack of any parking, odd floor to floor heights which makes the building very inefficient, access problems on the upper floors, actual construction of the upper floors particularly the old KCCF portion, major code compliance issues, and an uphill battle to obtain a re-zone or change in use, especially given the lack of parking. There is also the impact of the current use of City Hall park, which would affect commercial marketability of a private sector re-use of the Courthouse.

Before any decision is made a full property appraisal should be performed. An appraisal may indicate that the raw land would be worth more than the land with the building.

Cost Opinion:	Goat Hill	\$557,352,402,	618,420 GFA
	Admin Building Site	\$976,281,515	1,279,185
GFA			

Timeline for Implementation: 8-10 years

6.8 Location and Logistical Constraints

Any review of alternatives must include consideration of the fundamental issues regarding the Courthouse location, occupants and uses, zoning and land use, process duration, market timing and its proximity to other County buildings particularly the King County Correctional Facility (KCCF) and its functions. A fundamental planning criteria for locating a replacement courthouse or moving its functions to a new site is the location itself. Challenges related to the re-location of the Courthouse function to a new site include:

- A. **Connection to the King County Correction Facility (KCCF)** – The Courthouse relocation options are limited particularly due to the need to retain a physical connection to the King County Corrections Facility for in custody trail and arraignment. The cost of transporting prisoners to any new Courthouse site if the KCCF is not directly connected to the courthouse would be very expensive and create a potentially large long term operating expense impact. This operational

model was studied during planning of the Maleng Regional Justice Center (MRJC) where the project team demonstrated the added costs associated with detention not being directly connected to courts, courts not connected to King County Prosecuting Attorney's Office etc. That is the reason those services are co-located together regionally in the MRJC and at other sites. Further examples of colocation of Detention and Justice include Children and Family Justice Center, Oregon; San Diego County, California and Washoe County, Nevada as specific sites used in comparison.

- B. **Relocation of Work/Educational Release (WER)** – is currently located on the 10-11th floors of the Courthouse. If the County decides to continue this service, City zoning rules for work release centers are very restrictive. The County's has a very old agreement with the City for temporary use of 10 & 11 for WER. Currently City legislation allows only 50 beds in a single location and a certain number of miles between each location. The current population is approximately 75 in that facility. This service continues to be extremely difficult to re-site.

- C. **Limited Resale Value** – This building is Historically Landmarked by the King County Landmarks Commission, and needs extensive repair particularly the mechanical, electrical, plumbing (MEP) systems and the exterior envelope should the building continue to house County services over the long term. The courthouse interior layout, size and shape are inefficient and have floor to floor heights that were specifically planned for use as courts and court related activities. According to Clark Design Group these features do not translate well for other types of commercial office, hospitality or residential uses. The market would likely be quite limited. A detailed property appraisal should be conducted, prior to any decision being made. Though it's unlikely that the community is interested in demolishing the historic Courthouse a full appraisal process could address if the property may be more valuable as raw land.

- D. **Prior & Recent Investments (Sunk Costs)** –The Major Maintenance and Reserve Fund has spent (in 2016 inflation adjusted dollars), over \$27M⁷ since 2000 on Major Maintenance on this building. In 2003-2004 the CH Seismic Project spent \$104M to upgrade the structure. In 2007 ESCO projects spent \$3.6m for energy upgrades at the KCCH and KCCF. Current Bond debt on the Courthouse Seismic project stands at \$46.5M. Annual debt service is approximately \$5.6 million through 2025.

- E. **Cost of a new Structure** – A ROM cost opinion prepared by Rider Levett Bucknall for replacement of the same square footage as currently exists in the courthouse is described in Chapter 1 at \$492 per sq. ft. based on recent similar projects including the now cancelled Snohomish County Courthouse. This figure does not include purchase of a site, the cost of the required underground parking

⁷ Appendix 3 Courthouse Major Investments and MMRF Expenditures

structure that would be required for any re-development, demolition and/or mothballing of the existing Courthouse building and other allied costs that would be very significant. In 1998 the Courthouse Seismic Project project team cost opinion of a replacement courthouse located on Goat Hill was \$219M which in 2016 dollars amounts to \$322M. This would not include tunnel or connection costs to the KCCF. Another recent courthouse construction cost example is the GSA managed Federal Courthouse on Stewart Street which is a 600,000 sf high rise. The MACC for this project in 2004 was \$200M, inflated to 2015 would be \$254M. Again, this cost does not include site costs or parking mitigation or design and other allied costs. Greg Smith of Urban Visions spoke in the Government and Accountability Committee hearing on July 12 stating that construction costs are \$600 per sq. ft. in the Pike Place apartment his firm is building near the Pike Place market. Current estimates for three new building alternatives are described below.

- F. **Site Selection, Major Institution Master Planning, Zoning & Environmental Impact Statement** – Any new building construction in this area would trigger site selection zoning and Major Institution Master Planning processes (MIMP) and SEPA determination processes which make the schedule for any new building action longer than a repair/upgrade project with the work currently identified in the King County Courthouse Revitalization Project.

Other siting and zoning risks associated with this type of approach include trying to site the Work Release program if the program was continued, and finding a location for the FMD shops. Re-siting Work Release could be a significant zoning and permit risk similar to the CCD situation with the Yesler Redevelopment. Another limiting regulatory factor is the glide slope ceiling created by Northwest Air Ambulance Service onto the Harborview Parking Structure. This limits heights of buildings on the Goat Hill site, and adjacent sites whose height could potentially impact the aircraft glide slope to the Helipad at Harborview Hospital. These potential impacts on building height are shown in the Clark Design Group report (pg. 24, 25 and 31).

- G. **Availability of Land (in vicinity)** – There is little available land to locate a new Courthouse where a cost effective connection to the existing King County Correctional Facility (KCCF) could be made. One candidate is the property immediately south of the KCCF (called Goat Hill). If the property is to be developed, consideration of future KCCF needs could be integrated for a more comprehensive and efficient planning process. Another is the Administration building site, although this option would need to include approximately 234K sq. ft. in “empty chair” alternative space for existing employees while a new building was constructed.
- H. **Historic and Cultural Importance** – Within a five block radius there are numerous projects underway or completed that are restoring and upgrading systems in buildings of the same vintage and cultural importance as the

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courthouse. While vacating the Courthouse is technically possible, the historical and cultural considerations are significant.

Logistics - If the County were to build a new building, ideally when the project was complete, staff would relocate from the existing Courthouse into the new building and when relocation was complete repurposing of the old building could occur. This would avoid temporary relocation altogether. These issues were presented in August 1998 to the Courthouse Seismic Project oversight committee. At that time, the committee felt that it was not productive to carry this line of thought beyond comparing the cost of the proposed Seismic Standalone project to a replacement on Goat Hill. And, that it was not cost effective to further compound costs by relocating the occupants, triggering an EIS (to rebuild on the same spot), paying 4-5 years of rent, demolishing the courthouse and then rebuilding it on the same spot and moving the occupants back onto the same site.

7 List of Possible Projects

The primary objective of this project, if initiated by Council would be to perform repairs to the mechanical, electrical, plumbing, exterior window and masonry cladding systems that make up the King County Courthouse Revitalization project. The King County Courthouse Revitalization project would consist of infrastructure repairs to the mechanical distribution systems, electrical distribution systems, lighting, exterior windows and cladding as well as other systems. Included within the project objectives are the following proposed Individual projects⁸:

No.	Scope of Work	Duration	Cost
1	Service, repair or replacement of the main electrical buss ducts through the building	2 years	\$16,283,413
2	Replacement of the domestic water system, storm and sanitary waste systems	4 years	\$13,095,726
3	Repairs of the toilet exhaust systems	1 year	\$435,029
4	Evaluation and replacement of the main chilled and heating water distribution piping as necessary; installation of a condensate drainage system.	4 years	\$24,531,659
5	Repairs to the perimeter induction heating system	3 years	\$3,960,561
6	Dual Duct Variable air Volume conversion to dual duct dual fan system.	3 years	\$40,127,970
7	Replacement of the lighting systems with energy efficient lighting and modern controls	3 years	\$20,295,677
8	Replacement of exterior aluminum windows with thermally efficient historically accurate windows;	4 years	\$37,503,376
9	Adding jury ADA bathrooms and bringing public restrooms up to code	3 years	\$4,485,896
	Subtotal without Seismic Work		\$160,719,307
10	Seismically stabilize and securely attach exterior cladding system	4 years	\$106,521,348

⁸ Clark Design Group report cost opinions July 2016 with project “soft” costs applied

Secondary objectives for the project would include the following:

- Be a partner in an economically, socially, and environmentally sustainable neighborhood
- Promote Equity and Social Justice by maintaining Social Services to taxpayers at the least cost
- Promote Sustainability and Energy Initiatives in the County
- Significantly reduce the cost of long term maintenance
- Extend the life of the facility for the future

7.1 Replacement of Electrical System Main Buss Ducts (East and West), and other electrical system issues.

The electrical power in the building is delivered to the upper floors via two buss ducts, one for the west side of the building, and one for the east side. The buss ducts were installed in the 1967 system upgrade project and have a recommended life cycle of twenty years⁹. This system requires replacement as soon as possible, particularly if the decision is made to remain in the Courthouse for the foreseeable future. A failure of a section of this system would shut down the building for occupancy until repairs could be affected.



Figure 1 4000 amp buss electrical buss duct (East Riser)

“As electrical equipment ages, the insulation inside of it becomes brittle. Any motion or contact with the equipment can cause brittle insulation to break, which allows for electrical arcing (sparking) to occur, which ultimately can lead to explosions and/or fires. (Glumac)¹⁰”

Another problem with the age of this system is the unpredictable nature of the system, and the lack of replacement parts. Electrical contractors, specialty buss duct inspection firms, and engineers are all concerned that any work on this system may cause a system failure which would be impossible to correct or repair for lack of parts. There is currently no redundancy to deliver power to the upper floors of the building.

In addition, the existing electrical rooms are far smaller than required by code consequently safety clearances for workers are not acceptable. Some rooms are not accessible at all due to

⁹ Department Of Energy Design Life: Standard System Design Life Tables

¹⁰ King County Courthouse Proviso Report Clark Design Group 22 July 2016

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interference from ductwork and piping risers (figure 2 and 3 below). Also, there is no Arc Flash warning system in place. Due to this worker risk, no work should occur in this space until clearances are corrected, out of service date equipment is replaced, and adequate labeling and warning systems are in place. A Selective Coordination Study should be performed to insure that coordination exists at all levels from the Service Switchboard down to branch circuit before an Arc Flash study is performed. This study should be performed by a registered electrical engineering firm whose specialty includes the performance of Arc Flash reports.



Figure 2 Access to floor 1A east electrical room by crawling under ductwork, a serious safety hazard and code violation



Figure 3 Access to floor 1A east electrical room (part two) by crawling through an 8” wide space between heating riser pipes. Extracting an injured worker from behind here would be next to impossible.

The existing original 208Y/120V switchboards and panelboards have exceeded their useful life and are currently being partially replaced by an MMRF project currently in the design phase. However, once this MMRF project is completed, more than 40% of these panels and their associated transformers still remain to be replaced.

The recommended scope of work for this project would be to construct new electrical rooms adjacent to the restroom on the east and west sides of the building, install new buss duct risers and buss plugs, and install feeders conduits and wire into the old electrical rooms. This would allow the work to advance without interruption of the existing electrical service. Cutovers from old to new would then be done at night and on weekends to minimize disruption due to power outages.

7.2 Domestic Water System

The Domestic Water system remains a problem and still utilizes some piping dating from the 1929 addition. Approximately 5% of the domestic system water piping is original galvanized piping dating back to 1930. This piping is badly rusted and should be replaced immediately

Other problem noted include missing backflow prevention that should be installed to meet current code. Recirculation lines for heated domestic water lines should be replaced, and balancing valves should be installed. Redundant pipe risers and recirculation dead piping legs should be removed and consolidated. Once circulation and piping problems are eliminated, the main riser supply pumps should be moved up the building to the 9th floor to reduce pump energy use.



Figure 4 Pipe Sample from Courthouse domestic water system

In the 2012 report prepared by FSi Engineers, it was estimated that the Domestic Water system wastes over 179,000 gallons of water per year based on the current plumbing fixtures. The report also noted severe corrosion in piping and stagnant water in dead piping runs has increased the risk of contamination and disease. Water and sewer use rates for this site are

higher than necessary due to an inefficient system. The option of doing nothing would continue ongoing waste, impact on the climate, operating cost and health concerns for employees and the public.

There has been ongoing work on the domestic water system for many years. The 2012, FSI study identified the following problems with the existing domestic water system that included:

- 180,000 gal. per year of wasted water use
- Excessive Energy Use: wasted heating, heat recovery and pumping energy
- Distasteful water.
- Ineffective hot water circulation and supply
- Scalding hazards
- Lack of backflow prevention at contamination sources
- Nearly clogged water mains and branch piping
- Flooding hazards and associated damage to building finishes, records, and building infrastructure (especially for the electrical buss duct)
- Contamination from biohazards

This project would replace the entire system with new piping, water saving fixtures and pumps.

7.2.1 Heat Recovery for Domestic Water System:

Current code requires domestic water heat recovery. The current system lacks this feature. There is potential for recovering heat from the condenser water system to pre heat the domestic hot water. A new heat exchanger should be provided for the domestic hot water system to recover this heat.

7.2.2 Trap Primers

Trap primers for fan coil units are currently emitting foul sewer smell. New trap primers should be installed to replace existing at locations where they are dry and nonperforming.

7.2.3 Biohazards

Previous investigations noted above identified numerous dead legs in the existing piping arrangements. As written in the Emerging Infection Diseases journal, stagnant water in uncontrolled distribution systems can be a source for distasteful water and biohazards including coliform bacteria, environmental mycobacteria, Legionella spp, and filamentous fungi. Testing for potable water quality should be done due to the age and condition of the system. All piping should be revised and reconfigured to remove dead leg hazards.

7.2.4 Water Service Mains

The west facing 3" water service main pipe on 3rd Avenue delivering potable water from the City owned pipe in the street are seriously clogged with mineralization and is probably effectively a 1" pipe due to mineralization. The South water connection is a 6" steel pipe installed in 1968 that was replaced from the building to the water meter in 2014 with an 8" line. The City owned line from the meter to the water main in the street remains at 6" and it likely badly clogged with mineralization. This pipe from the meter to the street main should be replaced. This situation should also be reviewed by a Fire Protection engineer to ensure that the system has adequate capacity to support the fire suppression system.

Camera investigations inside the south water supply pipe showed a 6" pipe reduced to a 3" diameter by mineralization. The 3rd Avenue supply pipe, installed in the 1920 era is probably much worse. This section of piping should also be replaced to provide redundant water supply to the Courthouse, particularly in support of the fire sprinkler system.



Figure 5 Camera picture of inside south water main to building similar to the west water main

There is also concern that the water supply to the building may not be adequate particularly for the fire protection system, which relies on water mains for its source of water. Current code requires a large tank to store fire water for this very reason. The revitalization project would restore the 3rd Avenue water connections and add 30,000 gallon tank to provide fire sprinkler water supply.

7.3 Toilet Exhaust System Repairs

This system serves as the exhaust system for toilet rooms for the entire building. There are two systems, one for the east half of the building, and one for the west half of the building. The east half of the system is fully functional and has been balanced with correct air flows. The west side has gaps in the ductwork of several feet in various locations which short circuit the upstream toilet room's air flows. This is a code violation and introduces toilet odors into return air system of the building. This Code violation situation must be corrected. Duct work should be reconnected, pressure tested and then balanced with the rest of the system

7.4 Heating and Chilled Water Piping System and Set Point

As a result of system issues described in other areas of this report, the chilled water system is not operating efficiently and does not provide necessary cooling or occupant comfort due to a high set point temperature. When the set point is maintained at the design temperature, this setting creates condensation on the cooling coils throughout the building which in turn drips from the coils and causes leaking damage to building ceilings and infrastructure throughout the building. The cause of this problem is that the majority of chilled water cooling coils in the building do not have functioning drain pans with drainage piping to capture condensate dripping from the coils. In order to avoid condensation and consequential dripping through ceilings below, the chilled water system temperatures are kept high to avoid dew point condensation on the coils. As a result, the chilled water system in the building is not even close to realizing its full potential. Occupant comfort is compromised, and energy use is much higher than necessary due to fans being operated at higher levels to mitigate the problem. This problem could be corrected by installation of drainage pans and piping on all cooling coils and fan coil units throughout the building.

Chilled water piping is older dating from 1967 and needs to be examined for replacement. Normal useful life for this type and use of pipe is 50 years and several engineers have recommended replacement. The Chilled water piping system should be tested for corrosion, and replaced if necessary. Some sections of the piping do not have any pipe insulation creating further energy waste. Uninsulated sections of pipe should have insulation installed.

The Chillers are in good condition and have 20 to 25 years of remaining life. Cooling Towers, however are aged and should be upgraded or replaced. The Chilled water system conformed to the codes when it was installed. However, if any system upgrades are done, current codes would have to be met. Current code requirements include variable frequency drives for Cooling Tower fan motors. Adding Variable Frequency Drive (VFD) to existing Cooling Tower fans would increase energy efficiency of the towers and lower energy consumption costs. VFDs can stop fan rotating in opposite

direction (due to wind milling effect). VFD's would allow for flexibility in tower automation and performance monitoring.

Chilled Water and Cooling discharge air temperature reset would result in significant energy savings and increased occupant comfort. Chiller Optimization with chiller optimization package software installed and interfaced with existing sequence of operations for chilled water system would dramatically improve the efficiency and function of the chilled water system.

7.4.1 Heating Water Piping Systems

The Heating Generating System was refurbished in 2009. The boilers and pumps on the roof have sufficient remaining life, and meet the current Energy Code except that the Boilers need isolation valves. Large diameter heating hot water piping (8" and 10") rises vertically from the basement in two shafts (East and West) to the boilers located on the roof. The heating piping distribution system inside the building, however, similar to chilled water piping system, is more than 50 years old and should be examined for replacement. Pipe samples should be taken and reviewed by corrosion specialists to determine remaining useful life. Piping replacement for this system is a large and significant scope of work in itself.

7.5 Perimeter Induction Heating System

The interior building perimeter space is conditioned by a system of fan coil units that are provided with hot water heating and chilled water cooling coils. There is a drain pan below most of the fan coils, but not all. Also, where drain pans are in place they are not connected to drainage piping. If the chilled water coils are allowed to use chilled water at the design temperature for the chilled water supply (i.e. below the dew point of the space), water condense on the coils, fill the drain pans and overflow onto the suspended ceiling. Consequently the chiller water set point is set higher than it should be, compromising the entire chiller system. This is overcompensated by running fans at very high output to circulate air. This action wastes significant amounts of energy.

7.6 Dual Duct System, Fan Floor Equipment, Heat Exchangers and Exterior Intakes

The HVAC system includes the Dual Duct Variable Air Volume (DDVAV) system, perimeter HVAC (induction units) the exhaust systems and controls for these systems. The Fan Floor Air plenums, and equipment date back to 1967 and are beyond their useful life. The air plenums leak badly causing pressure loss, which increase fan energy usage. Due to pressure loss in the system the heating supply air temperature is set higher than design. By correcting pressure loss, and reducing the discharge air temperature, considerable energy savings in pump and fan energy would be saved.

The following are some of the issues observed and reported with the systems:

Aged equipment:

- Perimeter system fans: Casings have cracked at the upper scroll to sidewall connection and been welded back in place. Bearings are worn.
- Dual duct system fans: Similar in condition to Perimeter System fans.
- Mechanical Penthouse: All of the plenum walls are beyond their useful life and leak air badly.
- Motors for the induction units should be tested to verify that the windings are in good condition.

Sources of moisture:

- Condensate pans below the dual duct system cooling coils in the mechanical penthouse have overflowed and caused water to appear in the Council Chamber ceiling. A drainage system should be installed on these coils.

There is no cooling provided for the elevator machine rooms. Installation of cooling is recommended by two recent studies done by elevator engineers. Currently the cooling provided for the machine room is insufficient and these rooms overheat during warm weather, and as a result are slowly compromising the electric elevator motor windings and may compromise the elevator control modules if not corrected soon.

The recommended project for this area is total replacement of all Fan Floor equipment, plenums, controls, and associated works.



Figure 6 1965 era Dual Duct Single Fans

7.6.1 Repairs to the Heating and Ventilating (HVAC) System

There are two systems in the building that deliver conditioned air to the occupant spaces; one is the dual duct air system serving in interior spaces of the building footprint, and a second induction air system that serves the perimeter of the building footprint. The existing dual duct air handling system fan equipment located on the fan floor is at the end of its useful life. The system uses far more energy than is required or allowed by current energy code, and produces poor climate control for the occupants. Dual duct single fan systems are no longer allowed by code primarily because they can and do heat and cool simultaneously. The dual duct system does not conform to current energy code and lacks

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any heat recovery system, has very poor pressure control, and uses 100% outside air year round. The Energy Use Index or EUI of this building is very high, more than twice that of similar buildings types in Seattle.

KCCH Energy Use and Cost Data	
Site	Energy Use Index (EUI) (kBtu/SF)
KCCH	115
US EPA/CBECS Benchmark	93
Jackson Federal Building	47
Seattle Courthouse	49
US Court of Appeals - Nakamura Bldg.	37

Figure 7 Energy Use Index Seattle Courthouses

There has been a significant amount of work done in the Courthouse over the years. As a result, outside air ventilation rates for spaces with large numbers of people may not be sufficient to meet current code requirements. The current design and actual air volumes should be compared to current requirements to ensure the correct amount of outside air is provided

Widespread duct air leakage and pressure loss is occurring throughout the system. All duct work should be pressure tested, repaired and sealed to bring the amount of air loss to at least current industry standards. This would save energy for fan power and may allow lower pressure set points. The duct insulation should be replaced where it has been damaged or is simply missing. Areas with insulation in relatively undisturbed condition may remain as-is.

Lack of automated control dampers on floor return air pathways prevents balanced pressurization and air delivery to the floors. Ad-hoc repair and correction of controls and air handling systems in the building alone may worsen this problem until these dampers are added. Providing automatic Direct Digital Control (DDC) of air volumes entering and leaving each floor would be necessary to allow for a rational sequence of construction and avoid any loss of work accomplished during the earlier phases by work in the later phases. Testing, adjusting, and balancing of the air flow is incomplete and should be totally re-done throughout the building once all improvements have been completed.

The recommended scope of work would include development of conformed as-built drawings, document the leaking ductwork in the system, re-seal ductwork and pressure testing the system. The project would also convert the Single Fan Dual Duct system to a Dual Fan Dual Duct system which would eliminate simultaneous heating and cooling. DDC would be completed on the portion of the system not yet completed and a new

sequence of operation developed and installed. Floor pressure control dampers would be installed. The entire system would be tested, balanced and commissioned.

7.7 Lighting system and controls

Lighting Systems and Lighting Controls are out of date and are the largest consumer of electrical energy. Modern LED lighting could reduce energy consumption by up to 30% creating significant operational savings. Digital lighting controls should be installed for all lighting circuits. Fluorescent fixtures with T-12 lamps should be modified to conform to code mandated requirement for lamps to be T-8 or smaller. To better manage energy consumption Seattle codes require separate metering: for HVAC System, Lighting System, Plug Load System, and Miscellaneous Loads. New metering should be installed to allow better monitoring and control of energy use.

7.8 Aluminum Panel Windows

In 1967, aluminum curtain wall single glazed window systems were installed overtop of historical wood windows. This action covered up existing wood windows and allowed for what was then thought of as a modernization of the courtrooms. Due to age, the existing aluminum window systems have failed over the 50 years they have been in service. The windows are deteriorated and leaking, particularly on the South and West (weather) side of the building and due to the single glazed configuration, sweat on the interior sides of the frames. The leaking around the aluminum curtain wall introduces water into the brick cladding, which then compromises the mortar bond attaching the brick to the building.

Limited, poor quality Insulation in the panel system (less than 1" of poor quality Styrofoam), causes the panels to radiate substantial amounts of energy out of the building creating substantial heat gain in the summer and heat loss during the winter. Poor air sealing of the aluminum window system creates air pressure losses thru the exterior skin, which unbalances the HVAC system, and causes significant fan and heating/cooling plant energy losses.

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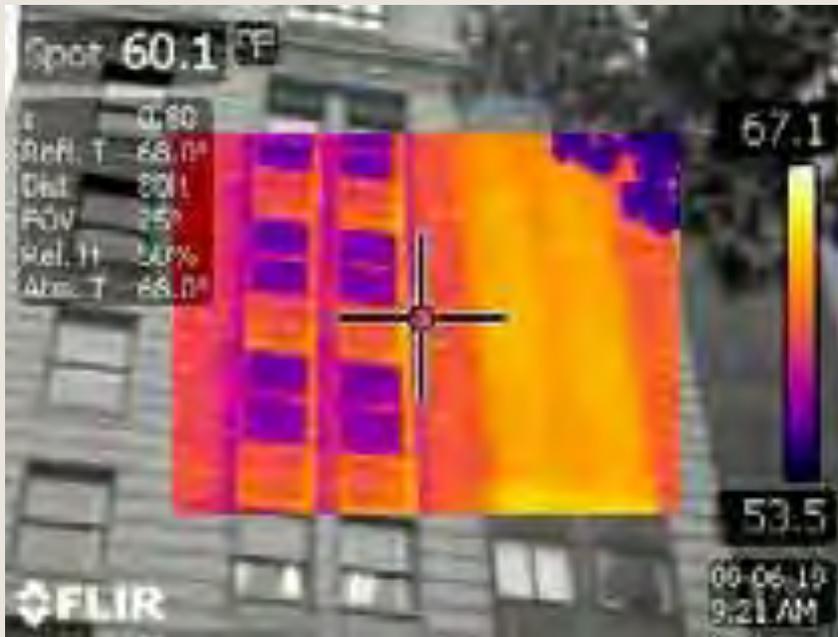


Figure 8 Infrared photo shows heat loss (yellow) through panel section on right compared to high efficiency windows on the left. Outdoor Temp is 53 degrees in this picture.

The projected benefits from the studies performed by McKinstry¹¹ report included the statements of significant savings for electricity and natural gas; the benefits of providing natural daylighting; and reducing pollution from consumption of fossil fuels.

- Annual electrical savings of 1.3 million kWh, and an annual saving of 6,000 Therms of natural gas.
- The use of natural day lighting has the potential for post construction energy savings after installation of perimeter daylighting controls. (NOTE: while this retrofit is possible for energy savings, the payback for installation of perimeter daylighting controls would be quite long, and is not likely to be cost effective from an overall energy savings standpoint).
- Potential for utility incentives and Federal efficiency grants to help defray costs.
- Savings of 1,000 metric tons of CO₂
- Creation of 200 local jobs
- Allowing for natural daylight into the building interior promotes healthier work environment.

Replacement of the aluminum curtainwall windows and restoration of the original window system with modern thermally efficient double glazed windows would provide a weather tight, thermally efficient exterior building envelope and provide a design that would restore courtrooms interiors to a historically acceptable approximation of their original 1916 design. New window and glazing systems and exterior wall improvements

¹¹ Appendix 4 Courthouse Window Upgrade

would comply with the requirements of the Seattle Energy Code. The original windows would be restored with historically-appropriate replacement window units.

7.9 Seismic Stabilization

The exterior walls (and some remaining interior partitions) of the Courthouse are constructed of hollow clay tile masonry units which infill between structural columns and the floor plates. On the exterior face of the exterior walls, cladding consists of brick and granite veneer with terra cotta trim. Inside the building, there are partition walls constructed from this same hollow clay tile material. Hollow clay tile assemblies are classified as unreinforced masonry and can be prone to collapse in a strong seismic event. Typically, these types of walls lack mechanical (reinforced) connections to the abutting construction and utilize very weak, gravity type connections.

The exterior walls were subject to previous inspection by architects¹², engineers¹³ and nationally recognized forensic structural engineers¹⁴. Clark's report recommends extensive seismic reinforcement of exterior and interior hollow clay tile walls in order to "mitigate life safety risks associated with unreinforced masonry materials". Clark's report also states "Strong earthquakes can cause the partial or complete collapse of unreinforced masonry walls, endangering both the building occupants and pedestrians nearby who could be exposed to falling masonry debris".

Installation of helical anchors, strong backs and/or carbon fiber wrapping is recommended. Refer to page 290 in the Clark report for detailed description of the risks and solutions presented. This work should be undertaken at the same time as the window replacement work noted in section 7.8 above.

7.10 Code Compliance Issues

7.10.1 Restroom Fixtures

Analysis of current code by Clark indicates that there are insufficient numbers of existing restroom fixtures to meet current code standards for the public restrooms, and insufficient ADA accessible toilets in Jury Assembly rooms. This report recommends that public restroom be renovated to accommodate the code compliant number of fixtures (based on occupancy load), and a unisex ADA compliant toilet room be added to each Jury Room area.

7.11 Fire Suppression System

¹² Rolluda Architects memorandum 12/12/2011

¹³ DCI Engineers memorandum 11/16/2011

¹⁴ Weiss Janney Elstner and Associates memos 7/31/2102 and 8/3/2012

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An inspection by licensed Fire Protection engineers was prepared for this report. While the system met code at the time of installation, their report identified several issues that do not meet current code including

- Seismic bracing fasteners for the piping for the system
- Lack of an adequate secondary water supply and/or confirmation of the fire protection water supply main on 3rd Avenue
- Standpipe Pressure Relief Valves and addition standpipe connections
- Other miscellaneous corrections

8 Projects Cost Opinions

King County Courthouse Cost Opinions:

System	SubsystemCode	Subsystem Name	Long Term Repair Option		Short Term Repair Option		Revitalization Option	
			System Cost Opinion	Category Total	System Cost Opinion	Category Total	System Cost Opinion	Category Total
	B1010	Floor Construction	\$ -		\$ -		\$ 2,879,762.00	
	B2010	Exterior Walls	\$ 5,780,022.00		\$ -		\$ 19,311,587.00	
	B2011	Exterior Wall Finishes	\$ 5,128,684.00		\$ 1,900,000.00		\$ -	
	B2020	Exterior Windows	\$ 8,087,847.00		\$ 840,000.00		\$ 7,986,650.00	
	B2030	Exterior Doors	\$ 265,242.00		\$ -		\$ -	
		Clerestory Glazing	\$ -		\$ 50,000.00		\$ -	
	B3010	Roof Coverings	\$ 945,028.00		\$ -		\$ -	
	B3020	Roof Openings	\$ -		\$ -		\$ 54,755.00	
Shell				\$ 8,635,394.51		\$ 2,790,000.00		\$ 90,736,683.75
	C1010	Partitions Interior	\$ 2,946,081.00		\$ -		\$ 4,005,640.00	
	C1020	Doors Fittings	\$ 4,060,261.00		\$ -		\$ 48,800.00	
	C1030	Stair	\$ 227,342.00		\$ -		\$ 1,317,461.00	
	C2010	Construction Stair	\$ 638,276.00		\$ -		\$ 722,400.00	
	C2020	Finishes	\$ 42,601.00		\$ -		\$ -	
	C3010	Wall Finishes	\$ 3,402,098.00		\$ -		\$ 5,843,335.00	
	C3020	Floor Finishes	\$ 8,050,244.00		\$ 699,000.00		\$ 282,064.00	
	C3030	Ceiling Finishes	\$ 4,910,592.00		\$ -		\$ 1,120,021.00	
Interiors				\$ 10,374,997.94		\$ 699,000.00		\$ 40,036,115.99
	D1010	Elevators and Lifts Elevators	\$ 4,776,747.00		\$ 705,000.00		\$ -	
	D1011	Cab Interiors Plumbing	\$ 129,585.00		\$ -		\$ -	
	D2010	Fixtures Detention	\$ 2,347,795.00		\$ 212,000.00		\$ 2,199,798.00	
	D2019	Plumbing Fixtures Domestic	\$ 786,881.00		\$ -		\$ -	
	D2020	Water Distribution Sanitary	\$ 3,112,329.00		\$ 852,000.00		\$ 6,068,544.00	
	D2030	Waste Rain	\$ 780,988.00		\$ -		\$ 71,950.00	
	D2040	Water Drainage	\$ 354,398.00		\$ -		\$ 126,160.00	
	D2090	Other Plumbing Systems	\$ -		\$ -		\$ 126,160.00	
	D3010	Energy Supply	\$ 26,052.00		\$ -		\$ -	
	D3020	Heat Generating Systems	\$ 2,093,523.00		\$ -		\$ 10,844.00	
	D3021	Boilers	\$ 3,685,606.00		\$ -		\$ -	
	D3030	Cooling Generating Systems	\$ 1,871,826.00		\$ -		\$ 2,792,400.00	
	D3031	Chillers	\$ 4,220,286.00		\$ -		\$ -	
	D3033	Cooling Towers	\$ 3,010,318.00		\$ 40,000.00		\$ -	
	D3041	Air Distribution	\$ 8,134,900.00		\$ 1,420,000.00		\$ 8,355,461.00	
	D3043	Hydronic Distribution	\$ 682,026.00		\$ -		\$ -	
	D3044	Hydronic Pumps Heating	\$ 669,035.00		\$ -		\$ -	
	D3048	and Cooling Coils Fans	\$ -		\$ -		\$ -	
	D3049	and Air Handling Units	\$ 3,345,179.00		\$ 1,200,000.00		\$ -	
	D3050	Terminal and Package Units	\$ 17,839,974.00		\$ 500,000.00		\$ 229,500.00	
	D3060	Controls and Instrumentation	\$ 7,179,865.00		\$ 937,500.00		\$ 610,347.00	
	D3070	Testing and Balancing	\$ 2,601,881.00		\$ 568,000.00		\$ 280,355.00	
	D3090	Other HVAC Systems and Equipment	\$ -		\$ -		\$ 2,164,209.00	
	D4010	Fire Protection Sprinkler Systems	\$ 2,256,216.00		\$ -		\$ 299,049.00	
	D4020	Stand-Pipe and Hose Systems	\$ 233,895.00		\$ -		\$ -	
	D4090	Other Fire Protection Systems	\$ -		\$ -		\$ 702,098.00	
	D5010	Electrical Service and Distribution	\$ 9,545,913.00		\$ 3,410,808.00		\$ 2,529,960.00	
	D5015	Uninterruptible Power Supplies	\$ 280,899.00		\$ -		\$ -	
	D5020	Lighting and Branch Wiring	\$ 10,774,120.00		\$ 255,811.00		\$ 6,217,589.00	
	D5030	Comm and Security Systems Fire	\$ 2,333,566.00		\$ -		\$ 543,613.00	
	D5031	Alarm Systems	\$ 1,609,478.00		\$ -		\$ -	
	D5032	Security	\$ 8,183,234.00		\$ 672,370.00		\$ -	
	D5090	Other Electrical Systems	\$ 1,474,282.00		\$ -		\$ 702,098.00	
Services				\$ 44,590,084.54		\$ 10,773,489.00		\$ 102,133,652.71
	E1010	Commercial equipment	\$ -		\$ -		\$ 150,000.00	
	E1090	Other Equipment Fixed	\$ -		\$ -		\$ 89,793.00	
	E2010	Furnishings	\$ 6,820,268.00		\$ -		\$ 1,563,100.00	
Equipment				\$ 2,914,644.47		\$ -		\$ 5,410,970.23
	F2010	Demolition	\$ -		\$ -		\$ 9,261,349.00	
	F2020	Hazmat	\$ -		\$ -		\$ 375,646.00	
Special Construction				\$ -		\$ -		\$ 28,923,232.32
	G2020	Parking Lots	\$ 5,212.00		\$ -		\$ -	
	G2030	Pedestrian Paving	\$ 3,208.00		\$ -		\$ -	
	G3010	Water Supply	\$ 14,303.00		\$ -		\$ -	
	G3020	Sanitary Sewer Storm	\$ 21,753.00		\$ -		\$ -	
	G3030	Sewer Electrical	\$ 44,351.00		\$ -		\$ -	
	G4010	Distribution	\$ 120,096.00		\$ -		\$ -	
Sitework				\$ 89,283.33		\$ -		\$ -
Total Project Cost Opinion			\$ 155,854,306.00	\$ 66,604,404.79	\$ 14,262,489.00	\$ 14,262,489.00	\$ 89,042,498.00	\$ 267,240,655.00
Construction Cost			0.43	\$ 66,604,404.79		\$ 14,262,489.00	\$ 89,042,498.00	\$ 89,042,498.00
Contingency			0.13	\$ 19,981,322.84		\$ 4,278,747.00	\$ 23,353,461.00	\$ 23,353,461.00
Contractor Overhead			0.11	\$ 17,317,144.59		\$ 3,708,247.00	\$ 83,330,988.00	\$ 83,330,988.00
Project Soft Cost			0.33	\$ 51,951,433.78		\$ 11,124,741.00	\$ 71,513,708.00	\$ 71,513,708.00
Total Cost				\$ 155,854,306.00		\$ 33,374,224.00	\$ 267,240,655.00	\$ 267,240,655.00

9 Risk Assessment and Risk Mitigation

Risk and Mitigation strategies are divided into six categories. In section 8.1 the report describes risk that could affect users of the building: employees, tenants, building service workers, contractors and other who could potentially be impacted by existing conditions in the building. Section 8.2 then goes on to describe project specific risks associated with delivery of a revitalization project. In section 8.3 the report discusses best practices for risk associated with contracting and best practices for allocation risk in construction contracts. Risks associated with procurement are described in Section 8.4 including recommended mitigation strategies. Project risk mitigation strategies are explained in section 8.5 and in section 8.6 phasing recommendation are explained. Due to time constraints, all of these risk sections are based on a premise of revitalization; i.e. that the County would decide implement some or all of a proposed work scope for a revitalization project.

Risk of catastrophic system failure is used as a weighted criteria in the ranking of tasks in the project prioritization section. System importance has been ranked by the Building Services Section and is also used to develop priorities for the tasks.

9.1 Ranking of Hazards and Risk

Any discussion of risk in the King County Courthouse should focus on the current existing condition and immediate risks to workers health and safety and to building operation. There are several existing risk situations in the building that merit immediate action to correct. They are as follows:

9.1.1 Electrical Room Access East Riser shaft Floor 2

Access to the electrical room E213A on the east side of the building is severely restricted by ductwork, riser pipes, and narrow room size. Access to this electrical room is performed by crawling under ductwork, squeezing through heating and chilled water pipe risers in a space less than 8" wide, and then into an electrical room which is only 32" wide. If a worker were injured in this space, emergency extraction would be very difficult. Once inside the electrical room, high voltage equipment placed in a very narrow room, lack of Arc Flash warning labels, and inadequate safety clearances combine to create a significant hazard that requires correction immediately.

Confined space entry procedures should be implemented immediately until this is resolved.

Adjacent room E213 should be demolished and consolidated into a code compliant electrical room. A man door could then be installed from corridor C200E. This action would resolve this issue temporarily.

9.1.2 Fire Safing of floor and wall penetrations

Fire safing of penetrations in the existing floors and walls created by past installations should be accomplished immediately. This is a fire risk that could be easily mitigated at relatively low cost.

9.1.3 Potential for electrical explosion or fire

There are locations in the building where pipe leaks from several different piping systems could potentially combine with the potential for explosion or fire from water contacting the buss ducts. If the existing energized buss ducts were to get wet, there is a risk of explosion and/or fire. Modern buss duct installations have water dams at the floor edge of the openings that the ducts penetrate. The intent of the dam is that in a flood, the dam holds back water from wetting the buss duct itself. An example of this particular hazard was illustrated in the Yesler Building explosion several years ago. In this case the buss duct became wet and shorted across the phases. The resulting damage was substantial, and any employees in the area would have been seriously injured or worse.

9.1.4 Potential for water damage to Motor Control Centers

There are also locations in the building where large heating and cooling water piping is located overtop motor controls centers that control line voltage that operates pumps for the heating and cooling systems. If these pipes and fittings were to leak, operation and control of the heating and cooling pumps could be lost and the heating and cooling system would be inoperable. There should be water protection (shrouds) installed overtop these controllers or the motor controls should be relocated and converted to Variable Frequency Drive (VFD) control in a safer location.

9.1.5 Fire Suppression System Water Supply

In 2013 the County replaced the south water main to the building after discovering that the line was badly mineralized and flow was greatly reduced as a result of the mineralization. The line was replaced from the water meter in the alleyway into the pressure reducing station, which was also completely re-built.

The portion of the line from the water meter to the City main is original and should be investigated and confirmed as adequate for the fire protection water supply. The 3" main from the west side of the building on 3rd avenue should also be replaced to ensure adequate water supply for fire suppression.

9.2 Project Specific Risk:

The analysis of risk in this Proviso Response is limited to the risk analysis and mitigation strategy development for implementation of the projects contained in this proposed project.

In a project of this nature, risk evolves out of planning and zoning, permitting, procurement and contracting, design, and construction. A Risk Matrix has been developed for these criteria and is attached in Appendix 7 (pg94). The matrix addresses types of risks and proposes strategies for addressing these risks.

The Proviso response does not attempt to develop strategies for mitigating risks to ongoing County operations in the Courthouse due the current state of the building, or providing Continuity of Operations planning and development. Those activities are an Operation planning task separate from mitigating project risk, and are not authorized work scope under the appropriated project. In some cases there is very little that can be mitigated without a replacement action. An example would be the electrical buss ducts, whereby there is no redundant electrical system in the building to provide support should this system fail. A risk analysis and mitigation strategy development is Continuity of Operations issue, and beyond the scope of this response.

There is also a risk profile from the No Action alternative. The No Action alternative contains risks that in addition to those risks listed above, include:

- Explosion or fire risk from the buss ducts
- Risk of contamination in the Domestic water system due to stagnant water in pipe systems.
- Shock and/or arc flash hazard in the electrical rooms that are too small and lack warning labels.
- There is a risk of masonry falling from the exterior of the building in a major seismic event.
- Risk of non-structural hazards to occupants inside the building in a major seismic event.
- Force Protection risk. The Courthouse is vulnerable and needs to be better protected.
- Fire stopping and smoke barrier separation improvements

9.3 Risk Allocation

In 2004/5 the Courthouse Seismic Project construction bids were received and were 43% higher than the engineers' estimate and the then adopted MACC of \$43M. As a result of the bids received, Rider Hunt Levett & Bailey were retained at that time to provide Independent Constructability and Estimate Reviews focusing on detailed cost comparisons, evaluation of estimates and bids, cost effectiveness of the design and options for future project delivery actions.

One of the lessons learned from the Rider Hunt Levett and Bailey evaluation regarding the initially over budget bid result was attributed to additional costs associated with placing un-quantifiable risk on the Contractor's through a hard bid public sector project delivery processes. During the CSP project, the County and the design and management team increased the Contractor's risk in the areas of hazardous material management, responsibility for as-built conditions, insurance requirements and liquidated damages.

A successful project methodology should allocate risk to the party best suited to manage the risk. This project recommends that as-built drawings should be prepared by the Owner, Hazardous materials should be removed prior to construction, and a project wrap up type of insurance be implemented to save significant money during implementation.

9.4 Project Complexity:

A another lesson learned from the cost overrun of the 2004 CSP project was a variety of factors including project history and the major renovation of an existing, occupied, historic structure combined to create an extremely complex construction project. During CSP, the design and management team's attempts to mitigate the inconvenience this project imposed on the building's tenants and neighboring properties resulted in a complex sequencing and phasing plan, restrictions on noise, work hours and building access. As additional scope was added to the original core seismic project, the contract documentation also increased in complexity with the final bid package consisting of six separate specification volumes and five different sets of drawings.

A more rational approach would be to limit work to one wing from basement to roof, so that the project can be isolated from other occupants, and allow the contractor better access. In addition, access to the work must be provided, during regular work hours, and without limiting noise restrictions. This should be accomplished through relocation of tenants, and operating agreements with noise sensitive tenants.

9.5 Risk Mitigation Strategies

In order to keep costs at a minimum, it is important to quantify risk to bidders and to mitigate or transfer risk from the Contractor to the party best suited (and able) to bear the risk.

1. Simplify the project; including scope, phasing and contract documentation. Reduce phasing to the number of phases to a minimum. This would mean giving one whole quadrant of the building, from basement to roof over to the contractor.
2. Consider various alternative project delivery methods that may be more appropriate for this particular project. Project delivery methods that focus on collaboration and teamwork, rather than confrontation should be used. Use

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- integrated project delivery and engage construction teams early in the project to ensure constructability is considered throughout design.
3. Give the contractor access to more of the building and ease requirements of Division 0 and 1.
 4. Identify any ambiguities or conflicts within the Construction Documents themselves. Conduct constructability reviews often during design to ensure the bid documents are the most efficient way to build the project and accurately represent the conditions.
 5. Identify any ambiguities or conflicts between Construction Documents and observed site conditions. This is a large risk and an essential component of the project. **A thorough set of as-built drawings must be prepared by the County prior to bid and these as-built drawings must be accurate.**
 6. Review specifications/conditions that add risk to the Contractor with the team and revise to reduce contractor risk.
 7. Review specification/conditions that could be changed that would result in decrease cost/time (must account for overall costs to project – for example costs to relocate current building occupants).
 8. Identify how the County could control issues (problems/impacts associated with stakeholders/building occupants) that add risk to Contractor and result in a decrease in costs.
 9. Engage independent cost estimators to assess whether the project, as designed, can be constructed within the project budget.
 10. Increase amount of area to be accessed by phase and reduce number of phases (endeavor to give Contractors access to as many floors at a time as possible during the contractor's constructability review)
 11. Defer maximum amount of civil court caseload to new temporary courts and other county court facilities. Maintain minimal operating courts in the facility to handle criminal cases only that have security connections to the existing KCCF. Consider establishing Civil Court in the Yesler Building for the duration of the work.
 12. Consider full height vertical phasing and access for work packages whose efficiency is severely impacted by horizontal phasing restrictions.
 13. King County to provide as-built drawings as Owner furnished information.
 14. King County to provide the hazardous materials abatement including project design and hazardous material removal.
 15. Increase competition in sole source specification items such as fire alarm system and direct digital controls.
 16. Consider King County providing a wrap-around insurance policy for the entire project.
 17. Allow demolition waste to be removed from upper floors via an external chute.
 18. Consider dedicating one half-floor for staging, materials storage and contractor space, i.e. fourth or fifth floor and stage up and down from there.
 19. Reduce number of bid items, alternates and do not ask for unit rates. Unit rate requests are good for the Owner by locking into costs for potential additional work at bid time. Contractors typically would add cost to unit rates when

requested to cover the risk and uncertainty of the scope and amount of potential additional work to be authorized.

20. Maintain contractual responsibility for each trade to one company. Avoid multiple vendors for a single trade.

Due to the specialized nature of this project and its scheduling constraints, the traditional public works low bid project delivery method is not best suited for this procurement and should be avoided. The majority of the construction work in this contract would be performed by specialty subcontractors including masonry restoration, fire sprinkler, fire alarm, mechanical and electrical. The trades required on this project are not those that are typically self-performed by a General Contractor. This project lends itself to separate subcontractor packages that would be managed and coordinated by a General Contractor/Construction Manager.

9.6 Phasing Plan

The following method of phasing the project results from the nature of the work, i.e. is would be easier for the contractor, and consequently less expensive for the County to arrange the work in this sequence. These actions would reduce risk and cost.

- Perform back of the house projects first. These would include, piping replacements, fan floor equipment replacements in areas that **do not** require removal of the occupants.
- Phase the building into East and West zones (1/2 H-wings) for three or four floors at a time
- The central core would be a fifth zone which would need to be phased as necessary with one or a combination of the other four zones
- Access the wings via a centrally located tower crane, if necessary
- Work would proceed from the east quadrants to the west quadrants to take advantage of duplicate mechanical and electrical shafts. Performing the Northeast quadrant first followed by the Northwest quadrant would allow installation of new electrical rooms and buss duct, and addition of restroom fixtures required to meet code.
- Materials would be staged from the loading dock and city park staging areas and accessed through the windows at each floor
- This approach anticipates the loss of a maximum of 10 courtrooms at any one time, compared with 10 courtrooms under a half-floor approach.
- Gives the Contractor full-height access to significant portions of the building at one time. The project is vertical in nature and this approach allows full vertical access to the building.
- Reduction in complexity of the phasing and sequencing plan, and limits the number of mobilization and final clean activities.

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- Simplification in number of moves required by the County to complete the project.
- Contractor access and construction impact restricted to one wing of the building at a time.

In 2013, consultants recommended an approach that allows larger, “back-of-house” projects which do not affect daily use of courthouse spaces be performed at one time. This list would include chilled water and heating water piping that is older than 50 Years, replacement of fan floor systems and work in the basement. After “back of house” projects are complete, begin pursuit of work on individual floors. Due to the nature of the work on the floors and the 24/7 nature of many of the County departments, it is not likely this can be accomplished in a cost or time effective manner without relocating departments to another location, and moving them back into the building after work is complete. Approximately 30,000 square feet of space suitable for courthouse functions and relatively close to the courthouse would be required. The Yesler building is the most logical candidate and has been used for this purpose on past projects. Any relocations would require detailed logistics and comprehensive phasing plan that would be developed upon authorization of a project to revitalize the Courthouse.

10 Prioritization of Projects

Prioritization of projects was requested by the Proviso and prepared for the revitalization major tasks listed in this report. The Analytical Hierarchy process was used to rank the tasks relative to one another. The requirement to rank the tasks against each other required use of a methodology that could compare the tasks relative to each other to produce a rank or score for each task.

Project Criteria Table							
	Criteria	Most desired or likely					Least Desired or likely
	Life Cycle Cost Analysis	100	80	60	40	20	0
1	Impact on ongoing O and M Costs	Major Impact					Minor Impact
2	Scheduled replacement year	now	5 years	10 years	15 years	20 years	25 years
3	Initial Cost NPV	1M\$					10M\$
4	Timeline for implementation	1-3 years	3 - 5 years	5 - 7 years	7 - 10 years	10 - 12 years	12 -15 Years
5	System Importance	Life Safety	Occupancy	Program	Functional	Finishes	Cosmetic
6	Operational Needs - Public	Major Impact					No Impact
7	Operational Needs - Secure (Courts)	Major Impact					No Impact
8	Operational Needs - Detention/DAJD	Major Impact					No Impact
9	Risk of Catastrophic Failure	High					Low
10	Funding Options	Voter Approved Levy	Existing Operating Rental Budget	Municipal Leasing Act financed thru 63-20	Developer financed	LTGO Bonds	MMRF Funded

Criteria Table 1

In order to rate the priority of each task relative to the next, a Multi Criteria Analyses methodology was utilized. This methodology produces a weight or priority for each criteria. The Multi Criteria analysis method uses the analytical hierarchy process where each criterion is compared to all other criteria one at a time and ranked relative to the other criteria using a scale of:

- 1 - equal importance
- 3 - moderate importance
- 5 – strong importance
- 7 – very strong importance
- 9 – Extreme importance.

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The outcomes are then processed in a calculation that produces a priority or weight for each criterion (See Criteria Ranking Table below).

Category		Priority	Rank
1	Impact on ongoing O and M Costs	2.20%	10
2	Scheduled replacement year	4.40%	6
3	Initial Cost NPV	2.50%	7
4	Timeline for implementation	2.20%	9
5	System Importance	19.70%	2
6	Operational Needs – Public	9.50%	5
7	Operational Needs - Secure (Courts)	14.60%	3
8	Operational Needs - Detention/DAJD	30.20%	1
9	Risk of Catastrophic Failure	12.40%	4
10	Funding Options	2.30%	8

Criteria Ranking Table 1

Each proposed task was then scored relative to the developed criteria and a summary score for each project was calculated (See Alternative Ranking Table 1 below).

Alternative #1

Replace Buss Duct

	Criteria Life Cycle Cost Analysis	Weight	Score	Total
1	Impact on ongoing O and M Costs	2.20%	20	0.44
2	Scheduled replacement year	4.40%	100	4.4
3	Initial Cost NPV	2.50%	50	1.25
4	Timeline for implementation	2.20%	80	1.76
5	System Importance	19.70%	90	17.73
6	Operational Needs - Public	9.50%	100	9.5
7	Operational Needs - Secure (Courts)	14.60%	100	14.6
8	Operational Needs - Detention/DAJD	30.20%	100	30.2
9	Risk of Catastrophic Failure	12.40%	80	9.92
10	Funding Options	2.30%	100	2.3
				92.1

Pros

Long term solution

permanent fix

Cons

requires floor space footprint from tenants

Requires complex contingency planning

requires new mechanical shafts disruptive to tenants

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Alternative Ranking Table 1

After all projects were scored using this methodology, a Summary Ranking Table was prepared to list the rank or score of each project. Results are shown in Summary Ranking Table 1 below:

	Project	Score	Rank
1	Replace buss duct	92.10	1
2	Replace Domestic Water	65.21	3
3	Repair Toilet Exhaust	34.23	13
4	Replace HCW Pipe	36.98	12
5	Replace HW pipe	38.72	10
6	Fire Protection System	84.84	2
7	Induction Heating System	30.50	14
8	Fan Floor Equipment	60.20	5
9	DDVAV Conversion	58.61	6
10	Aluminum Windows	37.69	11
11	Brick Cladding Attachment	52.21	8
12	DDC Controls Replacement	63.34	4
13	Lighting Replacement	42.18	9
14	ADA Jury Bathrooms	58.42	7

Summary Ranking Table 1

The complete analysis of all projects is contained in Appendix 8.

11 Estimated Timelines

Full implementation of the Courthouse Revitalization project is expected to take 6 years from commencing design procurement to final close out. Construction implementation would commence in year 3 and take 3 years to complete. Since the start date is dependent on Council direction to proceed, the dates shown below are illustrative of duration only and were derived from detailed schedule prepared for the project to revitalize the building.

Planning	Start	Finish	Duration
Pre Design	1/1/2017	7/19/2017	199
Final Design	7/20/2017	1/3/2020	897
Implementation	2/3/2020	12/31/2022	1062
Close out	1/2/2023	2/19/2023	48
			2206

12 Locating As Built Structural Information

In the Proviso, Council requested the status of as built “**structural**” information for the Courthouse. Current “**structural**” information for the Courthouse is located in the drawing archive on floor 3 in the Administration building. Included in this record are the as-built **structural** records drawings from the Courthouse Seismic Project among others. Records are on file for the original construction of the building along with the several additions done to the building, and virtually every project performed in the building. The purpose for the original request for funding was to prepare **conformed as built drawings**, which is a different need altogether.

What the County lacks and needs for the Courthouse is a conformed set of as built drawings for all disciplines combined including, structural, architectural, mechanical and electrical systems. A large, high cost risk and serious concern for the County during any Revitalization project (or portion thereof) is the lack of and need for a **conformed set of as-built mechanical, electrical and architectural drawings that incorporates information from all projects completed over the years in the building into one set of as-built documents.** While the individual records of each project are on file, there is no conformed set of drawings that combines all these different project records and information together into one set of accurate, up to date and comprehensive set of as-built documents.

This could be a significant effort involving numerous engineers conducting field investigations on site documenting existing conditions and preparing conformed record drawings.

Cost \$2,000,000

13 Historical Significance of the Building

The King County Courthouse in downtown Seattle dates back to 1916, and has been Landmarked by the King County Landmarks Commission (KCLC) as a historically significant building architecturally. If a revitalization project were initiated by the County, all facets of any project should be developed and designed in coordination with and reviewed by the KCLC through their Design Review Board, and if necessary through a full session of the KCLC. That being said, because the courthouse is located in Seattle and there does not exist an interlocal agreement between KCLC and Seattle, the KCLC's recommendations are potentially advisory only.

The building contains historic lobbies and corridors, and 19 historic courtrooms; any work in these areas needs to be carefully considered by the KCLC before proceeding. Unnecessary disruption of the historic fabric of these spaces is to be avoided.

Building improvements proposed in this study shall not impact the existing finishes in the historically significant areas of the interior or the exterior facades of the building without fully addressing historic restoration.

Architectural improvements at the interior are limited to design for interior of replacement window systems that support the historic restoration goal. Thermal improvement to exterior walls would need to follow historic guidelines as well. Any disruption to the historic courtrooms and corridors required for mechanical and electrical improvements would also require careful consideration for historic sensitivity. It is understood that modifications to these areas are to be avoided if at all possible in mechanical and electrical upgrade projects. The project will also need to protect existing historic finishes during construction to prevent any damage.

Proposed architectural improvements at the exterior are limited to the removal of the vertical aluminum windows and their replacement with historically accurate energy efficient windows and glazing systems with more state of the art solar gain rejection properties and thermal transmittance performance from interior to exterior.

Impacts to historical finishes for mechanical solutions would depend on the requirements of the Authority having Jurisdiction to meet compliance with the Seattle Energy Code. Impacts from this work would depend on these requirements and solutions. In some cases full compliance would not be economically possible to meet code, so alternative solutions would need to be developed.

13.1 Historical Designations

The Historic Designation Report dated September 10, 1987 listed the following features of the building:

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Building Massing and Height, Third Ave Portico, Fourth Ave Portico, South Entry Courtyard, All windows, All Exterior Doors, Facing materials including brick, granite and terra cotta. Copper entablature, former Jefferson Street lobby, First through ninth floor lobbies.

A 1988 Memorandum of Understanding with Superior Court dated 27th January 1988 listed the following additional features as historically significant:

Judges benches and paneled wainscoting, stations of the clerk, court reporter and bailiff; witness stand; jury box; vestibule; public seating; flooring; and general arrangement of courtrooms.

In 1994 an Amendment to Designation report dated 11/17/94 listed to following features as historically significant:

Portions of the wing corridors on floors one through nine, including

Ninth: east include both the north arm which is open and marble lined, and the south arm which remains open; west; include entire open west corridor, which remains open
Seventh/Eighth: include entire wing corridors, which remain intact.

Sixth: west- including the first bay past the cross-corridor door with marble walls, extend boundary back to desk to include transitional space. East: include first bay past cross corridor door with marble walls; extend boundary back to desk to include transitional space.

Fifth: west – no boundary extension proposed, boundary covers all areas with marble finishes east: extend boundary into wing corridors to include public hallway areas.

Fourth: West: extend boundary to south to encompass all marble lined hall areas. Extend boundary to the north down the corridor to point where walls have been removed. East: extend boundaries to end of main hallway to include marble lined bay and the transitional space.

Third: West – extend boundary the length of the wing corridor to include historic marble floors and wall covering.

Second: West – extend boundaries to include entire west wing and other spaces contiguous with corridor.

First: Boundaries clarified to include all spaces presently opening into the corridor

13.2 Historical Designation Impacts to Projects

13.2.1 General Condition impacts on historical designations.

Any discussion of the potential impacts to the historic fabric of the Courthouse includes staging and access for a general contractor construction manager. Access to the work must be provided to the contractor and maintained throughout the project while at the same time eliminating impacts to the historic features of the Courthouse. This includes (but is not limited to) moving workers, materials and equipment through the building efficiently while at the same time protecting the historic features of the Courthouse building.

At the same time any work will require adequate dust protection and work separation partitions to demarcate work areas from areas currently being occupied. Negative air machines can be installed to ensure that dust is evacuated out of the building.

If a tower crane was required to execute the project, it should be located in the south courtyard. This location allows use of alleyway access for deliveries. The south Courtyard also could serve as a material staging area. Demolition debris would be removed by crane or alternatively by service elevator in the building using carts. Debris chutes would be ruled out by specification. Tool and equipment staging would occur on the areas under construction. Most if not all equipment required for the project would be delivered thru the service elevator. Any major pieces of equipment delivered to the Fan Floor would be delivered by crane, or disassembled and delivered via service elevator and re-assembled onsite. Temporary facilities including waste handling would occur through the South courtyard.

Exterior work would be accomplished via scaffolding placed on the exterior of the building, more than likely full height of the building elevations. Scaffolding would probably be covered and would likely remain in place for several years.

13.2.2 Domestic Water System

There are approximately 60 restrooms or restroom pairs in judge's chambers or jury rooms with marble finishes. Of these restrooms/pairs, approximately half of these restrooms have had their domestic water piping run-outs to fixtures (galvanized piping) replaced with copper.

The remaining half of the restrooms has older galvanized domestic water piping still in use behind these marble walls. Because some of the remaining areas are registered as historic, specialists with experience in the removal and replacement of the marble wall finishes to access these last areas of galvanized piping would be required. FMD has successfully remodeled historic designated Jury restrooms; including removing marble finishes and replacing these same marble panels. Similar procedures would be specified to perform the pipe replacement project and ADA restroom upgrade in Jury Assembly restroom and Judges chambers restrooms.

In re-configuring the first ADA jury restrooms, the design required a door located in the historic designated courtroom paneling to be relocated. FMD was able to successfully re-locate a door in the historic courtroom paneling to match existing. This allowed FMD to re-orient the restroom layout so that the ADA restroom access was provided.

Other portions of the domestic water piping system are accessible in stairwells, the basement, in accessible ceilings, or in the east and west mechanical shafts. Work in these areas would not impact the historic features of the Courthouse. Public restrooms have ceramic tile wall finishes that are not historical and can be removed to facilitate replacement plumbing work.

13.2.3 Evaluation and replacement of the main heating and chilled water distribution piping as necessary

This portion of the project would replace main distribution piping that is more than 50 years old for the following systems:

- condenser water system
- Heating hot water system
- chilled water system

These large diameter pipes run through back of house areas including the basement ceilings, vertical distribution shafts, and throughout the fan floor. What remains to be determined at this time is the amount of horizontal distribution piping that would be replaced on each floor, and the amount of impact to existing ceilings this would require. Most of this piping is located in the acoustical tile ceilings. Acoustic tile ceiling are not historic and are accessible for work.

13.2.4 Repairs to the perimeter induction heating system;

This project would add drainage piping to the perimeter fan coil units drain pans (located in the in the ceilings around the perimeter of the building). The addition of this piping (and drain pans where required) would allow the chilled water system supply temperature set point to be lowered to its correct temperature. Most of these units reside in acoustic tile ceilings that are readily accessible and not designated as historic.

Adding drain piping to the perimeter induction system terminal air units would involve widespread impacts to the acoustic tile ceilings throughout the floors. Due to this impact, it is recommended that at the same time drainage piping is installed, that suspended acoustic tile ceilings be replaced with seismically braced acoustical ceilings generally throughout the building and new LED lighting be installed.

13.2.5 Replacement of the Fan Floor Equipment

Work required to replace the Fan Floor equipment is limited to the 12th floor and above. There is would be no impact to the historical features of the building resulting from this work. Mostly of this work occurs in “back of house” and does not impact any historic feature.

13.2.6 Aluminum Window Replacement

Proposed architectural improvements at the exterior include the replacement of existing Aluminum “strip” energy inefficient windows and glazing systems with more state of the art window systems that closely replicate or match the historic windows utilizing high performance glazing; and improvements to the thermal performance of exterior walls in the locations where windows are scheduled to be replaced where possible.

Exterior metal panels, which were installed over the deteriorating existing windows in the 1960’s, would be removed to return the exterior to a state closer to the original design. Provision of energy efficient window systems would approximate in appearance the design of the original windows for historical accuracy. Brick masonry affected would be cleaned, tuck pointed and restored to as close to original form as possible.

One existing window location was reviewed in Courtroom (W742) and in this location it appeared most of the brick exterior remains intact behind these aluminum panels. Brick restoration and window replacement work would occur on scaffolding erected across the exterior of the building.

13.2.7 Interior Improvements

Along with the window replacement, depending on Council direction, the interior of the exterior walls of the building may require placement of strongbacks for attachment of the brick masonry. This will involve removal of interior plaster wall finishes and any fixtures attached to the exterior wall. In historic Courtrooms this will mean removal of bookcases and plaster and replacement of those items.

Replacement of the buss duct will be accomplished by constructing new electrical rooms on each floor that will require a new entry door into a historic corridor. Doors have been successfully introduced into the historic marble corridor walls in the past. This process can be successfully replicated again while at the same time meeting historic restoration requirements.

14 Other Funding Sources

14.1 State of Washington Archaeology and Historic Preservation

The State of Washington Department of Archaeology & Historic Preservation operates the Historic Courthouse Preservation program. In spring of 2005, the Washington State Legislature established the Historic County Courthouse Rehabilitation Grant program. Based on findings from a statewide survey undertaken in 2003, 32 of the state's 39 counties were found to possess courthouses of historic and architectural merit.

Grant funding assists county governments in rehabilitating their historic county courthouses. Together with matching funds raised locally, this money would foster economic development in numerous communities while working to preserve public buildings vital to the architectural and cultural heritage of Washington.

To receive funding, all rehabilitation work must meet historic preservation standards known as the U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties.

Application for this project could be made for the 2017-2019 Biennial budget. At this time the County has been awarded a grant of \$132,000 to assist with construction of Jury Room accessible restrooms.

14.2 Energy Grants and Opportunities

The King County Courthouse is one of the County's least efficient facilities, and it is also one of the largest. This is an expensive combination. 2014 total resource costs, including electricity, natural gas, and water/sewer, were ~\$856,223.00.

Although the cost of comprehensive renovation exceeds standard energy payback models, there exist opportunities to collaborate with other entities and greatly increase the efficiency of the facility. Here are the primary potential partners that have been identified so far:

- Federal Government (Department of Energy and others)
- Utility service providers who would provide substantial energy and possibly water efficiency grants
- Possible private sector partners

14.2.1 Goals/Objectives

There are several primary goals for collaboration, including:

- Technical assistance during project scoping and design phase

- Project financing assistance, including:
- Grants
- Low cost financing
- Performance contracting
- Proactive media engagement to highlight the community and environmental benefits of the renovation project

14.2.2 Resources

US DOE Office of Energy Efficiency and Renewable Energy

- Submitted letter of request for technical assistance on 2/5/2015
- Received response that support is available
- Waiting for DOE to set-up meeting to identify existing tools, assess resources, and determine next steps
- Utility Conservation Incentives
 - Puget Sound Energy provides natural gas to the facility. Natural gas is the primary heating fuel. Natural gas expenditures at the facility totaled ~\$204,000 in 2014
 - PSE would provide conservation incentives for natural gas efficiency opportunities
 - Seattle City Light provides electricity to the facility. Electricity is used for lighting, HVAC, and plug loads, and is also a lesser heating fuel. Electricity expenditures totaled ~\$705,000 in 2014
 - Seattle City Light would provide conservation incentives for electric efficiency opportunities

14.2.3 Technical Analysis

Creating a resource efficiency budget for this project: An initial assessment of savings concludes the following:

- Using the EPA's Portfolio Manager and Target Finder applications, in order to achieve and EnergyStar score of 90 for the facility type in our region, we would need to obtain 37% annual energy savings.
- For estimating purposes, FMD estimated that the County could also obtain 30% annual water and sewer savings
- Using these parameters and the County's 2014 resource costs for KCCH, the savings would be worth ~\$408,000 annually.
- Using a 5% utility inflation rate and 7.15% nominal discount rate, this annual savings would be worth ~\$8,650,000 over a 30 year measure life

14.2.4 Conclusion:

The value of achieving an EnergyStar score of 90 through our Courthouse remodel, and a corresponding 37% reduction in energy use and 30% reduction in water use, is approximately ~\$8,650,000

- Based on this savings opinion, Seattle City Light could provide a ~\$675,000 conservation grant for electric savings, using 2015 incentive rates
- Based on this savings opinion, Puget Sound Energy could provide a ~\$500,000 conservation grant for natural gas savings, using 2015 incentive rates
- Based on this savings opinion, Seattle Public Utilities could likely provide an incentive for water conservation, but their funding is much more limited and is not estimated at this time.

14.2.5 Alternate Analysis:

If the County is extremely aggressive about conservation and is able to achieve a 70% energy and water/sewer savings, our corresponding annual savings would be ~\$840,000. The present value of this reduction using the above metrics would be ~\$17,750,000

- This would place the EUI (annual energy intensity measured in kBtu/SF) of the redesigned facility at only 27 kBtu/SF, which would give the facility and energy star score of 100 and make the facility the County's most efficient
- Obtaining this level of efficiency may be cost prohibitive and exceed the present value of the savings

14.3 4Culture

4Culture's Landmarks Capital program supports "bricks and mortar" projects that help preserve designated local landmarks all around King County. The program funds design, materials, and labor for rehabilitation projects large and small. Eligible applicants include private owners, businesses, organizations and local governments. Fundable projects would range from \$3,000 to \$30,000.

Although a small contribution in relation to the scale of the problem, money from this grant program could help pay for window upgrades that are needed on the first level.

14.4 Private Investment Options

Any discussion of alternative funding should include a discussion of the use of private sector funding. It is frequently suggested by others that a Lease – Lease back

transaction as authorized under the Municipal Leasing Act would be appropriate for a Courthouse Revitalization project. This type of project financing arrangement is referred to as 63-20 project named after the IRS rule which allows this type of project to be created. The County has completed numerous 63-20 projects including the 9th and Jefferson Building, the Maleng Building, the King Street Center, and the Chinook Building. Note that each of these projects was new, ground up design and construction projects.

Under a “63-20” IRS rule transaction, the Municipal Leasing Act serves as the legal basis for the project transaction whereby a private sector non-profit corporation serves as the “Landlord” of the project and in exchange for improvements to the property, leases the facility back to the County (the Tenant) until such time as the bonds are defeased, at which time the property returns to the County’s ownership. The project is created by a three party transaction whereby a nonprofit entity creates a shell corporation that then enters into the following agreements with the County:

1. The County signs a ground lease which leases the property to a project specific corporation created for project for the term of the bonds and;
2. The County signs a building lease with the project specific corporation to lease the facility from the corporation upon completion of the agreed upon improvements and;
3. The corporation signs a development agreement with a developer to construct the facility per the County’s requirements.

There are numerous challenges using this approach for a historic remodel of the Courthouse.

14.4.1 Meeting the Market Rate test in a Historic remodel

The Municipal Leasing Act requires the rental rate charged to the tenant upon completion of the project to be equal to or less than “market rate”. This means that the total cost of the project including capitalized interest and all project costs when fully financed and amortized over the term of the bonds and calculated as a rental rate must be within the local rental rate for equivalent rental space.

Recent experience has shown meeting the market rate requirement to be a challenge, particularly in historic remodels where there is large amounts of deferred maintenance and overdue system replacements. This is primarily due to the existing condition of the building, the scope of the work necessary to correct these conditions, and the cost of historic remodels required to bring the building up to a current standard that would last the term of the lease and be acceptable to the lessee.

Given the number of stakeholders in this project, the extent of non-compliant code issues existing in the building, and the potential number of concealed non-code compliant conditions within the facility, meeting the market rate criteria could be very difficult from a cost perspective. All this translates into a high cost risk for a Developer

to assume under a 63-20, and therefore drives up the price and consequently the rental rate.

Since the Courthouse is so highly specialized in its use and occupancy, it would be difficult to determine equivalent “market rate” for the facility. Local commercial market rate forces outside of the County’s control will also impact the market rate equivalent. The amount of AAA office space construction current underway in the area may in fact drive commercial office rents downward going forward from current levels and make the problem more acute.

14.4.2 Substantial Alteration and the scope of work

A remodel of this type would constitute a “Substantial Alteration¹⁵” of the building and trigger code compliance upgrades for systems within the facility as defined under the Seattle Existing Building Code (SEBC). Since this is an interpretive requirement that will ultimately be negotiated with the building official during the design and permitting process, it would be difficult to determine in advance the extent (and therefore cost) of any non-compliant code issues that are currently concealed and which would immediately trigger an upgrade when discovered. This unknown is a high cost risk, which would be difficult to transfer to a third party in a 63-20 scenario.

14.4.3 Controlling the scope of work

If a 63-20 project delivery model was selected for a revitalization project, it will be critically important to limit the scope of work to that which can be accomplished with the appropriated budget. This is not always easy to do, and given the tenant make-up of the building may be a significant challenge for a project in the Courthouse. Past experience has shown that work scope to “renew” the building quickly outstrips the economics of a 63-20 project creating a project where the rental rate exceeds market rate.

This type of project (i.e. Complex Historic Remodel) is not well suited to projects done under a 63-20 financing model. The long term operating risk of the facility is transferred to the Developer, who must rely on old, out dated, and in some cases failing equipment that may or may not function as intended for the duration of the lease. Given the cost to replace and/or upgrade the equipment and systems, it is unlikely that a reasonable solution could be found for the scope of work which would fit within a market rate scenario, and produce an agreeable outcome for the tenant.

¹⁵ Seattle Building Code Requirements for Existing Buildings that undergo Substantial Alterations Tip 314

14.5 Voter Levy

A project specific Levy, similar to the Levy used to create the Children and Family Justice Center is probably the most viable way to accomplish this project, should the County determine that this project is the desired solution. This approach avoids the burden of additional debt service on the General Fund. A voter message of sustainability, environmental stewardship, reduced carbon footprint, and re-use of existing buildings is a sound strategy. A message explaining the very real and urgent need to repair building systems to keep the facility in operation is one that could be understood by and resonate with voters. That type of message also avoids the perception of creating expensive new facilities for civil servants.

Recent experience in Snohomish County has shown that public support for new Courthouses is weak at best. Recent article in the Seattle times caution against asking voters for new construction money for the Courthouse¹⁶.

14.6 Long Term General Obligation (LTGO) debt

Another approach to funding this project could be for the County to issue LTGO debt. The problem with this approach is a lack of revenue to back or service the debt. Since the balance of the General fund is challenged, this approach would place more stress on the fund to service debt payments. Another challenge is the self-imposed debt limit of the County's borrowing capacity.

14.7 Existing County Property Sales

This report was not directed to nor did it proceed with property appraisal or sales evaluations as part of the Proviso response. Should property appraisals or transactions be selected or desired in one form or another, County processes should be followed in appraising property for sale.

Nonetheless, another source of funds for any project that may be contemplated could be sales of existing property. Modern class A office space is selling for \$450 to \$500 per square foot at this writing in the Downtown Business District. Demand for downtown commercial office space is strong in the Seattle marketplace and some publications are predicting the demand to continue for some time, due to expansion of Technology companies, and an influx of people to the region.

Current replacement values stated below are referenced in the MENG Analysis 2014 Facility Condition survey, and represent the cost to construct (in 2014) dollars a facility of similar size and construction type.

¹⁶ Seattle Times Editorial September 15, 2015

14.7.1 Sale of the Courthouse property

One option could be sale of the Courthouse property. This option eliminates the Revitalization scenario, eliminates the need for an “empty chair” while new space is prepared, but results in the need for a new building, either leased or purchased, to house general office, Superior and District Court functions, inmate transfer and holding facilities, and other functions.

Building	Courthouse
GSF	\$568,468
Zoning	DMC 340/240 - 400
Current Replacement Value	\$266,213,557

Pros:

Modernize service delivery infrastructure
Improves building use and efficiency
Eliminates costly revitalization
Eliminate the “Sky bridge”

Cons:

Landmark status limits re-use potential
Significant deferred maintenance issues
Difficult change of use problems with lack of parking for re-use options (hotel/residential)
Expensive facility type to re-construct
Limited sale potential or revenue

14.7.2 Sale of King Street Center

Another option is the sale of the King Street Center. Brokers have quoted 150 - 200M\$ sale price for this property and high demand for this type of facility in the market.

Building	King Street Center
GSF	450,000
Zoning	PSM 100/100-120
Current Replacement Value	\$180,494,989

Pros:

Modern facility with high sales potential
Excellent Transit oriented location

Desirable business location

Cons:

King County Courthouse Revitalization
Building Systems Report 1124472

Requires replacement facility or lease back from a new landlord
Well maintained

Cost to replace

14.7.3 Sale of Admin Building

Another option is the sale of the Admin Building. The existing building does not represent highest and best use for the property which would likely mean demolition and re-development. As this building abuts the DMZ 1 zone added height bonus is available on this site when a Planned Community Development (PCD) is utilized for a County Campus.

Building	Administration Building
GSF	234,243
Zoning	DMC 340/240 – 400
Current Replacement Value	\$82,453,536

Pros:

Building is owned by the County
Excellent Transit oriented location
Desirable business location

Cons:

Substantial deferred maintenance
Substantial Hazmat presence
Requires “empty chair to replace
Requires replacement facility or lease back from a new landlord
Replacement cost

14.7.4 Sale of Goat Hill property

Another option would be to sell the Goat Hill property. This property is a key element in the County’s downtown property holdings. While the option to sell does exist, probably the best use for the site is for a new building to house County Justice functions, due to it’s proximity to the Jail.

Building	Goat Hill property
GSF	28,800
Zoning	DMC 340/240 - 400
Current Replacement Opinion	\$14,400,000

Pros:

Prime development site

Adjacency to King County Correction Facility for Justice Development

Provides an “Empty Chair”

FAA glide slope height restriction

Cons:

Does not abut DMZ – 1 zone (limits height)

14 Recommendations

14.1 Next steps

Next steps for this project should include the development of the following action plans and scopes of work:

1. Action to correct the Immediate Life Safety concerns in the building. At the very least Schematic Design should commence for the replacement of the electrical buss duct, followed by a Capital Project Request for funding to commence final design and implementation phases of the buss duct project.
2. Development of an interim plan to make system wide repairs necessary to continue operations in the Courthouse for the next 10 years.
3. Prepare high level “re-stacking” plans for the building that allow full cost comparisons with a new building scenario.
4. Finalize High Level Courthouse Alternatives to:
 - a. Perform immediate life safety repairs only or
 - b. Replace with New or
 - c. Revitalize only
5. Initiation of a new project to prepare a campus plan study including
 - a. Development of a Mission statement for County Facilities and
 - b. Development of a Strategic Facility Plan

14.1.1 Mission statement and Strategic Facility Plan

Before any further work is initiated, it will be necessary to understand the future use and needs of the County Agencies involved. Understanding the Agencies needs is a key driver of a Strategic Facility Plan for the Downtown Campus (or the Courthouse). This

process begins with development of a vision statement for the future use of the County properties. This vision statement will drive the development of Agencies operational plans, which will then help to determine the facilities needed to support the vision and operational plans.

Unfortunately the Strategic Planning position in the Facilities Management Division has been eliminated through budget reductions, so any project to develop this Strategic Facility Plan will need to support planning staff, both from FMD and from the Agencies.

14.1.2 High Level Alternatives for the King County Courthouse

The Revitalization project originally contemplated for the Courthouse was developed in response to high backlog deferred and major maintenance costs. The scope was intended to repair mechanical and electrical system infrastructure that is aging and beyond its recommended service life and will be prone to failure in the short and longer term. The scope of work did not contemplate renovation of the interior layout to maximize efficiency, and to address modernization of County functions within the building.

Estimates of Revitalization and Replacement shown in this report from Clark Design Group are large dollar amounts, and until these estimate are combined with estimates to reprogram and restack the interior of the building, renovate Superior Court Arraignment Court, modernize prisoner transfer facilities and other modernizations badly needed, it will be difficult to compare to a Courthouse replacement option directly to a renovation scenario. Without interior space programming to support remodeling planning, it is difficult to determine the added cost to renovate the interior of the building to modernize its use.

In order to complete the comparison and evaluation of a replacement option for the Courthouse, space planning and programming to modernize the interior spaces should be developed, along with supporting cost estimates so that a comprehensive renovation option can be compared along to the Revitalization and Replacement scenarios.

14.1.3 Interim Plan

In the Clark Design Group report scenario for providing a new replacement Courthouse facility time estimates to deliver a finished project are 8 to 10 years (pgs. 16 -21). Given this timeframe it is recommended that certain essential system repairs be conducted to maintain the operations of the building, until such time as a decision can be made to either remain in the building or to leave.

It is recommended that the County implement the short term strategy in this report, with some amendments.

14.1.4 Understanding Property Values

Key to any decision making is recent and accurate property appraisals that represent the best available information as to highest and best use and potential revenue from a sale. Appraisals should be prepared for all properties under consideration for decision making.