FINAL REPORT

BELMONT MILLS COMPLEX
BELMONT, NEW HAMPSHIRE

STRUCTURAL & MECHANICAL ASSESSMENT

FOR:

TOWN OF BELMONT
BELMONT, NEW HAMPSHIRE

TTG PROJECT NO. 3925

MAY 10, 2013

THE H. L. TURNER GROUP INC.

ARCHITECTS • ENGINEERS • BUILDING SCIENTISTS
Belmont Mills Complex
Belmont, New Hampshire

Structural and Mechanical Assessment

On Monday, February 11, 2013, William D. Hickey and Paul M. Becht, P.E., both senior structural engineers as well as Fredrick McKnight, P.E., senior mechanical engineer with The H.L. Turner Group Inc. (TTG) visited the Belmont Mills Complex at your request. The purpose of the site visit was to conduct a visual observation of the exterior of the building and as much of the interior of the building as was possible. Due to inclement weather and the fact that there were large amounts of snow on the ground, it was decided to limit the day’s evaluation to the interior portions of the building. It was decided that we would return at a later date to review the exterior portions of the building.

1.0 OVERVIEW/HISTORICAL INFORMATION

The mill was constructed in the 1830’s. The construction was typical for the time period, and consisted of multi-wythe brick walls and timber framing. The mill was occupied until 1970. In August of 1992, there was a major fire at the mill. The building that currently remains on-site did sustain some damage to the south side and the first floor framing, but was left mostly intact. The building was acquired by the Town of Belmont in 1995. The plans developed by Christopher P. Williams (CPW) Architects were developed and published for construction in June of 1997. The work was complete and the mill was re-dedicated in August of 1998.

The building is a four-story structure now serving as professional offices, a daycare, and a senior center. The roof is pitched and the walls are brick (3 wythe in thickness) with a wallboard interior finish. Windows are replacement, double hung, thermo-pane type. Two bump-outs, one in the front and one in the back serve as stairwells, while the newer bump-out in the back also provides an elevator to all floors. The boiler room is a third bump-out that is located in the back of the building next to the stairwell.

Prior to arriving at the site we were provided with and reviewed numerous photographs taken immediately after the fire and before the renovation work started. We received a set of plans prepared by CPW Architects entitled Belmont Mill Renovations dated June 1997. We were also provided with a set of sketches prepared by the Structural Engineer of Record (SKS-2 through SKS-11) for review.
2.0 THE BUILDING INTERIOR

The majority of the ceiling throughout the building is a suspended type ceiling. This type of ceiling allows for easy access to the structure above. The only area where there is a hard ceiling is the second floor framing which, as we understand, was fully replaced during the renovation, so there is not as much concern in this area as there is at the third and fourth floors. We documented, through visual verification, as much of the building renovation work as possible. In addition to the framing, we reviewed the condition of the masonry walls. The main purpose of the site visit was to confirm that the renovation work was completed in accordance with the plans. Any other deficiencies noted during the site visit were noted and are discussed in this report. The data gathered during the site visit was then used to perform a structural evaluation to determine the live load carrying capacity for each floor of the mill.

The mechanical work included a review of the existing heating and ventilating equipment including operational testing, as was possible.

2.1 OBSERVATIONS

For purposes of this report, the front of the building which faces Mill Street is the east side of the building. The addition to the building (lobby, elevator, and stairs) is located on the west side of the building.

2.1.1 STRUCTURAL

Areas of subfloor and original wood decking on the south side of the fourth floor had been removed in the area formerly used for a restaurant. As noted in the historical information above, the building was unoccupied for a number of years before the fire. It was approximately five years from when the fire started to when the renovation work commenced. Based on the condition of the original wood decking on the fourth floor, it is our opinion that the roof had been compromised at some point prior to the renovation and the fourth floor wood decking was exposed to the weather. The decking is not treated lumber; and therefore, is not very resistant to decay from moisture. The years of moisture exposure caused the decking to deteriorate, and once the building was enclosed, the decking continued to deteriorate as the moisture was driven out of the wood. The majority of the south side of the fourth floor is still covered with subfloor. The majority of the floor on the north side of the building is covered by epoxy since it was used as the kitchen. We were able to probe some of the decking from the underside and found it to be fairly sound at the majority of the locations probed. In our opinion, the poor condition of the decking encountered in the small 8 x 10 area that had previously been removed may be indicative of the decking in many other sections of the floor. For this reason, regardless of the probing results on the underside, we recommend that all of the subfloor and floor decking on the fourth floor be removed and replaced.
The columns supporting the roof are in turn supported on beams in the fourth floor framing. The columns base plates are supported by wood beams that consist of PSL wood beams that were added to each side of the existing wood beam. A section of the original wood beam was removed, apparently due to rot. The other item noted was that there are shims made of oriented strand board (OSB) between the bottom of the wood beam and the top plate of the column. This is an unusual choice for a shim due to the fact that it is very compressible. We did not see any sign of compression on the OSB shims which, would indicate excessive load in the column. Therefore do not advocate removal and replacement of the shims and feel they will perform as intended.

We were able to probe the top of the original wood beam along grid line “4” and noted that some rot had occurred along the top of the beam. It is common for wood beams similar to those in the mill to rot from the inside out, once they have been exposed to moisture.

It was noted that the gypsum wallboard at a majority of the exterior windows had cracked. Various cracks in the gypsum wallboard were also noted at the interior doors. This may be indicative of shrinkage cracks or cracking, to slight movement and/or settlement of the building. In reviewing the interior partitions, it was noted that they were framed with light gage metal studs. The metal stud wall framing was installed tight to the underside of the floor framing. Typically, interior partition walls framed with light gage metal studs utilize a deflection track. The deflection track is a member that is attached to the underside of the decking or framing above. It has vertical legs that the stud fit between. The deflection track is fastened to the decking, or framing above, but there are no fasteners installed between the deflection track and the top of the metal studs. As the floor deflects, the vertical legs of the track move up and down with the floor, but since there is not physical attachment, no load is transferred to the studs. As framed, the studs are subjected to some vertical load which is more than likely causing the cracking in the gypsum. It was also noted that one of the door frames on the north side of the building off the front lobby had separated. The damage to the door framing is likely caused by the same issue at the cracking in the gypsum wallboard. To fix this would require a tremendous amount of work. In our opinion, it is not cost effective to reconstruct all the partition walls. Structurally it is not an issue and will not cause any long term structural effects. It is more of an aesthetic issue as the maintenance staff must continually deal with cracking gypsum.

On the east wall in the front stairway, there is a hanger which supports the framing for the landing. The hanger appears to be original with the building and is an old piece of steel plate stock that was bent into a “Z” shape. The top horizontal leg runs into the brick wall, the vertical leg runs down the inside of the east exterior wall, and the bottom horizontal leg supports the landing framing. It was noted that the bricks around the top horizontal leg of the hanger were loose and could be removed by hand, thus jeopardizing the effectiveness of the hanger. We also noted a vertical crack in the brick joints just above the hanger and some of the mortar in the joints is coming loose. We recommend that a
mason be retained to repair any cracks in the brick work above the hanger by repointing the brick joints and resetting the loose brick.

2.1.2 MECHANICAL

Only one of the heating-ventilating (HV) units was operational when we arrived on-site. The on-site maintenance manager reported that the main disconnects on the remaining two HV units were off, but he was unaware as to why. He reported the units had been off for a long period of time. The only operating HV unit provided ventilation air and heating to the 3rd floor professional office spaces. The ventilation rate is sufficient for approximately 33 people assuming 20 cubic feet per minute, per person. The HV unit also provides air conditioning when indoor conditions require cooling. It was unclear if the unit operated with a time clock function. A time clock function would allow for an occupied (on) cycle and unoccupied (off) cycle. In a system of this type, the time clock function is likely within a digital thermostat; however, we did not observe such a thermostat on this level. A separate wall mounted thermostat, observed in one of the corridors, controls the heat coil in the supply air of the unit. Additional individual room thermostats controlled the baseboard heat.

The second floor HV unit was turned off at the electrical disconnect in the mechanical room. It was unknown as to why the unit was not running. There was a digital thermostat located in the large room used by the senior citizens groups (room 218) that may have a time clock function. This may be the control that controls the occupied (on) cycle and unoccupied (off) cycle of the HV unit; however, we could not confirm this. The HV unit will provide ventilation air to meet ventilation guidelines for about 33 people. Ventilation air is provided whenever the HV unit is running. We were unable to locate the thermostat that controls the heating coil on the supply air discharge of the HV unit, but it may be controlled by the same digital thermostat in room 218. We were unable to confirm this.

The 1st floor (ground floor) HV unit was not running and the electrical disconnect switch was locked out. No occupant within the space knew where the key was or why the unit was not operational. There was a sign taped to the HV unit stating that it was “out of service”. The wall thermostat that likely controls the heating coil on the supply air discharge of the unit was not mounted on the wall, but was found lying on the HV unit. All the wires to the thermostat had been cut at the thermostat. Individual wall mounted thermostats that controlled the baseboard heat were in place and operational. The ground floor space, utilized as a preschool daycare center, also contained two active, self-contained, portable dehumidifiers.

The 4th floor of the facility was currently unoccupied, but had recently been used as an educational space for training people for work in commercial kitchens and eateries. One-half of the space was renovated into a commercial kitchen and included a commercial
sized cook range and compensating type range hood, as well as a dishwashing station. The other half was used as a restaurant. The group using the 4th floor was in the process of moving out. All kitchen equipment, range hoods, dishwashing equipment, etc. will be removed.

2.2 DISCUSSION AND RECOMMENDATIONS

2.2.1 STRUCTURAL

According to a review of the structural plans, Sheet S-1, the second floor assembly area was designed for a floor live load of 100 pounds per square foot (psf) and corridors were designed for 80 psf. All other floors were designed for typical office live loads of 50 psf, plus a 20 psf partition load.

A review of the architectural floor plans indicate that the original tenant fit-up was to include the following:

- First Floor – Classrooms (typically designed for a live load of 40 psf and 80 psf in the corridors). The first floor is a slab-on-grade.
- Second Floor – Daycare (typically designed for a live load of 40 psf and 80 psf in the corridors).
- Third Floor – Partial doctor’s office and partial incubator space (i.e. office - typically designed for a live load of 50 psf office and 20 psf partition load).
- Fourth Floor – Incubator office space (typically designed for a live load of 50 psf office and 20 psf partition load).

The actual usage of the building is (or was) as follows:

- First Floor – Daycare – Since the first floor is a slab-on-grade, it is adequate for current use.
- Second Floor – Senior center office and senior center activity area. (Office typically designed for a live load of 50 psf, plus a 20 psf partition load. As for the senior center, since it could be used as an area of assembly, it would typically be designed for 100 psf live load.) The structural plans call for the second floor assembly area to be designed for 100 psf, with the remaining areas designed for 50 psf; therefore, the design criteria listed on the drawings are consistent with the current use.
• Third Floor – Doctor’s Office – The original design criteria are consistent with the current use.

• Fourth Floor – Currently there is no tenant on the fourth floor, but recently it was used for a restaurant and kitchen (a restaurant and kitchen are typically designed for a live load of 100 psf). The original design was envisioned to be office space, which is typically about half of this value.

Analysis of the Existing Floor Framing

First Floor – Slab-on-grade, no analysis performed.

Second Floor – The new 2x8’s installed at 12 inches on center between each of the main beams are adequate for a live load of over 100 psf. The main beams, which are spaced at about 8 feet on center, were originally 9 x 12-½ inches. We subtracted an inch off the width and ½-inch from the height to account for charring that occurred during the fire. The reinforcement called for 1-¾" x 11-¼" PSL’s on each side of the original beam for column lines 1 through 5 and 2-11/16" x 11-¼" PSL’s on each side of the original beam for column lines 6 through 11. We analyzed the reinforced beam for each case and the results are as follows:

• With two 1-¾" x 11-¼" PSL’s the live load carrying capacity is 70 psf.

• With two 2-11/16" x 11-¼" PSL’s the live load carrying capacity is 100 psf.

Conclusion: The current usage of the space for column lines 1 through 5 is primarily office space associated with the senior center. The current live load carrying capacity of 70 psf is adequate for this use.

The current usage for column lines 6 through 11 is for the senior center, which can also serve as an assembly area. The current live load carrying capacity of 100 psf is adequate for this use.

Third Floor – To view the third floor framing, which supports the doctor offices, we examined the south side through observation holes opened in the gypsum ceiling. The north side framing was accessed by removing suspended ceiling tiles.

• South Side – Framing between the 8-foot bays consisted of existing 3" x 5-½" timbers at 24 inches on center. From our analysis, the allowable live load carrying capacity for these members is 70 psf, which is adequate for the doctor’s office space above. With regard to the main carrying beams, the existing 12 x 12 beam along grid line “10” was reinforced with a pair of 2-11/16" x 14" PSL’s; however, we discovered the main beams along grid lines “8” and “9” had no
reinforcement. With the reinforcement, the live load carrying capacity is just under 120 psf, and without the reinforcement, the live load carrying capacity is just under 50 psf. Provided the original beams are in good condition, the unreinforced sections would barely be adequate for the anticipated floor load from the doctor’s office. Therefore, we recommend that the beams with no reinforcement (grid lines 8 and 9) be sistered on at least one side as a minimum. (As a note, two 2-11/16” x 14” PSL’s alone are adequate for a live load carrying capacity of almost 60 psf.) When the PSL’s were added to the main carrying beams the original 3” x 5-1/2” timbers that span between main beams were cut and then reattached to the PSL’s with metal hangers.

- North Side – Reinforcement of the main beams varied by grid line. Grid line “2” has two 2-11/16” x 14” PSL’s bolted to the original main beam, while the main beams at grid lines “3”, “4” and “5” are reinforced with two 1-3/4” x 5-1/2” PSL’s. Why the smaller PSL’s were used to reinforce the original beams is somewhat of a mystery. But the reinforced beams at grids “3”, “4” and “5” have a live load carrying capacity of about 60 psf, which is adequate for the doctor’s office space on the third floor. The beams at grids “3”, “4” and “5” have a smaller stiffness factor, or moment of interia due to smaller PSL’s. Even though the beams are capable of carrying the floor loads they will exhibit greater deflection under live loads than the beams reinforced with the 2-11/16” x 14” PSL’s. This additional deflection may be the reason that the gypsum soffits seem prone to cracking along these particular grid lines. The cracking could also be attributed to poor workmanship when the metal corner bead was installed on the gypsum and perhaps there was an insufficient number of fasteners used. Before considering adding additional reinforcement to this beam, the workmanship of the gypsum installation should be verified.

Fourth Floor – The fourth floor framing was viewed from the doctor’s office below by removing suspended ceiling tiles. The original timber beams are 9” x 14”. In some cases the original beams were reinforced with a single 1-3/4” x 14” PSL, and in other cases, the original beam was reinforced with a pair of 1-1/4” x 14” PSL’s. We observed that at grids “7” and “8” the PSL reinforcement was continuous on one side of the existing main beam, while a second PSL straddled the centerline column and extended to midspan on each side of the column.

- The original 9” x 14” wood beams in good condition are capable of supporting a live load of approximately 46 to 50 psf.

- If the original beam has suffered some decay, which we did observe at one location where the fourth floor had been opened for inspection, the capacity is reduced. We assumed 3/4” decay on each side of the beam and 2 inches of decay on the top, and calculated a safe live load carrying capacity of 37.5 psf.
• If the existing beam (with decay) is reinforced with a single 1-¾" x 14" PSL, the safe live load carrying capacity increases to 53 psf. With a pair of PSL’s the live load carrying capacity increases to 83 psf.

Throughout our investigation we noted that it was typical for the PSL members (added to reinforce the main beams) to terminate within an inch of the inside face of the brick wall. In most cases the original beams are supported by the brick wall, as well as a large cast steel “L” bracket bolted to the wall. The “L” brackets measured 36 inches by 24 inches with the long leg horizontal. These brackets were through bolted to the beam and the brick wall. The fact that the members added to reinforce the beam terminate 1-inch short of the wall is of no consequence since these brackets will carry the vertical shear, or end reaction back into the wall. In the rare case where there is no steel “L” bracket in place, the original beam must transfer the entire shear load to the wall. Using an allowable shear stress, we calculated the allowable cross-section that is required to transfer the anticipated reaction. The required cross-section allows for up to ½-inch of wood deterioration all around the original wood beam before the beam is overstressed. In all of the beams we investigated, we did not discover any appreciable wood deterioration in the wood beams where they frame into the exterior brick walls.

The original main beams, provided they are in good condition, are adequate for office type loading. With any degree of decay, the beam must be reinforced to support code mandated, office live load. In any event, to support the code mandated “restaurant” live load requires both sides of the original beam to be reinforced and that the original beam must be in good condition with no decay.

We analyzed the 3-inch nominal (2-½" to 2-¾" actual thickness) tongue and groove wood decking that spans across the main beams and found it to be more than capable of supporting a live load well in excess of 100 pounds per square foot. See the section under observations for more on commentary on the fourth floor decking.

As mentioned previously, we are recommending that all of subfloor and decking on the fourth floor be removed and replaced. Once the floor is removed thereby exposing the main carrying beams it is our recommendation that the Town should endeavor to reinforce both sides of every beam with a continuous section of PSL. Partial PSL’s and pieces of OSB (see photo on page 17) are unacceptable and should be replaced. This upgrade will give the Town the flexibility to use the space for almost any use including light storage.
2.2.2 MECHANICAL

With this report, we are conveying our professional opinion by reporting the results of our review and site observations. Additionally, we have made recommendations for possible corrective actions based on the current information and on our observations to date. Due to the complexity required to provide a measured supply-air quantity, capacity (airflow) measurements were not taken during this site visit. Observations of some of the control functions and evaluations that required disassembly of the air handlers were not performed during this visit.

HV-1 on the 1st level that serves a daycare center is not operational. For unknown reasons, the unit is locked out at the service disconnect. The wall mounted thermostat that would normally control the HV heating coil has been disconnected and removed from the wall. The HV unit itself has a sign taped to it claiming the unit is “out of service”. With this unit non-operational, it may have a detrimental effect on the ventilation rate being provided to occupants of the daycare center. The outside air (OA) louver is mounted on the wall at the south wall of the daycare. The duct that conveys the OA to the HV unit runs under the floor slab. It is likely that the duct is not isolated (via insulation) from the ground which would result in the formation of condensation inside the duct in certain times of the year. Water in the form of condensation would likely promote mold growth inside the OA duct.

Aside from the non-operational HV system, some of the occupants were concerned about possible mold growth within the daycare area based on reports of odors. As mentioned above, there exists a possibility of amplified microbial reservoirs within the sub-slab OA duct. Another possible location for hidden reservoirs includes the carpet that is placed over the slab-on-grade floor. It is our understanding that some airborne sampling for mold was completed by others, prior to our site visit, and that the reported results suggest that there were no mold reservoirs indicated by the sampling.

- Recommendation #1: Repair and Modify HV-1 and Place the Unit Back into Service

We recommend that a new OA inlet and above slab insulated duct be used to provide OA to HV-1. The existing duct should be capped air tight at both the inlet to HV-1 and the point at which it connects to the OA louver plenum. Space control of the supply air discharge heating coil should be re-established by mounting a new digital thermostat with time clock functions on the wall and connecting it to the HV, with additional relays if necessary, so that the thermostat controls both the occupied (on) and unoccupied (off) times that the HV unit runs, as well as the temperature of the space that the supply air heat coil will try to maintain. (Note: We have assumed that this is the same sequence of the original
system.) Additional engineering services may be required to provide the necessary guidance to achieve the intent of this recommendation.

- **Recommendation #2: Collect, Analyze, and Report on Carpet Dust Samples**

  We recommend that a series of five to eight carpet dust (bulk) samples be collected and analyzed for indications of amplified microbial reservoirs from the slab-on-grade carpet currently in place in the daycare center. Additional recommendations may be necessary from the result of this analysis.

- **Recommendation #3: Provide Long-Term, Carbon Dioxide (CO₂) Space Monitoring**

  Due to the observed lack of mechanical ventilation in the daycare, we recommend completing a 14-day long, space monitoring of the CO₂ levels, as a means to verify the current ventilation rates being provided.

HV-2 was not running when we first arrived on-site. The main disconnect was off. The main disconnect was turned on and the HV unit started running. We were unable to easily determine how the unit was controlled to provide ventilation air to the occupied spaces. It was uncertain if there is a time clock function that starts and stops the HV-2 unit or how the heating coil is controlled.

- **Recommendation #4: Retro-Commission HV-2**

  We recommend that the current controls for HV-2 be retro-commissioned to determine if the unit is indeed under time clock control and how the supply air heating coil located at the discharge of the unit is controlled.

HV-3 serves the professional offices on the 3rd floor and was running while we were on-site. There were some occupant concerns about occasional uncomfortable temperatures. Reportedly, the air in this space was also sampled for microbial content, but we were not apprised of the test results. Given the limitations of the system, it appears to be mostly meeting the space requirement for thermal comfort. Additional control may improve the level of thermal comfort and save energy.

- **Recommendation #5: Inspect and Clean the Interior of the Air Handler HV-3**

  We recommend that the interior of the air handler be inspected and the drain pan, coil surfaces, and interior walls of the air handler be cleaned to remove organic and possible microbial reservoirs if the conditions warrant. Cleaning, if possible,
should be completed under conditions of isolation and containment to limit the migration of irritants into the ductwork and into the occupied spaces.

Other Conditions

While on-site we observed that the boiler flue terminated above the boiler room, located in the bump-out beside the rear stairwell. The location of the flue terminal with respect to the physical configuration of the building leads us to believe that under certain wind conditions (speed and direction) the flues exhaust could be entrained into the building.

- **Recommendation #6: Model Building for Appropriate Flue Height/Location**

  If the occupants of the building have reported the smell of the byproducts of combustion, we recommend that an air flow study be completed. The study would model the air flow around the building utilizing specific wind speed and directions. The study would also review historic wind data and determine the average percentage of time that the winds speed and direction may be unfavorable for creating exhaust entrainment into the building.

  Using that data, a new stack design could be completed that will minimize the entrainment potential.

Could the lack of a proper HVAC system lead to further deterioration of the wood in the building? Not having a properly functioning HVAC system will lead to elevated levels of humidity in the building. The doctor’s office does have a functioning system and the day care center on the first floor installs individual window units during the summer months. The window units help somewhat but there is no doubt that the humidity level of the building will rise during the warm summer months. Even with these elevated levels of humidity we do not believe it is enough to encourage future deterioration (i.e. rot) of the existing timbers.
3.0 THE BUILDING EXTERIOR

On Thursday, April 4, 2013, William D. Hickey and Paul M. Becht, P.E., returned to the Belmont Mill Complex to complete a visual evaluation of the exterior of the building.

The exterior of the four-story structure is primarily brick, with a granite block foundation. The building has a gable style roof with a series of individual dormers along the east and west sides. The roofing is asphalt shingles. The main section of the mill is approximately 42 feet wide by 81 feet long. There is a four-story, 17-foot by 18-foot bump-out on the front or east side of the building that is original to the mill building and houses a stairway. This bump-out has a hip style shingled roof with a large cupola. The newer four-story, 18-foot by 19-foot bump-out on the west side of the building contains an elevator and a stairwell. This bump-out also has a hip style shingled roof. Adjacent to the elevator/stairwell section is a 16-foot by 21-foot room with a shed roof that serves as the main boiler room. The elevator, stairwell, and boiler room sections were added during the 1997 mill renovation. The 1997 addition is covered with a Masonite-type clapboard siding with wood trim.

Overall, the exterior of the building is in good condition with only a few cosmetic or maintenance items noted as described below.

The roofing shingles, as viewed from the ground, appeared to be in good condition.

The brick façade is comprised of a mixture of the original brick and sections of brick that may have been salvaged from the original fire. In general, the brick was in good condition and the majority of the mortared joints were sound. Some joints had been repointed as part of the renovation work. We did observe a fairly large crack on the east wall at the north end of the building and determined it was indicative of a shifting or settlement of the building. There were smaller hairline cracks on the north face of the building, which we judged to have little to no effect on the structural integrity of the building. We did make note of a 3-foot by 3-foot area of brick on the west side of the building near the boiler room wall that requires re-pointing.

For the most part, the windows are in good condition; the exception being the upper window in the tower. The seals in the lower row of windows in this multi-pane window unit have failed, as evidenced by the condensation that had formed between the glass layers. Although the double hung window units have aluminum clad trim, the window sashes are wood. The paint on many of the window sash units is flaking and peeling and requires re-painting. The lintel over one of the lower window units on the east side of the building, near the northeast corner, is badly rusting. It appears that a non-galvanized lintel was installed at this one location. It should be wire brushed and coated with a protective coating.
The lower section of the steel doors and door frames are starting to show signs of rust at the entries on the east and south sides of the building. The doors may need replacement in the next four to five years.

The tower on the west side of the building is clad in a Masonite type of clapboard siding. The siding material appears to be in good condition. Several sections of clapboard have been replaced with cedar clapboards. Most of the paint on the tower trim boards is peeling and flaking and should be scraped, primed, and re-painted. The shed roof over the boiler room is clad in metal and it is in good condition.

Along the eaves on the east and west sides of the building we observed a wire cloth screening material covering the gap between the soffit board trim piece and the brick. The screening material is very coarse and easily allows insects to infiltrate the building. We also noted that the screening did not fit tight to the brick and in many cases there was a sizable gap up to ¾" between the brick and the edge of the wire screening.
Fourth floor deck and framing.

Column base plate at fourth floor.
Fourth floor deck and framing.
OSB shims under fourth floor beam.
Fourth floor framing.

Fourth floor beam with LVL on one side and OSB on the other.
Third floor framing.
Third floor framing.

Third floor framing.
Third floor framing.

Third floor framing (original joists are notched into main carrying beams)
Second floor framing.

Separating corner bead at third floor framing.
Cracked gypsum wallboard at exterior window on second floor.

Cracked drywall and separated door frame at second floor interior door.
View of horizontal leg of cast steel support bracket. Typical at all beams where they frame into the exterior walls.
Overview of Belmont Mill Complex.

View of south side of building.
Hairline crack in granite block foundation.

Variation in brick on south wall. Lower section appears to be newer brick.
Main tower. Window seals are starting to fail.

Some window sashes along the east side are starting to peel.
Corrosion along lower portion of front door.

Crack in brick on east wall could be indicative of settlement.
Rusted lintel. All other lintels are galvanized.

Mildew on trim (north side). Trim needs painting.
Corrosion along bottom of doors entering west tower.

Shed style metal roof over boiler room (northwest side of building).
West side of elevator tower. Trim needs scraping and painting.

Sections of brick that require repointing (northwest side).
Gaps between vent screen and brick all along soffit (west side).