

PROGRAMMING FEASIBILITY STUDY ADAPTIVE REUSE OF THE EXISTING COURTHOUSE

100 Main St, Lovington, NM 88260

NMBEA LLC

S.M.A.R.T.

science – materials – art – research – technology



Background, Goals and Strategy:

The existing courthouse was originally designed and constructed in 1934 which is 89-years in service. Most structures perform well for 50-years in service before abandonment or demolition occur.

The existing structure appears to be in excellent condition; however, electric and plumbing services are well past their anticipated in services performance life duration.

The existing Courthouse is currently listed on the U.S. National Register of Historic Places, administered by the National Park Service, which is subject to Federal tax incentives derived from the total value of expenses incurred by preserving the property. The building is also listed on the New Mexico State Register of Cultural Properties, which is maintained by the New Mexico Historic Preservation Division of the New Mexico Department of Cultural Affairs.

Historic registers provide benefit to communities by promoting longevity and preservation of antique buildings and structures, but they restrict and limit the use and function of the registered building to the general size, shape, and configuration of the original design, in this case from 1934. The size, shape, and structure of the existing courthouse cannot significantly change or be modified.

Lea County Fifth Judicial District Court that was originally housed within the building has since moved to a new location next door, and the result has left vacancy in the existing historic building allowing for potential renovation of the existing facility to accommodate County public service resources and programs. County resources would be best served for the community if consolidated to a “one-stop-shop” approach to all services and departments. This is the number one goal for a renovation project.

This feasibility report is intended to provide an informational summary of data collection to date that identifies the Counties potential program design and fitment into the existing structure of the Courthouse shell, and considers what options the Citizens of Lea County community have available to best suit their needs for development based on growth and prosperity of the County for at least another 50-years (or potentially 89-years as the existing facility has served.) Part of this feasibility study was to determine adequacy of the existing building to meet current program needs.

As part of a holistic evaluation of the County’s Basis of Design requirements for the adaptation of the Courthouse with new functions and spaces, an order of magnitude cost analysis, as wells space allocation studies, and long-term use and growth expansion scenarios must be considered.

Executive Summary:

This section is a brief synopsis of findings and feasibility that are detailed within this report.

Floor plate layout and non-usable space studies area shown on the next page

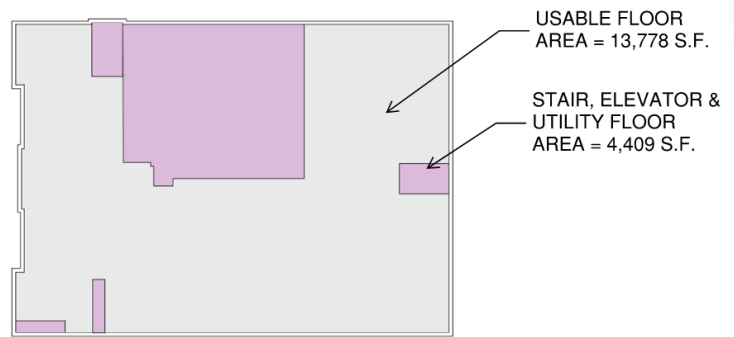
1. Current Owner's Basis of Design goals include consolidation of all public service departments into a single localized "one-stop-shop" approach to programming.
2. The existing Courthouse building floor area including four floors and a basement is a gross area of 69,513 s.f. which is the area taken at the interior face of structural exterior wall surfaces.
 - Historic registration of the Courthouse will severely limit the potential for any modification to the building exterior including prohibiting any new additions of usable structure on the property
 - Actual buildable or useful floor area currently for this Courthouse is limited to 58,771 s.f. gross floor area* due to existing fixed building systems such as electrical switchgear and utility services (excluding plumbing,) vertical circulation including stairwells and elevator, and structural footprint (columns and bearing walls.) Refer to **Figure 1** for floor plate usable floor area delineated.
3. Depending upon building use and historic preservation permits that vary depending upon results of a preservation alteration report analysis prepared for the Historic Preservation Society and Code Official, modern existing building codes allow for three tiers of building re-use and remodel classifications:

*Analysis of existing conditions is based on 2017 as-built floor plans provided to the County by NPSR Architects, a private Architectural Firm from Hobbs that performed a study in 2017. Further analysis was performed by NMBEA and analyzed in electronic format using modern computer aided drafting software.

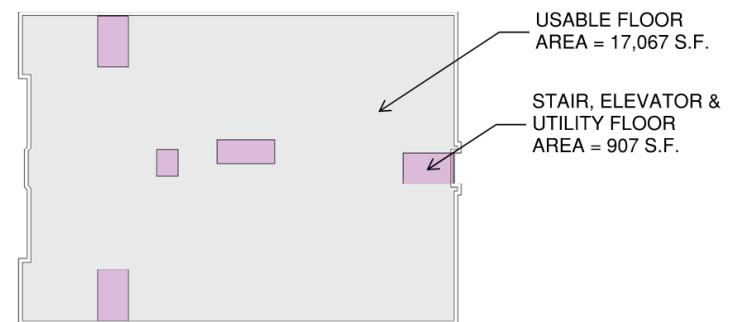
- Level 1 is very minimal work that includes replacement or covering of existing materials, elements, equipment or fixtures using new materials that serve the same purpose.
- Level 2 includes addition or elimination of any door/window, reconfiguration of any system, or installation of additional equipment applied to a work area that is equal to or less than 50-percent of the building area.
- Level 3 is any alteration where work exceeds 50-percent of the building area.

Figure 1 - Floor plate diagrams of the existing facility. The floor plate is defined as the horizontal surface between exterior load bearing wall structure. Floor plates have penetrations for vertical stairwells, elevator shaft, and mechanical and electrical systems that are not usable as well as equipment spaces for building systems, these non-usable floor areas are shown in purple on these diagrams.

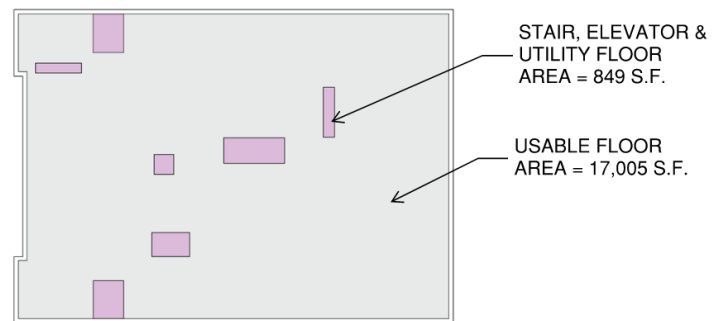
Gray shaded areas illustrate the remaining usable or assignable floor area that does not include partition walls and structural columns.



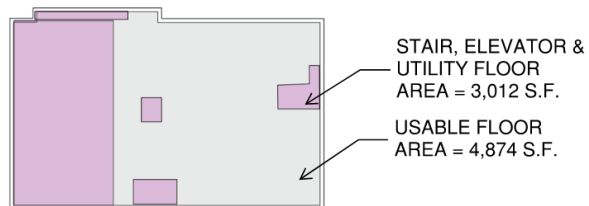
BASEMENT FLOOR PLAN - TOTAL 18,187 S.F. GROSS



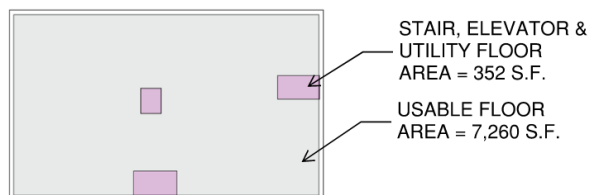
GROUND FLOOR PLAN - TOTAL 17,974 S.F. GROSS



SECOND FLOOR PLAN - TOTAL 17,854 S.F. GROSS



THIRD FLOOR PLAN - TOTAL 7,886 S.F. GROSS



FOURTH FLOOR PLAN - TOTAL 7,612 S.F. GROSS

Refer to Pages 15
& 16 this report
for details on
programming
analysis

4. County program space needs based on 2017 program evaluation provided by NPSR Architects as well as in-house departmental studies performed by the County Manager is MINIMUM 72,172 net s.f. floor area (**refer to pages 15 & 16 of analysis this report.**)

- The difference between actual existing Courthouse building net usable floor area of 58,771 s.f. and required program usable space of 72,172 s.f. is a 13,401 s.f. deficit in the existing renovation project and this does not include growth or common spaces.
- To accommodate future growth of 13% (9,383 s.f.) and allow for shared common spaces up to 11% gross floor area (7,940 s.f.) for uses such as break rooms, copy rooms, reception areas, security control points, and common storage, an additional 17,323 s.f. is recommended for a total County need of 89,495 net s.f.

Refer to Pages 10
& 11 this report
for breakdown of
unassignable
space needed for
vertical
circulation,
toilets, hallways,
mechanical
systems, and
common storage

5. Based on NMBEA's computer aided analysis of the existing Courthouse building actual real estate space efficiency for the as built 89-years ago, considering existing service spaces but not code upgrades, the Courthouse can be remodeled with a space planning usage efficiency of only 57% net assignable floor area* compared to modern buildings that can achieve almost 85%** efficiency. This results in a low efficiency building (i.e., low assignable floor area ratio) with a very high cost for retrofit and renovation work to meet current codes and County performance requirements.

* Net assignable floor area analysis considers the full floor plate square footage for each floor total; deduct vertical circulation, mechanical and electrical common space, hallways and fire exit corridors, as well as walls and structural footprint to determine the net assignable floor area. For example the existing ground floor has a gross floor area that is 17,974 s.f., We estimate need for 5,200 s.f. up to 9,000 s.f. for lobby, corridors, entry vestibules, elevator, stairwells, electrical and mechanical rooms. The result is between 8,900 s.f. and 12,774 s.f. that can be assigned to departments for work/office space.

** Sources for studies on modern floor area efficiencies provided by MDPI Publications Article *Space Efficiency in Contemporary Tall Buildings*
Kim, H.; Elnimeiri, M. Space efficiency in multi-use tall building. In *Tall Buildings in Historical Cities—Culture and Technology for Sustainable Cities*; CTBUH: Chicago, IL, USA, 2004
Sev, A.; Özgen, A. Space Efficiency In High-Rise Office Buildings. *METU J. Fac. Arch.* 2009, Nam, H.-J.; Shim, J.-H. An Analysis of the Change in Space Efficiency based on Various Tall Building Corner Shapes and Lease Spans. *J. Arch. Inst. Korea Plan. Des.* 2016

Program needs
for the County
are shown on
Pages 14 & 15 of
this report.

Cost evaluations
are shown on
Pages 18 & 19 of
this report.

- For comparison, renovation of the existing Courthouse order of magnitude construction costs range from \$58.4 million to \$75.8 million versus new construction for a complete build out at 85,000 s.f. *between \$25.3 million to \$40.9 million

*85,000 s.f. considers a very efficient design that would include current program department space needs of 72,172 s.f. plus 7,940 s.f. space for shared common spaces such as break rooms and meeting rooms, 9,383 s.f. floor area for projected growth in the next 10-years, with a reduction factor for smaller circulation space and no vertical circulation for multi-story buildings, refer to Page 15 this report.

- Existing renovation costs above new construction consider demolition of existing systems for electrical and mechanical/plumbing, hazardous materials abatement, demolition of existing systems including portions of interior structure, roofing, windows and doors, exterior cladding or thermal isolation systems, temporary structures to facilitate new work, followed by new construction for interior buildout.
7. Regarding cost benefit analysis for the County basis of design requirements, the County should consider new construction as an option in lieu of renovating the existing Courthouse to attempt to fit the service department's needs for the community.
- If new construction option is considered, the old Courthouse can remain functional during construction and design phase, allowing for minimal disruption in current departmental workflow for 12-month construction phase following procurement of a construction contract and design scope of work documents. Typically, a traditional project delivery for design/bid/build would be at least 12 months before construction begins. A design/build project delivery method would likely reduce this effort by several months.
 - Renovation considerations for the existing Courthouse to achieve Level 3 code compliance classification will require at least 6- to 9-months duration for abatement and selective demolition, including temporary isolation containment chambers to be built to keep occupants safe during the process.
 - Additional time in the schedule is also required for existing building conditions assessment to occur to identify existing elements that require repair, replacement, or retrofit,

including the exterior cladding, windows and doors, the roof, and waterproofing systems as well as electrical, plumbing, sanitary waste, and mechanical services. This could require up to 3-months or more for discovery phase work.

- Following relocation of all departments into a new facility, adaptive reuse strategies for the existing Courthouse should consider community programs such as the following:
 - Shared public meeting spaces with community access,
 - Community outreach and engagement programs including health programs such as family medicine, dental, and legal consultation programs that help individuals to navigate their health care, appointments, transportation programs, and training,
 - Youth and adult athletic and fitness programs including interior ball courts such as squash, pickleball, half-court basketball in the current courtrooms etc., that promote youth activities with adjacent health clinics in the same building in partnership with local health care providers,
 - County Commissioners and staff meeting and collaboration spaces,
 - Voting center and voter registration,
 - Continuing education and distance learning programs in partnership with state and municipal libraries and colleges,
 - Community ballrooms, meeting rooms, corporate and executive community lease spaces, flex spaces, launch spaces, and business incubators,
- 8. If new construction is an option to be considered, for the interim before any new work can be done at the historic building, it may benefit the community to allocate a portion of new construction funds to provide a value-add contribution to the existing Courthouse property, such as:
 - installation of a wedding kiosk in the grass park area,
 - community shared common space such as barbeque pits and gathering celebration spaces,
 - grade school level playground yard.

County Growth Trends:

Long term goals that consider a development process for consolidation and relocation of all County public facilities to meet the needs of the growing community requires the following:

- Community development plans that consider preservation requirements for the existing courthouse.
- Functional plans to ensure each department has the space they need for current function and future growth (at least over the next 25-years).
- Functional plans to ensure the County can comply with life safety codes as well as long term energy conservation requirements for code conformance and maintenance and operations costs.
- Access to and healthy use by the community including the ability to address community functions and activities as well as governmental duties for County public services.
- Ability to meet a maximum allowable budget with program requirements including hazardous materials remediation, retrofit of aged and unsafe utilities, and retrofit of existing interior environmental controls for healthy occupancy.
- Promote County Economic Development (including most effective ways to use County finance budgets for operations and maintenance) and efficiencies for use of local tax base to meet leadership and cultural needs of the community.

These public service functions are proportionate to the population size of the area served. Lea County should expect continued growth over time based on recent historic 2% annual population growth. Weighing consideration for seasonal averages, population growth for the next 10-years may need to consider at least 13% increase in population and therefore need for services.

With historic and projected future growth, particularly since 2017 when initial programming studies were performed on the existing Courthouse facility, the existing County needs-based space programs have already exceeded the Courthouse limited structure ability to meet the goals of Lea County (i.e., to consolidate all public County services to close proximity within the community.)

Lea County population growth fluctuates seasonally with projected growth trend between 10% to 13% every 10-year cycle.

Census Bureau data indicates the population of Lea County is 2021 was up 13% from 2010, nearly twice the U.S. population growth rate for that same period that was 7.3% and nearly 8 times the growth rate for New Mexico State overall.

Population in Lea County

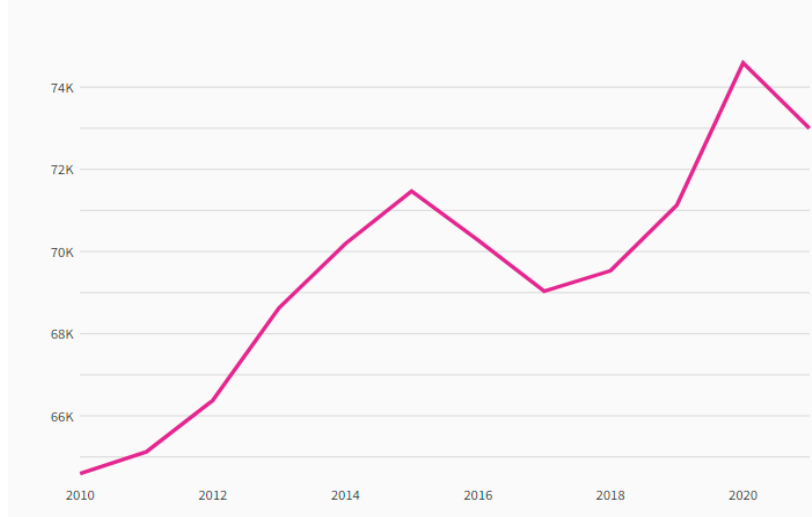


Figure 2 - U.S. Census Bureau Data (USAFacts.org)

Lea County and southeast New Mexico is one of the fastest growing areas in New Mexico by percentage of growth, with growth outpacing the state's largest population center of Bernalillo County for the past 10 years.

Annual population for the County has increased 8 out of 11 years between 2010 and 2021, with the largest annual population increase occurring recently between 2019 and 2020.

For planning and design purposes, it is recommended that a growth factor must be considered for floor space allocation to meet at least a 10-year growth cycle. This rate of growth and related expansion space should be at minimum 13% of the actual net usable floor area for the Counties current Basis of Design program.

Programming Considerations:

The existing historic Courthouse gross usable area (footprint within interior face of wall surfaces for each floor plate) is **69,513 gross square feet** including vertical circulation, structure, tare space, and circulation for four stories and a basement.

New program requirements have added additional assignable usable space needs to the fixed floor areas of the existing facility.

County specific design schematic programming performed in 2017 considered the need to house the following primary departments:

- County Assessor's Office – 4,300 s.f.
- Bureau of Elections Administrator / Voting – 1,000 s.f.
- County Clerk – 6,800 s.f.
- County Commissioners Offices Districts 1 through 5 – 1,500 s.f.
- County Managers Offices – 1,200 s.f.
- Community Engagement Manager – 1,200 s.f.
- County Finance Department – 2,400 s.f.
- County Historians Office – 435 s.f.
- County Human Resources 2,400 s.f.
- Information Technologies Offices – 2,900 s.f.
- County Probate Judges Offices and Legal/Risk Management Offices – 1,500 s.f.
- Planning and Subdivisions Department – 6,500 s.f.
- Records Custodian and Public Information Office – 900 s.f.
- Treasurer's and Tax Collector's Offices – 3,000 s.f.
- County Facilities Director Department – 1,250 s.f.
- County Employee Training workspaces – 1,200 s.f.
- Option for County Commissioners Chambers – 4,000 s.f.
- Public Meeting Rooms – 2,000 s.f.
- Marriage License and Ceremony – 900 s.f.
- Reception and Waiting Lobby – 2,400 s.f.
 - SUBTOTAL = 47,785 s.f.

The County Sheriff's office was relocated recently to a new location off South Commercial Street. Several other County Departments for consideration, intended to compliment the program for easy access in one general location include:

- Solid Waste Administrator,
- Environmental Services Director,
- Emergency Management Directors Offices,
- County Directors Offices,
- County Fire Marshals Offices,
- An office for the State Engineer,
- County Environmental Department,

To evaluate the potential use of the existing Courthouse building for repurposing, we must consider the existing floor area restrictions relative to modern new construction.

Consensus
Architectural
design and
planning
efficiency ratios

Building efficiency ratios are used by Architects and designers during programming and planning phase to break down the gross floor area by the net usable or leasable (i.e., occupied by working people) floor areas. The following compares a single story building usage efficiency with an older existing historic multi-story building.

Planning consensus* recommendations for non-assigned space allocation based on medium to high efficiency new construction floor area ratios for a **single story** building consider the following:

*These numbers have been derived from the University of New Mexico Office of Planning and Space Management Building Efficiency Ratio Guidelines (Figure 3)

- Circulation = 12% (assumes high performance efficient design planning strategies)
- Mechanical services = 3%
- Electrical and data services = 5%
- Structural and demising walls = 3%
- Toilet and convenience services = 1.5%
- Janitorial and maintenance services = 0.5%
- Unassigned storage = 0.5%
 - This break down summary equates to 74.5% assignable or usable floor area
 - 25.5% of this model is not assignable usable space and is dedicated to building common shared space.

University of New Mexico
Albuquerque, NM

Building Efficiency Ratio Guidelines

Revised 07/13/07

Detailed

		Space Factor	New Construction Efficiency			Remodeling	Remarks	
			Low	Medium	High			
Common Breakdowns of Unassigned Space			CUH2A Office					CUH2A Lab
1	Circulation	16.0%	15.0%	20.0%	22.0%	24.0%	25.0%	20.0%
2	Mechanical	5.0%	10.0%	5.5%	7.5%	8.0%	10.0%	15.0%
3	Electrical/Data Closets	5.0%	5.0%	5.0%	0.0%	0.0%	0.0%	5.0%
4	Structure & Walls	7.0%	3.0%	7.0%	8.0%	9.5%	10.0%	7.0%
5	Public Toilets	1.5%	1.5%	1.5%	1.5%	2.0%	2.5%	1.5%
6	Janitor Closets	0.2%	0.2%	0.5%	0.5%	0.5%	1.0%	0.5%
7	Unassigned Storage	0.3%	0.3%	0.5%	0.5%	1.0%	1.5%	1.0%
Total		35.0%	35.0%	40.0%	40.0%	45.0%	50.0%	50.0%

Figure 3 - UNM Office of Planning and Space Management average efficiency ratios and building efficiency models from the College and University Buildings Project Data Book 2001 and Tradeline Inc.

For new construction single story (i.e., no elevator or stairs,) overall target building efficiency (gross floor plate square feet divided by net assignable square feet) ranges from low efficiency ratio of 74% to high efficiency up to 82% or better.

Additional space use for an office administrative building requires a space multiplier factor of 1.28 as recommended by UNM Office of Planning and Space Management Building Efficiency Guidelines (Figure 4.) **This is a construction estimating factor that addresses non-usable structural column and partition wall displacement as well as fixed building equipment.** This number is used to estimate non-assignable floor area including circulation.

University of New Mexico
Albuquerque, NM

Building Efficiency Ratio Guidelines

Revised 07/13/07

Detailed

		Space Factor	New Construction Efficiency			Remodeling	Remarks
			Low	Medium	High		
Functional Type Classification: (Listed Alphabetically)							
1	Academic Center	1.33	71%	75%	79%		
2	Administration Building	1.28	74%	78%	82%		
3	Agricultural	1.61	59%	62%	65%		
4	Animal (Vivarium)	1.75	54%	57%	60%		
5	Animal Hospital	1.41	67%	71%	75%		
6	Aquarium	1.47	65%	68%	71%		
7	Astronomy	1.72	55%	58%	61%		
8	Auditorium	1.67	57%	60%	63%		
9	Biomedical	1.55	64%	68%	72%		

Figure 4 - Guidelines for space planning include a space factor of 1.28 for administrative buildings to be added to the net assignable floor area.

Statistically existing older multi-story building efficiency is **often less than 56%** compared to potentially 85% new single story construction

For existing multi-story buildings that were constructed prior to modern life safety codes using larger and more robust structural supporting systems, the overall building floor area efficiency is typically very low, and can be as low as 56% assignable net floor area.

According to research provided by UNM Office of Planning and Space Management (see Figure 3 previous page,) floor space for **multi-story buildings** should consider the following low efficiency* ratios for unassignable floor area:

- Circulation = 22% (although remodel can be as high as 24%)
- Mechanical services = 9% (average between 7.5% and 10%)
- Electrical and data services = 5%

- Structural and demising walls = 9.5% (for remodels)
- Toilet and convenience services = 2% (for remodels)
- Janitorial and maintenance services = 1.5%
- Unassigned storage = 1.5% (practical for modern usage)

*Lower efficiency ratio has to do with the need for older electrical and mechanical equipment that must be distributed horizontally and vertically for multiple stories, as well as vertical circulation such as stairwells and elevators that a single story building does not utilize.

If we analyze the existing Courthouse 1934 floor plan based on existing services spaces and not including code life safety updates, then the sum of these unassigned spaces necessary to use the multi-story building for its intended purpose as an office building results with a calculated net assignable floor area of only 57%.

A floor plate is the area at each story of a multistory building between the structural exterior walls, see page 3 this report

Because the existing Courthouse building has fixed floor plates (i.e., exterior load bearing wall structures cannot be moved therefore the floor area cannot change its size or shape, see Figure 1 existing building floor areas on Page 3) the overall efficiency for the usable floor area of the new program is small due to the following:

- Horizontal circulation (i.e., hallways and corridors to access occupiable space) is a fixed requirement of the buildings codes for emergency life safety that must be fit within the walls, and cannot be built outside the existing wall structure.
 - This circulation is the same for new construction as it is for existing, which by current standards means the net usable space is consumed by modern corridor egress and pathway circulation requirements that require restrictive width and length proportions for life safety reasons, which are larger than the 1934 time period the Courthouse was originally constructed due to changes in building codes.
- Vertical circulation consumes a portion of usable net floor area for each floor plate and must be tied into horizontal circulation for safe egress in an emergency and for security surveillance in modern social climates.

- A larger ground floor area is required at the existing courthouse due in part to the raised ground floor plinth above the street level, which require special consideration for modern accessibility using walking aids and wheel chairs. This access at present is limited from the 1934 design and is restricted to the basement entrance access.

Existing fixed gross available floor area (excluding circulation and structure) for the historic Courthouse renovation design project is 69,513 s.f. (interior wall to wall surface for each floor plate, see **Figure 1** on page 3 this report) of which:

Useful space in the existing Courthouse that can be used for new programs is **limited to 58,788 s.f.** usable area also called assignable area

- more than 6,325 s.f. currently is dedicated to fixed building systems that cannot likely be moved or changed;
- more than 3,200 s.f. is dedicated to various forms of historic needs based vertical circulation through each of the four floors plus basement (i.e., escalator, stairs, and elevators);
- more than 1,200 s.f. is dedicated to fixed structural supports;
 - remaining floor are by subtracting areas mentioned above is approximately 58,788 s.f.

Non-usable space of the 1934 floor plate design is moderately efficient because larger fire exits circulation corridors and stairwells were not required at the time of original design.

Based on space management ratios from UNM Office of Planning as shown Pages 10 and 11 of this report for a **multistory** building, and based on recommendations from the State of New Mexico Space Standards from the NM General Services Department Property Control Division, the minimum required non-assignable floor space for a modern multi-story building is estimated to be as follows:

- Horizontal circulation @ 22% = 12,929 s.f.
- Electrical and data services @ 5% = 2,938 s.f.
- Structural and demising walls @ 9.5% = 5,583 s.f.
- Toilet and convenience services @ 2% = 1,175 s.f.
- Janitorial and maintenance services @ 1.5% = 881 s.f.
- Unassigned storage @ 1.5% = 881 s.f.

At best, usage efficiency of the historic Courthouse is less than 71% based on the current floor plan layout and existing service spaces, this does not account for the current 2017 program

- Total required non-assignable space (i.e., Tare space) = 24,387 s.f.
- Remaining assignable floor area available by subtracting the 24,387 s.f. tare space from the net usable area of 58,788 s.f. = 34,401 net s.f.
- Using these numbers for modern best practice design planning purposes, the theoretical best rate efficiency ratio for the existing Courthouse net floor area would need to be 71%
 - non-assignable to assignable floor area ratio = $24,387 / 34,384 \times 100 = 71\%$, this is a calculated theoretical best case scenario number and not actual
 - the actual efficiency of the existing Courthouse building based on CADD floor analysis of existing conditions is 57%,
 - to achieve the modern low 71% efficiency would require that all floors are completely demolished and reconfigured including openings through the concrete floor plate and structural columns to allow for new vertical and horizontal circulation.
 - The existing concrete structure, existing electrical and mechanical service rooms, and existing stairs and elevator with the low efficiency are not easy to remove and replace

Owners Basis of Design Program Requirements

For a renovation project at the existing Courthouse, current program requirements to meet the minimum basic County needs for department offices and workspaces likely cannot be accomplished efficiently and with a growth factor within the existing limited 58,771 s.f. usable building footprint for four floors plus a basement.

Renovation of the Courthouse will likely require that several current department programs and all new future County service programs must be relocated to another facility, replicating current conditions where services are distributed over a broad land area and increasing once again traffic and circulation requirements to meet basic civic needs for the growing community.

In addition to program space needs that are limited within the existing building shell, the demolition and hazardous materials abatement phase of construction will require that the building is not occupied or it will require full air containment temporary structures to be put in place to protect interior air quality for occupants. This will require phased sequencing of demolition will slows progress and will likely extend the construction schedule considerable.

Minimum new
program
requirements
were **evaluated**
in 2017 with
some current
revisions

A 2017 Architectural existing building renovation space program evaluation to create a “one-stop-shop” approach for the public County resources assigned a minimum net usable floor area of County programs for the following:

- County Assessor’s Office – 4,300 s.f.
- Bureau of Elections Administrator / Voting – 1,000 s.f.
- County Clerk – 6,800 s.f.
- County Commissioners Offices Districts 1 through 5 – 1,500 s.f.
- County Managers Offices – 1,200 s.f.
- Community Engagement Manager – 1,200 s.f.
- County Finance Department – 2,400 s.f.
- County Historians Office – 435 s.f.
- County Human Resources 2,400 s.f.
- Information Technologies Offices – 2,900 s.f.
- County Probate Judges Offices and Legal/Risk Management Offices – 1,500 s.f.
- Planning and Subdivisions Department – 6,500 s.f.
- Records Custodian and Public Information Office – 900 s.f.

- Treasurer's and Tax Collector's Offices – 3,000 s.f.
- County Facilities Director Department – 1,250 s.f.
- County Employee Training workspaces – 1,200 s.f.
- Option for County Commissioners Chambers – 4,000 s.f.
- Public Meeting Rooms – 2,000 s.f.
- Marriage License and Ceremony – 900 s.f.
- Reception and Waiting Lobby – 2,400 s.f.

Total estimated
required new
space for the
County is
72,172 s.f.
without room
for growth or
common shared
spaces.

- SUBTOTAL = 47,785 s.f. department floor area
- Total net non-assignable space for a multi-story building from pages 13 & 14 of this report (Tare) = 24,387 s.f.
- Total required net program floor area 47,785 s.f. + 24,387 s.f. = **72,172 s.f.**
- Floor space not included in the 2017 program but that is necessary for post-COVID planning (public space design with consideration for more personal space) of common areas such as break room, print rooms, work layout rooms, conference rooms, and general storage is recommended to be at least 11% of the net usable area (*Office Space Planning Guidelines by EPTURA and Workspace Privacy published by HR Magazine recommend 10%- to 15%) which is 7,940 s.f.
- Projected minimum growth expansion for the next 10-years estimated at 13% growth should be at least 9,383 s.f.

Estimated need
for current and
future program
space is **89,495
s.f.**

The existing
Courthouse
renovation
project will
start with an
estimated
space **deficit
shortfall** of
at least
30,724 s.f.

- Total 72,172 s.f. net program space plus common shared space (7,940 s.f.) and 13% estimated growth (9,383 s.f.) will require an estimated total of **89,495 s.f.** for a medium to low efficiency building (22% circulation)
- Actual usable gross floor space of the historic Courthouse is 58,771 s.f., which is shortfall of **30,724 s.f.**

The net result of this evaluation is that considering room for common shared spaces (7,940 s.f.), projected growth over 10 years (9,383 s.f.), and room for building structure and equipment, the existing Courthouse at 58,771 usable floor area is already at a net square footage deficit of 30,724 s.f. to meet County needs of 89,495 s.f. If higher efficiency can be designed including a single story building without vertical circulation requirements, then an estimated 85,000 gross s.f. may be possible as a design target for building space planning.

- This area estimate does not consider any new programs that may have been added to the County requirements after 2017.
- Without having performed any recent additional Owners Basis of Design analysis since 2017 to meet current 2023 requirements, the existing Courthouse building cannot function as intended to meet the County and community needs.

An alternative for potential new construction should be considered that will better accommodate County program needs, construction costs to maximize useful dollar expenditures for current and future growth.

Cost Implications and Potential Alternative with New Construction:

Existing
renovation and
adaptive reuse of
historic buildings
**can be an
increase of 80%
to 180%** over
new construction
cost

Renovation cost for the existing Courthouse building must consider a Level 3 alteration without change of occupancy, which will affect every floor of the building and require full compliance with modern building life safety codes.

2022 construction cost average for office and administrative buildings in the west and mid-west region of the United States is as follows:

- A single story new construction commercial office building that is finished and graded as Class A* or better is estimated to cost between \$298.00 to \$481.00 per square foot
- Mid-rise new construction commercial office building that is graded Class A or better is estimated to cost between \$481.00 to \$607.00 per square foot
- Existing building government office renovation costs for a mid-rise (1- 5 stories) concrete framed office building to Level 3 code upgrade classification, and to meet minimum Class A or better fit and finish is estimated to be between \$840.00 to \$1,092.00 per square foot (based on January 2022 precedent costs for a State Office renovation in the mid-west region.)

*Classification of Building Finishes for commercial real estate is defined by BOMA International and NAIOP Commercial Real Estate Development Association and include Class A, Class B, and Class C. Class A is considered high-quality professional business class including energy efficient and high performance mechanical systems with high quality easy to maintain durable interior finishes, fixtures, and equipment.

If we consider these cost range estimates for renovation of the existing Courthouse, the following factors are considered for the general budget cost per square foot evaluation:

- Public accessibility of the ground floor includes ramps and renovation of existing stair access from the street
- Elevator access to upper floors and accessibility access to all aspects of each floor of the facility
- Hazardous materials (asbestos and mold) remediation
- Removal and relocation of structural concrete structure to accommodate new program spaces, including columns and

heavy frame cast carrier beams at floor lines for each column moved

- Retrofit of new hydronic heating and cooling through vertical distribution to each floor
- Retrofit of new fire protection systems
- Retrofit of new, large size universally accessible elevator access routes to each floor which require modification to load bearing structural walls and which also require special fire protection to prevent these shafts from propagating fire like a chimney flue through each floor
- Retrofit of vertical circulation emergency egress stairs for each floor, these emergency stairwells will need to modify the concrete floor structure and load bearing walls to allow an increased width for the full occupancy load of each floor, and require fire protection similar to the elevator shaft to prevent vertical flame spread like a chimney flue through each floor plate.
- Retrofit existing plumbing and sanitary sewer systems vertically and horizontally with the addition of new fire protected plumbing and electric shafts through each floor
- Construction access to multiple floors for major demolition and heavy structure restoration above ground requires temporary access through exterior wall systems and crane operations

Using these figures from National data for the past two years, and estimating on the upper range of the unit costs due to complexity and age of the Courthouse, we can estimate the budget for renovation and adaptation of the existing 89-year old Courthouse available gross square feet floor areas for four stories plus a basement into the new program services for the County as follows:

Renovation of
the existing
Courthouse with
limited floor
area that does
not meet
programming
requirements
could require a
budget of
\$89,571,671.00

- Using the range between \$840 /s.f. and \$1,092 / s.f., and including 7% soft cost such as design and permitting, 7% gross receipts tax, and contingency amount of 4%, a total project budget for the existing Courthouse 69,513 s.f. gross building area that is less than what the county needs programmatically should cost between **\$68,901,285.00 and \$89,571,671.00**

Recent renovation costs in New Mexico, in particular the Bernalillo County Headquarters administration building in Albuquerque, an

eight story 1970's structure that was renovated in 2020/2021 demonstrates a potential for reduced cost by adaptive reuse at less than \$200.00 per square foot.

However, the age and nature of the historic Courthouse in Lea County cannot compare with more modern building adaptations such as the Bernalillo County project.

Recent work in Minnesota and Colorado sets a more accurate precedent for the higher cost to upgrade the full utility systems including electric, sanitary sewer, water infrastructure, structural elements, exterior cladding and roofing for performance and energy conservation of an aged building such as this. The precedents are in the upper range and top out at the \$1,092 per square foot previously mentioned.

For comparison, an alternative to retrofit and renovation would be a new single story building complex. The cost of single-story new construction for a durable and high performance public building is estimated as follows:

New Construction
would likely cost
the County **up to
\$48,244,300.00**
to meet the 2017
program
requirements
with room for
growth and
shared common
spaces

- At the rate of between \$298.00 to \$481.00 per square foot, for a building that meets the County requirements at 85,000 s.f. excluding cost of land, including gross receipts tax, entitlements, and soft costs plus 4% contingency, a full build out including shell space for 10-year projected growth of a single story administrative building that is 85,000 s.f. is estimated to be between **\$29,889,400.00 and \$48,244,300.00** total project cost.

Should the County consider this viable option of new construction versus renovation and restoration of the existing Courthouse, there are numerous precedent scenarios for future adaptation of the existing building to meet Community needs and improve quality of community and culture for the County residents.

Community Resources for Adaptive Reuse:

Many municipalities and government agencies have recently done studies for alternatives regarding adaptive reuse of the existing historic Courthouse that should function as the heart of the community as it has for decades. Options for adaptive reuse precedents consider the following community resources:

- Multi-media learning centers and high speed internet access point
- Distance learning center in conjunction with New Mexico State Universities that allow continuing education, night learning, online courses and knowledge sharing
- Community fitness and health resources including repurposing upper floor level court spaces into community ball courts and athletic facilities in conjunction with community health outreach satellite clinics from local and State health care providers
- Community ballroom and corporate/executive community lease spaces such as flex spaces, launch space, incubators for start-up small business and entrepreneurship.
- Public meeting spaces and community rooms
- Community outreach programs
- Commissioners meeting spaces for public access
- Public voting spaces.

Reuse of historic buildings for larger more flexible community spaces such as the aforementioned examples can potentially reduce building load for renovation and therefore can drastically reduce costs for the adaptive renovation budget. It is likely that renovation of the Courthouse for adaptive reuse would cost between \$200 and \$400 per square foot, or \$13,899,200.00 to \$27,798,400.00, of which funding for historic restoration projects is available from several Federal and State programs. This does not consider revenue for potential lease spaces in the future adaptation of the Courthouse.

Partnership for adaptive reuse has been accepted by numerous government agencies on several levels. The most common partnership programs are educational and training partnerships as well as community and culture fostering partnerships with other County and Municipal agencies.

Numerous Federal and State agencies offer grants for adaptive reuse programs of historic buildings that can offset County costs for long

term maintenance and operations, as well as renovation costs. Several large economic agencies can partner for lease space that creates sense of community but also provides economical offset to the operational building costs and cost for renovation.

Summary:

Based on the programmatic needs of the County to consolidate public service departments into a “one-stop-shop” scenario for residents of the County, the existing Courthouse building constructed in 1934 will not provide necessary useful floor area.

A viable option in lieu of attempting to short-program department spaces, eliminate shared common spaces, and not accommodate future growth would be to consider new construction.

Considering cost, new construction will likely afford much better use of the County’s funding for full program spaces, and with room to accommodate the fastest population growth rate of any County in New Mexico.

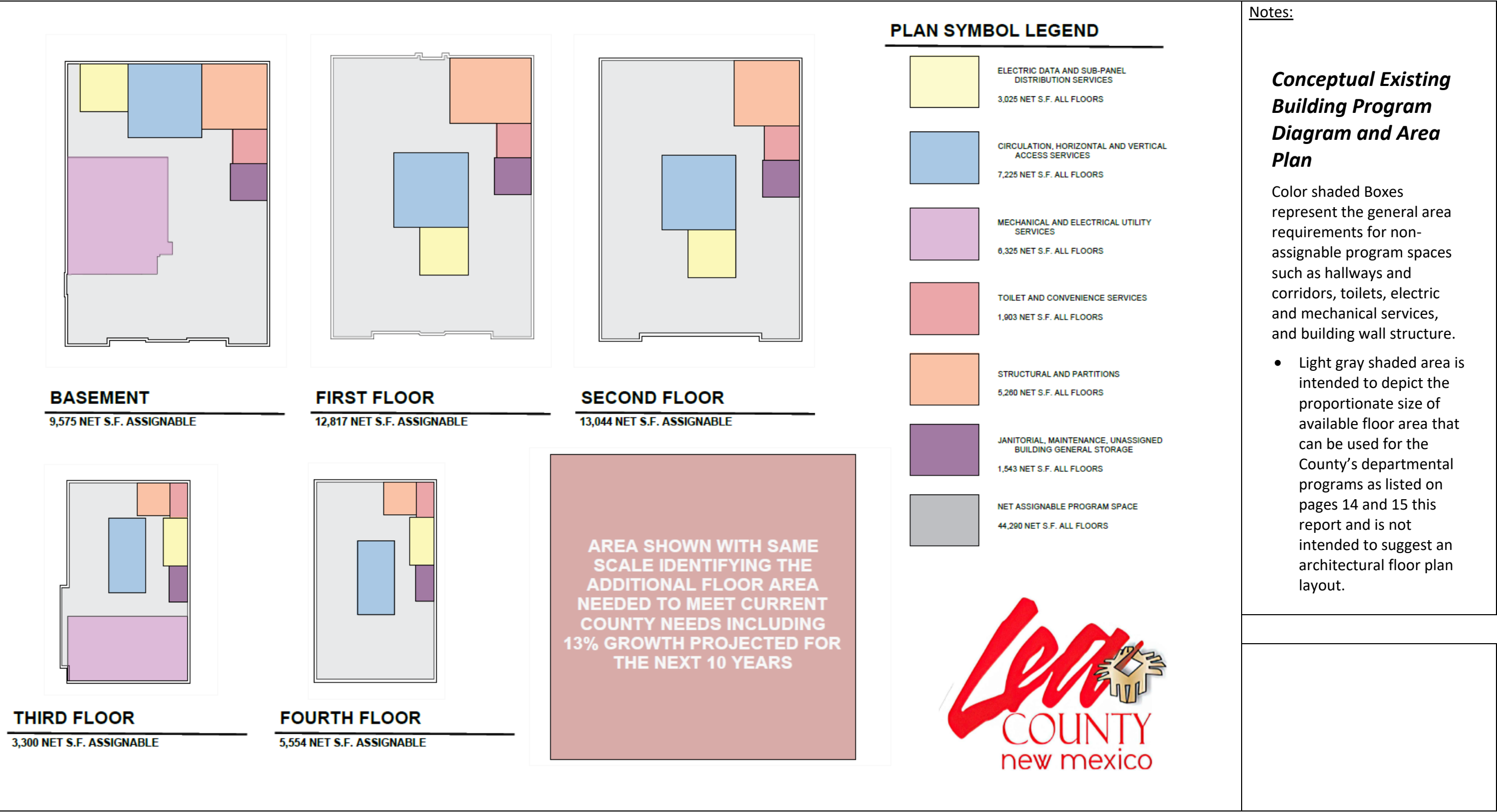
Other considerations for new construction versus existing building adapt and reuse is the timeline to get the facility online and available to the public. Preliminary estimates have determined that at least 6-to 9-months will be necessary for demolition and hazardous materials abatement before any new work can be accomplished. This demolition phase would require the building to be vacated for that time due to air quality standards, otherwise expensive and phased temporary air containment structures will be necessary which will add considerable time and money to the project budgets.

If the County has available land ready for use near existing County facilities, with a phased design build project scenario, we expect a reduction of time schedule from design to occupancy would be 9- to - 12 months.

- The new construction as a design build project delivery if started in the fall of 2023 could potentially result with a 12-month design and construction schedule, offering the new building to the public potentially as early as year 2025.

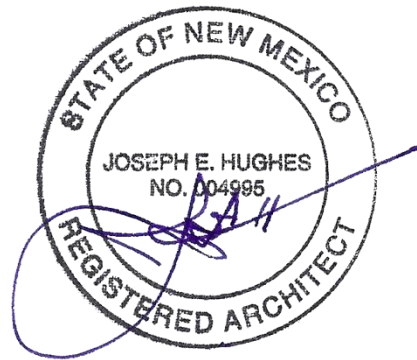
The following Plate diagram WAS produced to illustrate diagrammatically the limitations of existing floor size of the existing Courthouse, and comparatively the floor area size (in beige color) needed to meet current programming requirements

PLATE 1 – Program diagram for space distribution within the limited floor areas of the historic Courthouse:



Note that this feasibility analysis was performed as part of initial programming phase and Owners Basis of Design needs assessment. This analysis does not consider a thorough programming analysis that has been vetted through each of the necessary County departments scheduled to be part of the renovation and retrofit project. It is critical that the County is aware of the shortfalls for floor space in the existing facility and consider long term sustainable solutions such as new construction prior to beginning any schematic design phase scope of work.

We hope this architectural space planning and cost analysis is helpful for you to determine a long-term high-performance scope of work for the County. If you would like to meet in person regarding the results of this analysis please let us know.



Written by:

Technical Advisor and Construction/Building Analyst
NMBEA LLC

End of Report

*Due to the time sensitive nature of this document, it has been reviewed for technical content; however, some human errors may remain such as spelling, grammar, etc., and NMBEA reserves the right to edit non-technical aspects of this report at a later date, if necessary.