



**Request for Qualifications (RFQ)
for
General Contractor for
Historic Baltic Mill**

January 24, 2024

RECEIPT OF RESPONSES

The Belvidere Park District (hereinafter referred to as “Park District”) requests sealed responses from qualified general contractors for the stabilization of the Historic Baltic Mill building within the scenic Belvidere Park along the Kishwaukee River.

Emailed or dropped off responses are due (February 29th at 4:00 p.m.). Responses shall be submitted as detailed below. Staff will not publicly open responses.

STATEMENT OF NEEDS

The Park District seeks qualifications from general contractors to provide construction and consulting services to the Park District for the stabilization work outlined within a recent report completed by Studio GWA. The report includes a structural assessment accompanied by schematic drawings to identify costs and phasing approach. Final drawings will be completed by Studio GWA; it is required that the selected contractor work in conjunction with Studio GWA and their structural engineer to clarify approach, timeline, and to conduct the work according to the budget and phases to be set forth by the Park District.

RFQ SUBMITTAL REQUIREMENTS

Please submit one sealed envelope containing your RFQ responses to the section titled RFQ Response Template. Format the RFQ responses according to RFQ Response Template beginning on page 3. Each contractor shall be required to submit one (1) original hard copy and one digital PDF copy.

Please submit the RFQ response by February 29th, 2024 at 4:00 p.m.:

Mr. Jonathan Cudzewicz
1006 W. Lincoln Ave.
Belvidere, IL 61008
Email: jcudzewicz@belviderepark.org

Responses shall be limited to 20 pages not including tabs, table of contents, and cover letter. Pages may be double sided.

BACKGROUND INFORMATION

As depicted in Appendix A, the Historic Baltic Mill sits within Belvidere Park along the Kishwaukee River near downtown Belvidere. The building was built in 1845 and is one of the oldest structures in Boone County. Originally, the building served as a grist mill with a stream running through the building. In 1920, the Park District took ownership of the building. The building has been home to a variety of uses over the years including musical performances, weddings, meetings, and more.

The structure is mostly a hand-hewn timber that has undergone several modifications, some more historically accurate than others. Several timbers have been removed, modified or altered.

PROJECT DETAILS

The structural recommendations, diagrammatic drawings, photos, and cost estimate is outlined within the report by Studio GWA (Appendix B). The recommendations outlined within the report serves as the basis of the work.

A 3D walk-through of the structure can be accessed here:

<https://my.matterport.com/show/?m=BJhn5vc64Wt>

REQUIREMENTS

Due to the historic nature of the building, 10+ years of experience with historic projects is a requirement. Experience with hand-hewn barn structures is preferred.

Additionally, the selected contractor will be required to provide proof of license and insurance and compliance with prevailing wage.

RFQ RESPONSE TEMPLATE

Use the template below to submit the following information in this format and order.

Section I – Introduction to Firm

- Provide a brief overview of company history, company size, project manager/superintendent that would be assigned to this project, and annual volume of similar work. Highlight specialized fields or features that differentiate your services from competitors. Discuss how specialized services, especially historic building experience, can assist the Park District with this year and future years' work. Please identify if the firm has worked on other public projects.

Section II – Projects/Services

- List and briefly describe four (3) past projects or services that are similar to those described in this RFQ. Use project examples to demonstrate your approach to these projects and services in the scope of services section. Include substantive or innovative ideas used in past projects or any upcoming projects or services.
- For project examples, include a description, associated project challenges, project services offered, and critical information to demonstrate approach and application.

Section III – Resumes and Organization

- Introduce key members of the team the Park District will work with. Identify the primary client contact. Please include resumes for the identified individuals.

Section IV – References

- Please provide at least three (3) recent and relevant references for the Park District to contact about their experience with you and/or your firm.

Section V – Addendum Acknowledgement

- Please acknowledge receipt of any RFQ addenda posted

RESPONSE REVIEW AND SELECTION

The Park District’s project evaluation team will review and evaluate the RFQ responses in accordance with the weighted evaluation criteria identified below. Staff will also check references.

- Qualifications and Experience– 40%
- References and Resumes – 25%
- Past or Current Experience in Similar Positions – 15%
- Affiliations and Accreditations – 10%
- Knowledge of Area and Services – 10%

RFQ SCHEDULE

Task Timeline

Issue RFQ	January 24, 2024
Questions due	February 7, 2024
Addendums posted*	February 12, 2024
RFQ Responses due	February 29, 2024
Evaluation committee meets *	March 5, 2024
Interviews conducted (as needed)	March 18 -21, 2024
Selection of contractor	March 28, 2024
Award, agreement, and notice to proceed	April 9, 2024

* Staff may require scheduling modifications to accommodate unforeseen scheduling conflicts.

The Park District reserves the right to conduct discussions with and require presentations by firms deemed to be the most qualified regarding their qualifications, approach to the project, and ability to furnish the required services.

QUESTIONS

Please direct all questions to:

Mr. Jonathan Cudzewicz
1006 W. Lincoln Ave.
Belvidere, IL 61008
Email: jcudzewicz@belviderepark.org

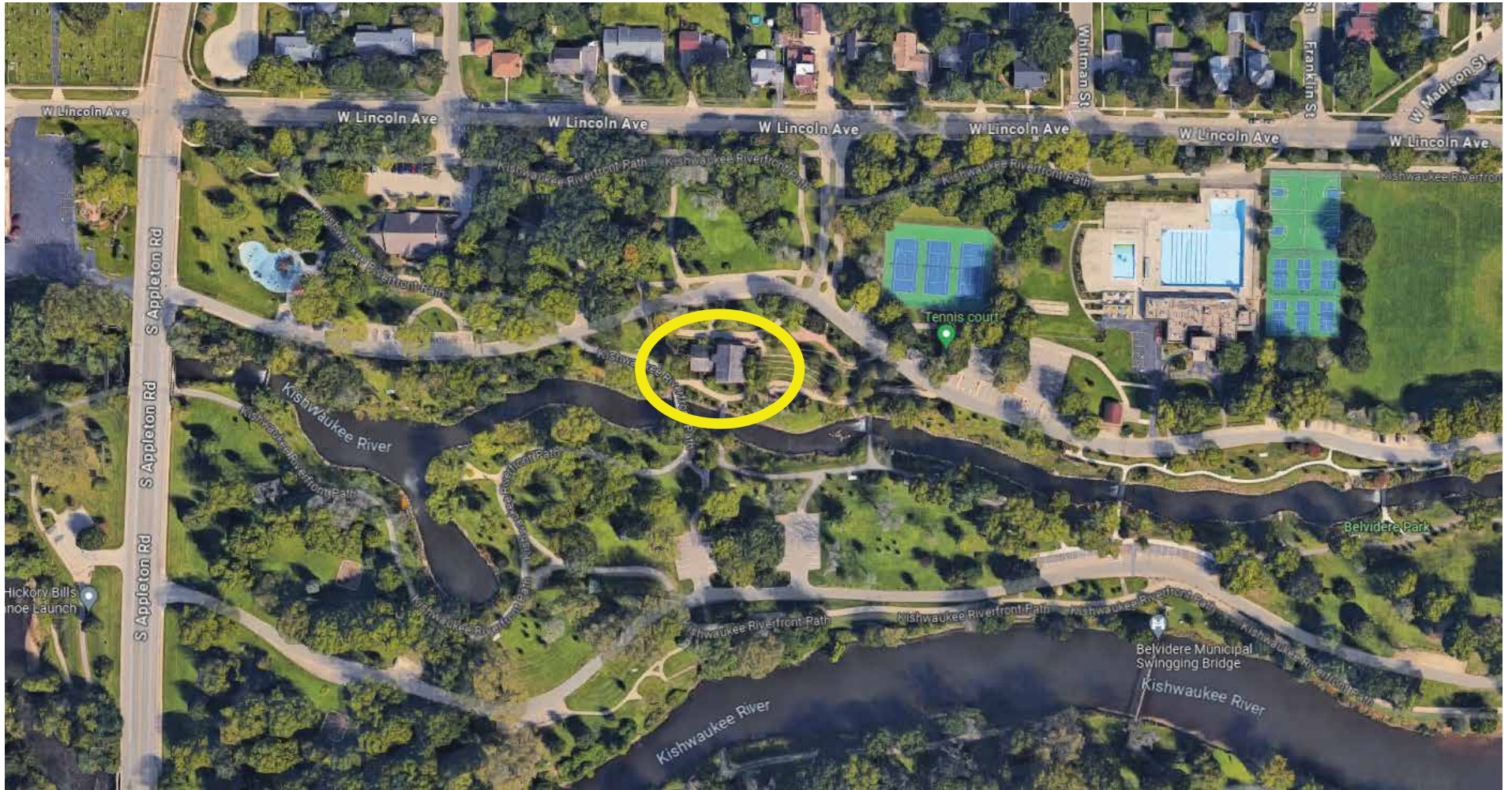
Any changes to the RFQ specifications are valid only if they are included by written Addendum. No interpretation of the meaning of the RFQ plans, specifications, or other documents will be made orally. Failure to receive any such addendum shall not relieve responding firms from being evaluated under the RFQ and its addenda. All addenda so issued shall become part of the RFQ documents. Failure to request an interpretation constitutes a waiver to later claim that ambiguities or misunderstandings caused a firm to improperly submit a response. Responding firms are responsible for checking for any addendums posted on the Park District website prior to the submittal due date. No notification will be sent when addendums are posted.


Appendix A - Site Map

Appendix B – Baltic Mill Structural Report from May 2023 conducted by Studio GWA.

APPENDIX A - SITE MAP

BALTIC MILL
920 W. LINCOLN AVE
BELVIDERE, IL 61008





Historic Baltic Mill

STRUCTURAL REPORT

May 9, 2023

PROJECT OVERVIEW



The Historic Baltic Mill is one of the oldest structures in Boone County. Built in 1845, the four-story, 6,400 square foot building originally served as a grist mill with a stream running through the building. The Belvidere Park District took ownership of the mill in 1920 and the building quickly became a central feature of the city's new park system. Theatrical performances were held at the mill, with the second story being used as a play loft. In subsequent years the building has been the home for a variety of uses both inside and outside of the building, including musical performances, weddings, meetings, and more. To this day, the Baltic Mill continues to be a vibrant, attractive amenity in an idyllic park setting along the Kishwaukee River.



Archival image showing a mill stream originally running through the building. Image via Pinterest.

In Fall 2022, the Belvidere Park District engaged Studio GWA, an architecture firm specializing in historic preservation, and Hutter-Trankina Engineering, a structural engineer, to develop a stabilization plan for the historic mill building. The addition to the building was not included in our work. The project scope consisted of the following tasks:

- Scan the building to develop a 3D 'digital twin' of the building, which provides the basis for architectural drawings including plans, sections, and elevations;
- Model the existing conditions of the building in order to produce base architectural plans for the stabilization strategy;
- Develop an estimate of probable construction costs for implementing the structural repairs and upgrades

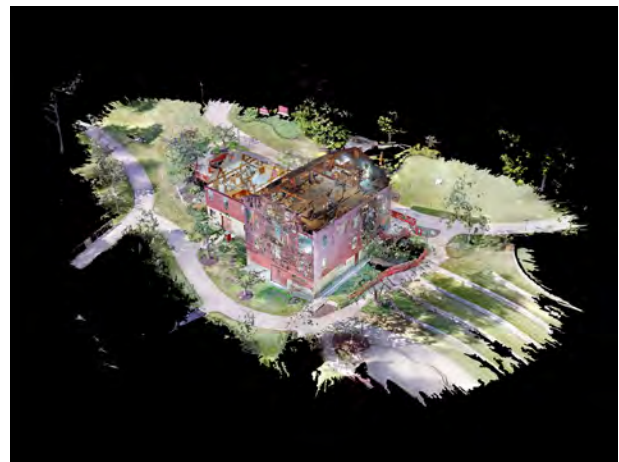
The structural engineers and historic barn consultants were tasked specifically with the following deliverables:

- Inspect the structure to document existing conditions, including but not limited to existing member sizes, geometry, materials, and condition of those materials.
- Develop a strategy and drawing set for the repair, retrofit, and strengthening of the existing structure, upgrading to building code requirements for the continuation of occupancy for the proposed use;
- Provide a written report summarizing the existing conditions.



EXISTING CONDITIONS ASSESSMENT

Building Scan. Studio GWA utilized a 3D photo scanner to scan the entirety of the four-story, 6,400 square foot mill structure. The scan combines 3D imaging with spatial data and measurement data to create a 'digital twin' of the physical space. The result is called a 'point cloud', a collection of data points plotted in 3D space, which can be referenced into architectural drawing software. The scan of the building is available [here](#).



The 3D scanner assemble data points into a 'point cloud' of the structure.

Architectural and Structural Assessment.

- Primary access throughout the building is by means of an existing elevator which provides access to the basement, first floor, and second floor.
- The basement includes a lower area that has settled where there is evidence of the original mill stream that operated the sawmill. This area includes a newer concrete floor in good condition. However the southernmost area has sunk significantly, which is likely due to the original mill stream that once ran below the area and through the basement structure. All floors at this end subsequently are all depressed. There does not appear to be any recent basement floor movement.
- The first floor was originally used as a threshing floor. This use required thick floor boards that could accommodate the intensive use of threshing grain from the beating of a flail or the treading of an ox.
- The rear or creekside end of the building has sunk and would need to be leveled.
- The structure is mostly hand-hewn timber that has undergone several modifications, some more historically accurate than others. Several members have been removed, modified or altered. Some portions were replaced with more accurate quarter sawn members. The southern elevation has taken on water and some members have deteriorated leaving punky or rotten members.



Lower level, concrete floor.



Typical detail supporting the first floor.

STRUCTURAL RECOMMENDATIONS

Structural recommendations focused on modifications required to accommodate an assembly use for small events such as weddings, building tours and other income producing options. This resulted in the following:

- Additional steel members were added below existing wood members to support the first floor.
- Several members had been modified throughout the years and were no longer considered adequate and therefore compromised. Like members are noted for replacement.
- Other members were simply missing or severely deteriorated and noted for in kind replacement.
- To correct first floor settling and provide a level surface, the first floor will need to be leveled and jacked to align with the noted floor difference on the drawings.
- After jacking is complete, new reinforced concrete piers will be provided under the existing columns and beam bearing pockets.

A drawing set has been included in the Appendix. ***The drawings provided are considered a pricing set only and are not for construction.***



Compromised wood members supporting first floor.



Second floor, missing bent members.

FUTURE ENCLOSURE RECOMMENDATIONS

In an effort to provide a climate-controlled venue and retain both the interior and exterior character, exterior walls and roof assemblies would need to be modified to accept insulation and weather barriers. To maintain the visual appearance of the existing roof deck, we would suggest a Sandwich Insulated Panel (SIP). There are a few more members that may need to be reinforced, depending on the weight and insulation thickness of the SIPs.

Exterior walls could be added in a similar fashion by removing the exterior siding and salvaging for re-installation. Additionally, a support angle around the perimeter of the exposed foundation to support an insulated wall assembly could be added. Adding the wall from the exterior would allow the wood plank on the interior to remain visible and maintain that character-defining element.

The new wall assembly will be significantly wider than the current assembly. This will require that door thresholds and window assemblies also be reconfigured. We would recommend the replacement of the windows when this work is completed, and that cost is within our assumptions below.

Examples of these assemblies can be found at Edward's Apple Orchard and the Tinker Cottage Barn. At Edward's Apple Orchard, the barn was reconstructed after being heavily damaged after a tornado event. In order to maintain authenticity of the barn aesthetic, the SIPs were used with the wood plank applied to them in order to achieve the desired look while insulating the building. In the case of Tinker Cottage Barn, the SIPs were added to the existing structure so that the organization could utilize the structure as a climate-controlled gathering space.

We estimate the future event space could accommodate events up to 100 people. The restroom requirements for such use would require just two, one men's and one women's restroom. As you have four total, no additional restrooms would be required.

We estimate the build-out of the space to accommodate this future use would be approximately \$125 per square foot. Of this, \$55 per square foot is dedicated just to the mechanical and electrical systems. The remainder is allocated to the exterior, windows, and roof for the installation of the Sandwich Insulated Panels.

$$\text{\$125/SF} \times \text{6,390 SF} = \text{\$798,750}$$

If this work is done 4-5 years from now, escalation may push that cost closer to \$150 per square foot.

$$\text{\$150/SF} \times \text{6,390 SF} = \text{\$958,500}$$



Example of a Sandwich Insulated Panel (SIP). This application would require removal and reinstallation of the exterior siding.

CONSTRUCTION COSTS

Construction costs were derived from trade partners and assistance from specialty material suppliers. Values are for reclaimed hand hewn like materials sourced in the Midwest, most of which are readily available from deconstructed barns. Below is a cost summary for work related to structural stabilization only. We have broken this into a 3-year, phased time period with priority items being undertaken within Year 1.

COST ITEM	COST - YEAR 1	COST - YEAR 2	COST - YEAR 3
Construction Total	\$138,700	\$187,349	\$183,880
Contingency (15%)	\$20,805	\$28,102	\$27,582
General Conditions (10%)	\$13,870	\$18,735	\$18,388
GC OH/P (10%)	\$13,870	\$18,735	\$18,388
Soft Costs Subtotal	\$11,269	\$50,154	\$7,500
Sub-Total	\$198,514	\$303,075	\$255,738
Escalation (4%/year)		\$12,123	\$20,868
Total with Escalation	\$198,514	\$315,198	\$276,606
Cumulative Total at Year 3			\$790,318

A cost-saving measure could include new douglas fir quarter sawn members in lieu of reclaimed timbers. Members would be cut from a mechanical saw in lieu of a hand chiseled profile.

NEXT STEPS

1. Engage a qualified General Contractor (GC).

The work of stabilization as well as the future build-out of the mill building is a specialized skillset, requiring sensitivity and experience working with historic buildings, particularly with timber structures. We recommend that you engage a General Contractor by means of Request for Qualifications (RFQ) process. In many instances, a Request for Proposals (RFP) is undertaken to procure work; however, given the specialized nature, we recommend working first from qualifications and then requesting pricing information. With a GC on board, the majority of Phase 1/Year 1 work can be undertaken.

2. Develop Construction Document drawing set from Architect/Engineer team.

This report developed drawings and information to a pricing set level. In order to take the next step it is recommended that the further development of the drawings be undertaken. This set will vet further code considerations as well as develop the approach in tandem with the select General Contractor. With the General Contractor engaged, the specifics related to the stabilization and sequence can be established. Note that in our Phased cost estimate, that we list the Construction Document set as occurring within Year 2. This could also happen sooner, if funds allow.

3. Pursue additional funding opportunities. The following entities award funds to nonprofit organizations and public agencies who own and are seeking to rehabilitate historic structures:

- Landmarks Illinois, Preservation Heritage Fund Grant Program. This grant is designed to provide financial assistance to structures that are under threat of demolition, are deteriorated, in need of stabilization, in need of structural or re-use evaluation, or need to be evaluated for landmark eligibility. Grants range from \$500-5,000 and require the agency to provide a match equal to the award amount. Stabilization projects are considered an eligible project.
- Landmarks Illinois, Barbara C. and Thomas E. Donnelley II Preservation Fund for Illinois Grant Program. The general objective for this grant is similar to the Preservation Heritage Fund noted above. Grants range from \$500-2500, however, and the program typically awards for planning studies such as feasibility studies or architectural reports.
- The National Trust for Historic Preservation. The National Trust offers a variety of grant programs that fund a wide range of projects. The grants are usually limited to a specific type of project or geographic area, and there are no relevant grant opportunities for the Baltic Mill at the time of this report. Decision-makers are encouraged to visit the National Trust's website at savingplaces.org/grants to view the latest grant opportunities, as they are known to change.

APPENDIX

Appendix A: Drawing Set.

Provided on the following page. Drawings are considered a pricing set only and not for construction.

DESIGN LOADS:

CODE:	INTERNATIONAL BUILDING CODE (IBC) 2015
ROOF:	
SNOW:	25 PSF
DEAD:	15 PSF
ATTIC:	
LIVE:	20 PSF
DEAD:	10 PSF
FLOOR:	
LIVE:	100 PSF (ASSEMBLY)
DEAD:	15 PSF

MISCELLANEOUS NOTES:

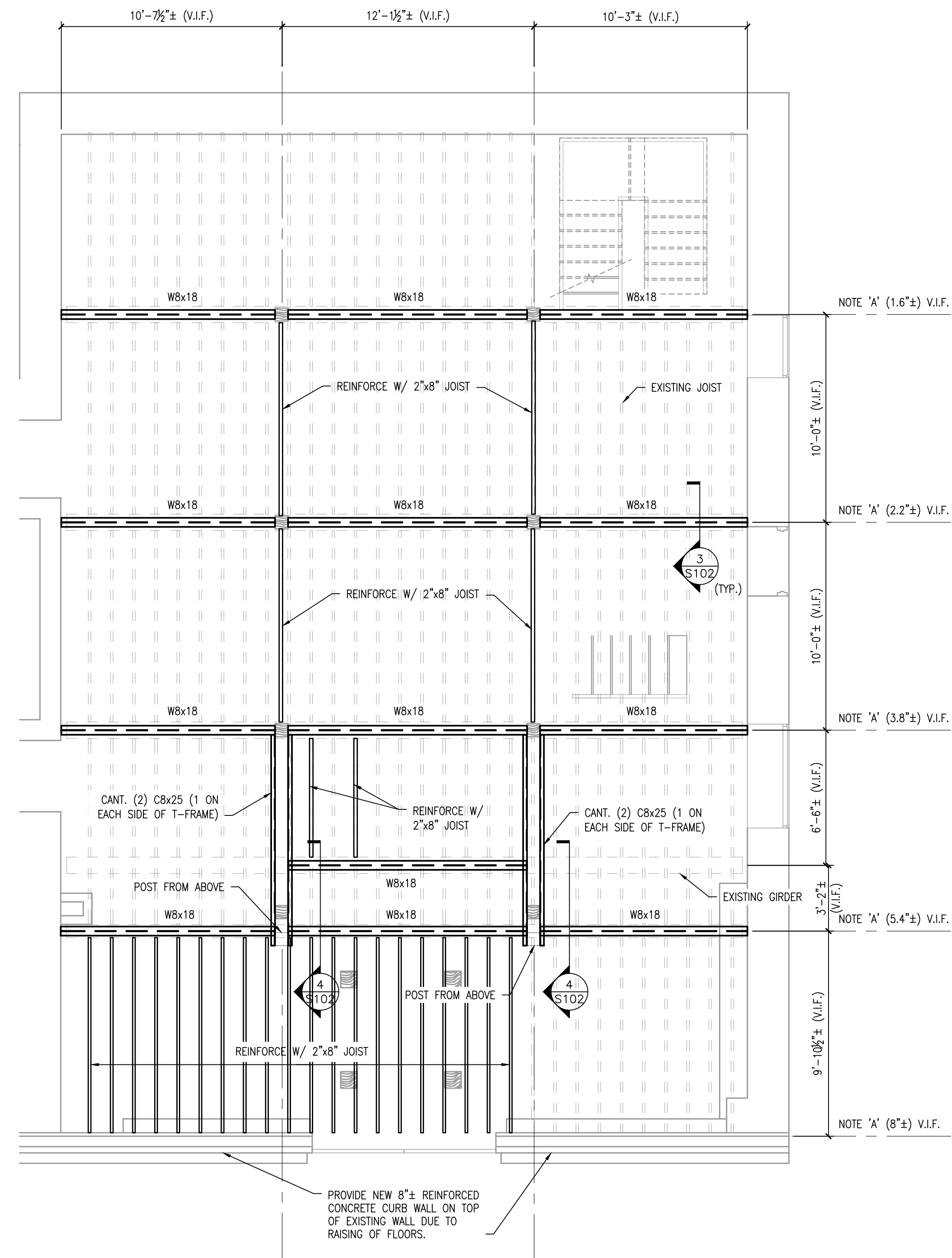
- STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE REQUIREMENTS OF ALL DRAWINGS INTO THEIR SHOP DRAWINGS AND WORK.
- NO OPENINGS, OTHER THAN THOSE SHOWN ON DESIGN DRAWINGS AND APPROVED SHOP DRAWINGS, SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT.
- NO CHANGE IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT.
- OPENINGS OF 1'-4" AND LESS ON A SIDE ARE GENERALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR LOCATIONS AND DIMENSIONS OF THOSE OPENINGS. PROVIDE REINFORCING AROUND OPENINGS PER TYPICAL DETAILS SHOWN ON STRUCTURAL DRAWINGS.
- THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.
- THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR SHALL FURNISH ALL TEMPORARY BRACING AND / OR SUPPORTS REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND / OR SEQUENCES.
- DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS.
- CONTRACTOR'S CONSTRUCTION AND / OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD. EXPANSION JOINTS SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED TO ACCOMMODATE ANTICIPATED THERMAL MOVEMENT AFTER THE BUILDING IS COMPLETE.
- THE CONTRACTOR SHALL INFORM THE ARCHITECT IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR SUCH DEVIATION BY THE ARCHITECT'S APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE ARCHITECT OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE ARCHITECT HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.
- ALL THING WHICH, IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS AND AMBIGUITIES, IN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. PLANS AND / OR SPECIFICATIONS WILL BE CORRECTED, OR A WRITTEN INTERPRETATION OF THE ALLEGED DEFICIENCY, OMISSION, CONTRADICTION OR AMBIGUITY WILL BE MADE BY THE ARCHITECT BEFORE THE EFFECTED WORK PROCEEDS.

WOOD NOTES:

- NEW WOOD MEMBERS SHALL BE RECLAIMED WOOD OF SOUTHERN YELLOW PINE #1 OR DOUGLAS FIR #1 OR BETTER.
- RECLAIMED LUMBER SPECIFICATIONS:
F_b = 1,500 PSI
E = 1,600,000 PSI
- CUTTING AND NOTCHING OF STUDS SHALL COMPLY WITH THE REQUIREMENTS OF THE INTERNATIONAL RESIDENTIAL CODE (IRC) R602.6. CUTTING AND NOTCHING OF FLOOR AND CEILING JOISTS SHALL MEET WITH THE REQUIREMENTS OF IRC R502.8.
- HOLES BORED IN FLOOR JOISTS SHALL COMPLY WITH IRC R502.8.
- ALL PLYWOOD SHEATHING IS TO BE APA APPROVED. FLOOR SHEATHING SHALL BE 3/4" MIN, ROOF SHEATHING SHALL BE 5/8" MIN, AND WALL SHEATHING SHALL BE 1/2" MIN.
- EITHER LAP JOISTS OVER BEAMS PER IRC REQUIREMENTS, OR PROVIDE JOIST HANGERS.
- ALL TIMBER CONNECTIONS (STUDS, JOISTS, RAFTERS AND PLYWOOD) SHALL MEET THE NAILING REQUIREMENTS OF IRC TABLES R602.3 AND R802.5.1(9).
- ALL CONNECTORS AND THOSE CONNECTING TO PRESSURE TREATED LUMBER SHALL BE GALVANIZED PER ASTM A653 (I.E. SIMPSON ZMAX FINISH). ALL NAILS USED IN PRESSURE TREATED LUMBER AND DECK CONNECTORS SHALL BE GALVANIZED PER ASTM A153.
- PROVIDE BRIDGING AND BLOCKING PER THE REQUIREMENTS OF NATIONAL FOREST PRODUCTS ASSOCIATION (NFPA) DESIGN SPECIFICATIONS.
- WHERE TIMBER FRAMING IS SUPPORTED BY STEEL, A TIMBER PLATE SHALL BE FASTENED TO THE TOP FLANGE OF THE STEEL BEAM. HILTI POWDER ACTUATED FASTENERS (OR EQUIVALENT) SHALL BE USED @ 24" O.C. (MAX.)
- ALL MULTIPLE STUD POSTS SHALL BE NAILED TOGETHER WITH (2) COLUMNS OF 12d NAILS @ 16" O.C. WALL SHEATHING SHALL BE ATTACHED TO EACH STUD AT 30" O.C.
- ALL STUD WALLS TO HAVE SINGLE 2x BOTTOM PLATE & DOUBLE 2x TOP PLATE U.N.O.
- ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED LUMBER. PROVIDE SIMPSON CAP AND BASE AT ALL POSTS.
- PROVIDE SIMPSON MASONRY HANGERS AT ALL LVL/PSL BEAMS SUPPORTED BY MASONRY.

STRUCTURAL STEEL NOTES:

- ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", LATEST EDITION, AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", LATEST EDITION, EXCEPT AS MODIFIED BELOW OR IN THE SPECIFICATIONS.
- ALL STRUCTURAL STEEL W SHAPES SHALL CONFORM TO ASTM A572 OR A992 GRADE 50. ALL OTHER STRUCTURAL STEEL SHAPES, PLATES AND BARS SHALL CONFORM TO ASTM A36 GR 36, UNLESS NOTED OTHERWISE. COLD FORMED TUBING, INCLUDING PIPES, SHALL CONFORM TO ASTM A500 GRADE C. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 GRADE 36 AND BE COMPATIBLE WITH E70XX ELECTRODES.
- ALL BOLTS (OTHER THAN ANCHOR BOLTS), NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325. ALL BOLTS SHALL BE 3/4 INCH DIAMETER, MINIMUM. BOLTS USED IN LATERAL LOAD RESISTING CONNECTIONS SHALL BE SLIP CRITICAL TYPE, DESIGNED FOR INDICATED FORCES WITHOUT STRESS INCREASES.
- ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS AND SHALL CONFORM TO AWS D1.1 "STRUCTURAL WELDING CODE", LATEST EDITION. ALL WELDING ELECTRODES SHALL BE E70XX.
- ALL CONNECTIONS SHALL BE DESIGNED AND DETAILED BY THE FABRICATOR. THE CONNECTIONS SHALL BE DESIGNED BY, OR UNDER THE SUPERVISION OF, A LICENSED STRUCTURAL ENGINEER IN THE STATE OF ILLINOIS. DETAILING SHALL BE PERFORMED USING RATIONAL ENGINEERING DESIGN AND STANDARD PRACTICE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE GENERAL DETAILS SHOWN ON THE DRAWINGS ARE CONCEPTUAL ONLY AND DO NOT INDICATE THE REQUIRED NUMBER OF BOLTS OR WELD SIZES, UNLESS SPECIFICALLY NOTED. ADVISE THE ARCHITECT IMMEDIATELY IF THE INFORMATION ON THE DRAWINGS IS NOT SUFFICIENT FOR COMPLETE DESIGN OF CONNECTIONS.
- THE FABRICATOR / ERECTOR SHALL SUBMIT TO THE ARCHITECT FOR REVIEW, ENGINEERED AND CHECKED DRAWINGS SHOWING SHOP FABRICATION DETAILS, FIELD ASSEMBLY DETAILS AND ERECTION DIAGRAMS FOR ALL STRUCTURAL STEEL. WITH EACH SUBMITTAL OF SHOP DRAWINGS, THE FABRICATOR'S ENGINEER SHALL CERTIFY THAT THE CONNECTIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AISC SPECIFICATIONS AND THE CONTRACT DOCUMENTS. CERTIFIED MILL TEST REPORTS SHALL ALSO BE SUBMITTED.
- MINIMUM SHEAR CAPACITIES: CONNECTIONS SHALL BE DESIGNED FOR THE BEAM REACTIONS INDICATED. IN CASES WHERE REACTIONS ARE NOT INDICATED, PROVIDE AT LEAST ONE HALF OF THE UNIFORM LOAD CARRYING CAPACITY OF THE BEAM WITH THE ASSUMPTION OF FULLY BRACED COMPRESSION FLANGE.
- THE DEPTH OF A SIMPLE SHEAR CONNECTION SHALL NOT BE LESS THAN ONE HALF OF THE NOMINAL DEPTH OF THE BEAM. THE MINIMUM NUMBER OF BOLTS PER CONNECTION SHALL BE TWO (2).
- CONNECTIONS OF BEAMS FRAMING INTO COLUMNS SHALL BE CAPABLE OF RESISTING AN AXIAL FORCE IN ORDER TO BRACE THE COLUMN. THE BRACING FORCE (IN KIPS) SHALL BE TAKEN AS 0.127 TIMES THE NOMINAL WEIGHT IN POUNDS PER LINEAL FOOT OF THE COLUMN, UNLESS NOTED OTHERWISE. THE BRACING FORCE ACTS IN BOTH PRINCIPLE AXES OF THE COLUMN, AND MAY BE RESISTED BY A COMBINATION OF BEAM CONNECTIONS.
- SHOP AND FIELD TESTING OF WELDS AND BOLTS SHALL BE AS FOLLOWS:
 - ALL WELDS SHALL BE VISUALLY INSPECTED.
 - FILLET WELDS: TWENTY-FIVE (25) PERCENT OF THE FILLET WELDS, SELECTED AT RANDOM SHALL BE MEASURED, AND TEN (10) PERCENT SELECTED AT RANDOM SHALL BE CHECKED BY MAGNETIC PARTICLE FOR FINAL PASS ONLY.
 - PENETRATION WELDS: ULTRASONICALLY TEST 100 PERCENT OF ALL FULL PENETRATION WELDS, AND ALL PARTIAL PENETRATION COLUMN SPLICE WELDS. IF THE WELDS MADE BY AN INDIVIDUAL WELDER ARE CONSISTENTLY SATISFACTORY, TESTING OF THAT INDIVIDUAL'S WELDS MAY BE REDUCED TO 50 PERCENT.
 - BOLTED CONNECTIONS: CHECK BY CALIBRATED TORQUE WRENCH 25 PERCENT OF BOLTS IN EACH CONNECTION, BUT NOT LESS THAN TWO (2) BOLTS PER CONNECTION.
 - THE OWNER'S TESTING AGENCY SHALL PERFORM ALL SHOP AND FIELD INSPECTIONS AND TESTING AS OUTLINED ABOVE.
 - THE STRUCTURAL STEEL FABRICATOR AND ERECTOR SHALL SCHEDULE ALL WORK TO ALLOW THE ABOVE TESTING REQUIREMENTS TO BE COMPLETED.
- ALL BEAMS SHALL BE FABRICATED WITH THE NATURAL CAMBER UP. PROVIDE CAMBER, OR SHORING AS INDICATED ON THE DRAWINGS.
- AFTER FABRICATION, ALL STEEL SHALL BE CLEANED OF ALL RUST, LOOSE MILL SCALE AND OTHER FOREIGN MATERIALS. STRUCTURAL STEEL EXPOSED TO VIEW IS TO BE PAINTED WITH SHOP PRIMER. STEEL EXPOSED TO THE WEATHER SHALL BE BLAST CLEANED (SSPC-SP6) AND GIVEN SHOP PRIME AND FIELD FINISH COATS OF PAINT AS SPECIFIED.
- THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT THE PRIOR APPROVAL OF THE ARCHITECT.
- ALL STRUCTURAL STEEL EMBEDDED IN OR ADJACENT TO MASONRY SHALL HAVE MASONRY ANCHORS AT 16" O.C. VERTICAL AND 24" O.C. HORIZONTAL.

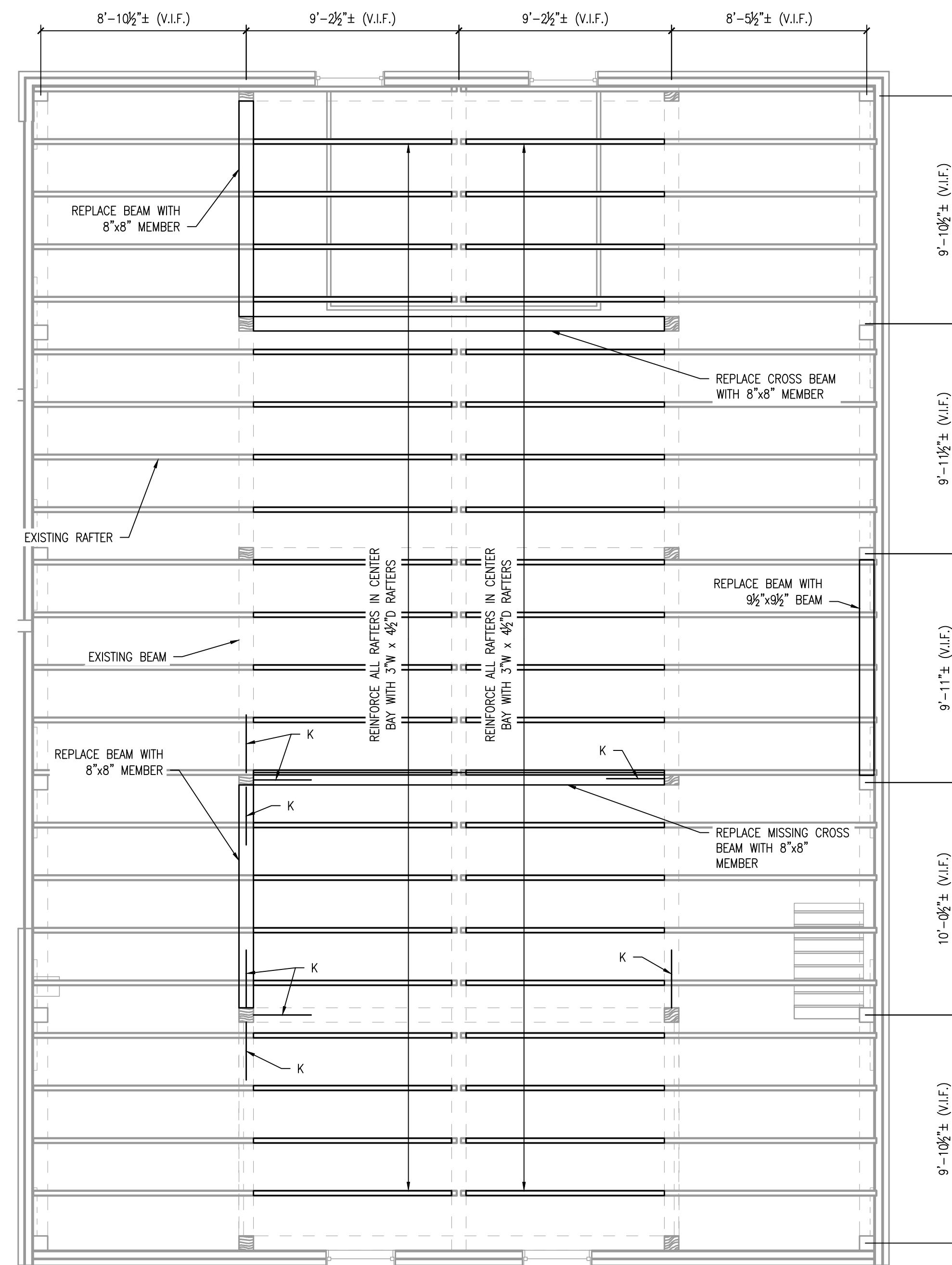


1 1ST FLOOR FRAMING

SCALE: 1/4"=1'-0"

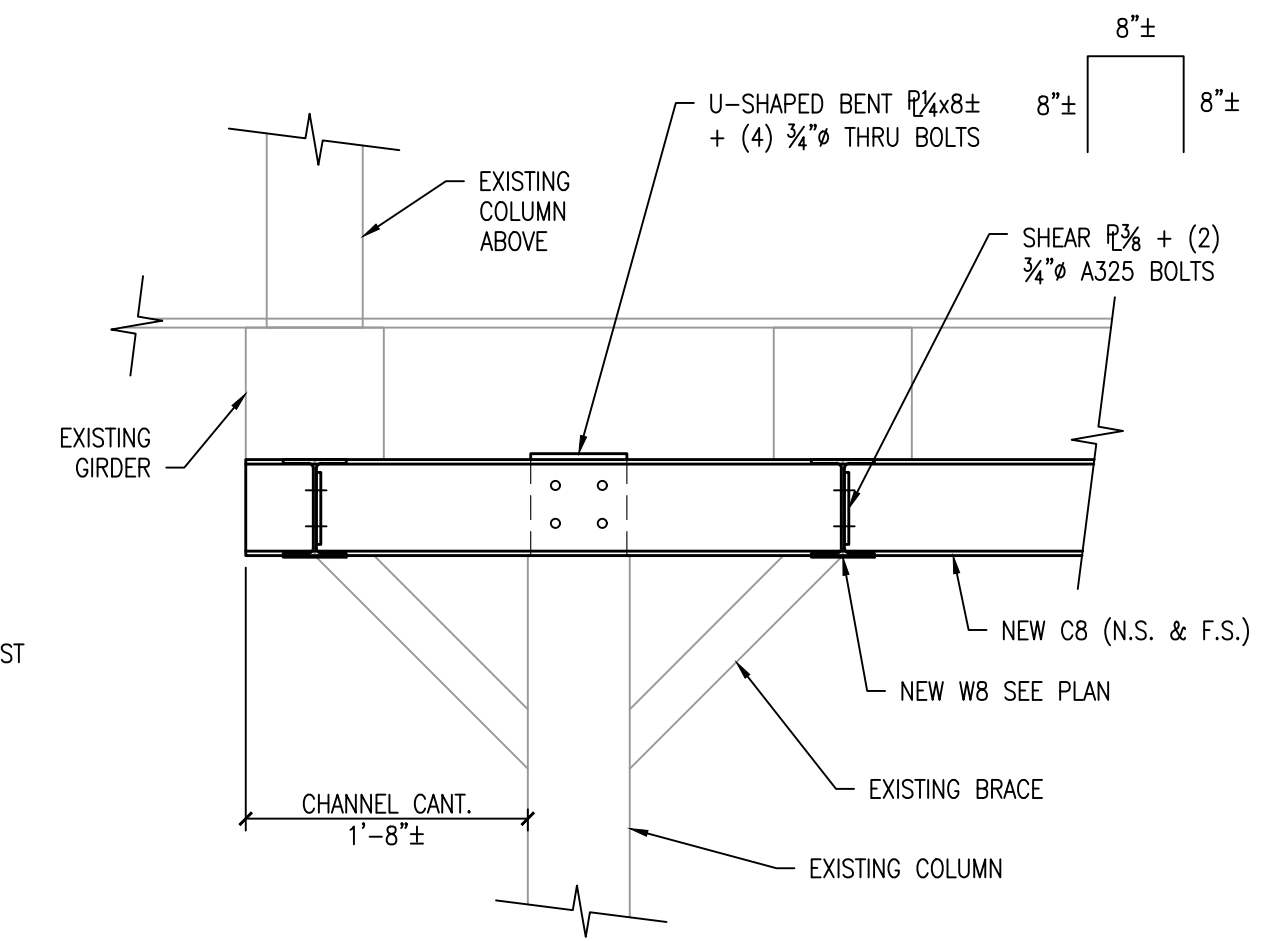
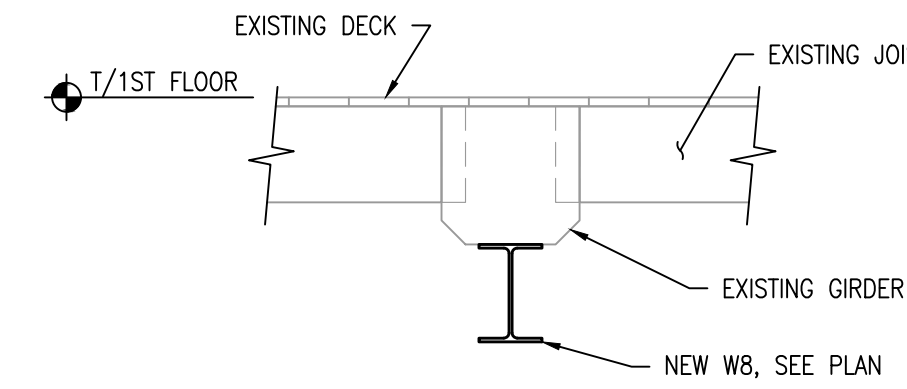
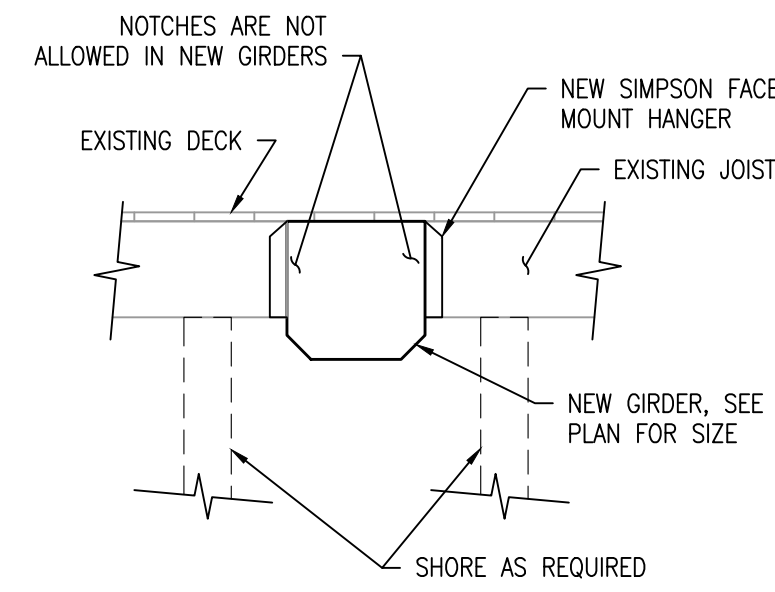
- VERIFY AND COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS AND EXISTING CONDITIONS.
- ALL NEW WOOD MEMBERS TO BE RECLAIMED WOOD, SEE NOTES.
- DIMENSIONS OF NEW WOOD MEMBERS GIVEN AS TRUE DIMENSIONS UNLESS NOTED OTHERWISE.
- NEW JOISTS CALLED OUT IN PLAN SHALL BE SISTERED TO DAMAGED JOIST WHENEVER POSSIBLE WITH 1/2" SIMPSON SDS SCREWS @ 18" O.C.
- NEW JOIST LOCATIONS CALLED OUT IN PLAN ARE APPROXIMATE AND MEANT TO BE A GUIDE. CONTRACTOR TO VERIFY LOCATION OF DAMAGED/NOTCHED IN FIELD.
- ALL NEW JOISTS TO BE SUPPORTED BY SIMPSON HANGERS.
- STEEL BEAMS TO BE INSTALLED BELOW TIMBER GIRDERS.
- NOTE 'A': INDICATES EXISTING BEAMS AND COLUMNS ALONG A GRID LINE TO BE SHORED AND RAISED UP BY APPROXIMATELY THE VALUE IN PARENTHESIS TO PROVIDE LEVEL SURFACE AT ALL FLOORS. NEW REINFORCED CONCRETE PIER SHALL BE PROVIDED UNDER EXISTING COLUMNS AND BEAM BEARING POCKETS. ACTUAL JACKING DISTANCE TO BE V.I.F.
- V.I.F. INDICATES VERIFY IN FIELD.

HUTTER TRANKINA ENGINEERING CONSULTING STRUCTURAL ENGINEERS HTE JOB #22253	
32W273 Army Trail Road, Suite #100, Wayne, Illinois 60184 Tel: (630) 513-6711 E-mail: gen@htedesign.com WEB SITE: www.htedesign.com	
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1 ROOF FRAMING
SCALE: 1/4"=1'-0"

- VERIFY AND COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS AND EXISTING CONDITIONS.
- ALL NEW WOOD MEMBERS TO BE RECLAIMED WOOD, SEE NOTES.
- DIMENSIONS OF NEW WOOD MEMBERS GIVEN AS TRUE DIMENSIONS UNLESS NOTED OTHERWISE.
- "K" INDICATES REPLACE MISSING/DAMAGED KNEE BRACE WITH 3"W x 3 3/4"D MEMBER.



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DRAWN BY JDR	CHECKED BY UV
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PROJECT NUMBER: 22-1634

SHEET NUMBER S102

Appendix B: Structural Analysis
Provided on the following page.



January 31, 2023

Ms. Jennifer Spencer
Studio GWA
200 Prairie Street, Suite 201
Rockford, IL 61107

Re: Baltic Mill
920 W Lincoln Ave, Belvidere, IL
Hutter Trankina # 22253

Dear Ms. Spencer:

Hutter Trankina Engineering has performed a preliminary structural analysis of the existing framing at a typical bay at each floor. We assumed the existing timber framing is Doug Fir # 1 and used a maximum allowable bending stress of 1500 psi in our calculations. The following paragraphs summarize our findings, and the numbers correspond to the callouts in the attached plans.

Roof

1. The existing 3"x3.75" rafters in the east/west bays are adequate to support a snow load of 23 psf and a dead load of 15 psf. While we would prefer the rafters be able to support a snow load of 25 psf, the current capacity does fall within the code's allowable limits.
2. The existing 3"x3.75" rafters in the center bay are **NOT ADEQUATE** to support the code required roof/snow loads. The rafters are approximately 35% overstressed for the noted loads. The need to upgrade this existing condition is a grey area in the code.
3. The existing 8"x8" interior beams running north/south are adequate to support a snow load of 21 psf and a dead load of 15 psf. While we would prefer the beams be able to support a snow load of 25 psf, the current capacity does fall within the code's allowable limits.
4. The existing 9.5"x9.5" exterior beams running north/south are adequate.
5. The existing 6"x6" timber columns are adequate.

Attic

6. The existing 2 x 8 joists are adequate to support typical attic loads (20 psf live + 10 psf dead).
7. The existing interior 10"x8.5" (dimensions vary) girders in the east/west bays are **NOT ADEQUATE** to support typical attic loads noted above. The girders are approximately 43% overstressed for the noted loads.
8. The existing interior 10"x8.5" (dimensions vary) girders in the center bay are adequate to support the noted attic loads.
9. The existing edge girders are adequate to support the noted attic loads.
10. The existing 8"x8" interior timber columns and 10.5"x12" exterior timber columns are adequate to support the noted attic loads.

2nd Floor

11. The existing 2"x8" joists are adequate to support a floor live load of 100 psf (i.e. assembly) and a dead load of 15 psf.
12. The existing 11"x11.5" interior girders are **NOT ADEQUATE** to support the assembly loads noted above. The girders are approximately 31% overstressed for the noted loads.
13. The existing 8"x8" interior timber columns and 11"x11.5" exterior timber columns are adequate to support the noted floor loads.

1st Floor

14. The existing 2"x8.75" joists @ 12" o.c. are adequate to support a floor live load of 100 psf (i.e. assembly) and a dead load of 15 psf.
15. The existing 2"x8" joists @ 24" o.c. located in two bays in the southwest corner of the building are **NOT ADEQUATE** to support the assembly loads noted above. The joists are approximately 7% overstressed for the noted loads.
16. The existing 11"x11.5" interior girders along the 3 northern-most column lines are **NOT ADEQUATE** to support the assembly loads noted above. The girders are approximately 31% overstressed for the noted loads.

Page 3
January 20, 2023
Baltic Mill
920 W Lincoln Ave, Belvidere, IL
Hutter Trankina # 22253

17. The existing 11"x11.5" interior girders south of those listed in item 16 above are adequate to support the noted loads.
18. The existing timber columns (dimensions vary) are adequate to support the noted loads.

There are several locations of localized member damage/deterioration/modification in the building. These members need to be reinforced or replaced whether or not they are listed above, and their locations are noted in the attached schematic.

Regarding the foundations, they are not visible and thus cannot be analyzed. However, there is a large, pronounced slope in the floor likely due to settlement. It is likewise unknown if the settlement occurred in the past, or if it is an ongoing issue. Obviously an ongoing issue would be more of a concern. Additional exploration is recommended.

Only those items specifically listed above have been reviewed. This report is solely based on visual observations and the noted assumptions. This report should not be considered a thorough, in-depth investigation or guarantee of the entire structure. If you should desire further analysis or have questions concerning this report, please do not hesitate to call.

Sincerely,



Josh D. Rak
Project Engineer



John L. Trankina
President

Attachment: Plans showing areas to address

Appendix C: Construction Cost Estimates, Materials List
Provided on the following page.

Baltic Mill Stabilization
Preliminary Budget 5/8/2023

Each estimate is an opinion of probable cost. Many decisions regarding material selection, system development, and project parameters have yet to be defined. Market conditions, as always are beyond the control of the architect and will vary over time. No guarantee is given or implied that costs will not vary from these models. Installation is included UNO.	Area (SF)	
	1,500	Basement
	1,590	First Floor
	1,590	Second Floor
	1,710	Attic
	<u>6,390</u>	

Division	Quantity	\$/s.f.	Cost	Year 1	Year 2	Year 3	Notes
Division 01: General Conditions							
Mobilization - Year 2			\$ 4,160		\$ 4,160		32 hr @ \$130
Interior protection - Year 2			\$ 5,160		\$ 5,160		32 hr @ \$130 + 1,000 material
Mobilization - Year 3			\$ 4,160			\$ 4,160	
Interior protection - Year 3			\$ 5,160			\$ 5,160	
Structure leveling/jacking			\$ 62,000	\$ 62,000			5 weeks for 2 workers with 10k in materials
Equipment rental- Lull and 60' straight boom - Year 2			\$ 15,000		\$ 15,000		2 months rental
Equipment rental- Lull and 60' straight boom - Year 3			\$ 15,000			\$ 15,000	2 months rental
Subtotal			\$ 110,640	\$ 62,000	\$ 24,320	\$ 24,320	
Division 03: Concrete							
New reinforced concrete piers (raised to reuse existing columns)	6	850.00	\$ 5,100	\$ 5,100			
Subtotal			\$ 5,100	\$ 5,100	\$ -	\$ -	
Division 04: Masonry							
Modify beam pockets in lower level for floor jacking	8	1200.00	\$ 9,600	\$ 9,600			
Top off concrete foundation at S. End			\$ 15,000		\$ 15,000		
Subtotal			\$ 24,600	\$ 9,600	\$ 15,000	\$ -	
Division 05: Carpentry/Millwork							
See materials list breakout - Year 2 (first and second flr framing)			\$ 141,629		\$ 141,629		
See materials list breakout - Year 3 (third and roof flr framing)			\$ 153,160			\$ 153,160	
Misc carpentry - Year 2	3,200	\$ 2.00	\$ 6,400		\$ 6,400		
Misc carpentry - Year 3	3,200	\$ 2.00	\$ 6,400			\$ 6,400	
Door and window work where raised at south end			\$ 10,000	\$ 10,000			
Subtotal			\$ 317,589	\$ 10,000	\$ 148,029	\$ 159,560	
Division 06: Metals							
Structural steel, see materials list			\$ 17,000		\$ 17,000		
			\$ -				
			\$ -				
Subtotal			\$ 17,000	\$ -	\$ 17,000	\$ -	
Division 07: Roofing							
Patch existing roof (allowance) until new insulated roof			\$ 8,000	\$ 8,000			
Subtotal			\$ 8,000	\$ 8,000	\$ -	\$ -	
Division 08: Openings							
Subtotal			\$ -				
Division 09: Finishes - walls, ceilings, floors							
Siding modifications where barn is raised off of the foundation			\$ 12,000	\$ 12,000			80hrs labor=\$10,400 + 150lf siding/trim @ \$10/LF
Subtotal			\$ 12,000	\$ 12,000	\$ -	\$ -	
Division 22: Plumbing							
80 hrs and small materials to allow for raising and connection/disconnection			\$ 16,000	\$ 16,000			
Subtotal			\$ 16,000	\$ 16,000	\$ -	\$ -	
Division 26: Electrical							
80 hrs and small materials to allow for raising connection/disconnection			\$ 16,000	\$ 16,000			
Subtotal			\$ 16,000	\$ 16,000	\$ -	\$ -	
Division 32: Site Work							
Lawn and landscape repair furnished by park dist			\$ -				
Subtotal			\$ -				
Soft Costs							
Building fees & permits 1% of conc cost			\$ 6,269	\$ 6,269			
Professional Services 8%			\$ 50,154		\$ 50,154		
Geo-technical report/soil borings			\$ 7,500			\$ 7,500	
Builder's risk/liability insurance			\$ 5,000	\$ 5,000			For future settling concerns PD to confirm if needed at each phase
Subtotal			\$ 68,923	\$ 11,269	\$ 50,154	\$ 7,500	

Construction Total		\$ 138,700	\$ 187,349	\$ 183,880
Contingency	15%	\$ 20,805	\$ 28,102	\$ 27,582
General Conditions	10%	\$ 13,870	\$ 18,735	\$ 18,388
GC OH/P	10%	\$ 13,870	\$ 18,735	\$ 18,388
Soft Costs Subtotal		\$ 11,269	\$ 50,154	\$ 7,500
Sub-Total		\$ 198,514	\$ 303,075	\$ 255,738
Escalation	4%/yr		\$ 12,123	\$ 20,868
Total w Escalation		\$ 198,514	\$ 315,198	\$ 276,606

Cumulative Total at Year 3 **\$ 790,318**

Baltic Mill Stabilization											
Materials List	Quantity	Length (FEET +/-)	Bd. Foot	Total Bd Ft	Cost/Bd.Ft.	Labor	Hours	Material	Total	Notes	Total Hours
							Hrs per piece/2people				
FIRST FLOOR FRAMING											
Reinforce with 2" X 8" Joist	24	10	14	336	\$3.50	\$ 260.00	2.50	\$ 1,176.00	\$ 16,776.00		60
Reinforce with 2" X 8" Joist	2	7	10	20	\$3.50	\$ 260.00	2.00	\$ 70.00	\$ 1,110.00		4
Cant. (2) C8 X 11.5 (1 on each side of T-Frame)	4	10	40						\$ 14,500.00	\$8,500 material/fab + \$6,000 labor for all steel	
W8 X 18	5	12	60						\$ -		
W8 X 18	8	10.5	84						\$ -		
Misc steel connections									\$ 2,500.00		
									\$ 17,000.00		
									\$ 17,886.00		
SECOND FLOOR FRAMING											
Reinforce with 2" X 8" Joist	25	10	14	350	\$3.50	\$ 260.00	2.00	\$ 1,225.00	\$ 14,225.00		50
Replace edge girder with 6 1/2"W x 10"D Member	1	12	65	65	\$6.00	\$ 260.00	16.00	\$ 390.00	\$ 4,550.00		16
Replace girder with 11 1/2"W x 11"D Member	12	12	127	1524	\$6.00	\$ 260.00	24.00	\$ 9,144.00	\$ 84,024.00		288
Provide missing 1 1/8" (Diameter) Tie rod & saddle to Match existing	1					\$ 130.00	6.00	\$ 500.00	\$ 1,280.00		6
Replace Columns with same size member (11" x 11 1/2") Shore as required	1	10	106	106	\$6.00	\$ 260.00	24.00	\$ 636.00	\$ 6,876.00		24
4x4 post adjacent to window	4	10	13	52	\$6.00	\$ 130.00	3.00	\$ 312.00	\$ 1,872.00		12
Replace columns with same size member (6 1/2" x 11 1/2") Shore as required	2	10	63	126	\$6.00	\$ 260.00	16.00	\$ 756.00	\$ 9,076.00		32
K - 3" x 3-3/4" Kicker	1					\$ 130.00	4.00	\$ 400.00	\$ 920.00		4
Replace lower Brace (3" x 3-3/4" member)	1					\$ 130.00	4.00	\$ 400.00	\$ 920.00		4
									\$ 123,743.00		
ATTIC FRAMING											
Reinforce with 2" X 8" Joist	14	10	14	196	\$3.50	\$ 260.00	2.00	\$ 686.00	\$ 7,966.00		28
Replace girder with same size member (9 1/2"W x 9 1/2"D)	2	12	91	182	\$6.00	\$ 260.00	24.00	\$ 1,092.00	\$ 13,572.00		48
Replace girder with same size member (10"W x 8 1/2"D)	2	12	85	170	\$6.00	\$ 260.00	24.00	\$ 1,020.00	\$ 13,500.00		48
Replace girder with same size member (11"W x 11"D)	3	12	121	363	\$6.00	\$ 260.00	24.00	\$ 2,178.00	\$ 20,898.00		72
Replace girder with same size member (10 1/2"W x 10 1/2"D)	2	12	110	220	\$6.00	\$ 260.00	24.00	\$ 1,320.00	\$ 13,800.00		48
K - 3" x 3-3/4" Kicker	4					\$ 130.00	4.00	\$ 400.00	\$ 2,480.00		16
									\$ 72,216.00		
ROOF FRAMING											
Reinforce all rafters in center bay with 3"W x 4 1/2"D rafters	42	11	13	546	\$6.00	\$ 260.00	4.00	\$ 3,276.00	\$ 46,956.00		168
Replace beam with 8"x8" member	2	10	54	108	\$6.00	\$ 260.00	24.00	\$ 648.00	\$ 13,128.00		48
Replace Cross beam with 8"x8" member	2	20	107	214	\$6.00	\$ 260.00	16.00	\$ 1,284.00	\$ 9,604.00		32
Replace beam with 9 1/2"x 9 1/2" beam	1	10	76	76	\$6.00	\$ 260.00	24.00	\$ 456.00	\$ 6,696.00		24
K - 3" x 3-3/4" Kicker	8					\$ 130.00	4.00	\$ 400.00	\$ 4,560.00		32
									\$ 80,944.00		
			Total Hours					\$ 27,769.00			1064.00

Each estimate is an opinion of probable cost. Many decisions regarding material selection, system development, and project parameters have yet to be defined. Market conditions, as always are beyond the control of the architect and will vary over time. No guarantee is given or implied that costs will not vary from these models.

Total Steel Cost \$ 17,000.00
Total wood cost \$ 294,789.00



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