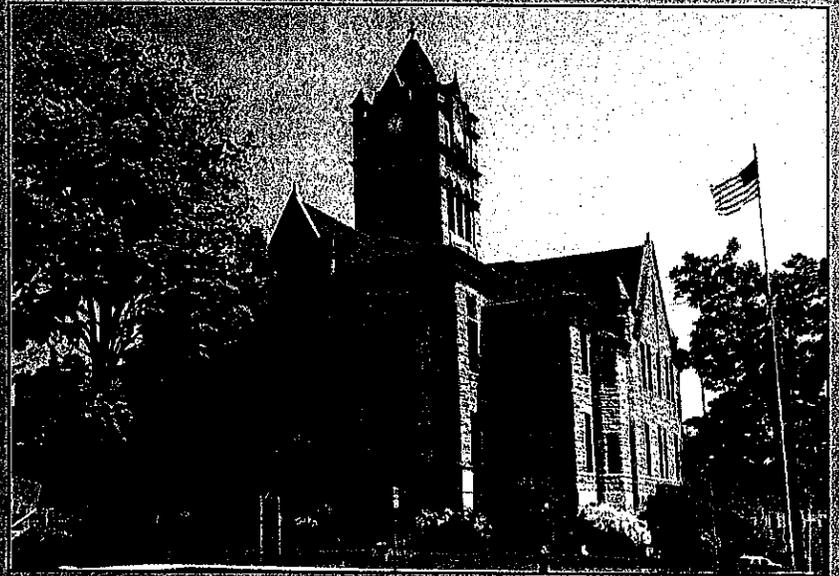
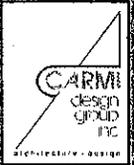


Kingscott



Cass County Building Authority

Feasability Study

1899 Courthouse/

1976 Cass County Building

NOVEMBER 29, 2007

Table of Contents

FEASIBILITY STUDY—1899 COURTHOUSE/1976 CASS COUNTY
BUILDING

Introduction	1
1899 Courthouse Feasibility Study	2
1976 Facility Feasibility Study	3
Departmental Programming Report	4
Facility Code Analysis Report	5
Miller Davis Cost Estimates	6
-Existing Facility Remodeling and Addition -New Facility Costs and Program -1976 Facility Demolition Costs	
Existing Facility Floor Plans	7
Proposed Remodeling/Addition Floor Plans ..	8
Closing	9



WE BUILD A TEAM

INTRODUCTION

PURPOSE: This Facilities Report was compiled for use by the **Cass County Building Authority**. It should be viewed as a planning tool and framework around which the County may build or modify a Master Plan for maintaining and upgrading its facilities and grounds. The report format is such that it will allow the County to review an entire body of work and assign priority rankings to the various work items, as the need is perceived. The listing is then easily transformed into a construction program statement that becomes the basis for a long-range action plan.

PROCEDURE: The building information presented in this report was obtained through a review of available building drawings and specifications, as well as by on-site inspections of the buildings by a team of Architects and Engineers. Inspections consisted of interviews with appropriate staff and maintenance personnel and a walk-through tour of the building and surrounding grounds.

FORMAT: The report is divided into five sections for the reader's convenience in finding the appropriate information as follows:

1. **Facility Analysis and Corrective Recommendation reports**
 - o Documents the observed conditions at the time of review. Noted items that need to be addressed (in the Architect's professional opinion) are followed with a written recommendation. Included recommendations serve as the basis for subsequent cost estimates from Miller Davis.
2. **Staff Programming Session minutes**
 - o A recording of the discussions with the Facility occupants. Discussions include the occupant's vision of the anticipated growth factor for over the next five to ten years.
3. **Facility Code Analysis**
 - o Documentation of the facility code assessment based on the current State of Michigan Building, Site, Barrier Free, Mechanical, & Electrical codes.
4. **Cost Estimate Analysis performed by Miller Davis Company**
 - o Including estimates for all recommendations of remodeling for the current facility as well as estimates for constructing an equivalent new facility and potential demolition of the existing facility.
5. **Existing Facility Utilization Floor Plans & Proposed Remodeling Floor Plans**

GOALS:

- Develop Plans and assist in preparing Potential Costs to Reorganize and Remodel County and facility Departments to improve County efficiency, and to utilize the existing vacant 1899 Courthouse Facility as well as to pursue the ability to convert remaining existing space in potential “Leasable Space”.
- Identify code deficiencies and recommend corrective actions.
- Analyze existing facility systems and anticipate potential remaining life cycle. Include recommendations for corrective / replacement actions which would reduce facility operational costs to the County.
- Develop a written square footage program to accommodate anticipated future growth of County Department spatial and staffing needs.
- Development of a potential square footage program for the purpose of determining costs for construction of a replacement facility. The program included is based on the following assumptions:
 - No Leasable Tenant space is to be included
 - Building systems and finishes shall match the existing County Court Complex facility.
 - Separate sitework amenities (IE parking, walks, storm water systems, utility services)
 - 120 Parking Stalls (10) Barrier Free Total
 - The facility will be fire protected throughout with a supervised NFPA 13 system

While striving to be accurate and precise, this report also attempts to avoid using complicated explanations and technical terminology to be easily read by non-technically oriented persons. It is our belief that a clear and thorough understanding of this report will lead to informed and insightful decisions by the County and Community.

The County should consider retaining the services of a qualified professional to assist in formulating a comprehensive asbestos report to address asbestos materials specific to a proposed capital project. In some cases it may also be desirable to remove asbestos-containing building materials (ACBM) that are not affected by a renovation project. This report does not attempt to indicate existence of suspected ACBM's located throughout the buildings. ACBM Content of suspected material should be tested and this report represents only an assumption that the materials exist.

Considerations presented in this document reflect conditions observed during the winter of 2006. For future reference purpose it is important for us to note when this evaluation occurred and understand that this document represents a snapshot of the facilities as they existed during our evaluation. The date appearing on the cover of this document represents the publication date. The cover date will be changed if the book is revised and reprinted to distinguish it from earlier versions.

Facilities Evaluation: Information gathered from the study of each building is presented by trade: Site Work, General Building Improvements, Mechanical, Plumbing, Electrical, Technology. Items such as Health & Safety Items, Accessibility Issues, and Additional Studies and Tests are also included within the scope of recommendations.

Opinion of Probable Construction Costs: Costs associated with each building section of work will represent an opinion from the Construction Manager on the probable direct construction material and labor costs. Costs have been included for the comparison of constructing a new facility to accommodate the anticipated Cass County Facility Program (not including square footage for “Leasable Space”).

Included pricing reflects the current market conditions in the opinion of the Construction Manager. Upon determination by the County to consider moving forward with this anticipated project, an escalation factor should be applied to reflect the projected cost for each item depending on when the work is to be completed. Until such time as the Master Plan has been compiled, and an estimated project timeline has been established (until commencement of construction starts) an inflation rate of 4.0% - 6.0% annually should be applied to the total cost to account for the work being completed at this future projected timeframe.

Probable construction costs for each building are summarized with Project Contingency, General Conditions, and Incidental Costs included arriving at Total Estimated Project Costs. The costs are summarized by building and by work category in the final section of the report.

Use of the Report Information: Workshops including the County Building Authority, County Staff and Administration, Miller Davis, Carmi Design Group, and Kingscott were scheduled to review the report findings in detail. Kingscott presented information to assist the County to examine and evaluate potential solutions, to assist in prioritizing the solutions into a planning tool and framework around which the County may build or modify a Master Plan for maintaining and upgrading its facilities and grounds.

As the Master Plan emerges from the assessment review process, this report could be updated and a Final Master Report will be completed for County acceptance.

The County may consider whether to present the findings of this report to County Staff and the Community as a whole. Kingscott supports seeking community input regarding this information, and will assist the County in conveying the expressed needs of the report as desired.



Facility Assessment Architectural Review

BUILDING: 1899 Court House, Cass County
Job No. 2690-01

GENERAL

- The facility was constructed in 1899. The building was renovated in 1976.
- Type of Facility- Office space

EXTERIOR ENVELOPE

- **Limestone-**
 - **North Elevation:** Stone is water stained and growing fungus from canopy water running down face of building and not being allowed to dry.
 - **East Elevation:** There is some minor bed joint deterioration in the banding below the window sills. There has been settling at the east entrance, and some of the head and bed joints from the center of the arch to below the sill of the second floor windows have cracked and deteriorated as the result. Some of the stone has fallen away near the top of the foundation on the east and north walls of east entrance.
 - **South Elevation:** There are cracks in the sill and head joints around the windows. The middle head joint in the cornice above the south entrance has cracked and deteriorated. A few of the head joints around the south entrance have deteriorated. Some of the concrete has spalled near the top of the foundation wall. Some of the stone has been stained by rust.
 - **West Elevation:** The stone is stained and growing fungus in the corner near the downspouts. The stone is also heavily stained overall. There are a few joints that have cracked and deteriorated.
- **Sealants-** Sealant around many of the metal grilles has failed. Sealant around many of the windows has dried and pulled away from the joint.
- **Windows-** The windows were replaced with metal clad double hung windows. Many of the windows have deteriorated, including broken seals. The windows are not thermally efficient nor historically correct.
- **Metal Grilles-** Many of the metal grilles under the windows at the floor line have rusted, and some are missing. The backing for many of the metal grilles has deteriorated, and has become nesting areas for hornets, etc.
- **Downspouts-** The downspouts freeze, and as the result, they have pulled from their anchors and leak. It appears that there are times that the water backs up between the downspouts and the storm system to grade. The interior faces of the exterior walls show significant plaster damage in these same corners.
- **Grade-** The interior faces of the exterior walls on the west half of the north wall, west wall, and at least half of the south wall show significant plaster damage as the result of constant moisture infiltration. It appears that there is not enough positive drainage away from the building in these areas.
- **Aluminum Storefront Infill for the former West Entrance:** The aluminum window system is not insulated, and the seals are failing in some areas.

Recommendations:

- Wash exterior limestone with an approved cleaning agent to remove stains and fungus.
- Remove any failed or deteriorated joints and tuckpoint.
- Seal areas where stone has fallen away at top of foundation wall.
- Remove loose concrete wash at top of foundation wall and parge.
- Remove existing canopy.
- Replace windows and with thermal efficient windows. Window stools will have to be replaced or stripped, stained, and varnished. Entire perimeter of windows shall be sealed and caulked.
- Remove all remaining metal grilles for sandblasting, priming, and painting. Fill area behind grille with an expanding sealant and reattach grilles. Replace any missing grilles with matching metal grilles. Seal entire perimeter after grille has been replaced.
- Replace any cracked downspout with matching, reattach downspout to the building where it has pulled out of anchorage to building, determine size of storm drainage, and replace with proper sized piping. Heat tape would be recommended to keep the downspouts from freezing due to travel distance and exposure.
- Install bentonite waterproofing, drain tile, and pea gravel for drainage around west half of north exterior wall, west wall, and west half of south wall. Change grade around these areas for positive drainage away from the building.
- The arched aluminum storefront system should be replaced with an insulated system.

ROOF

- Roof
 - Construction- Wood rafters and T&G sheathing with asphalt shingles.
 - The shingles over the attic are at least 30 years old, no warranty is applicable.
 - The existing shingles are losing granules, cracking, and ridging due to the loss of elasticity in the asphalt. When the shingles lose their elasticity, they will leak, and the roof is at this point. There may be a couple of years left before major leaks develop.

Recommendation: A complete tear-off should be performed to the deck, and a new underlayment, ice and water shield, and shingle be installed. Ventilation of the attic space shall be investigated. Limestone cap should be scrapped and painted- the paint is peeling.
- Flashing
 - The existing flashings have pulled away from the building and leak.

Recommendation: The flashing shall be replaced when the roof is replaced.
- Built-In Gutter system
 - The internal eaves trough has been leaking and been damaged during numerous freeze thaw cycles. Some of the areas have been lined with a membrane to attempt to stop the leaking without success.

Recommendation: Replace the internal gutter with a new liner. The metal gutters shall match the downspout metal to prevent galvanic action which deteriorates the system. Any moisture damage should be repaired at this time and painted.

INTERIOR

- Floor Finishes- Almost all carpet. VCT in private Toilet rooms, Stairs, some Storage, and a First Floor Work room. Floor finishes were installed over a ¼" sheet of Masonite which was adhered to the existing T&G wood floor which was attached to actual size 2x wood nailers embedded in a concrete floor. The masonite is no longer adhered and has bubbled up in many locations. The floor finishes were installed in the 1976 renovation, is very worn, and is patched with dissimilar carpet in various locations.

Recommendation: The loose masonite should be removed from the T&G floor and the carpet should be replaced.

- Ceilings – Type- All ceilings are 2x4 grid with panels and suspension system. Many of the ceiling panels are stained, broken, and mismatched in various locations.

Recommendation: All of the ceiling grid and panels will have to be removed for mechanical, electrical, and fire suppression demolition/installation. Install new ceiling grid and panels.

- Walls – Type – Finish- All walls are plaster with paint finish. First Floor: the walls in the west half of the north walls, west walls, and the west half of the south walls have significant moisture damage, and the plaster has fallen off of the lath in various locations.

Recommendation: the moisture infiltration of the walls will have to be stopped (refer to Exterior Envelope), plaster walls repaired, and painted in damaged areas.

- Doors and Frames- All frames are metal. Doors are wood with various colors of plastic laminate finish. Many of the doors are significantly chipped and are delaminating. At least one of the doors on the Second Floor, and almost all of the doors on the Third Floor are only 32" wide doors, and do not meet the 32" clear space required by the Michigan Barrier Free Design Guidelines. The door hardware is very worn and none of it meets the Michigan Barrier Free Design Guidelines.

Recommendation: All of the doors and hardware should be replaced. Doors and frames will have to be replaced as required to meet the Michigan Barrier Free Design Guidelines. All the frames should be painted.

- Fire Safety Equipment- Fire extinguishers are provided per plan.
- Signage- the existing room signage does not comply with the current codes.

Recommendation: Tactile exit signs shall be installed adjacent to each egress stairway and exit discharge. Room signage shall be installed per the Michigan Barrier Free Design Guidelines.

- Water Coolers- One is provided per floor. The current mounting heights are not the required heights called for in the Michigan Barrier Free Design Guidelines.

Recommendation: The water coolers should be replaced.

LIFE SAFETY

- The allowable number of stories and height for the type of construction is (2) stories and 40'-0" tall. The existing building is (3) stories and 51'-0" tall, and therefore no compliant with the code.

Recommendation: Installation of an automatic sprinkler system will allow for an additional story- 3 and a building height of 60'-0".

- The maximum height of the bell tower can be 20'-0" past the roof if constructed of combustible material. The bell tower extend 48'-0" past the roof of the courthouse, and the stairs, handrails, floor, joist, and rafters are all constructed of wood (combustible).

Recommendation: Nothing has to be changed at this time unless there is an alteration.

- The existing standpipe and hose reel system in the southwest corner of the Connector was installed as a Class I, 4" line, 2 1/2" valves, 1 1/2" hose, and the hose is stored in a non rated cabinet which backs up directly to the chase for the standpipe. The standpipe is required to be installed in a rated enclosure equal to the stair enclosure (1). The existing standpipe serves the suppression system for the mechanical area in the "attic" and the bell tower. The standpipe does not extend up to the roof as now required to roofs with a slope with a slope of less than 4 in 12. The code requires that a Class III standpipe be installed, a Class I can be installed with an automatic sprinkler system throughout.

Recommendation: The standpipe either has to be enclosed in a 1 hour enclosure (replace the hose reel cabinets with rated cabinets), or move the standpipe into the stair. A Class I system can remain if the remainder of the building has an automatic sprinkler system installed. The standpipe should be extended to the roof of the Connector.

- The lowest hatch between alternating stairs in the Bell Tower does not have a guard installed on the west side to keep someone descending the upper alternating stair from falling to the story below. None

of the guards around the hatches for the alternating stairs in the Bell Tower and platforms for the stairs from the Attic up into the Bell Tower meet current standards for height and openings.

Recommendation: Install 42" tall guard around lower hatch between alternating stair runs on north, south, and west sides. Install balusters from floor level to 34" AFF so that a 4" sphere can not pass between, and from 34 to 42" AFF so that an 8" sphere can not pass between. If the guards are altered, the new construction shall be changed to meet the height and opening requirements.

- The central stair in the Courthouse has an enclosed storage under the First Floor stair run, and the enclosure is not rated for 1 hour.

Recommendation: The under stair enclosure shall be removed.

- The existing handrails in the Stair do not meet the current opening standards of less than 4".

Recommendation: If the Stairs are altered, the handrails have to be changed to meet the current requirements.

- The existing Stairs do not have any of the required guards installed along the inside handrail required when the grade change is more than 30" on either side.

Recommendations: The existing handrail should be modified to add the 42" high guard with an ornamental pattern so that an 8" sphere cannot pass through.

- The existing Fire Alarm system does not meet the Life Safety and Michigan Barrier Free Design Guidelines. The horns are not installed in the required locations, no strobes are installed, and there are problems with the old and new panels interfacing.

Recommendation: The Fire Alarm system should be replaced throughout the Courthouse, Annex, and Connector.

- Tactile exit signs shall be provided adjacent to each door to an egress stairway and at the exit discharge.

Recommendations: This signage shall be installed.

MICHIGAN BARRIER FREE

- The private Toilet facilities do not meet current barrier free codes (entry & stalls).

Recommendation: Reconfigure or change the Toilet facilities in the Connector so that they comply.

- Signage does not meet barrier free codes.

Recommendation: Install all new signage as required.

- Door hardware does not meet barrier free codes.

Recommendation: Replace handles with lever handles.

- Signage for the east and south entrances to indicate that these are not accessible entrances are not installed.

Recommendation: Signage should be installed to indicate that both of these entrances are not accessible, and indicate that accessible entrance is on the east side of the Connector.

- The handrails for the stairs in the East and South Entrances do not meet the barrier free code.

Recommendation: Replace the handrails of the proper height, overruns, and on both sides of the stairs.

- The minimum clearance for a doorway is 32", which is provided with a 36" door. There are a few 31 1/2" doors on the Second Floor, and many more on the Third Floor.

Recommendation: Doors and frames will have to be replaced if there not more than one accessible route to and through an area. Employee work areas are to be designed so that an individual with a disability can approach, enter, and exit a work area.

- A minimum space of 7'-0" shall be supplied between a 3'-0" door and a consecutive door. The minimum space is not supplied at the south entrance.

Recommendation: The interior entrance set of doors should be moved to the north.

- The fire extinguisher cabinets project into the Corridor more than the allowable amount, and do not meet the barrier free code.

Recommendation: Recessed or semi-recessed cabinets should be installed near the existing locations.

- The space between walls in the Hallway to the former General Office on the First Floor does not provide adequate maneuvering clearance.

Recommendation: The wall between the Hallway and the Court Recorder will have to be moved to provide adequate clearance.

- The opening force for a door with a closer shall not exceed 5 lbs.

Recommendation: Due to the age of the closers on the Corridor doors, the opening force may exceed the barrier free code requirements- this should be tested.

CRITICAL ISSUES

- Roof, internal gutters and downspouts.
- Moisture damage below grade on the north, west, and south elevations.
- Indications for Automatic Sprinkler installation.
- Windows.
- Barrier Free Toilets.
- Fire Alarm System.
- Guard between alternating stair runs in the Bell Tower.
- Replace interior doors and hardware.



Facility Assessment Mechanical Systems

Boilers have State of Michigan Certificates M-376994M and M376993M.

BUILDING 1899 Court House, Cass County
Job No. 2690-01

GENERAL

- The Building was constructed in 1899 with renovations in 1976.
- The Building has a Steam Heating System with electric reheat in building zones. Cabinet heater at entry is steam.

HEATING PLANT

The Building is served by 2- Burham 1995 steam boilers, with a capacity each of 534 MBH output. Later a blow down system with a 5" vent was added. The boilers are near the end of their useful life. Boilers have State of Michigan Certificates M376994M and M376993M.

- Combustion Air is acceptable.
- The following condensate pumps serve the entire building: 1 H.P. sump type pumps.
Pumps are serviceable.

Recommendations: Replace the boilers with two hot water boilers sized to heat both buildings.

AIR CONDITIONING

- All three floors are air conditioned.
- Three air cooled condensers are located on the roof of the connector stair building. These units are at the end of their useful life.

Recommendations: Replace air cooled condensers with more efficient units.

AIR DISTRIBUTION SYSTEMS

- The following spaces are served with air handling units located in the attic.
 - 1st Floor
 - 2nd Floor
 - 3rd Floor
 - The air handling units are serviceable.
- Recommendations: Replace the steam heating coil with a hot water coil.**
- Diffusers and registers are serviceable.
 - Ductwork needs to be cleaned.

- Units do not have 15 CFM per person on outdoor ventilation air.
- Air filters are 2 inch Farr 30/30.

REHEAT UNITS

- Reheat units have electric coils.

Recommendation: Replace all reheat units with VAV boxes with hot water coils.

UNITARY TERMINAL EQUIPMENT

- Cabinet heater is installed in the south entry.

Recommendations: Replace with a hot water coil unit.

HEATING PIPING (STEAM PIPING)

- Heating piping (Steam Piping) is above the ceiling and buried in the ground on the east side of the building. The outside piping has failed.

Recommendations: Replace all piping with new hot water piping inside the building.

EXHAUST SYSTEMS

- Roof exhaust fan are used to exhaust:
Toilet Rooms
Condition is serviceable.

TEMPERATURE CONTROLS

- The building has an electric control system. The supplier is Honeywell and Havel Brothers.
The system is inoperable or not serviceable.

Recommendations: Replace the entire building system with a digital system with the capability of Monitoring all equipment and temperatures.

DOMESTIC HOT WATER HEATER

- The Domestic hot water is supplied from the connector building.

DOMESTIC WATER PIPING- HOT & COLD

- The piping is above the ceiling.
The condition of the piping is serviceable.

Recommendations: Replace domestic water piping in all remodeled areas and re-insulate all lines.

PLUMBING FIXTURES

- Fixtures are as follows:
Water Closets- Units are serviceable
Lavatories- Units are serviceable
Urinals- Units are serviceable
- Electric water coolers- Replace, each floor has one water cooler.

Recommendations: Replace the electric water coolers.

FLOOR DRAINS

- Floor drains do not have trap primers
Drains are unacceptable

Recommendations: Provide trap primers if the sanitary line or floor drain is altered or replaced.

SANITARY PIPING

- The building is served with cast iron piping below grade and cast iron piping above grade
The condition is acceptable. Joints have lead packing.

Recommendations: Re-pipe to accommodate new floor plan.

STORM SYSTEM

- Downspouts are located on the exterior of the building. Ice has split the downspouts.

Recommendations: Replace with open front downspouts.

FIRE PROTECTION

- The building is not fully sprinkled. Spaces sprinkled are as follows:

Attic

The system is serviceable.

Recommendation: Consider sprinkling the entire building.

Facility Assessment Electrical System

1899 Court House, Cass County
Job No. 2690-01

SERVICE- Service for both buildings is located in the 1976 stair connector building.

LIGHTING

- Building Lighting
 - A. Corridors- 2x4 fixtures with T-12 lamps
 - B. Offices- All fixtures are 2x4 with T-12 lamps.
 - C. Single toilet rooms have incandescent lamps.Lighting is not the most energy efficient. Also refer to "Technical Analysis" Report.
Recommendations: Replace all lighting with electronic ballasts and T-8 lamps.
- Occupancy Sensors- None. Also refer to "Technical Analysis" Report.
Recommendations: Provide occupancy sensors for all lighting.

POWER

- Power Distribution, panel boards, breakers, spare circuits, feeders.
System is adequate. Note: if the spaces are used for public assembly and offices with high levels of technology, one additional power panel will be needed per floor (3).
- Power Receptacles, grounding is provided on all receptacles. GFI units are in place as required.
System is adequate.
- Transient Voltage Surge Suppression System- None
System is inadequate
Recommendations: Add transient voltage surge suppression system on all electric panels.

LIFE SAFETY

- Fire Alarm is a Simplex- non addressable with no barrier free visual strobes.
System is inadequate
Recommendations: Replace the entire fire alarm system to meet current code.
- Emergency Lighting does not meet current code for uniform light levels.
Recommendations: Replace entire emergency lighting system.
- Exit Signs- Lamps are incandescent. Also refer to "Technical Analysis" Report.
System is inadequate.

Recommendation: Replace all exit signs with L.E.D. lamps.

SPECIAL SYSTEMS

- Public Address System is provided with the phone system.
System is adequate
- The private in house telephone system is outdated and no longer supported by the manufacturer.
Telephone Company- Verison
System is inadequate
Recommendations: Replace entire phone system.
- Clocks are located in office areas.
System is inadequate.
Recommendations: Replace clock system with a GPS system which will automatically adjust time and time zone changes.
- The building does not have a security system.
System is adequate.
Recommendations: Consider a basic door card access security system.

Facility Assessment Site - Review

1889 Court House, Cass County
Job No. 2690-01

Review Checklist

1. Parking Spaces

Cass County Building			
Upper Lot- Visitors	15	Barrier Free	10
S.F. Lot- Regular	46		
N. Center	30		
N. East	<u>26</u>		
Total	117	Barrier Free	10
911 Building			
Regular	16	Barrier Free	2

Size of typical stall- 9' x 18"

Pavement Marking Status- Acceptable condition

Signage and directional arrows- Barrier free and directional signs are acceptable

2. Pavement condition- The pavement has cracks which have been filled. Approx 200 ft needs to be repaired and resealed. The pavement is repairable and with proper maintenance would have a life of 10 to 15 years.

Curb condition- All curbs are in good condition.

Proper Storm flow- All lots have proper slope and drainage.

3. Roads, Entry drive, Condition- All are serviceable.
4. Walks-Condition- All walks are in good condition.
5. Site-Storm Drainage- Storm water is running into a municipal system. Underground piping is in good condition.

Downspout locations- Two downspouts on the east side need to be run into an underground storm pipe.

6. Sanitary- The sanitary sewage is discharged into the municipal system. Underground piping is in good condition.
7. Water Supply- Water supply is from the city. The main in the street east of the building is 10 inch with a static water pressure of 55 psi.
8. Fire Protection
Fire Hydrants are located in the street on the west and east sides.
Access to Hydrants- Acceptable
Tested Pressure- 55 psi static pressure
The current water service is A 4 inch line.
9. Building Sign- Sign is located on the entrance canopy.
Recommendation: Provide new "Cass County Building" sign on M-60, south of the 1899 Building.
10. Landscaping
Lawn Areas, grass is in good condition.
Irrigation and piping- The east side and the south east corner up to the exit walk have an irrigation system which is in working order.
11. Barrier Free Access- All functions are accessible.
Signage and markings- Are acceptable
12. Retaining Walls- The block retaining walls have failed and have been repaired. Water gets Behind the wall, causes settlement and pushes the wall over. The long term solution involves the reconstruction of the wall with a concrete or stone footing, drainage tile at the base, drains on the top side to divert water away from the wall edge or a backside stone-system and a structural tie back system to anchor the wall into the earth behind the wall.
Recommendation: Reconstruct the retaining walls.



Facility Assessment Architectural Review

BUILDING: 1976 Addition, Cass County
Job No. 2690-01

GENERAL

- The facility was constructed in 1975/76.
- Type of Facility- Office Addition and Connector to the Historic Building.

EXTERIOR ENVELOPE

- Brick
 - East Elevation: In general, the masonry is in good condition. Joints in the brick have been disturbed in a portion of the bed joints near the northeast corner in the former HVAC location, there is evidence of settling and a few of the bed and head joints have deteriorated in the southeast corner near the foundation of the 1994 Mechanical addition, the vertical mortar joint between the Connector and the Mechanical addition has deteriorated on the north and south sides. There is some evidence that the brick veneer has had moisture infiltration below the precast panels. The brick above the precast panel is discolored from moisture being able to accumulate on top.
 - West Elevation: There is some evidence that moisture has been trapped behind the brick veneer about 2'-0" from the metal cap. There has been some settling in the southwest corner of the Annex, the joint between the step foundation and the brick has deteriorated in the corner. The brick above the precast panel is discolored from moisture being able to accumulate on top.
 - North Elevation: A portion of the bead joint between the brick and the foundation has deteriorated on the west side of the North Elevation. The brick in the north wall of the Connector also show moisture absorption, and a portion of a bed joint about 2'-0" below the overflow has deteriorated.
 - Lintels- The steel lintels above all of the east exterior doors have chipped paint and been rusting.
 - Precast Panels- The panels themselves are in good condition.
 - Sealant- All of the joints between the precast panels on the east, west, and north sides have become brittle and failed. The sealant in the control joint by the exterior door in the northeast corner of the Annex has deteriorated. The sealant has become brittle and failed between the building and all of the sidewalks. The sealant has also failed in a control joint within the north third of the west elevation. The sealant around the door perimeter on the north side of the Kincheloe Meeting room has deteriorated.
 - Steel Doors- The steel exterior door and frame on the south of the Kincheloe Meeting room have patches of rust.
 - Aluminum Curtainwall- The seals in the non-insulated curtainwall system on both the east and the west sides have failed, and moisture entering the building via this route has been a constant problem.
- Recommendations:**
- Wash brick and precast panels with an approved cleaning agent to remove stains.
 - Apply an approved sealant on the brick to preserve the condition of the masonry and the joints.
 - Remove any failed or deteriorated joints and tuckpoint.

- Remove all brittle and deteriorated sealant between the precast wall panels, between the masonry building and the sidewalks, in failed control joints, and around door frames and install new sealant.
- A cementitious product should be applied to the top of the precast panels to provide an inclined slope to shed moisture. Moisture has been a problem on top of the panels, and has been seeping behind the panels into the masonry cavity.
- Remove all paint and rust on exposed steel lintels above doors, apply a primer, and paint.
- Replace failed roof membrane to keep the moisture out the cavity behind the brick veneer.
- Remove all paint and rust on steel door and frame on south side of Kincheloe Meeting room, apply a primer, and paint.
- Remove 1994 Mechanical Addition if the mechanical equipment is replaced.
- The owner's representative has requested that the shed canopy south of the Mechanical Addition be removed since it has become a maintenance issue.
- The curtain walls on the east and the west sides should be replaced with an insulated system and sealed.

ROOF

- Roof
 - Construction- Based on a core sample taken, it appears that a temporary built-up roof was installed over a layer of 1/2" wood fiber over a tapered expanded polystyrene insulation with a second layer of 1/2" wood fiberboard with EPDM as the finished roof system.
 - It appears that the existing roof is the original, and is over 30 years old.
 - The roof on the Annex has had very large patches applied where it has been leaking, and the fasteners are poking the membrane because of the deterioration of the materials below, and the roof also has areas of ponding. The results of the core sample show that the first layer of insulation is dry where the sample was taken, and the second layer of wood fiber was saturated. The roof on the Connector also has been patched, the fasteners are poking the membrane, and there are areas of ponding. The core sample shows that all of the insulation was saturated.

Recommendations: The roofs on the Annex and Connector should have complete tear-offs down to the concrete deck, install new tapered roof insulation and a single ply membrane. The roof system should meet a minimum of R-20.

- Metal Cap
 - The metal cap is in acceptable condition.

Recommendations: The existing cap will have to be removed for removal of the existing roof, and a new cap will have to be installed with the new roof. The new metal cap shall meet the ANSI/SPRI ES-1 requirements.
- Roof Drains
 - The drains on the Annex and Connector roofs do work, but there isn't the positive drainage necessary to bring all of the water to the drains. There are also no overflow drains for either the Annex or Connector roofs.

Recommendations: The elevation of the existing roof drains will have to be coordinated with the new roof that is to be installed. Overflow drains will have to be installed according to the current Michigan Plumbing Code.
- Warranties- None
- Roof Top Equipment
 - There is existing roof top mechanical equipment installed on the Connector roof. Refer to the Mechanical Facility Assessment for information.

INTERIOR

- Floor Finishes- Carpet was used throughout the office areas in the Annex, with a few minor areas of VCT. The Stairs in the Annex and the Connector have VCT installed. There is also some quarry tile in the entrance for the exterior door in the northeast corner of the Annex. The flooring in the Connector is quarry tile on the First and Second Floors, and VCT on the Third Floor in the Corridor. 2" x 2" floor tile was used in the Toilet rooms on the First, Second, and Third floors in the Connector. The quarry tile is uneven, joints are cracked, and some of the tile is loose from water infiltration under the floor. The carpet is original, and is worn and frayed. The VCT is in acceptable condition.

Recommendations: The carpet should be replaced throughout the Office area. The floor in the First Floor Corridor should be replaced during the renovation of the Connector. The quarry tile should also be replaced in the Second Floor Corridor during the renovation of the Connector depending on the scope of the required work. The VCT floor on the Third Floor of the Connector has also experienced some type of damage possibly from moisture as evidenced by the unevenness of the floor, especially near the west wall. The floor on the Third Floor of the Connector should also be replaced after the underlying problem had been remedied. Some of the quarry tile has cracked in the entrance for the exterior door in the northeast corner of the building which needs to be replaced after the underlying problem has been corrected.
- Ceilings- The existing ceiling panel and suspension system is a 2 x 4 grid. Many of the panels in the Connector and Annex are stained on the top floor, and the lower floors also have many stained and damaged panels.

Recommendations: All of the ceiling suspension system and panels will have to be removed for mechanical, electrical, and fire suppression demolition/installation. Install new ceiling suspension system and panels.
- Walls- The majority of the interior walls are drywall; a few are paneled in the Annex. The exterior and stair walls are painted stack bond CMU. The drywall does not continue to the bottom of the deck above in the Corridors in the Annex. The walls are all painted CMU in the Connector.

Recommendations: There has been some settlement of the CMU in a few areas that will need to be tuckpointed or caulked. There is a large vertical crack in the stacked bond CMU in the Stair on the north side of the Annex on the south wall that will need to be repaired. There has been some settlement of the building in the southwest corner of the Annex, and the joints in the exterior wall will need repair there also. If a 1 hour separation is required for the Corridor, the drywall will have to be continued to the deck and firesealed.
- Doors and Frames- Steel frames, doors are wood with a plastic laminate finish which shows wear and the veneer is chipped. The exterior doors are either steel doors and frames or aluminum doors with glazing and frames. The exterior steel doors and frames all are rusted, especially near the threshold. The exterior door on the south side of the Kincheloe Meeting room is missing exit hardware, and does not seal against the frame. The fire doors have ratings posted on the door and frame except for the double doors that are between the Courthouse and the Connector- no label is visible on either the frame or the door on all three levels. The center mullion is missing in the pair of fire doors between the Connector and the Annex on the Second Floor which violates the rating of the door assembly. The metal shutter and counter at the pass through on the south wall of the Annex that opens into the Connector do not have a 1 ½ hour rating as required for the Fire Wall separation. The steel door and frame from the Connector to the roof over the Annex are badly rusted, and have holes in them near the threshold. The door to the Elevator Machine room on the Third floor of the Connector does not have a rating posted on the door or the frame.

Recommendations: All exterior steel doors and frames shall have the rust removed, primed, and painted if not replaced. The steel door and frame from the Connector to the Roof should be replaced. All of the interior doors and hardware should be replaced (hardware- refer to Michigan Barrier Free section). All of the interior doors and hardware should be replaced. The interior door frames along the Corridor will need to be replaced if a sprinkler system is not added in the Annex and Connector because the doors and frames will have to meet a 20 minute rating with fire rated glazing. The east exterior doors will have to be replaced in the Connector when the Curtain wall system is replaced. The shutter window will have to be removed if it does not meet the 1 ½ hour rating requirement and owner's representative also asked that the

shutter window be removed because it is not used. The doors and frames between the Courthouse and the Connector on all three floors will have to be replaced if tags can not be found under the paint. The center mullion shall be replaced on the pair of doors between the Annex and the Connector on the Second floor, and the pair of doors will have to be replaced because of the holes left from the previous hardware installation created openings in the doors. If the elevator is not replaced, the door and frame to the Elevator Machine room shall be replaced with a 1 hour door and frame.

- Fire Safety Equipment- Fire extinguishers and hose cabinets are provided per plan. Refer to the Life Safety Section in the 1899 Court House Review for more information about the hose cabinets and standpipe.
- Water Coolers- One is provided per floor in the Connector. The current mounting heights are not the required heights called for in the Michigan Barrier Free Design Guidelines.
Recommendations: The water coolers should be replaced.

LIFE SAFETY

- The point where fire walls (a required separation between buildings of different construction types) intersect with exterior walls, the rating of the perpendicular wall shall be 1 hour with $\frac{3}{4}$ hour opening protection extending 4'-0" on each side of the intersection. There is a fire wall between the Courthouse and the Connector that intersects with the east and west curtainwalls, and there are windows that fall within the 4'-0" of the intersection in the north exterior wall of the Courthouse.
Recommendations: The curtain walls on either side of the Fire Wall have to be replaced and the windows on the north elevation on either side of the Fire Wall shall be replaced so that there is a $\frac{3}{4}$ hour opening protection.
- The aggregate width of openings (doors, windows, etc.) at any floor level in a fire wall shall not exceed 25% of the length of the wall. The length of the openings in the fire wall between the Courthouse and the Connector exceeds the 25% maximum with the 6'-0" door opening.
Recommendations: The door opening between the Courthouse on the First, Second, and Third Floors shall be reduced to a 3'-0" opening. A 3'-0" door opening will exceed the required egress width.
- Penetrations in fire walls shall meet an UL assembly type and/or fire caulked to meet the hourly rating of the wall in which they pass through. There are numerous holes for piping, conduit and cables which are not in rated assemblies or have not been fire caulked above the pair of doors on either side of the Connector.
Recommendations: All penetrations shall be enclosed in an approved UL assembly and the aperture fire caulked as required.
- The existing Fire Alarm system does not meet the Life Safety and Michigan Barrier Free Design Guidelines. The horns are not installed in the required locations, no strobes are installed, and there are problems with the old and new panels interfacing.
Recommendations: The Fire Alarm system should be replaced throughout the Courthouse, Annex, and Connector.
- The Annex does not have the required number of exterior openings along both sides of the building to meet the Life Safety Code. The building is required to have an opening in every 50'-0" lineal feet or fraction thereof on both sides of the building since the east and west walls are more than 75'-0" apart or an automatic sprinkler system has be installed.
Recommendations: Either exterior windows of a minimum size of 20 Square Feet have to be installed in the east and west walls or an automatic sprinkler system has to be installed.
- The required width of the landing in the Connector Stair is reduced by $\frac{1}{2}$ of the required width by the door swing from the Connector into the Stair.
Recommendations: If the Connector is reconfigured, the Stair configuration will have to be changed.

- The exterior stair from the Stair in the Annex in the northeast corner of the building does not have handrails on both sides of the stair as required.
Recommendations: A handrail should be added on the west side of the stair with the required overruns at the top and the bottom.
- The handrails on the inside run do not meet the current requirement of an opening size of no larger than 4".
Recommendations: If the Stairs in the Connector and/or Annex are modified, the handrail will have to be changed to meet the current requirements.
- Exits shall be marked by an approved exit sign visible from any direction of egress travel.
Recommendations: Exit signs shall be installed at the north side, the mid portion of the internal corridor, and above the door to the main corridor in the east side of the Annex. Exit signs shall be installed at the north and south sides of the office area on the west side of the Annex.
- Tactile exit signs shall be provided adjacent to each door to an egress stairway and at the exit discharge.
Recommendations: This signage shall be installed.
- A guard shall be located along a floor or grade transition which is greater than 30" between floor levels. The floor level change between the Corridor floor level and the floor of the Switchgear room is more than 30".
Recommendations: A moveable guard will have to be installed at the entrance of the Switchgear room.

MICHIGAN BARRIER FREE

- The existing Men and Women's Toilet rooms and the fixtures do not meet current barrier free codes. The Entry Vestibule for all of the Toilet rooms also does not the width requirements of a door leaf length plus 4'-0". By not meeting the width requirements, all of the Toilet rooms are not accessible.
Recommendations: The existing Toilet rooms should be changed in configuration as well as new fixtures installed.
- Signage does not meet barrier free codes.
Recommendations: Install all new signage as required.
- Door hardware does not meet barrier free codes.
Recommendations: Replace handles with lever handles.
- The opening force for a door with a closer shall not exceed 5 lbs.
Recommendations: Due to the age of the closers on the Corridor doors, the opening force may exceed the barrier free code requirements- this should be tested.
- The existing water coolers do not meet the current barrier free codes.
Recommendations: The water coolers should be replaced.
- Both of the doors from the Corridor and the County Treasurer are accessible because of the lack of clear space on the pull side of the doors due to the counter location. No portion of the counter is meets the accessibility requirements.
Recommendations: The counter in the County Treasurer Office should be removed and replaced in a different location and the heights required if the space will be reused as such.
- The kitchen in the east half of the Second Floor in the Annex does is not accessible. A clear space is not provided under the sink, and a portion of the countertop is not lowered to 34" AFF.
Recommendations: If the kitchen is to remain, a portion of the base cabinets should be replaced with a lower base cabinet, the sink replaced with a proper depth sink, and the space under the sink should allow for the required clear space.

CRITICAL ISSUES

- The roof for the Annex and the Connector.
- The Connector: the elevator needs to be replaced, the elevator machine room needs to be moved, the Toilet rooms are not compliant and will need to be in a larger space, the east and west curtain walls have failed, moisture infiltration has been a problem in the Corridor on all three floors, new space is required for the new HVAC units for the Courthouse, and the current fire wall construction on either side of the connector does not meet current standards.
- Indications for Automatic Sprinkler installation.
- Inadequate exterior openings in the Annex.
- Fire Alarm System.
- Replace interior doors and hardware.
- Sealant needs to be replaced between Precast panels and top needs to have an incline installed on it.



Facility Assessment Mechanical Systems

BUILDING 1976 Addition, Cass County
Job No. 2690-01

GENERAL

- The Building was constructed in 1975/76 .
 - The Building has a direct gas fired heating system.
-

HEATING/AIR COOLED CONDENSERS

- The building is served by roof top type units located on the ground on the east side of the building. The units are as follows:
 - AC-1 Serves 1st Floor South
 - AC-2 Serves 1st Floor North
 - AC-3B Serves 2nd Floor South
 - AC-3A Serves 2nd Floor North

Recommendation: Replace the 4 units with VAV air supply and air cooled condensers.

AIR CONDITIONING

- The entire building is air conditioned except entry lobbies, vault and some storage rooms.

AIR DISTRIBUTION SYSTEMS

- The following spaces are served by the air system. Ductwork is fiberglass board.
 - First Floor
 - Second Floor
 - Connector Stair Building

Recommendations: Reconfigure diffuser locations where offices are modified. Replace ductwork with galvanized steel.

- Diffusers and registers are workable.

Recommendation: Provide added adjustable diffusers for better air distribution.

- Ductwork needs to be cleaned
- Units do not have 15 CFM per person on outdoor ventilation air.

Recommendations: Provide CO-2 sensors and control or adjust system for 15 CFM outdoor air.

- Air filters are 2" Farr 30/30 thro-away.

REHEAT COILS

- The building has 2 thermostats per floor.

Recommendation: Provide new VAV boxes with hot water reheat coils, one for each dept. space and for each meeting room. Provide hot water heating piping from the new boilers. Provide a primary heating coil near the entrance of the supply duct into the building.

UNITARY TERMINAL EQUIPMENT

- Electric cabinet heaters are installed in the lobby entry.

Recommendation: Replace unit with a new cabinet heater with a hot water coil.

EXHAUST SYSTEMS

- Roof exhaust fan are used to exhaust:
Toilet Rooms
Condition is serviceable. Units have been replaced.

TEMPERATURE CONTROLS

The building has an electric control system. The supplier is Honeywell and Havel Brothers. The system is obsolete. The Havel system has been abandoned.

The system is not serviceable.

Recommendations: Replace the entire building system with a digital system with the capability of monitoring all equipment and temperatures.

NATURAL GAS SERVICE

- Natural Gas is supplied by Semco Gas.
Gas meter is outdoors.

DOMESTIC WATER SERVICE

- The building has a 4" service, with water meter located in a pit on the west side of the building.
- 2-4" fire sprinkler risers supply the fire sprinkler system.
Water Service is supplied by the City of Cassopolis.
- All water for the fire protection system goes thru the 4" service. The current code required a 6" water service minimum for fire protection. If any fire sprinklers are added this system will need to be replaced.

Recommendation: Provide new 6" service from the 10" main in the street for fire protection, retain the 4" service for domestic water use.

DOMESTIC HOT WATER HEATER

- The Domestic hot water heater is a "Reliance" 50 gallon 240 volt water heater with three 4,500 watt heating elements.

The unit is serviceable.

- The building domestic hot water pump is a B&G Pump.
Unit is serviceable.

DOMESTIC WATER PIPING- HOT & COLD

- The piping is ABOVE THE CEILING.

The condition of the piping is serviceable.

Recommendation: Replace as required to accommodate new toilet room layout.

PLUMBING FIXTURES

- Fixtures are as follows:
 - Water Closets
 - Lavatories
 - Urinals
 - Electric water coolers- Replace

Recommendations: Replace electric water cooler and all fixtures to comply with barrier free standards and reduced water consumption.

FLOOR DRAINS

- Floor drains DO NOT have trap primers per current code.

Recommendations: Replace all floor drains to comply with new code standards.

SANITARY PIPING

- The building is served with cast iron piping below grade and cast iron piping above grade. The condition is acceptable.

STORM SYSTEM

- Storm water piping is acceptable
 - Roof drains are inadequate.

Recommendations: Add two roof drains to provide adequate slope for the new roof.

FIRE PROTECTION

- The building is not fully sprinkled. A 4" fire riser serves hose cabinets on each floor. The system is serviceable.

Recommendations: Consider sprinkling the entire building.

ELEVATOR

The elevator installed in 1976 is a Montgomery. Parts for the pump are not available. The cab does not comply with barrier free requirements. The main cylinder leaks oil.

Recommendation: Replace the entire elevator and cylinder.

Facility Assessment Electrical System

1976 Addition, Cass County
Job No. 2690-01

Electric Service for 1899 and 1976 Building

SERVICE

- Consists of A 3P 1800. Amp 120/208 volt 3 phase 4 wire service.
- 1800 Amps = 648,000 Volt Amps
- Transformer no. C-351-215.
- Power Co.- A.E.P.
- Building is air conditioned .
- 46,745 SQ. FT. at 10 Volt-Amps = 467,450 Volt Amps
- Service is adequate.
- Service will support an addition up to 18,000 SQ. FT.

Recommendations: Water has leaked into the main distribution panel board. The source of water appears to be from the floordrain pipe from the room above the electrical room. Clean and repaint rusted areas.

- The emergency power transfer switch is a double throw switch.

Recommendation: Replace switch with an automatic controlled transfer switch.

- The main distribution panel has the following circuits:

E- 225 Amp
F- 600 Amp
H- 400 Amp
D- 175 Amp
C- 200 Amp
G- 200 Amp
A- 175 Amp
Elev- 175 Amp
"2"- 20 Amp
"4"- 20 Amp
"6"- 40 Amp *
?- 100 Amp
?- 200 Amp **

*Emergency Circuit

**2nd Floor DDS Hall Panel

Red switch on right side of MDT serves the fire alarm AMP telephone.

Recommendation: Remove the central battery back up unit, install an emergency generator or a new battery power system with an inverter.

LIGHTING

- Site Lighting for the 1899 and 1976 Building is with low poles with cut off lighting. Site Lighting is adequate
- Building Lighting
 - A. Corridors - 2 x 4 Lay in fixtures with T-12 lamps
 - B. Offices - 2 x 4 Lay in fixtures with T-12 lamps.
 - C. Gang Toilets 2x4 lay in fixtures with T-12 lamps.

Lighting does not meet current energy use standards. Also refer to "Technical Analysis" Report.

Recommendations: Replace or upgrade fixtures to use T-8 lamps with new electronic ballasts.

- Occupancy Sensors - None. Also refer to "Technical Analysis" Report.
Recommendations: Provide occupancy sensors for all lighting.
- Light Harvesting /Controls - None. This system may not be cost effective except in the connector stair building, if the glass curtain wall is retained.

POWER

- Power Distribution, panel boards, breakers, spare circuits, feeders, System is adequate. One panel board was added for computer use.
Recommendations: Add another dedicated panel for computer circuits.
- Power Receptacles, grounding, all circuits have grounded receptacles. System is inadequate. Add one circuit in each dept. area.
Recommendations: Add one general use panel with circuits and receptacles in each dept.
- Transient Voltage Surge Protection - None
System is inadequate
Recommendations: Provide transient voltage surge protection on all electric panels.

LIFE SAFETY

- Fire Alarm is a fire- lite alarms inc- sensiscan- 10,000. The system does not have barrier free visual strobes. System is inadequate.
Recommendations: Replace the entire fire alarm system
- Emergency Lighting - Does not meet current codes for uniform light levels. System is inadequate
Recommendations: Replace the entire emergency lighting system.

- Exit Signs- Lamps are incandescent. System is inadequate. Also refer to "Technical Analysis" Report.

Recommendation: Replace all exit signs with L.E.D. lamps.

- Emergency Generator- None
The system has a 200 AMP double throw switch.

Recommendations: Install a new 15 kw emergency generator to service the life safety equipment, or install a battery backup system.

SPECIAL SYSTEMS

- Public Address System is provided with the phone system.
System is adequate.
- The private in house telephone system is outdated and no longer supported by the manufacturer.
Telephone Company- Verizon.
System is inadequate.

Recommendations: Replace entire phone system.

- Clocks are located in office areas.
System is inadequate.
Recommendations: Replace clock system with a GPS system which will automatically adjust time and time zone changes.

- The building does not have a security system.
System is adequate.

Recommendations: Consider a basic door card access security system.



Facility Assessment Departmental Programming Meeting Notes

Job No. 2690-01

Cass County Courthouse
Departmental Programming Meetings
1.16.07

ADULT PROBATION [Tom Koenig]

- Located on the 2nd floor of the annex occupying 11 rooms
- Occupy 1 office in the Law & Courts Building
- Tom has conference table within his office; ideally he would like to have a separate conf. room
- Oversees all probate functions and personnel
- Offenders wait to see their respective agents; typically 15 at any given time; as many as 60 throughout day; typical offender load when busy is 8-10
- 6 agents accommodate the offenders every working day; agents fill-out report sheets
- All agent offices are occupied every day
- Tom is projecting an add of 2 agents within the next 5 years; 4 agents within the next 10 years
- Urine techs obtain urine samples from offenders for drug testing; direct observation is required by tech; an accessible toilet is required; samples are sent out for analysis; separate from staff toilets
- Adult Probation is the only state employees of the group; state provided equipment; separate server for state access; server could physically be in same technology closet or room with separate software
- County provides phones and copy machine
- The trend shows the offender numbers going up; record setting meth. drug problem in the county; being located between Chicago and Detroit contributes to the problem
- Tom has no concern for the lack of windows
- Due to all offender functions occurring in this facility there is a concern for security
- A separate entrance for this department would be preferred
- Current spaces are not adequate for services performed; currently planning for the addition of 1 new agent
- See attached sheet Tom distributed during meeting
- Would prefer a separate meeting room in lieu of shared
- A shared lunch / break room would be acceptable
- A separate file room would be required due to policy
- Currently inadequate storage for filing and records
- Weapon [hand guns] storage will be required in a secured area; secured gun box
- Tom believes he needs to double his storage area
- A typical agent office will require a desk / 2 side chairs / 2 filing cabinets [10x10]
- Furnishings are provided by county
- Current ½ door separation at reception is not acceptable for safety and security
- Staff does interface with other department for mailing
- Records are kept for at least 5 years; kept on-site
- Currently use hand held metal detectors; would prefer walk-thru equipment
- Tom believes the function of his department would be best served if located at the Law & Court Building

DRAIN COMMISSIONER [Jeff VanBelle]

- Currently in a 10x15 office on the 2nd floor of the annex
- Jeff believes he has less than half the square footage required; needs 2-3 times the current SF
- Needs area to review large prints and maps; plan room; wall display
- This department services 140 drains, 19 lakes and sub-division developments in the county
- National mandate requiring new drainage district considerations
- Revenue for this department comes from assessments only; not major revenue generator
- Shares secretary with Veterans Affairs and Administration
- Desperately need to automate the office; working on providing permits on-line
- Over the next 5 years Jeff believes he will require a secretary
- Bids are processed approximately once every 3 months
- This department works a lot with the County Road Commission; weekly interaction
- This department interfaces with Information Systems to generate aerial photos
- Sub-division work is processed and coordinated through email
- This department is on-line with County computers
- Meetings typically have 1-2 people
- Common shared spaces include copy machine, mailing and Break Room
- Jeff is concerned about having no windows in office
- Department hosts drain commissioner meetings and houses in larger meeting rooms
- Duplication of large documents is a concern; collaborates with Road Commission for plan copies however the Commission does not have the ability to copy maps; department needs large format printer scanner
- Security is low priority
- All record storage is housed in office and all locations are full
- Department requires a Record Storage Room
- Planning documents are kept on file for life; all non-planning records are kept on file for 7 years
- Jeff wants to implement a policy and procedure for transitioning between drain commissioners; including training
- Department is vulnerable to litigation
- Jeff sees an advantage locating at the County Road Commission

MSU EXTENSION [Dan Rajzer]

- Provide education / research services to the community; improve quality of life
- Farmer assistance and education
- Department are employees of MSU
- Department is a joint agreement between federal, state and county
- Department was started as Land Grant philosophy; educating those who could not afford higher education
- Dan personally handles agricultural and natural resource services
- Department is comprised of the following target areas [Family and Consumer Services, 4-H, Family Nutrition, Swine Agent, Building Strong Families, Agricultural and Natural Resources]
- Department spaces also require area for director, secretary, work room, storage, receptionist, small and large conference rooms, and waiting]
- Building Strong Families go into homes to assist low income families; 50% time out of office; grant funded
- Family Nutrition go into homes to provide budget and Nutrition services; 50% time out of the office; grant funded
- Swine Agent for 7 counties; out of office most of the time
- 4-H Agent provides youth programs and development
- Family Nutrition and Building Strong Families are under the Family and Consumer Services sub-department
- Family Nutrition is expanding
- 4-H is remaining basically the same size in the future
- Building Strong Families is remaining basically the same size in the future
- In general the department space is inadequate in size and needs to grow
- At one time occupied the front of the existing Maintenance Building; moved into much smaller space when moving to the Annex
- Currently use conference room across the hall
- 4-H seminars are often 60-70 people twice a quarter
- 3-4 meetings per month with 15-20 people
- Department would rather have own space for meetings
- 4-H recently lost their program assistant
- Department space is generally overcrowded; need to be 1/3 to 1/2 larger

- Sharing kitchen area other departments is acceptable
- Would like to have a food demonstration area which would double as meeting space
- A larger work room is needed; space for microscope and duplication equipment
- Mailing and packaging occurs within department; at least weekly
- Waiting area is currently adequate for 5-6 people
- Soil samples are brought to the department which are in turn shipped to MSU for analysis; more space is needed for packaging; ideally would like work room to be adjacent to the reception area
- Work room / lab to have dirty surface area
- Currently has freezer in the work room used to freeze manure samples
- Need refrigerator, wash sink and ample work surface in work room
- Currently have detached storage room down hall
- Record storage needs to be twice the current size
- MSU interfaces with Information Systems
- Department work with external agencies more than internal departments
- Furnishings and technology paid for by County
- Department location ideally needs to be near main entrance due to farmer sample and 4-H youth traffic
- 4-H would like to add back their program assistant in the future
- Currently have funds to support ½ Family Nutrition personnel but have no physical space
- Need space for special projects grant writers; temporary space
- Possibly the ½ 4-H and ½ Family Nutrition personnel can share common space

TREASURER [Linda Irwin]

- Provide delinquent tax, tax sale and budgeting services; accounting type work
- Need vault only for their department; currently sharing with planning commission; not desirable
- Handle all receipts for County; including dog licenses
- Current square footage is inadequate
- Primary spaces include Linda's office, Chief Deputy and 2 Account Clerks
- Currently off-site storage at basement of the Health Dept.; not desirable; need space comparable to the current size of Linda's office
- Visitor area too small; need waiting space; could possibly be shared with other departments as long as their area is secure
- Vault currently has high density storage apparatus
- Possibly another Account Clerk in the future but not likely
- Equalization, Information Systems and Treasurer in close proximity would be ideal
- Process Path for \$: 1st [IS] / 2nd [Treasurer] / 3rd [Clerk]
- Process Path for Property: 1st [IS] / 2nd [Treasurer] / 3rd [Equalization]
- Treasurer department must be isolated
- Possibly share spaces with Information Systems and common reception area
- Moral of employees is an issue due to no windows and competing for the new spaces other county personnel have at the new Law & Court Building; new furnishings would help the moral
- Sheriff Deputy delivers money to the bank daily
- Concern for level of security with offender traffic
- Linda would like to see a panic button implemented
- Clerk office and Treasurer transfer the most money on a regular basis
- Need for additional tax roll storage; electronic options?
- If current vault was for Treasurer only it would be adequate in size if organized accordingly
- Currently have off-site storage
- Treasurer must keep records for at least 20 years but currently keep all
- Department holds quarterly meetings with township supervisors in the meeting room outside their current area; does not see need to have own meeting space
- Sharing a Break Room would be acceptable
- Currently are short staffed for answering phones with 15 minute breaks
- Security concern for sharing toilet rooms with offenders; drug testing
- Clarity hearings are held in the Law & Court Building
- Most functions for this department are held in this facility
- No preference for location; however concern for how healthy can the historical building become

- Discussed Day Care, Commercial Kitchen and Banquet space for creating revenue

CASA: COURT APPOINTED CHILDREN ASSISTANCE [Lisa Schmidt]

- Supervise and train for foster care volunteers
- Currently on 2nd floor near Veteran's Affairs; occupy 3 rooms
- Currently have a part-time person and the program director; contemplating hiring another part-time person; 3rd space is for board functions
- 30 hours of training is required for volunteers
- Last year this department served 31 children
- Approximately 160-175 children are currently in foster care
- Department is classified as a 501 3C not for profit organization
- County is not required to provide CASA services
- Department does receive money from child match funds
- Department works with judge in Law & Courts Building; need for being close to Judge since they hear all foster cases
- Volunteers visit homes and attend hearings at the Law & Courts Building
- A shared meeting room is acceptable
- Part-time support provides reception and office type functions
- Department has board of directors; meet twice a month
- Office space is provided by the County
- CASA purchases equipment; amenities are billed by County
- Require meeting space to accommodate 6-8 people
- Secure filing / storage area required for confidential court files; concern for security; currently 3 file cabinets
- File Room would require (3) 4 drawer file cabinets plus additional general storage space; lockable
- County provide phone; paid by CASA
- Technology requirements include internet and access to the County network
- Department interface with Administration only
- Current square footage is inadequate
- Space to accommodate mailings for fundraising; well over 200 pieces at a time
- Safety concern for shared toilet rooms with offenders

INFORMATION SYSTEMS [Kerry Collins]

- Maintain all servers and PCs, security systems, mapping systems [GIS], property addressing & descriptions, deed documentation, soil erosion, tax billing distribution
- Kerry supports a common reception window for IS / Treasurer / Clerk / Equalization
- Taxes / legal description / mapping / deeds work is offered online
- Less walk-in traffic due to online services
- 6 people in department
- 5-10 year growth should add 2-3 people
- 2-5 technical people manage townships in the County
- Require 5 offices, 1 reception area, training / meeting room, work / lab, storage
- Door Traffic: GIS mapping represent 5-10%; property description represents 90-95%
- Treasurer supports IS
- Grant in place for re-surveying the corners of property; currently working with 4-5 surveyors
- Meetings typically have 4-5 people; ideally conference / training room to support 6 people
- Meeting space needs to be specific for IS due to set-up for training; if shared meeting space is identified as a IT training space then it would be acceptable
- Separation between spaces is not adequate; no privacy; 5 of 6 require offices
- Department needs layout space or lab area for system set-up
- Offices need to be secured due to storing system components; ideally need space for storing new product for systems
- Network Room needs to be a minimum of 13x16
- Fiber runs from Annex networking room to the Law & Courts Building / Sheriff Building
- 4th floor of historic Bell Tower houses the current telephone D mark; technology then runs to the phone room on the 2nd floor [north and adjacent to stair]
- Department currently has 42" plotter, large format printer and dry mounting equipment
- Need large work room

EQUALIZATION [Leslie Ramlow]

- Study of property [agricultural / commercial / residential / industrial]
- 1 staff member besides Leslie
- Located on 2nd floor next to drain commissioner
- Perform deed analysis including physical visitation to determine land values; big paper shuffler
- Provide end of year projections
- Field work performed by others
- State tax commissioner on-site twice a month
- Need space for 3 people; doubling square footage would be ideal
- Need for closed office privacy
- Public traffic not on a regular basis
- 4-5 4 drawer file cabinets in storage room; 8 filing drawers in Leslie's office
- No preferred location for department function
- Current square footage is inadequate
- Mailing and copying currently shared; ideally would like to have own copier
- County treasurer deals with delinquent taxes only
- Discussed common front reception desk vs. information kiosk [type in to request how to find your destination]

VETERAN'S AFFAIRS [Fred Leet]

- A county agency dealing with all veteran's affairs including providing assistance equipment such as walkers and wheelchairs; deal with claims, filing paperwork, VA healthcare matters
- Department deals with local funeral homes and doctors to assist facilitating veterans
- Concern for accessibility for vets; need to be located on the 1st floor near front door to assist with accessibility
- Department services 1200 veterans per year
- Walk-in veterans represent 400-500 per year
- Current square footage is inadequate
- Location is currently on the 2nd floor occupying 3 rooms
- Department is employed by the State
- Privacy is important
- Only other person in department is Michigan Vet Trust Fund Representative [Jack]; needs privacy; employed by county
- Storage Room required for accessibility equipment
- Both employees are part-time
- Both offices need more room to facilitate meetings with family of the vet; 2-3 people
- Record storage is very important and must be close to offices
- Square footage of department are on 3rd floor was adequate
- Need waiting room to handle up to 6 people
- Funeral home and doctor business all handled by phone
- Ideally locate department next to Clerk's Office
- Need fax machine near office
- Need additional storage room
- Mailing is performed away from office area on 1st floor in Administrative area
- Department shares secretary [Jackie Taylor] on 1st floor in Administration area

ADMINISTRATION / CONTROLLER [Terry Proctor / Bob Wagel / Ron Francis]

- Kinchloe Room houses regular meetings for Public Board of Works
- MSU is a scheduled room for meetings
- Commission chambers is used twice a month for regularly scheduled Board of Commissioners meetings
- Chamber room is adequate in size the majority of the time yet it is not a modern day chamber from a technology standpoint; presentation capabilities for the board and the audience at the same time
- 17 seats at the chamber horseshoe arrangement including 15 board members; in the future the board size could fluctuate between 5 -22 members
- Chamber to accommodate specific location for the press; 3-4 members
- Consideration should be given to providing flexibility for the chamber room arrangement to accommodate future arrangements; chairman can determine the chamber configuration

- Average audience size for the chamber is 40-50 people; possibly have flexibility to add chairs as needed; 75-100 for planning
- Consider audience area of chamber to have flexible seating to allow space to be utilized for different purposes during non-meeting times
- Consider the proper volume for the chamber
- Chamber Room to have Kitchenette adjacent to space for refreshments
- Terry believes to have the Administration adjacent to the Chamber Room is not imperative but would be helpful
- Bob would like to see the commissioners seating area raised
- Discussed whether we should consider televising board meetings
- Consider a shared commissioners office for multiple functions
- Committee meetings will have no more than 7 participants
- It is the belief of the commissioners that there is enough existing space to accommodate all remaining county functions plus leasing opportunities
- Ron is interested in having the study produce a priority between what must be accomplished to make the facility operational and code compliant vs. the county wants
- David Martin recommended presenting the Good / Better / Best priority
- Commissioners want to be sure what we accomplish today with the proposed improvements will be looked upon as successful decisions 30 years from now
- Consider public meeting spaces with separate access and hours
- Should anyone else be located within the facility?
- Terry recommended the Lawrence ISD workshop / training room be considered as a model for Cass

CLERK / REGISTER OF DEEDS OFFICE [Monica Peters]

- 2 offices; Clerk and Office of Deeds
- 2 different entry points into each office
- All employees are cross trained
- Both offices share cash register
- Both offices share records which creates problem with path to the vault; okay with sharing records if the circulation issue could be resolved
- This department processes passports; new law has increased business
- Current personnel includes Marla, Ruth, Ruth Ann and Monica Peters
- Monica: Chief Deputy Clerk & Deeds
- Marla: Deputy Record of Deeds
- Ruth: Deputy Clerk
- Ruth Ann: Clerk
- Require more space to accommodate Passport function
- Clerks old records are currently in Break Room
- Shared Break Room would be acceptable to Department
- Public Traffic Flow: IS – Treasurer – Office of Deeds
- Department handle legal descriptions, verification of taxes, recording of documents
- Support the idea of having an information center with a person to direct public traffic
- Security concern for Treasurer
- In future Clerk and Deed functions will come to employee's desk for service; new system will be live the day after President's Day; Equipment will include (2) 20" monitors, CPU, label printer, standard printer
- Need unassigned work / processing area for copier and scanner
- Most areas within the department are congested
- Manage microfilm from 1974 to present
- (2) public stations required to accommodate micro film reader and copier; need to be near primary circulation path
- Voting records to have internet access and printer availability
- Chief Deputy requires separate office primarily for ballot programming
- Marla and Monica are both considered administration and should have separate offices
- Marla, Ruth and Ruth Ann deal with the public
- Paper storage is located behind the Passport photo screen; inconvenient
- Archive records have congestion problems
- Department concern for stealing historic information
- Vault room needs to function solely as a vault
- Public area requires 5 stations

- Department holds their meetings in the IS Conference Room with web training once every 2 weeks; 4-6 participants at a time
- Veteran's records are kept in this department
- Staff is not expected to grow in the future due to technology
- Paid public services online
- Less revenue in the future due to services online
- Supports a public kiosk to minimize employee interaction
- Department requires Waiting Area to seat 4
- 1st floor location is appropriate
- Concern for keeping the department professional and organized with no clutter and coordinated finishes
- Would prefer private toilets or non-public toilets; security and cleanliness
- Alleviate congestion and add plants
- Department mailing is through administration; need for layout space

ADMINISTRATOR / CONTROLLER'S OFFICE [Terry Proctor and Tara Myer]

- Staff facilitates the Board of Commissioners, Economic Development, Drain Commissioner, Planning, Veterans Affairs, Housing Grant and Administration, Board of Public Works
- Functions: controller, general ledger, Accounts Payable, Payroll, Human Resources Personnel, Benefits, Purchasing and Budget
- Information gathering and distributing [electronic, in-person, telephone, paper]
- 4 full-time and 1 part time employees
- Currently have half the space required to function properly
- General work area required to accommodate central mail, general fax machine, paper cutter,
- Mail out is contracted and mail in is handled by staff
- Not a lot of public traffic
- Shared human resources person
- Would support a 3rd floor location to be close to the Board of Commissioners and their function
- Smaller conference space needed; may double as a unassigned common office for flexibility
- Kincheloe Room is scheduled by this office
- Concerns: [no windows, no color, access to electric and technology; no cable trays]
- Jackie Taylor functions as the main receptionist and shared secretary
- Edie handles mail and benefits
- Closed offices to have room for 2 guests
- Storage needs for Accounts Payable and Payroll
- Archive storage is accommodated in the Basement of the Health Department; off-site; 2000 square feet approximately 600 banker boxes; 2000 SF of archive storage space is inadequate
- Archive files should be on-site
- Central storage need for the department
- Consider that files will be electronically imaged in the future
- Lost part-time assistance in September; personnel growth projection is flat line or declining
- Would consider high density storage equipment to maximize square footage
- Would desire the department to be warm with color; with small waiting area; professional atmosphere; no clutter; with standing work area
- Common Break Room would be acceptable
- MSU has the most traffic; Deeds and Clerk probably are next in line for traffic
- Like the idea of a Lobby kiosk with technology to support after hour functions to assist the public; political ramifications of providing a 24/7 service

BUILDING RESTORATIVE COMMUNITIES [Erica Boulanger]

- Located on 2nd floor
- Erica is a part-time Project Coordinator
- Mission: to assist first time juvenile offenders; repairing harm; alternative process; juveniles have a choice of whether to take this corrective path
- Staff includes Project Coordinator, Mentoring Coordinator and Community Service Coordinator
- Program is funded by a grant which will not be renewed; ends in November 2007; this is the 5th year for the county grant which Judge Dobrich was instrumental in initiating

- This program obviously deals with the Law and Courts Building where Judge Dobrich is located; Judge Dobrich hears all the cases
- 1-2 community service referrals a month
- Program uses shared conference spaces for their meetings; planning meetings every 6 weeks with 5 – 20 participants
- Best location for this program would be the Law and Courts Building
- Mentoring functions typically reserve space in the Annex building
- Typically the Mentoring Coordinator and the Community Service Coordinator are not in the building at the same time
- Requires (2) 4 drawer filing cabinets
- Program reports to state online
- More paper work is generated by the Mentoring and Community Service Coordinators than the Project Coordinator
- Over the past 1.5 years 50 offenders have not re-offended
- Edie in the Administration Office facilitates purchasing; faxing through Administration
- Erica typically works 5 hours per day
- If this program was full-time they would require twice as much space to function properly

HISTORICAL COMMISSION [Abigail Schlen and Barbara Cook]

- The Commission functions through Terry Proctor; occupying 1 room; Room 210 on the 2nd floor; Terry is certainly a proponent of the Commission
- Commission founded Michigan State owned "Newton House"; 1 room school house; open during warmer months
- The Commission acts as the legal historical body for the County
- Responsible for caring for the Newton House
- Commission has also published books documenting different historical function throughout the County
- The collection of published books is now located here in the Annex
- Their needs are to have a meeting space [shared], project work space and storage for the books / publications; certainly willing to share meeting space due to the few times required to meet
- Published books and reprints yet no artifacts
- Storage requires secure lockable space
- Current Commission projects [
 - Identify historical sites, locate on GIS system, scanning capabilities, sites or buildings
 - North County publications, south county publications, tours, drive-it yourself tours, bus tours
 - Maintaining identified properties
- Hold monthly meetings with 9 commissioners
- All involved with the Commission are volunteers
- Currently have inadequate space for storage
- Would need a phone and computer access
- Terry mentioned the County website will eventually have access to the Commission's publications
- Commission meeting minutes currently are posted on the County website



Facility Assessment Code Analysis

Job No. 2690-01

Project Name: Cass County Facility Assessment

Project Number: 2690-01/2K6.032

Project Type: Renovation

Date Reviewed: 01/22/2007

Reviewed by: Dawn Grofvert

Code Year Used: 2003 Michigan Building Code (2003 International Building Code).

Occupancy Classification (Chapter 3): B

Occupant Load (1004.1 and Table 1004.1.2):

1976 Annex:

First Floor: 86 occupants

Second Floor: 86 occupants

Connector:

First Floor: 0 occupants

Second Floor: 0 occupants

Third Floor: 0 occupants

Courthouse:

First Floor: 53 occupants

Second Floor: 56 occupants

Third Floor: 51 occupants

Attic: 2 occupants

Location on the property:

1976 Annex: east and west perimeter > 30'-0" to public way (138'-0" and 126'-6")

Connector: east and west perimeter > 30'-0" to public way (52'-0" and 48'-0")

Courthouse: east, south, and west perimeter > 30'-0" to public way

Construction Type (Chapter 6):

1976 Annex: VB

Connector: IIB

Courthouse: VB

Existing Area:

1976 Annex:

1st and 2nd Floors: 9,618 SF each

Connector:

1st, 2nd, and 3rd Floors: 1,498 SF each

Courthouse:

1st and 2nd Floors: 6,650 SF each

3rd Floor: 6,177 SF

Allowable Area (Table 503): Each connected building is separated by an existing Fire Wall.

1976 Annex: 9,000 SF

Connector: 23,000 SF

Courthouse: 9,000 SF

Area Increases for the 1976 Annex:

Is = 0

Area Modification due to frontage increases:

W = greater than 30'-0"

P = 428'-0"

F = 265'-0"

If = $100[265/428-.25]30/30 = 37\%$

Allowable Area

$A_a = 9000 + [(9000)(37)/100] = 12,330$ SF

Area Separation Required? Yes – there are existing Fire walls between connected buildings, but they do not meet the following requirements.

Sec. 705.2 The buildings are structurally independent from each other.

Table 705.4 3 hour Fire walls are required, the existing openings are only rated for 1 ½ hour which indicates a 2 hour separation- **this does not conform to current standards.**

Sec. 705.5.1 Exterior walls: where fire walls intersect with exterior walls, the rating of the perpendicular wall shall be 1 hour with 3/4-hour opening protection extending 4'-0" on each side of the intersection. **The existing curtain wall does not meet the ¾-hour opening protection on either end of the Fire wall between the Courthouse and the Connector. The windows in the Courthouse that are less than 4'-0" from the Fire wall are also not protected and do not meet the requirements.**

Sec. 705.6.1 Stepped buildings: a fire wall that separates buildings of different levels shall terminate not less than 30" above the lower roof provided the exterior wall for a height of 15'-0" above the lower roof is not less than 1-hour construction from both sides. The drawings show a 30" parapet, the exterior construction will meet a 1 hour requirement, but it is unknown as to whether the interior side of the exterior wall meets the 1 hour requirement.

Sec. 705.8 Opening: The aggregate width of openings at any floor level shall not exceed 25% of the length of the wall. **The length of the openings in the Fire wall between the Courthouse and the Connector exceed 25% and does not meet this requirement.**

Table 715.3 requires that openings in 3-hour Fire walls shall be 3-hour. **The current openings are only 1 ½-hour.**

Table 715.4 **No glazing is permitted in a 3-hour Fire wall. Wire glass narrow lites are currently used.**

Sec. 705.9 **Many of the penetrations in the existing Fire walls are not rated fire-resistance-rated assemblies according to Sec. 712.**

Sec. 705.10 Joints in Fire walls shall comply with Sec. 713. Sec. 713.4 Exterior curtain wall/floor intersection- **it unknown if the joints are sealed according to current standards.**

Maximum Building Height (Table 503)

1976 Annex: 2 stories and a total height of 40'-0". The actual is 2 stories, so this complies.

Connector: 4 stories and a total of 55'-0". The actual is 3 stories, so this complies.

Courthouse: 2 stories and a total of 40'-0". The actual is 4 stories (inclusive of the attic). The building height is 54'-0", and with the bell tower, 102'-0". **The height and the number of stories do not comply with the requirements.**

1. Automatic sprinkler increase (Sec. 504.2)

Automatic sprinklers allow an additional story, and 20'-0" to the allowed height of the building. A sprinkler would allow the building to be 3 stories and 60'-0" tall.

Sec. 504.3 Roof Structures: Towers, etc. can be of unlimited height is of noncombustible materials, extend not more than 20'-0" more if of combustible materials. **The existing bell tower contains combustible materials, and therefore is not compliant.**

Fire Resistive Requirements (Table 601) for 1976 Annex:

Exterior Bearing Walls	0 hour		
Interior Bearing Walls	0 hour		
		Exterior Nonbearing Walls	0 hour
Structural Frame	0 hour		
Partitions- Permanent (Table 1016.1)	1 hour (without sprinkler, 0 with sprinkler)		
Shaft Enclosures	1 hour		
Floors-Ceiling/Floors	0 hour		
Roofs-Ceiling/Roofs	0 hour		
Exterior Doors and Windows	0 hour		
Stairs	1 hour		

Fire Resistive Requirements (Table 601) for Connector:

Exterior Bearing Walls	0 hour
Interior Bearing Walls	0 hour
Exterior Nonbearing Walls	0 hour
Structural Frame	0 hour
Partitions- Permanent (Table 1004.3.2.1)	1 hour (without sprinkler, 0 with sprinkler)
Shaft Enclosures	1 hour
Floors-Ceiling/Floors	0 hour
Roofs-Ceiling/Roofs	0 hour
Exterior Doors and Windows	0 hour
Stairs	1 hour

Fire Resistive Requirements (Table 601) for Courthouse:

Exterior Bearing Walls	0 hour
Interior Bearing Walls	0 hour
Exterior Nonbearing Walls	0 hour
Structural Frame	0 hour
Partitions- Permanent (Table 1004.3.2.1)	1 hour (without sprinkler, 0 with sprinkler)
Shaft Enclosures	1 hour, 2 hours from "attic"
Floors-Ceiling/Floors	0 hour
Roofs-Ceiling/Roofs	0 hour
Exterior Doors and Windows	0 hour
Stairs	1 hour, 2 hours from "attic"

Footnote d: an automatic fire sprinkler system can be used to substitute for 1 separation as long as it has not been used for any other separations.

Unless sprinklers are installed through all of the buildings, the corridor doors, frames and walls will have to meet the 1 hour requirements. The existing corridor doors and frames are not rated, and closers will have to be installed on every corridor door.

Exterior Wall and Opening Protection (Table 602)

Separation from 10'-0" to 30'-0" for a Type IIB and VB, B occupancy is 0 hour.

Separation between Occupancies (Table 302.3.3)

2 hours between B and A-3 if any A-3 areas are created.

Incidental Use Areas (Table 302.1.1)

- Furnace room where largest piece of equipment is over 400,000 BTU/hr- 1 hour or sprinkler
- Boilers over 15 psi and 10 hp- 1 hour or sprinkler
- Storage rooms over 100 SF- 1 hour or sprinkler

Fire-Resistance-Rated Construction (Chapter 7)

Sec. 704: Exterior Walls

Sec. 704.11: Parapets
Sec. 704.2.1 Projections from walls of Type I or II construction shall be of noncombustible materials.

Fire Walls (Sec. 705)

Refer to previous section

Fire Barriers (Sec. 706)

Separation of vertical exit enclosures (stairs), exit passageways, horizontal exits (from one building or area separation to the next), incidental use areas, occupancy separation, and separate a single occupancy into different fire areas. Sec. 706.6 Openings: limited to maximum aggregate width of 25% of the length of the wall, and max. area of a single opening: 120 SF.

Use for stair enclosure.

Shaft and Vertical Exit Enclosures (Sec. 707)

707.4 Fire-resistance rating

707.14.1 Elevator lobby

Fire Partitions (Sec. 708)

Corridor walls.

Sec. 708.3 Fire-resistance rating- 1 hour- refer to exception.

Refer to Table 1016.1 for Corridor rating requirements.

Penetrations (Sec. 712)

Fire-Resistant Joint Systems (Sec. 713)

Opening Protectives (Sec. 715)

Table 715.3 Opening Protective Fire-Protection Ratings

Table 715.4 Fire Window Assembly Fire Protection Ratings

Table 715.4.3 Limiting Sizes of Wired Glass Panels.

Ducts and Air Transfer Openings (Sec. 716)

Concealed Spaces (Sec. 717)

Provide Fireblocking as required by Secs. 71.1-717.3

Sec. 716.2 Provide barrier between floors and top story and attic.

Provide Draftstopping as required by Secs. 717.3-717.5

Interior Finishes (Chapter 8)

Table 803.5 Interior Wall and Ceiling Finish Requirements by Occupancy

Fire Protection System Requirements- Alarm, Sprinklers, Standpipes, Smoke Detectors (Chapter 9)

Automatic Fire Extinguisher	X*	Yes	No
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Dry Stand Pipes (Chapter 9)		Yes	X	No
Wet Stand Pipes (Chapter 9)	X**	Yes		No
Combination Stand Pipes (Chapter 9)		Yes	X	No
Basement Inlets (Chapter 9)		Yes	X	No

*Sprinklers will be required for a story and height increase for the Courthouse and Opening requirements for the 1976 Annex.

** Class III standpipe system shall be installed where the floor level of the highest story is located more than 30'-0" above the lowest level of fire department vehicle access. A Class I standpipe system may be allowed in buildings equipped throughout with an automatic sprinkler system.

Sec. 905.4 Class I standpipe requirements.

Sec. 905.4.1 and 905.6.1 Standpipes not in stairs shall be protected to the rating equal to vertical enclosures.

Sec. 905.6 Class III standpipe requirements.

Automatic Sprinkler Systems (Sec. 903) Sprinkler requirements for different occupancies.

If any areas become A-3:

Sec. 903.2.1.3 Group A-3: Automatic sprinkler system shall be provided for A-3 if one of the following exists:

1. The area exceeds 12,000 SF
2. Occupant load of 300 or more
3. Located on a floor other than the level of exit discharge.

Sec. 903.2.10.1 Stories and basements without openings: An automatic sprinkler system shall be installed throughout every story where floor area exceeds 1,500 SF and where there is not provided at least one of the following exterior wall openings:

1. Ramp to ground level. Openings shall be located in each 50'-0" linear feet or fraction thereof on at least one side.
2. Openings above the adjoining ground level at least 20 SF in each 50'-0" or fraction thereof, on at least one side.

Sec. 903.2.10.1.1 Opening dimensions and access.

Sec. 903.2.10.1.2 Openings on one side only: When the opposite walls are more than 75'-0" apart, the openings shall be on both sides.

Either openings on both stories on both the east and west sides of the building or a sprinkler system shall be installed in the 1976 Annex.

Sec. 903.3.1.1.1 Exempt locations for sprinklers.

Sec. 903.3.5.1.1 Limited area sprinkler systems: can use domestic water supply if less than 20 heads.

Sec. 906 Portable Fire Extinguishers: Shall be installed per the International Fire Code.

Fire Alarm and Detection Systems (Sec. 907)

Sec. 907.2 Where required.

Sec. 907.2.2 Group B: A manual fire alarm system shall be installed when the occupant load is more than 100 persons above the level of discharge- this is true in the Courthouse.

Sec. 907.2.12.1 Automatic fire detection locations.

Emergency voice/alarm communication system

Sec. 907.2.12.2 the activation of any automatic fire detector, sprinkler water-flow device or manual fire alarm shall sound an alarm on the floor, the floor above and below.

Sec. 907.2.12.2.1 Manual override shall be provided for all paging zones.

Sec. 907.2.12.2.2 Live voice messages: shall have the capability to broadcast live voice messages through speakers in elevator, exit stairways, and throughout selected floor(s).

Sec. 907.2.12.3 Fire Department Communication System: approved two-way fire department communication system in accordance with NFPA 72 shall be provided for fire department use. It shall operate between a fire command center (sec. 911) and elevators, elevator lobbies, emergency and standby power room(s), fire pump rooms, areas of refuge, and inside enclosed exit stairways.

Sec. 907.3 Manual Fire Alarm Boxes:

Sec. 907.3.1 Location: shall be located not more than 5'-0" from the entrance to each exit. Additional boxes shall be located so that travel distance >200'-0".

Sec. 907.4 Power Supply: According to NFPA 72.

Sec. 907.5 Wiring:

Sec. 907.6 Activation:

Sec. 907.7.7 Presignal system

Sec. 907.8 Zones: Each floor shall be zoned separately.

Sec. 907.8.1 Zoning indicator Panel: place where fire department will use for main entrance.

Sec. 907.9 Visible Alarms

Sec. 907.9.2 Audible Alarms

Sec. 907.10 Fire Safety Functions:

Sec. 907.11 Duct Smoke Detectors: shall be connected to building's fire alarm control panel when a fire alarm system is provided.

Means of Egress (Chapter 10)

Maximum Floor Area Allowances per Occupant (Table 1004.1.2)

Exiting from Multiple Levels (Sec. 1004.4), also review Convergence (Sec. 1004.5)

Egress Width per Occupant Served (Table 1005.1)

1976 Annex (without sprinkler):

Stairway width = $0.3 \times 86/2 = 13''$

Other egress components = $0.2 \times 86/2 = 8.6''$

Connector (without sprinkler):

Stairway width = $0.3 \times 71 = 21.3''$

Other egress components = $0.2 \times 71 = 14.2''$

Courthouse (without sprinkler):

Stairway width = $0.3 \times 71/2 = 11''$

Other egress components = $0.2 \times 71/2 = 7''$

Sec. 1006 Egress Illumination

Accessible Means of Egress (Sec. 1007.1)

Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress is required from any accessible space (Table 1014.1), each portion of the space shall be served by not less than two accessible means of egress.

Exceptions:

1. Accessible means of egress are not required in alterations to existing buildings.

Doors (Sec. 1008)

Sec. 1008.1.5 Landings: Landings shall have a width not less than the width of the stairway. Doors in the fully open shall not reduce a required width more than 7". When a landing serves a occupant load of 50 or more, doors in any position shall not reduce the landing to less than $\frac{1}{2}$ the required distance. **The required width of the landing in the Connector is reduced by $\frac{1}{2}$ of the required width by the door swing.**

Sec. 1008.1.4 Floor elevation: **There shall be a floor or landing on each side of the door. Such floor or landing shall be at the same elevation on each side of the door. The floor to the Switchgear room in the Connector is not at the same level as the Corridor, and no guard is provided. Refer to guard section.**

Stairways and Handrails (Sec. 1009)

Sec. 1009.1 Stairway shall not be less than 44" wide, exception #1: Stairways serving an occupant load of 50 or less shall have a width of not less than 36".

Sec. 1009.4 Stairway landing: shall be width of stairway, and not less than 48" long with a straight run.

Exit Signs (Sec. 1011)

Sec. 1011.1 Exits shall be marked by an approved exit sign visible from any direction of egress travel. **The office areas on the east and west sides on the Second Floor of the 1976 Annex do not have any exit signs.**

Sec. 1011.3 Tactile exit signs. A tactile EXIT sign shall be provided adjacent to each door to an egress stairway, an exit passageway, and at the exit discharge. **No signs have been installed.**

Guard (Sec. 1012) Shall be located along open-sided walking surfaces, mezzanines, industrial equipment platforms, stairways, ramps and landings which are located more than 30" above the floor or grade below. **There is a change of floor level from the Corridor on the First Floor to the Switchgear room greater than 30", and no guard is provided. No guards are installed in any of the existing stairs.**

Exit Access (Sec. 1013)

1013.2.1 Where more than one tenant occupies any one floor, each tenant shall be provided with access to the required exits without passing through adjacent tenant spaces.

Exit and Exit Access (Table 1014)

Table 1014.1 Two exits or exit access doorways required in a B occupancy with more than 50. Two exits are required for the 1976 Annex, Connector, and Courthouse.

Sec. 1014.3 Boiler, Incinerator and Furnace Rooms. Two exit access doorways are required where area is over 500 SF and any fuel-fired equipment exceeds 400,000 BTUs. Separate doorways equal to ½ diagonal distance.

Travel distance (Table 1015.1)

200'-0" without a sprinkler

300'-0' with a sprinkler

Corridors (Sec. 1016)

Table 1016.1 Corridor Fire-Resistance Rating

B: 1 hour without sprinkler, 0 hour with sprinkler

Sec. 1016.2 Corridor width:

24" for access to electrical, mechanical, plumbing systems or equipment.

36" with an occupant load less than 50.

Dead Ends (Sec. 1016.3)

Exits (Sec. 1017)

Sec. 1017.1 Once a given level of exit protection is achieved, such level of protection shall not be reduced until arrival at the exit discharge.

Number of Exits and Continuity (Sec. 1018)

Table 1018.1 Minimum Number of Exits fro Occupant Load: 1-500 occupants required 2 exits.

Vertical Exit Enclosures (Sec. 1019) Stairs: Less than (4) stories shall have rating of 1 hour. (4) or more stories shall have a rating of 2 hours. Walls shall be Fire Barriers.

Enclosures under Stairways (Sec. 1019.1.5) Enclosed spaces shall be protected by 1-hour or match the rating of the stairway. **Access to the enclosed usable space shall not be directly from within the stair enclosure. The storage under the First Floor Stair in the Courthouse is not of rated construction and is access from the stair enclosure, and shall be removed.**

Horizontal Exits (Sec. 1021)

Sec. 1021.1 Not more than 50% of the total number of exits or total exit width shall be horizontal exits.

Exit Discharge (Sec. 1023)

Accessibility for Existing Buildings (Sec. 3409)

Sec. 3409.5 Alterations: A building that is altered shall comply with Chapter 11 unless technically infeasible. When technically infeasible, the alteration shall provide access to the maximum extent feasible.

Exceptions:

1. The altered space is not required to be on an accessible route unless required in 3409.6.
2. Accessible means of egress is not required.
3. Buildings... which complied with the code of the time unless the alteration modifies an area covered by sections 3409.6 to 3409.8.5.

Sec. 3409.6 Alteration affecting an area containing a primary function: When there is alteration to the primary function, the route shall be accessible.

Exceptions:

1. Cost of the accessible route is not required to exceed 20% of the costs of the alteration affecting the primary function.
- 2.

Sec. 3409.7.9 Toilet Rooms: Where technically infeasible to alter existing toilet facilities, and accessible unisex toilet is permitted.

Sec. 3409.8 Historic buildings: Alterations shall be as required unless technically infeasible. Where compliance with the requirements for accessible routes, ramps, entrances, or toilet facilities would threaten or destroy the historic significance of the building as determined by the authority having jurisdiction, alternative requirements of Section 3409.8.1 – 3409.8.5 are permitted.

Sec. 3409.8.1 At least (1) accessible route from a site point to an accessible entrance shall be provided.

Sec. 3409.8.2 An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided.

Sec. 3409.8.3 At least (1) main entrance shall be accessible.

Sec. 3409.8.4 Where toilet rooms are provided, at least one accessible toilet room shall be provided.

Accessibility (Chapter 11)

Sec. 1104 Accessible Route

Interior Environment (Chapter 12)

Sec. 1203.4 Natural Ventilation: ventilation of occupied space shall be through windows, doors, louvers, or other openings to the outdoors.

Roof Assemblies and Rooftop Structures (Chapter 15)

Table 1505.1 Minimum Roof covering Classification for Types of Construction

1976 Annex: Class C, min. slope of 2%

Connector: Class C, min. slope of 2%

Courthouse: Class C

Minimum Number of Plumbing Facilities (Michigan Plumbing Code)

Sec. 2903 Separate facilities shall be provided for each sex:

Sec. 2906 Public Facilities: Public facilities shall be provided with toilet facilities in spaces utilized as restaurants, nightclubs, places of assembly, and retail. Exception: public facilities are not required in structures of an occupant load less than 150 that do not serve food or beverage.

First Floor:

Male: Water Closets: $1 \text{ occ.}/50 = 70 \text{ occ.}/50 = 2$ Lavatories: $1 \text{ occ.}/80 = 70/80 = 1$

Female: Water Closets: $1 \text{ occ.}/50 = 70 \text{ occ.}/50 = 2$ Lavatories: $1 \text{ occ.}/80 = 70/80 = 1$

Drinking Fountains: $1 \text{ occ.}/100 = 139 \text{ occ.}/100 = 2$ Service Sinks: 1

Second Floor:

Male: Water Closets: $1 \text{ occ.}/50 = 71 \text{ occ.}/50 = 2$ Lavatories: $1 \text{ occ.}/80 = 71/80 = 1$

Female: Water Closets: $1 \text{ occ.}/50 = 71 \text{ occ.}/50 = 2$ Lavatories: $1 \text{ occ.}/80 = 71/80 = 1$

Drinking Fountains: $1 \text{ occ.}/100 = 142 \text{ occ.}/100 = 2$ Service Sinks: 1

Third Floor:

Male: Water Closets: $1 \text{ occ.}/50 = 27 \text{ occ.}/50 = 1$ Lavatories: $1 \text{ occ.}/80 = 27/80 = 1$

Female: Water Closets: $1 \text{ occ.}/50 = 27 \text{ occ.}/50 = 1$ Lavatories: $1 \text{ occ.}/80 = 27/80 = 1$

Drinking Fountains: $1 \text{ occ.}/100 = 53 \text{ occ.}/100 = 1$ Service Sinks: 1

Elevator Requirements (Chapter 30)

Sec. 3003.2 Fire-fighter's emergency operation.

Sec. 3006.4 Machine rooms shall be enclosed with construction having a fire-resistance rating not less than the required rating of the hoistway enclosure.

Michigan Barrier Free

Signage:

Sec. 1110.1 Signage:

1. Accessible Parking
2. Accessible Entrances

Sec. 1110.2 Directional Signage: Indicate the route to nearest like accessible elements

1. Inaccessible building entrances.
2. Inaccessible public toilet facilities.

Signage for accessible east entrance and inaccessible west entrance needed, signage for inaccessible toilet facilities, and mark future accessible toilet facilities.

Accessible Routes:

Sec. 1104.1 Site Arrival Points

Sec. 1104.2 Route within a Site

Sec. 1104.4 Connected Spaces

Sec. 1104.3.1 Employee Work Area-common use circulation paths within an employee work area shall be accessible routes.

Sec. 1104.4 Multi-Level Buildings and Facilities- at least (1) accessible route shall connect each accessible level.

Building Entrances:

Sec. 1105.1 50% of Public Entrances are to be accessible.

Stairways

Floor levels that are connected by an elevator do not have to comply with ICC/ANSI A117.1 – this is not true for the stairs in the east and south entrances since the level is not served by an elevator.

Handrails

Sec. 1009.11 Stairways must have handrails on both sides-**this needs to be fixed in the east and south entrances to the Courthouse; handrails are also not proper height.**

Sec. 505.10.2 and 505.10.3 Top extension shall be 12”min. past first riser, and 12” + (1) tread depth past bottom riser-**this needs to be fixed in the east and south entrances to the Courthouse.**

Elevator

Table 407.2.8 Minimum Dimensions of Elevator Cars

Doorways

Sec. 1008.1.1 The minimum width of each door opening shall have a clear width of at least 32”. **There are numerous doorways in the Second and Third Floors of the Courthouse that have less than the 32” clear.**

Sec. 1008.1.7 Arrangement of Doors- doors in series must be 48” plus the width of a door leaf between them. **East entrance doors in Courthouse are less than 7’-0” apart. Entrance doors on First, Second, and Third Floor Toilet rooms in the Connector are not compliant.**

Sec. 1008.1.8.1 Door Hardware- **none of the original hardware meets the requirements in the 1976 Annex, Connector, and Courthouse. A small number of handsets have had an adapter installed, but the majority does not comply.**

Table 404.2.4.1 Maneuvering Clearances at Manual Swinging Doors
Doors in the First Floor Courthouse, Stairway Doors in the Connector and the 1976 Annex, and the Toilet room doors in the Connector do not have the proper clearance.

Sec. 404.2.9 Door Opening Force- doors with closers shall not require more than 5 lbs pressure to open.

Drinking Fountains

Plumbing

Water closets were not in the correct location, stalls and doors are not correct size, grab bars are not correct, toilet paper dispensers in wrong location, lavatories do not meet requirements, urinals do not meet requirements, mirrors do not meet requirements in all Toilet rooms in the Connector and the Courthouse.

August 13, 2007

Project: Cass County Courthouse
 Conceptual Budget
 Budget Summary

Scope of Work	Quantity	Unit Cost	Amount
New Construction			
Three story addition - mechanical/elevator/stair tower	3,000 sqft	\$180.00	\$540,000
Main entry canopy addition	460 sqft	\$50.00	\$23,000
Total New Construction	3,460 sqft	\$162.72	\$563,000
Remodeling			
1899 Courthouse			
Convert Courthouse first floor to County Clerk	2,300 sqft	\$46.50	\$106,950
Convert Courthouse first floor to Treas., Eq., Historic Dist. and Drain Comm.	2,715 sqft	\$53.50	\$145,253
Convert Courthouse second floor to MSU Extension	2,600 sqft	\$40.75	\$101,875
Convert Courthouse second floor to Conference Meeting Rooms	2,850 sqft	\$45.25	\$128,963
Convert Courthouse third floor to County Admin	2,220 sqft	\$46.75	\$103,785
Convert Courthouse third floor to Mail Work	400 sqft	\$55.75	\$22,300
Convert Courthouse third floor to Commission Chambers	1,540 sqft	\$73.25	\$112,805
Convert Courthouse third floor to Commission Auxillary	880 sqft	\$54.75	\$48,180
Remodel public areas - corridors, lobbys and stairs - three floors	5,311 sqft	\$27.50	\$146,053
1976 Annex and Connector			
Convert County Meeting Space and County Clerk to Adult Probation	4,260 sqft	\$40.75	\$173,595
Convert County Administrator to V.A., C.A.S.A. and B.R.C.	1,400 sqft	\$67.25	\$94,150
Convert County I.S. Department and Treasurer to Information Systems	3,020 sqft	\$33.75	\$101,925
Reconfigure public toilet rooms for ADA requirements - three floors	1,380 sqft	\$138.00	\$190,440
Convert second floor offices to lease space - unfinished	8,340 sqft	\$7.00	\$58,380
Remodel public areas - corridors, lobbys and stairs - three floors	5,906 sqft	\$35.25	\$208,187
Total Remodeling	45,022 sf	\$38.71	\$1,742,839
Miscellaneous Items			
Site (general)			
New "Cass County Building" sign on M-60	1 ls	\$5,000.00	\$5,000
Reconstruct retaining walls	1,520 sqft	\$35.00	\$53,200
Demo walks & concrete stairs	33 cy	\$50.00	\$1,650
Concrete walks	898 sqft	\$4.50	\$4,041
Concrete stairs	72 sqft	\$30.00	\$2,160
Misc sitework allowance	1 ls	\$25,000.00	\$25,000
1899 Courthouse			
Clean exterior limestone	15,400 sqft	\$0.50	\$7,700
Tuckpoint masonry joints (total wall sqft)	15,400 sqft	\$1.50	\$23,100
Repair foundation wall at grade - remove spall and parge with concrete	363 lnft	\$25.00	\$9,075
Demo canopy	180 sqft	\$6.00	\$1,080
Replace windows	1,966 sqft	\$75.00	\$147,375
Restore metal grilles - 6"x24"	17 ea	\$300.00	\$5,100
Replace downspouts - painted steel	545 lnft	\$25.00	\$13,625
Add waterproofing and drainage system to foundation wall - west half of building	845 sqft	\$10.00	\$8,450
Sitework - revise grade at west half of building	1 ls	\$10,000.00	\$10,000
Replace aluminum storefront system - west elevation	165 sqft	\$48.00	\$7,920
Replace roof - asphalt shingles - includes demolition of existing	10,100 sqft	\$4.50	\$45,450
Re-line internal gutters	457 lnft	\$50.00	\$22,850
Fire protection	20,716 sqft	\$3.50	\$72,506
Guard rails at lower bell tower access hatch	12 lnft	\$100.00	\$1,200
HVAC Upgrades	20,716 sqft	\$18.75	\$388,425
Electrical Upgrades	20,716 sqft	\$15.50	\$321,098

1976 Annex and Connector

Clean brick and precast panels.	12,782 sqft	\$0.50	\$6,391
Seal brick	10,581 sqft	\$1.50	\$15,872
Tuckpoint masonry joints	10,581 sqft	\$2.00	\$21,162
Remove/replace exterior wall joint sealants (HM doors and precast)	1,281 lnft	\$4.00	\$5,124
Grout for slope at top of precast panels	396 lnft	\$14.50	\$5,742
Blast and repaint exposed steel on lintels (HM doors and precast - assume 3")	104 sqft	\$15.00	\$1,560
Replace roof - membrane - Includes demolition of existing	11,231 sqft	\$12.00	\$134,772
Add overflow roof drains	7 ea	\$2,000.00	\$14,000
Blast and repaint steel door south of Kincheloe Meeting Room	1 ea	\$500.00	\$500
Demolish 1994 Mechanical Addition	210 sqft	\$25.00	\$5,250
Demolish canopy south of Mechanical Addition	87 sqft	\$15.00	\$1,305
Replace east and west curtain walls	633 sqft	\$48.00	\$30,384
Add windows - assume aluminum at 3'4" x 4'0" each, tooth into masonry	84 ea	\$1,000.00	\$84,000
Demolish elevator	1 ls	\$5,000.00	\$5,000
New three stop elevator	1 ls	\$65,000.00	\$65,000
New 6" water service for fire protection	1 ls	\$10,000.00	\$10,000
Fire protection	24,306 sqft	\$3.50	\$85,071
Relocate gas service	1 ls	\$5,000.00	\$5,000
HVAC Upgrades	24,306 sqft	\$27.00	\$656,262
Electrical Upgrades	24,306 sqft	\$17.25	\$419,279
Relocate electrical service, provide new transformer	1 ls	\$20,000.00	\$20,000
Furniture, fixtures and equipment allowance	1 ls	\$270,000.00	\$270,000

Total Miscellaneous Items

\$3,037,678

Budget Summary

New Construction	\$563,000
Remodeling	\$1,742,839
Miscellaneous Items	\$3,037,678
Total	\$5,343,517

Total

Contingency	20%	\$1,068,703
Total Construction Cost		\$6,412,220

Professional Fees

CM Fees and Reimbursables	1 ls	\$414,000
AE Fees and Reimbursables	1 ls	\$520,000

Total Conceptual Budget

\$7,346,220

Not In Budget

- Moving or relocation costs
- Asbestos abatement
- Technology
- Phone system head-end equipment and devices

Please Note: This is a very preliminary construction cost analysis. The square foot prices used in this study are based upon historical cost data from similar projects. This pricing does not represent the actual cost of this specific project because the scope of work for this project is not yet defined. This budget can be refined as more information becomes available.

building program analysis <h2 style="margin: 0;">Cass County Administration Building</h2> <h3 style="margin: 0;">Cass County, Michigan</h3>	Project No. 1
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The program is based on the following assumptions:
 Creation of a new single story facility on the current court complex campus
 No Leaseable Tenant Space is included
 Building Systems and Finishes to match existing court complex facility
 Separate sitework amenities (IE parking, walks, storm water systems, utility services)
 120 Parking Stalls (10) Barrier Free Total
 The facility will be fire protected throughout with a supervised NFPA 13 system

County Offices and Administration Areas				12,700	s.f.
County Administration	1 @	2,200 s.f. =	2,200 s.f.		
County Clerk	1 @	2,300 s.f. =	2,300 s.f.		
County Drain Comm., Equalization, Treasurer, & Historic District Comm.	1 @	2,700 s.f. =	2,700 s.f.		
County Information Systems	1 @	3,000 s.f. =	3,000 s.f.		
Michigan State Extension	1 @	2,500 s.f. =	2,500 s.f.		
County Ansillary Areas				5,850	s.f.
Commission Chambers	1 @	1,550 s.f. =	1,550 s.f.		
Mall / Work Room	1 @	400 s.f. =	400 s.f.		
Commission Auxillary Spaces	1 @	900 s.f. =	900 s.f.		
Large Group Conference Rooms	2 @	1,500 s.f. =	3,000 s.f.		
Grant Program Areas				1,500	s.f.
Veterans, BRC, CASA	1 @	1,500 s.f. =	1,500 s.f.		
State Agency Areas				4,300	s.f.
Adult Probation Area	1 @	4,300 s.f. =	4,300 s.f.		
Total Net Program Area				24,350	s.f.

Circulation Spaces	40%	9,740	s.f.
Corridors, Wall Thickness, Restrooms, Mechanical Spaces, Lobby			

a new building on campus

Total Gross New Building Area **34,090** s.f. **139%**

Existing SF Analysis			
County Offices, Administration Areas, & Ansillary Space		13,850	
Grant Program Areas		750	
State Agency Areas		1,800	
Circulation Spaces	49%	8,100	
Existing SF Total		24,500	s.f. 100%

current occupied space

Remodeled SF Analysis			
County Offices, Administration Areas, & Ansillary Space		18,425	133%
Grant Program Areas		1,400	187%
State Agency Areas		4,200	233%
Leasable Space		8,340	100%
New Addition		3,460	100%
Circulation Spaces	35%	12,857	156%
Remodeled SF Total		48,482	s.f. 198%

1899 bldg + 1976 Annex after remodeled

August 13, 2007

Project: Cass County Courthouse
Conceptual Budget- New Building
Budget Summary

Scope of Work	Quantity	Lower Range		Upper Range	
		Unit Cost	Amount	Unit Cost	Amount

New Building Scenario New building (based on 2002 Courts and Law Building cost data)	34,090 sqft	\$185.00	\$6,306,650	\$205.00	\$6,988,450
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Total Cost Range for New Construction is \$6,300,000 to \$7,000,000

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August 16, 2007

Project: Cass County Building
 Conceptual Budget- Demolition of 1976 Annex and Connector
 Budget Summary

Scope of Work	Quantity	Lower Range		Upper Range	
		Unit Cost	Amount	Unit Cost	Amount
Building Demolition Scenario					
Demolish 1976 Annex and Connector incl minor site restoration	24,306 sqft	\$4.00	\$97,224	\$5.00	\$121,530
Repairs to 1899 Courthouse exterior	678 sqft	\$75.00	\$50,850	\$150.00	\$101,700
Mechanical/electrical for 1899 Courthouse	20,716 sqft	\$7.25	\$150,191	\$9.75	\$201,981
		\$86	\$298,265	\$165	\$425,211

Total Cost Range to Demolish the 1976 Annex and Connector is \$300,000 to \$425,000

Not in Budget

Asbestos/hazardous material abatement

Please Note: This is a very preliminary construction cost analysis. The square foot prices used in this study are based upon historical cost data from similar projects. This pricing does not represent the actual cost of this specific project because the scope of work for this project is not yet defined. This budget can be refined as more information becomes available.