MOHONK TESTIMONIAL GATEWAY

New Paltz, New York

1908

DSC08370.JPG

CONDITION STUDY

PREPARED FOR:

Mohonk Preserve
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September 2013

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Mohonk Testimonial Gateway

20 June 2013 Condition Assessment (04 September 2013)

Introduction

On the twentieth of June 2013, Carl Stearns of Crawford & Stearns inspected the historic 1908 Gatehouse associated with the Mohonk Mountain House, a short distance west of New Paltz, New York. Eric Roth of the Mohonk Preserve coordinated the visit and unlocked various doors and access panels as needed. The Mohonk Testimonial Gateway and about 500 acres contiguous with it are in the process of becoming the property of the Mohonk Preserve, the steward of some 8,000 acres in the Shawangunk Mountains. The purpose of the visit was to facilitate the evaluation of conditions for the century-old stone building, which is not currently occupied or inhabited. The sole use of the gatehouse has been for caretaking residence early on and rental residence more recently. The building has been allegedly listed on the National Register of Historic Places as an inclusion in the Lake Mohonk Mountain House Complex since 1973.

Description of Building

With its massive stone facades and drive-through arch in the Romanesque Revival style, the building is profoundly distinct. Its asymmetric massing and its orange barrel tile hipped roofs contribute to its romantic character. Several of the original, wooden casement window sash and transom frames survive, although only two examples of the original, leaded glazing is extant. The casement windows that have survived have been rather crudely subdivided with square muntin bars, notched and nailed into the original sashes with their OG profile.

The interior is a different situation. Despite the presence of several original doors and door frames, and a precision set of smooth concrete stairs from basement to the fourth-story observation deck, the finishes at exterior walls and the interior partitions have been essentially demolished and replaced. Some original thin concrete on metal lath partitions survive, with the vertical flanges of the lath occurring at 12 inches on center.

The upper tower room's ceiling is at half its original height and the stairs between the first, second and third floors have been enclosed, some in the 1930s with wooden bead board and some more recently with plaster board. The first-floor bathroom has been removed (see smallest window in East façade) with the kitchen expanded into its original floor space. A new bathroom has been constructed in the southeast corner of the room located over the massive stone archway. Only two window stools (interior sills) and aprons (horizontal trim beneath stool, lying flat against the wall) are extant, both in the West wall in the stairwell. One is just above the second floor and is missing its cove bed molding directly beneath the stool. The other is a story above, and is complete.

One of the more interesting aspects of the Gatehouse's layout is that the kitchen wing was designed to be up a half story above grade, over a partial basement which runs South from the tower portion. This gives the South wing enough mass to complement the shorter but higher North wing. It also gives that wing connections to underground site utilities and storage for heating fuel.

Description of Original Drawings

Another note of interest is that, before the site visit occurred, Eric Roth of the Mohonk Preserve made available a set of original drawings by architect James E. Ware & Sons of New York City. The drawings, which are quite detailed as to the exterior, reveal that variations in window design were contemplated, diamond pane versus rectangular muntins. The balconies and the planters they contained at the observation (fourth) level were expanded and the curvilinear staircase design from the third floor up was modified to a dogleg layout (thereby having to squeeze in a landing for the upper change in direction) with 7-inch treads and 9-inch risers. Apparently the small protective cupola shown in the staircase sectional drawing over the top of the stair was never built. Additional pen and ink notes on the original (January 1908) drawings also state that the design of two engaged buttresses at the north facade was revised.

The original drawings also make it rather clear that a considerable amount of steel and concrete were used in the interior floor, stair and roof construction of this modern-for-its-time building interior. Only the exterior was really eclectic. The fact that so much steel was buried in concrete and concrete plaster makes it more difficult today to ascertain physical conditions.

Condition and Historic Integrity

The existing conditions observed and ultimately assessed at the1908 Gateway Building fall into definitive categories. Before those are laid out, however, the overall condition of the building should be described. The Gateway has been neither inhabited nor occupied for at least several years. The boiler in the basement carries a 2005 inspection tag and the security cameras on the first floor exhibit blinking red lights as if they are working. The interior is clearly unheated, though, and the electric power is turned off. Due to a recent history of roof leakage, the interior plaster finishes are becoming progressively more deteriorated, particularly on the second and third stories. The basement, with its twentieth-century bathroom, shower and boiler enclosure, is also being damaged by moisture. Most of the interiors are renovations, which do not have architectural integrity beyond the few doors, doorframes and window trim where original millwork survives. This in-place original woodwork, however, is more than sufficient to document the historic casings, moldings, doors and window trim. Up on the stairway to the observation deck, long-term water infiltration into the cement plaster and metal lath stairway partitions is evident. The hatch lid to the deck has been wide open for unknown duration and is in no condition to hinge and seal properly. How much water this allows into the

building is unknown, but the fourth observation level is analogous to the belfry in a church steeple, areas which are known to be soaked during storms. The Gateway building interior does not exhibit visible mold, and yet a trash can on the third level of the tower is full to the brim with water coming in at the North façade, most likely through the rotted window components. Deterioration on the second floor levels has been caused by roof tile breakage and suspect copper flashings in the hipped and compound-gabled roofs and valleys over the arch and over the Kitchen Extension.

Of all the surviving rooms and systems in the building, the historic architectural integrity of the three tower rooms, the room over the arch, the kitchen and the windows throughout seem to be the paramount preservation issues, worthy of analysis and ultimately, restoration. The rest is still extant, albeit with advancing condition problems due to water intrusion and lack of building occupancy. For the sake of analysis and discussion, the existing condition observations will be divided into six main categories:

The Tile Roofs

The Stone Masonry

The Wooden Windows

The Concrete, Steel Reinforcing and Framing

The Plaster and Floors

The Woodwork

THE TILE ROOFS

The red barrel tile roof coverings and copper flashings are the original from 1908. These give the gatehouse impressive historic character, but the hipped roofs now exhibit extensive condition problems at the expense of the building's interiors. Rainwater is clearly entering the building through the second floor roofs as well as the observation level, with its open hatchway. The tower roof sheds water, ice and snow from its north and south eaves onto the lower roofs, progressively damaging them. Several barrel tiles are broken, as are the ornamental ridge, hip and pinnacle tiles. The other problem is that the century-old copper flashings are worn through, as evidenced by the eroded and thinned drip edge at the roof over the gatekeeper's south entrance to the kitchen. The red fired-clay barrel tiles were apparently manufactured by Ludowici Celedon within two years of the formation of that company by a merging of two companies. It is likely that the tiles came from the Alfred, New York plant, which burned and was eliminated in 1909. This tile company built several manufacturing plants, and supplied the tile portions of the roofs at the nearby Mohonk Mountain House.

The Tile Roofs

Roof over Archway:

From the observation deck; Note broken tiles at ridges and valleys as well as roof planes.

DSC00228

Roof over Archway:

From the east; Note broken tiles at eaves

DSC00259

Roof over Archway:

From the third level; Note broken tiles and lightning arresting system, west gable and stepped stone parapet.

DSC00292

The Tile Roofs

Roof over Archway:

From the third level; west gable and lightning arresting system.

DSC00293

The Tile Roofs

Details:

Broken tiles at East eaves, north of plaque.

DSC00260

Details:

Broken tiles at East eaves, South of plaque.

DSC00261

The Tile Roofs

Kitchen Wing Roof:

General view of east plane with chipped tiles.

DSC00284

Kitchen Wing Roof:

Detail of valley with broken tiles.

DSC00285

Kitchen Wing Roof:

Detail of valley exit and parapet flashing.

DSC00286

The Tile Roofs

Details:

Worn out copper drip edge of eaves over kitchen door.

DSC00278

Details:

Same as above.

DSC00279

The Tile Roofs

Observation Deck Roof:

Ponding; It appears that the south drain tube has been plugged and therefore eliminated functionally.

DSC00339

Rotted Hatch:

The wooden and sheet metal hatch cover is deteriorated beyond its useful life.

DSC00230

Rotted Hatch:

The sheet metal has rusted through.

DSC00234

THE STONE MASONRY

The Mohonk Preserve Foothills: History describes the stone construction: "The Gateway was built of large Shawangunk conglomerate blocks that were quarried or gathered as individual surface glacial erratics on the Mohonk estate……" The rounded stones are particularly colossal by any period's standards. Lifting pin holes in several of the gateway arch voussoirs remind us that the stones were lifted into place by hand-cranked, wooden derricks. References to Rosendale Natural Cement being used in the region on various projects including bridges, lead us to question if that type of mortar might have been used in the stonework of the Testimonial Gateway. Parameters for mortar testing will be given in the recommendation for preservation of the masonry. At the onset, it seems clear that the building was constructed of a hard cement mortar, making it, with the large stones, the equivalent of a concrete monolith. However, cracking of some mortar joints is evident, and there is a need for repointing with new surface mortar in several areas. None of the stones appear to be dislodged, and yet, repointing will provide protection from water infiltration and joint deterioration. The other question that testing may answer is why there are two different colors of mortar present in the stone archway, a gray and a buffy gray.

The Stone Masonry

East:

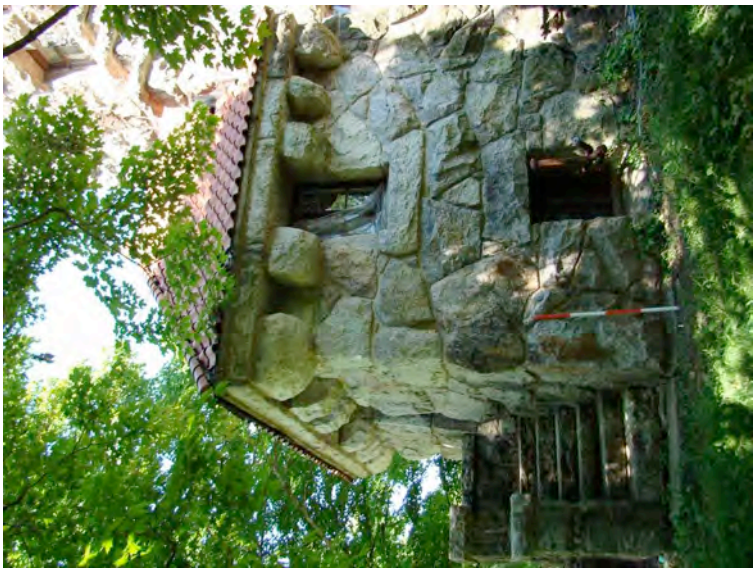
Archway from East with buttress on right and tower on left.

DSC00259

East:

Tower elevation; Note that observation deck balconies were constructed according to revised drawings.

DSC00264



East:

Kitchen wing elevation.

DSC00266

The Stone Masonry

South:

Kitchen wing elevation.

DSC00267

South:

Tower elevation; Note that south drainage scupper (tube) at observation deck level is extant.

DSC00268

West:

Elevation.

DSC00347

The Stone Masonry

West:

Kitchen wing; window frame and sash at upper left is a complete original.

DSC00348

North:

This elevation of the tower is difficult to view due to the archway and forest canopy in the foreground.

DSC00353

Balustrade:

This stone railing balusters are in need of repointing.

DSC00240

The Stone Masonry

Condition Observation:

Crack in corner pier indicates need for compatible repointing

DSC00232

Condition Observation:

Crack in keystone mortar at North observation arch is start of deterioration

DSC00236

Condition Observation:

Crack in keystone mortar at East arch.

DSC00237

The Stone Masonry

Condition Observation:

Crack in keystone mortar at South arch.

DSC00238

Condition Observation:

Crack in keystone mortar at West arch.

DSC00239

The Stone Masonry

Details: Mortar Joint

Showing two different colors of mortar mix.

DSC00227

Details: Covered Planter

What appears to have been planters originally have been covered over with wire mesh and mortar, now deteriorated.

DSC00231

Details: Kitchen Stair

Illustrating need for repair and repointing.

DSC00244

The Stone Masonry

West:

Deterioration of mortar at arch buttress and facade at ground level.

DSC00271

North:

Need for repointing, emphasized at ground level.

DSC00274

East:

Cracking of mortar joints.

DSC00275

The Stone Masonry

Bollard at Archway:

Base mortar has eroded away.

DSC00351

At Archway:

Cracking of mortar in stone barrel vault.

DSC00354

THE WOODEN WINDOWS

It is generally thought that the windows in the Testimonial Gateway have been replaced due to the egregious examples of incompatible substitutes in the building. The tower room windows at the second and third levels are now single-pane casements and the first floor and north room over the arch are six-over-six production sash. These replacements constitute the biggest compromise to the architectural integrity of the building on the exterior, accompanying the installation of false ceilings and gypsum board finishes at the interior.

The original drawings show diamond pane in one issue and rectangular leaded in another. It appears that the former was never executed and, of the latter, only two examples of the leaded glazing are extant. Many casement sash have small boarder panes set into wooden muntins at their tops, giving an appearance reminiscent of the Arts and Crafts style. The two leaded sash are the six-pane transom of the north window of the tower room on the third level and the small west-facing window, which could not be accessed from within the building. The latter has some curvilinear cames and is the only surviving example of that type of ornamental glazing design.

Upon a close look at all the windows, however, several of the original transom (upper lights with primary sash beneath) frames and a few of the original casement frames and casement sash appear to survive intact. The subdivision of the upper portion of casements described above is rather primitively done as the added muntins have no molded profile and are secured in place with finishing nails. It is wondered why so little of the original glazing survives. Such a condition might possibly be explained by a fire or by vandalism during a period of building vacancy. Neither of these causes have been substantiated.

Suffice it to say that the proposed work on these windows should now include retention and repair of the original window components that survive. The previous belief that the original windows had all been replaced is no longer an accurate appraisal of this historic system.

The Wooden Windows

Original, Modified:

Illustrated here is a stair hall window in the west facade. The frame and sash are original and restorable even though the sash has been modified.

DSC00245

Original, Modified:

This is the north window in the third level tower room. The leaded-glass transom is completely original and the casement sash beneath it are also but have been modified.

DSC00294

Original, Not Modified:

This is the small window in the west elevation over the kitchen. It cannot be accessed from the interior of the building

DSC00345

The Wooden Windows

Replace with original transom frames:

Six-over-six pane incompatible sash.

DSC00262

Replace with original transom frames:

Six-over-six

DSC00263

Detail of crude modification:

Apparently, when the original, leaded-glass was replaced, wooden horizontal muntins were set into the original sash stiles, secured rather crudely with nails.

DSC00290

The Wooden Windows

Original:

Six-over-six pane sash from interior.

DSC00315

THE CONCRETE, STEEL REINFORCING AND FRAMING

This is the category of condition which is the most difficult to assess because much of the steel is concealed in concrete or within later finishes. The floor slabs are poured in place concrete, as are the staircases connecting the five floor levels. The stairs are of exemplary quality, carefully formed and finished. Their condition is consistent with the execution as each flight has only one visible horizontal crack, halfway down the top riser where the connection with the floor slab was made. The concrete floors of the tower rooms and the gateway room also appear to be in very good condition, with the exception of a pronounced east-west crack in the floor of the third floor tower room.

The potential problem is in regard to the steel beams which run directly beneath the concrete floors, and the reinforcing steel within the slabs and the upper level stair-enclosure partitions. Where the undersides of the tower room floors can be seen, the steel appears to be very rusty. Also, where the 12 inch wide expanded metal mesh reinforcing can be seen in the stairway enclosure leading to the observation deck, the flanges of these vertical elements are rusting away as water from the open hatchway above runs into vertical cracks in the 2 inch thick concrete walls. Wall and ceiling plaster in the gateway room and the walls of the tower rooms are in water-damaged condition. The renovations to the interiors, including suspended ceilings and stud-wall partitions, will need to be removed so that the condition of original structural elements can be observed. Only then can stabilization and restoration be planned in detail.

The original drawings, namely “Beam Plans”, dated Jan 4,1908, offer a truly impressive amount of detail about the steel components, although some questions remain. All the floor decks are shown constructed of concrete poured over a one-way (i. e. single direction) system of steel beams. At the three lower floors of the tower rooms there are also off-center steel girders to shorten the beam span. These beams and girders can be seen from below as one looks up at the different floor slabs. What cannot be seen, except in the basement, labeled as “cellar” on the plans, are the “3/4” w. iron rods” which are concealed within the concrete. These run perpendicular to the steel beams, occurring at 1/3 points of the beam spans, according to the drawings.

The Concrete, Steel Reinforcing and Framing

Condition:

Steel is oxidized where exposed to interior moisture. The extensive use of steel in this building is documented in the original drawings.

DSC00249

Condition:

Detail of oxidation of steel. “Oxide jacking”, that is, the expansion of material which accompanies the formation of rust, has expelled the concrete covering beneath this beam.

DSC00250

Condition:

Even more dramatic example of “oxide jacking” at beam over upper stairway to observation deck. It appears that moisture collects at steel components and migrates to their hollow surfaces, even though they are concealed within concrete and or plaster.

DSC00253

The Concrete, Steel Reinforcing and Framing

Condition:

The vertical ferrous ribs shown are all that survives of several thin cementicious partitions. The metal mesh is gone as well as the plaster finish.

DSC00256

Condition:

More iron oxide (rust).

DSC00295

Condition:

Detail of rust.

DSC00300

The Concrete, Steel Reinforcing and Framing

Condition:

Evidence of water intrusion at upper levels.

DSC00344

The rods (bridging):

Basement examples of original containment of steel beams within concrete covers while the steel rod bridging (at 90° to the steel beams) was always exposed at this level and is as clearly shown in the original drawings.

DSC00328

The Concrete, Steel Reinforcing and Framing

Details at thin walls:

Here in the upper staircase to the observation level the partition survives, but the vertical reinforcing panel ribs have rusted.

DSC00252

Details at thin walls:

More oxide jacking across staircase from image above. No doubt, roof hatch left open has exasperated this condition.

DSC00254

PLASTER AND FLOORS

Much of this interior finish is concealed and that which is visible has suffered from water infiltration and uncontrolled moisture levels in a closed up building. The removal of later construction will aid in the scoping of repairs needed for the plaster. The kitchen overhead is concealed by a false ceiling, but the tower rooms and the room over the gateway arch are all extensively damaged from roof leakage and present an abandoned appearance. The floors above the first story also present a shabby appearance and a portion of the hallway floor leading to the room over the gateway arch has been infilled so as to match the revised floor elevation in the former space. This may have been an effort to install some insulation in the floor over the arch.

The Plaster

Stair Hall:

Moisture damage to plaster and gypsum board finishes.

DSC00258

Loss of concrete beam encasement.

DSC00295

Loss of plaster coating on concrete.

DSC00296

The Plaster

Loss of plaster on concrete ceiling.

DSC00297

Loss of plaster on brick at upper stair hall.

DSC00342

The Plaster

Over Archway:

Water damage. See tile roof images.

DSC00304

Over Archway:

Water damage.

DSC00305

Over Archway:

Water damage.

DSC00306

The Plaster

Over Archway:

Water damage.

DSC00307

Over Archway:

Water damage.

DSC00308

Over Archway:

Water damage.

DSC00309

The Plaster

Over Archway:

Water damage.

DSC00310

Over Archway:

Water damage.

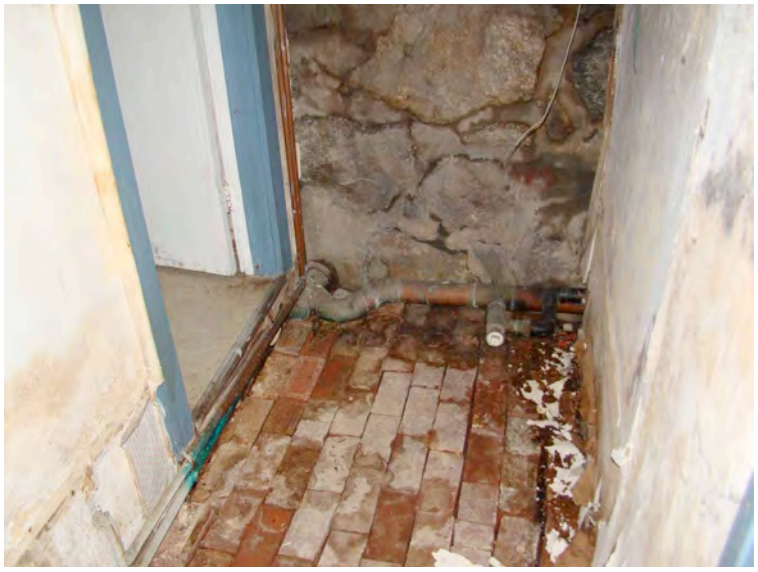
DSC00311

Over Archway:

Water damage.

DSC00312

The Plaster



Basement:

Rising damp moisture damage.

DSC00318

Basement:

Rising damp moisture damage.

DSC00319

Basement:

Ceiling moisture damage.

DSC00320

The Plaster

Basement:

Upper surfaces moisture damage.

DSC00325

Basement:

Moisture damage at partitions.

DSC00326

The Plaster

First Floor:

Moisture damage.

DSC00331

First Floor:

Moisture damage.

DSC00333

First Floor:

Moisture damage.

DSC00334

The Plaster

Details:

Moisture damage at partition.

DSC00337

Details:

Moisture at staircase.

DSC00338

THE WOODWORK

This observer was pleased to find ample in situ examples of original interior woodwork. Period window trim was extant in the upper levels of the west stair hall windows, the first floor transoms of the East façade and at the eight-pane leaded glass transom of the third floor tower window facing North. In the category of interior doors, the first floor basement door with its trim survives, as do the casings above at the doorways leading to the tower rooms on the second and third stories. A four-panel stairway door also is in place on the third level. The Gothic Revival exterior door leading from the drive through to the first floor of the living quarters is probably original, but the South kitchen door to the exterior may not be. The moldings are dominantly simple, consisting of a cove profile.

The baseboard on the first floor is “cement”, consistent with the original drawings. On upper floors, it is wooden.

Although it is not constructed of wood, the small, angled stone-faced brick fireplace on the first story is situated at 45 degrees in the Southeast corner of that tower room. Its chimney flue rises four stories to emerge from the upper tower roof where its stonework matches that of the upper building facades.

The Woodwork

Original Casing:

Impressively intact and very important.

DSC00255

Original Window Stool with Apron and Bedmolding missing:

DSC00251

Original Window Stool Complete:

Impressively intact and very important.

DSC00257

The Woodwork

Original Window Components:

Impressively intact, including lead glass, and very important to preserve.

DSC00294

4 Panel Door to Upper Stair Hall:

Original feature to be retained and restored.

DSC00301

Steel Stair Railing:

Not made of wood but very intact original feature, well-executed along with precise concrete stairway.

DSC00303

ELECTRICAL, PLUMBING AND HEATING SYSTEMS

Although the water boiler has operated as recently as 2005, its condition must be confirmed in a test by a licensed heating and plumbing company. Even if the fin-tube baseboard radiation tests out to be usable, it has been so compromised by the poor condition of finishes around it that it will probably have to be replaced. The plumbing is a similar situation, requiring testing to see if it was drained before the heat was terminated. Of the two bathrooms, one is in the basement, the other partitioned off in the Southeast corner of the room over the arch. The adequacy of their configuration and condition will depend upon the future use of the building.

The electric wiring, despite some updating, is also a candidate for replacement of most of the branch circuits.

The Electrical, Plumbing & Heating Systems

Unit Heater in basement

DSC00327

Electrical Panel in basement. Note corrosion and closure of window opening.

DSC00316

Basement temporary lighting

DSC00328

The Electrical, Plumbing & Heating Systems

House Main in basement, piped in from driven water wall.

This does not appear to be the current supply line as black tubing shows in pressure tank photograph.

Note corrosion.

DSC00322

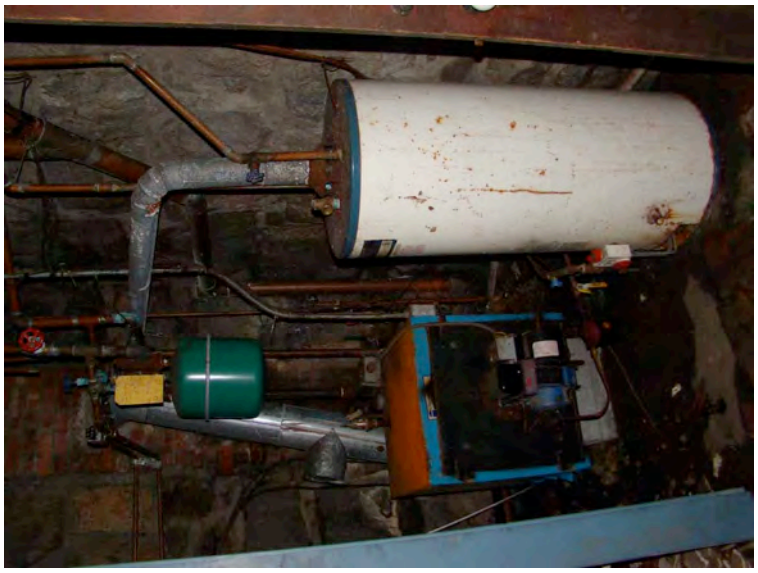
Pressure Tank in basement. Note dirt and rust.

DSC00323

Typical plumbing fixtures. This, the only full bathroom, is built into the southeast corner over the archway.

DSC00312

The Electrical, Plumbing & Heating Systems



Boiler & hot water tank in basement. Neither has been used for several years.

DSC00317

Fuel tanks in basement.

DSC00321

Previously frozen fin-tube in one of the tower rooms above.

DSC00313

RECOMMENDED INTERVENTION

The apparent condition and historic/architectural integrity of visible elements has been noted, described and recorded in existing condition photographs. This year is a crucial time for the Gatehouse because, although its massive masonry facades are, by comparison, generally quite stable, its roof leaks are accelerating the progressive destruction of its interiors. It is imperative that funding be sought for totally rehabilitating the red tile roofs and replacing all the copper flashings. Until this is done, time will not be on the side of the building's preservation.

The first step in such work is to have a qualified consultant test building components, exterior and interior, for hazardous material content. This will identify mitigative measures required in terms of removals and occupational safeguards for the work proposed.

Once the roof restoration is accomplished, there will be ample time for intervening with:

- The stone masonry exterior and observation deck
- The wooden windows
- The concrete and steel framing and decking systems
- The plaster finishes and the various floors
- The woodwork

The Tile Roofs

1. Record and remove all tiles, accessories, flashings, sheet materials and nails.
2. Repair all roof decks using matching lumber.
3. Install an impervious "underlayment" or membrane beneath all the fields (roof planes) of tile, and the sheet copper must be replaced at all valleys, parapet and wall intersections and at the horizontal drip eaves.
4. Reinstall sound tiles, using the existing tiles in coherent roof planes such that they are not mixed with new tiles. Install new tiles on tower roofs and in areas where impact from the tower roofs lands on the lower gables and hips.
5. Finish with the historic ridge and hip tiles.
6. Restore observation deck/waterproof membrane, flash into stone parapets with sheet copper, reactivate south drain scupper and build new hatch cover and install.

The Stone Masonry

1. Test the existing mortars for composition and physical properties. Ascertain type(s) and proportions if present of hydraulic cement, lime and sand used in the bedding and pointing mortars. Determine why there are different colors and textures present in the existing mortars.
2. Select bedding, repointing and parapet mortars for use in distinct locations.
3. Carefully and selectively remove cracked and unbonded mortar.
4. Repair voids and repoint mortar joints.
5. Clean surfaces affected by repointing operations.

The Wooden Windows

1. Photograph existing window conditions in detail and remove original sash and transoms where they exist for restoration.
2. Restore frames in place, using Dutchmen, epoxy repair and replacement in kind where needed.
3. Restore the removed sash, again using Dutchmen, epoxy repairs and replacement of wooden components as needed.
4. Prime the glazing reveals of the frames and reglaze using leaded cames and drawn (period) glass in the historic design. The configuration of transoms is as seen in the third-level north-facing tower room window and the casement subdivision is as seen in the one original west-facing window. This is the small window which cannot be accessed from the interior.
5. Paint and finish sash and frames, restore casement hardware and reinstall.

Concrete and Steel, Deck, Stair and Framing

1. Photograph each room and remove all renovations that are less than 50 years of age. Remove gypsum board partitions and all false ceilings.
2. Photograph in detail and remove deteriorated portions of historic materials and finishes so that steel beams and metal lath can be further evaluated for condition.
3. If condition of steel beams warrants it, have a professional engineer inspect the concrete and steel structural components.
4. Repair and stabilize rust on steel components.
5. Restore concrete covers and coatings over steel beams.

Plaster and Floors

1. As in the case of concrete and steel components, remove deteriorated plaster and investigate conditions within/behind it.
2. Clean the concrete floors and repair cracks as in the case of the floor in the third-level tower room.
3. Restore the plaster finishes in conjunction with partitions to be restored and added for an agreed upon new use for the building.

Woodwork

1. Photograph and use the existing examples of historic woodwork for restoration patterns.
2. Restore woodwork at all door and window openings.
3. Apply finishes based on historic precedence.

Conclusions Regarding Preservation

Despite gradually increasing levels of deterioration, the Mohonk Testimonial Gateway is a wonderful prospect for preservation. It has already been stated that the exterior of this supremely innovative building is intact, lacking only the leaded window subdivisions, in an otherwise complete original expression. That is not to say that the exterior does not need work after a century of weathering, but the scope of intervention can be totally restorative in nature and it can be rather precisely defined.

The orange barrel tile roofs are truly one of the trademarks of the gateway building. They not only cap the massive stone facades with a scale and texture which is complimentary, they remind one of the tile roofs at the Mohonk Mountain House, and therefore, the historic drive which connected the two.

The stone masonry needs a modest percentage of repointing. which means the removal of mortars that are cracked, spalled or are otherwise separated from the stones on either side of the joint. In this process, new mortar is packed into the joint in limited depths or lifts. It is finished with a style of joint to match that of the building. The style of a mortar joint comes from its profile or cross section, its color and its texture

The windows are a significant contributor to the building's appearance and should be restored to the lead cames which once separated and held in place the individual pieces of glass. Fortunately, one original leaded window sash and a few leaded window transom sashes survive in the building to provide precedence for accurate restoration.

Somewhat less visible is the seemingly modern-for-the-day concrete and steel construction of the interior. Concrete slab decks were formed and placed (poured) over the steel I-beams. The problem is that water infiltration has rusted the steel components to a point where various sheet metal components, including partition lath, are literally falling apart. In some areas, as at the upper stair enclosure between the third floor and the fourth level, this condition is very visible. At other locations and levels, it is concealed by interior renovations, including gypsum board finishes, which are now suffering from uncontrolled interior moisture levels. Due to these previous renovations, there is considerably more freeway in planning the interior intervention of the gateway building as opposed to its exterior.

Having said that, however, the interior doors, door trim , window trim and woodwork that survives, should be restored and supplemented, regardless of the nature of the new use of the building. There is ample precedence for this, provided that when the later renovations are removed, the historic elements are retained and labeled for use in restoration.

The rooms contained in the Mohonk Testimonial Gateway building are much like a house in size and plan proportion. The difference is that they are stacked in a tower

like configuration, including a third story above grade. If the building undergoes substantial rehabilitation for residential use, compliance with New York State Residential Code will require that the entire interior be equipped with an automatic fire sprinkler system.

An important consideration in the restoration of the building, which should be addressed, is that there is potential for conflict of use. The rooms which appear to be a natural for residential use are not separated from the vertical circulation route which would lead visitors up to the observation deck. The now enclosed stairway to the fourth level is also an integral part of any residential plan because it is connected by a common vestibule leading to the kitchen, a common hallway to the two second-floor rooms and a shared hallway at the third floor single room.

Now that the Mohonk Testimonial Gateway has long been recognized as having a significant and integral role in history of the Mohonk Mountain House and is now recognized as being a prominent architectural monument at the entrance to and within the Mohonk Preserve, potential for interpretation and funding of quality restoration is at an impressive level. Another whole preservation perspective for recognition and preservation of this unique building is its dominant location within a cultural landscape. As the recent Land Asset Management Plan states in the "Mohonk Preserve Foothills: History" section, a multitude of changes in the roads leading to the Mohonk Mountain House were an important portion of the Smiley family's accomplishments on the landscape. The Gateway building was arguably the most formal of the historic approach routes. Today, it could be the most visible if it were to be open to visitors.

Mohonk Testimonial Gateway

A Statement of Possible Project Costs

Note: The cost figures given here are based upon correlation of this building with similar historic resources and should be considered useful for comparing one priority or type of work with another.

Allowance for initial hazardous material identification and testing		$3,000.00	
The Tile Roofs:			
Kitchen:	9.7 Sq.		
Gate:	5.6 Sq.		
Tower:	7.4 Sq.		
	22.7 Square		
23 Squares of barrel tile.			
Tile removed & Deck Repair:		$11,500.00	
"New" Tile:		$69,000.00	
Ice & Water Membrane:		$6,900.00	
		$90,400.00	
Copper, 20 oz. Flashing			
Valleys		$5,850.00	
Parapets		$20,050.00	
Eaves:		$6,500.00	
Observation Deck: may be all right for now			
Build & Install New			
Hatch cover with operating hardware: one @ $5,500.00			
Open South drain support scupper @ $1,000.00			
Provide copper flashing at stone parapets: $8,000.00		$14,500.00	
			$137,300.00
The Stone Masonry:			
*Testing:		$5,000.00	
Analyzing & Designing Mortar Mix:		$3,000.00	
Raking out 20%		$12,000.00	
Repointing 20% and Construction Cleanup		$48,000.00	
Restore grade at building perimeter		$4,000.00	
			$72,000.00

The Wooden Windows:

East: 8

North: 2 + 1 @ entrance = 3

24 Windows + 1 door @ $3,500

West: 11

South: 2 + kitchen door $87,500.00

The Concrete & Steel, Deck, Stair and Framing:

Removal of renovations less than 50 years of age	$8,000.00	
Removal of sample historic material for evaluation.	$4,000.00	
**Inspection of exposed steel by professional engineer.	$3,000.00	
Repair and stabilize rust on steel.	$8,000.00	
Restore concrete covers and coatings on steel.	$6,000.00	
		$29,000.00

The Plaster and Floors:

Removals	$4,000.00	
Repair floors	$3,000.00	
Replaster walls and restore partitions	$10,000.00	
		$17,000.00

The Woodwork:

Photograph	$500.00	$500.00	
Restore	23 locations @ $2,500.00	$57,500.00	
Apply finishes	$2,500.00	$2,500.00	
*Finishes Study	$3,000.00	$3,000.00	
			$63,500.00

Architectural Sub-total	**$406,300.00**
A & E Consultants Fees @ 15%	**$60,950.00**
Contingency @ 20%	**$81,250.00**
Architectural Sub-total	**$548,500.00**

Note: Cost of hazmat instigation is not included

The M.E.P. Systems:

**HVAC System: Replace, with Air Conditioning	$28,000.00	
**Electrical System: Re-wiring	$14,700.00	
**Plumbing System Repairs	$10,800.00	
	MEP Sub-total	**$53,500.00**
	Engineering Consultant @ 12%	**$6,500.00**
	Contingency @ 20%	**$10,700.00**
	MEP Sub-total	**$70,700.00**

Floor Areas:

Arch room:	16 x 26.5 (x1) =	424
Tower:	14 x 14.5 (x4) =	812
Kitchen:	13 x 16.5 (x1) =	215
		1,451, say, 1,450 S.F. building

Total $619,200.00

Note: These cost figures are based upon general comparison with similar projects which are comparable in nature and magnitude.

* Costs based upon further design studies, engineering and/or architectural.

** Costs based upon further specialized consultation, inspection and/or testing, due to enclosed/confined/concealed nature of systems and materials.

Original Drawings
1908
by Jas. E. Ware and Sons, Architects
N.Y.C

Note: The original design shown in these drawings was revised in several ways for the construction. The window sash, although leaded originally, were never diamond-pane in configuration. The four observation deck stone balconies were executed per the pen and ink changes, which remain a part of the record drawings. The two engaged buttresses north of the arch were also revised by virtue of the north facade being extended *"6" north of line as originally figured*."

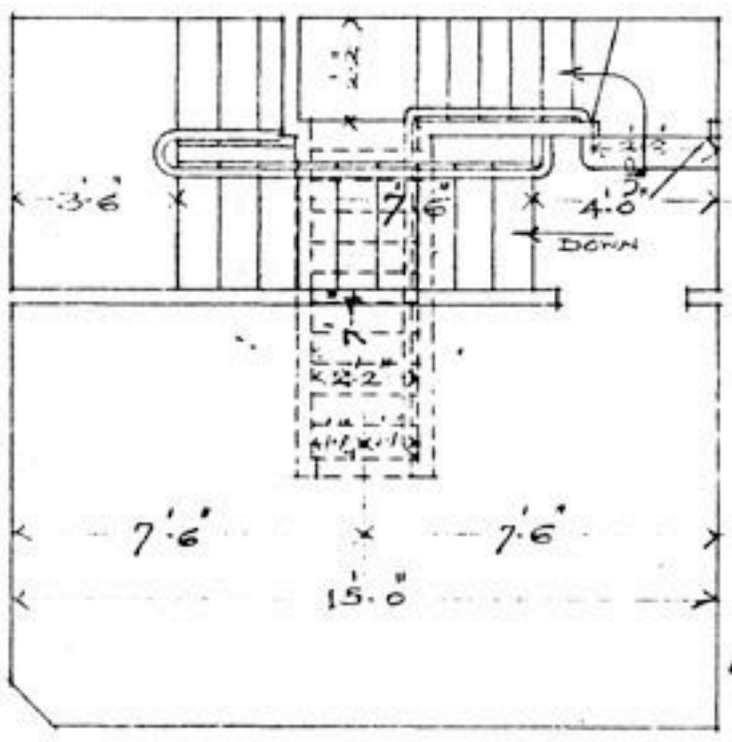
Note regarding drawing on following page

Stair to 4th / Observation level as shown here in August' 08 Revised Sectional drawing and essentially as built. Cast iron newels and cupola at top were apparently omitted from construction.

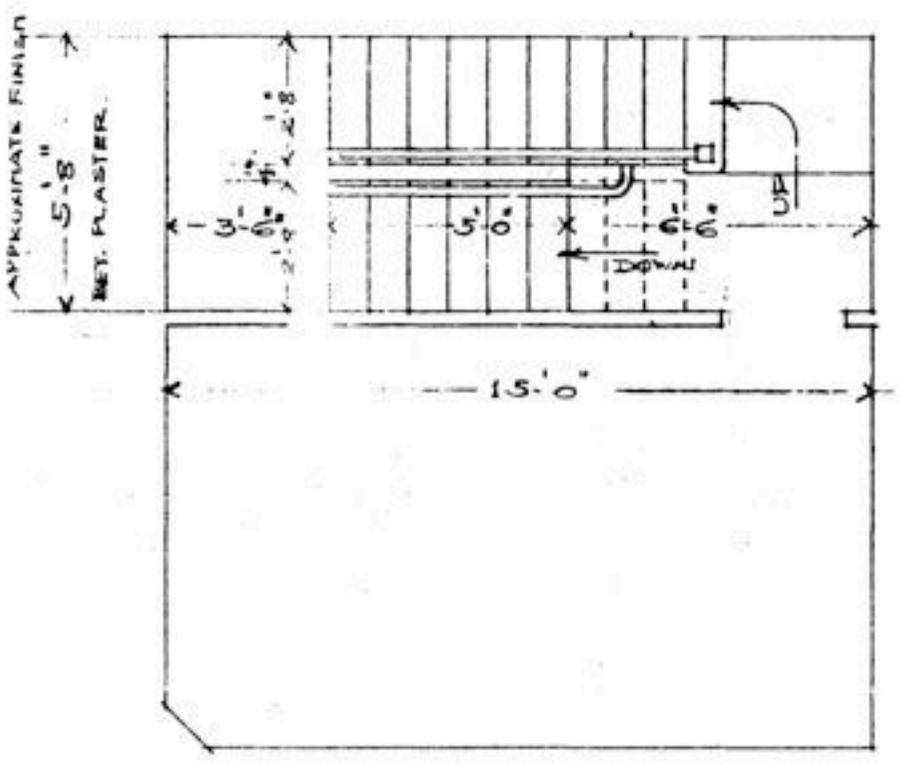
Specification of Iron Work.

The wrought iron railing work and the cast iron newels are to conform to the plans and full size details. secured to the concrete with dowels, washers, bolts etc. furnished by the Contractor. The iron rail prepared to receive the wood hand rail. - Said hand rail to be furnished and set by other parties. All necessary screws, bolts, etc. for the entire work shall be furnished by the Contractor. A strong galvanized iron pipe 1½" in dia. shall be provided for the enclosed stairway from 3rd to 4th story. well secured to heavy metal supports of - approved pattern - well anchored to the concrete partition. The iron work shall receive one good coat of Princes metallic paint before bringing on the ground. The contractor shall state in estimate the cost for delivering the iron work at New Paltz, f.o.b. on cars. and also the cost for setting the work in place.

The casting to be done by other parties.



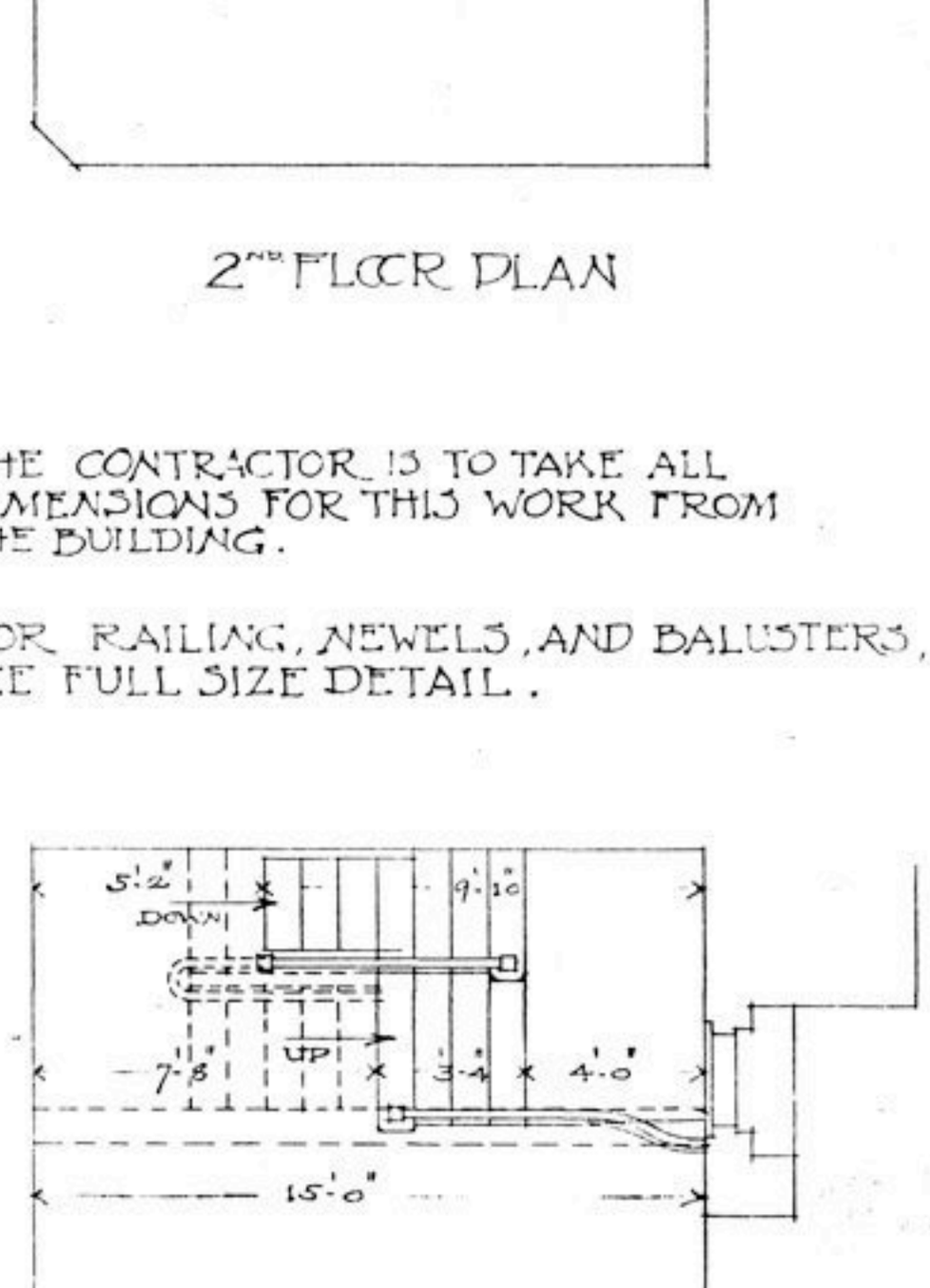
3RD FLOOR PLAN



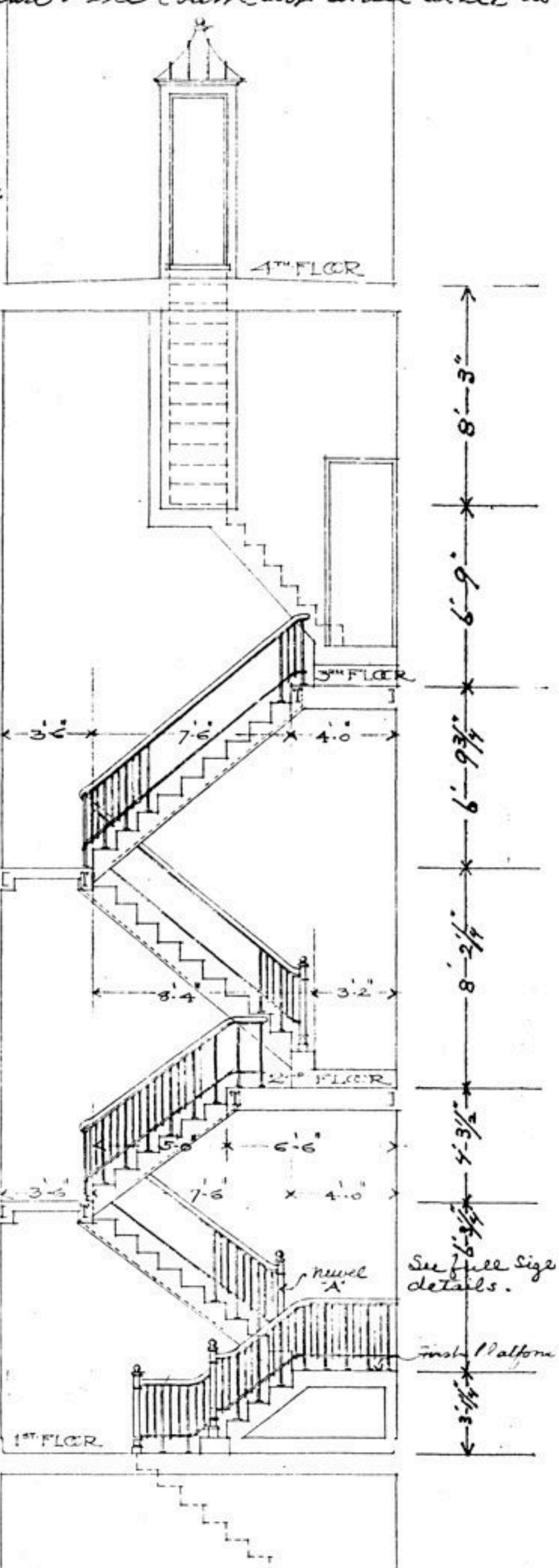
2ND FLOOR PLAN

THE CONTRACTOR IS TO TAKE ALL DIMENSIONS FOR THIS WORK FROM THE BUILDING.

FOR RAILING, NEWELS, AND BALUSTERS, SEE FULL SIZE DETAIL.



1ST FLOOR PLAN



SECTION

STAIRCASE -
TESTIMONIAL GATEWAY,
ON THE ESTATE OF ALBERT K. SMILEY,
LAKE MOHONK, ULSTER CO., N.Y.
Rec'd Aug. 13-08

8-13-1908 A-111.11

JAS. E. WARE AND SONS,
ARCHITECTS,
1170 BROADWAY, N.Y. CITY.

Note regarding drawing on following page

¾" diameter rods run perpendicular to steel girders and floor beams and are visible in the basement. Roof construction is described as angle ***iron rafters arranged to receive concrete filling.***

Specification of Steel floor beams and of Steel roof Construction.

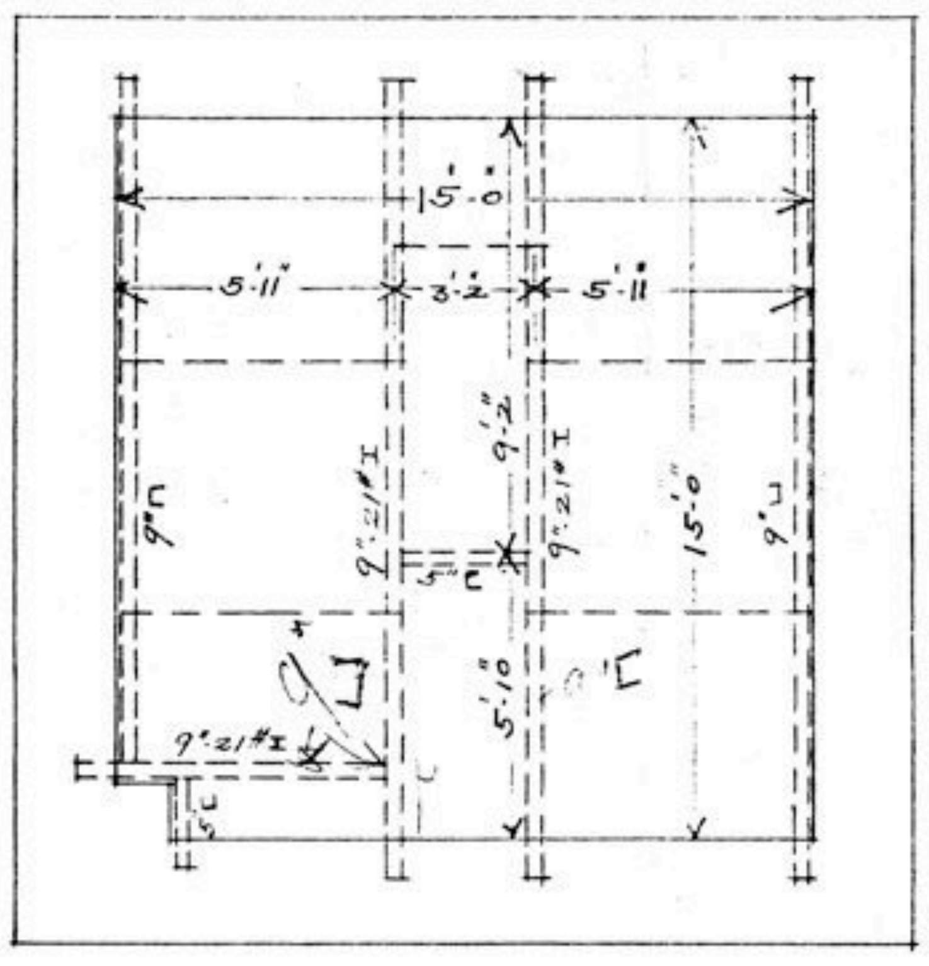
Steel girders and floor beams for the 1st 2d 3d and 4th tiers of beams as indicated and figured on the several plans. and all anchored and tied with 3/4" wr. iron rods - as shown. Beams over openings in walls, as shown. Strong steel framed construction for the two stair platforms between 1st & 2d and 2d & 3d stories, well and strongly hung and secured from the girders supporting the floor beams above - as shown - and all arranged to receive and support the reinforced concrete platform work and stair work, as indicated.

The steel roof constructions shall be formed with ⊥ iron rafters arranged to receive concrete filling as shown on 3/4 inch detail - indicated on plans. The contractor shall furnish any and all necessary and strong hip rafters formed with double angle irons, also channel iron plates and ridge plates. and valley rafters. to which all the rafters are to be bolted and all well bolted together and well anchored to the walls wherever practicable. The rafters braced and tied as may be required and as directed. All necessary framing for gables and dormer window and other framing shall be done as required. The roof construction shall be made strong enough to support the work and load imposed upon it throughout. approximately as follows - viz - 50 lbs per sq. in of roof surface for Concrete and tiles - and 35 lbs per square foot for wind and snow with a factor of safety of four (4).

All the Steele work above mentioned shall receive one good coat of best Prince's metallic paint before bringing same on the ground. The contractor shall deliver the work on cars. f.o.b. New Paltz - N.Y. The contractor shall state in his estimate what would be the extra charge for setting the roof construction work. The work of setting the floor beams - girders and stair platforms is to be set by the owners.

All the work shall be of the best quality of materials and workmanship. The Contractor shall submit all necessary shop and construction drawings to the Architects for approval before the work is started.

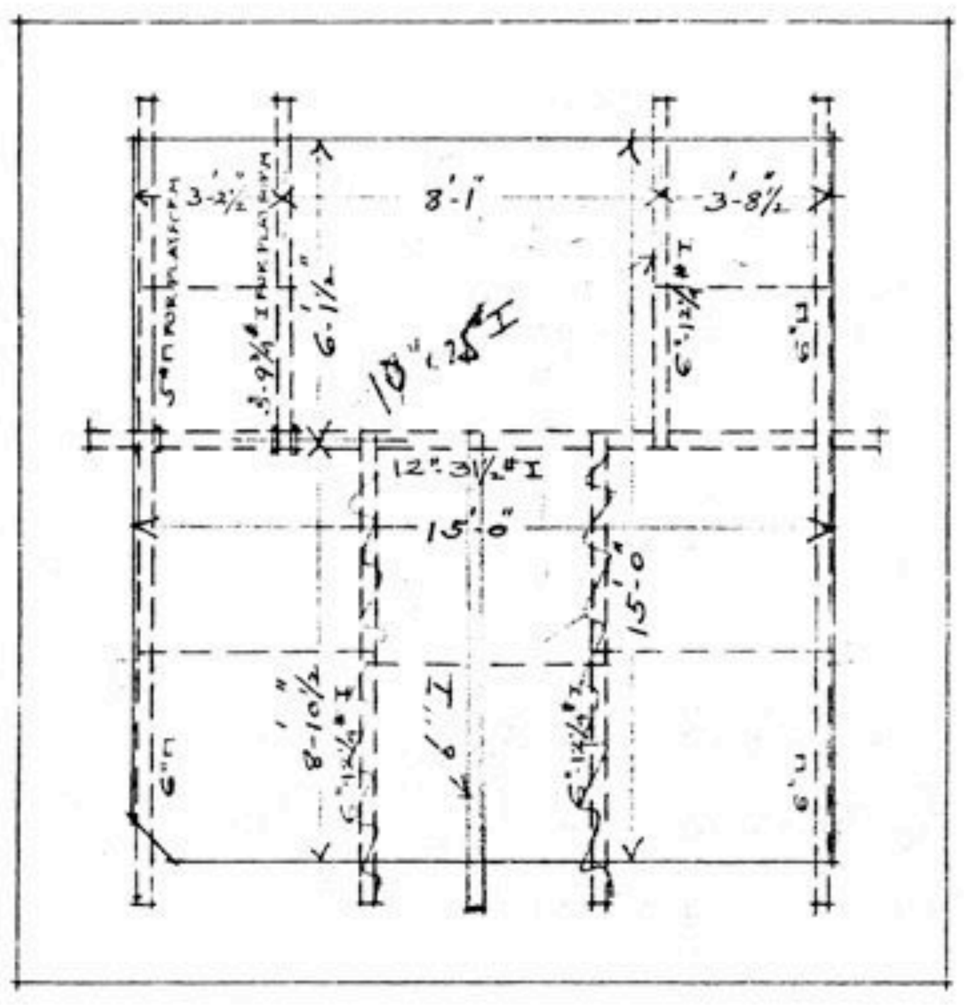
The work shall be executed with dispatch, in the best and most workmanlike manner and fully completed - without delay. to the entire satisfaction of the Architects, by the time mentioned in the Contract.



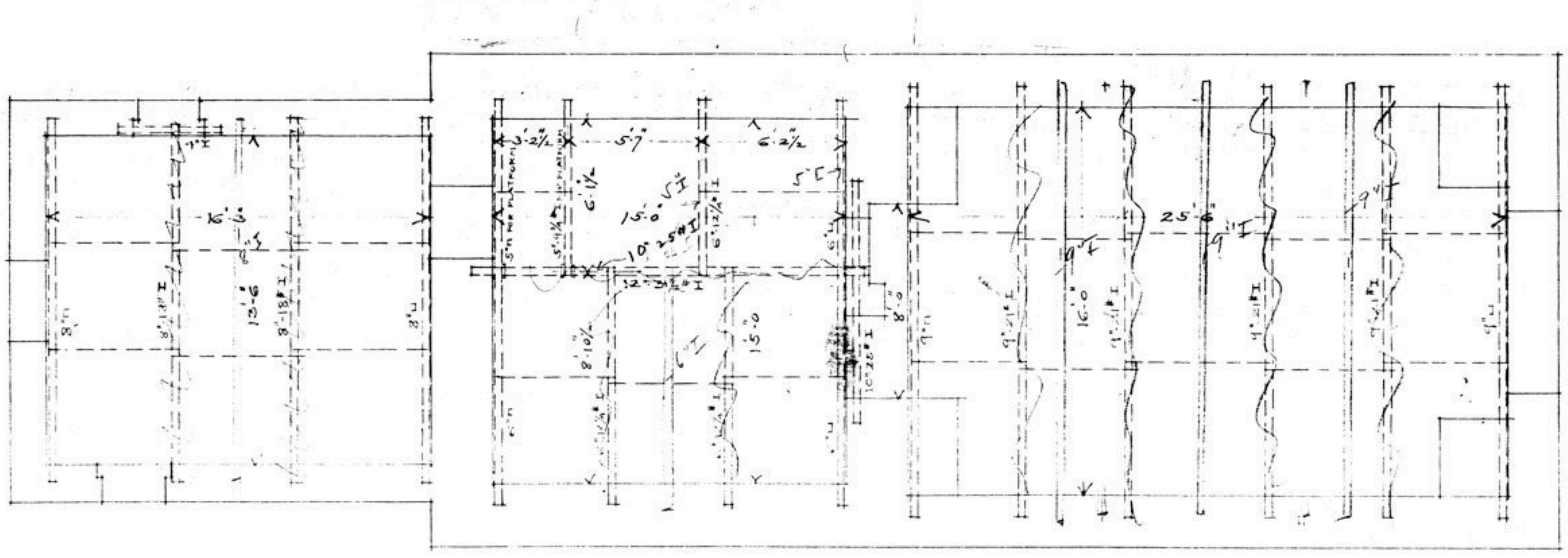
4TH TIER
OVER 3RD STORY.

SUITABLE STONE TEMPLATES ARE TO BE SET UNDER ENDS OF ALL STEEL BEAMS AND GIRDERS.

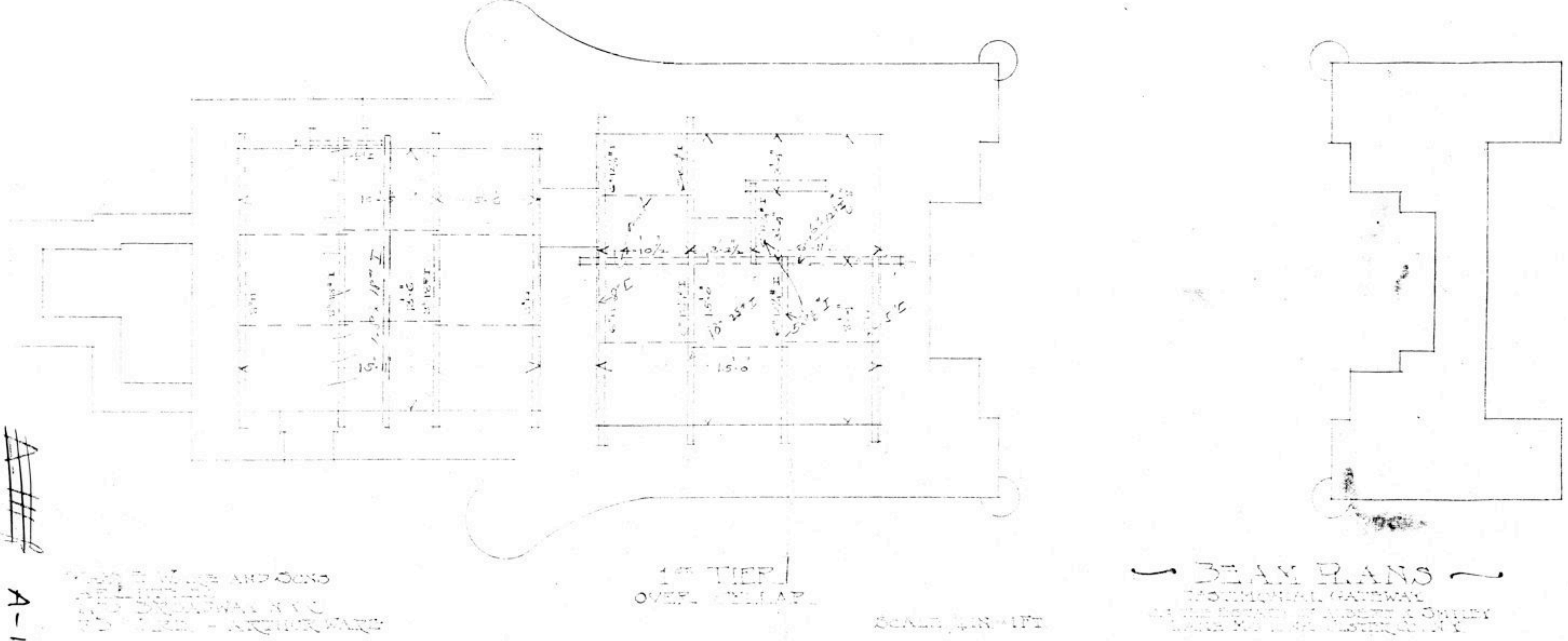
THE IRON CONTRACTOR IS TO VERIFY ALL DIMENSIONS AT THE BUILDING.



3RD TIER
OVER 2ND STORY



2ND TIER
OVER 1ST STORY



1ST TIER
OVER CELLAR

— BEAM PLANS —
MEMORIAL GATEWAY

JAN 4, 1908

A-111.05
1-4-1908

Note regarding drawing on following page

Version of elevational drawings showing diamond pane windows (not built), north buttresses and upper balconies before revision.

Hooker & Co.
JUN 25 1908

PERSON & COMPANY
FRONT WORK, ROOFING TILE
160 Fifth Ave., New York

SEE NEW DESIGN OF BALCONIES

SEE NEW FORM OF BUTTRESS

NOTE—
WINDOWS AT "A" TO BE 2'-8" × 6'-10", MASONS OPENING, AND ARE TO HAVE TWO CASEMENT SASH

JAS. E. WARE & SONS
ARCHITECTS
11 & BROADWAY, N.Y.C.

WEST ELEVATION
SCALE ¼IN = 1FT.

TESTIMONIAL GATEWAY
ON THE ESTATE OF ALBERT K. SMILEY
LAKE MOHONK, ULSTER COUNTY, N.Y.

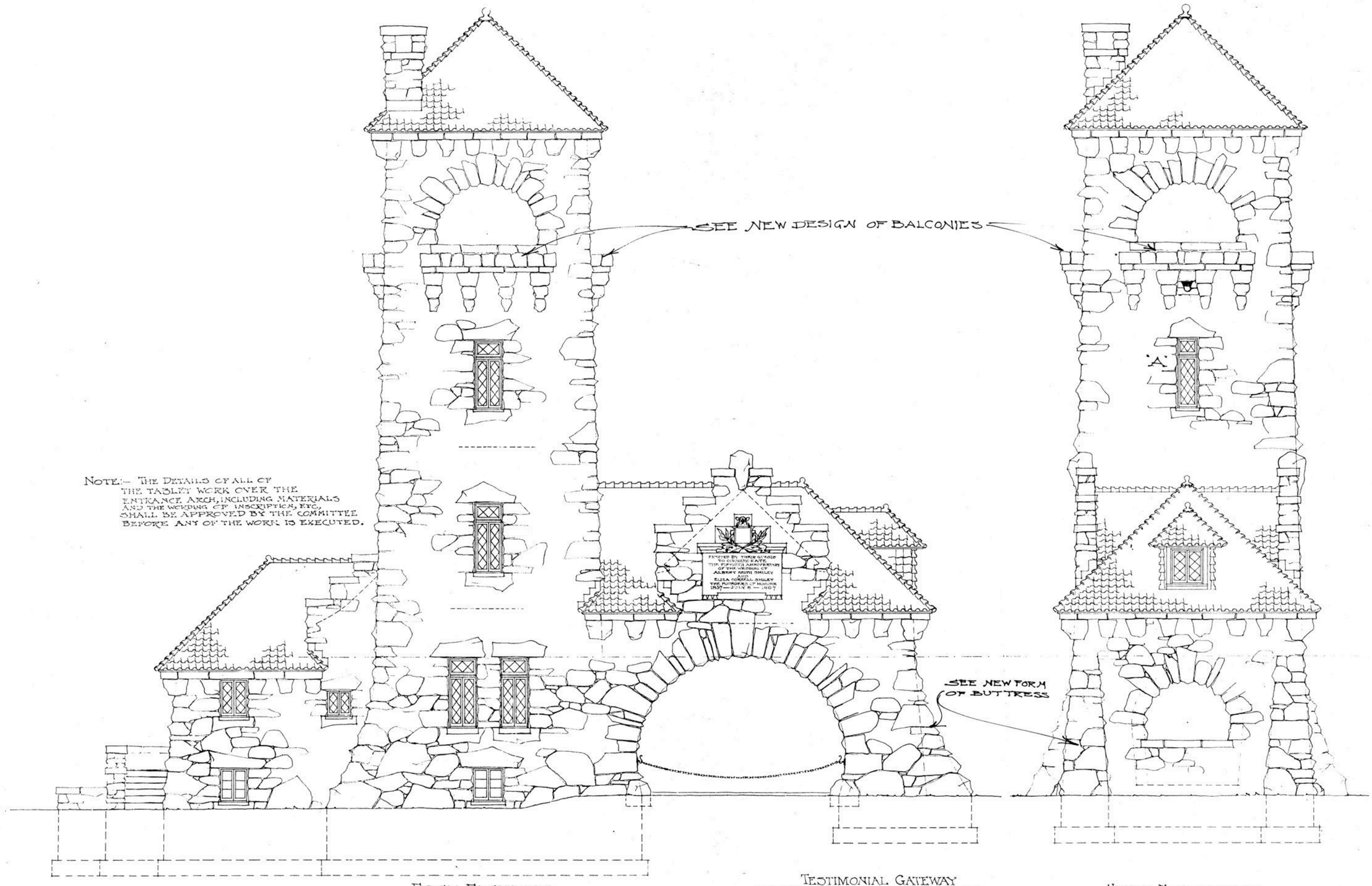
SOUTH ~~NORTH~~ ELEVATION
SCALE ¼IN = 1FT.

1-4-1908

A-111

Note regarding drawing on following page

Version of elevational drawings showing diamond pane windows (not built), north buttresses and upper balconies before revision.



JAS E. WARE & SONS
ARCHITECTS
11/0 BROADWAY, N.Y. CITY

EAST ELEVATION
SCALE 1/4 IN. = 1 FT.
SEE NEW EAST ELEVATION

TESTIMONIAL GATEWAY
ON THE ESTATE OF ALBERT K. SMILEY
LAKE MOHONK, ULSTER COUNTY, N.Y.

NORTH ELEVATION.
SCALE 1/4 IN. = 1 FT.
SEE NEW NORTH ELEVATION.

1-4-1908

A-111.02

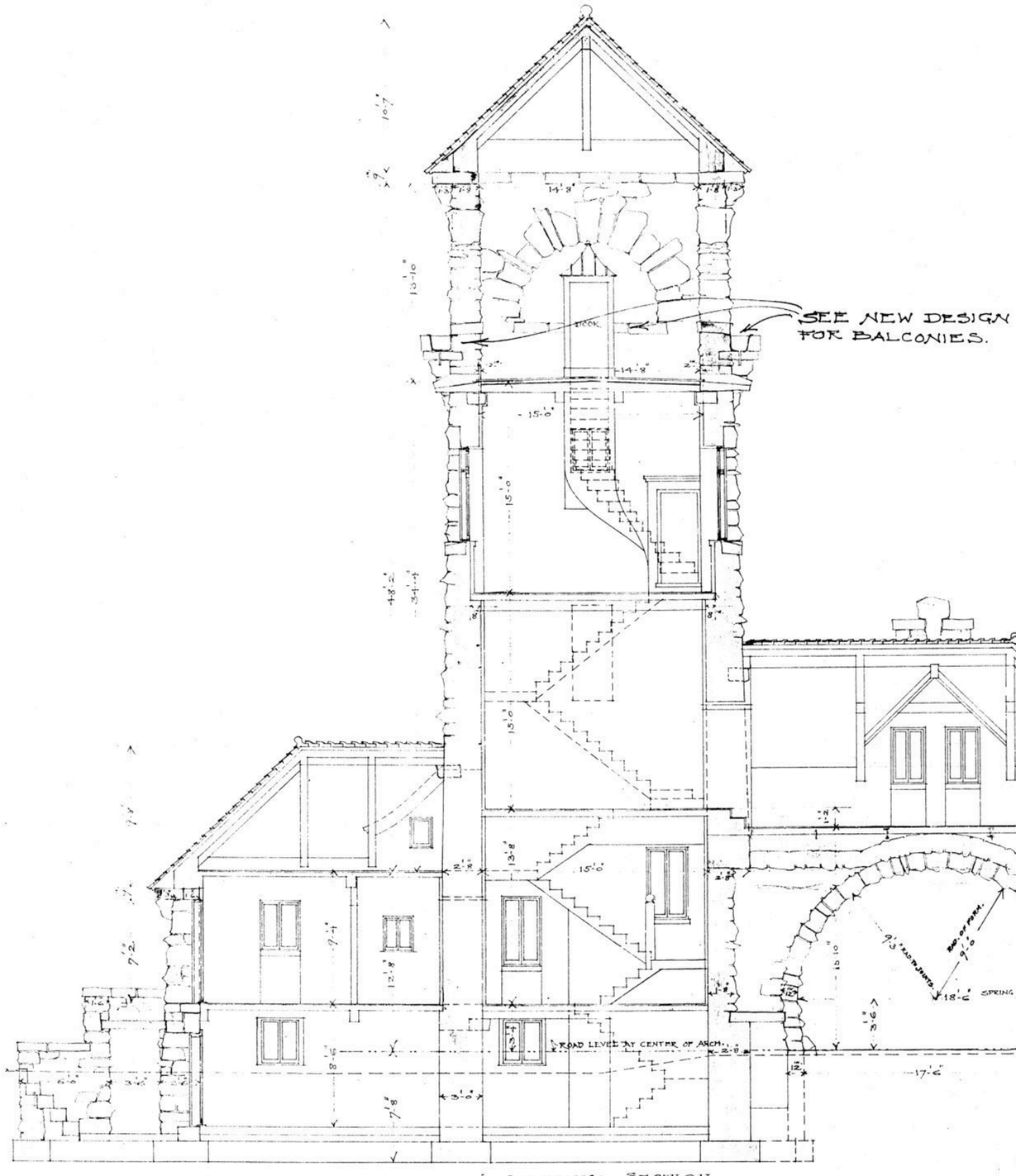
Note regarding drawing on following page

Version of building section showing plain casement window sash.

Hooker & Co.
JUN 25 1908

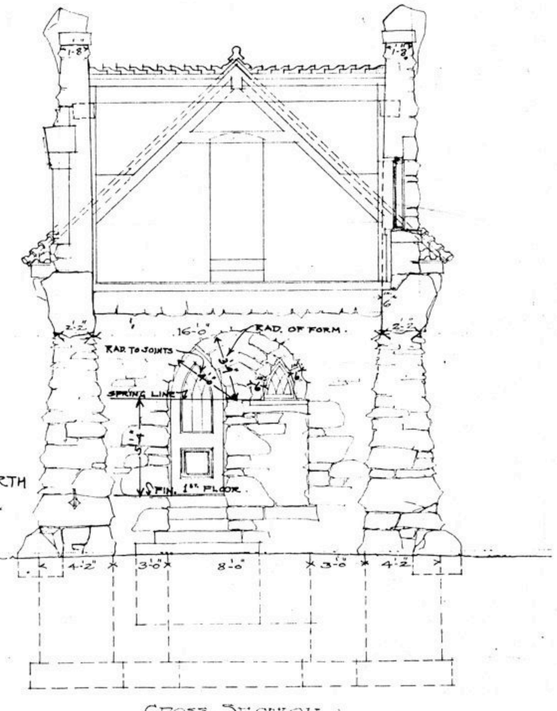
SEE NEW DESIGN FOR BALCONIES.

SEE NEW NORTH ELEVATION.



LONGITUDINAL SECTION
SCALE ¼ IN = 1 FT.

TESTIMONIAL GATEWAY
ON THE ESTATE OF ALBERT K. SMILEY
LAKE MOHONK, ULSTER COUNTY, N.Y.



CROSS SECTION
SCALE ¼ IN = 1 FT.

JAS. E. KARE & SONS
ARCHITECTS
1123 BROADWAY, N.Y. City

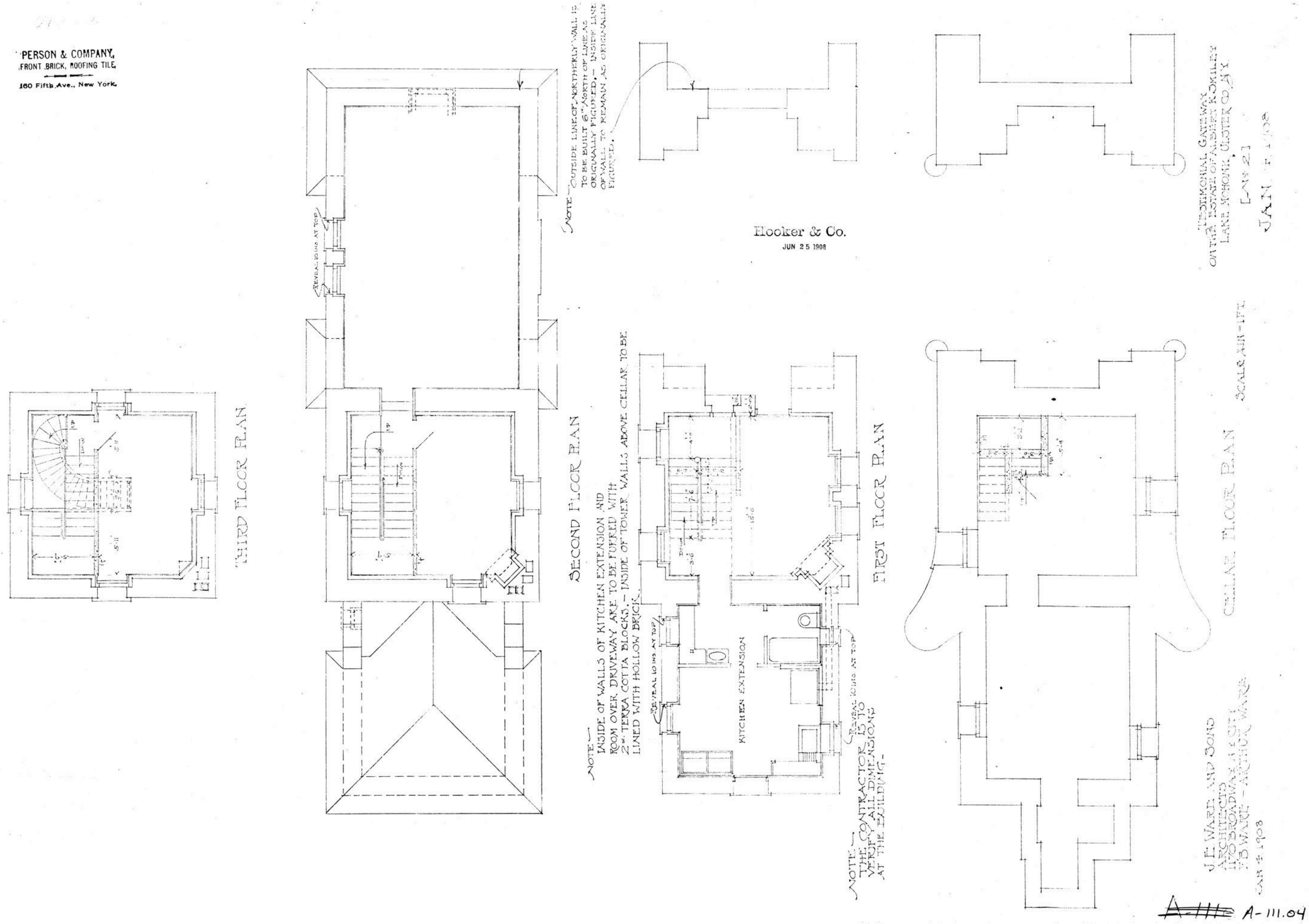
A-111.03

Note regarding drawing on following page

Floor plans, cellar through 3rd, Showing spiral stair configuration 3rd to 4th (built with a landing for change of direction instead of a spiral).

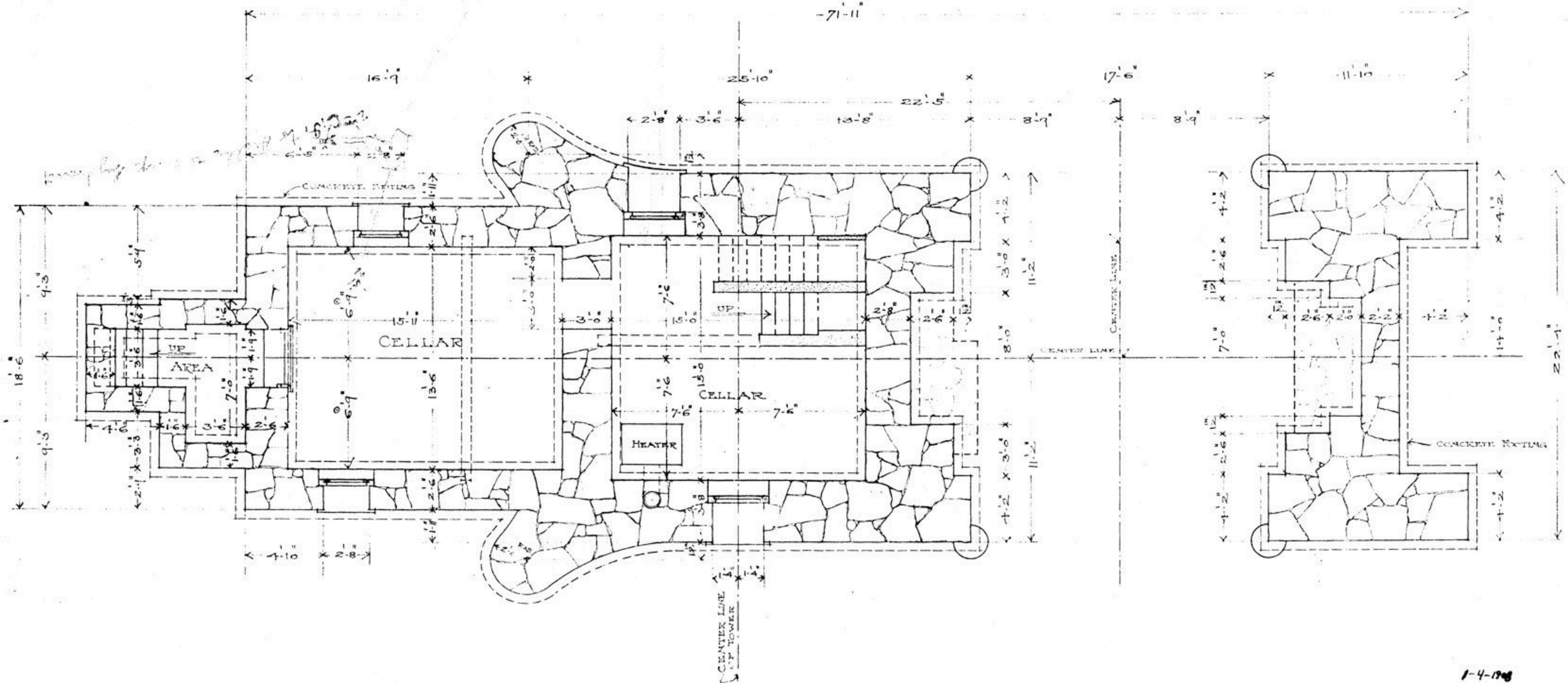
PERSON & COMPANY,
FRONT BRICK, ROOFING TILE,
160 Fifth Ave., New York.

Hooker & Co.
JUN 25 1908



Note regarding drawing on following page

Cellar Plan, suggesting the enormous stones used in construction.



JAS E. WARE AND SONS
ARCHITECTS
1170 BROADWAY, N.Y CITY

Sept 24/07

CELLAR PLAN

SCALE ¼IN = 1FT

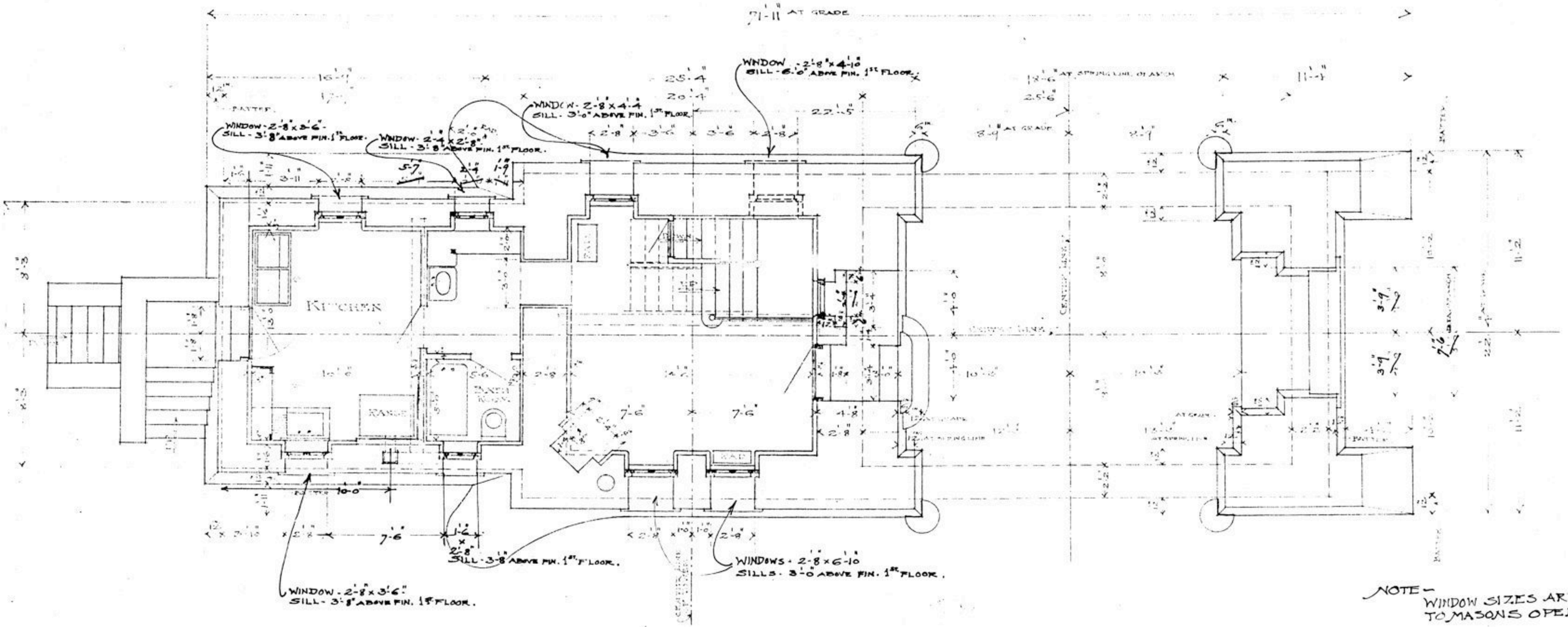
TESTIMONIAL GATEWAY
ON THE ESTATE OF ALBERT K. SMILEY
LAKE MOHONK, ULSTER COUNTY, N.Y.

1-4-1908

A111.06

Note regarding drawing on following pages

Floor Plans, First, Second, Third and Fourth, annotated for wooden windows.



NOTE -
WINDOW SIZES ARE
TO MASONS OPENING

WM. E. WARE & SONS
ARCHITECTS
170 BROADWAY, N.Y. CITY

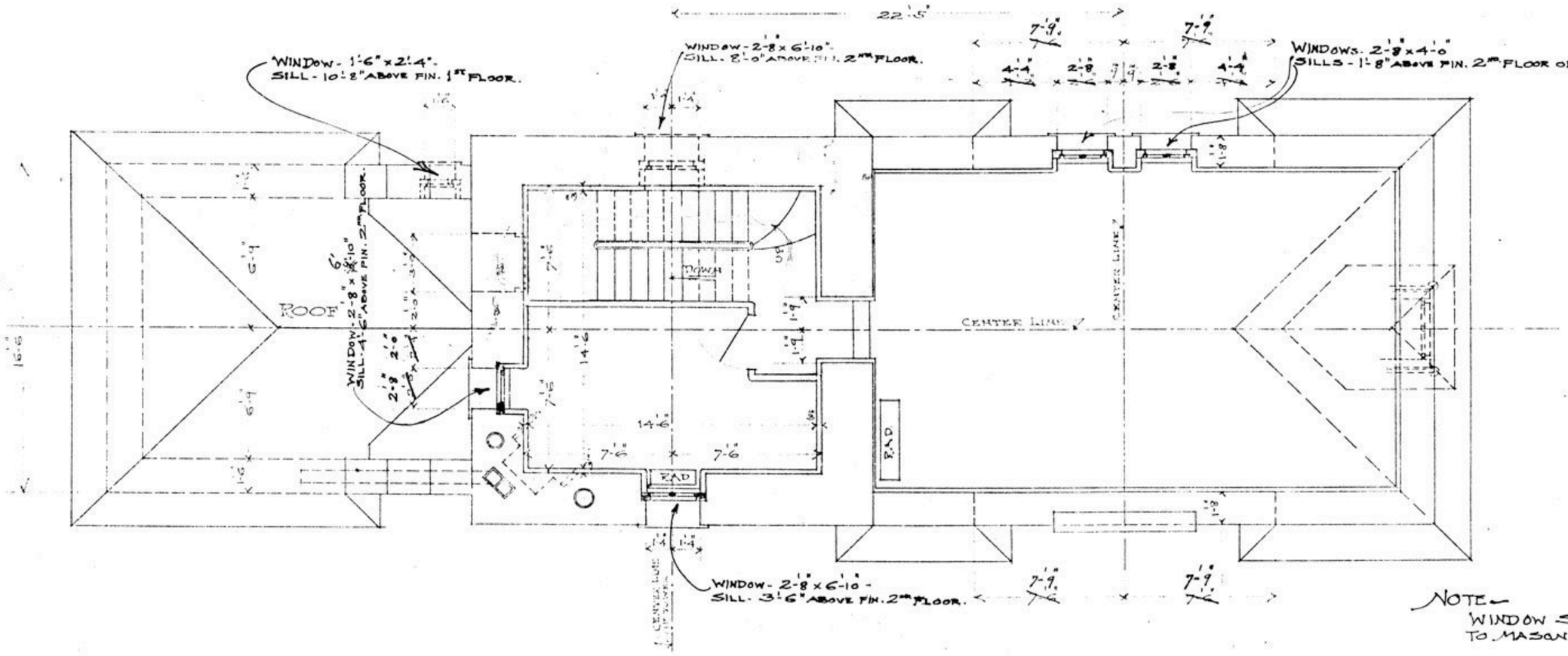
FIRST FLOOR PLAN

SCALE 1/4" = 1' FOOT

THE PEDIMENTAL GATEWAY
ON THE ESTATE OF ALBERT K. OWLETT
LAKE MOHONK, ULSTER COUNTY, N.Y.

A-111.07

1-4-1908



NOTE —
WINDOW SIZES ARE
TO MASONS OPENINGS.

JAS E. WARE & SONS
ARCHITECTS,
1170 BROADWAY, N.Y. CITY

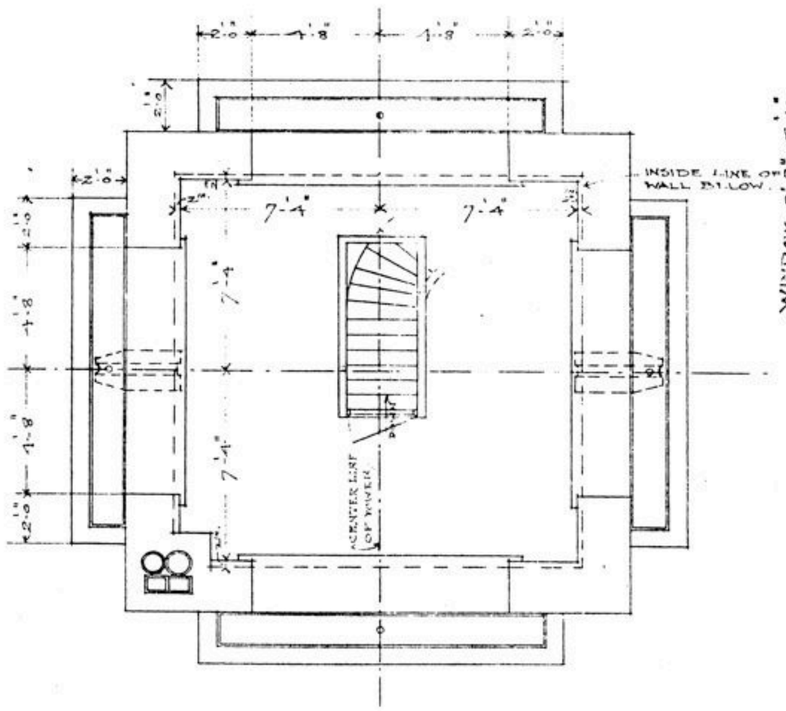
SECOND FLOOR PLAN

SCALE, ¼ IN = 1 FT.

TESTIMONIAL GATEWAY
ON THE ESTATE OF ALBERT K. SMILEY
LAKE MOHONK, ULSTER COUNTY, N.Y.

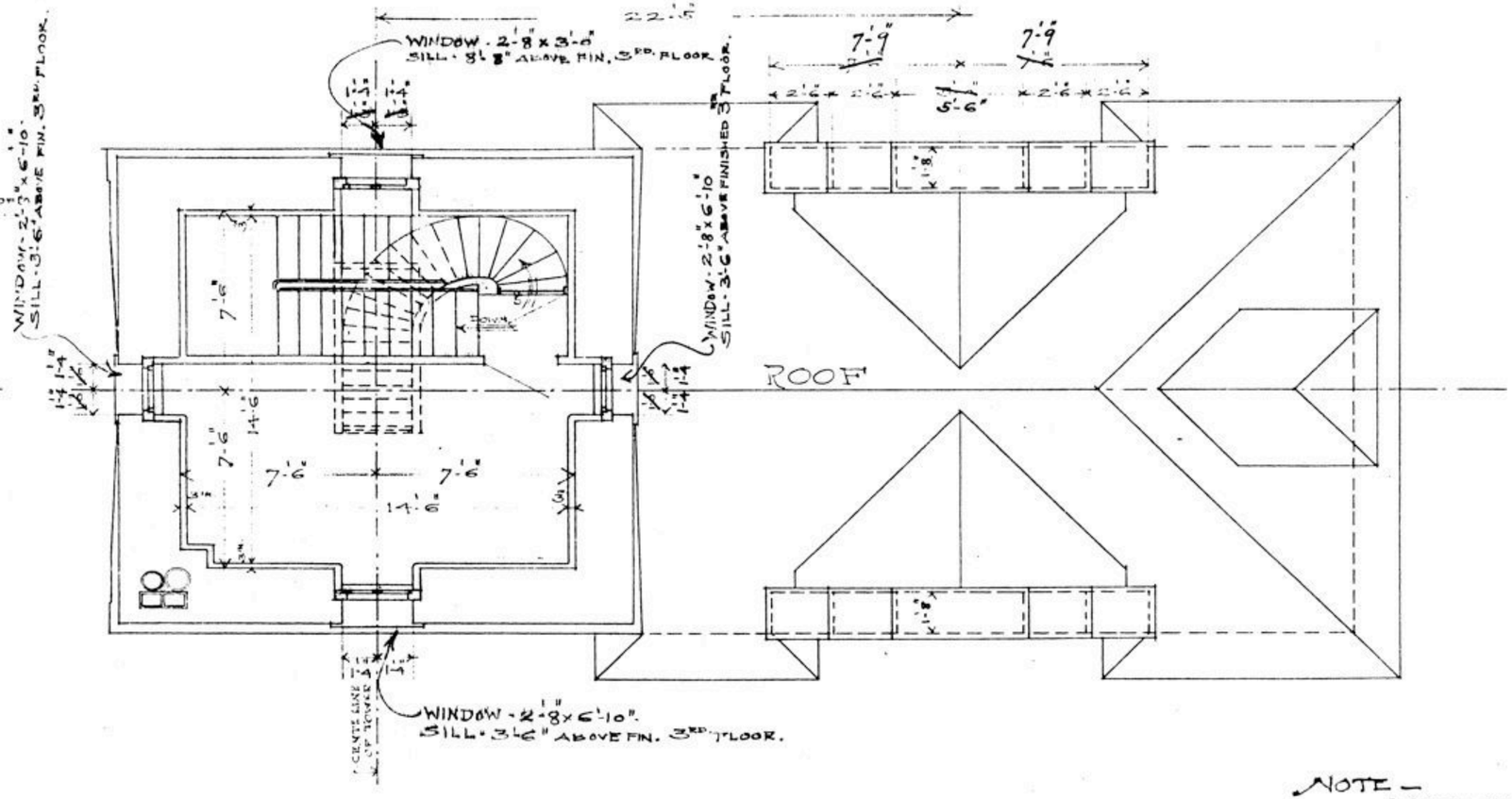
A-111.08

1-4-1908



FOURTH FLOOR PLAN
SCALE 1/4 IN. = 1 FT.

SEE NEW 4TH. FLOOR PLAN.



THIRD FLOOR PLAN
SCALE 1/4 IN. = 1 FT.

NOTE —
WINDOW SIZES A
TO MASONS OP

JAS. E. WARE & SONS
ARCHITECTS
1170 BROADWAY, N.Y. CITY

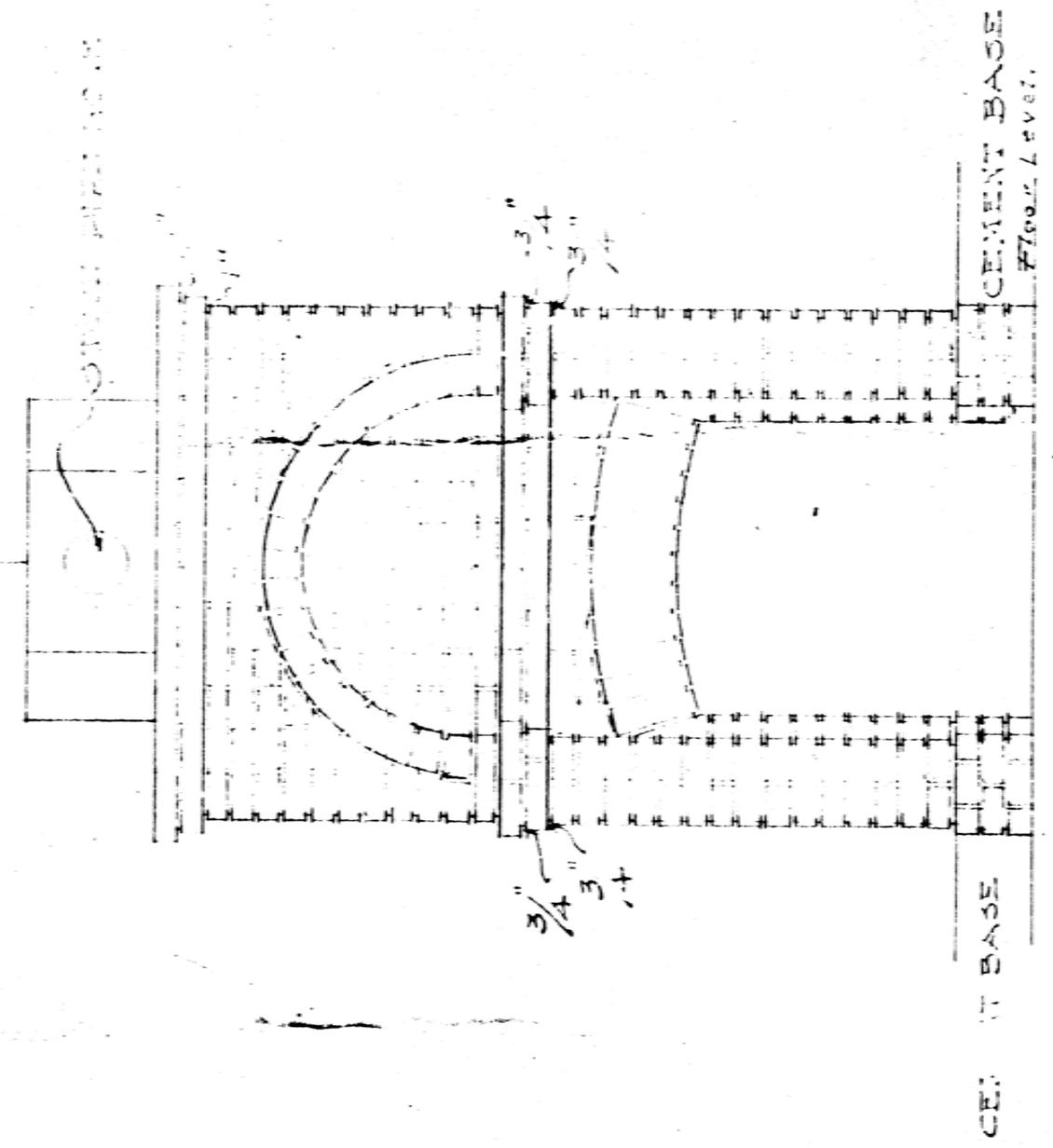
TESTIMONIAL GATEWAY
ON THE ESTATE OF ALBERT K. SMILEY
LAKE MOHONK, ULSTER COUNTY, N.Y.

1-4-1908

A-111.09

Note regarding drawing on following page

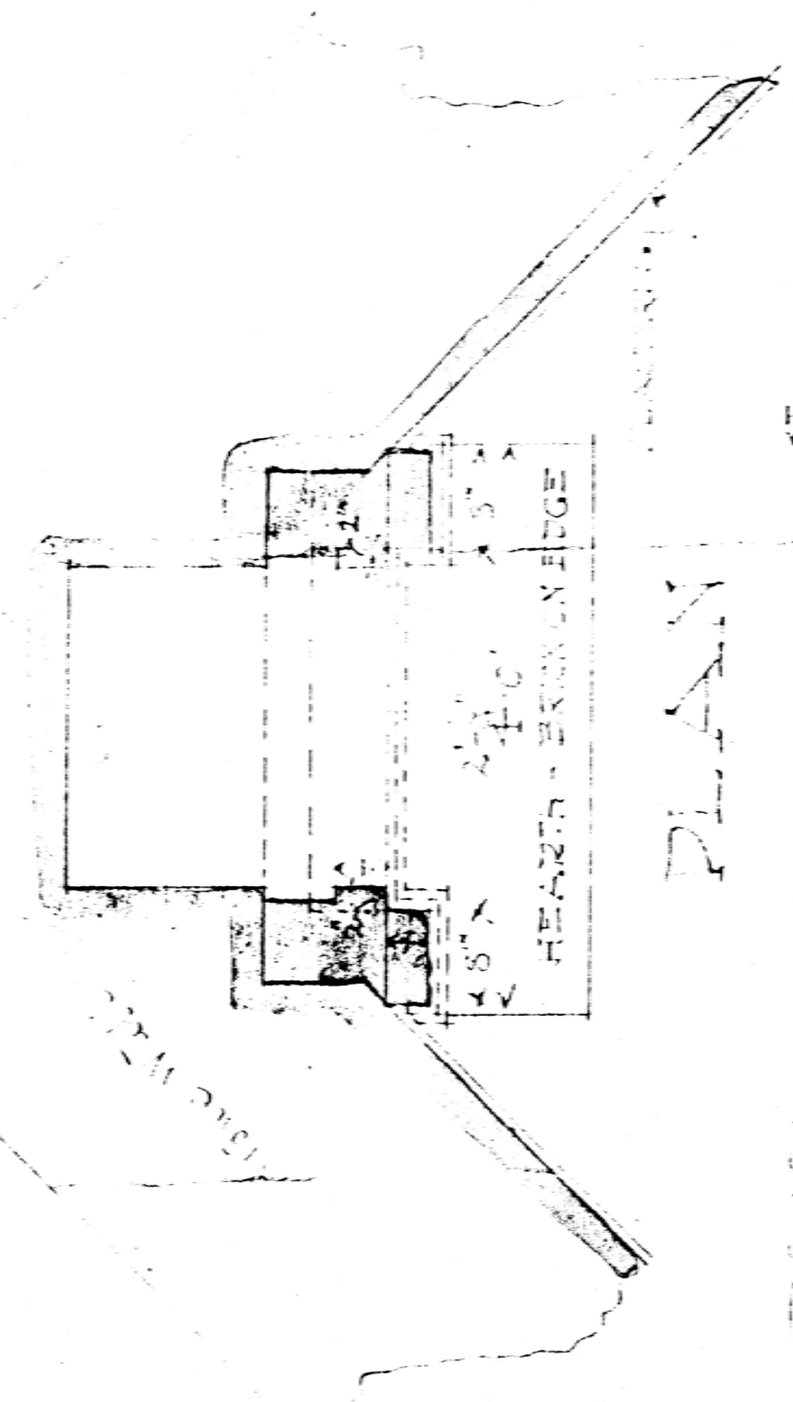
Corner fireplace in entry vestibule.



ELEVATION

JAS. E. MARA & SONS
ARCHITECTS
1123 BROADWAY N.Y.C.

SEP. 15-08



PLAN

BRICK FIRE-PLACE

SCALE 3/4" = 1'-0"

~~A-111~~ A-111.10 1-4-1908