Salem Superior Courthouse & County Commissioners Building Re-Use Study
Feasibility Report

D R A F T

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Massachusetts Division of Capital Asset Management

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I. INTRODUCTION & EXECUTIVE SUMMARY

As a result of the decision to consolidate, update and expand courthouse functions in Salem into a new facility – the J. Michael Ruane Judicial Center (projected opening 2010) – the historic Salem Superior Court Building (1861-91) and Essex County Commissioners Building (1841), located at 32-34 Federal Street in Salem, will become surplus in 2011. This study was commissioned by the Division of Capital Asset Management (DCAM) in order to evaluate the likely feasibility of reusing those two buildings, and analyze various broad re-use options to determine the implications for these historic buildings.

It is unusual to undertake a re-use study three years before a property will become surplus. Markets and development cost factors are likely to change significantly over that time period. Still, the analysis provides an understanding of the implications of various reuse alternatives on the buildings and a strong sense of which options have a chance of working as economic assumptions change over time. The information provided in this report will be utilized in first soliciting potential State or other governmental uses and, if that is not successful, preparing a Request For Proposals (RFP) in order to offer the property to private parties or institutions.

The findings of this study show that redevelopment of the two buildings could work physically for a number of uses, including office, institutional and residential. And while it is unlikely that residential use in its own right will work economically, office uses and office use with limited residential in the Commissioners Building could work economically with small adjustments to key assumptions between now and the time the property would be put out for bids approximately two years from now. Institutional uses could work physically within the buildings; however, it is not possible to know if it will work economically until a specific user is identified. It appears that there is nothing inherent in the buildings that would prevent redevelopment from being economically competitive to other development options in central Salem. Institutional or governmental re-use will primarily depend on the presence of a significant user with a space need in Salem. Even without a broad solicitation one such user has been identified. The next phase of redevelopment efforts is to include a preliminary "polling" process of State agencies and then local agencies. Respondents and potential users – as well as others – will have an opportunity to investigate the suitability of these buildings for their specific needs and use.

I-A Study Methodology

For the purposes of executing this study, existing information and reports on the buildings were collected and reviewed, and the property was toured with a preservation architect (Bruner/Cott and Associates) and structural engineer (Structures North) specializing in the re-use of historic buildings. The consultant team, including an historic preservation consultant (Overlook Associates), considered the key defining features that needed to be retained to allow National Park Service (NPS) certification for tax credits as well as those elements and features that were important to retain.

A broad regulatory review was also conducted in order to determine issues that might impact redevelopment. Zoning does not appear to be a concern for any of the otherwise viable uses.

While it is difficult to assess the real estate market for a project that will not come on the market for several years, GLC Development Resources reviewed the market for uses that could potentially make use of either building.

With physical, regulatory and market analysis completed, the project team was able to determine opportunities and constraints for the buildings and begin to define potential redevelopment opportunities

1-B Reuse Options

Several re-use options were determined, and concept plans prepared for the re-use options. Financial models were then developed in order to determine viability of the options. The options included:

- Residential—both Rental and For-Sale Scenarios, with a Small-Unit Configuration and a Large-Unit Configuration. These options are not feasible today and are not likely to be feasible in the future as a result of an inability to achieve more than approximately six parking spaces on-site thereby limiting the marketability of condominiums, and relatively low housing rents and sales prices relative to development costs. These alternatives would most likely have a significant greatest impact on the historic character of the interior of the buildings, although the schemes have little impact on building exteriors and would preserve important interior features.

- Office. The buildings lend themselves well to office conversion. It makes sense that the many law firms occupying smaller residential buildings in the adjacent neighborhood could take advantage of upgraded space in a renovated Superior Court/County Commissioners complex. Many of the courtrooms may be able to be re-used without subdivision and the Law Library could be used as a common meeting center or a high quality restaurant. The vacated houses in the neighborhood currently being used as office space could be returned to residential use. The economics of this option do achieve economic viability at present, although changes in achievable rents or construction costs might easily affect future economic viability.

- Office in the Superior Court building with Residential in the County Commissioners building. The Commissioners Building works well physically for larger condos as it can be subdivided without impacting any historically or architecturally important spaces. Sufficient parking can be provided on-site for this limited use. The office re-use in the Superior Court Building would be similar to the all-office scheme. The economics of this scheme are on the cusp of viability, and changes in achievable rents or construction costs might easily affect economic feasibility.

- Institutional. This use, along with office, potentially makes the best use of the historic buildings. A major user has indicated a strong interest in exploring acquisition and re-use of the buildings for institutional use. While a specific program for that user has not been tested, the types of spaces have strong potential for re-use. The economic feasibility for development by an institutional user is dependent on the user.

1-C Conclusions

While only an all-office option is economically viable in the current market, it is believed that there is a strong likelihood that within a reasonable timeframe (consistent with the surplussing of the buildings) the projected rents will become sufficient and/or development costs can be controlled sufficiently for the Office use and, possibly, the Office/Residential use to become viable. Institutional uses can be investigated further as users with real programs step forward in the preliminary polling process; especially with respect to the strong interest of one potential user. All of the likely viable uses will be compatible with the new J. Michael Ruane Judicial Center. All of these uses are marginal economically, so it is unlikely that an RFP process will generate much more than a token amount in residual value for the property. The exception is the all-office option, which has the highest likelihood of creating positive land value, and is shown as such in this analysis.

2. BACKGROUND

2-A. Building Data & Site Analysis

i. Building Description

The Salem Superior Court Building, built in phases between 1861-1891, and the Essex County Commissioners Building (1841) operate as one building with connected rear atrium space, common elevator, and common main entrance. The buildings are located at 32-34 Federal Street in Salem. In general the red brick exterior, brownstone banding, columns and details appear to be in very good condition. A thorough exteriors analysis was not conducted but it was noted that interior areas of the north/east and north/west brick turrets showed signs of water infiltration. Other areas showing signs of damage due to water infiltration were at the roof of the connector between the two buildings. The Superior Court building currently houses a historic law library, three grandly detailed spacious courtrooms, a holding cell facility and storage in the basement.

Public entrances to Superior Court (left) (1861-1891) and Commissioners' Building (right) (1841)

The Romanesque Revival Superior Court building, constructed in 1861, is approximately 39,500± gross square feet with red brick exterior with brownstone banding and arched windows. Brownstone columns and a heavy brownstone arch support a projecting entry bay with gabled roof. Projecting stair turrets with conical roofs and a tower provide vertical accents. Major spaces are three courtrooms, the Essex County Law Library and the Superior Court Clerk Magistrate's Office.

The Greek Revival Commissioner's building, constructed in 1841, is approximately 15,600± gross square feet. Its gray granite façade and slate roof are in good condition. This building currently houses ancillary space for the Superior Court, first floor offices, second floor open plan offices and basement storage. The previous alterations included masonry infills at the basement's vaulted masonry piers as a means to support the altered open plan of the upper floors. The attic space has wood rafters and heavy timber tie beams supporting the roof. The ridge height is approximately seven feet above the wood floor and an additional two to three feet to the top of the wood joists below.

The only accessible means of entry is at the recently constructed connector between the Superior Court and the Commissioners' building. This entrance can serve as public access to both buildings from Federal Street, but is currently not frequently in use due to security operational

issues. The existing heating system for the two buildings is via a steam line and tunnel to the Probate and Family Court.

ii. Overview of Salem Trial Courts Existing Conditions Report

As part of the decision making process for developing the J. Michael Ruane Judicial Center, an existing conditions report was completed. The report, dated September 2003, describes the condition, use and historic qualities of the Superior Court and County Commissioners Building.

That study focused primarily on looking at the buildings in terms of their adequacy for use as a courthouse and civic facility; whereas this study assumes that the buildings will be rehabilitated and a new use determined. As a result, the 2003 report is geared mostly towards adequacy for a civic, public, legal use. The analysis, however, is relevant to this study, as a new user may have similar issues and requirements as the current user. Also, the general building condition, layout, and key issues are discussed. The "Summary Findings" listed in the report are as follows:

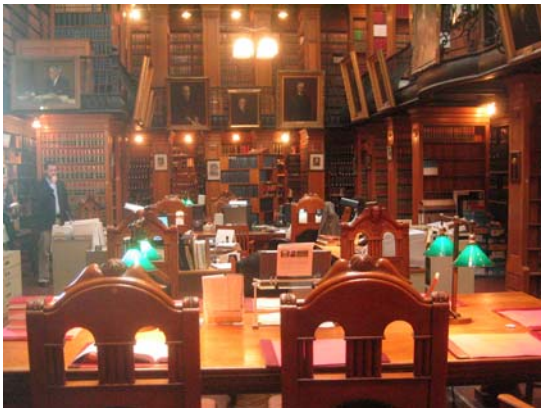
- No separate circulation systems
- Multiple level changes
- Unenclosed egress stairs
- Superior Court building has unprotected wood joists
- Small floor plates for each building: 5,200 – 11,799 square feet

Structure

The Superior Court was built in several stages and consists of the older portion nearest to Federal Street that is constructed of masonry bearing walls and wood joists, and the more recent portion built closer to Bridge Street, which has masonry bearing walls and columns. The Commissioners Building has masonry bearing wall construction, and the attic space has a wood floor on wood joists. Wood rafters and heavy timber beams support the roof.

Interior Features

The most notable spaces in the complex, all located in the Superior Court Building, are the three courtrooms and the Essex Law Library. The Law Library features a two-story open space, vaulted ceiling with wood arches, skylights, and ornate oak bookcases, a perimeter mezzanine structure supported by iron brackets, and perhaps most dramatically, a large twenty-five foot wide brownstone fireplace.



Essex Law Library

Accessibility & Circulation

The joint facility currently lacks an accessible entrance that is co-located with the general public entrance. The accessible entrance is located on the Federal Street side of the connection point between the two buildings and is often blocked by parked cars. On the interiors, the majority of the complex is not in conformance with current accessibility regulations, most notably the courtrooms.

South Stair at Superior Court

The two buildings – the Superior Court and the County Commissioners building – are built at different floor elevations, and as a result floors do not line up between them. The circa-1980s elevator, located in the tower turret of the Superior Court, manages this difference with an elevator cab that stops at all levels in each building. However, the elevator does not access the basement of the Superior Court Building where the holding cells and public men's restrooms are located. A wheelchair lift does access the basement level from the lowest elevator landing.

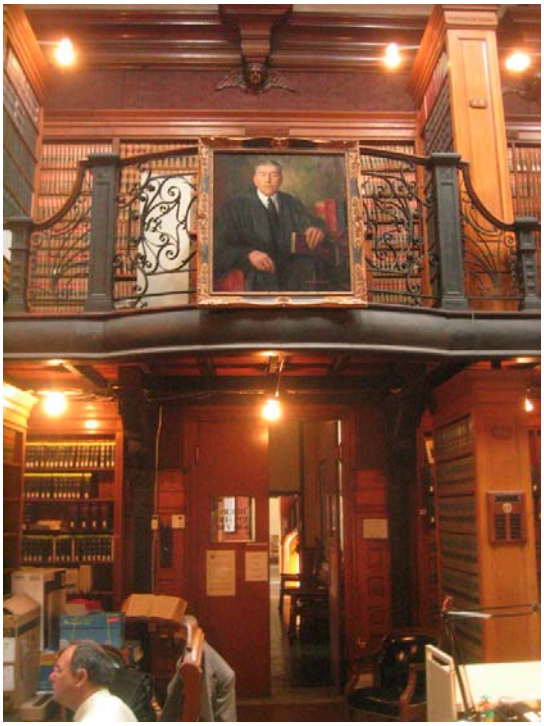
Building Systems

Per the September 2003 report, a list of building system issues is as follows:

- Potential roof leaks, most notably with respect to the roof over the circa 1980 link between the Superior Court Building and the Commissioners Building
- Electrical systems (upgraded in 1980) are generally in good condition.
- Emergency power and emergency lighting systems do not appear to be up to current electrical and safety codes.
- Lighting types in the complex vary between buildings and rooms. The majority of fixtures are older T-12 lamps. Light fixtures vary from modern to older than 50 years.
- Fire alarms and detectors exist throughout the Superior Court Building; they are non-existent within the Commissioners Building.
- Heating is provided via a shared plant located underground between the complex and the neighboring Probate and Family Court Building. Localized specific temperatures cannot be controlled throughout the Superior Court building. Air conditioning is provided via window units. Heat in the Commissioners building is provided via individually controlled convection heaters.
- Ventilation systems in both buildings require replacement due to condition, noise, and age.

Summary

Generally, the building complex is in sound structural condition. However, as noted by the decision to relocate the building functions in a new consolidated facility, the building has out-lived a useful life for the demands of the currently programmed use. A new user to the space would be required to make many of the upgrades and modifications that are currently deficient in the current complex. However, depending on the use and user type, the extent of renovations would vary.



Essex Law Library Mezzanine

iii. Historic Considerations

Both buildings are on the National Register of Historic Places. The notable interior features of the Superior Court Building are the second floor Essex Law Library, the courtrooms and the stairways. The Law Library retains its original historic architectural elements of fluted pilasters, crown moldings and a mezzanine with a vaulted ceiling and skylight. The Library is remote from the building's street entry.

The three courtrooms retain their wood wainscot and the wood ribs of the high vaulted ceilings. The second floor Session I courtroom has the most desirable spaciousness that could be considered to be retained in a new program. This courtroom also has high stained-glass arched windows.

The open tread stairs at the north central stair hall between the 1861 and 1891 buildings are ornate iron with bracketed supports. A herringbone pattern tile floor surrounds the stairway landings. This and the south stair have historical significance and could be maintained as existing.

The County Commissioners Building interior has been significantly altered. The most notable interior features are the brick arches of the masonry floor and bearing wall construction system. These are currently concealed under dropped ceilings. Many materials of both buildings could be preserved and reused in other ways such as the wall supported granite treads of the Commissioners building and the spiral iron stairs of the clerk space in the Superior Court.

iv. Regulatory Review

This section is based on review of the City of Salem Zoning Ordinance and other relevant ordinances, and discussions with Lynn Duncan, Director, Department of Planning and Community Development for the City of Salem.

The subject property is located within the following districts in Salem:

- Local zoning is the B-5 Central Development Zoning District.
- The building complex (the "Essex County Court Building Complex") is on the National Register of Historic Places.
- The site is located within the Federal Street National Historic District.
- The site is not located with a local City of Salem Historic District, but is located nearby the McIntire District.
- The site is located within the Salem Redevelopment Authority (SRA) jurisdictional boundary.
- The site is located within the City of Salem's Ward 2.

Local Zoning

The B-5 Central Development Zoning District is a mixed-use, downtown core zoning district incorporating all viable uses for the purposes of creating a vibrant downtown. Uses include all manner of office, retail, and residential uses. All uses under the generalized "B" commercial zoning districts are allowable (which is essentially the range of non-industrial commercial and institutional uses), with the general exception of automobile and warehouse/wholesale commercial establishments. Residential uses allowable include "one-family, two-family, and multi-family residential uses in townhouse, row house, flats or multi-story arrangements, including high-rises, and secondary uses in upper floors." By and large, all residential uses are allowable with the exception of single-family detached structures.

Density regulations in the B-5 District, as they would apply to a re-use of the Courthouse Complex and as presented in Table III of the City of Salem Zoning Ordinance, are as follows:

	Non-residential Uses, Existing Building	*Residential Uses or Combined Residential & Non-residential Uses, Existing Building*
Minimum Lot Area (sq ft)	2,000	2,000
Minimum Lot Area per Dwelling Unit (sq ft)	n/a	n/a
Minimum Lot Width (feet)	30	30
Maximum Lot Coverage By All Buildings (%)	100	100
Minimum Width of Side Yard (feet)	n/a	n/a
Maximum Height of Building (Feet)	70	70
Maximum Height of Building (Stories)	6	6
Floor Area Ratio	6:1	6:1

Parking is not required for non-residential uses in the B-5 District. For residential uses, a requirement of one space per unit is required; however, the requirement can be met by parking "at municipal or other parking facilities in the vicinity of the proposed use." A candidate site for parking is the shared municipal parking facility in downtown Salem and future facilities planned in conjunction with the MBTA commuter rail station in Salem. As a parking requirement could

most likely not be met on-site for a residential use, these alternative parking locations would most likely be utilized to meet the requirement.

All viable re-use schemes and all schemes investigated as part of this study would conform to the current B-5 Zoning District. As a result, a re-use scheme would most likely be a by-right use and therefore not subject to a zone change and could be approved by the Salem Planning Board. Assuming the project has more than six residential units, an application, site plan review, and public hearing would all be required.

However, due to the historic nature of the building and the location of the site within the Salem Redevelopment Agency's jurisdiction, primary approval and permitting hurdles would be a part of those processes.

Historic Review

The buildings are not in a local historic district, which means that exterior alterations to the structures are not subject to local review by the Salem Historical Commission. The buildings are, however, included in two overlapping historic districts listed in the National Register of Historic Places: the Essex County Court Building Complex (listed 1976) and the Federal Street Historic District (listed 1983).

All properties listed in the National Register of Historic Places are automatically included in the State Register of Historic Places. Disposal of the buildings by the Commonwealth for private redevelopment will be subject to review under the Massachusetts Environmental Policy Act (MEPA) as it applies to the actions undertaken by agencies, boards, departments, commissions and authorities of the Commonwealth of Massachusetts. Such action would also be subject to the Massachusetts Historical Commission Act, which requires reviews of projects that affect properties on the State Register of Historic Places that are undertaken by any agency, executive office, department, board, commission, bureau, division, or authority of the Commonwealth established to serve a public purpose. The end result of such reviews may be the placement of a preservation covenant on the buildings. The covenant will require review by the Massachusetts Historical Commission of any proposed changes to exterior features and may also cover significant interior spaces of the Superior Court building, particularly the Essex County Law Library and courtroom spaces.

If the buildings were opened to private redevelopment and Federal or State historic tax credits were used as a funding component for that redevelopment, all plans for re-use would be subject to reviews associated with those programs. Use of Federal tax credits requires review by the National Park Service and use of State historic tax credits requires review by the Massachusetts Historical Commission.

Salem Redevelopment Authority

All development projects proposed in the Salem Redevelopment Authority Urban Renewal Areas are required to undergo a two-step review process. The process involves: 1) Preliminary Approval at the Schematic Design Review phase; and 2) Final Approval of the final design of the project. As the membership of the Planning Board and the Salem Redevelopment Agency are staffed similarly, the application & review process can be done concurrently.

2-B. Market Overview & Basic Real Estate Analysis

i. Current Market Conditions

The purpose of this section of the report is to provide background market data for the potential reuse of the Salem Superior Court & County Commissioners Building.

As discussed above, the following development scenarios for reuse will be investigated in order to focus on the market data available for those specific scenarios. The scenarios/product types are as follows:

- For-sale residential
- For-rent residential
- Office
- Institutional
- Mixed Use

The ultimate objective is to determine the most viable development scenarios, determine if a funding shortfall exists for each development scenario, and provide general information in order to inform decision making and potential revitalization strategies. Market data provided here provides an understanding of potential sales prices or rents which will inform those development scenarios. ***An important note is that the market data presented here represents market conditions in mid-2007 and will most assuredly have changed by the time a user is determined for the courthouse complex (planned 2010).***

ii. Overview of Market for Historic Redevelopment

Increasing land prices and barriers to entry for new development, combined with the historic, aesthetic, and locational qualities of historic buildings in Massachusetts make these structures desirable assets for development and redevelopment. The buildings offer opportunities for locating new high-tech industries, new housing units, retail opportunities, and civic facilities. Obstacles to redevelopment of these properties are high. Still, many successful redevelopment efforts have occurred across the state and are examples of projects that highlight both the Commonwealth's historic past but also its future economic potential.

iii. Market Analysis by Product

<u>Apartments</u>

Residential, for-rent product is a desirable re-use prototype for the court complex. Positives of this development type include a need for housing, available funding from historic and affordable housing programs, and the inherent locational and aesthetic qualities of site. A downside of

apartment development is the small size of the existing court complex, as the unit potential to cover the costs of rehabilitation may not be adequate.

Apartment Market Overview – Boston Metro

The vacancy rate for the Boston area's investment-grade, multi-family apartments is reported at 5.8% in the third quarter of 2007. This is 20 basis point increase from the second quarter of 2007. The first quarter 2007 vacancy rate of 5.9% is thought to be a historical high in the Boston Metro area. In fact, between 1981 and 2003, Boston vacancy was below 5.0%—often below 3.0%; a time span of over 20 years. Vacancy is much higher for Class A apartments (8.2%) but remains high for class B/C rentals at 4.4% - a 50 basis point rise over the previous quarter. A 6.2% vacancy is predicted (by Reis.com) for the close of 2007 and a downward trend thereafter, ultimately falling below the national average in 2008. A recent construction surge in the Boston Metro Area has altered the market significantly. Rather than a very tight market restricted by rent regulations in the city and zoning regulations in the suburbs, the long campaign by business interests for more affordable housing has apparently balanced the market. Additionally, it is predicted that a suspect for-sale housing market will ultimately serve the for-rent market positively.

Rising vacancies have prevented significant rent increases. In 1999 and 2000, market rate rents increased significantly more than 10.0% per year; the rate of increase tapered off, finally followed by small losses in 2003. Rent gains at or just under 3.0% are predicted for 2008 and each year thereafter. For the third quarter of 2007, the average asking rent rose 0.8% from the previous quarter to $1,672 per month while the average effective rent increased 0.5% to $1,590 per month.

In the 12 months concluding with the second quarter of 2007, the mean sales price per unit and cap rate are $229,636 per unit and 5.4%.

Apartment Overview – North Shore Submarket, Including Salem

- The 29,880-unit North Shore submarket that includes Salem, had a third quarter vacancy rate of 6.2%, and an average asking rent of $1,414 per month.
- Including new nearby out-of submarket projects, the region added 686 units with the 446-unit Highlands at Dearborn building in Peabody, the 155-unit Washington Mills in Lawrence, and the 85-unit The Cordovan at Haverhill Station in Haverhill. Over 1,000 new units are projected in the last quarter of 2007 and the first six months of 2008 within the submarket, including Avalon Danvers (400+ units).

Sample Rents, Apartments (Q3 2007)

	Location	Monthly Rents	Unit Size (Bedrooms)	Unit Size (Sq Feet)
Jefferson at Salem Station	Salem	$1,395-$1,875	1-2	815 - 1,538
Princeton Crossing	Salem	$960-$1,300	1-2	600 - 900
Hawthorn Commons	Salem	$1,290-$1,590	1-2	796 - 1,093
Essex Place	Peabody	$925-$1,399	1-2	713 - 1,132
Avalon at Crane Brook	Peabody	$1,099-$1,960	1-2	786 - 1,580
Highlands at Dearborn	Peabody	$1,191-$1,904	1-2	703 - 1,366
Avalon Essex	Peabody	$1,199-$1,799	1-2	779 - 1,591
Endicott Green	Danvers	$1,200-$1,650	1-2	772 - 1,140
Folly Hill Meadows	Beverly	$1,075-$1,300	1-2	820 - 1,000
Avalon Danvers	Danvers	$1,227-$2,075	1-3	800 - 1,697

Source: Rentnet.com, REIS

Condominiums

The market issues surrounding condominium development at the site are similar in nature to those of apartment product. Positive attributes include a desirable location and aesthetics, while downsides include a project size that may be too small to cover costs, as well as a lack of available, deeded, parking. However, a higher-end, unique condominium product may be a viable market alternative; while a rental version may not command sufficient rents. Multi-family condominium development must also compete with detached single-family product, especially in an inner-suburban location such as Salem. Detached single family product can be affordable in Salem and the potential buyer pool is reduced by those uninterested in living in an urban product in a suburban location.

Finally, the slowdown in the for-sale housing market over the past 12-24 months has resulted in substantial price erosion in many markets. The result is lower potential for rehabilitation as for-sale product.

For the calendar year 2007, the median single family home price in Salem is $301,500 while the median condo sale price is $240,000. By comparison, the 2006 median single family home price in was $319,135 while the median condo sale price was $266,000. Through October 2007, there have been 170 single family home sales and 284 condo sales in Salem.

New condominium projects in Salem include the Derby Lofts which are priced at roughly $280 per square foot with condo fees in the mid-$300 range and the Museum Place Project, which commands prices of approximately $325 per square foot.

Salem has recently been a poster city for new "downtown" and "transit oriented" living by empty nesters and young professionals. This demographic shift has been a boon to the downtown condo market in Salem. The trend, which peaked with the housing market in 2005, does remain relatively strong; however, the softening condominium market has affected pricing for new construction and re-sales.

Commercial Space

As historic Massachusetts communities look for new and revitalized economic engines, they also look to their existing stock of historic buildings. Office development – or "flex/office"; implying a flexible space that can be used for a range of uses from traditional office R&D uses – are a desirable product for economic development. As such, several state programs that encourage economic development exist for just such a re-use, thereby increasing the feasibility potential for this type of development.

For the courthouse site in particular, one office user stands out as a most-desired use: attorney and legal offices. Several attorneys offices are currently located in converted historic homes along Federal Street due to the proximity to local courthouses. Demand for such office space remains high and a renovated Court complex could offer a market opportunity.

Office Market Overview – Boston Metro

Overall, the Boston Metro office market had the eighth largest rent gain nationally for the third quarter of 2007. The vacancy rate continues to be moderately high; however, it is dropping, and quickly, as of the beginning of Q4 2007. The boom has been primarily located in Boston's downtown and desirable suburban office locations; however, according to some sources, many tenants who are flexible regarding location are looking to take advantage of remaining opportunities in the metropolitan area.

Rents in the metro Boston market have increased 2.7% from Q2 to Q3 2007 to an average of $30.05 per square foot annual asking rent and a 3.1% increase in effective rent to $29.97 per square foot annually. The Class A asking average rose 3.1% for the quarter and 11.6% year-over-year, to $40.95 psf, while the Class B/C average is up 1.9% and 9.2% to $24.81 psf. According to Reis.com, rents are predicted to rise approximately 6.5% in 2008 and 4-5% annually thereafter. For buildings sold during the past 12 months, the mean sales price is $226 psf, and the mean cap rate is 6.8%. The third quarter mean cap rate is significantly lower at 5.3%.

Salem Office Market

In the approximately 20.6-million-square-foot North Shore/Route 128 North submarket, the vacancy rate is 16.5%, and the average asking rent is $22.06 psf, the lowest in Greater Boston. Asking average rents in Q3 2007 are $18.62 psf. Central Salem has seen limited new construction

of office space; office space that has been developed has been either new space as part of mixed-use projects or in projects in converted warehouse and industrial structures along Salem's waterfront. Current pipeline projects are typically limited to proposed rehabilitation of historic warehouse waterfront properties. Generally, few larger spaces are available in downtown Salem. Current properties, typically B & C class, command $12-16 square foot annual rents (triple net).

Salem Retail Market

Although retail is not thought to be a practicable use for the courthouse complex, a restaurant use may be a viable alternative for the space. Generally, the Salem downtown retail market is not strong and the City is currently focusing on maintaining and rehabilitating existing ground floor retail and incorporating retail into new mixed use projects.

Government & Institutional Use

Although a "market" does not traditionally exist for institutional users, the location and layout of the site lends itself to an institutional user. Potential local users include, but are not limited to:

- Salem State College
- Other colleges, including: Mass School of Law in Andover, Montserrat & Emerson
- Essex County District Attorney's office
- Essex County Public Defender's office
- State Offices
- Salem Hospital

2-C. Redevelopment Opportunities

Pros and cons for each development opportunity are listed as follows.

Private Office

Pros

- Market Opportunity
- Potential Tax Revenue
- Spaces Potentially Appropriate
- Opportunity to Maintain Public Access

Cons

- Public May not Have Access to Historic Space

Residential

Pros

- Market Opportunity
- Potential Tax Revenue

Cons

- Public May Not Have Access to Historic Spaces
- Parking

Retail

Pros

- Unique & Interesting Retail Opportunity
- Public Access to Historic Asset

Cons

- Location & Structure Potentially Not Well Suited to Retail Use
- Parking

Mixed Use

Pros

- Character & Usability of Each Building Could Address Different Market Opportunities
- Potential Tax Revenue

Cons

- Public May not Have Access to Historic Spaces

Government & Institutional

Pros

- Public Access & Historic Assets Could be Maintained
- Appropriate Use for Location

Cons

- Potential Challenge to Find Appropriate User
- Limited or No Tax Revenue

2-D. Opportunities & Constraints

The Superior Court & County Commissioners Building Complex offers a unique opportunity for redevelopment based primarily on locational and historic attributes. An overview evaluation of key opportunities & constraints is as follows:

<u>Opportunities</u>

- Unique historic structure
- Prime location in downtown Salem adjacent to MBTA station, downtown shopping, historic areas, and existing court complex.

<u>Constraints</u>

- Design constraints and considerations:
  - Multiple level changes at the Superior Courthouse
  - Regulatory upgrades at both buildings: rated stair enclosures, fire protection systems, interior ADA upgrades

- Historic features:
  - Law Library materials, space and access to the public
  - Details at Superior Court courtrooms to be incorporated as is or salvaged and reused elsewhere within the building
  - Voluminous space of Session I Courtroom
  - Exterior to be unaltered
  - Window replacements to match original
- Heating system separation from neighboring Family & Probate Court
- Legal lot separation from neighboring Family & Probate Court
- Retaining and integrating internal and external historic qualities of buildings, including historic courtrooms and law library.
- Cost of renovation
- Market appropriateness for development schemes
- If an institutional user is desired; finding an appropriate user

Public & ADA Access at Common Connector

3. REUSE OPTIONS

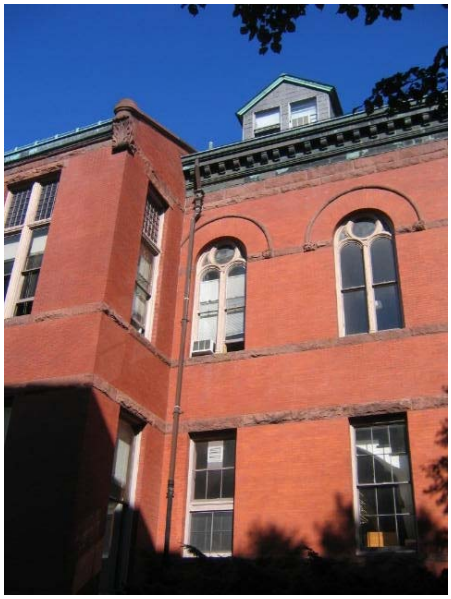
This section of the report – which includes economic feasibility information and accompanying draft architectural feasibility information – evaluates several proposed development scenarios. The analysis illustrates that viable re-use options exist for the historic existing courthouse facility, with interior renovations. In summary:

- The complex has a viable economic use.
- Proposed viable uses work in tandem with the planning goals of the City of Salem.
- Proposed viable uses could preserve the historic character and integrity of the buildings, including the preservation of the Essex County Law Library room with public access.
- Proposed viable uses do not negatively impact the development potential of the J. Michael Ruane Judicial Center.

3-A Reuse Options Approach

i. Design Feasibility Approach

A field study was conducted to determine the feasibility of various new uses. The final plans were designed with the intent of minimally invasion measures. Due to the layout of masonry bearing walls and columns and their combined vaulted ceilings, it was determined that reconstruction to accommodate parking in either basement would not be economically feasible. The configuration of the buildings interiors and the lack of parking negated a number of uses initially discussed including retail and a boutique hotel. The included plans outline the alternate options for most viable programs of combining residential units with commercial office and institutional uses. The attached construction implications list the major renovation changes. A structural report is included in the appendix which includes the structural implications for each option.



High & arched windows on the west side of the Superior Court Building

In each option the central ramp location is maintained for public and handicap access. All options also include the addition of a canopy cover over the ramp entry and a new drop off area. Seven parking spaces have been added to the north of the site with access along the west of Superior Court drive entered from Federal Street. The single storey masonry shed at the rear of the Commissioners' building will be removed. Public and private circulation is well organized and consistent on each level. The comparison chart located in the Appendix demonstrates the net to gross square footage differences to each program layout.

ii. Economic Feasibility Approach

A key aspect of this analysis is the determination of assumptions with respect to revenues and costs. As the proposed project is not expected to be examined until 2010, the assumptions made here will require update at that time. What is currently a feasible project today may not be feasible in 2010 and conversely, an infeasible project today may be possible in 2010. For the purposes of this analysis, input assumptions were made based on the present.

The following assumptions are made throughout the feasibility analysis and are detailed in the background study:

Assumptions **(Current as of Fall 2007)**

Direct construction costs:	$175/renovated gross square foot.
Residential sales Price:	$320/net square foot
Residential lease Rate:	$1.55/leaseable square foot monthly
Office lease Rate:	$19/leaseable square foot annually, triple net
Interest rate on debt:	6.5%
Development timeframe:	24 months

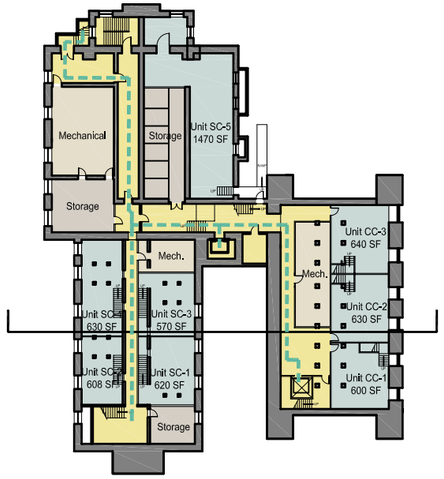
All options also assume that the building/land would be donated to the proposed development, unless there is a surplus (which would be seen as positive land value) and assume the use of both Federal and State twenty percent historic tax credits for eligible portions of each scenario.

3-B. Residential Alternatives

As presented in the architectural feasibility report, two residential alternatives were developed. Each utilizes the full extent of both the Superior Court Building and the County Commissioners building as residential space. The historic library space in the Superior Court Building would be preserved as common, public space for both building tenants and the general public. Minimal on-site parking is provided and it is assumed that parking requirements would be met off-site, most likely in the nearby Salem municipal garage.

i. Option 1 - Large Residential Units (See Foldout: Option 1)

This option fits 22 large residential units in both buildings, including both flats and duplexes. Security control can be maintained at each of the residential suite entries with keycard access. Principal features of this option include:



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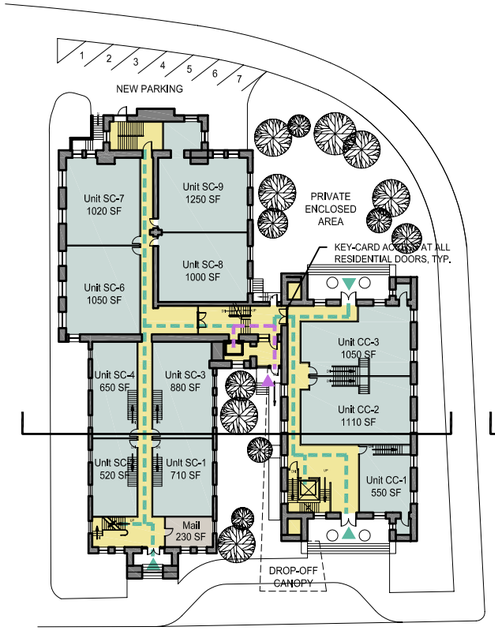

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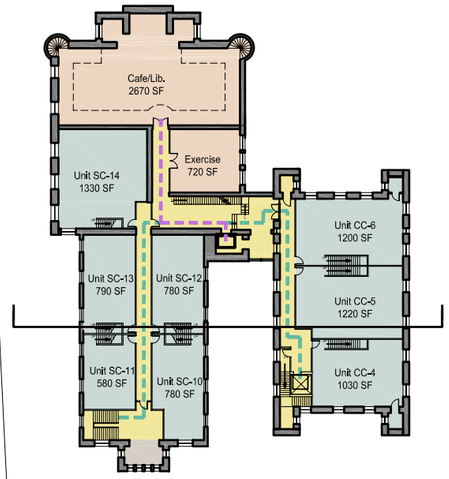

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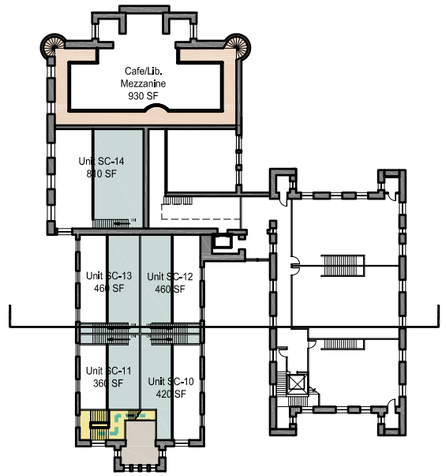

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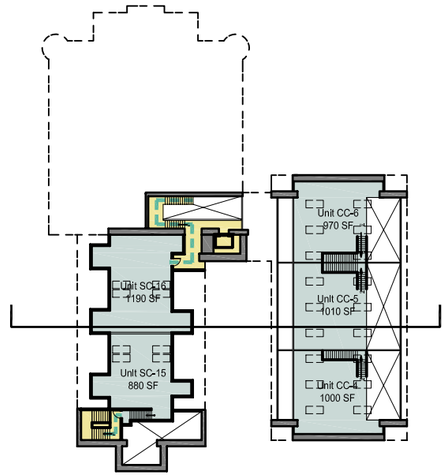

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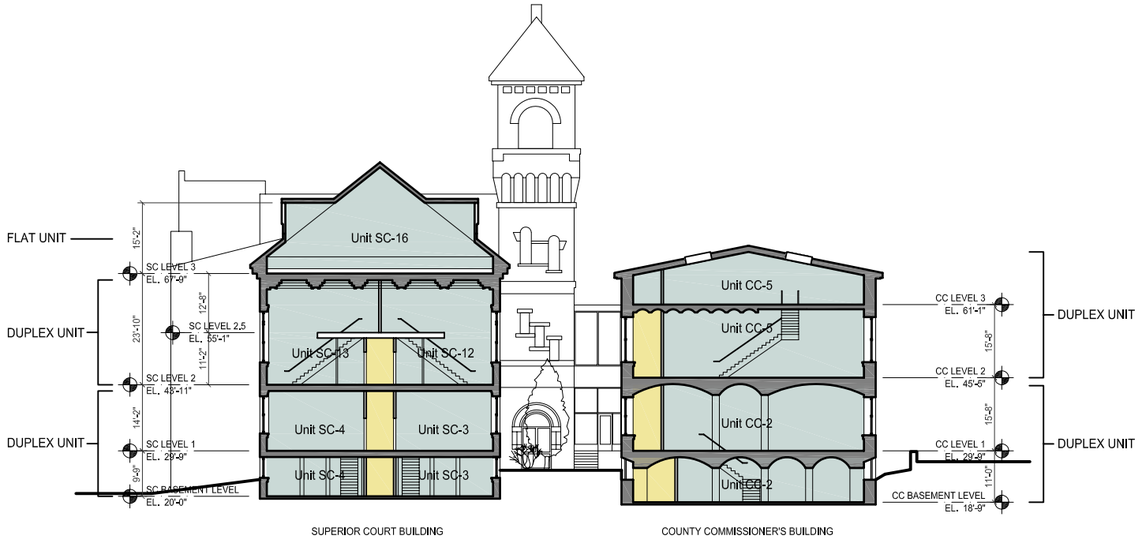

BUILDING SECTION
SCALE 1/16" = 1'-0"

- PUBLIC ACCESS
- PRIVATE ACCESS
- RESIDENTIAL
- CIRCULATION
- COMMON / STORAGE
- MECHANICAL
- PUBLIC

SUPERIOR COURT BUILDING

UNIT	B	1	2	2,5	3	TOTAL
SC-1	620	630				1250
SC-2	450	480				930
SC-3	570	860				1430
SC-4	630	610				1240
SC-5	1470					1470
SC-6		1050				1050
SC-7		1040				1040
SC-8		1000				1000
SC-9		1250				1250
SC-10			820	500		1320
SC-11			620	360		980
SC-12			820	560		1380
SC-13			820	480		1300
SC-14			1370	760		2130
SC-15					880	880
SC-16					1190	1190
CIRC	2140	1450	1430	300	400	5720
MECH	1190					1190
STORAGE	1260					1260
CAFE			2670	930		3600
EXERCISE			720			720
MAIL		230				230

COUNTY COMMISSIONER'S BUILDING

UNIT	B	1	2	2,5	3	TOTAL
CC-1	600	550				1150
CC-2	630	1110				1740
CC-3	640	1050				1690
CC-4			1030		970	2000
CC-5			1220		1010	2230
CC-6			1200		970	2170
CIRC	840	1150	720			2710
MECH	600					600

TOTALS

UNIT	TOTAL
RESIDENTIAL , 22 UNITS	30,820
CIRCULATION	8,280
PUBLIC	4,550
MECHANICAL / COMMON / STORAGE	3,200
TOTAL	46,850

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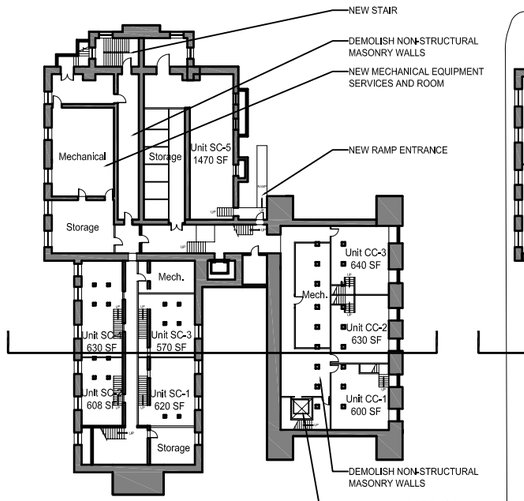

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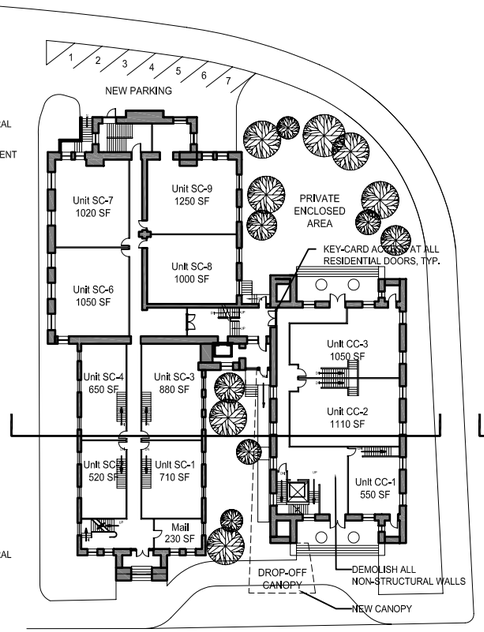
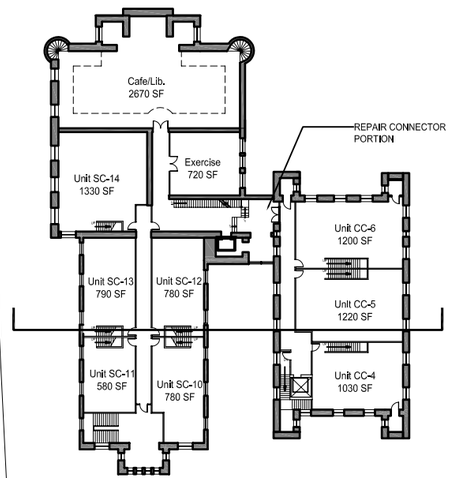


LEVEL 1
SCALE 1" = 30'



LEVEL 2
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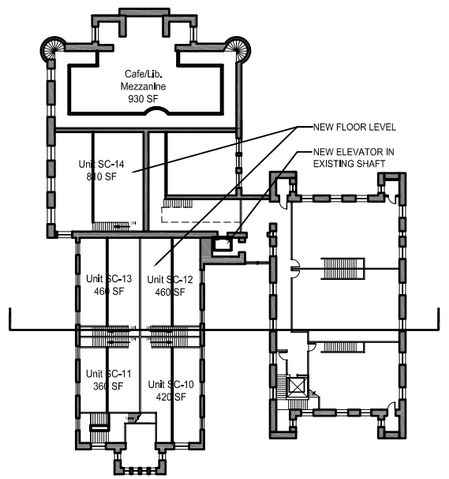

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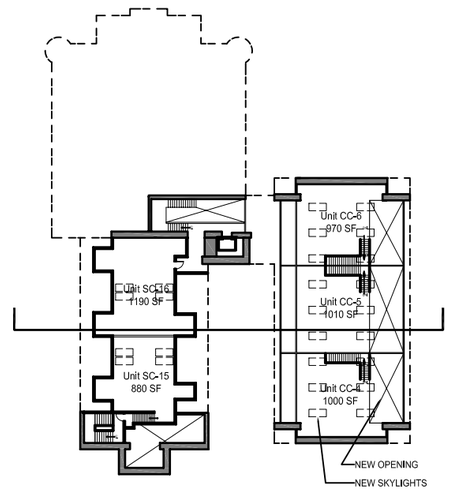

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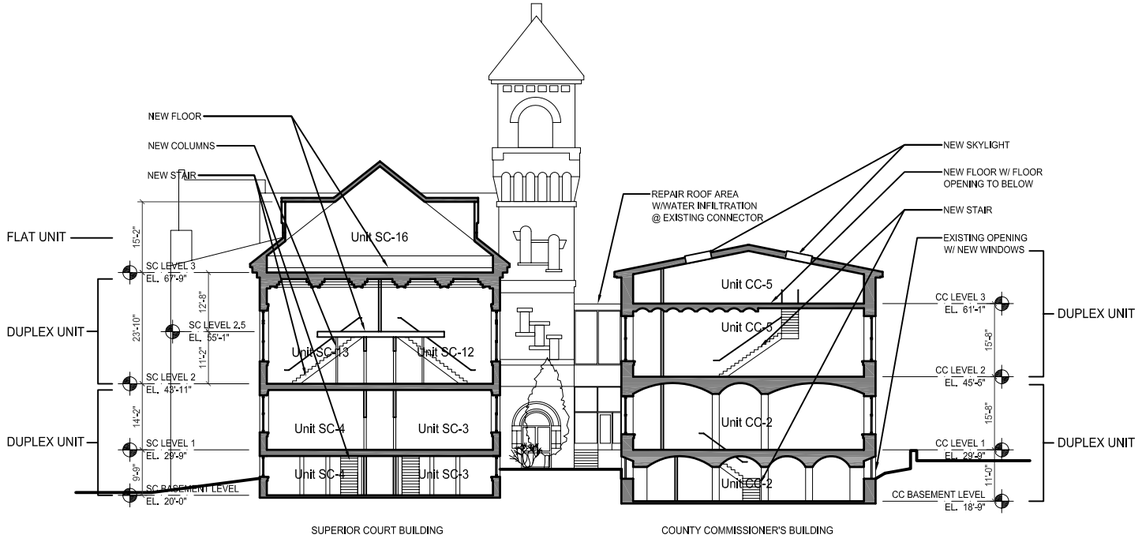

BUILDING SECTION
SCALE 1/16" = 1'-0"

- NEW INTERIOR ACCESS STAIRAT NORTH OF SUPERIOR COURTHOUSE.
- NEW ELEVATOR IN EXISTING SHAFT.
- NEW PASSENGER ELEVATOR & EGRESS STAIR AT SOUTHWEST ENTRY OF COMMISSIONER'S BUILDING.
- NEW SKYLIGHTS.
- REPAIR ROOF AND INTERIOR DRYWALL DAMAGED BY WATER INFILTRATION AT EXISTING CONNECTOR.
- NEW FLOOR INFILL AT SUPERIOR COURT LEVEL 3, SC LEVEL 2.5 AND COUNTY COMMISSIONER'S BUILDING LEVEL 3.
- NEW ENTRY CANOPY AND DROPOFF.
- NEW INFILL OPENINGS AT COMMISSIONER'S BUILDING BASEMENT.

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Superior Court

Skylights added to the Commissioners' Building Roof would not be visible from the street

- Loft style inter-flooring at the 2nd floor Session I creates additional square footage while maintaining daylight and views through the existing high arched windows and maintains the spatial feel.
- A new floor above the coffered ceilings makes use of the interstitial space allowing for full height units at the 3rd floor level.
- Skylights are added between the dormers of the 3rd floor units.
- The Essex Law Library and mezzanine is transformed into a café/library with public access maintained through the central stair and elevator.
- The anteroom to the Law Library is programmed as an exercise room available to private residences and the public.
- The basement combines residential flats, storage and mechanical space.
- A new stair is added within the existing north structure as a second means of egress.

Commissioners' Building

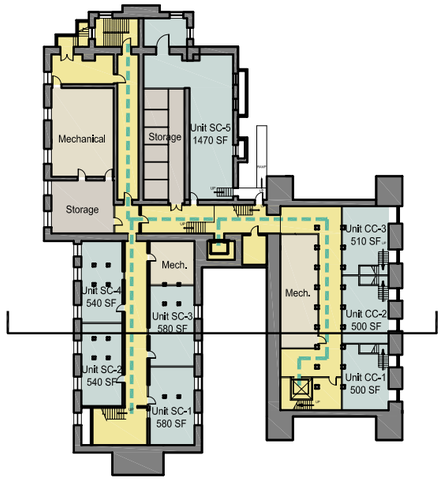
- A new elevator and stair are added at the Federal Street entrance allowing access from the basement to the 2nd floor.
- The basement space is made habitable by combining into a duplex with the first floor. The east basement windows can be enlarged to add more daylight to these spaces.
- The 2nd floor is combined with a new floor added to the attic to allow for spacious duplexes.
- Skylights are added to provide daylight to the top level of the upper duplexes.
- Units in this scheme create a single loaded corridor facing the potential garden space between the buildings.
- A private access door at the rear of the building leads to a private garden space.

ii. Option 1A - Small Residential Units (See Foldout: Option 1A)

This option fits 32 smaller residential units in both buildings, including flats and duplexes. Security control can be maintained at each of the residential suite entries with keycard access. Principal features of this option include:

Superior Court

- Full inter-flooring is added at the 2nd floor Session I creating a duplex with the 3rd floor.
- Skylights are added between the dormers of the 3rd floor units.
- The Essex Law Library and mezzanine is transformed into an exercise space with public access maintained through the central stair and elevator.



BASEMENT
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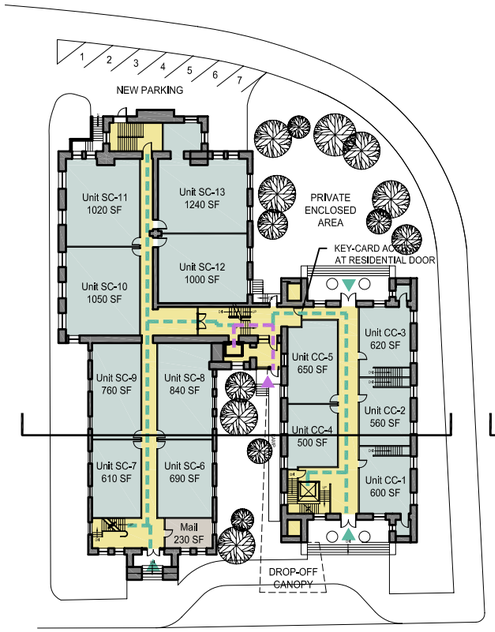
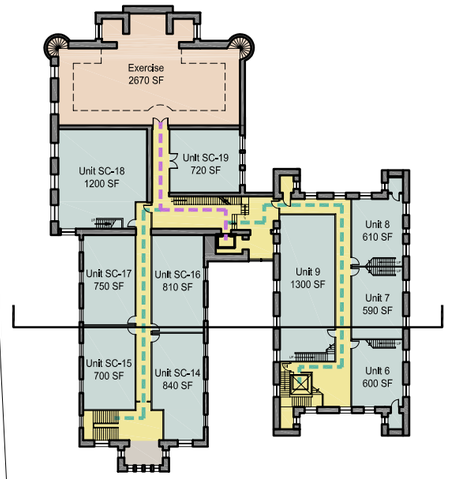
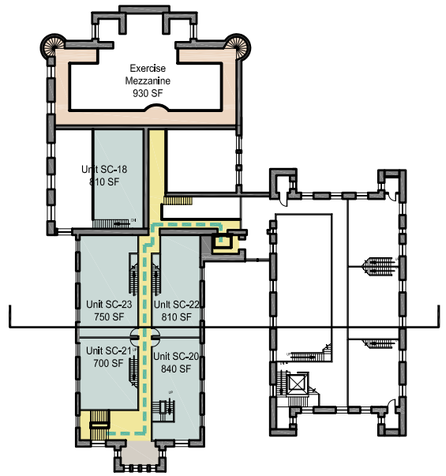


LEVEL 1
SCALE 1" = 30'



LEVEL 2
SCALE 1" = 30'



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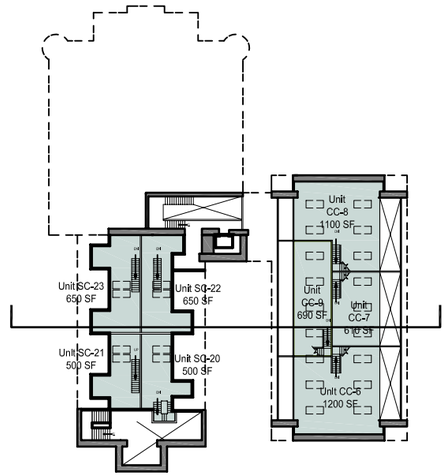
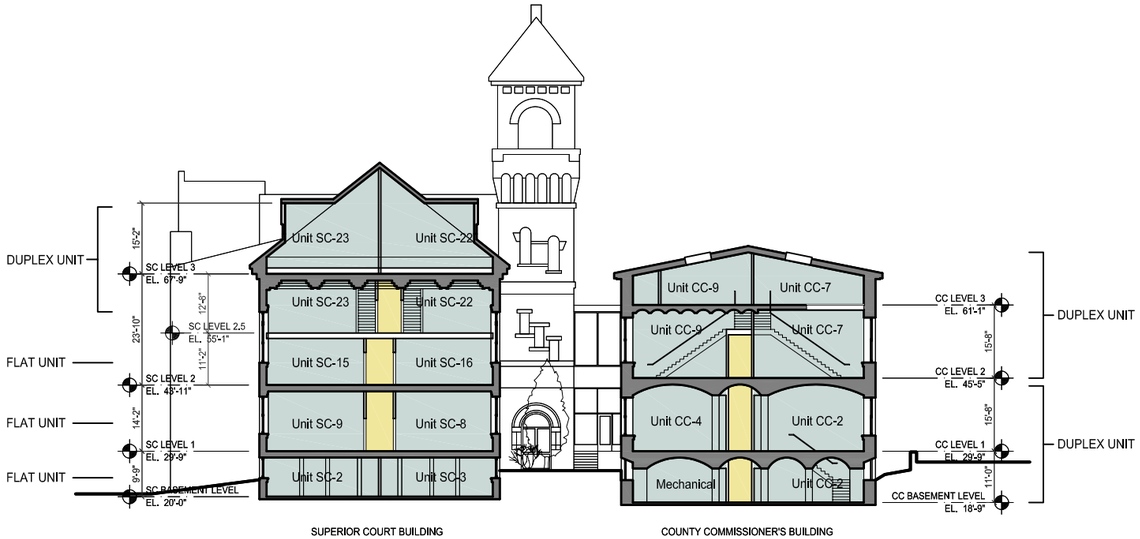


LEVEL 3
SCALE 1" = 30'

PUBLIC ACCESS
PRIVATE ACCESS
RESIDENTIAL
OFFICE
CIRCULATION
COMMON / STORAGE
MECHANICAL
PUBLIC



BUILDING SECTION
SCALE 1/16" = 1'-0"

SUPERIOR COURT BUILDING						
SPACE	B	1	2	2.5	3	TOTAL
SC-1	580					580
SC-2	540					540
SC-3	580					580
SC-4	540					540
SC-5	1470					1470
SC-6		690				690
SC-7		610				610
SC-8		840				840
SC-9		760				760
SC-10		1050				1050
SC-11		1020				1020
SC-12		1000				1000
SC-13		1240				1240
SC-14			840			840
SC-15			700			700
SC-16			810			810
SC-17			750			750
SC-18			1320	810		2130
SC-19			720			720
SC-20				840	500	1340
SC-21				700	500	1200
SC-22				810	650	1460
SC-23				750	650	1400
CIRC	2950	1970	1950	830	200	7900
MECH	1190					1190

SUPERIOR COURT BUILDING						
SPACE	B	1	2	2.5	3	TOTAL
STORAGE	1260					1260
EXERCISE				2670	930	3600
MAIL		230				230

COUNTY COMMISSIONER'S BUILDING						
SPACE	B	1	2	2.5	3	TOTAL
CC-1	500	600				1100
CC-2	500	560				1060
CC-3	510	620				1130
CC-4		500				500
CC-5		650				650
CC-6			600		1200	1800
CC-7			590		610	1200
CC-8			610		1100	1710
CC-9			1300		690	1990
CIRC	1150	950	840			2840
MECH	670					670

TOTALS	
UNIT	TOTAL
RESIDENTIAL , 32 UNITS	33,410
CIRCULATION	10,540
PUBLIC	3,830
MECHANICAL / COMMON / STORAGE	3,420
TOTAL	51,200

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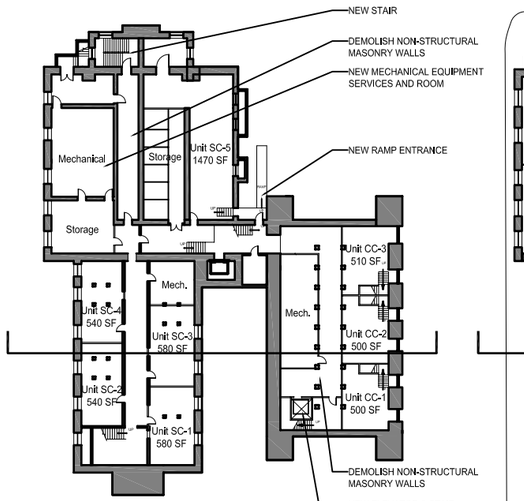

BASEMENT
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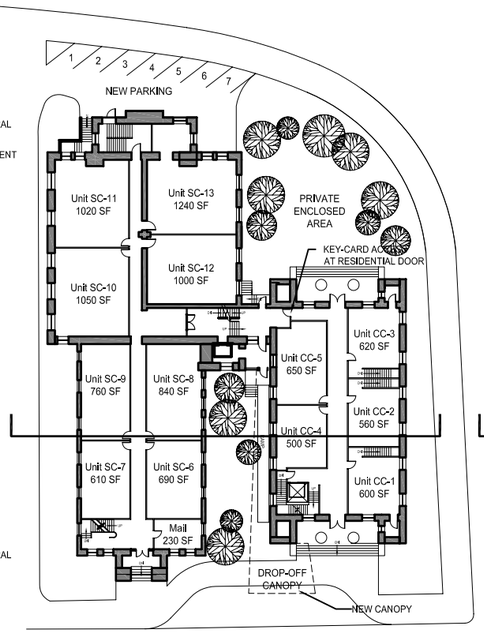

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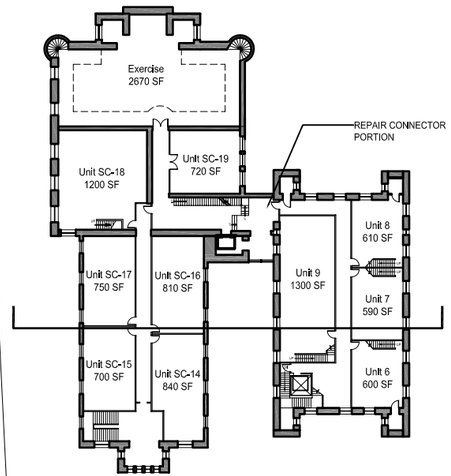

LEVEL 2
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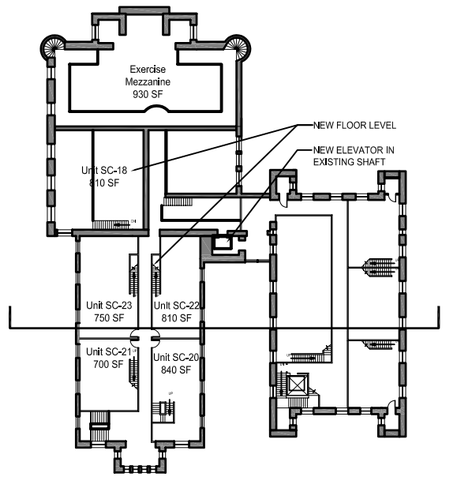

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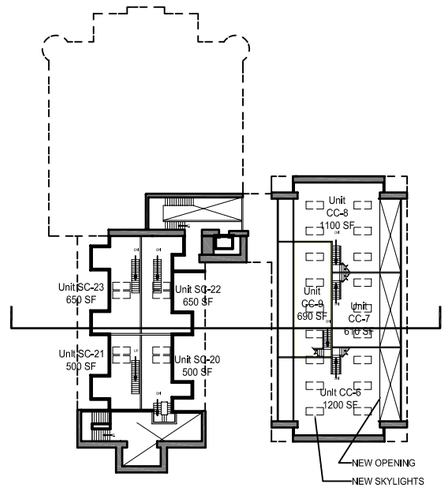

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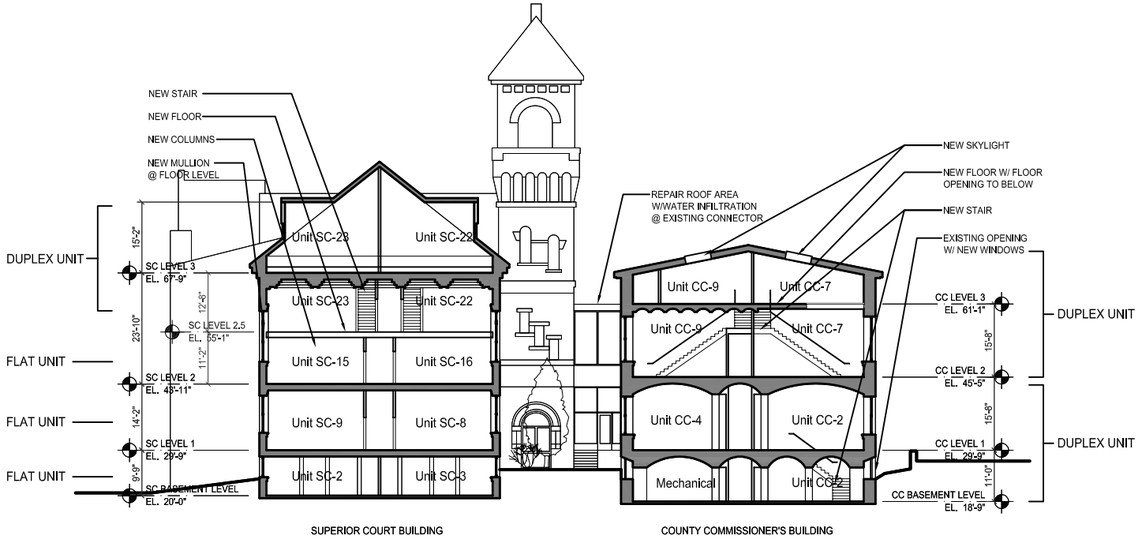

BUILDING SECTION
SCALE 1/16" = 1'-0"

- NEW INTERIOR ACCESS STAIRAT NORTH OF SUPERIOR COURTHOUSE.
- NEW ELEVATOR IN EXISTING SHAFT.
- NEW PASSENGER ELEVATOR & EGRESS STAIR AT SOUTHWEST ENTRY OF COMMISSIONER'S BUILDING.
- NEW SKYLIGHTS.
- REPAIR ROOF AND INTERIOR DRYWALL DAMAGED BY WATER INFILTRATION AT EXISTING CONNECTOR.
- NEW FLOOR INFILL AT SUPERIOR COURT LEVEL 3, SC LEVEL 2.5 AND COUNTY COMMISSIONER'S BUILDING LEVEL 3.
- NEW ENTRY CANOPY AND DROPOFF.
- NEW INFILL OPENINGS AT COMMISSIONER'S BUILDING BASEMENT.

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- The anteroom to the Law Library is transformed to a studio residential unit.
- The basement combines residential flats, storage and mechanical space.
- A new stair is added within the existing north structure as a second means of egress.

Commissioners' Building

- A new elevator and stair are added at the Federal Street entrance allowing access from the basement to the 2nd floor.
- The basement space is made habitable by combining into a duplex with the first floor. The east basement windows can be enlarged to add more daylight to these spaces.
- The 2nd floor is combined with a new floor added to the attic to allow for duplexes.
- Skylights are added to provide daylight to the top level of the upper duplexes.
- Units in this scheme create a central double loaded corridor.
- A private egress door at the rear of the building leads to a private garden space.

iii. Financial Feasibility, Residential Options

Both Options 1 & 1A were evaluated as both Rental and Condominium projects. As conceived and with the current assumptions, the options proposed all result in an approximate $2-3 million funding shortfall. Federal and State Historic Tax Credits are used in the calculations for both rental alternatives; the condominium projects are not eligible for these funds. A detailed breakdown appears on the following pages.

Summary of Residential Alternatives **(Current as of Fall 2007)**

Project	***Total Dev Cost***	***Sources***	***Shortfall***
22 Unit Rental Project	$12,040,000	$10,127,000	**($1,913,000)**
32 Unit Rental Project	$13,130,000	$10,921,000	**($2,209,000)**
22 Unit For-Sale Project	$12,0404,000	$9,567,000	**($2,473,000)**
32 Unit For-Sale Project	$13,130,000	$10,370,000	**($2,760,000)**

22 Unit Rental Project

Project Data

PROGRAM SUMMARY

	Sq Ft
Residential	30,820
Circulation	8,280
Public	4,550
Mechanical/Common/Storage	3,200
Total Sq Feet	*46,850*

LEASABLE SPACE SUMMARY

	Sq Ft	Units
Superior Court Building	19,840	16
County Commissioners Building	10,980	5
Total	30,820	21

MONTHLY REVENUES

	Monthly Rent PSF	Total
Residential	$1.55	$47,771
Average Monthly Rental	**$2,275**	

NOI & VALUE

Vacancy	5%
Operating Expense Per Unit/Month	$400
ANNUAL NOI	**$444,000**
Cap Rate	6.00%
Value:	**$7,400,000**

Uses of Funds

ACQUISITION & PREDEVELOPMENT	**$250,000**
DIRECT CONSTRUCTION	**$8,199,000**
SOFT COSTS	**$1,763,000**
CAPITAL	**$1,828,000**
TOTAL DEVELOPMENT COSTS	**$12,040,000**

Sources of Funds

Debt (1.15 DSCR)	$5,042,000
Private Equity (at 15% of Debt & Equity Total)	$890,000
Federal Historic Tax Credit Equity	$2,046,800
State Historic Tax Credit Equity	$1,637,000
Deferred Developer Fee (50% Deferred)	$511,000
TOTAL SOURCES OF FUNDS	**$10,127,000**

Value or (Funding Shortfall)

Positive Value or (Funding Shortfall)	**($1,913,000)**

32 Unit Rental Project

Project Data

PROGRAM SUMMARY

	Sq Ft
Residential	33,410
Circulation	10,540
Public	3,830
Mechanical/Common/Storage	3,420
Total Sq Feet	*51,200*

LEASABLE SPACE SUMMARY

	Sq Ft	Units
Superior Court Building	22,270	23
County Commissioners Building	11,140	9
Total	33,410	32

MONTHLY REVENUES

	Monthly Rent PSF	Total
Residential	$1.65	$55,127
Average Monthly Rental	**$1,723**	

NOI & VALUE

Vacancy	5%
Operating Expense Per Unit/Month	$400
ANNUAL NOI	**$475,000**
Cap Rate	6.00%
Value:	**$7,917,000**

Uses of Funds

ACQUISITION & PREDEVELOPMENT	**$250,000**
DIRECT CONSTRUCTION	**$8,960,000**
SOFT COSTS	**$1,926,000**
CAPITAL	**$1,994,000**
TOTAL DEVELOPMENT COSTS	**$13,130,000**

Sources of Funds

Debt (1.15 DSCR)	$5,394,000
Private Equity (at 15% of Debt & Equity Total)	$952,000
Federal Historic Tax Credit Equity	$2,232,000
State Historic Tax Credit Equity	$1,786,000
Deferred Developer Fee (50% Deferred)	$557,000
TOTAL SOURCES OF FUNDS	**$10,921,000**

Value or (Funding Shortfall)

Positive Value or (Funding Shortfall)	**($2,209,000)**

22 Unit Condominium Project

Project Data

PROGRAM SUMMARY

	Sq Ft
Residential	30,820
Circulation	8,280
Public	4,550
Mechanical/Common/Storage	3,200
Total Sq Feet	*46,850*

SELLABLE SPACE SUMMARY

	Sq Ft	Units
Superior Court Building	19,840	16
County Commissioners Building	10,980	5
Total	30,820	21

SALES REVENUE

	Sales Price PSF	Total
Residential	$320.00	$9,862,400
Average Unit Price	**$470,000**	

Uses of Funds

ACQUISITION & PREDEVELOPMENT	**$250,000**
DIRECT CONSTRUCTION	**$8,199,000**
SOFT COSTS	**$1,763,000**
CAPITAL	**$1,828,000**
TOTAL DEVELOPMENT COSTS	**$12,040,000**

Sources of Funds

SALES REVENUES	**$9,567,000**
TOTAL SOURCES OF FUNDS	**$9,567,000**

Value or (Funding Shortfall)

Positive Value or (Funding Shortfall)	**($2,473,000)**

32 Unit Condominium Project

Project Data

PROGRAM SUMMARY

	Sq Ft
Residential	33,410
Circulation	10,540
Public	3,830
Mechanical/Common/Storage	3,420
Total Sq Feet	*51,200*

SELLABLE SPACE SUMMARY

	Sq Ft	Units
Superior Court Building	22,270	23
County Commissioners Building	11,140	9
Total	33,410	32

SALES REVENUE

	Sales Price PSF	Total
Residential	$320.00	$10,691,200
Average Sales Price	**$334,000**	

Uses of Funds

ACQUISITION & PREDEVELOPMENT	**$250,000**
DIRECT CONSTRUCTION	**$8,960,000**
SOFT COSTS	**$1,926,000**
CAPITAL	**$1,994,000**
TOTAL DEVELOPMENT COSTS	**$13,130,000**

Sources of Funds

SALES REVENUES	**$10,370,000**
TOTAL SOURCES OF FUNDS	**$10,370,000**

Value or (Funding Shortfall)

Positive Value or (Funding Shortfall)	**($2,760,000)**

3-C. Office/Residential Alternative

This mixed-use alternative effectively re-splits the complex into the two original buildings, with the Superior Court being used solely as a small office building and the Commissioners building being retrofitted as six, large condominium units with loft areas and other similar luxury amenities. It is assumed that each of these units would have a deeded outdoor, covered parking space adjacent to the building. The existing courtrooms would become office space and the historic law library would be utilized as common meeting space or a café open to the public. This alternative is successful in that it meets demand in two markets – shared office (potentially law offices) in the Salem courthouse district, and a limited number, of higher-end, unique residential units. Security control can be maintained at each of the residential suite entries with keycard access.

i. Option 2 - Office & Residential Mix (See Foldout: Option 2)

Superior Court – Offices

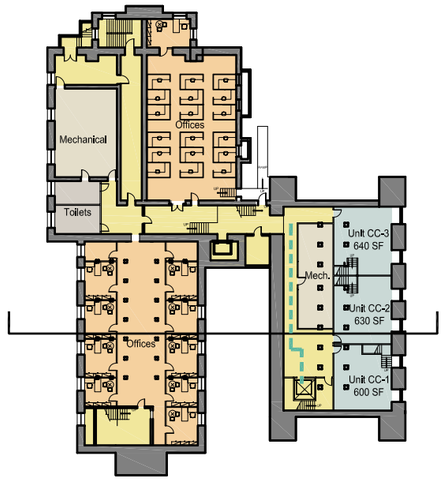
- Loft style inter-flooring at the 2nd floor Session I creates additional square footage while maintaining daylight and views through the existing high arched windows and the spatial feel.
- Skylights are added between the dormers of the 3rd floor units.
- The Essex Law Library and mezzanine is transformed into a café/library with public access through the central stair and elevator.
- The anteroom to the Law Library is transformed to an office suite.
- The basement houses offices, storage and mechanical space.
- A new stair is added within the existing north structure as a second means of egress.

Commissioners' Building – (6 Large Residential)

- A new elevator and stair are added at the Federal Street entrance allowing access from the basement to the 2nd floor.
- The basement space is made habitable by combining into a duplex with the first floor. The east basement windows can be enlarged to add more daylight to these spaces.
- The 2nd floor is combined with a new floor added to the attic to allow for spacious duplexes.
- Skylights are added to provide daylight to the top level of the upper duplexes.
- Units in this scheme create a single loaded corridor facing the potential garden space between the buildings.
- A private egress door at the rear of the building leads to a private garden space.

ii. Financial Feasibility, Office & Residential Mix

Financial feasibility for the office/residential mix is as follows, illustrating a small funding shortfall and therefore a potentially viable project.



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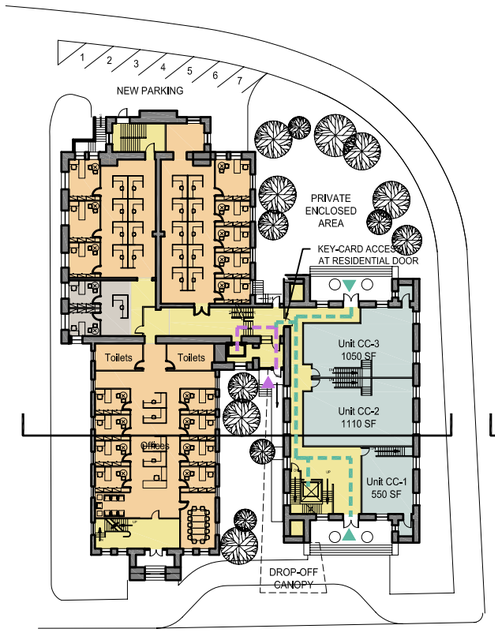

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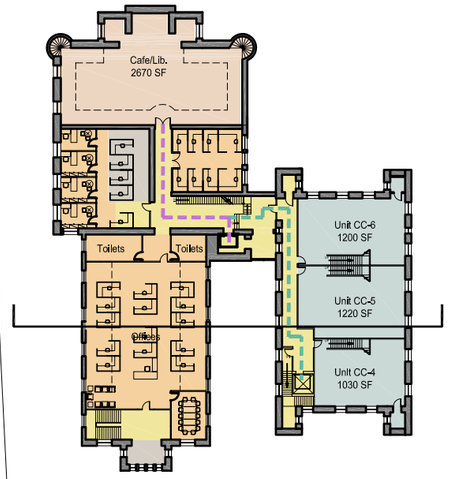

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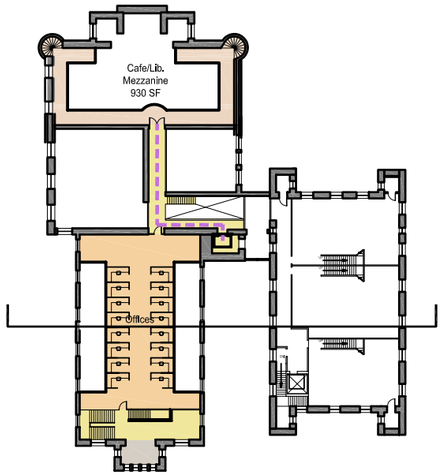

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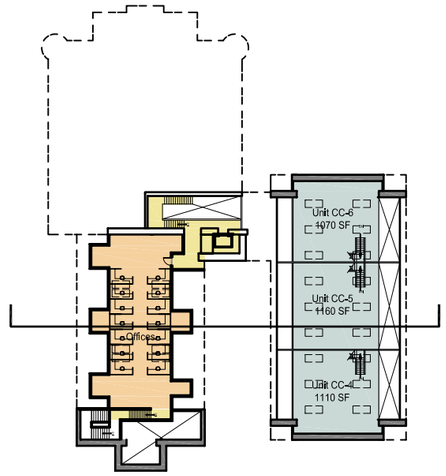

LEVEL 3
SCALE 1" = 30'

BUILDING SECTION
SCALE 1/16" = 1'-0"

PUBLIC ACCESS
PRIVATE ACCESS
RESIDENTIAL
OFFICE
CIRCULATION
COMMON / STORAGE
MECHANICAL
PUBLIC

SUPERIOR COURT BUILDING

UNIT	B	1	2	2.5	3	TOTAL
OFFICES	5470	8130	5450	2250	2730	24030
CIRC	1810	1170	1590	300	400	5270
MECH	950					950
STORAGE	530					530
CAFE			2670	930		3600

COUNTY COMMISSIONER'S BUILDING

UNIT	B	1	2	2.5	3	TOTAL
CC-1	600	550				1150
CC-2	630	1110				1740
CC-3	640	1050				1840
CC-4			1030		970	2000
CC-5			1220		1010	2230
CC-6			1200		970	2170
CIRC	840	1150	720			2710
MECH	600					600

TOTALS

UNIT	TOTAL
RESIDENTIAL, 6 UNITS	10,980
OFFICES	24,030
CIRCULATION	9,090
PUBLIC	3,600
MECHANICAL / COMMON / STORAGE	2,380
TOTAL	50,080

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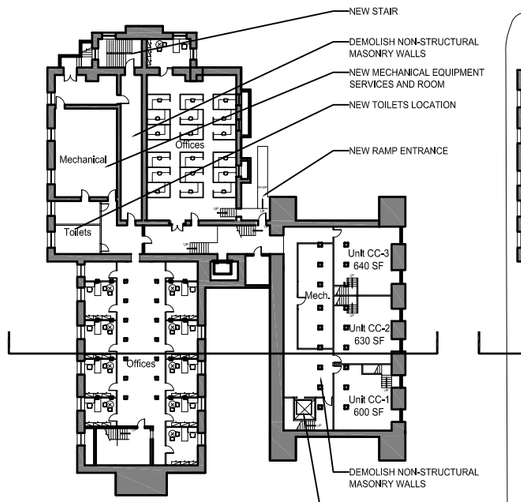

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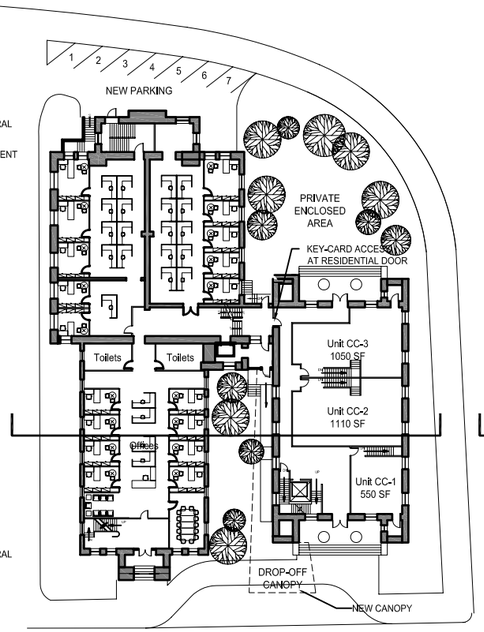

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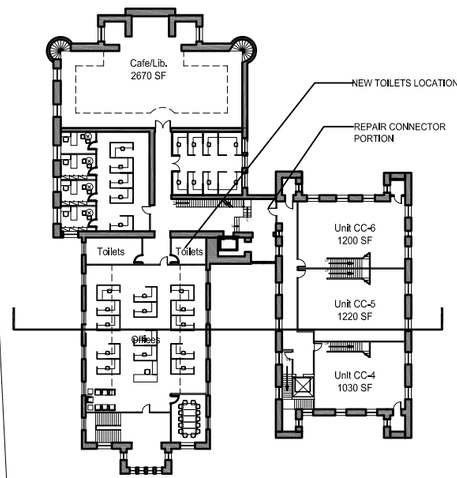

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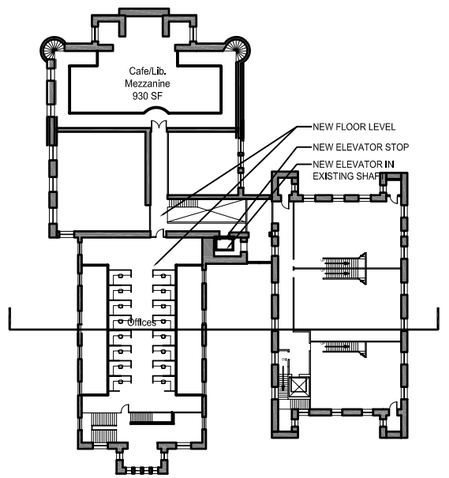

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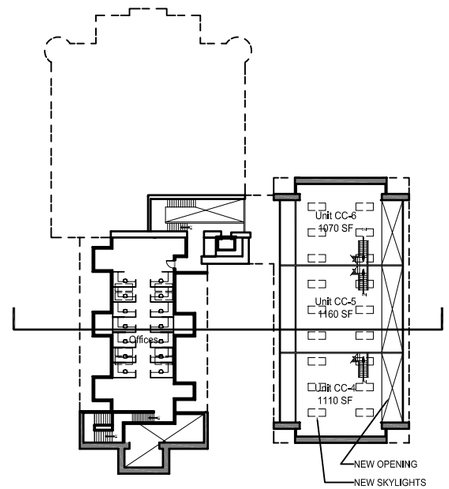

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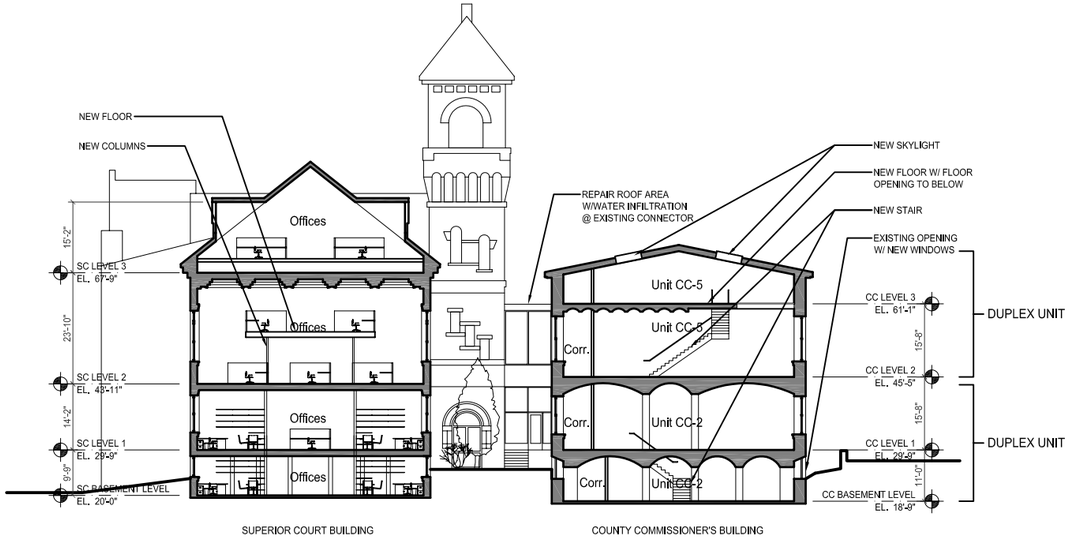


BUILDING SECTION
SCALE 1/16" = 1'-0"

- NEW INTERIOR ACCESS STAIRAT NORTH OF SUPERIOR COURTHOUSE.
- NEW ELEVATOR IN EXISTING SHAFT.
- NEW PASSENGER ELEVATOR & EGRESS STAIR AT SOUTHWEST ENTRY OF COMMISSIONER'S BUILDING.
- NEW SKYLIGHTS.
- REPAIR ROOF AND INTERIOR DRYWALL DAMAGED BY WATER INFILTRATION AT EXISTING CONNECTOR.
- NEW FLOOR INFILL AT SUPERIOR COURT LEVEL 3, SC LEVEL 2.5 AND COUNTY COMMISSIONER'S BUILDING LEVEL 3.
- NEW ENTRY CANOPY AND DROPOFF.
- NEW INFILL OPENINGS AT COMMISSIONER'S BUILDING BASEMENT.

2007-11-30

Mixed Use Office & Residential

Project Data

PROGRAM SUMMARY

	Sq Ft	Units
Residential	10,980	6
Office	24,030	
Circulation	9,090	
Public	3,600	
Mechanical/Common/Storage	2,380	
Total Sq Feet	*50,080*	

RESIDENTIAL - FOR SALE - COMMISSIONERS BLDG

	Sales Price PSF	Total
Residential	$315.00	$3,458,700
Average Sales Price	**$576,450**	

OFFICE - SUPERIOR COURT BUILDING

	Annual Rent PSF	Total
Office	$19.00	$456,570
Vacancy	5%	
ANNUAL NOI	**$434,000**	
Cap Rate	7.00%	
Value:	**$6,200,000**	

Uses of Funds

ACQUISITION & PREDEVELOPMENT	**$250,000**
DIRECT CONSTRUCTION	**$8,764,000**
SOFT COSTS	**$1,884,000**
CAPITAL	**$1,951,000**
TOTAL DEVELOPMENT COSTS	**$12,849,000**

Sources of Funds

Residential Sales Revenues	**$3,355,000**
Office Component	
Debt (1.15 DSCR)	$4,928,000
Private Equity (at 15% of Debt & Equity Total)	$870,000
Federal Historic Tax Credit Equity	$1,529,000
State Historic Tax Credit Equity	$1,223,000
Deferred Developer Fee (50% Deferred)	$545,000
TOTAL SOURCES OF FUNDS	**$12,450,000**

Value or (Funding Shortfall)

Positive Value or (Funding Shortfall)	**($399,000)**

3-D. Office/Institutional Alternative

The second office-based alternative assumes a use of the structures in an institutional format, mixing offices and classrooms in a manner most likely to be utilized by an academic institution. As detailed in the architectural plans, the existing courtroom spaces would be utilized as classrooms (along with other spaces) and the historic law library would be maintained as a library & gathering area use.

i. Option 2A - Office & Institutional Mix (See Foldout: Option 2A)

This option combines cellular and open offices with classrooms and/or conference space throughout both buildings. Principal features of this option include:

Superior Court

- 2nd floor Session I is open to the existing full height. It is anticipated that offices in this space can be open plan or glazed wall cellular offices.
- Skylights are added between the dormers of the 3rd floor units to bring more daylight to the office space at this level.
- The Essex Law Library and mezzanine is transformed into a café/library with public access through the central stair and elevator.
- The anteroom to the Law Library is transformed to a classroom.
- The basement offices, storage and mechanical space.
- A new stair is added within the existing north structure as a second means of egress.

Commissioners' Building

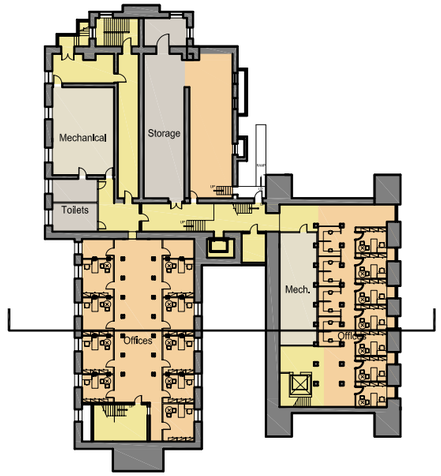
- A new elevator and stair are added at the Federal Street entrance allowing access from the basement to the 2nd floor.
- The east basement windows can be enlarged to add more daylight to the office spaces.
- The attic space is used for storage.
- Classrooms in this scheme create a corridor at the 2nd floor.
- An egress door at the rear of the building leads to a outdoor garden space.

ii. Financial Feasibility, Office & Institutional Mix

The financial feasibility of this use assumes that the project would be developed by a for-profit and then leased to an academic institution paying market rent, due to restrictions on non-profits utilizing historic tax credits. As detailed in the following pages, the funding shortfall is minimal and the project potentially feasible.

iii. Financial Feasibility, Institutional-Only Alternative

If an academic institution was to acquire and renovate the property, the cost would be the total development cost presented in this scenario (approximately $12.5 million or $270 per square foot).



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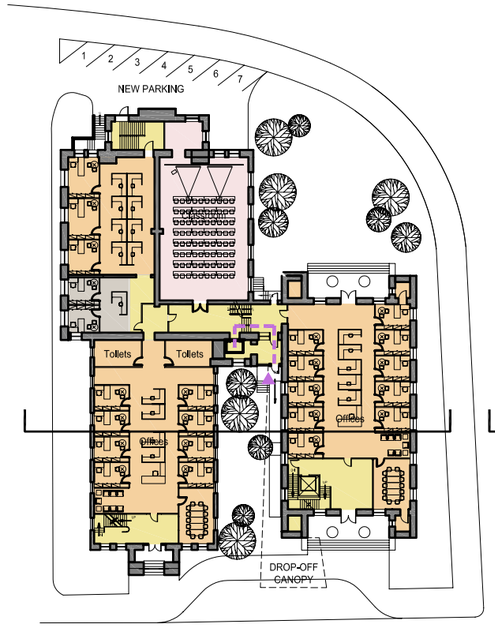

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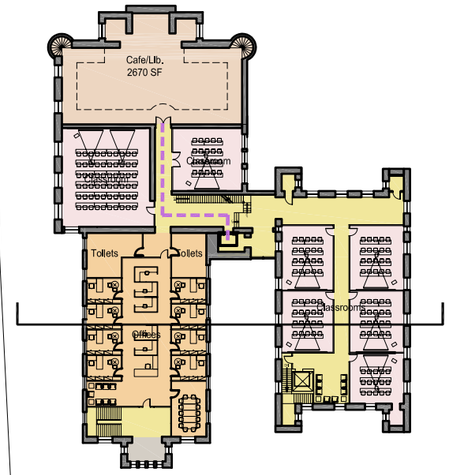

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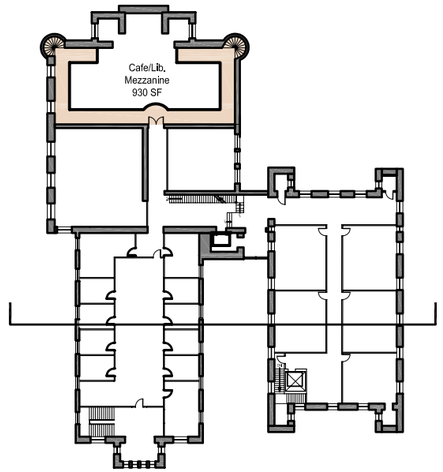

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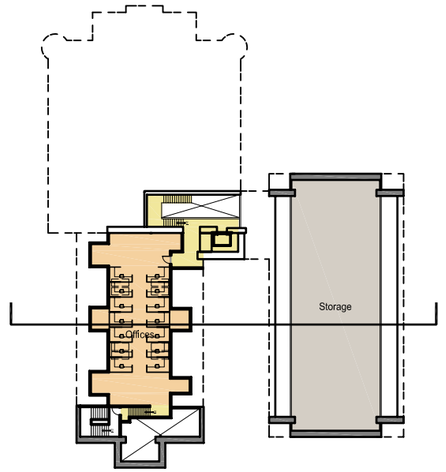

LEVEL 3
SCALE 1" = 30'

PUBLIC ACCESS
PRIVATE ACCESS
CLASSROOM
OFFICE
CIRCULATION
COMMON / STORAGE
MECHANICAL
PUBLIC

SUPERIOR COURT BUILDING COUNTY COMMISSIONER'S BUILDING

BUILDING SECTION
SCALE 1/16" = 1'-0"

SUPERIOR COURT BUILDING

SPACE	B	1	2	2.5	3	TOTAL
OFFICES	4300	5760	3300		2080	15400
CLASSRM		2070	2140			4210
CIRC	1810	1170	1590	300	400	5270
MECH	950					950
STORAGE	1830					1830
CAFE			2670	930		3600

COUNTY COMMISSIONER'S BUILDING

SPACE	B	1	2	2.5	3	TOTAL
CLASSRM			2720			2720
OFFICE	2000	3450				5450
CIRC	970	700	1020			2690
MECH	690					690
STORAGE					3700	3700

TOTALS

UNIT	TOTAL
OFFICES	20,890
CLASSROOM	6,930
CIRCULATION	7,960
PUBLIC	3,600
MECHANICAL / COMMON / STORAGE	7,170
TOTAL	46,550

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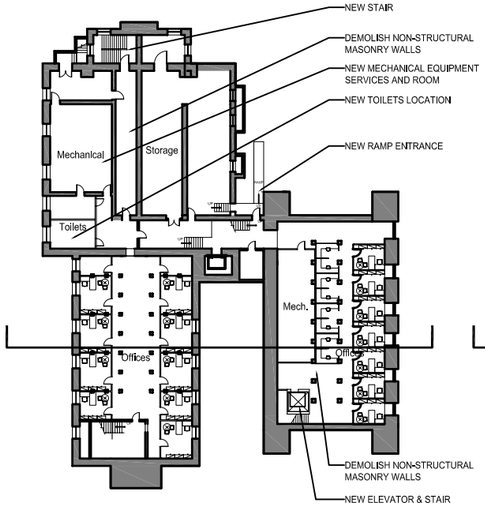

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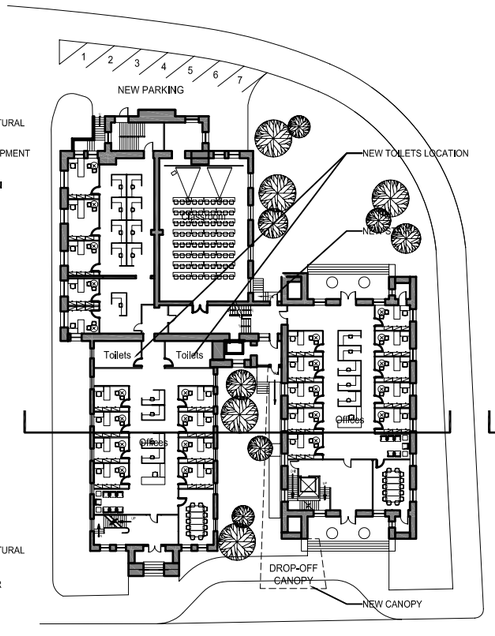

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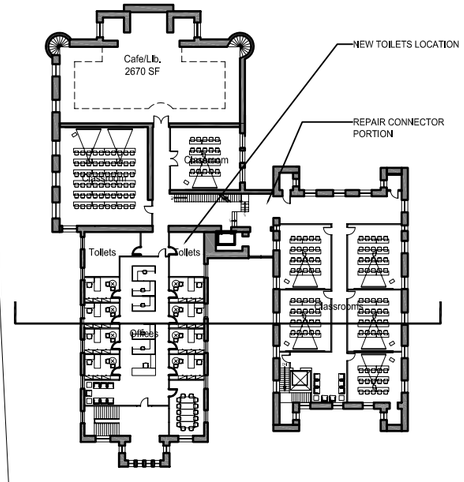

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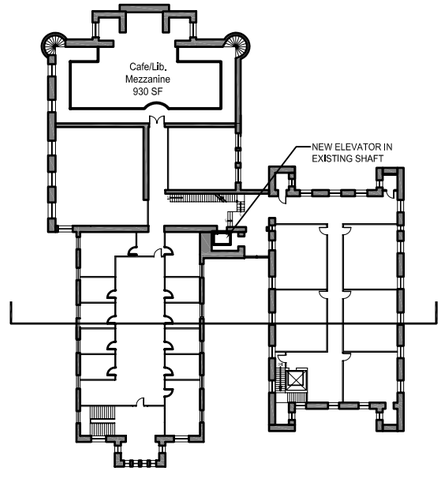

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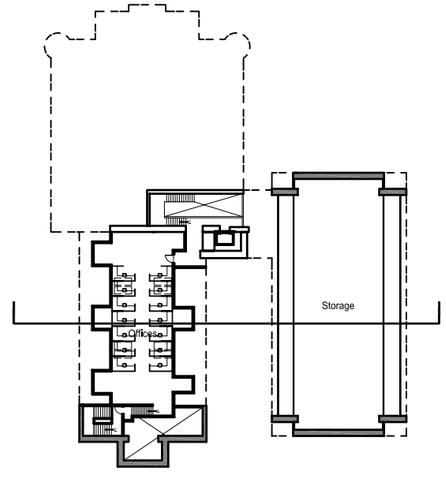

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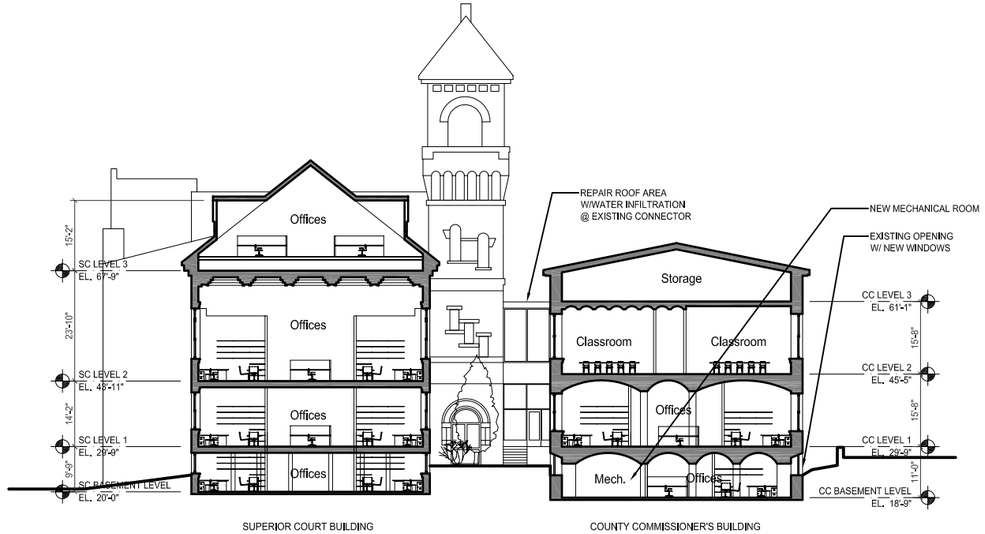


BUILDING SECTION
SCALE 1/16" = 1'-0"

- NEW INTERIOR ACCESS STAIRAT NORTH OF SUPERIOR COURTHOUSE.
- NEW ELEVATOR IN EXISTING SHAFT.
- NEW PASSENGER ELEVATOR & EGRESS STAIR AT SOUTHWEST ENTRY OF COMMISSIONER'S BUILDING.
- NEW SKYLIGHTS.
- REPAIR ROOF AND INTERIOR DRYWALL DAMAGED BY WATER INFILTRATION AT EXISTING CONNECTOR.
- NEW FLOOR INFILL AT SUPERIOR COURT LEVEL 3, SC LEVEL 2.5 AND COUNTY COMMISSIONER'S BUILDING LEVEL 3.
- NEW ENTRY CANOPY AND DROPOFF.
- NEW INFILL OPENINGS AT COMMISSIONER'S BUILDING BASEMENT.

2007-11-30

Mixed Use Office & Institutional

Project Data

PROGRAM SUMMARY

	Sq Ft	Units
Office	20,890	
Classroom	6,930	
Circulation	7,960	
Public	3,600	
Mechanical/Common/Storage	7,170	
Total Sq Feet	*46,550*	

OFFICE - SUPERIOR COURT BUILDING

	Annual Rent PSF	Total
Office	$19.00	$528,580
Vacancy	5%	
ANNUAL NOI	**$502,000**	
Cap Rate	6.50%	
Value:	**$7,723,000**	

Uses of Funds

ACQUISITION & PREDEVELOPMENT	**$250,000**
DIRECT CONSTRUCTION	**$8,146,000**
SOFT COSTS	**$1,751,000**
CAPITAL	**$1,816,000**
TOTAL DEVELOPMENT COSTS	**$11,963,000**

Sources of Funds

Debt (1.15 DSCR)	$6,009,000
Private Equity (at 15% of Debt & Equity Total)	$1,060,000
Federal Historic Tax Credit Equity	$2,393,000
State Historic Tax Credit Equity	$1,914,000
Deferred Developer Fee (50% Deferred)	$507,000
TOTAL SOURCES OF FUNDS	**$11,883,000**

Value or (Funding Shortfall)

Positive Value or (Funding Shortfall)	**($80,000)**

3-E. Office Only Alternative

The third office-based alternative assumes a use of both structures in an office format. No drawings of this feasibility are provided, but would utilize the office layout of the Superior Court Building presented in Alternative 2-C (Office/Residential Mix) and the office layout of the Commissioners Building presented in Alternative 2-D (Office/Institutional Mix). This scenario is the most feasible of all the scenarios, resultant in a $1.5 million positive value based on the current assumptions.

Basement windows allow for potential of additional rentable space on the lower level

Project Data

PROGRAM SUMMARY

	Sq Ft	Units
Office	32,200	
Café	3,600	
Circulation	7,960	
Public	1,640	
Mechanical/Common/Storage	4,230	
Total Sq Feet	*49,630*	

BOTH BUILDINGS

	Annual Rent PSF	Total
Office (& Café)	$19.00	$680,200
Vacancy	5%	
ANNUAL NOI	**$646,000**	
Cap Rate	6.50%	
Value:	**$9,938,000**	

Uses of Funds

ACQUISITION & PREDEVELOPMENT	**$250,000**
DIRECT CONSTRUCTION	**$8,685,000**
SOFT COSTS	**$1,867,000**
CAPITAL	**$1,934,000**
TOTAL DEVELOPMENT COSTS	**$12,736,000**

Sources of Funds

Debt (1.15 DSCR)	$7,732,000
Private Equity (at 15% of Debt & Equity Total)	$1,364,000
Federal Historic Tax Credit Equity	$2,547,000
State Historic Tax Credit Equity	$2,038,000
Deferred Developer Fee (50% Deferred)	$540,000
TOTAL SOURCES OF FUNDS	**$14,221,000**

Value or (Funding Shortfall)

Positive Value or (Funding Shortfall)	**$1,485,000**

4. ANALYSIS & RECOMMENDATIONS

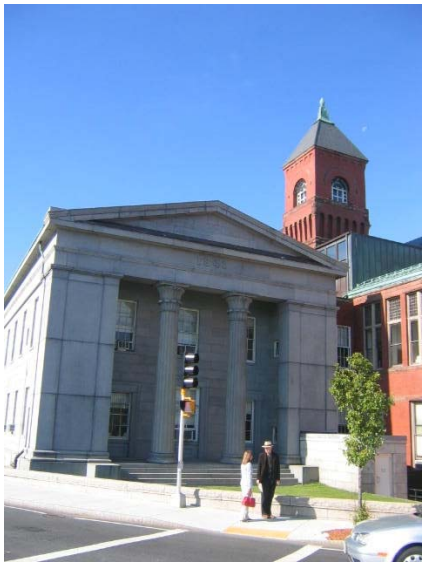
4-A. Overview

This study has been undertaken with an eye to a market for the property and potential uses that is at least three years off. Rents, sales prices, financial terms and construction costs are likely to change depending on the markets, and financial conditions. Looking at the likely development options in today's market, it can be determined that:

- If an option is physically feasible and whether it can be developed in a manner sensitive to the historic buildings and the key defining components.
- If an option has the potential, to become economically feasible—if not currently economically feasible—with reasonable movement in key assumptions that one could reasonably conceive might take place over the period between now and the time an RFP could be issued.

4-B. Physical Analysis

All of the options make sense from a physical perspective. One can provide reasonable marketable spaces with appropriate circulation that do not require extraordinary manipulation of the buildings. The historic exteriors are kept intact, capable of meeting Park Service standards. On the interior, the law library is preserved for public access in all schemes and the character of the large courtrooms is retained to some extent in all schemes. However, these courtrooms are kept whole to much greater extent in the office and institutional scenarios.



Small green space located behind Commissioner's Building

The major difficulty with the property from a physical and market perspective is that it is physically and financially impractical to provide parking within the structures and it is only possible to get approximately 6-7 spaces on the site. This severely limits the marketability of for-sale units to more than 6 or 7 units. Rental housing and office or institutional use could make use of nearby parking facilities.

All of the likely viable uses appear to be compatible with the new J. Michael Ruane Judicial Center.

4-C. Analysis of Economic Feasibility

None of the purely residential alternatives are economically feasible. They are so far off from cost and value aligning that there is little hope for their feasibility. However, the office and institutional scenarios are close to the costs and value and amount of potential sources balancing that it is expected that a scenario along these lines has a high probability of becoming feasible in

the time frame projected. It will require another assessment of the market prior to putting the property out for bid. Only the all-office scenario is strong enough at this point in to pay anything for acquisition. However, again, modest changes in key assumptions may allow a modest acquisition price to be paid.

An institutional user is not necessarily comparing this building to other market opportunities in very different locations. The right user may well find the renovation costs acceptable to be in this location and in a building of such character. Institutional uses can be investigated further as users with real programs step forward in the preliminary polling process. It was encouraging to learn of the strong interest of one potential user.

The use of the office scenario for law offices that desired small floor plates (still larger than their current offices) or shared law offices could have the further benefit of freeing up some of the houses on the adjoining streets currently being used as law offices for conversion back to their original use as homes.

APPENDIX

Appendix A: Comparison Table of Uses in Physical Alternative Schemes

Appendix B: Structural Report

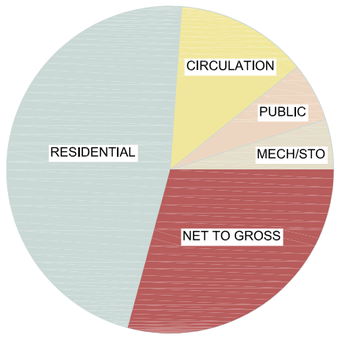
OPTION 1
RESIDENTIAL (LARGER UNITS)

NET AREA

UNIT	B	1	2	2.5	3	TOTAL
22 RESIDENTIAL UNITS	5,610	9,630	7,900	2,660	5,020	30,820
CIRCULATION	2,980	2,600	2,000	300	400	8,280
PUBLIC			950	2,670	930	4,550
MECH/STO	3,050		150			3,200
TOTAL	11,640	13,180	12,720	3,890	5,420	46,850

GROSS AREA

UNIT	B	1	2	2.5	3	TOTAL
SC	11,654	11,502	11,447	4,595	4,182	43,380
CC	5,720	5,641	5,516		3,964	20,841
TOTAL	17,374	17,143	16,963	4,595	8,146	64,221



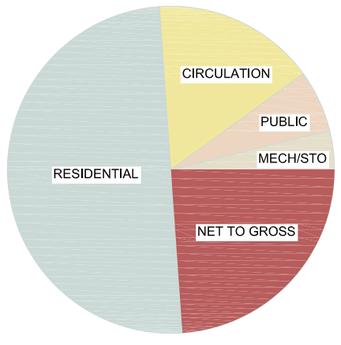
OPTION 1A
RESIDENTIAL (SMALLER UNITS)

NET AREA

UNIT	B	1	2	2.5	3	TOTAL
32 RESIDENTIAL UNITS	5,220	10,140	8,240	3,910	5,900	33,410
CIRCULATION	4,100	2,920	2,640	680	200	10,540
PUBLIC		230	2,670	930		3,830
MECH/STO	3,120		150	150		3,420
TOTAL	12,440	13,290	13,700	5,670	6,100	51,200

GROSS AREA

UNIT	B	1	2	2.5	3	TOTAL
SC	11,654	11,502	11,447	7,195	4,182	45,980
CC	5,720	5,641	5,516		3,964	20,841
TOTAL	17,374	17,143	16,963	7,195	8,146	66,821



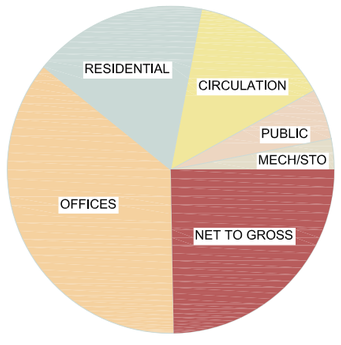
OPTION 2
OFFICES + RESIDENTIAL (LARGER UNITS)

NET AREA

UNIT	B	1	2	2.5	3	TOTAL
6 RESIDENTIAL UNITS	1,870	2,710	3,450		2,950	10,980
OFFICES	5,470	8,130	5,450	2,250	2,730	24,030
CIRCULATION	2,650	2,960	1,740	1,440	300	9,090
PUBLIC			2,670	930		3,600
MECH / COMMON / STOR	2,080		150	150		2,380
TOTAL	2,070	13,800	13,460	4,770	5,980	50,080

GROSS AREA

UNIT	B	1	2	2.5	3	TOTAL
SC	11,654	11,502	11,447	4,195	4,182	42,980
CC	5,720	5,641	5,516		3,964	20,841
TOTAL	17,374	17,143	16,963	4,195	8,146	63,821



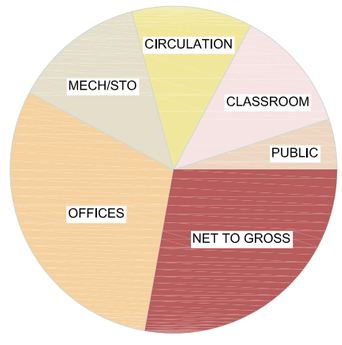
OPTION 2A
OFFICES + INSTITUTIONAL USE

NET AREA

UNIT	B	1	2	2.5	3	TOTAL
OFFICES	6,300	9,210	3,300		2,080	20,890
CLASSROOM		2,070	4,860			6,930
CIRCULATION	2,780	1,870	2,610	300	400	7,960
PUBLIC			2,670	930		3,600
MECH/STO	3,470				3,700	7,170
TOTAL	12,550	13,150	13,440	1,230	6,180	46,550

GROSS AREA

UNIT	B	1	2	2.5	3	TOTAL
SC	11,654	11,502	11,447	1,530	4,182	40,315
CC	5,720	5,641	5,516		3,964	20,841
TOTAL	17,374	17,143	16,963	1,530	8,146	61,153



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29 November 2007

Bruner/Cott and Associates, Inc.
130 Prospect Street
Cambridge, MA 02139

Attention: Ms. Laurie Soave

Reference: Essex County Courthouses, Salem, MA
Structural Study for Re-use- Revision 1

Dear Laurie:

On Monday 17 September and Monday, 27 November 2007 I visited the Essex County Courthouse buildings in Salem, MA to make general observations regarding the structural modifications that are required for the completion of four proposed building renovations schemes labeled 1, 1A, 2 and 2A. The following is a summary of these modifications, presented for each of the proposed schemes.

General Description of Existing Structures-

The Salem Courthouses consist of four buildings, two of which are included in this study.

Superior Court Building-

The Superior Court Building appears two have been constructed in multiple phases, with a north section and a south section. The exterior of this building is of a mix of brick and brown sandstone, expressed in the Romanesque style.

The *Superior Court's North Section* has two floors and an inaccessible attic, with a full basement containing holding cells, mechanical equipment and storage below. The present first floor (Level 1) contains offices and the second floor (Level 2) a courtroom and a law library with stacks. The floor and roof structures were constructed of board-sheathed dimensional lumber and timber framing supported by both interior and exterior load bearing masonry walls and interior piers and cast iron columns.

The *Superior Court's South Section* appears to have been originally built with three floors and a full basement, however, during modern times the third floor and roof were removed, and steel plate girders were run between the east and west walls to create open lobbies and a large courtroom below and support a new third floor that is tucked into the roof structure with dormers and contains waiting or meeting rooms and an

offset corridor. All floor and roof framing is of board-sheathed dimensional lumber. The roof is supported by three lines of timber purlins that land on wooden posts or bearing walls over dedicated steel beams that are nested within the third floor framing, all of which span between the plate girders. The first floor (Level 1) contains offices off of a double-loaded corridor, the walls of which support the second floor (Level 2). The basement contains a rather crude library, and is divided by two masonry bearing walls that align below the corridor walls upstairs.

There is also a brick masonry *Tower* that is attached to the northeast corner of the south section and serves as an elevator shaft.

County Commissioners Building-

The County Commissioners Building has two floors and a low trussed attic and full basement. The roof structure consists of repetitive queen-rod type trusses that support dimensional lumber and timber roof rafters and purlins with the top chords, and the dimensional lumber joist framed attic floor with via the bottom chord with rods. This creates a clear span over the second floor (Level 2), which has been divided into individual offices. The first floor (Level 1) is also used as offices, but is partially divided by brick bearing wall segments that may have once been part of a double-loaded, center corridor. These wall segments have beams running end-to-end and support the second floor (Level 2) wood joist-framed second floor structure spans east-west between these bearing lines and the exterior walls. The first floor (Level 1) is constructed with three repeating bays of brick groin vaults that land brick piers and the perimeter foundations, over the basement which serves as a storage space. There are additional piers within the vault spans that cleverly support the brick wall segments (which were probably once continuous) above. The building exterior is clad in gray granite, expressed in the Greek Revival style.

Structural Ramifications of Proposed Renovations-

Floor Load Capacity:

The proposed uses for each of the existing floor areas does not appear to require safe floor load capacities that are in excess of those that are required under the present uses. A study of the existing framing conditions should, however, still be undertaken to ensure that the framing is in sound condition and was properly constructed.

Seismic Considerations:

The current 6th edition of the Massachusetts State Building Code requires one of three degrees of seismic intervention for each of three Seismic Hazard Categories, depending upon the actual re-use program.

The most basic seismic design requirements (Seismic Hazard Category #1) consist of performing alterations and additions in such a way as they do not make any seismic conditions that do not satisfy the building code for new construction any worse than they presently are. For example, a large addition should not be seismically dependent upon a non-conforming existing structure, or if a lateral load resisting wall is removed a new one must be added to make up for it. The basic intent is not to increase the level of seismic inadequacy in an existing structure but one need not improve it either.

The second level of seismic design requirements (Seismic Hazard Category #2) consists of the elimination of "seismic hazards" which consist of un-reinforced, un-braced or inadequately anchored walls, parapets, chimneys and exterior appendages as well as structural elements that have been demonstrated to be deficient. The basic intent is to keep things from falling off the building in an earthquake.

The third level of seismic design requirements (Seismic Hazard Category #3) includes the first and second sets of requirements in addition to the evaluation and strengthening of the overall building structure to withstand earthquake forces as an independent unit. This includes adding shear walls, lateral braces, and floor reinforcements in accordance with a design and evaluation procedure that is specifically enumerated in the code. The basic intent of these provisions is to make the entire building structure stand up during an earthquake.

The required level of intervention is determined from the following table taken from the Massachusetts Building Code, Chapter 34:

Seismic Hazard Category

Change in use	Occupancy increased by more than 25% and to a total occupancy of 100 or more or total cost of alterations exceeds 50% of assessed building valuation.	All other changes in occupancy or total cost of alteration less than or equal to 50% of assessed building valuation.
Hazard index of less than 4 to greater than 4 or seismic hazard exposure group III per table 16.12.2.5 of the Mass Code.	3	2
All other changes in use group or no change in use group.	2	1

Uses with a Hazard Index of 4 or greater include theaters, restaurants, lecture halls, recreation centers, museums, libraries, assembly buildings, churches, K-12 educational, high hazard, restrained institutional, and incapacitated institutional uses. Group III structures per table 1612.2.5 generally include fire, rescue and police stations, emergency treatment facilities and preparedness centers, post-earthquake recover vehicle garages, critical power generating facilities and communications facilities and toxic material storage facilities.

It is our understanding that the proposed re-use schemes for the Salem Courthouse Buildings are all to have Hazard Indices that are the same or less than that of the current use, while clearly more than 50% of its assessed valuation will be spent on

renovations. This being the case, the level of seismic intervention will for the proposed project will likely fall under Seismic Hazard Category #2, except for structures where more than 10 percent of the total floor area or mass is being added, then Category #3 will apply but at a pro-rated percentage of the load required for new construction per table 3408.1 of the Code.

Structural Requirements of Option 1:

Option #1 has the following structural ramifications for each section of the building:

Superior Court Building/ North Section-

Roof and Attic- No significant plan-driven structural modifications are required for the roof or attic structures by this scheme.

Level 2, 2.5- A partial mezzanine is to be added within the west half of the structure. The east half could be supported from the center masonry bearing wall and the west half could be suspended from the plate girders above, if these as well as their supporting walls and foundations can accept the added loads. Otherwise, columns would need to be threaded downward to the basement and land on dedicated footings. The size of the added floor area is less than 10 percent of the building's total, therefore this will not trigger full seismic review.

Level 1- There is a chimney and two iron columns within the east half of the structure that are not indicated on the plan. The chimney aligns with the demising wall and can presumably remain. Removal of the iron columns would require the insertion of two new steel beams (supported on new columns or the existing masonry) within the ceiling structure to support level 2. One interior wall is to be removed, which is probably not structural. Some new door openings are to be added which will require lintels.

Basement- No significant plan-driven structural modifications are required at the basement level by this scheme, other than for support of any new columns that are added above. During my visit I saw signs of settlement some of the interior wall construction in the northwest quadrant. This should be investigated. Underpinning of the affected walls may be required.

Superior Court Building/ South Section-

Level 3 and Roof- The interior walls that separate the rooms are to be removed, along with the roof purlin supports within them. This will require steel frames within the roof plane or beam beams to fly across the "cathedral" space and land on stub columns that are added behind the eaves to support the existing roof purlins and provide tying action. New beams may also be needed within the plane of the floor to vertically support and horizontally tie the new columns and/or frame bases, unless the geometry allows the plate girders to accomplish this.

Level 2.5- A partial mezzanine is to be added within the interior of the courthouse space. This can be framed with dimensional lumber joists and manufactured lumber beams that would need to be supported by columns from Level 2. The floor area added by this mezzanine will exceed 10 percent of the total floor area of this building, therefore, a full seismic review and possible upgrade will be required.

Level 2- Beams will need to be added within the Level 2 framing to carry the Level 2.5-supporting columns. These would span from the east and west building walls to the center corridor wall locations below. The floor would also need to be reinforced to support the lower ends of the mezzanine stairways.

Level 1- North-south running stair openings would be cut into the Level 1 structure and would require re-supporting the cut ends of the floor joists, either with framed header and trimmer beams or bearing walls that run up from the basement. New columns would be inserted into the center corridor walls, which are assumed to be wood-framed, to support the added beams within the Level 2 floor structure. It appears that the walls that currently create a center corridor within the basement would be relocated to be more closely spaced. This will require reinforcement or partial reframing of the Level 1 floor due to the increasing of the outer bays' spans.

Basement- New walls and footings would be required along the new, narrower center corridor, and would need to include support for the added columns above. There may also be a bearing wall added along each stairway,

County Commissioner's Building-

Level 3 and Roof- The insertion of a full-height volume within the present attic space would require complete reframing of the present attic floor and roof, due to the fact that the attic floor would need to be lowered and all of the trusses would need to be removed to allow for the more open room layouts indicated on the plan (which would otherwise be crossed repeatedly by the trusses, even if vertically reconfigured. The new structure of Level 3 could consist of dimensional or manufactured lumber joists (or I-joists), spanning between manufactured lumber or steel beams that would be supported by the north and south exterior walls and above the east-west running demising walls that are at the approximate third points of the building. The roof structure would be framed in a similar manner between the same third point bearing lines and the north and south walls. Open spaces would be left in the Level 3 floor for stairways and to allow for light into Level 2 as indicated on the plans.

Level 2- The existing framing of Level 2, presumed to run east-west, would be maintained however the supporting center corridor walls would be removed from below and replaced with steel beams that would be supported by columns at the third point bearing lines. The floor framing would be reinforced to support the bottoms of the stairways that run up to Level 3.

Level 1- The brick, former center corridor bearing wall segments would be removed and replaced with columns that support the Level 2 beams at the third point bearing lines. Seismically, the removal of the brick bearing wall segments would lower the lateral resistance of the building at this level. This might need to be made up for by the addition of other masonry wall construction within the building at this level of equal strength and orientation to what was lost. This could consist of new walls or the fattening-out of existing walls. Openings would be cut in the groin vaulted floor to allow for stairways to the basement below.

Basement- Addition piers or columns with footings would be added below the groin vaults at the third point bearing lines where needed to support the new columns that would on the Level 1 floor. Additional piers, columns or other reinforcement would also be needed to support the cut ends of the vaults and any portions of the un-cut bays that are affected by the load redistribution that the stairway openings would cause in this otherwise doubly symmetrical floor system.

Elevator and Vaults- A new elevator would be run from the basement up to Level 2. This would have a reinforced concrete unit masonry hoistway over a cast-in-place concrete pit. The hoistway would have bolted ledgers that would support the cut-off floor framing. The stacked vaults at the northeast corner would be removed.

Structural Requirements of Option 1A:

Option #1A has the following structural ramifications:

Superior Court Building/ North Section-

The structural ramifications of Option 1A are the same as for Option 1.

Superior Court Building/ South Section-

Level 3 and Roof- The interior walls that separate the rooms are to be removed, along with the roof purlin supports within them, although a demising wall is to be added down the center. This will require steel beams to be run from the ridge to the eaves in order to support the roof purlins. Columns would be added within the center demising wall to support the tops of the beams at the roof ridge. The columns would land on added beams that would span between the existing plate girders, which would need to be checked for the reconfiguration of load. Framed openings will be created in floor for stairs that will come up from below.

Level 2.5- A full mezzanine is to be added within the interior of the courthouse space. This can be framed with dimensional lumber joists and manufactured lumber or steel beams that would be supported at the interior by columns within the center corridor walls from Level 2, which will also support the columns coming down from level 3. At

the exterior, the framing would be supported by the east and west masonry walls. The floor area added by this mezzanine will exceed 10 percent of the total floor area of this building, therefore, a full seismic review and possible upgrade will be required.

Level 2- Columns would be run past Level 2 from Level 2.5 and 3 down to Level 1.

Level 1- The columns running from above would be inserted within the east and west walls of the center corridor and would land on support beams that would transfer their loads onto the basement corridor walls.

Basement- The center corridor walls would need to be reviewed for the loads coming from the added columns above.

County Commissioner's Building-

Level 3 and Roof- Again, the creation of a full-height space at Level 3 and a relatively open plan will necessitate removal of the existing trusses and the replacement of the attic floor with a new floor at a lower elevation. The new roof would consist of dimensional or manufactured lumber purlins or rafters between purlins, supported by repetitive steel or manufactured wood rafter members that run between the roof eaves and the ridgeline, where they would be supported by columns that run down to short transfer beams at Level 3 which would be supported at the Level 2 center corridor walls. The Level 3 floor structure would consist of new dimensional or manufactured (I-Joist) lumber joists spanning from the east and west exterior walls across the center corridor walls, which would support them. There would be several framed stair opening within the floor.

Level 2- New beam lines would be constructed above each wall of the center corridor and would be supported by the columns that carry the ends of the Level 3 transfer beams. The columns would land on another set of transfer beams within the Level 2 floor, in order to spread the loads further apart onto the corridor wall lines at Level 1, which are more widely spaced than at Level 2. Several new stair openings would be cut into the floor and framed-out with new headers and added trimmers.

Level 1- The open "gaps" between the former center corridor bearing wall segments are to in-filled. This would allow for the insertion of columns above the unused basement pier locations to support the transfer beams at Level 2. Again, stair openings would be cut in the groin vaulted brick floor.

Basement- Additional piers, columns or other reinforcement would also be needed to support the cut ends of the vaults and any portions of the un-cut bays that are affected by the load redistribution that the stairway openings would cause in this otherwise doubly symmetrical floor system.

Elevator and Vaults- A new elevator would be run from the basement up to Level 2.

This would have a reinforced concrete unit masonry hoistway over a cast-in-place concrete pit. The hoistway would have bolted ledgers that would support the cut-off floor framing. The stacked vaults at the northeast corner would be removed.

Structural Requirements of Option 2:

Option #2 has the following structural ramifications:

Superior Court Building/ North Section-

Roof and Attic- No significant plan-driven structural modifications are required for the roof or attic structures by this scheme.

Level 2, 2.5- No significant plan-driven structural modifications are required at levels 2 and 2.5 by this scheme.

Level 1- If the chimney and two iron columns within the east half of the structure are to be removed, this will require some supplementary steel beams and possibly some out-of-the-way columns.

Basement- The bearing wall that presently divides the holding cell area from the storage area of the section's east half is to be removed. This will require no steel beams and columns, along with new footings to support these as well as columns that run to the underside of level 2.

Superior Court Building/ South Section-

Level 3 and Roof- Like the other options, the interior walls that separate the rooms are to be removed, along with the roof purlin supports within them. This will require steel frames within the roof plane or beam beams to fly across the "cathedral" space and land on stub columns that are added behind the eaves to support the existing roof purlins and provide tying action. New beams will also be needed within the plane of the floor to vertically support and horizontally tie the new columns and/or frame bases.

Level 2.5- A partial mezzanine is to be added within the interior of the courthouse space. This can be framed with dimensional lumber joists and manufactured lumber beams that would need to be supported by columns from Level 2, align with the new support lines below it. The floor area added by this mezzanine will exceed 10 percent of the total floor area of this building, therefore, a full seismic review and possible upgrade will be required.

Level 2- The middle portion of Level 2 would need to be reframed to span between new lines of support that would replace the two walls of the center corridor (below) at a wider spacing. Re-framing could consist dimensional or manufactured lumber joists and

beams. New columns would be run upward to Level 2.5.

Level 1- The middle portion of Level 1 would be reframed in a similar fashion to Level 2 and for the same reasons.

Basement- New walls or beam and column lines and footings would be required along the new, wider center bay, and would need to include support for the added columns above. The existing walls would be removed,

County Commissioner's Building-

The structural ramifications of Option #2 are the same as for Option #1.

Structural Requirements of Option 2A:

Option #2A has the following structural ramifications for each section of the building:

Superior Court North Section-

Roof and Attic- No significant plan-driven structural modifications are required for the roof or attic structures by this scheme.

Level 2, 2.5- No significant plan-driven structural modifications are required at levels 2 and 2.5 by this scheme.

Level 1- The chimney and two iron columns within the east half of the structure are to be removed in order to create what appears to an unobstructed meeting or presentation room. This removal would require some large steel beams to span over the space and dedicated columns at each side of the space to support them. The long span will require relatively deep beams which should be nested into the level 2 framing if possible.

Basement- No significant plan-driven structural modifications are required at the basement level by this scheme, other than for support of new columns that are added above.

Superior Court/ South Section-

Level 3 and Roof- The work here would be like Options #1 and 2.

Level 2- The middle portion of Level 2 would need to be reframed to span between new lines of support that would replace the two walls of the center corridor (below) at a wider spacing. Re-framing could consist dimensional or manufactured lumber joists and beams.

Level 1, Basement- The framing modifications would be like Option #2.

County Commissioner's Building-

Level 3 and Roof- The creation of a full-height storage space at Level 3 would require the lowering removing the attic floor and reconstructing it at lower elevation, however the fact that the space will be used as storage would allow for the present trusses to be reconfigured and maintained, as no single open plan spaces would be required. The truss reconfiguration would likely consist of cutting the present bottom chord and incorporating a new chord member within the Level 3 floor framing with diagonal members sloping upward to the present truss ends in a lenticular fashion. The bottom chord cut could be limited to a pathway at the center of the space or could be made wider to accommodate more traffic.

The Level 3 floor structure would consist of new dimensional or manufactured (I-Joist) lumber joists spanning from the east and west exterior walls across the center corridor walls of Level 2, which would support them.

Level 2- The Level 1 wall segments would be replaced by steel beams at Level 2, and the existing beams between wall segments would be reinforced. These would carry the Level 2 floor framing and the bearing walls that support Level 3, above. Steel girders would cross these beam lines and transfer the beam loads out to new columns that would run downward through Level 1.

Level 1- All of the existing center corridor bearing wall segments would be removed, made unnecessary by the addition of the beams and girders at Level 2. The columns that support the girders would be run down to the Level 1 floor structure wherever it best suited the office layout. Seismically, the removal of the brick bearing wall segments would lower the lateral resistance of the building at this level. This might need to be made up for by the addition of other masonry wall construction within the building at this level of equal strength and orientation to what was lost. This could consist of new walls or the fattening-out of existing walls.

Basement- Additional piers or columns with footings would be inserted into the basement floor plan directly under the new columns that are added at Level 1.

Elevator and Vaults- A new elevator would be run from the basement up to Level 2. This would have a reinforced concrete unit masonry hoistway over a cast-in-place concrete pit. The hoistway would have bolted ledgers that would support the cut-off floor framing. The stacked vaults at the northeast corner would be removed.

I trust that the preceding information will be useful in understanding the structural implications of the proposed reuse options for the Essex County Courthouses.

Please contact me if you have any questions or comments.

Respectfully Yours,
Structures North Consulting Engineers, Inc.

John M. Wathne, P.E., President