

-THESIS-

-ELMER A BULL-

-CLASS of 1908-

-KANSAS STATE AGRICULTURAL-

-COLLEGE-

-PUBLIC ART GALLERY-

SPECIFICATIONS
OF
MATERIAL AND LABOR REQUIRED FOR THE ERECTION AND
COMPLETION OF A PUBLIC ART GALLERY TO
BE LOCATED AT MANHATTAN,
KANSAS;
ACCORDING TO THESE SPECIFICATIONS AND ACCOMPANYING DRAWINGS
FURNISHED BY

ELMER A. BULL/ ARCH'T.

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General Conditions.

The specifications and drawings are to be construed in their full meaning and intent, whether taken separately or together. They are deemed to explain each other and to be sufficiently descriptive of the necessary work to be performed under the contract. In case there should be any discrepancy or disagreement between the drawings and specifications, or between the larger and the smaller scale drawings, the wording of the specification, the figuring on the drawing, and the larger scale drawings shall take precedence in all cases. Should there be anything shown on the drawing and not mentioned in the specifications, or the converse, the work shall be done as fully and completely as though appearing in both. Any discrepancy in either the drawing or the specifications must be reported promptly to the Architect, and no advantage shall be taken by the contractor of any technical omissions or oversights.

When bidding for the contract the following form of bid will be used by the bidder;

FORM OF BID.

Manhattan, Kansas, 6/1'08.

To the Board of Trustees for the PUBLIC ART GALLERY.

Gentlemen:

I will erect and complete the PUBLIC ART GALLERY on Lot No. ---, Poyntz Ave., Manhattan, Kansas, in accordance with the drawings and specifications prepared for the same by Arch't Elmer A. Bull, of Manhattan, Kansas, for the sum of \$-----, and I will complete and deliver the same on or before Sept. 1st, 1909.

I will finish the stairway from first floor to second floor in best quality white pine instead of quartersawn Golden oak and deduct from my bid \$----.

I will substitute No. 1. paint dipped, Cortright Metal Slates for the entire roof and deduct from my bid \$----.

I enclose certified check for \$500.00 which is forfeited to the Board of Directors if I fail for twenty days to sign the contract and give acceptable bond for its execution, in case the contract is awarded to me.

(signed)-----

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BUILDING MATERIAL.

All materials shall be of the best of the kind specified, and any material rejected by the Architect shall be immediately removed from the premises at the expense of the Contractor.

WORKMANSHIP.

All material and labor of whatsoever kind is employed in the building is subject to the approval and acceptance of the Architect.

Imperfect work, such as settlements, shrinkages, & of any description, resulting from the use of materials of poorer grade than specified, or from any deviation from the construction as set forth by the plans without written authority from the Architect, and occurring within three months after the building is completed, shall be made good by the Contractor at his own expense. All workmen employed shall be skilled in their respective work, and the Architect shall have authority, at any time, to direct that workmen, who in his judgement are incompetent and incapable, be discharged from the work entirely, and the Architect may direct that any work not properly performed, be taken out and rebuilt in a proper manner at the expense of the Contractor.

PERMITS.

The Contractor shall obtain all necessary permits for placing building materials, for connection with water mains, and for use of water for building purposes, and is to pay all proper fees for the same.

RESPONSIBILITIES AND LIABILITIES.

The Architect will furnish all plans, specifications, and details for the work, and shall give all necessary instruction and explanation to the Contractor; he will superintend the work for the Board as their agent, he will give his judgement upon the fitness of the material and quality of the workmanship; he will settle all alterations to be made, and he will submit to the Board on the first day of every month, estimates upon the work upon which payment may be due.

The Contractor will be liable for damage to life and limb, and to adjoining property. He will be responsible for all violations of ordinances such as obstructing sidewalks and streets, and he shall personally supervise the work and will not sublet any part of it without the written consent of the owner, or the Architect.

The Board of Trustees shall be held responsible separately and conjointly, according to law, for the entire sum of the contract price of the building. They shall make all payments under this contract promptly and without reserve, except as hereinafter provided. They shall establish the right-front corner of the building, but the Contractor will be responsible for all other measurements.

EXCAVATIONS AND GRADING.

After the building site has been located the black surface dirt will be removed and kept separate from the rest, to be used for dressing the grades after grading has been completed. The excavations shall be made as shown in the plans and drawings and all trenches made true and level. The trenches and excavations shall be kept dry and free from all surface water. As soon as the foundation walls are above the grade line and finished as hereinafter specified, the spaces behind the walls shall be filled with dirt and tamped solidly into place. All surplus earth after grading shall be removed from the premises at the expense of the contractor, and if more earth is needed in the grading than is secured from the excavations, the same shall be supplied by the contractor at his own expense. The grading shall have a slope of $1/4"$ per foot toward the sidewalk.

FOUNDATIONS.

The footings shall be of such sizes as shown in the drawings. The lower footing course shall be clean, coarse, sharp river sand and best quality Iola Portland cement, mixed with crushed stone in the ratio of 1:3:4. The stone used must be small enough to pass through a 3" ring. The sand and cement are to be mixed dry, then the stone added and the whole mass wetted and remixed. After being placed in the trenches the concrete shall be tamped until the water rises to the top. On the top of this bed a course shall be placed a secondary course of whole stone bedded in strong cement mortar and roughed to good beds and faces.

STONEMWORK.

All interior walls beginning at the top of the footing courses shall be carried up to their various heights as shown in the drawings. They shall be of the so-called rubble work, using the best grade of native limestone, the same having good beds and builds and to be bonded with at least one through stone in every four square feet of wall surface. The common practice of throwing spalls into the walls with the trowel or shovel will not be tolerated in any case. Spalls and refuse stone shall not be used, and all crevices whatsoever shall be filled with mortar to insure a perfectly solid wall in every respect.

All joints shall be laid full with cement mortar 3:1. Above the lower window sill course the mortar may be weakened by the addition of fresh burned lime not to exceed one bucket lime to one barrel of cement. The cement used shall be the best quality Iola Portland Cement, and the sand shall be clean, sharp, coarse, Blue River pumped sand.

All stones shall rest upon their own beds and faces and shall be neatly troweled. Iron cramps shall be used in the contour walls at least one in every four feet and in every fourth course. In the interior walls the cramps shall be used at least one in every fourth course and one in every six feet. These cramps are to be of $1/8" \times 1"$ Norway iron and at least 10" long. They shall have "dog" ends at least $3/4"$ long and be let into both the facing stone and the backing stone.

The facing stone of the contour walls is to be laid in ranges as shown in the elevations, commencing at the grade line with an 18" course. On the top of this grade line course will be laid a 6" range course, and above this alternate courses of range work 12" and 6" as shown in the drawings. The pitch faces of the range courses shall in no case project

less than 3" nor more than 4 1/2".

All outside parts of the contour walls below the grade line shall be plastered, as soon as the wall is built to the grade line, with good quality cement mortar not less than 9:6:3 and shall be painted with a coal tar coating as soon as dry.

All jambs will be bushhammered on the side toward the frames and shall have a draft of 1 1/2" on the edges. All door and window frames are to be set flush in cement mortar and the door and window sills are to be of extra select solid cut stone as shown in the drawings and to be bushhammered, with 1/2" draft on the edge.

The steps shall be as shown in the drawings, and of select stone bushhammered on all visible faces.

All beams that rest upon the wall or are to be built in the wall are to rest upon a solid oak plate at least 2"x8", and the spaces between the beams shall be carefully laid up in a solid manner to prevent a possible shrinkage.

BRICKWORK.

This will include the partition walls on the first and second floors and the brick lining of the chimney. The brick used shall be of the best quality of hard burned Coffeyville or Iola brick and the walls of the thickness marked on the plans.

TIMBER AND FRAMING.

Unless otherwise specified all structural timber will be of the best quality Southern Yellow Pine, or Oregon Fir, subject to the approval and inspection of the Architect. No timber will be allowed that contains large, black or damaging knots, shakes or pitch spots or decay. All exposed timber will be hand dressed after the mill. All timber delivered upon the site will be protected from the sun and weather until used in the building. All lumber used must be dry and thoroughly seasoned before being used. The ends of all beams will be perforated to prevent season cracks.

All floor and ceiling joists will be placed 16" center from center and properly bridged as shown on drawings, with 3" bridging. The joists for first and second floors will be 3"x14" joists of the required lengths. The first and second floor joists will be covered with strong, perfect sheathing 10"x7/8" laid diagonally and close enough together so that the head of a 6d nail will not drop through the opening. This sheathing to be nailed with 3--8d or 2--10d nails in each joist.

STRUCTURAL IRON.

The four iron columns in the basement shall be of good quality C.I. hollow cylinder form and shall not be painted until inspected and accepted by the Architect.

PLASTERING AND FURRING.

All ceilings are to be furred with 1"x2 3/4" furring strips placed 16" from centers, and all angles on top of walls are to be filled with mortar to the under side of the rafters. Walls and ceilings are to be plastered with white finish, using best Iola cement plaster for brown and flush coats, and all work is to be made straight and smooth.

PLUMBING.

The plumbing contract will be let separate from this contract by the Board. The building contractor will notify the Architect when the plumbing or any part of it can be done and will in every way possible accelerate the work of the plumber.

ROOFING.

All roofs will be covered with dry, matched 7/8"x 10" hard pine. Over this sheat hing will be spread one layer of 3-ply tar felt.

All roofs will be covered with (1), Best Bangor slate, or other equally good quality; to be 10"x16" and of uniform thickness, not less than 3/16" all drilled and countersunk holes and slates to lap third course not less than 3". Every slate must be carefully and evenly bedded to a firm bearing, warranted not to give or start for two years from the date of the completion of the job. (This guarantee does not include the accidents not the fault of the slater.) The slater will have custody of his job and other workmen will not occupy it without his permission.

The hips will have edges of slate cut to an even fit and will be under-flashed securely with 14oz. cold rolled copper, solidly fixed and with provision for expansion and contraction.

All valleys, watersheds and flashing where copper is used will be of 14oz. copper and slates must cover back to insure a perfect roof. Lead flashing will be used where necessary to prevent leaks. All parts of metal work connected with slate will be of lead or copper.

ALTERNATIVE ROOFING.

If so contracted No. 1. paint dipped, Cortright Metal shingles will be used and laid in accordance with the printed rules of the factory and warranted to make a securely waterproof roof. Substitute for the tar felt one layer of 3-ply building paper lapping about 2". Flash and counterflash when necessary. The mechanics laying the shingles should wear rubber-soled shoes to avoid scratching the paint and the metal.

WINDOWS.

Locate all windows as shown in the drawings, using best all heart white pine lumber for all parts of frames and sashes. Sap strips will cause the rejection of the entire frame or sash. For pulley stiles use all heart hard pine. For pulleys use best quality turned face and axle 2--1/4" pulleys and best braided cotton cord with metal weights.

Prime all window and door frames as soon as built and exercise great care to keep frames true and even while being walled in. The top of frames will be protected from the exposure to sun and wind with tarp tar paper.

Upon the completion of the job all glass is to be cleaned and in perfect condition and the sashes must run closely and easily. All outside window sashes to have locks, lifts and pulls worth at least 50¢ per pair of sash.

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STAIRWAY S.

There will be two stairways in the building. The basement stairs are to be built of planed plank 2"x12" with 1"x6" risers and built on 3"x12" stair horses. They will have no rail or balusters.

The main stairs will be built of 2"x12" treads on 3"x12" stair horses with 7/8" x 6" risers. Use 1/2" nosing mold. The newel will be 10"x10" with panels, and carved as shown in details. Hand rails with 2"x2" turned balusters 2 1/2" apart. For the hanging newels use 7"x7" newel with panel as shown in details.

SHEET METAL WORK.

The cornices will be furnished by the Architect at the proper time, and the contractor will build lookouts and wall plugs under the direction of the Architect, and will place the cornice in its position properly and paint the same as specified.

INTERIOR FINISH AND BUILDERS HARDWARE.

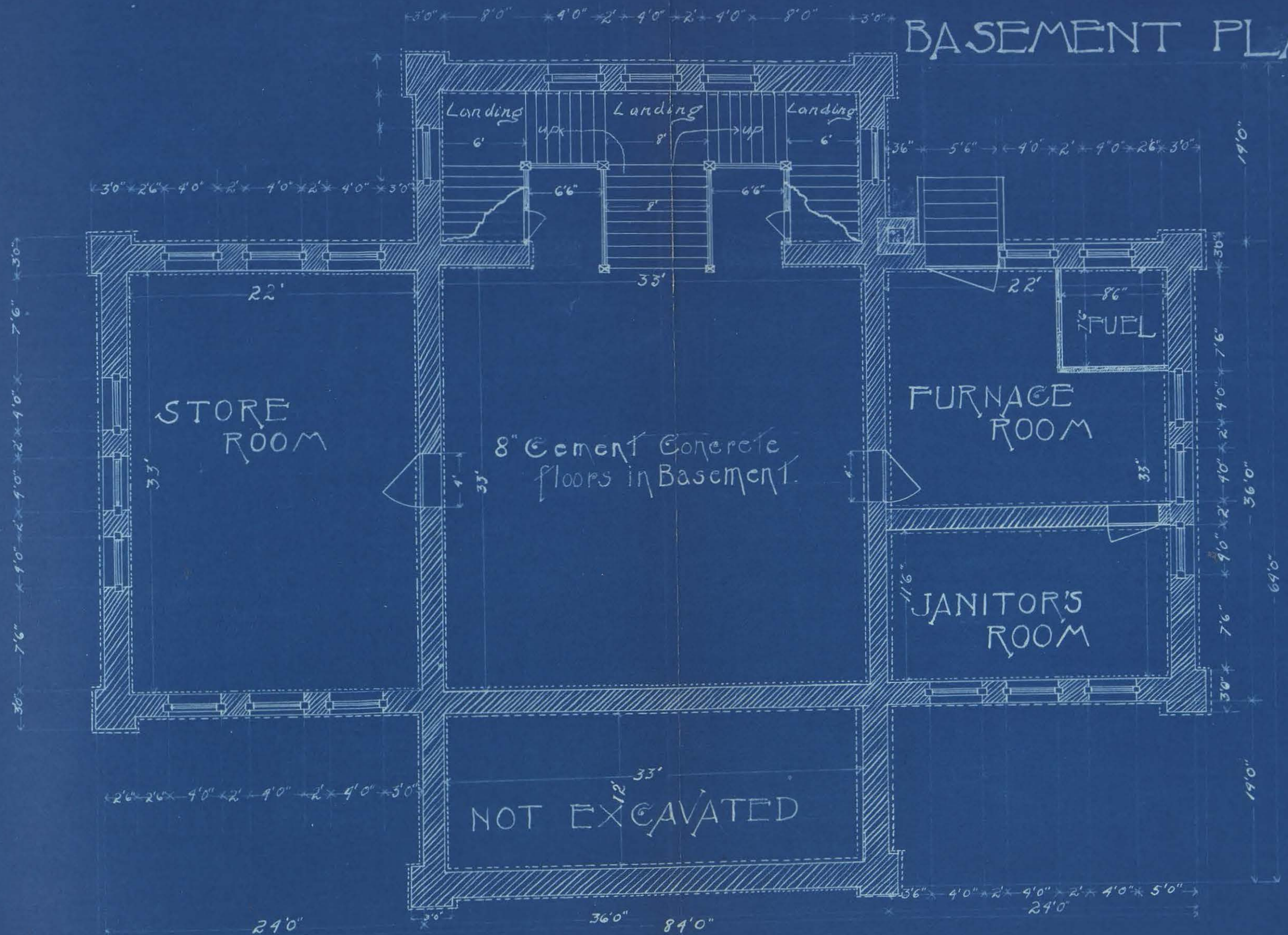
All interior finishing lumber will be quartersawed Golden oak or clear, all-heart white pine as per contract, and will be kept housed until used. All inside finish will be polished after the mill and made ready for the filler and varnish. All panel doors will have first class bronze knob and key box mortise locks. All door hardware is subject to the approval of the Architect and may be purchased by him if so directed by the Board.

PAYMENTS AND FINAL SETTLEMENT.

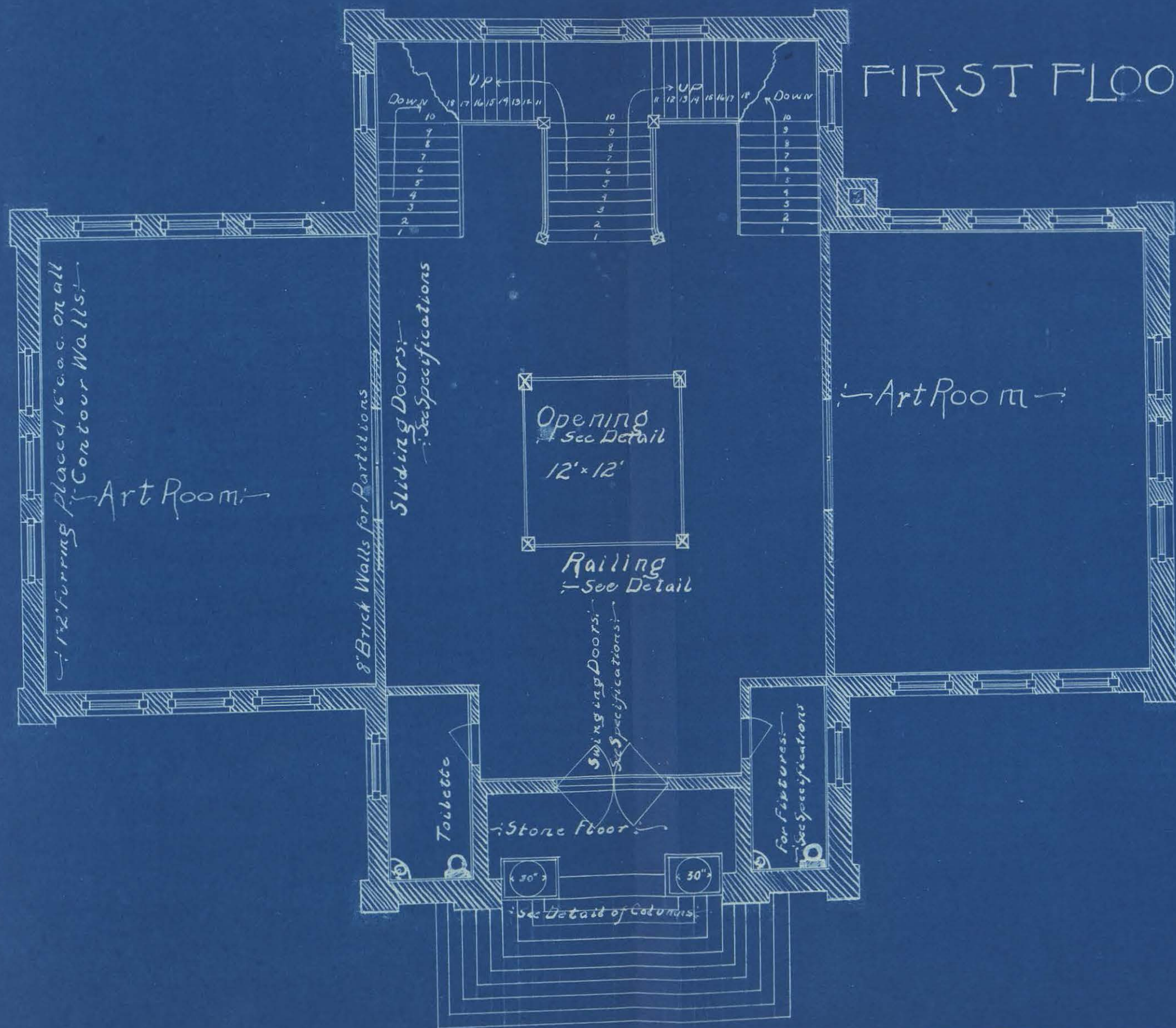
Payments shall be made upon the fifth day of every month for not more than eighty per cent of the estimate as made by the Architect. The remaining money shall be withheld until the final settlement, which shall be made as soon after the acceptance of the building by the Board as the Contractor shall furnish conclusive evidence that all bills whatsoever for labor and material have been paid in full.

BASEMENT PLAN

1

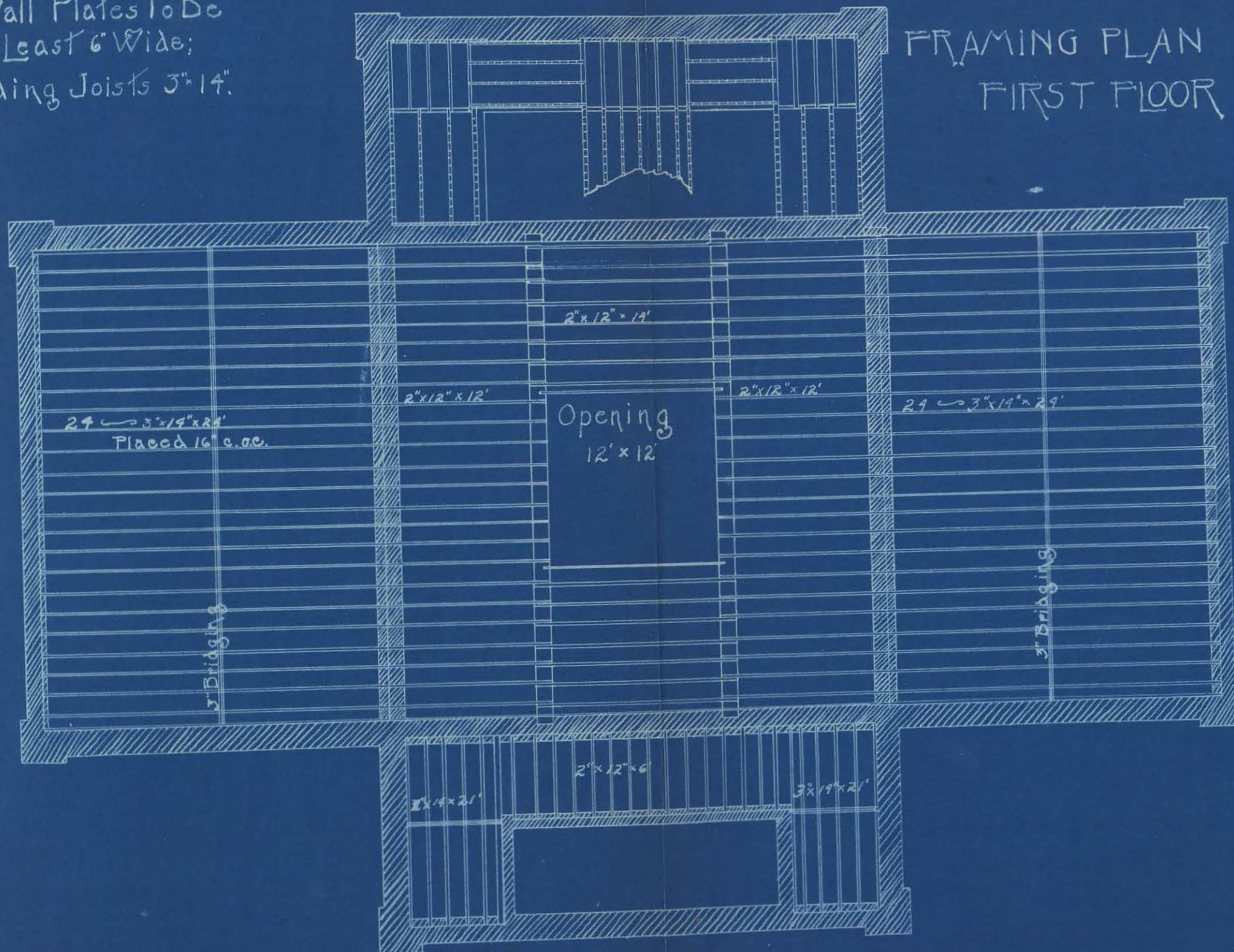


FIRST FLOOR PLAN



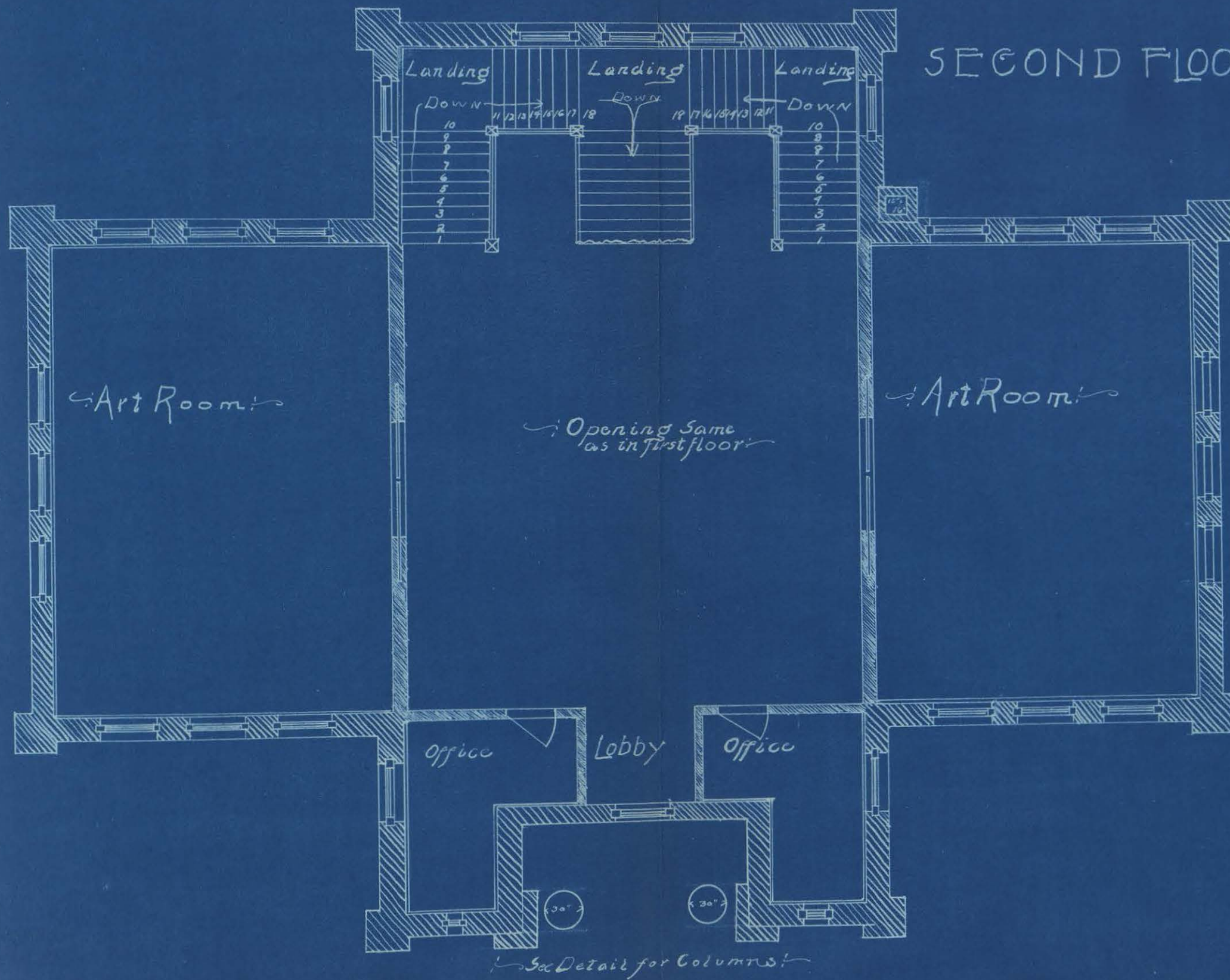
Note: All Wall Plates To Be
2" Material At Least 6" Wide;
Stair And Landing Joists 3" x 14"

FRAMING PLAN FIRST FLOOR



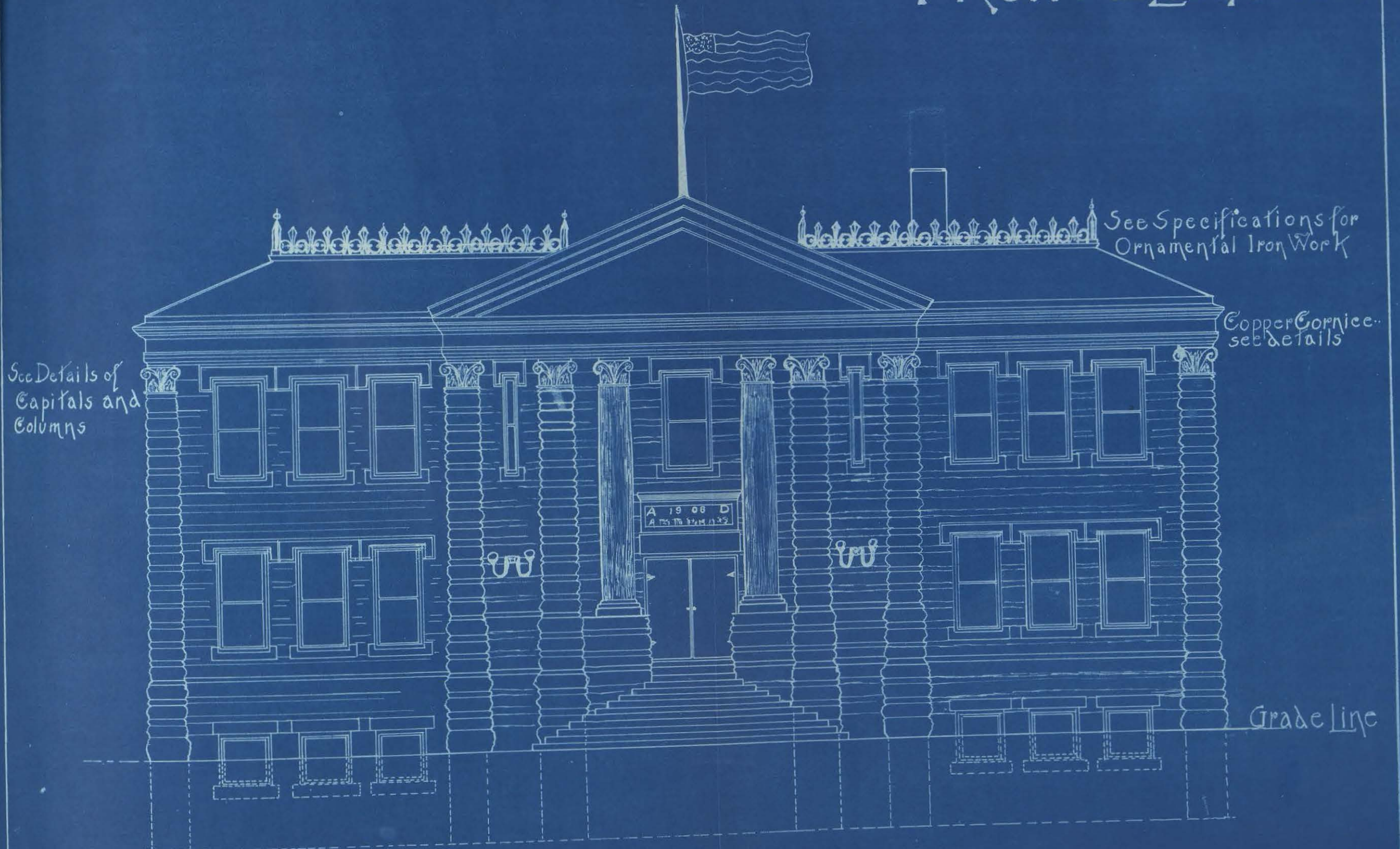
4

SECOND FLOOR PLAN



5

FRONT ELEVATION



REAR ELEVATION



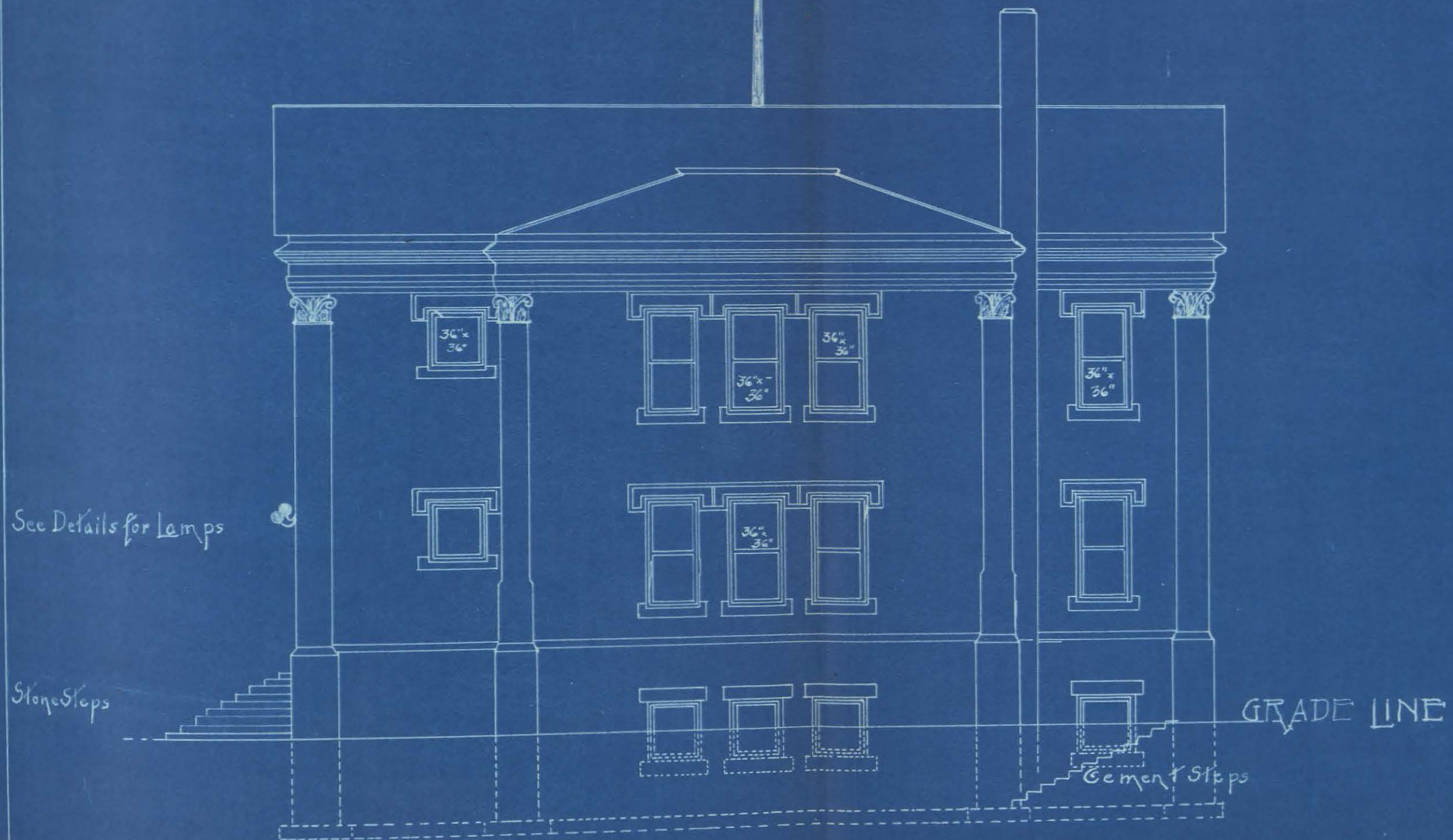
7

RIGHT SIDE ELEVATION

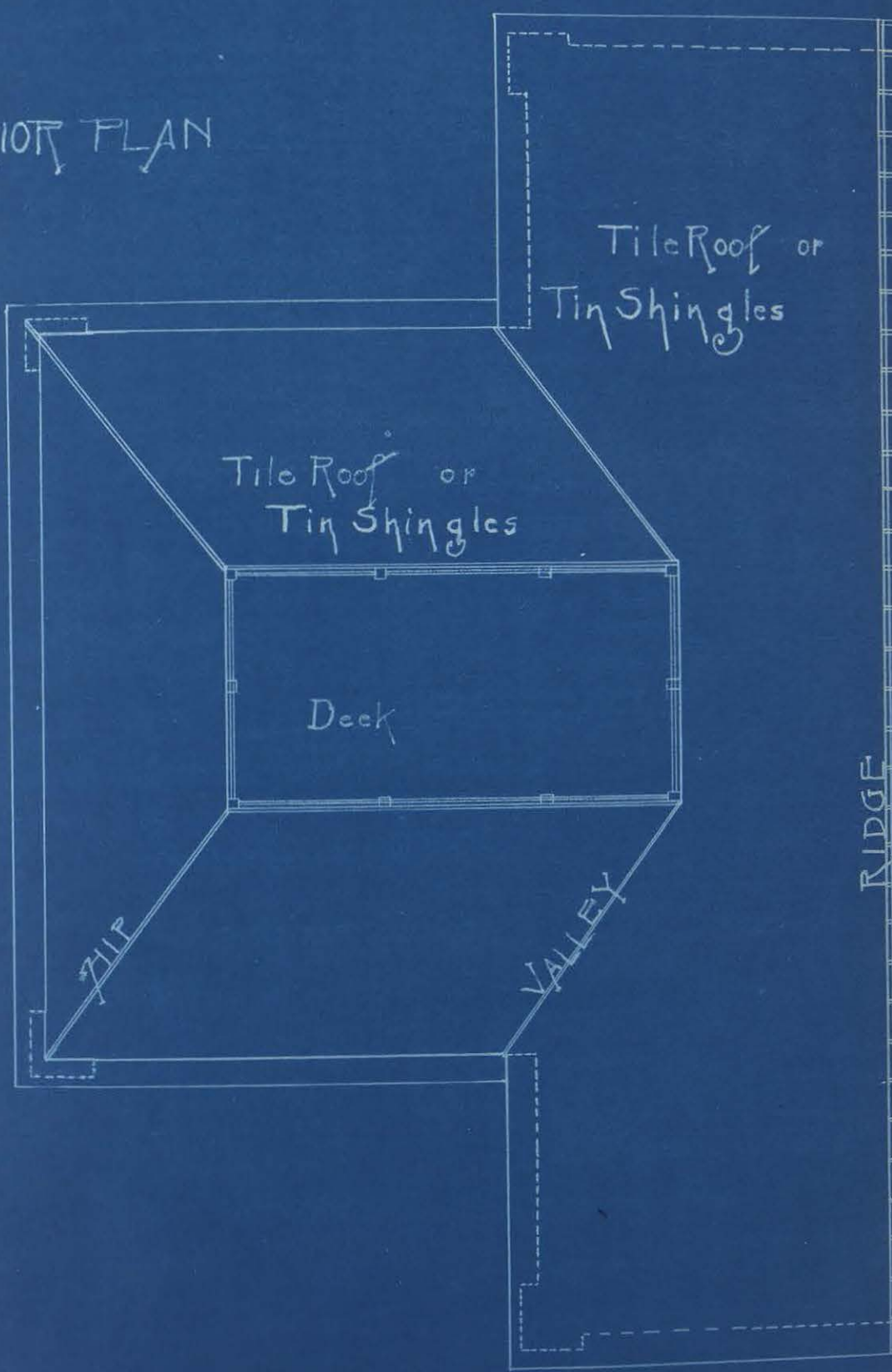
GRADE LINE



LEFT SIDE ELEVATION



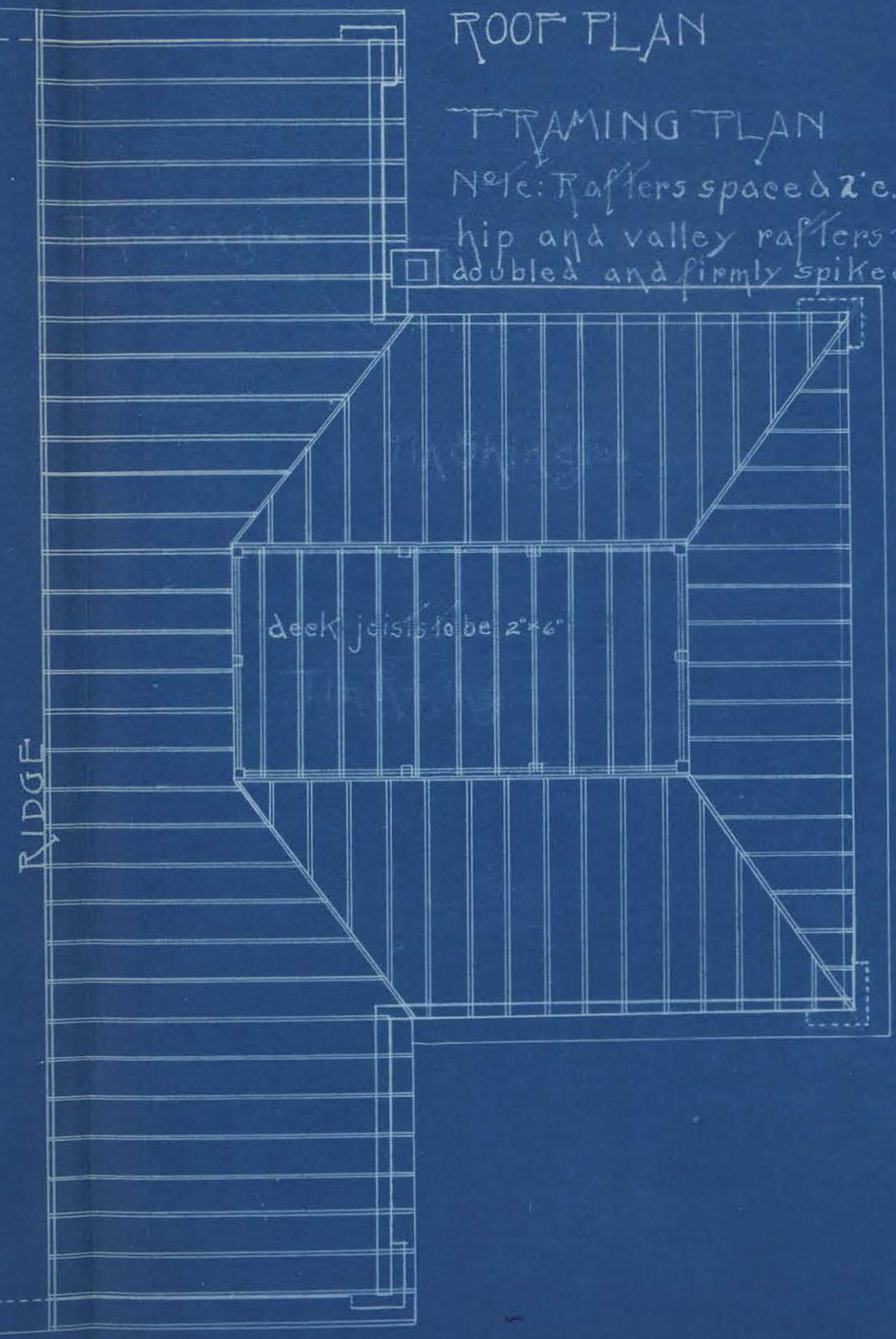
EXTERIOR PLAN



ROOF PLAN

FRAMING PLAN

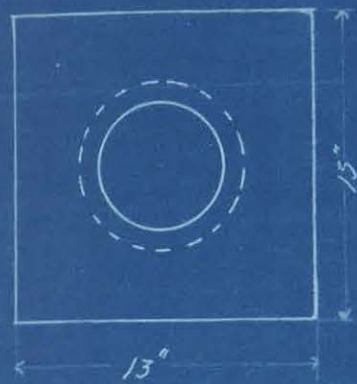
Note: Rafter spaced 2' c. on c. All hip and valley rafters to be 2"x6"s doubled and firmly spiked together.



ELEVATION LONGITUDINAL SECTION

Note: For Section of Cornice See Details.



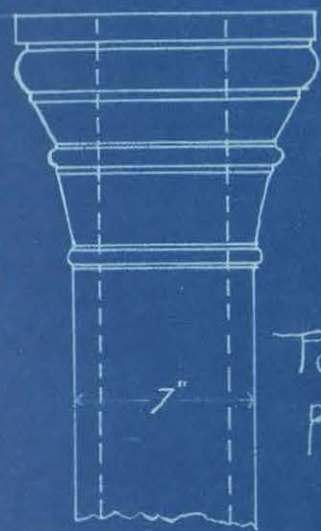


DETAILS of CAST IRON COLUMNS in BASEMENT and STONE FRONT COLUMNS

Square $1\frac{1}{4}$ " thick

and

STONE FRONT
COLUMNS



7"

Four Columns
placed in Basement

8' 6"

Scale 1" = $1\frac{1}{4}$ '

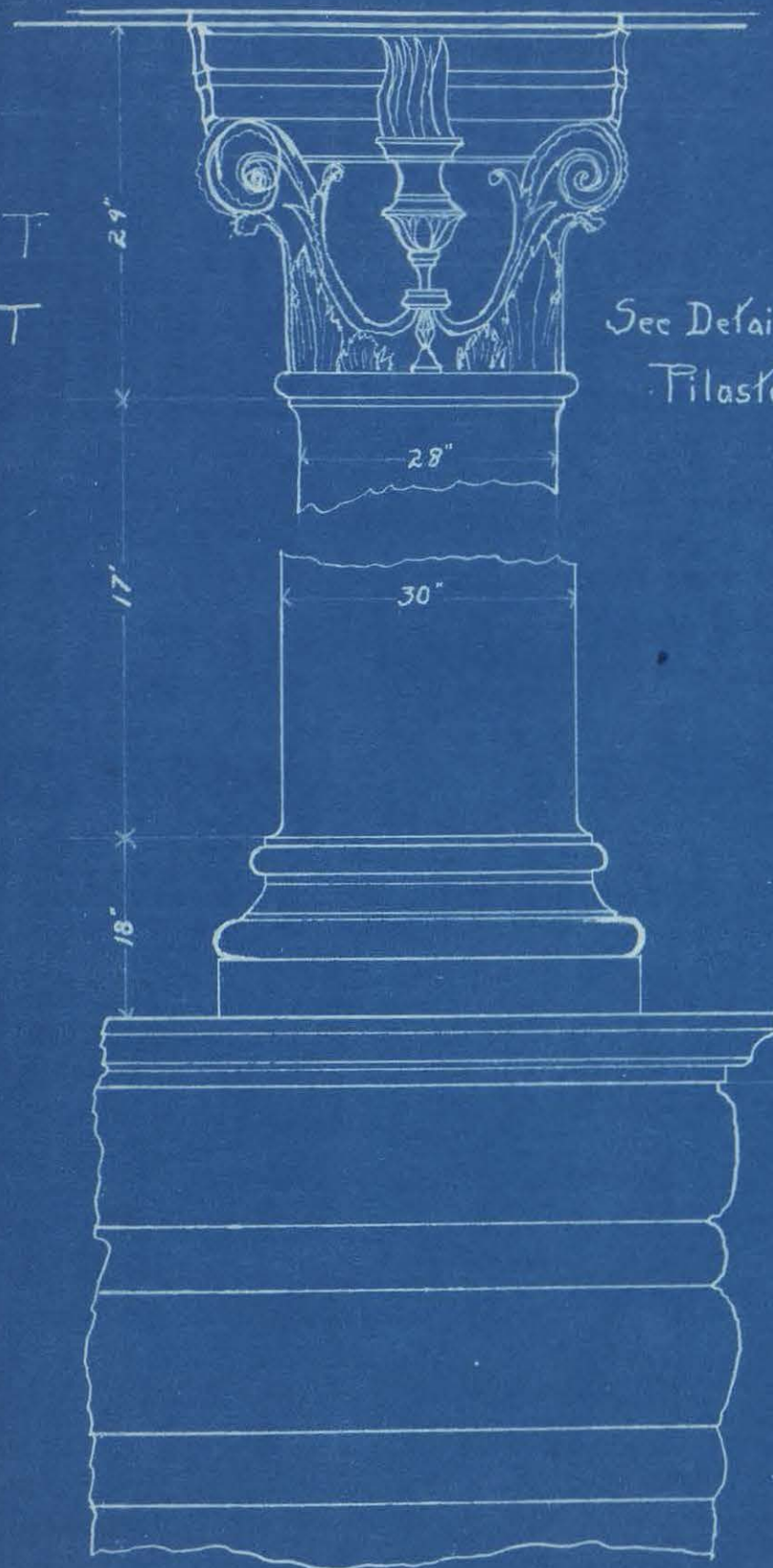
9"

6' lead

plate 17" x 17" x $1\frac{1}{4}$ "
floor line

Concrete

1' 6" Stone

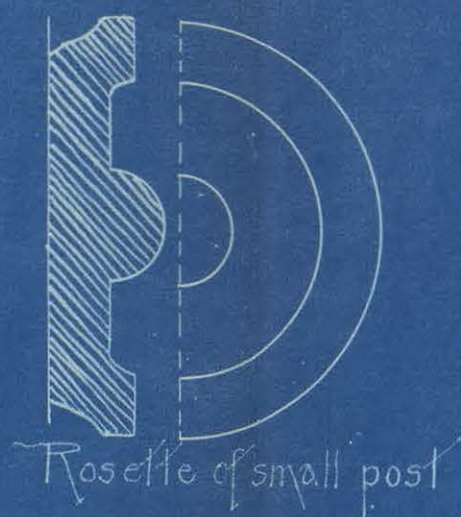
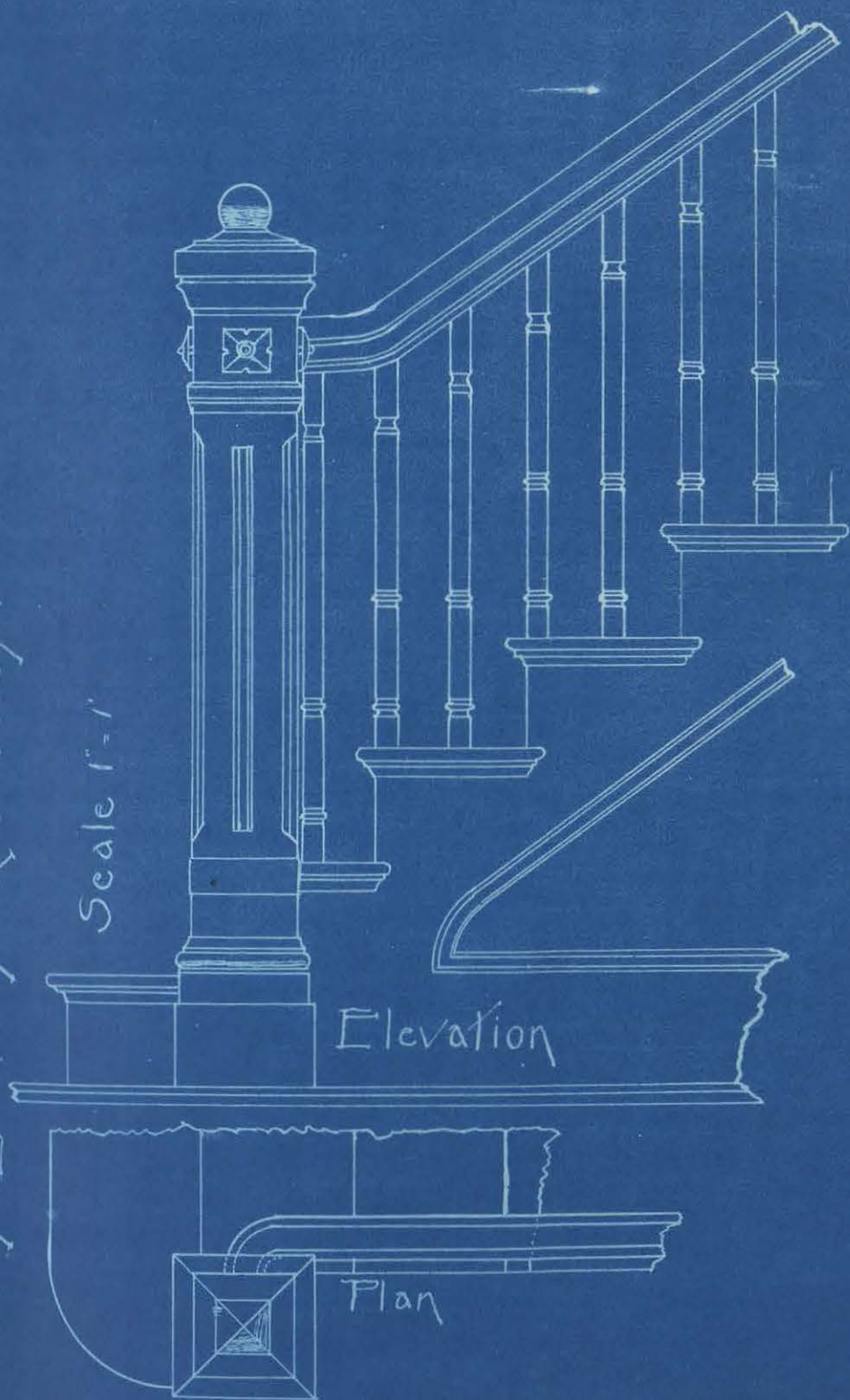


11

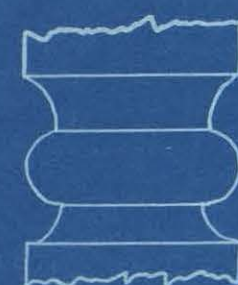
See Details of Capitals for
Pilasters

DETAILS OF STAIR FINISH

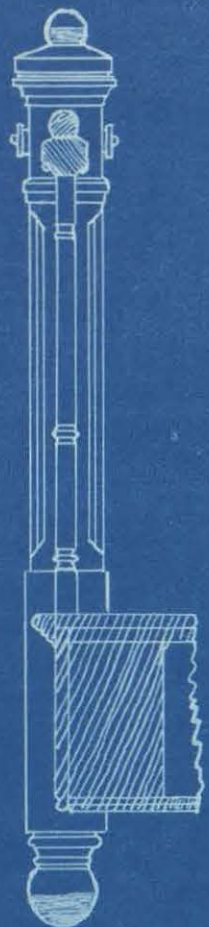
Scale 1"-1'



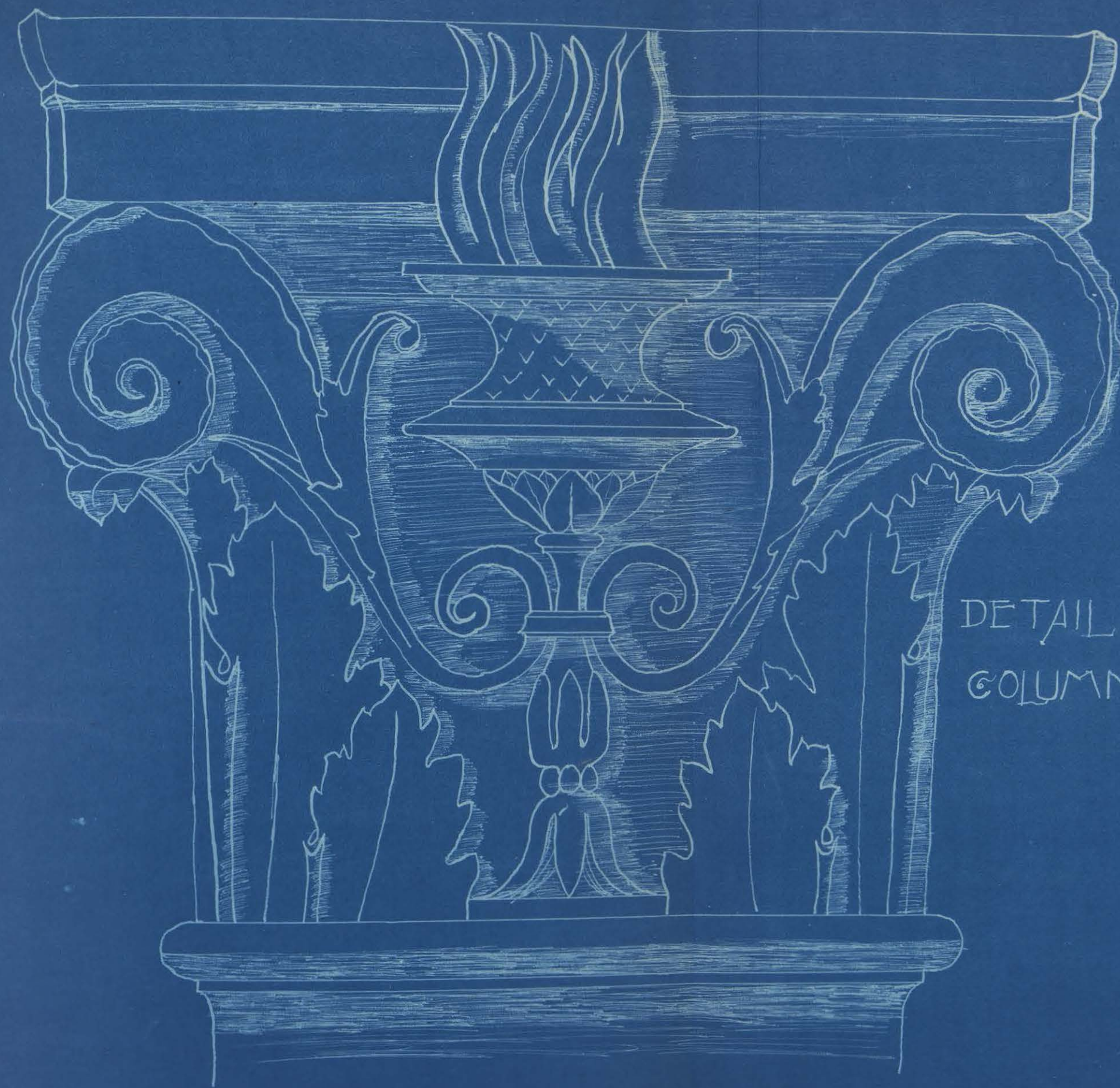
Hand Rail



Detail of Square Baluster
Full Size

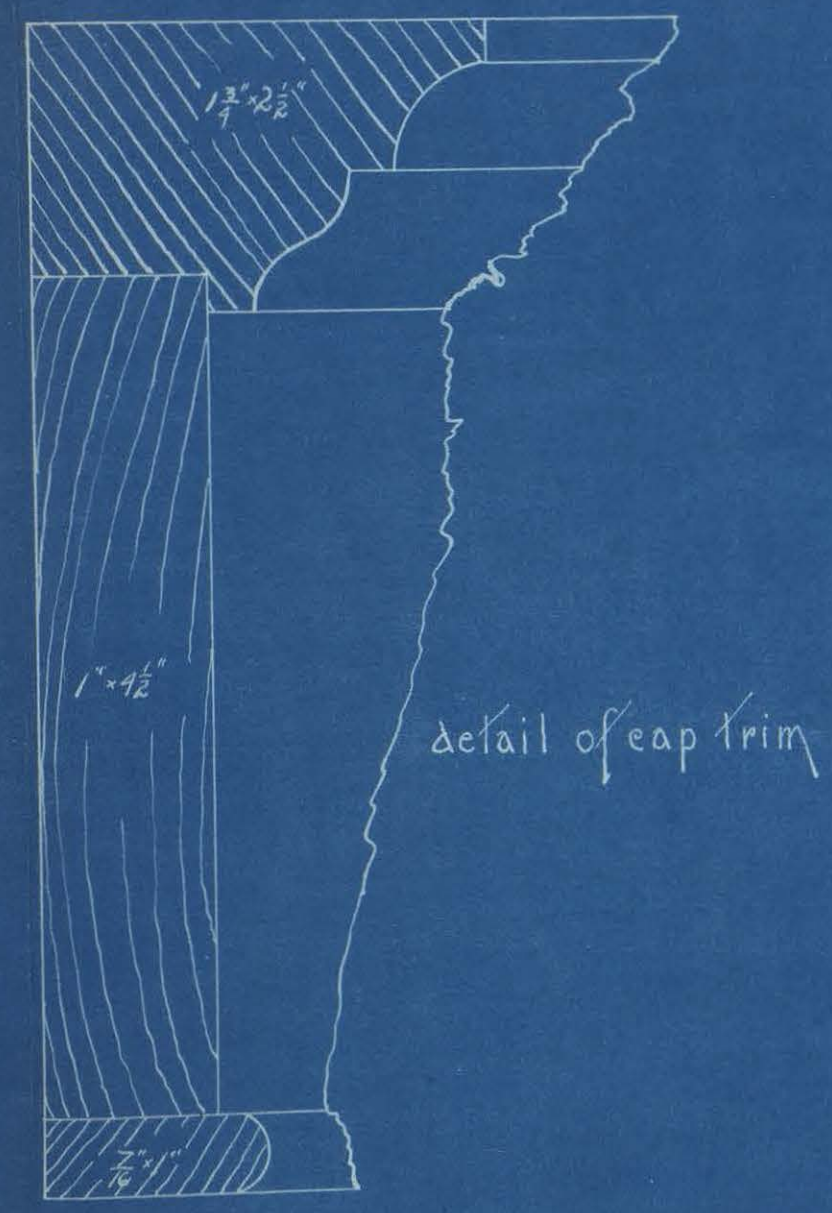
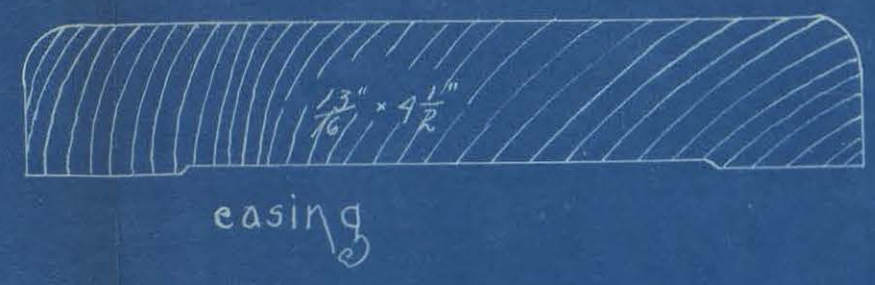
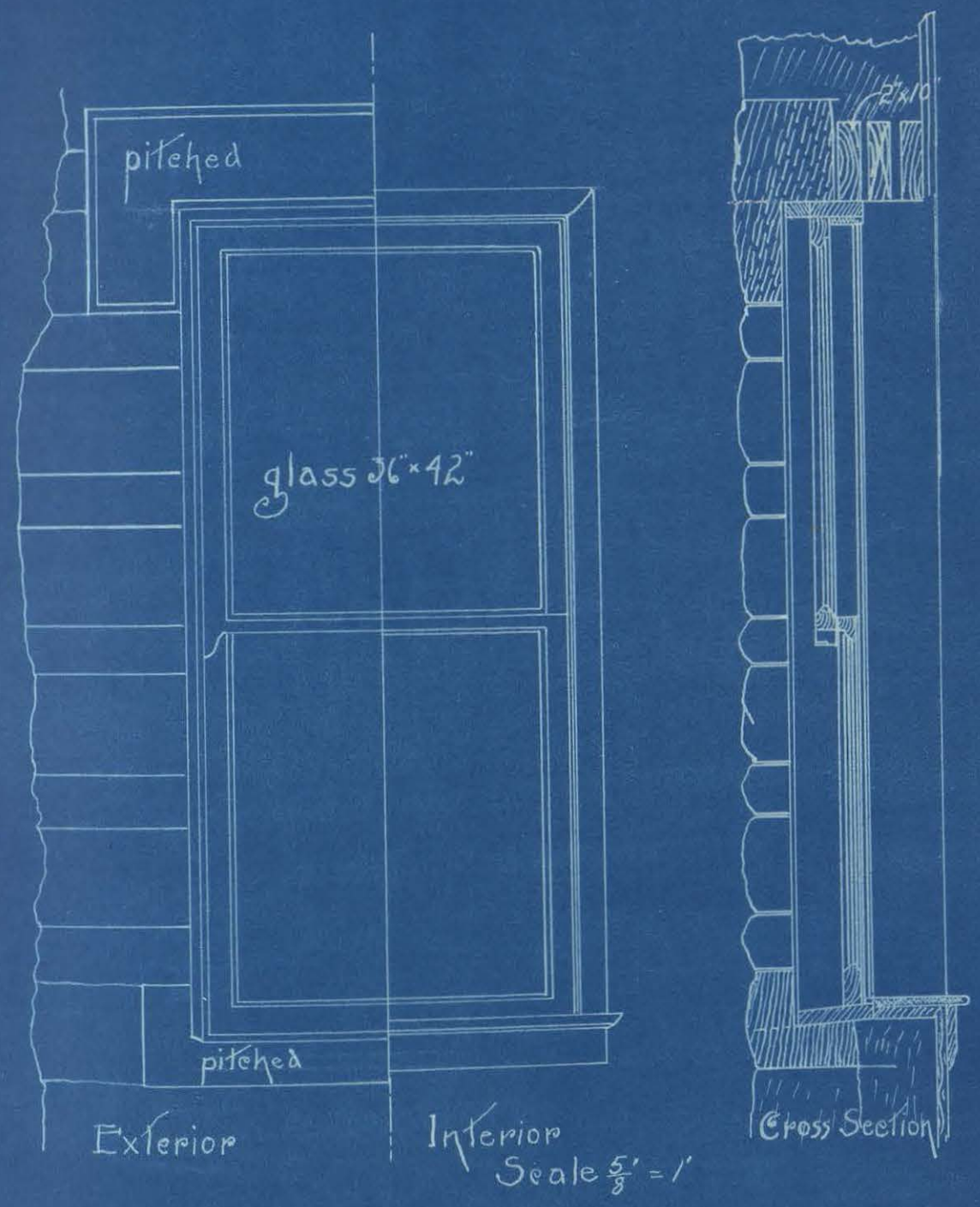


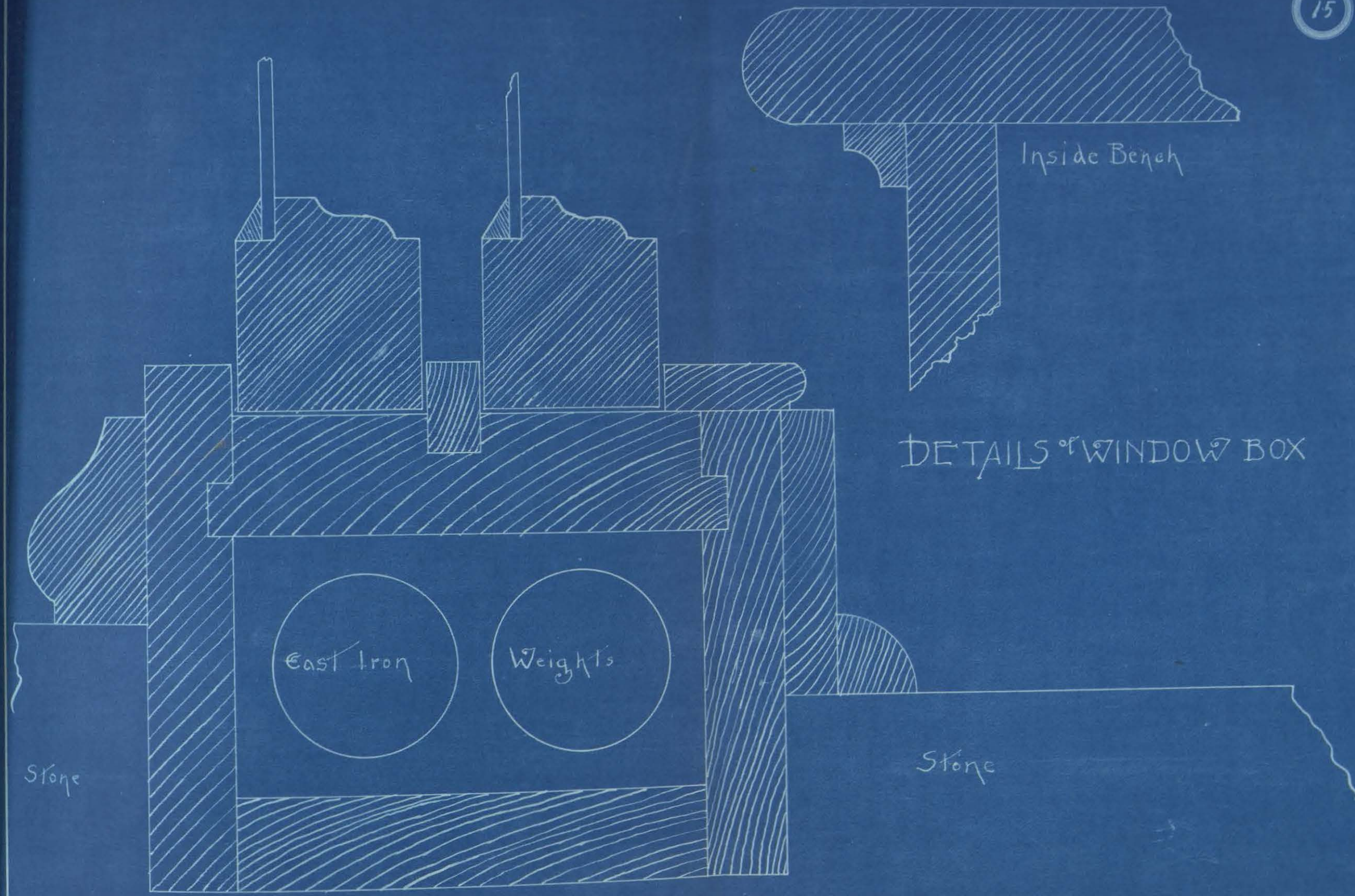
Hanging Newel Post



DETAIL of CAPITAL for
COLUMNS and PILASTERS

DETAILS & FINISH





DETAILS OF WINDOW BOX