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May 20, 2008

Paul Ziehli, Village President
Village of Belleville
24 West Main Street
Belleville, Wisconsin 53508

Re: Historic Railroad Depot
Belleville BUILD 2007 - Implementation
Architectural Feasibility Review
MSA Project No. 3720706B

Dear Mr. Ziehli:

MSA has completed the architectural feasibility review of the Belleville Historic Railroad Depot. These services are part of the scope of services included in the funding from the Dane County Better Urban Infill Development (BUILD) grant program.

The scope of services performed by MSA included:

1. A visual inspection of the structural and physical condition of the existing building.
2. Measuring of the existing building floor plan layout.
3. Drafting of an existing building floor plan.
4. A meeting with Rick and Ed Francois to discuss potential uses of the building and to discuss conceptual layout ideas.
5. Develop a conceptual potential remodeling floor plan.
6. Develop a preliminary construction cost estimate.

The findings of our work are included in this report letter.

Existing Building Physical Condition Observations:

The existing building is in a deteriorated, but salvageable condition. The historic nature and location of the building make it priceless and worth restoring. See Photo #1 for a historic photo of the building exterior. See Photo #2 for a current photo of the Depot.

There are several items on the existing structure that need to be addressed. This list includes building observations, as well as opinions of the items that need attention.

1. General: The existing building is being used at this time by Landmark Services. An office is the only part of the building that is being heated. The office area should be removed.

2. Roof: The shingles are in poor condition and need to be removed and replaced. See Photo #3. There are two skylights that were added and should be removed and closed up. Miscellaneous roof sheathing boards will need to be replaced.

3. Roof edge: There is aluminum gutter on both sides with downspouts. The gutters need to be removed and replaced, along with the drip edge and some of the fascia boards. The soffit boards should all be removed and replaced. Some of the rafter extensions will need to be replaced.

4. Interior Wall Surface: There is plaster on some of the ceilings and walls. All must be removed due to water damage and old age.

5. Basement: There is a deep crawl space under the entire building. It is not a true basement due to the limited headroom. The ceiling height varies from five to six feet under the beams. There is what appears to be a concrete floor. The stone rubble foundation walls leak. This space needs to be cleaned if the basement is to be used for storage. There is only one entrance to the basement from the exterior. There is no interior stairs. See Photo #4.

6. Floor Surface: The floor is heavy timber planking. The planking runs in various directions in most of the building and the top surface is uneven. A new floor of some type will have to be added if a level floor is desired. Otherwise, the existing floor, if cleaned, would provide for an interesting historic element.

7. Windows: The windows are either covered over or are inexpensive replacement windows. All windows need to be replaced.

8. Doors: All the doors need to be replaced. Replacement doors should remain true to the history to the building.

9. Brick Exterior: There are areas that need to be replaced. Tuck-pointing will also be required. See Photo #5.

10. Foundation Wall: The foundation is a stone wall. The area above grade is very deteriorated and needs to be repaired.

11. Finished Grade: Poor drainage is a problem at three of the four sides of the building. Fill needs to be added and the site re-graded to get the site to drain surface water away from the building. See Photo #6.

12. Plumbing: The plumbing fixtures are very old and must be removed. The toilet rooms were added onto the building at some point in time when indoor plumbing became available. What little plumbing is in the building must be removed and all new plumbing installed.

13. Electrical: The electrical system is very old and should be removed and replaced with a new electrical system.

14. HVAC: What little of a system exists needs to be removed and a new system installed to accommodate the new use.

Existing Building Structural Observations:

Building:
Description: The building is a one story brick structure with wood roof framing, split-level wood floor framing above the surrounding grade, and a basement with limited access and limited head-room clearance (6'-6" clear below the girders within the southern portion of the basement, and 5'-4" clear below the girders within the northern portion of the basement).

Condition: Water stains from infiltration were observed on the wood roof planks, basement columns, basement walls, and the basement slab-on-grade. The exterior of the building was surrounded by ice and trapped water, which did not drain away.

Roof:
Description: The wood roof framing consists of wood planks spanning between wood roof trusses spaced at approximately 18 inches on center along with a series of exterior exposed wood brackets. The interior framing featured trusses constructed of 2x8 wood members for the top and bottom chords with 2x6 members installed as diagonal web members. Some of the bottom chord members were continuous, while others were composed of two members spliced near the mid-span. A ridge beam was installed at the apex of the trusses, and a wood plate (2½" x 11½") was installed at the bearing connection on top of the exterior brick walls. The exterior framing featured wood brackets constructed of 5½" x 5½" wood members supporting wood girders, 2x4 wood purlins, and the wood planks. The 2x4 purlins aligned with and lapped the top chord of the interior trusses. The brackets were bolted to the exterior brick walls and the brackets were inconsistently spaced to avoid exterior wall openings.

Condition: The interior wood roof planks exhibited staining from water infiltration. The wood roof framing was exposed above the southern portion of the building where the ceiling construction was removed (old freight receiving area), and the roof framing was accessible for a small region above the current office space ceiling. The wood framing and wood planks in the accessible region were in good condition with no visible signs of deterioration or distress. See Photo #7. The condition of the exterior roof system ranged from good to deteriorated. Typically, the edge condition near the eaves exhibited deteriorated wood soffit panels, deteriorated wood fascia, deteriorated wood planks, and deteriorated wood bracket parts. See Photo #8. Typically, the exterior framing near the exterior walls was in good condition.

Floor Framing:
Description:
The floor framing consists of wood planks, see Photo #9, (approximately 3½" thick within old freight receiving area) on 3x12 wood joists spanning 12'-0" at 16" on center. The joists rest on 12"x12" wood girders spanning 8'-0" between 12"x12" wood columns and the exterior foundation walls. The level of the floor framing is lower at the old passenger waiting area and higher at the old freight receiving area. Various miscellaneous framing modifications were observed particularly near the middle of the building where posts were installed as supplemental supports. A second layer of floor framing was installed above the original construction beneath the current office area, which extends the upper level of the floor framing further to the north.

Condition: Most of the wood framing appeared to be in good condition. It appears that some of the framing was intended to be removable near the exterior freight access door. Various pieces of sub-framing and numerous posts were added to reinforce this region. A few framing members were excessively coped leaving only a small portion of the joist or beam near the transition in floor levels. Water stains were observed near the base of the columns, but the wood did not appear to be damaged.

Exterior Wall:
Description: The exterior bearing wall consists of multiple wythes of brick approximately 1'-0" in total thickness bearing on a stone rubble foundation wall. Arches were employed at window and door openings to transfer the forces from above to the remaining masonry on either side.

Condition: The exterior side of the brick wall near the base and the top of the foundation wall was deteriorated on the east and west sides of the building. The most severe conditions were concentrated toward the middle portion of the building, but smaller spalls, cracks, and loose mortar sections extended throughout the entire length.
A few diagonal and a few vertical cracks were observed on the interior and the exterior faces of the wall. See Photo #10. The cracks extended nearly the full height of the wall. The south wall was repaired in the past with new brick that does not match the surrounding construction. The mortar between stone pieces within the basement was missing particularly near the base. Water infiltration and freezing was observed at a wall opening on the west side, which appeared to be the former coal-shoot.

Slab-on-grade:
Description: A concrete slab-on-grade was installed within the basement. A layer of wood dust and seeds, as well as equipment currently stored in the basement, limited observations.

Condition: No deterioration was observed.

Proposed Remodeling:

The proposed use for the Depot is as a trail head for the bike trail.

Spaces within the building shall consist of a common public space, which provides access to public restrooms and two retail tenant spaces. The restrooms shall consist of single occupant and separate men's and women's toilet rooms. No showers. The men's room will have a toilet, urinal, and sink, and the women's restroom will have a toilet and a sink. The common public space is centrally located in the building extended from the east to west side such that there is an entrance from the east and the west sides of the building. The retail spaces are at the north and south ends of the building. The use of the building would be such that the common public space would be opened at certain hours for bikers to access the restrooms. These hours would probably be open hours that would be longer than the retail spaces. The retail spaces would need to be setup so that they could be locked down and would not be accessible from the lobby during the hours that the retail spaces are closed. Along the west exterior side of the building there was a dock that extended the full length of the building from north to south. The design re-creates this dock and it would be used as a deck for an outdoor seating area.

Ideas for the retail spaces would consist of businesses to serve the users of the bike trail and the general public. Possibilities would be a coffee, sandwich, bagel, or ice cream business. The idea is that the use of the building by the businesses would provide some cash flow through the renting of the space.

Reference the attached Exhibit 'A' for floor plans of the existing building. Reference the attached Exhibit 'B' for the floor plans of the proposed remodeling for the intended use.

Major remodeling is required to restore the building and prepare it for the intended use. The following is a description of the proposed scope of work to remodel.

1. General Demolition:
    a. Prior to any demolition work the building shall be tested for asbestos and lead.
    b. Demo existing toilet addition.
    c. Clean and repair wall surfaces exposed as a part of the demolition.
    d. Demo existing interior walls and ceiling.
    e. Demo existing interior plaster ceiling.
    f. Remove all existing electrical lights, outlets, panels, etc.
    g. Remove the plumbing and heating systems.
    h. Remove all doors, windows, and infill construction, see item #8.
    i. Remove wood and concrete loading docks and weigh station, see item #2.
    j. Demo shingles, gutters, and downspouts, see item #10.

2. Site and grading:
   a. Raise grade around the building perimeter about 10". Re-grade so there is positive drainage away from the building.
   b. Construct a new asphalt paved parking lot on the east side of the building.
   c. Install landscaping consisting of trees and shrubs.

3. Basement:
   a. Clean basement.
   b. Remove existing access door. Construct a new poured in place concrete foundation and stair with an access hatch.
   c. Remove the entire concrete floor.
   d. Excavate approximately a 16'x16' area in the basement to allow an 8' clearance to the underside of the lowest structure.
   e. Pour concrete 'knee walls' with footing to retain surrounding soil.
   f. Pour 16'x16' x 4" slab over 6" gravel over vapor barrier.
   g. Frame insulated wall on top of concrete walls to keep the new space clean and relatively dust free and warm.
   h. Provide access door to remainder of basement.
   i. Pour a new concrete floor in the entire basement.
   j. Infill the existing foundation vents.
   k. Repair deteriorated areas of the existing foundation wall and floor framing.

4. Foundation wall:
   a. Excavate entire exterior perimeter full the full height of the foundation wall.
   b. Repair and tuck-point foundation wall.
   c. Install drain tile and a sump with a pump.
   d. Damp proof the foundation wall.
   e. Install rigid insulation to 4' below grade at out side face of wall.
   f. Backfill the foundation.

5. Brick:
   a. Replace damaged and deteriorated brick with new material to match existing brick.
   b. Tuck point the entire exterior wall surface of the existing brick and stone sills.

6. Floor Framing:
   a. Existing floor framing to remain.
   b. Remove and replace floor support columns in basement mechanical area.
   c. Install new concrete footings at new columns in mechanical room.

7. Exterior Lighting:
   a. Remove and replace existing light fixtures and associated wiring with new fixtures.
   b. Some fixtures may be salvaged.
   c. New conduit shall be installed to be as unobtrusive as possible. It shall follow the shape of the brackets and be painted to match the brackets, or other material that it might sit on where exposed to view.

8. Exterior Windows and Doors:
   a. At (4) openings on north end of building, remove the existing doors and install brick and stone sills to match existing windows.
   b. At south end of west wall cut 2 new window openings. Revise masonry to match existing window openings.
   c. Remove all existing exterior windows, doors, and infill panels.
   d. Install new aluminum clad wood windows.
   e. Install new doors, frames, and hardware.
   f. Match style of windows and doors to historical photos of building.
   g. Keep and store, in a dry place, any doors or materials that may be original to the building for eventual repair and re-use or a templates for new construction of similar details.

9. Wooden Brackets:
   a. Remove and repair damaged wooden brackets.
   b. Replace with new brackets where old brackets have failed and are no longer structurally effective.
   c. Clean old paint off of brackets, treat brackets with a fungicide to eliminate rot, and apply new coats of paint.
   d. Old wooden wire racks shall remain. Find historical insulators to install on the racks.

10. Roof:
   a. Remove all existing roofing materials down to deck.
   b. Remove and replace areas of decking that are damaged. Deck at eaves must have bead board on underside of eave to match existing design.
   c. Remove and close up existing sky lights.
   d. Extend roof deck at South end of building to match the north end. See the proposed plan.
   e. Build new brackets for new roof edge.
   f. Replace damaged fascia to match existing.
   g. Remove exiting gutters and downspouts.
   h. Install new gutters and downs spouts with historically similar gutters and downspouts.

11. Interior floor:

a. Clean the existing wood floor with a chemical deck wash/cleaner. Seal the wood to left as the exposed floor surface.

b. In the toilet rooms, install a cementitious overlay on the wood floor to receive ceramic tile.

c. Frame in area over 'lower floor' to make it level with the existing floor. Use wood framing and wood decking that is similar to the existing deck.

12. Interior walls:
    a. Remove existing interior walls.
    b. Salvage any trim décor, doors, or windows associated with wall.
    c. Install new metal studs and drywall interior partitions.
    d. Interior trim around the doors and windows shall match trim used in the original construction.

13. Interior Ceiling:
    a. Remove existing plaster ceilings.
    b. Install new poly vapor barrier and drywall on underside of bottom cord of roof framing.
    c. Blow in R-30 insulation on top of ceiling, in attic space.

14. Ramp and Deck
    a. Pressure treated wood framing, wood columns, concrete footings and piers.
    b. The deck surface and skirt shall be recycled plastic and wood fiber.
    c. Install new wrought iron guardrail and handrails.

15. HVAC:
    a. Remove any existing heating equipment.
    b. Install all new heating and cooling equipment.

16. Electrical:
    a. Remove all existing electrical.
    b. Install all new electrical systems.

17. Plumbing:
    a. Remove existing plumbing.
    b. Install all new plumbing systems.

Preliminary Construction Cost Estimate:

Due to the scope of work required and the type and nature of construction, the cost to remodel the building is high compared to new construction. The existing building requires repair and there is a fair amount of selective demolition to ready it for restoration.

Paul Ziehli
May 20, 2008

We estimate the cost to remodel the building for the proposed use to be as follows:

Demolition	$37,000
Site Work	$40,000
Concrete	$24,000
Masonry	$34,000
Steel	$5,000
Carpentry – Rough and Finished	$62,000
Thermal and Moisture Protection	$25,000
Doors and Windows	$72,000
Finishes	$36,000
Accessories	$5,000
HVAC	$40,000
Plumbing	$20,000
Electrical	$40,000
Contingency	$25,000
General Conditions	$75,000
Total Construction	$540,000
Architectural and Engineering Costs	$87,000
State Plan Review Fees	$1,000
Architectural Site Survey	$3,000
Printing Plans for bidding	$4,000
Total Fees	$95,000
Estimated Total Project Cost:	**$635,000**

We hope that this review and its accompanying proposals satisfy the vision that the Village of Bellville has for this historic building. Please contact either myself or Mike Burgaz at (608) 356-2771 if you have any questions about the information presented above.

Sincerely,

MSA Professional Services, Inc.

Allen J. Szymanski, AIA, P.E.
Architect/ Structural Engineer

Mikael J. Burgaz, AIA
Project Architect

AJS/MJB:tc
Enc.

Paul Ziehli
May 20, 2008

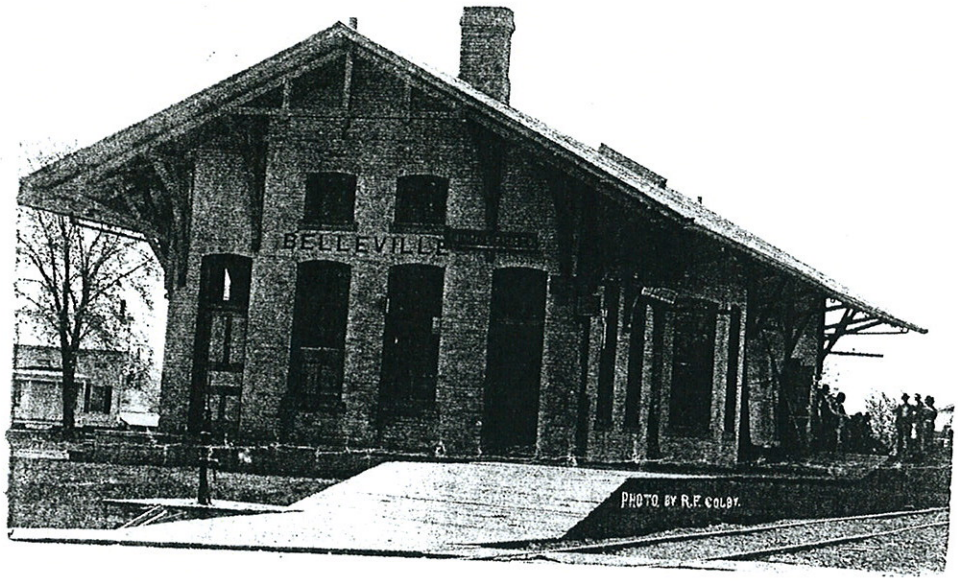


Photo #1 – Historic Photo of the Depot.

Photo #2 – Current day photo of the Depot.

Photo #3 – Shingles in poor condition.

Photo #4 – Basement.

Photo #5 – Exterior brick wall and stone foundation.

Photo #6 – Poor drainage around the building causes water to pond.

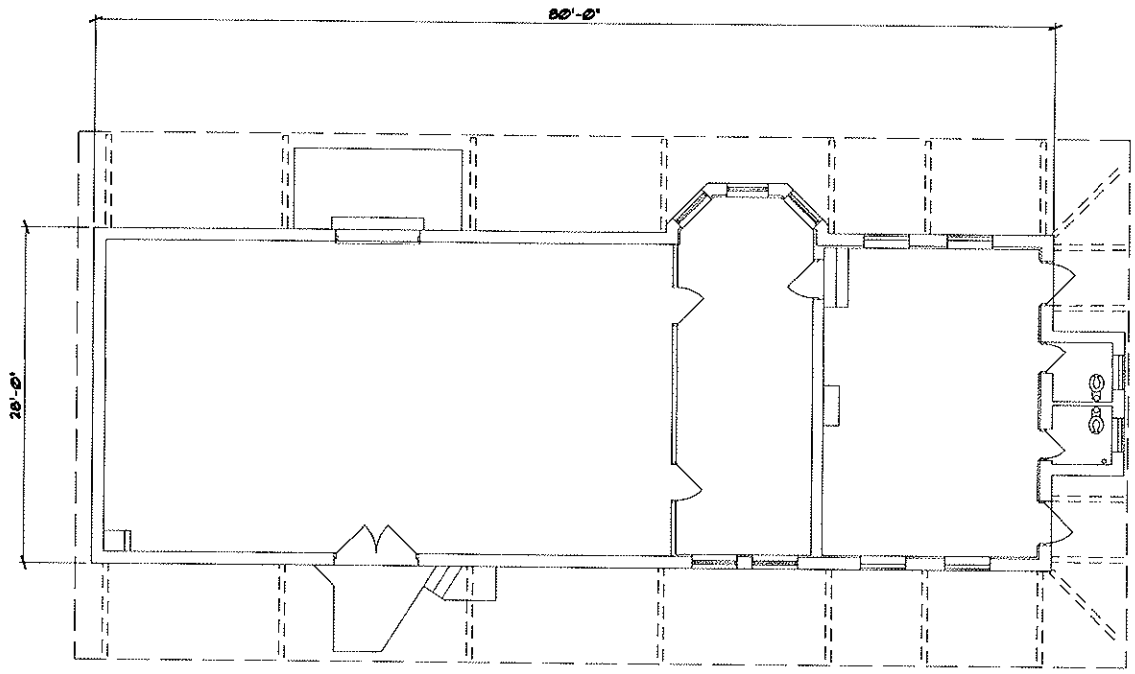
Photo #7 – Wood roof framing in good condition.

Photo #8 – Damaged overhang needs repair

Photo #9 – Existing wood plank floor in good condition.

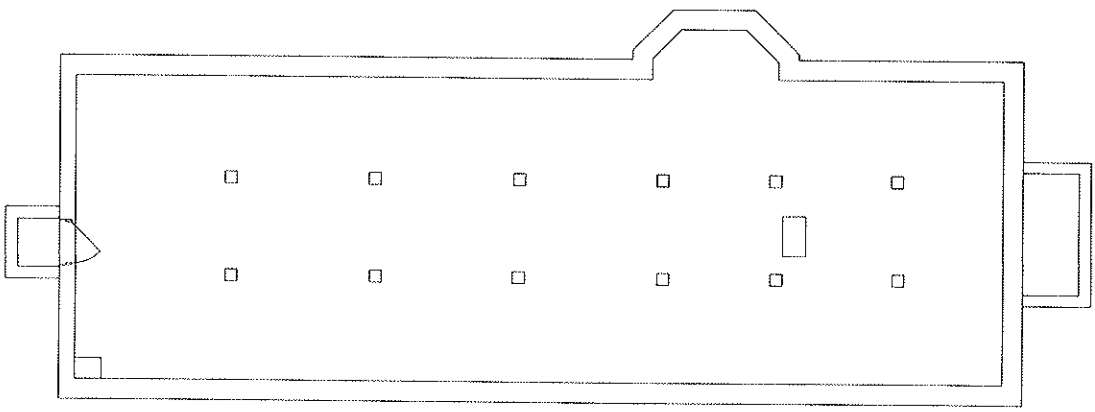
Photo #10 – Cracks and deterioration in the exterior brick wall.

EXHIBIT 'A'



EXISTING FIRST FLOOR PLAN

1/8" = 1'-0" (22x34)
1/16" = 1'-0" (11x17)



EXISTING CRAWLSPACE FLOOR PLAN

1/8" = 1'-0" (22x34)
1/16" = 1'-0" (11x17)

G/PROJECTS/3T0'6/3T2/3T20T06B-DEPOT/CADD/

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NO.	DATE	REVISION	BY

PROJECT NO.: 3T20T06B
DATE: MAY 19, 2008
SCALE: AS SHOWN
F.B.:
DRAWN BY: KNK
CHECKED BY:
CADD FILE NO.:
PLOT DATE: 05/19/08
PLOT TIME:

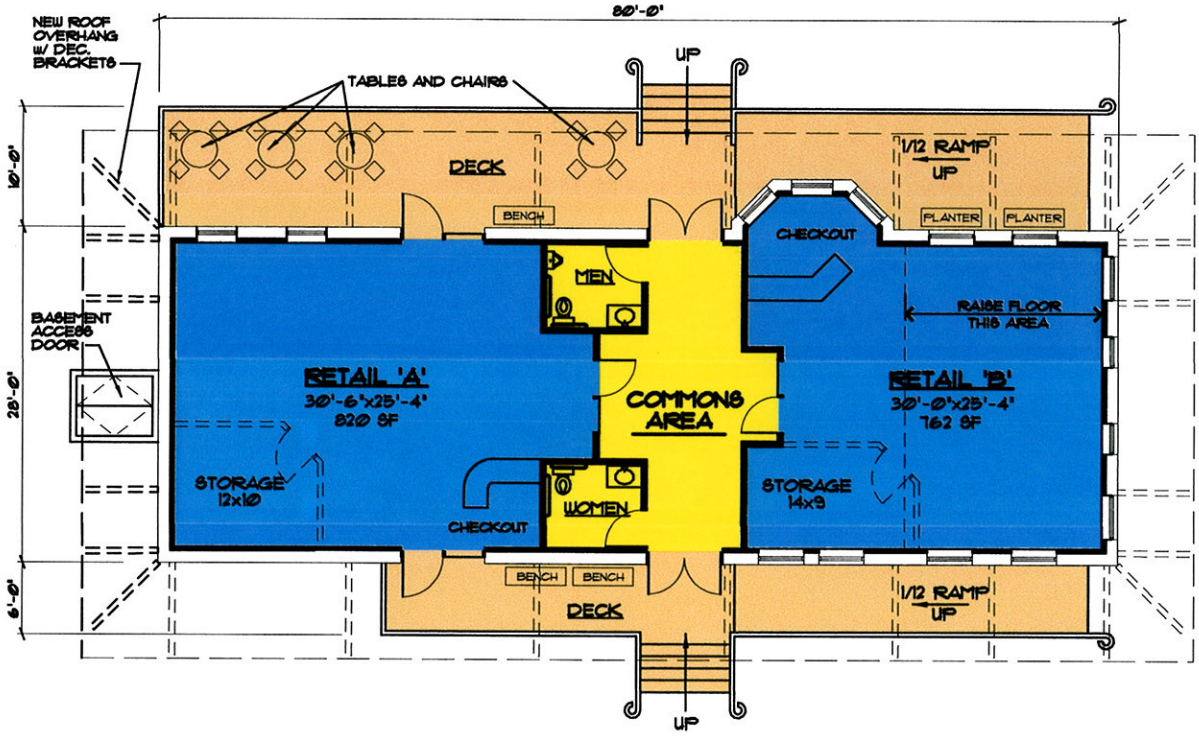
EXISTING FLOOR PLANS

BELLEVILLE HISTORIC RAILROAD DEPOT
BUILDING FEASIBILITY REVIEW
BELLEVILLE, WISCONSIN

FILE NO.
3T20T06B

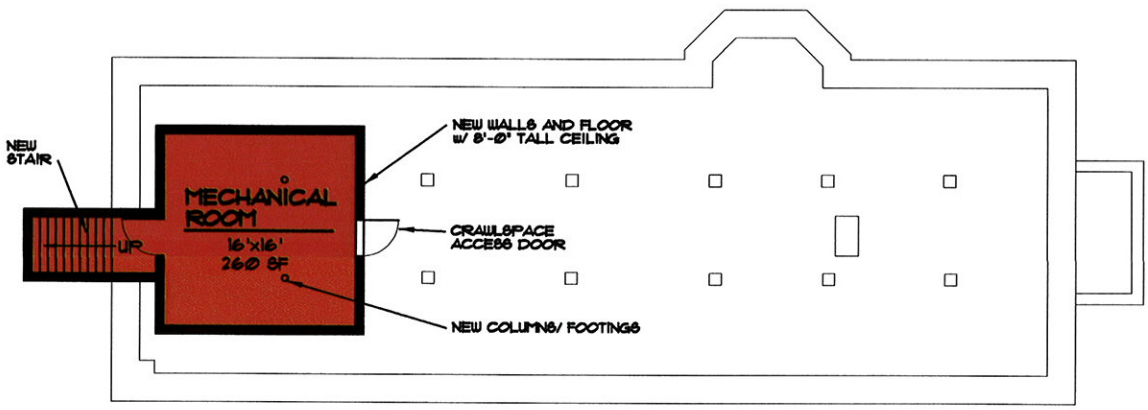
SHEET
1 of 1

EXHIBIT 'B'



PROPOSED FIRST FLOOR PLAN

1/8" = 1'-0" (22x34)
1/16" = 1'-0" (11x17)



PROPOSED CRAWLSPACE FLOOR PLAN

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PROPOSED FLOOR PLANS

BELLEVILLE HISTORIC RAILROAD DEPOT
BUILDING FEASIBILITY REVIEW
BELLEVILLE, WISCONSIN

FILE NO.
31207106B

SHEET
1 of 1

G/PROJECTS/310's/312/31207106B-DEPOT/CADD/