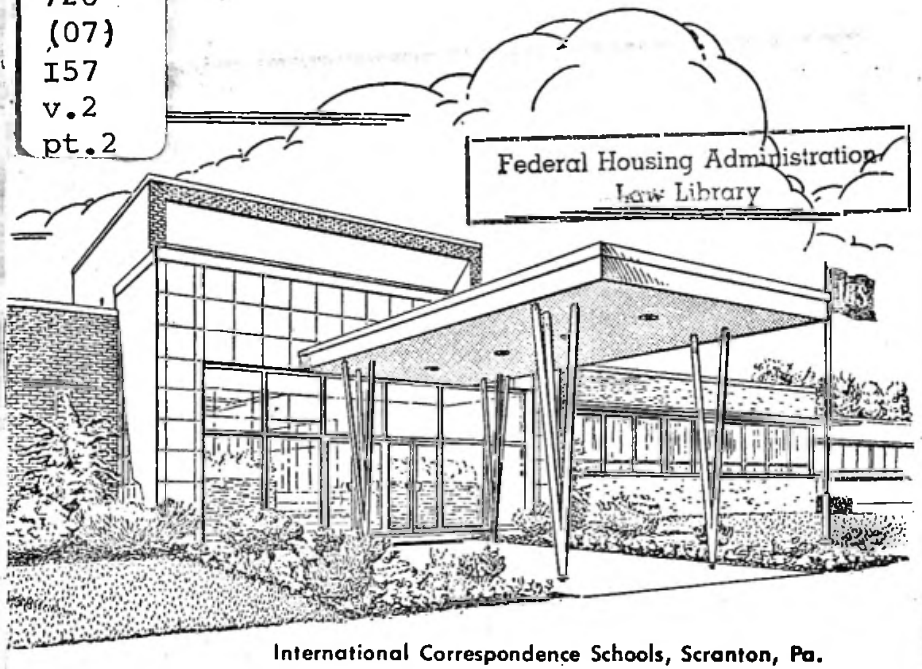

International Correspondence Schools, Scranton, Pa.

Specification Writing

By

DAVID T. JONES

Director, School of Architecture and the Building Trades
International Correspondence Schools
Member, American Institute of Architects
Member, Construction Specification Institute

2175 B-3 **Part 2** **Edition 4**

International Correspondence Schools, Scranton, Pennsylvania

International Correspondence Schools, Canadian, Ltd., Montreal, Canada

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—Pascal

* * *

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Specification Writing

V.2 PART 2

By

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Serial 2175B-3

ICS
International Correspondence Schools
Scranton, Pennsylvania
International Correspondence Schools Canadian, Ltd.
Montreal, Canada

Specification Writing

(PART 2)

Specimen Specifications

1. Specifications may be considered to be a written record of the architect talking to the contractor. The building should grow in the mind of the reader as he progresses with his reading of the specifications. The mental picture evoked will depend largely for its completeness upon the completeness of the specifications.

Different building types require specifications of varying complexity. Of all the specifications which the architect is called upon to write, perhaps none are more involved or require greater care in preparation than the specifications for the large house.

2. The pages that follow are specifications for the general work for a residence. The drawings for this residence are included at the scale of $\frac{1}{8}''$ equals 1′. They should be consulted constantly for a clearer understanding of the specifications.

In these specifications the usual practice has been followed of arranging the trade sections in the order in which the work is to be done at the building. For each trade section complete specifications have been developed so that the specifications for the trade section, together with the General Conditions of the Contract, may form the basis for a subcontract.

The material contained in the specifications for the trade section has, in general, been grouped under the headings

"Work Included," "Materials," "Workmanship," and "Location." For some trade sections, however, the heading "Work Included" has been sufficient, so that the heading "Location" has not been necessary.

Wherever a telegraphic form of writing could convey the meaning adequately, it has been used. Other portions of the specifications have required detailed description.

3. No claim is made for the perfection of the drawings and specifications reproduced herein. After he has mastered these specifications, however, the student should have little difficulty in understanding the specifications for any building. He will also be familiar with the procedures that must be followed in writing satisfactory specifications.

Good specifications produce smooth operations and cordial relations; mediocre or slovenly specifications produce constant friction and everything but cordiality between the parties to the contract. Time given to the production of good specifications is always well spent.

SPECIFICATIONS

for

THE GENERAL WORK

for

A RESIDENCE

to be erected on the Scranton-Pocono Highway
in the city of Scranton, Pennsylvania

for

ROBERT E. SMITH
Scranton Life Building
Scranton, Pa.

JAMES A. BROWN
Registered Architect
102 N. Washington Ave.
Scranton, Pa.

Table of Contents

Instruction to Bidders

The Work. This work includes all labor, materials, and equipment necessary for the general work for a residence for Robert E. Smith on his property on the Scranton-Pocono highway in the City of Scranton; all in accordance with plans and specifications prepared by James A. Brown, Registered Architect, Scranton, Pa.

General Conditions. The standard form of the General Conditions of the Contract by the American Institute of Architects is to form a part of the specifications, and shall be considered as being bound herein. Bidders shall acquaint themselves with the latest edition and the provisions contained therein.

The Site. Bidders must visit the site before submitting their proposals, note all existing conditions, and care for same in the proposal and in executing the contract. No allowances will be made for obvious conditions overlooked.

Discrepancies. Should a bidder be in doubt as to the meaning of the plans and specifications, or should he find omissions, discrepancies, or ambiguities in the plans and specifications, he should immediately notify the architect, who will issue a written bulletin to all bidders.

Bulletins. All bulletins to bidders are to be incorporated in the proposal and will become part of the contract documents.

Time of Completion. The contract time will be 180 calendar days.

Lines and Levels. This contractor shall lay out his own lines, levels, grades, and so forth, and shall be responsible for the correctness of same.

Permits and Insurances. This contractor shall conform to all applicable State and Local laws. He shall obtain all necessary permits and pay for same. This contractor shall carry all Workmen's Compensation Insurance, Public Liability, and Property Damage Insurance in the amount of $25,000. Policies shall be open for inspection by the Architect.

Bonds. If requested by the owner, the contractor shall furnish Performance and Labor and Materialmen's bonds in the full amount of the contract. Premiums will be paid by the owner.

Form of Agreement. The form of agreement between owner and contractor will be the A.I.A. short form.

Stipulation Against Liens. Before signing the agreement, the successful bidder will be required to file a stipulation against liens in the prothonotary's office.

Proposals. Proposals must be submitted on the enclosed duplicate "Proposal Form," delivered sealed to the Office of Robert E. Smith, Scranton Life Building, Scranton 3, Pennsylvania, before _____. Each proposal shall have executed in ink the signature of the bidder if an individual or partnership, and if a corporation, the name of the corporation and the signature of an authorized officer thereof.

Opening of Bids. The owner reserves the right to open the proposals privately and to reject any and all bids.

FORM OF PROPOSAL

MR. ROBERT E. SMITH
SCRANTON LIFE BUILDING
SCRANTON, PA.

Dear Sir:

The undersigned, having carefully examined the site and the plans and specifications for a residence, dated _____, ____, as prepared by James A. Brown, registered architect, agrees to furnish all labor, materials, and equipment for the general work as required by these plans and specifications, complete for the sum of _____.

Signed _____

Submitted by _____

Date _____

Excavating and Grading

1. **General Conditions.** The work under this section shall be subject to the requirements of all applicable paragraphs of the general and supplementary conditions of the contract.

2. **Work Included.** This work includes all labor, materials, and equipment necessary for all excavating and grading as required by the drawings and as specified herein. This in general includes the clearing and removal of grass, trees, and loose stones and excavating for all foundations, footings, terraces and porches, and grading.

3. **Work Not Included.** A survey of the property with the datum established thereon will be furnished by the owner.

   Soil tests, if required by the architect, will be provided and paid for by the owner.

   Excavating for plumbing, heating, or electrical work is not included under this contract.

   Landscaping will be done by the owner under a separate contract.

   Permits and licenses of a temporary nature necessary for the prosecution of the work shall be secured and paid for by the general contractor.

4. **Unit Prices.** This contractor shall base his proposal on earth excavation. The term "earth" shall include all material that it is practicable to remove with an air compressor, including boulders up to ½ cu. yd. in size. If, for instance, rock is encountered, it will be paid for at the accepted unit price for rock and the owner will receive a credit for the corresponding amount of earth excavation omitted. This contractor shall list in his proposal unit prices covering the following:

   (1) Earth excavation left on the site, per cubic yard.
   (2) Earth excavation removed from the site, per cubic yard.
   (3) Hardpan removed from the site, per cubic yard.
   (4) Rock removed from the site, per cubic yard.

   These unit prices, when accepted by the architect and owner, will be written into the form of agreement and will be used to determine the value of any additions or deductions in the amount of the contract.

5. **Equipment and Materials**

(*a*) Equipment	Equipment shall be of the types and quantities necessary for the work in hand, and shall be in good working condition.
(*b*) Explosives	If kept on the site, explosives shall be in minimum amounts and stored in suitable locations, with warning signs.

6. **Workmanship**

(*a*) Removing Trees	Trees over 4″ in diameter which are to be removed shall be cut in 3′0″ lengths and stacked on the site and shall remain the property of the owner.
(*b*) Staking Out	This contractor shall stake out all lines and corners. He shall build all batter boards and shall locate the first floor line in relation to the existing grades. All lines and levels shall be approved by the architect before excavating is started.
(*c*) Blasting	Blasting shall be done by skilled operators, with proper precautions for life and property and in strict accordance with all local rules and regulations.
(*d*) Excavating	Excavating shall be executed in a careful manner to the proper depths. No excavating shall be carried below the elevations indicated on the drawing unless made necessary by existing conditions. Claims for extras will not be allowed for excavating not authorized in writing by the architect. Any unauthorized excavation shall be filled with concrete made as specified under the section devoted to "Concrete." Rock beds shall be properly leveled off to receive footings. Sloping rock must be properly stepped off. Trenches for footings shall be stepped to the various elevations indicated on the drawings.

No vertical step shall be more than 2′0″ in height. Where more than one step occurs, the horizontal distance between steps shall not be less than twice the height of the step. This contractor shall remove all debris, tree stumps, and other organic materials encountered.

Excavation shall be left clean and clear of loose material.

(*e*) Water and Drainage — This contractor shall do everything necessary for keeping water out of excavations and away from the building during construction.

(*f*) Backfill — Backfill shall be installed against foundation walls in not more than 2′ layers. Backfill shall be flushed with water and shall be carefully tamped. Debris or frozen earth shall not be used for backfilling.

(*g*) Grading — Finish grading shall include the area within the limits shown on the plot plan. Grades shall be re-formed to easy contours in accordance with the drawings, with allowance for topsoil depth.

Topsoil shall be used for finish grading and shall be not less than 6″ thick. Topsoil shall be evenly spread to true contours and raked to an even, true surface ready for seeding. This contractor shall furnish any additional topsoil required.

Any additional top soil furnished to the job site shall meet laboratory tests for suitability.

Concrete

1. **General Conditions.** The work under this section shall be subject to the requirements of all applicable paragraphs of the general and supplementary conditions of the contract.

2. **Abbreviations.** "ASTM" refers to the American Society for Testing Materials. All ASTM specifications referred to shall be the latest editions.

3. **Work Included.** This work includes all labor, materials, and equipment necessary for furnishing and installing all concrete work as shown on the drawings and as specified herein. This in general includes all footings, supporting slabs for the hearths in the living room and den, and floor slabs for the basement, garage, pump room, areaways, sun deck and bathrooms.

4. Materials

(*a*) Samples — Samples shall be submitted in triplicate of all materials requested by the architect and shall be resubmitted until finally approved. When finally approved, two samples of each material will be returned to the contractor. One of these shall be kept at the contractor's office at the site.

(*b*) Cement — Cement shall be normal portland cement conforming to ASTM specifications C 150.

(*c*) Fine Aggregate — Fine aggregate shall be a natural sand, well graded from coarse to fine. It shall conform to ASTM specifications C 33, except that fine aggregate for floor topping shall be graded as follows:

Sieve Size	Percentage Passing
⅜″	100
No. 4	95 to 100
No. 16	45 to 65
No. 50	5 to 15
No. 100	0 to 5

(*d*) Coarse Aggregate — Coarse aggregate shall be a clean, washed gravel. Aggregate shall be graded in size from 1″ to No. 4 and shall be in ac-

cordance with ASTM specifications C 33, except that coarse aggregate for floor toppings shall be graded as follows:

Sieve Size	Percentage Passing
½"	100
⅜"	95 to 100
No. 4	40 to 60
No. 8	0 to 5

(*e*) Water — Water shall be clean, fresh, and free from deleterious amounts of acids, alkalis, or organic materials.

(*f*) Form Lumber — Form lumber shall be No. 2, or better, Douglas fir.

(*g*) Metal Reinforcement — Reinforcing bars shall be new deformed material conforming to the sizes shown on the drawings and to the requirements of ASTM specifications A 15. Electrically welded wire fabric shall conform to ASTM specifications A 185.

(*h*) Slag — Fill under concrete floor slabs shall be clean, washed slag graded from ½" to 1½".

(*i*) Storage — Cement, aggregates, and reinforcing shall be stored at the site in such a way as to prevent deterioration or the intrusion of foreign matter. Cement shall be stored in sheds with floors above grade, away from outside walls, and under tarpaulins.

5. Workmanship

(*a*) Forms — Forms shall conform in shape and size to the dimensions required by the drawings. Forms shall be substantially constructed and shall be properly braced and tied together, so that they will maintain their position and shape. Forms shall be sufficiently tight to prevent the leakage of mortar.

(*b*) Preparation for Pouring — Before placing any concrete, all trenches, forms, and equipment for mixing and transporting the concrete shall be thoroughly cleaned. Reinforcing bars shall be accurately placed and wired in position.

(*c*) Inspection — No concrete shall be placed until the architect has inspected and approved all forms and reinforcing. This contractor shall notify the architect when the work is ready for inspection.

(*d*) Proportions — Concrete for footings and slabs shall be mixed in the proportions of 1 part cement, 2 parts sand, and 4 parts coarse aggregate. The amount of mixing water shall not exceed 6½ gal. per bag of cement.

Concrete for floor toppings shall be mixed in the proportions of 1 part cement, 1 part fine aggregate, and 2 parts coarse aggregate by dry weight. The amount of mixing water shall not exceed 4½ gal. per bag of cement.

All concrete shall be machine-mixed either at the job site or at the mixing plant.

(*e*) Mixing — For job-mixed concrete the mixing shall be continued for at least 1 minute after the materials are in the mixer. The speed shall be that recommended by the manufacturer of the mixing equipment.

Ready-mixed concrete shall be mixed in accordance with the specifications set forth in ASTM specifications C 94.

(*f*) Conveying — Concrete shall be conveyed to its location by methods and equipment which will prevent separation or loss of materials.

(*g*) Depositing — Concrete shall be deposited as close to its final position as practicable. The concrete shall at all times be plastic. Concrete shall be thoroughly consolidated

and worked into corners and around all reinforcing bars.

In cold weather, the placing temperature of the concrete shall be approximately 70 F.

(*h*) Removal of Forms — Forms shall not be removed until the concrete is strong enough to support its own weight and any construction load. In removing forms, care shall be taken to protect the edges and surfaces of the concrete. Wooden wedges shall be used between the forms and the concrete.

(*i*) Finish — The soffit of slab for the sun deck shall have a rubbed finish. Floor slabs in the garage and basement shall have a steel-troweled finish.

(*j*) Curing — All concrete shall be maintained in a moist condition for at least 5 days after placement. Floor slabs shall be covered with sisal-kraft paper, with the edges lapped not less than 2″.

In cold weather the temperature shall be maintained at approximately 70 F. during the curing period.

6. Location

(*a*) Footings — Footing shall be of the dimensions shown on the drawings, and stepped as shown. No step shall be more than 2′0″ high. No step shall have a horizontal distance of less than twice its height. Reinforcing shall consist of 3−$\frac{5}{8}$″ ϕ rods tied together with $\frac{1}{4}$″ ϕ rods 24″ o.c. Provide $\frac{5}{8}$″ ϕ dowels 24″ o.c., which shall be embedded in the footing 12″ and shall extend 12″ into the wall above.

(*b*) Floor Slabs — Concrete floor slabs in the garage and pump room and throughout the basement shall consist of a 4″ structural slab exclusive of the concrete topping. Reinforcing shall consist of 6″×6″×#6 welded wire mesh.

(*c*) Sun Deck Slab — The sun deck slab shall consist of a 7″ structural slab screeded to a level surface. Reinforcing shall consist of alternate straight and bent rods $\frac{5}{8}$″ ϕ 4$\frac{1}{2}$″ o.c., with $\frac{3}{8}$″ ϕ 24″ o.c. as temperature reinforcing.

(*d*) Hearths — A concrete slab shall be provided for the support of the hearths in the den and the living room. The slab shall be 5″ thick and shall extend over the entire chimney, with openings provided for the flues and ash drops, and it shall be cantilevered out to support the hearths. Reinforcing shall consist of $\frac{5}{8}$″ ϕ bars 4$\frac{1}{2}$″ o.c. both ways.

(*e*) Bathroom Floor Slabs — Bathroom floor slabs shall be 3$\frac{1}{2}$″ thick and installed on sisal-kraft paper lapped 2″. Reinforcing shall consist of 6″×6″ ×#6 mesh. Slab shall be screeded to a level surface.

(*f*) Floor Topping — The concrete floor finish shall not be less than 1″ thick, and shall be installed as a monolithic finish within 45 minutes after the base slab has been placed. Mix shall have the driest consistency that can be worked with a sawing motion of the strike-off board. Slump shall be approximately 1″.

Topping shall be mechanically floated and then shall be given a steel troweled finish.

Masonry

1. **General Conditions.** The work under this section shall be subject to the requirements of all applicable paragraphs of the general and supplementary conditions of the contract.

2. **Abbreviations.** "ASTM" refers to the American Society for Testing Materials. All ASTM specifications referred to shall be the latest editions.

3. **Work Included.** This work includes all labor, materials, and equipment necessary for building all stone, brick, and block masonry as shown on the drawings and as specified herein. The following is in general a list of the work included, but it shall not be considered a complete schedule: foundation walls, basement partitions, areaway walls, and exterior walls for the first story, chimney, and fireplaces; and paving for terraces and the sun deck.

4. **Work Not Included.** Flagstone walks will be furnished by the owner under a separate contract.

5. **Materials**

(*a*) Samples	Samples shall be submitted in triplicate of all materials requested by the architect and shall be resubmitted until finally approved. When finally approved two samples of each material will be returned to the contractor. Of these, one shall be kept at the contractor's office at the site.
(*b*) Cement	Cement shall be a normal portland cement of domestic manufacture conforming to ASTM specifications C 150.
(*c*) Hydrated Lime	Hydrated lime shall be a standard factory-prepared product, shall conform to ASTM specifications C 6, and shall be furnished to the job in 40-lb bags. Name of the products shall be submitted to the architect for approval.
(*d*) Sand	Sand shall be clean, well-graded, hard, durable, natural sand of quartz particles or the equivalent, conforming to ASTM specifications C 144. If laboratory tests of sand are exacted by the architect, the expense of such tests shall be borne by this contractor.
(*e*) Water	Water shall be fit for drinking and free from deleterious amounts of acids, alkalis, or organic materials.
(*f*) Brick	Brick for the unexposed portions of the chimney shall be a hard-burned common brick. Brick for rear hearths and for lining the fireplaces shall be first-quality firebrick.
(*g*) Concrete Block	Concrete block shall be 4″×8″×16″ and 8″×8″×16″; shall be well seasoned; and shall conform to ASTM specifications C 90. Aggregate shall be anthracite cinders. The average percentage of moisture in the units at the time of setting shall not exceed 40% of their total absorption.
(*h*) Stone	Local stone shall be taken from the exposed ledges at the site and shall be selected for soundness, hardness, and color. Bluestone shall be first-quality Nicholson bluestone. All stone shall be dressed to level beds. Corners shall be square, and faces shall be rock-faced. No stone shall be less than 3″ or more than 8″ high. Each stone shall have a length of at least 3 times its height. Flagstone for terraces shall be 2″ thick and in variegated colors. In general, no flagstone shall have an area of more than 4.5 sq ft or less than 1 sq ft.
(*i*) Flue Linings	Flue linings shall be 13″×13″ of hard-burned fireclay, free from large or deep cracks or blisters, splits, chips, or other defects.
(*j*) Waterproofing	Waterproofing shall be a factory-prepared, 3-oz., mastic-coated copper.

(*k*) Dowels — Dowels shall be ½″ brass pipe, 3″ long.

(*l*) Alberene — Alberene shall be of selected stock and shall have a polished finish.

(*m*) Scaffolding — This contractor shall furnish all scaffolding necessary for the installation of his work.

(*n*) Delivery and Storage — Materials shall be so delivered, stored, and handled as to prevent the inclusion of foreign materials and damage by water and breakage. This contractor shall provide all necessary sheds, platforms, and tarpaulins. Packaged materials shall be delivered and stored in the original packages until ready for use. Packages or materials showing evidence of water or other damage shall be rejected.

6. Workmanship

(*a*) Sample of Walls and Flooring — Sample walls 3′0″ high by 5′0″ long shall be built as directed by the architect and shall show the joint finish, the backup, and the pattern for the stonework. Samples 3′0″×5′0″ shall be laid to show the pattern for the terrace flooring. The samples approved by the architect and the owner shall be used as a standard for the work to follow and shall be left standing until the completion of the job.

(*b*) Mortar Proportions — Mortar for masonry walls and for pointing terraces shall consist of 1 part normal portland cement, ¼ part lime putty, and 3 parts sand. The setting bed for the terraces shall be mixed in the proportions of 1 to 3 of portland cement and sand. Measurements shall be by volume.

(*c*) Mixing Mortar — All ingredients for mortar shall be carefully measured in boxes or pails of known capacity provided for this purpose. Slovenly methods of measuring will not be tolerated. Ingredients shall be mixed mechanically in a drum-type mixer for not less than three minutes. Mortar that has stood for more than 1 hour shall not be used.

(*d*) Jointing — Joints for all brick and block and for stone paving shall be ½″ wide. Face joints for stonework shall be not less than ¾″ wide and not more than 1″ wide. All masonry joints shall be given a tooled concave finish. Joints for exterior stonework shall, in addition, be brushed lightly while still soft.

(*e*) Laying Masonry — All masonry shall be laid plumb and true to line by competent masons. An abundance of mortar shall be used for laying all masonry units. The horizontal bed shall be full and shall not be furrowed with the end of a trowel. The end of the unit shall be covered with mortar and shall be shoved into place, causing the mortar to ooze out at the top. Joints shall be finished as the wall is laid. All facing shall be laid up from scaffolding located on the facing side.

(*f*) Freezing Weather — In temperatures below 40 F no masonry shall be laid unless the masonry materials are heated to 40 F and the air temperatures maintained above 40 F for a period of at least 48 hours on both sides of the masonry. This period may be reduced to 24 hours if high-early strength cement is used.

(*g*) Hot Weather — In hot weather the masonry units shall be wetted 3 to 4 hours before laying. When laid the units shall carry no free moisture.

(*h*) Built-In Work — This contractor shall build in all loose lintels, anchors, door and window frames, cleanout doors, fireplace dampers, chim-

ney flashings, and so forth, furnished by other trades. Install not less than three anchors for each door and window jamb.

(*i*) Cutting and Fitting — Cutting and fitting necessary for accommodating the work of other trades shall be neatly done.

(*j*) Parging — The outside of all exterior walls below grade shall be parged with a ½″ coat of mortar, troweled smooth. Foundation walls for the garage and pump room shall be parged outside and inside. The interior surfaces of all exterior walls above grade, except those of the garage and pump room, shall be parged.

(*k*) Protection — All walls shall be kept dry by covering them, at the end of each day or shutdown period, with canvas or waterproof paper, which shall overhang at least 2′ on each side of the wall.

(*l*) Cleaning — Upon completion, all joints shall be inspected and defective joints shall be pointed. The wall shall then be washed down, using clean water and stiff fiber brushes. If necessary, a solution of 1:10 muriatic acid may be used in which case the walls shall receive a preliminary and final rinsing.

7. Location

(*a*) Foundation Walls — Foundation walls shall be built of rubble laid with fairly level beds. Except in the boiler room, all basement walls shall be backed up with 4″ concrete block.

(*b*) Walls Above Grade — For the garage and pump room exterior walls above grade shall consist of dressed stone backed up in general with 4″ concrete block. For bond purposes, every fourth block shall be 8″ thick.

Other exterior masonry walls above grade shall consist of dressed stone with wood furring, metal lath, and plaster.

Facing for all exterior walls shall be in the proportions of 80% fieldstone to 20% bluestone.

Facing shall be laid in broken-range pattern, in accordance with the sample wall approved by the architect.

(*c*) Sills — Window and door sills shall be of select hard bluestone cut in accordance with the architect's details. Washes shall be machine-planed. Vertical surfaces shall be hand-dressed to match stone in the main face of the wall.

(*d*) Chimney — Particular care shall be taken in building the chimney. The flue lining shall be carried up in advance of the masonry, and the joints between the flues and the joints between the lining and the masonry shall be completely filled with mortar.

Linings shall extend not less than 10″ below the smoke-pipe intakes or from the apex of the fireplace chamber to the underside of the chimney coping.

Chimney copings shall be anchored to the wall, using two brass-pipe dowels to each coping stone.

(*e*) Fireplaces — All fireplaces shall have an inside hearth and a lining of firebrick. The fireplace in the den shall be faced with selected bluestone. The outside hearth shall be bluestone.

The fireplace in the living room shall be faced with polished Alberene and shall have an outside hearth of polished Alberene.

The fireplace in the recreation room shall be trimmed with selected local stone and shall have an outside hearth of local stone.

(*f*) Terraces — All terraces, and the sun deck, shall be floored with flagstones laid in broken range. Terraces shall pitch away from

the building approximately $\frac{1}{8}$" per foot.

The setting bed shall be not less than 2" thick. The concrete base slab shall be washed clean, with no free water remaining before the application of the setting bed. Flagging shall be pointed with the same mortar used for facework.

(*g*) Waterproofing — The heads and sills of all exterior masonry openings shall be waterproofed with 3-oz. mastic-coated copper. The material shall be at least 8" longer than the opening. Waterproofing shall extend through the full thickness of the masonry wall and shall be turned up a distance of 2" on the inside of the wall.

The intersection of the terraces with the exterior wall shall be waterproofed with 3-oz. mastic-coated copper.

Mastic-coated copper shall be by a nationally known manufacturer and shall be installed in accordance with the architect's details.

Miscellaneous Ironwork

1. **General Conditions.** The work under this section shall be subject to the requirements of all applicable paragraphs of the general and supplementary conditions of the contract.

2. **Work Included.** This work includes all labor, materials, and equipment necessary for furnishing and installing all structural steel and miscellaneous ironwork as shown on the drawings and as specified herein. This in general includes all lintels, framing for the sun deck, areaway gratings, cleanout doors, saddles, and anchors.

3. **Shop Drawings.** This contractor shall submit shop drawings in triplicate and shall resubmit them until approved by the architect.

4. **Materials and Workmanship.** All materials and workmanship shall be the best of their several kinds and in all respects subject to the approval of the architect.

   (*a*) Structural Steel — All structural steel work shall be in accordance with the latest AISC code and the latest standard ASTM specifications.

   (*b*) Cast Iron — Cast iron shall be made of soft gray iron.

   (*c*) Wrought Iron — Wrought iron shall conform to latest standard ASTM specifications.

   (*d*) Aluminum — Aluminum shall conform to latest standard ASTM specifications.

5. **Location**

   (*a*) Angle Lintels — Angle lintels shall be 4"×4"×$\frac{1}{4}$". Provide one angle for every 4" of wall thickness for all masonry openings up to 4'0" wide.

   (*b*) Lintels for Picture Windows — Lintels for each picture window shall consist of a 10" B15# with channel outlookers 2'0" o.c. supporting a continuous 4"×$\frac{3}{8}$" plate.

   (*c*) Steel for Sun Porch — Columns and beams shall be provided for the sun porch as shown on the drawings. Columns shall be 4" diameter pipe columns filled with concrete.

(d) Cleanout Doors — Cleanout doors shall be 12″ × 12″ cast iron, complete with frame, installed in ashpit in basement.

(e) Fireplace Dampers — Fireplace dampers shall be Covert Old Style of the required size and shall be furnished for each fireplace opening. Each damper shall be operated by a brass knob on the face of the fireplace.

(f) Ash Drops — Ash drops shall be 4″ × 4″ cast iron, complete with frame, furnished for each hearth.

(g) Area Gratings — Area gratings shall be of wrought iron constructed with $\frac{1}{4}$″ × 1$\frac{1}{4}$″ slats and $\frac{1}{2}$″ × 2″ bar frame, with all intersections neatly welded and ground smooth.

(h) Mail Chute — Mail chute shall have aluminum face with hinged slot, complete with galvanized throat and pocket and hinged wooden door on the interior.

(i) Saddles — Saddles shall be aluminum 5$\frac{1}{2}$″ wide, cut and scribed into jambs. To be manufactured by Chamberlain. Provide one saddle at each exterior door.

(j) Anchors — Anchors shall be 1″ × $\frac{1}{4}$″ wrought iron, not less than 8″ long, and turned up 1″ at each end and screwed into each door or window jamb. Provide not less than three anchors to each jamb.

(k) Aluminum Stair Railing — Aluminum stair railing at second floor shall be furnished and installed in strict accordance with the architect's details. Diamond pattern shall be formed with $\frac{1}{2}$″ square bars turned on the diagonal. Provide aluminum handrail and brackets from first floor to second floor. All aluminum shall have a lacquered satin finish and shall be in accordance with approved samples.

Rough Carpentry

1. **General Conditions.** The work under this section shall be subject to the requirements of all applicable paragraphs of the general and supplementary conditions of the contract.

2. **Work Included.** This work includes all labor, materials, and equipment necessary for furnishing and installing all rough carpentry as shown on the drawings and as specified herein. The following is in general a list of the work included, but shall not be considered a complete schedule: framing for all floors, walls, ceilings, roofs, sun deck parapet, and stairs; and insulation for exterior walls and second floor ceiling.

3. **Work Not Included.** Wood forms for concrete work and finish carpentry are not included under this section.

4. **Materials**

(a) Grading — Framing lumber shall comply with the American Lumber Standards and shall bear the grade and trademark of the association under whose rules it is produced; also a mark of mill identification.

(b) Lumber Dimensions — Nominal dimensions in general are given in these specifications.

Minimum finish dimensions, in inches, shall comply with American Lumber Standards, which are as shown in the table.

MINIMUM FINISH DIMENSIONS IN INCHES*

Nominal	Actual	Nominal	Actual	Nominal	Actual
1	$\frac{3}{4}$	4	3$\frac{5}{8}$	8	7$\frac{1}{2}$
2	1$\frac{5}{8}$	5	4$\frac{5}{8}$	10	9$\frac{1}{2}$
3	2$\frac{5}{8}$	6	5$\frac{5}{8}$	12	11$\frac{1}{2}$

* These dimensions apply to all widths and all thicknesses.

(c) Seasoning — All lumber shall be air-dried and well seasoned. Lumber shall not contain more than 12% of moisture.

(*d*) Rough Hardware — Provide all nails, bolts, and anchors, and so forth, necessary for anchoring and securing all framing lumber.

(*e*) Framing Lumber — All joists, rafters, plates, and studs shall be No. 1 common Douglas fir and shall be of the sizes and spacing marked on the drawings.

(*f*) Subflooring — Subflooring shall be commercial-grade Douglas fir, yellow pine, or hemlock, dressed four sides. Boards shall not be more than 6″ wide, with a nominal thickness of 1″.

(*g*) Wall Sheathing — Wall sheathing shall be commercial-grade Douglas fir, yellow pine, or hemlock, dressed four sides; 8″ or 10″ wide; and with a nominal thickness of 1″.

(*h*) Roof Sheathing — Roof sheathing shall be commercial-grade Douglas fir or hemlock, 8″ wide, with a nominal thickness of 1″.

(*i*) Grounds, Furring, and Blocking — Grounds, furring, and blocking shall be commercial-grade Douglas fir, spruce, or hemlock of 1″ nominal thickness unless otherwise noted.

(*j*) Insulation — Insulation for second floor ceiling and exterior walls shall be fiber glass in blanket form, 2″ thick, with an integral vapor seal. Lining for radiator enclosures shall be ¼″ asbestos board.

(*k*) Protection — All lumber and insulation shall be protected and kept under cover in transit and at the job site. Material shall not be delivered to the building unduly long before it is required for the progress of the work.

5. Workmanship

(*a*) Framing in General — Framing shall be erected true to line, levels, and dimensions; squared; aligned; plumbed; well spiked and nailed; and adequately braced.

Where structural strength is impaired by cutting, drilling, or inherent defects, members shall be replaced or reinforced in a manner acceptable to the architect. Splicing of joists or girders between bearing points will not be accepted.

No cuts or holes shall be made in girders. No cuts shall be made in joists deeper than 2″ top or bottom. The same joist shall not be cut top and bottom. Cuts shall not be made in joists more than 2′0″ from bearing. Bore no holes in joists over 1″ in diameter. Framing for unusual loading conditions shall be approved by the architect.

Framing members shall not be closer than 2″ to chimney masonry. Fill 2″ space with incombustible insulating material.

Arrangement of the framing shall be in accord with the architect's drawings.

(*b*) Nailing Schedule — The following shall be considered as minimum requirements for nailing framing members, using common or smooth box nails:

Joist to sill or girder, toe nail	3 –16d
Bridging to joist, toe nail each end	2 – 8d
1″×6″ subfloor to joist, face nail	2 – 8d
Sole plate to joist or blocking	20d–16″ o.c.
Top plate to stud, end nail	2 –16d
Stud to sole plate, toe nail	3 –16d
Doubled studs	16d–30″ o.c.
Top plates, spiked together	16d–24″ o.c.
laps and intersections	3 –16d
Ceiling joists, to plate, toe nail	2 –16d
laps over partitions	3 –16d
to parallel alternate rafters	3 –16d
Rafter to plate	3 –16d
1″ brace to each stud and plate	2 – 8d
Corner studs and angles	16d–30″ o.c.
Other joints—Nail to provide proportionate strength	

(*c*) Sill

Bottom of sill shall be painted with creosote before setting. Sill shall be installed on foundation wall in a bed of 1:3 portland cement and sand and shall be shimmed up level and true with slate.

Sill shall be anchored to foundation wall with $\frac{5}{8}$″ bolts 2′0″ long, 4′0″ o.c. Bolts shall be furnished by this contractor and installed by the mason contractor.

(*d*) Joists

Joists shall rest directly on wood sills and shall be notched at end to proper depth. All joists shall be set with crown up.

Double all joists parallel to partitions. Double all joists to form trimmers and headers at stairs, fireplaces, and scuttle, and around soil stacks. Where headers are longer than 6′, trimmers shall be tripled.

(*e*) Bridging

Bridging shall be cut from 1″×3″ strips, with ends leveled and double-crossed. Bridging shall be installed in rows not more than 8′0″ o.c.

Nail each end of bridging with two 8d nails. Bottom ends shall be nailed after laying subfloor.

(*f*) Stud Framing

All studs shall be spaced 16″ o.c. Studs shall be doubled at sides of opening; and inside studs are to be broken at head to receive headers. Studs shall be securely spiked to sills, joists, caps, and ribbons.

Three studs shall be arranged to provide lath nailing at all corners.

(*g*) Roof Rafters

Roof rafters shall be spaced 2′0″ o.c., shall be cut accurately to detail and shall be spiked to plates. Alternate rafters shall be trussed as shown on the drawings.

(*h*) Roof Sheathing

Roof sheathing shall be tightly laid and nailed twice at each bearing. End joints shall be made only over bearings. Joints shall be broken at least every 24″.

(*i*) Subfloors

Subfloors shall be laid diagonally with broken joints and with $\frac{1}{8}$″ space between boards. Boards shall be double-nailed at each bearing. Install blocking between ends of joists at wall for nailing ends of diagonal subfloor boards.

(*j*) Wall Sheathing

Wall sheathing shall be laid diagonally, applied in opposite directions from each corner, and triple-nailed at each bearing. End joints shall be over bearings.

(*k*) Application of Sheathing Paper

Sheathing paper shall be installed over all side-wall sheathing. Paper shall be installed shingle-fashion, with a 4″ lap. Strips of sheathing paper at least 6″ wide shall be installed behind exterior trim of all exterior openings above the first floor.

(*l*) Radiator Recesses

This contractor shall frame the radiator recesses from dimensions furnished by the heating contractor and approved by the architect.

(*m*) Installing Insulation

Blanket insulation shall be installed between studs for all exterior walls and over the second floor ceiling. Insulation shall be placed with the vapor seal on the inside.

Backs of radiator recesses shall be lined with asbestos board.

(*n*) Installing Grounds

Grounds shall be installed to accommodate a full thickness of plaster which is on wire lath and shall have a minimum thickness of $\frac{5}{8}$″. Grounds shall be plumb, straight, even, and true to line and dimensions.

Finish Carpentry

1. **General Conditions.** The work under this contract shall be subject to the requirements of all applicable paragraphs of the general and supplementary conditions of the contract.

2. **Work Included.** This work includes all labor, materials, and equipment necessary for furnishing and installing all finish carpentry work as shown on the drawings and as specified herein. The following is in general a list of the work included, but shall not be considered a complete schedule: siding, exterior and interior trim, exterior and interior doors, finish wood floors, cedar closets, shelving, bookcases, cabinets, and rough and finishing hardware.

3. **Work Not Included.** Kitchen cabinets will be furnished by the owner under a separate contract.

4. **Materials**

(*a*) Samples	Samples shall be submitted in triplicate of all materials requested by the architect and shall be resubmitted until finally approved. When finally approved, two samples of each material will be returned to the contractor; of these, one shall be kept at the contractor's office at the site. All materials delivered to the site shall be equal to approved samples.
(*b*) Exterior Woodwork	Exterior woodwork shall be clear Idaho white pine or cypress. All material shall be thoroughly seasoned and kiln-dried, and sanded free of toolmarks and other objectionable defects. Moisture content at the time of installation shall not exceed 12%.
(*c*) Beveled Siding	Beveled siding shall be clear white pine, cypress or cedar $\frac{7}{8}$" thick at the butt. Moisture content shall not exceed 12%.
(*d*) Interior Trim	All interior trim in the den shall be clear selected birch. All other interior trim shall be clear white pine or basswood. All trim shall be thoroughly seasoned, kiln-dried, and sanded free of toolmarks and other objectionable defects. Moisture content at the time of installation shall not exceed 12%. Exterior or interior trim 3" or more in width shall be scarfed on the back. Birch plywood panels, where called for by the drawings or schedule of finishes, shall be $\frac{3}{4}$" thick and faced with clear birch. Panels shall be selected for figure.
(*e*) Finish Flooring	Shall be $\frac{25}{32}$"×2$\frac{1}{4}$" strip flooring, T & G., scarfed on the underside, kiln-dried, and in accordance with the best manufacturing practice for the grade and kind specified. Oak flooring shall be first-grade, clear white oak, selected for edge grain and shall be of a uniform light color and graded in accordance with the latest rules of the National Oak Flooring Manufacturers Association. Longleaf yellow pine flooring shall be B grade or better, graded in accordance with the grading rules of the association under whose jurisdiction the lumber is produced.
(*f*) Cedar Lining	Cedar lining shall be aromatic red cedar, $\frac{11}{32}$" thick, in standard lengths of 8'. Each piece shall grade not less than 90% red heartwood and shall be side- and end-matched.
(*g*) Rough Hardware	This contractor shall include all nails, dowels, braces, screws, bolts, anchors, and so forth, necessary for anchoring and securing all finish carpentry and millwork.
(*h*) Finishing Hardware	This contractor shall install all hardware as required by the Hardware Schedule contained in these specifications.

(*i*) Building Paper — Building paper for installation between rough and finish floors shall be 15 pound asphalt-saturated felt.

(*j*) Protection — All material shall be protected and kept under cover both in transit and at the job site.

Material shall not be delivered to the building unduly long before it is required for the proper prosecution of the work.

Material shall not be stored in the building during the process of plastering or before the plaster is dry.

5. Workmanship and assembly

(*a*) Workmen — All phases of the work shall be done only by finishing carpenters and cabinet workers.

(*b*) Assembly — Measurements shall be obtained from existing conditions at the job and from the architect's details. Work, in general, shall be run and assembled at the mill and delivered to the job ready for erection.

Assemblies shall be made with concealed nails and screws where practical. Exposed nails shall be countersunk. Intersecting molds at in-corners shall be neatly coped.

(*c*) Cornice — Cornice shall be 3″×1⅛″ white pine or cypress. All moldings shall be in accordance with the architect's full-size details.

(*d*) Installing Siding — Siding shall be laid with 6″ exposure and not less than 1¼″ lap.

Siding shall be nailed at each bearing with hot-dipped galvanized nails; set face nails.

Exterior corners shall be mitered, and set in white lead.

(*e*) Exterior Door and Window Frames — Frames shall be shaped from 1⅝″×5½″ stock, rebated in accordance with the architect's details and complete with exterior and interior reveal molds. All joints shall be set in white lead.

(*f*) Interior Door Frames — Frames shall be 1⅛″×5″, with heads housed into jambs. Stops shall be square edge ½″×1⅝″. Provide reveal molds ¾″×1¼″ both sides, with plinths 5″ high. All shall be in accordance with the architect's details.

(*g*) Molds — All molds shall be run in strict accordance with the architect's details.

(*h*) Laying Wood Floors — This contractor shall examine the rough floor and shall report any defects in writing to the architect before laying wood floors. Laying of wood floors by this contractor shall signify his acceptance of the rough flooring.

Before laying any floors this contractor shall clean all rough floors, removing all dirt, plaster etc., and shall sweep them clean. He shall drive down all loose nails and put in additional nails where required.

Flooring shall be blind-nailed so as to provide a rigid, nonsqueaking floor. Nails shall be driven at an angle of approximately 45° to the floor. Nails shall be started just above the tongue and set with a steel set. Each board must be driven up tightly to the next board. Boards must not be driven so tightly, however, as to cause buckling.

Unless directed otherwise by the architect, flooring shall run the long way of the room. Allow ½″ for expansion at walls.

(*i*) Sanding Wood Floors — Wood floors exposed in the finish shall be scraped, cross-planed, and machine-

sanded to a smooth, true surface by this contractor. This includes floors inside radiator recesses. Final sanding shall employ No. 00 paper. When the sanding is completed, floors shall be protected with building paper.

(*j*) Wood Stairs

Stairs shall be "cabinet work" finished and installed by skilled mechanics.

Stairs shall be made from dimensions obtained from existing conditions at the job and shall fit all conditions exactly. Work shall conform to the architect's drawings and details.

Treads and risers shall be tongue-and-grooved together, housed into stringers, and wedged and glued. Work shall be well nailed—blind-nailed where practical—and without squeaks or other noises. Turned base for starting newel and rounded returns on starting tread and riser shall be run on the solid.

Work shall be securely anchored to rough stair framing. Installation shall be arranged to receive aluminum railing to be furnished under a separate contract.

(*k*) Exterior and Interior Doors

Interior doors shall be solid flush doors 1⅜″ thick, with sawed birch veneers finished $\frac{3}{10}$″ thick. Outside edges shall consist of ¾″ strips of birch. Core shall be built up of chestnut strips not over 2″ wide. Glue used shall be waterproof.

Exterior doors shall be 2″ thick, of solid white pine or cypress, paneled in accordance with the architect's details. Provide molded drip at bottom of doors. Tops of all exterior doors shall be protected by a copper strip. Doors shown as glazed shall be provided with wood stops. Overhead doors for the garage shall be not less than 1¾″ thick, with flush V-jointed panels of first-quality fir or white pine, complete with all necessary operating hardware.

Doors shall be constructed by modern methods to insure nonwarping and shall be built by a nationally known manufacturer. Submit sample of corner of door.

Doors shall be carefully crated and shall be delivered to the building only after the plaster is dry and as required by the progress of the work.

Doors shall be properly fitted.

This manufacturer shall and hereby does warrant and the general contractor shall and does hereby guarantee that all doors shall be free from defects of materials and workmanship for a period of one year from the date of the final certificate.

(*l*) Cedar Closets

The floors, walls, and ceilings for all closets in bedroom #1 shall be lined with aromatic red cedar.

(*m*) Wood Base

Wood base shall be 5″ high, molded in accordance with the architect's details.

(*n*) Installing Hardwar

Finishing hardware shall be installed in accordance with the approved hardware schedule, and with the manufacturer's templates and specifications, so that it operates quietly and properly.

(*o*) Wainscot and Bookcases in Den, Cabinets in Breakfast Nook

The wainscot and bookcases in the den and the cabinets in the den and breakfast nook shall be constructed of clear, selected birch.

Wainscot panels shall be 5-ply stock ¾″ thick. Panels shall be separated vertically at 3′0″ intervals by a ¾″ bead mold.

Shelving for bookcases shall be 10½″ deep and shall consist of ¾″ laminated stock. Front and back edge of shelf shall be of solid stock. Shelving shall be adjustable and shall be carried on bronze

brackets and channels. Backs shall consist of ¾″ laminated stock. Provide molded cornice with space for light.

Cabinets at bookcases and bottom cabinet in breakfast nook shall have a shelf depth of 16″. Top cabinet in breakfast nook shall have a shelf depth of 10½″. Cabinet frames, door, and shelving shall be constructed of ¾″ stock.

Cases and cabinets shall be constructed in accordance with the best modern practice and the architect's details.

(p) Scuttles — Material shall be back painted at the mill before delivery. In the ceiling of the closet off bedroom #2 and in the ceiling of the toolroom, provide a scuttle 2′0″ × 3′0″, complete with frame, trimmed opening, and ¾″ plywood door.

(q) Shelving — In all closets provide two clear white pine shelves 12″ wide.

(r) Shower Seat — In shower dressing compartment provide 10″ × 1⅜″ clear white pine seat with chrome supporting brackets.

The final section in these specifications consists of a hardware schedule which lists the specific hardware for each door. The hardware may be covered by a schedule in this manner or by an allowance. This allowance would usually be specified under the section for Finish Carpentry as follows:

Finishing Hardware — This contractor shall include in his estimate the sum of $500.00 to cover the cost of finishing hardware as selected by the owner. This amount does not cover installation, which shall be by this contractor. If the hardware selected costs more or less than the above amount, the difference between the cost of the hardware and the amount of the allowance shall be added to, or deducted from, the contract sum.

Roofing and Sheet-Metal Work

1. **General Conditions.** The work under this section shall be subject to the requirements of all applicable paragraphs of the general and supplementary conditions of the contract.

2. **Abbreviations.** "ASTM" refers to the American Society for Testing Materials. All ASTM specifications referred to shall be the latest editions.

3. **Work Included.** This work includes all labor, materials, and equipment necessary for furnishing and installing all roofing and sheet-metal work as shown on the drawings and as specified herein. The following is in general a list of the work included, but shall not be considered a complete schedule: slate roofing, built-up roofing, flashings, gutters, leaders, louvers, and clothes chute.

4. **Materials**

(a) Samples — Samples of slate, nails, and felt shall be submitted in triplicate for the architect's approval and shall be resubmitted until finally approved. When finally approved, two samples of each material will be returned to the contractor. An approved sample of each item shall be kept at the contractor's office at the site. All materials delivered to the site shall be equal to approved samples.

(b) Slate — Slate shall be hard, dense, sound rock without ribbons or cracks, and shall be nonfading green Vermont slate guaranteed Grade A material. Furnish certificates of quality.

Slates shall be rough-textured, and not less than ⅜″ thick in random widths, with all lengths 18″. At least 50% of the slates shall have a width greater than the exposure. Exposed corners shall be practically square. Broken corners on cov-

ered ends which may affect watertightness or strength shall not be used. Each slate shall be machine-punched for two holes.

(*c*) Copper — For composition, copper shall conform to ASTM specification B5; for finished sheets, copper shall conform to ASTM B 152. Copper not shown or specified otherwise shall be 16-oz soft (roofing temper) copper.

(*d*) Solder — Solder shall conform to ASTM B 32, 50% pig lead and 50% block tin.

(*e*) Flux — Flux shall be muriatic acid killed with zinc, or an approved brand of soldering paste. Wash off acid thoroughly after soldering is completed.

(*f*) Roofer's Cement — Roofer's cement shall be an asphalt and asbestos fiber mixture and shall be an elastic, non-hardening waterproof cement, colored to match the slate.

(*g*) White Lead Paste — White lead paste shall conform to ASTM specification D 81.

(*h*) Nails — For fastening slate or copper, nails shall be of copper, with large flat heads and needle points, and sufficiently long to penetrate the roof boarding not less than $\frac{7}{8}$″.

(*i*) Felt — For installation under all slate roofs, felt shall be tarred rag felt weighing 30 lb. per square. Felt for the built-up roof over the kitchen porch shall be tarred rag felt in accordance with the roofing manufacturer's specifications.

(*j*) Pitch — Pitch shall be coal-tar pitch in accordance with the roofing manufacturer's specifications.

(*k*) Galvanized Iron — Galvanized iron shall conform to ASTM specifications A 93.

5. Workmanship

(*a*) Workmen — Only competent mechanics skilled in roofing shall be employed for each phase of the work.

(*b*) Preparation of Surfaces — Receiving surfaces shall be thoroughly cleaned of all dirt, rubbish, or other foreign material before any roofing or sheet-metal work is started. Any projecting nails shall be driven flush with the roof sheathing.

Defects found in surfaces prepared by other trades shall be reported in writing to the architect, who will cause defects to be corrected. The commencing of work by this contractor indicates his acceptance of the surfaces.

(*c*) Laying Felt — Felt under slate roofs shall be laid in horizontal layers, with joints lapped toward eaves and at least 4″ at ends. Felt shall lap over all hips and ridges at least 1′0″. At valleys, felt shall be run lengthwise with the valley and 4″ beyond the valley. All joints shall be mopped with pitch.

(*d*) Laying Slate — No cracked or broken slate shall be used.

Slates shall be installed with a 3″ head lap in horizontal courses. Each course shall break joints with the preceding one. Hips shall be mitered. Ridges shall be saddle type. Valleys shall be closed. Intersections and all cutting of slate shall be carefully done.

Each slate shall be installed with two copper nails, which will be concealed by the succeeding slate. Nails shall not be driven in so far as to produce a strain on the slate. Exposed nails will be permitted only where unavoidable. Lay ridge and hip slates in cement that is spread thickly over unexposed surface of under course.

Cover all exposed nailheads with elastic cement colored to match the slate.

Slates at eaves shall be doubled and canted by a wooden cant strip installed by this contractor. Projection at eaves shall be 2″.

(*e*) Closed Valley Flashings — Flashings shall be 16-oz. copper built in. Sheets shall be of sufficient length to extend to or above the top of the slate piece and to lap the flashing piece below 3″, and of a width sufficient to extend up the sides of the valley far enough to make the valley 4″ deep. All pieces shall be separated by a course of slate. Pieces shall be set so as to lap at least 3″ and shall be concealed entirely by the slate. Flashing pieces shall be fastened by copper nails at the top edge only.

Valley flashings shall be made with a crimp or ridge down the center equal to the full thickness of the slate courses.

(*f*) Flashings at Roof Vents — Vent pipes, where they extend through the roof, shall be flashed with 16-oz. copper. Flashings shall extend out on the roof 8″ and shall be covered with a cap flashing which shall be turned down into the pipe.

(*g*) Chimney Flashings — Intersections of the roof with the chimney shall be flashed and counterflashed with 16-oz. copper. Base flashings shall extend out on the roof 8″. Cap flashings shall lap base flashings 4″, shall extend into the wall 4″, and shall be turned up ½″.

(*h*) Second Floor Window Heads — Flashing at second floor window heads shall be 16-oz. copper and shall extend up 6″ behind the siding and down ½″ over the face of the window trim. Edge shall be doubled back ½″ to provide stiffness and shall be nailed to the face of the wood trim with copper nails

(*i*) Flashings at Sun Deck — Flashings for the roof over the kitchen porch shall consist of 16-oz. copper. Copper shall extend 8″ under built-up roof and shall be turned down over the cornice, with edge doubled and nailed to cornice. Flashings shall be turned up around supports for parapet. Top edge of flashing shall be doubled back ½″ and rebated into wood supports.

(*j*) Soldering — Copper shall be thoroughly heated before soldering. Soldering shall be done slowly, using an ample amount of solder. Tin properly before soldering.

(*k*) Gutters — Gutters shall be 5″ diameter, half-round, 16-oz. cold-rolled copper with a rolled edge, installed level in approximately 10′0″ lengths, with tongue-and-grooved slip joints. Fill grooves of joints with a thick white-lead paste mixture.

Hangers shall be adjustable, with cast-bronze half-circle brackets and copper hangers spaced every 30″, and they shall be secured to the roof sheathing with countersunk brass screws.

(*l*) Leaders — Leaders shall be 3″×4″ corrugated leaders of 16-oz. cold-rolled copper held clear of the walls with concealed heavy-bronze adjustable fasteners not more than 6′0″ o.c. Install all necessary gooseneck connections from leader to gutter and heavy copper wire basket strainers. Leaders are to have spreaders at grade.

(*m*) Built-Up Roof — The built-up roof shall consist of five plys of felt and six moppings of pitch.

Before the roofing is applied, the concrete deck must be thoroughly dry and free of frost, loose sand, or debris. All low spots or depressions shall be removed to provide satisfactory drainage.

The roof surface shall first be mopped with a heavy coating of pitch, into which,

while hot, shall be installed five layers of felt, mopped solid between the asphalt. At no point shall felt touch felt. Each sheet shall overlap the previous sheet 27½″, leaving 8½″ exposed.

(*n*) Clothes Chute — The clothes chute shall be 18″ in diameter and shall be constructed of 22-gage galvanized iron. Joints shall be watertight and neatly formed. Chute shall be anchored securely in position by means of straps and angles.

At intake and outlet to chute provide 18″ diameter polished cast-aluminum door, complete with hinges and latch.

(*o*) Louvers — Louvers shall be of 20-oz cold-rolled copper, with a section depth of 4″. Louver blades shall be fixed and shall have the front edge turned down and the back edge turned up. Edges shall be doubled. A copper-mesh screen shall be welded to the back of the lower frame. Inside dimensions of the frame shall be approximately 12″×16″. All shall be in accordance with the architect's details.

(*p*) Cleaning Up — This contractor shall remove all broken slates and other debris from the roof and gutters and from the premises and shall leave his work in a condition satisfactory to the architect. Upon completion of the work, all slate must be sound, whole, and clear.

6. Location

(*a*) Pitched Roofs — All pitched roofs shall be covered with slate. Valleys shall be closed.

(*b*) Sun Deck — The roof at the sun deck shall have a 5-ply built-up roof.

(*c*) Clothes Chute — The clothes chute shall extend from 30″ above the stair landing at the second floor to the ceiling of the wall cabinets in the kitchen below.

(*d*) Louvers — Louvers shall be installed in the attic space in the gable ends where shown on the drawings.

(*e*) Gutters and Leaders — Gutters shall be installed at the eaves of all slate roofs. Leaders shall be located where shown on the drawings.

(*f*) Flashings — Flashings shall be provided at all valleys, at the intersection of the roof with the chimney, at the intersection of the roof with the east and north walls of the building, at roof vents, at the sun deck, and at the second floor window heads. Unless specified otherwise, flashings shall be 16-oz. copper.

7. Guaranty-Warranty. This contractor shall and hereby does warrant, and the general contractor shall and hereby does guarantee, that all work executed under this section shall be free from defects of materials and workmanship for a period of 5 years from the date of the final certificate.

The following types of failure will be adjudged defective work:

(1) All work: Leaking, failure to stay in place.

(2) Slate work: Cracking, splitting, loosening, falling off.

(3) Sheet-metal work: Undue expansion, lifting, deformation, loosening, splitting at seams.

(4) Built-up roofs: Buckling, tearing, alligatoring, pulling loose from substructure.

Metal Windows

1. **General Conditions.** The work under this section shall be subject to the requirements of all applicable paragraphs of the general and supplementary conditions of the contract.

2. **Work Included.** This work includes all labor, materials, and equipment necessary for furnishing and installing all aluminum windows as shown on the drawings and as specified herein. This includes all exterior windows for the basement, the first floor, and the second floor. Basement windows shall be hinged at the top to swing in. First and second floor windows shall be outswinging casements, with frames for picture windows where shown on the drawings. Provide screens and all rough, operating, and locking hardware.

3. **Work Not Included.** Caulking, glass, and glazing will be by others.

4. **Shop Drawings.** Shop drawings of all windows shall be submitted in triplicate for the architect's approval and shall be resubmitted until finally approved. All windows shall be in accordance with approved shop drawings.

   Before submitting shop drawings, this contractor shall obtain all necessary measurements and templates from the wood subframes installed in the building.

5. **Aluminum Windows**

   (*a*) Construction — Windows shall be made by a nationally known window manufacturer. Names of manufacturers shall be submitted to the architect for approval before starting work on any shop drawings.

   Casements, frames, and mullions shall be made from extruded sections of the best commercial-grade aluminum alloy. Metal shall be uniform in texture and color and of the proper tensile strength. All anchors, bolts, and other fastenings shall be of aluminum.

   Casements and frames shall have a combined section depth of not less than $1\frac{3}{4}$". Mullions shall be $2\frac{1}{2}$"×$1\frac{3}{4}$" T-bars. Corners shall be welded and ground smooth. Profiles shall be sharply defined and finished surfaces shall be free from defects. Sections shall be shop-assembled, plumb, and true to line, and shall be properly reinforced to resist normal stresses and to accommodate hardware.

   All frames and casements shall be weathertight.

   (*b*) Dimensions — Casements shall be of the stock sizes shown on the drawings. Picture window frames shall be of the dimensions required by the drawings.

   (*c*) Screens — Screens shall have aluminum frames with aluminum wire cloth.

   (*d*) Finish — Aluminum surfaces shall be cleaned and polished to a smooth, even, unblemished color, and before shipment from factory shall be given a clear protective coat of lacquer.

   (*e*) Hardware — All casements shall be provided at sill level with solid-bronze, worm-gear, underscreen roto operators to open and close ventilator frames without disturbing screens. Finish shall match aluminum frames.

   Casements and basement windows shall be provided with solid white-metal locking handles to be operated without disturbing screens.

   Hinges shall be offset type to permit easy cleaning and shall be of tempered aluminum, complete with antifriction weatherproof bushings and fixed pin.

6. **Workmanship**

   Installation — Windows shall be installed in wood subframes furnished by others. Before installation, the rebate for the aluminum frames shall receive a liberal application

of caulking compound by this contractor. Aluminum frames shall be shoved into place and shall be screwed in position plumb and true using aluminum screws.

7. **Guaranty-Warranty.** This contractor shall furnish a written warranty, countersigned and guaranteed by the general contractor, that all work executed under this contract shall be free from defects of materials and workmanship for a period of one year from the date of the final certificate.

Glass and Glazing

1. **General Conditions.** The work under this section shall be subject to the requirements of all applicable paragraphs of the general and supplementary conditions of the contract.

2. **Work Included.** This work includes all labor, materials, and equipment necessary for furnishing and installing all glass and glazing in accordance with the requirements of the drawings and as specified herein. In general, this includes glass and glazing for all exterior windows, for doors so indicated on the drawings, and for furnishing and installing all mirrors and medicine cabinets.

3. **Work Not Included.** Structural glass wainscots, kitchen cabinets, and mirror frames are not included under this section.

4. Materials

(*a*) Manufacturers — All glass shall be made by a nationally known glass manufacturer. Names of manufacturers and products shall be submitted to the architect for approval before ordering any materials.

(*b*) Samples — Samples of all glass shall be submitted in triplicate for the architect's approval and shall be resubmitted until approved. When finally approved, two samples of each item will be returned to the contractor. An approved sample of each item shall be available at the contractor's office at the site. All samples shall bear the manufacturer's label.

(*c*) Delivery — Materials shall be delivered to the building, properly crated, at such times as required by the progress of the work. Material shall not be unpacked until it is to be used. All glass shall bear the factory label on each pane and no labels shall be removed until the final cleaning and when approved by the architect.

(*d*) Clear Glass — Clear glass shall be A quality, double-strength.

(*e*) Obscure Glass — Obscure glass shall be first-quality syenite $\frac{3}{16}$" thick.

(*f*) Plate Glass — Plate glass shall be polished plate glass $\frac{1}{4}$" thick, of glazing quality.

(*g*) Insulating Glass — Insulating glass shall consist of two sheets of $\frac{1}{4}$" polished plate glass with not less than a $\frac{1}{4}$" dead air space between, hermetically sealed, and with a metal binder.

(*h*) Mirrors — Plate glass for mirrors shall be silvering quality and shall receive two coats of silver, one coat of copper, one coat of shellac, and one coat of mirror backing paint. Mirrors shall bear the manufacturer's label identifying them as copper-backed mirrors.

(*i*) Putty — Putty for metal sash shall be metal-sash elastic glazing compound. Putty for wood sash and doors shall be white lead and whiting putty.

(*j*) Medicine Cabinets — Medicine cabinets shall be the heavy type, approximately 16"×24", complete with mirror face and chromium binder, glass shelves, and side lights.

(*k*) Scaffolding — This contractor shall provide all scaffolding necessary for the use of his men.

5. Workmanship

(*a*) Templates — This contractor shall obtain all necessary measurements and templates from the metal windows and millwork as delivered to the building before proceeding with his work.

(*b*) Glass Setting — All glass shall be bedded in approved glazing compound by mechanics skilled in the practices of the trade. Wood stops shall be fitted into place permanently by the carpenter contractor. All exposed putty or cement shall be smoothed off and left straight, flat, and clean, and free from toolmarks, dents, or imperfections. Corners shall be carefully formed.

(*c*) Setting Mirrors — Mirrors shall be cushioned with wood blocks to permit ventilation of backs.

(*d*) Breakage — This contractor shall replace, at his own expense, all lights broken because of faulty setting.

(*e*) Cleaning — Upon completion, this contractor shall clean and polish all glass and shall leave the work in perfect condition. He shall remove all broken glass and rubbish from the premises.

6. Location

(*a*) Exterior Openings — Exterior openings not specified or shown otherwise shall be glazed with clear glass.

(*b*) Picture Windows — Picture windows in the living room, dining room, and kitchen shall be glazed with insulating glass.

(*c*) Basement Windows — Basement windows shall be glazed with obscure glass.

(*d*) Mirrors — Mirrors shall be furnished at the fireplace in the living room and at the cabinet in the breakfast nook. Mirrors shall be of the sizes shown on the drawings.

(*e*) Medicine Cabinets — One medicine cabinet shall be installed in each bathroom, in the powder room on the first floor, and in the basement toilet room.

7. Guaranty-Warranty. This contractor shall and hereby does warrant, and the general contractor shall and hereby does guarantee, that all work executed under this section will be sound and waterproof, and free from defects of materials and workmanship for a period of one year from the date of the final certificate.

The above parties further agree that they will at their own expense repair and replace all such defective work, and all other work damaged thereby, which becomes defective during the term of the guaranty-warranty.

Caulking

1. **General Conditions.** The work under this section shall be subject to the requirements of all applicable paragraphs of the general and supplementary conditions of the contract.

2. **Work Included.** This work includes all labor, materials, and equipment necessary for furnishing and installing caulking as shown on the drawings and as specified herein. This in general includes caulking the perimeter of all exterior openings.

3. **Materials**

(*a*) Samples	The jamb of one window shall be caulked as a sample of materials and workmanship. If not satisfactory, this caulking shall be removed and a new sample installed. No other caulking shall be done until the sample has been approved by the architect. All materials and workmanship shall equal the approved sample.
(*b*) Caulking Compound	Caulking compound shall be an elastic caulking composition by an approved manufacturer. It shall be free from asphalt or solvents and shall be nonstaining over masonry or when painted with light-colored paint. It shall match the color of the door and window frames as closely as possible. When set, a smooth, tough skin shall form on the surface, which, like the body, shall remain elastic.
(*c*) Oakum	Oakum shall be first quality and clean.

4. **Workmanship**

Application	For all masonry openings, the reveal molds shall be removed. The joint between the frame and the masonry shall be completely filled with compound for a depth of at least $\frac{3}{4}''$. Joints which are wide and deep shall be caulked with oakum to within $\frac{3}{4}''$ of the surface; then the remaining opening shall be caulked with compound. After the reveal molds have been replaced, the space between the mold and the masonry opening shall be filled with compound. The finished surface of the compound shall be free from tool or finger marks, and the work shall be carefully done by competent mechanics. For frame openings, the space between the wood subframe and the aluminum windows shall be caulked.

Plastering

1. **General Conditions.** The work under this section shall be subject to the requirements of all applicable paragraphs of the general and supplementary conditions of the contract.

2. **Abbreviations.** "ASTM" refers to the American Society for Testing Materials. All ASTM specifications referred to shall be the latest editions.

3. **Work Included.** This work includes all labor, materials, equipment, and scaffolding necessary for furnishing and installing metal lath and plaster for all side walls and ceilings so noted on the Schedule of Finishes. This includes plaster scratch coat on metal lath behind all structural-glass wainscots and portland cement ceilings for the soffits of the roofs over the east and west terraces.

4. **Materials**

(*a*) Samples	Samples of materials requested by the architect shall be submitted in triplicate. When finally approved, two samples of each material shall be returned to the contractor; of these, one shall be kept at the contractor's office at the site.
(*b*) Delivery	Manufactured materials shall be delivered in the original packages, containers, or bundles bearing the name of the manufacturer and the brand.
(*c*) Protection	Cementing materials shall be stored under cover in a dry place.
(*d*) Sand	Sand for use in plaster shall conform in composition and grading to ASTM specification C 35.
(*e*) Water	Water shall be clean, fresh, and free from such amounts of acids, alkalis, or organic materials as would affect the set of the plaster.
(*f*) Neat Gypsum Plaster	Neat gypsum plaster shall be fibered and shall conform to ASTM specification C 28.

(*g*) Calcined Gypsum for Finishing Coat	Calcined gypsum for the finishing coat shall conform to ASTM specification C 28.
(*h*) Hydrated Lime	Special finishing hydrated lime shall conform to ASTM specification C 206.
(*i*) Keene's Cement	Keene's cement shall conform to ASTM specification C 61.
(*j*) Portland Cement	Portland cement shall be a normal portland cement of domestic manufacture conforming to ASTM specification C 150.
(*k*) White Cement	White cement shall be white portland cement conforming to Federal Specifications SS,-C,-181, latest edition.
(*l*) Metal Lath	In general, metal lath shall be flat, expanded metal lath weighing 3.4 lb. per sq. yd. For second floor ceilings, lath shall be $\frac{3}{8}$″ ribbed metal lath. Provide metal corner beads for all external plastered angles.

5. **Workmanship**

(*a*) Workmen	Lathing and plastering shall be done only by competent mechanics skilled in the practices of the trade.
(*b*) Application of Lath	Metal lath shall be attached to vertical wood supports, with not less than 4d common nails or 1″ roofing nails driven to a penetration of at least $\frac{3}{4}$″; or lath may be attached with 1″ wire staples driven home. Common nails, if used, shall be bent over to engage at least three strands of wire. Metal lath (except ribbed) shall be attached to horizontal wood supports with not less than $1\frac{1}{2}$″, No. 11 gage, $\frac{7}{16}$″ head, barbed bright or blued roofing nails driven home. The $\frac{3}{8}$″ rib lath for the second floor ceilings shall be attached with nails $\frac{3}{8}$″ longer than required for the foregoing, unless attachments are through the ribs. If attachments are

through the ribs, nails or staples shall be of such length as to provide at least $1\frac{3}{8}$" penetration in the wood ceiling joists.

Lath shall be applied with the long dimension at right angles to the supports.

Flat, expanded metal lath shall be lapped $\frac{1}{2}$" at the sides and 1" at the ends. Ribbed lath shall be lapped at the sides by nesting, and 1" at the ends. Lath shall be applied first to the ceilings, the sheets then being carried down 6" onto the walls and partitions. Provide corner beads at external corners, including jambs and heads of all doors and windows.

(*c*) Proportions for Gypsum Plaster

First (scratch) coat shall be mixed in the proportion of 1 part of neat gypsum plaster to not more than 2 parts of sand, by weight.

Second (brown) coat shall be mixed in the proportion of 1 part of neat gypsum plaster to not more than 3 parts of sand, by weight.

Gypsum-lime putty trowel finish shall be mixed in the proportion of 3 parts of lime putty to 1 part of gaging plaster (calcined gypsum), by volume.

Keene's cement, hard finish, shall be mixed in the proportion of 1 part of lime putty to 3 parts of Keene's cement, by volume.

(*d*) Proportions for Portland Cement Plaster

First coat shall be mixed in the proportion of 1 part of normal portland cement to 3 parts sand, with 10%, by weight, of hydrated lime.

Brown coat shall be the same mix as scratch coat.

Finish coat shall consist of 1 part white portland cement and 2 parts sand, with 10%, by weight, of hydrated lime.

(*e*) Mixing Plaster

All plaster shall be mixed by machine. The mixer shall be cleaned of all set or hardened material before the materials for a new batch are loaded. Each batch shall be mixed separately.

When the mixer is in continuous operation, the procedure shall be as follows:

(1) Put in the approximate amount of water.

(2) Add approximately half the amount of aggregate.

(3) Add all the plaster.

(4) Add the remainder of the aggregate.

(5) Mix to the proper consistency, adding water if necessary.

Dump the entire batch and use.

When the mixer is used intermittently, small amounts of sand and water shall be added after dumping each batch and the mixer run for a few minutes. After dumping the sand and water, the mixer will be clean and ready for a new batch.

(*f*) Mixing Hydrated Lime

Hydrated lime shall be mixed by adding the amount of water called for in the manufacturer's printed directions. The hydrated lime may be sifted into the water, or the putty may be screened or punched through a sieve or treated in any other manner so as to obtain a smooth, lump-free putty. The putty shall be soaked for twenty-four hours before using.

(*g*) Application of Base Coats

Scratch coat shall be applied with sufficient material and pressure to form full keys on metal lath, shall cover well, and then shall be scratched to a rough surface.

Plaster screeds shall be applied to the scratch coat prior to the application of the brown coat.

The brown coat shall be applied after the scratch coat has set firm and hard, brought out to the grounds and straightened to a true surface with rod and darby, and left rough to receive the finish coat.

Plaster shall be carried to the floor between all grounds and behind all base and trim.

(*h*) Application of Finish Coat

In the application of the finish coat, the use of excessive water shall be avoided. If the base coat is dry, it should be evenly wetted, but not saturated, just before the application of the finish coat.

Gypsum-lime putty trowel finish shall be applied over a base coat which has set and is surface dry, and scratched in thoroughly. Finish shall be laid on well, doubled back, and filled out to a true, even surface. Finish shall be from $\frac{1}{16}$″ to $\frac{1}{8}$″ thick. The finish shall be allowed to draw a few minutes and then should be well troweled with water to a smooth finish free from catfaces and other blemishes.

Keene's cement finish shall be applied over a thoroughly set base coat which is nearly but not quite dry. Thickness shall be from $\frac{1}{16}$″ to $\frac{1}{8}$″.

Portland cement finish shall be a floated sand finish applied not less than 24 hours after the brown coat is applied. Finish coat shall be wetted and moist-cured for 2 days and then allowed to dry.

Structural Glass

1. **General Conditions.** The work under this section shall be subject to the requirements of all applicable paragraphs of the general and supplementary conditions of the contract.

2. **Work Included.** This work includes all labor, materials, and equipment necessary for furnishing and installing structural-glass wainscots and accessories for all locations required by the Schedule of Finishes listed on the drawings.

3. **Work Not Included.** Plaster on metal lath (behind structural glass) will be installed by others.

   The lead pan and lining for the shower stall will be furnished and installed by others.

   Accessories not in structural glass will be furnished and installed by others.

   Glass and glazing for windows will be by others.

(*a*) Samples — Samples of glass and accessories in the desired colors shall be submitted in triplicate for the architect's approval and shall be resubmitted until approved. When finally approved, two samples of each item will be returned to the contractor. An approved sample of each item shall be kept at the contractor's office at the site. All materials delivered to the site shall be equal to the approved samples.

(*b*) Structural Glass — Structural glass shall be an annealed structural glass, impervious to grease, grime, chemicals, oils, or pencil marks. It shall be homogeneous and uniform in structure and free from defects which might affect its utility, strength or appearance.

(*c*) Colors — Bathroom #1—Rembrandt blue, ivory trim.
Bathroom #2—tranquil green, black trim.
Powder room—Wine, black trim.

(*d*) Dimensions — Glass shall be $\frac{1}{8}\frac{1}{2}''$ thick, ashlar, in approximately 2′0″ squares. Cap 4″ high; base 6″ high. Cap and base shall be $\frac{7}{16}''$ thick. All abutting edges shall be ground square.

(*e*) Finish — Structural glass shall have a mechanically ground and polished finish. All exposed edges shall be polished and finished square.

(*f*) Cement — Mastic cement, as recommended by the manufacturer of the glass used.

(*g*) Accessories — Accessories shall be of hard, vitreous china in colors to match the structural glass field in which they are installed.

For each bathroom, furnish and install the following accessories:

2 towel bars	24 ″×4$\frac{1}{4}$″
2 soap dishes	4$\frac{1}{4}$″×4$\frac{1}{4}$″
1 paper holder	6 ″×6 ″
1 glass and toothbrush holder	4$\frac{1}{4}$″×4$\frac{1}{4}$″
3 hooks	4$\frac{1}{4}$″×4$\frac{1}{4}$″

For shower in bathroom #2, furnish and install a shatterproof glass door, 2′0″ × 6′6″, with chrome plated brass frame. Door to have open grille at top and piano-type hinges.

For the powder room, furnish and install the following accessories:

1 towel bar
1 soap dish
1 paper holder
1 glass holder

4. Workmanship

(*a*) Installation — This contractor shall paint the plaster background installed by others with a bond coat after the plaster is thoroughly dry.

Glass shall be applied using mastic cement in accordance with the manufacturer's directions. All surfaces shall be plumb and true and all joints shall be true and in alignment. Only mechanics skilled in the installation of structural glass shall be employed.

(*b*) Joints — Joints shall be approximately $\frac{1}{16}''$ and shall be pointed with white pointing compound prepared by the manufacturer.

(*c*) Cleaning — Upon completion, all waste material shall be removed from the site, faulty joints shall be pointed up, and all glass cleaned and polished.

5. Location

(*a*) Bathrooms #1 and #2 — Structural glass wainscots in bathroom #1 and #2 shall be 7′0″ high, except at the alcoves for tubs, where glass shall extend to the ceiling. Provide glass window sills and returns at door and window jambs. Provide glass curb at shower stall.

Recesses for towels shall be completely lined with structural glass and provided with clear glass shelves $\frac{3}{8}''$ thick approximately 10″ o.c.

(*b*) Powder Room — Structural glass wainscot in powder room shall extend to ceiling. Provide returns at door jambs.

Marble and Tile

1. **General Conditions.** The work under this section shall be subject to the requirements of all applicable paragraphs of the general and supplementary conditions of the contract.

2. **Abbreviations.** "ASTM" refers to the American Society for Testing Materials. All ASTM specifications referred to shall be the latest editions.

3. **Work Included.** This work includes all labor, materials, and equipment necessary for furnishing and installing the marble and tile work for all floors, side walls and shower stalls as shown on the drawings and as required by the Schedule of Finishes listed on the drawings.

4. **Shop Drawings.** Shop drawings showing all marble work shall be submitted in triplicate for the architect's approval and shall be resubmitted until finally approved.

5. **Materials**

(*a*) Samples	Samples of marble and tile shall be submitted in triplicate for the architect's approval and shall be resubmitted until approved. When a material is finally approved, two samples will be returned to the contractor. An approved sample of each item shall be kept at the contractor's office at the site. Samples of tile shall be accompanied by certificates of quality.
(*b*) Portland Cement	Portland cement shall be a normal portland cement of domestic manufacture conforming to ASTM specification C 150.
(*c*) White Cement	White cement shall be white portland cement conforming to Federal Specifications SS-C-181, latest edition.
(*d*) Hydrated Lime	Hydrated lime shall conform to ASTM specification C 6.
(*e*) Sand	Clean, hard, durable, well-graded natural sand of quartz particles or the equivalent conforming to ASTM specification C 144.

(*f*) Water	Water shall be clean, fresh, and free from such amounts of acids, alkalis, or organic materials as would affect the set of the mortar.
(*g*) Tile	All tile shall be standard grade and of domestic manufacture. Wall tile shall be ceramic cushion tile, $4\frac{1}{4}''\times4\frac{1}{4}''$, matt-glazed, in colors as selected. Provide necessary special shapes, including coved base, bullnose corners, flush cap. Floor tile shall be porcelain ceramic mosaics $\frac{1}{4}''$ thick, octagon pattern, in plain colors as selected. All tile shall be delivered to the site in the original, sealed packages. Containers shall be subject to inspection by the architect before being opened.
(*h*) Certificates of Quality	Before any tile is delivered to the job, this contractor shall furnish to the architect certificates of quality signed by the manufacturer and the testing laboratory certifying that all tile for this project has successfully passed the standard performance tests.
(*i*) Marble	Marble for saddles, and for shower and toilet stalls, shall be selected Tennessee marble. Marble shall be sound and uniform in texture, shade, and markings. Marble saddles shall have a honed finish. Marble for shower stalls shall have a polished finish.
(*j*) Accessories	Furnish and install the following vitreous china accessories: 2 soap holders $4\frac{1}{4}''\times4\frac{1}{4}''$ 2 towel bars $24\frac{1}{4}''\times4\frac{1}{4}''$ 1 combination toothbrush and tumbler holder $4\frac{1}{4}''\times4\frac{1}{4}''$ 1 grab rail $8\frac{1}{2}''\times4\frac{1}{2}''$ 1 paper holder $6''\times6''$

3 robe hooks $4\frac{1}{4}'' \times 4\frac{1}{4}''$

1″ to $1\frac{1}{4}''$ diameter chrome-plated shower stall curtain rod with necessary brackets for attaching to marble shower stall. Provide first-quality shower stall curtain.

6. Workmanship

(*a*) Workmen — Marble, tile, and accessories shall be installed by skilled mechanics competent to execute the work in accordance with the best modern practice.

(*b*) Scratch Coat — Scratch coat for the wainscots shall be installed by this contractor on the concrete block installed by others. Scratch coat shall be not less than $\frac{1}{4}''$ thick and shall be mixed in the proportions of 1 part portland cement to $2\frac{1}{2}$ to 3 parts sand. While still plastic, the scratch coat shall be deeply scored.

(*c*) Installing Wall Tile — The scratch coat shall be moistened but shall have no free water prior to the application of the tile.

Tile shall be applied by the buttering method. Buttering mortar shall consist of the following: 1 part portland cement, $\frac{1}{2}$ part lime putty, and 3 parts sand. Mortar shall not be retempered.

Scratch coat shall be spotted with small pieces of tile mortared in place to indicate accurately the plane of the finished wall. Each tile shall be buttered with mortar, tamped in place, and brought to a plumb and true surface flush with the spot and other tile. All caps, bases, and trim shall be backed full with mortar.

All joints shall be $\frac{1}{16}''$ wide and shall be maintained plumb, level, and even.

As soon as the mortar setting bed has hardened sufficiently, the tile surfaces shall be well washed prior to grouting.

(*d*) Grouting Wall Tile — Joints for wall tile shall be grouted with 1 part waterproofed white portland cement to 1 part finely ground white marble dust mixed to the consistency of heavy cream.

(*e*) Installing Floor Tile — Before the mortar setting bed is spread, the concrete slab shall be thoroughly cleaned and moistened, but with no free water remaining.

Mortar setting bed shall be approximately $1\frac{1}{2}''$ thick and shall be of the thickness necessary to bring the tile floor to the required finished floor line. Setting bed shall be in the proportion of 1 part portland cement to 3 parts sand.

The setting bed shall be spread out on an absolutely true surface. In the basement toilet room the surfaces shall pitch to the floor drains. Screed strips shall be used to assure the proper level.

Portland cement shall be uniformly dusted over the surface of the setting bed immediately preceding the setting of the tile. The tile shall then be placed upon the mortar, and firmly pressed and beaten into the mortar until exactly true and even with the finished floor lines. All joints shall be $\frac{1}{16}''$ wide.

As soon as the cement mortar beds have set sufficiently, the tiles shall be washed with clean water and the joints grouted.

(*f*) Grouting Floor Tile — Floor tile shall be grouted with normal portland cement mixed with clean fresh water to the consistency of heavy cream.

(*g*) Setting Marble — All marble for the shower stall shall extend at least 1″ below the finished floor line. Ends of partitions shall extend at least 1″ into the finished wall. Backs shall be secured with spots, dowels, and anchors. Butting edges shall have V

joints filled with litharge and glycerine. Joints shall be not more than $\frac{1}{16}$". Provide concealed dowel fastenings.

(*h*) Cleaning — After the completion of the work, and at such times as the architect shall direct, all tile and marble shall be thoroughly cleaned. Acid solutions shall not be used. Any open joints shall be pointed and defective tile or marble shall be replaced.

7. Location

(*a*) Shower Stall — Shower stall and dressing compartment in basement toilet room shall extend 7'0" above the finished floor. Marble shall be not less than $1\frac{1}{4}$" thick. Shower stall shall have marble curb 7" high.

(*b*) Saddles — Raised marble saddles shall be provided at doors from hall to bathrooms, and at door from recreation room to toilet room. Saddles shall be $1\frac{1}{4}$" thick, 5" wide, with rounded edges. Saddles shall fit between the door jambs and shall run under the door stops.

(*c*) Tile Side Walls — Tile side walls in basement toilet room shall extend from the floor to the ceiling and shall include window sills and reveals at door and window frames.

(*d*) Tile Floors — Tile floors in basement toilet room and in baths #1 and #2 shall include the total exposed floor area, including the shower stalls.

(*e*) Accessories — Under this contract accessories shall be installed in the basement toilet room as directed by the architect.

Painting

1. General Conditions. The work under this section shall be subject to the requirements of all applicable paragraphs of the general and supplementary conditions of the contract.

2. Abbreviations. "ASTM" refers to the American Society for Testing Materials. All ASTM specifications referred to shall be the latest editions.

3. Work Included. This work includes all labor, materials, and equipment necessary for all painting as shown on the drawings and as specified herein. This in general includes all exterior and interior woodwork, all wood floors, all plaster side walls and ceilings, all concrete block side walls, and all metalwork exposed in the finish, except brass, bronze, and aluminum.

4. Work Not Included. Items under the section "Structural Steel and Miscellaneous Iron" will be primed by others.

Painting of kitchen cabinets and medicine cabinets is not included under this contract.

5. Materials and Equipment

(*a*) Quality — All materials shall be of the best grade of first-line paints made by nationally known paint manufacturers. Their names and the names of the products to be used shall be submitted to the architect for approval before the work starts.

Materials that have not been approved shall not be delivered to the building.

Materials shall be delivered to the building in their original containers, with the labels intact and the seals unbroken. Any material rejected by the architect shall be removed immediately from the premises.

(*b*) Samples — No materials shall be ordered nor work started until samples of materials, finishes, and color have been approved by the architect. Samples of finishes shall

be submitted on the kinds of materials which will receive them.

(*c*) Storage — A room on the premises will be assigned to this contractor for the storage of his tools and materials. This contractor shall properly protect the floor with dropcloths and building paper. Paints shall be kept covered. Necessary precautions shall be taken to prevent fire.

(*d*) Equipment — This contractor shall provide all scaffolding, tools, dropcloths, tarpaulins, and other appliances necessary to execute and protect the work.

(*e*) White Lead — White lead shall conform to ASTM specification D 81.

(*f*) Linseed Oil — Raw linseed oil shall conform to the ASTM specifications D 234.

(*g*) Pigments — Tinting colors for oil paints shall be of the highest-grade colors-in-oil, ground in pure linseed oil.

(*h*) Putty — Putty shall conform to ASTM specifications D 317.

(*i*) Shellac — Shellac shall be pure white shellac cut in pure denatured alcohol.

(*j*) Turpentine — Turpentine shall be pure gum spirits of turpentine and shall conform to ASTM specifications D 13.

(*k*) Filler — Filler shall be of the paste type, selected for the color desired.

5. Workmanship

(*a*) Workmen — All phases of the work shall be done only by competent mechanics skilled in the practices of the trade. This contractor shall furnish a capable foreman skilled in mixing and matching colors.

(*b*) Preparation — Before painting, all surfaces shall be thoroughly cleaned and shall be free from all dust, dirt, and other foreign matter. This contractor shall cut out and properly fill all plaster cracks. He shall clean all masonry block surfaces, removing all dirt, dust, and loose mortar particles. He shall do all sanding of wood or metal surfaces. Greasy or oily metal surfaces shall be cleaned with benzine or mineral spirits.

Knots and sappy places shall be coated with liquid shellac after the priming coat is dry. Nail holes, cracks, open joints, and other defects shall be puttied after the priming coat is dry and before the second coat is applied. Putty shall be pure linseed oil—that is, white lead—whiting putty being colored to match the finish coat. Priming and back painting shall be done at the mill.

This contractor shall not proceed with any painting until all surfaces have been inspected and approved by the architect.

(*c*) Weather Conditions — Painting shall not be done under weather conditions or temperatures not suitable for the production of good, durable work. In spaces where painting is being done or where paint is drying, the temperature shall be maintained above 50 F.

(*d*) Protection — This contractor shall protect the work of the other trades. All electric plates and surface hardware shall be removed before painting and shall be replaced when the painting is completed.

(*e*) Mixing — Tinting, mixing, and matching of colors shall be done on the premises. Colors for all coats shall be approved by the architect before application.

(*f*) Application — All lead and oil paints, stains, varnishes, and so forth must be evenly spread or flowed on and shall be free from sags, runs, crawling, and other defects. No succeeding coat shall be applied until the

preceding coat is dry and has been inspected by the architect or his representative. At least 24 hours shall be allowed between coats under the most favorable conditions. All coats shall be of the proper consistency and well brushed out.

Concrete block walls shall be dampened lightly, using a pressure pump or garden hose with a special fine-fog nozzle. Do not soak wall. After the surface water has disappeared, but while the wall is still damp, apply one coat of portland cement paint. First coat shall be scrubbed into the joints and then into the masonry, using brushes with bristles not more than 2″ long. First coat shall be kept damp for at least 24 hours and shall be sprayed as soon as the paint has hardened sufficiently to prevent damage. Second coat shall be brushed on and shall be kept damp for at least 48 hours.

All finishes shall be uniform as to sheen, color, and texture.

(*g*) Cleaning — Upon completion, this contractor shall remove from the building all debris created by him. All hardware, glass, floors, and other finish shall be free from paint spots, and this contractor shall leave his own part of the work in a clean and finished condition acceptable to the architect.

7. Location

(*a*) Plaster Surfaces — Apply the following:

(1) A wash coat consisting of 2 lb. of zinc sulfate to each gallon of water. Add a small amount of phenolphthalein in order to detect lime spots.

(2) A prime coat of lead and oil paint.

(3) A coat of lead and oil paint of the desired color.

(4) A finish coat of lead and oil paint of the desired color.

(*b*) Exterior Woodwork — All exterior woodwork, including siding, shall receive the following:

(1) A priming coat of lead and oil. This shall include back priming.

(2) A coat of lead and oil in the desired color.

(3) A finish coat of lead and oil in the desired color.

Sand lightly with No. 00 sandpaper between all coats.

(*c*) Interior Woodwork — All interior woodwork not stained or varnished shall receive the following:

(1) A priming coat of lead and oil paint. This shall include back priming.

(2) A coat of lead and oil paint in the desired color.

(3) A finish coat of lead and oil paint in the desired color. Add a small amount of enamel to this coat.

Sand lightly with No. 00 sandpaper between all coats.

(*d*) Wood Floors — Wood floors exposed in the finish shall receive the following:

(1) A coat of paste filler of the desired color.

(2) A thin coat of white shellac.

(3) Same as item 2. Floor shall be buffed after each coat.

(4) Two coats of paste floor wax polished to the desired sheen.

(*e*) Metalwork — All exposed metalwork (excepting brass, bronze, and aluminum) shall receive two coats of lead and oil over the prime coat by others.

Radiator covers shall be painted to match adjoining walls.

Copper gutters and leaders shall be cleaned with benzine and shall receive

two coats of lead and oil in colors to match the exterior woodwork.

(*f*) Wainscots — Wood wainscots shall receive the following:

(1) A coat of lead and oil to the backs of the wainscots.

(2) A coat of paste filler of the desired color.

(3) A thin coat of white shellac.

(4) A coat of gloss varnish.

(5) A coat of flat varnish.

(6) A coat of paste wax.

Surfaces shall be rubbed down between each coat.

(*g*) Concrete Black Walls — Concrete block walls exposed in the finish shall receive the following:

(1) Two coats of portland cement paint in selected colors.

8. **Guaranty-Warranty.** This contractor shall and hereby does warrant, and the general contractor shall and hereby does guarantee, that all work executed under his section will be free from defects of material and workmanship for a period of one year from the date of the final certificate.

The above parties shall repair any defects due to faulty materials or workmanship that become apparent during that period.

Finishing Hardware

1. **General Conditions.** The work under this section shall be subject to all applicable paragraphs of the general and supplementary conditions of the contract.

2. **Work Included.** This work includes all labor, materials, and equipment necessary to furnish and install all finishing hardware as required by the drawings and by this schedule.

Unless otherwise specified, all hardware shall be solid bronze in a dull-finish and shall be complete with all necessary screws, bolts, and anchors.

The hardware as herein specified is as manufactured by Russwin, Glyn-Johnson, and Stanley Works. Contractors may estimate on corresponding hardware as manufactured by Yale and Towne, Corbin, Sargent, or equal.

3. **Hardware Schedule**

Basement

Group 1

1 Door Recreation Room to Boiler Room RH
1 Door Recreation Room to Storage RH
2′8″ × 6′8″ × 1¾″ Wood Doors and Frames
3 Pair Butts 241 C 4″ × 4″
2 Latchsets 039 BK Woburn F10
2 Door Stops 210 ½ F10

Group 2

1 Door Recreation Room to Toilet Room RH
2′8″ × 6′8″ × 1¾″ Wood Door and Frame
1½ Pair Butts 241 CM 4″×4″
1 Bathroom Lockset 229 BK Woburn F10×F24
1 Door Stop 210 ½ F24

First Floor

Group 3

1 Door Terrace to Living Room RH
2′8″ × 6′8″ × 2″ Wood Door and Frame
1 Door Terrace to Pump Room RH
1 Door Terrace to Garage RH
2′9″ × 7′0″ × 2″ Wood Doors and Frames
1 Door Terrace to Living Room LH

1 Door Terrace to Vestibule LH
3′0″ × 7′0″ × 2″ Wood Doors and Frames
7½ Pair Butts 241 C 4½″ × 4½″
5 Cylinder Locksets 1048 BK Woburn F10
5 Door Stops 210 ½ F10

Group 4

1 Door Porch to Kitchen RH
2′9″ × 7′0″ × 2″ Wood Doors and Frame
1½ Pair Butts 241 CM 4½″ × 4½″
1 Cylinder Lockset 1048 BK Woburn F10×F24
1 Door Stop 210 ½ F24

Group 5

1 Door Garage to Pump Room RH
2′8″ × 6′8″ × 1¾″ Wood Door and Frame
1½ Pair Butts 241 C 4″ × 4″
1 Cylinder Lockset 1048 BK Woburn F10

Group 6

1 Door Den to Living Room LH
2′8″ × 6′8″ × 1¾″ Wood Door and Frame
1 Door Vestibule from Closet RHRB
2′0″ × 6′8″ × 1¾″ Wood Door and Frame
3 Pair Butts 241 C 4″×4″
2 Latchsets 039 BK Woburn F10
1 Door Stop 210 ½ F10

Group 7

1 Door Kitchen from Closet LHRB
1′2″ ×6′8″ × 1¾″ Wood Door and Frame
1½ Pair Butts 241 CM 4″ × 4″
1 Latchset 039 BK Woburn F24
1 Door Stop 210 ½ F24

Group 8

1 Door Vestibule from Powder Room LHRB
2′0″ × 6′8″ × 1¾″ Wood Door and Frame
1½ Pair Butts 241 CM 4″ × 4″
1 Bathroom Lockset 229 BK Woburn F10×F24

Group 9

1 Door Breakfast Nook from Stairs RHRB
2′8″ × 6′8″ × 1¾″ Wood Door and Frame
1½ Pair Butts 241 CM 4″ × 4″
1 Lockset 229 BK Woburn F24

Group 10

1 DA Door Between Vestibule and Kitchen
2′8″ × 6′8″ × 1¾″ Wood Door and Frame
1 D.A. Floor Hinge Rixson Jr. US26
1 Push Plate 1117 7½″ × 15″ F10
1 Push Plate 1117 7½″ × 15″ F24

Second Floor

Group 11

1 Door Sun Deck to Hall LH
2′6″ × 7′0″ × 2″ Wood Door and Frame
1½ Pair Butts 241 C 4½″ × 4½″
1 Lockset 1039 BK Woburn F10
1 Door Stop 210 ½ F10

Group 12

1 Door Hall to Bedroom No. 1 LH
1 Door Hall to Bedroom No. 2 LH
1 Door Hall to Bedroom No. 3 LH
2′8″ × 6′8″ × 1¾ Wood Doors and Frames
4½ Pair Butts 241 C 4″ × 4″
3 Locksets 229 BK Woburn F10
3 Door Stops 210 ½ F10

Group 13

1 Door Hall to Bath No. 1 LH
1 Door Hall to Bath No. 2 LH
2′0″ × 6′8″ × 1¾″ Wood Doors and Frames
3 Pair Butts 241 CM 4″×4″
2 Bathroom Locksets 229 BK Woburn F10×F24
2 Overhead Door Stops GJ512B US26

Group 14

1 Door Hall from Linen Closet RHRB
1′9″ × 6′8″ × 1¾″ Wood Door and Frame
1 Door Hall from Closet LHRB
2 Doors Bedroom No. 2 from Closet RHRB
2 Doors Bedroom No. 3 from Closet LHRB
2′0″ × 6′8″ × 1¾″ Wood Doors and Frames
2 Doors Bedroom No. 1 from Closet LHRB
2′9″ × 6′8″ × 1¾″ Wood Doors and Frames
12 Pair Butts 241 C 4″ × 4″
8 Latchsets 039 BK Woburn F10
8 Door Stops 210 ½ F10

Appendix

The following list contains some of the many standard specifications by The American Society for Testing Materials, 1916 Race Street, Philadelphia, Pennsylvania. Each of these standards is available in pamphlet form at a small charge.

Designation Number	Title
C-150	Standard Specifications for Portland Cement
C-33	Standard Specifications for Concrete Aggregates
C-144	Aggregates for Masonry Materials
C-61	Standard Specifications for Keene's Cement
C-35	Standard Specification for Sand for Use in Plaster
C-28	Standard Specifications for Gypsum Plasters
C-6	Standard Specifications for Hydrated Lime, Normal Finishing
C-94	Standard Specifications for Ready-Mixed Concrete
C-206	Standard Specifications for Hydrated Lime, Special Finishing
B-32	Solder Metal, Soft, Spec. for
D-81	Standard Specifications for Basic Carbonate of White Lead
C-90	Specifications for Load-Bearing Hollow Concrete Block
A-15	Specifications for Concrete Reinforcement Bars of Billet Steel.

Specification Writing

Serial 2175B-3 Part 2 Edition 4

Examination Questions

Notice to Students.—Study this instruction text thoroughly before you answer the following questions. Read each question carefully and be sure you understand it; then write the best answer you can. When you complete your work, examine it closely, correct all the errors you can find, and see that every question is answered; then mail your work to us. DO NOT HOLD IT until another examination is ready.

1. In writing the specifications for a house similar to the one in the text, under what sections would you ask for shop drawings?
2. Under the section devoted to masonry, list three items that you would include in specifying the sample wall.
3. Write a paragraph covering the painting of exterior woodwork.
4. List six items that you would include in writing the Instructions to Bidders.
5. In your own words, write an standard paragraph covering the submission of samples.
6. Write a paragraph covering a cash allowance for hardware.
7. Write a guaranty-warranty clause covering the section devoted to Glass and Glazing.
8. In specifying concrete work, what is the minimum curing period that you would require?
9. From the following list, select six items that you would include in writing specifications for stone masonry: *(a)* parging, *(b)* brown coat, *(c)* screeds, *(d)* Keene's cement, *(e)* hydrated lime, *(f)* scaffolding, *(g)* portland cement, *(h)* joint finish, *(i)* protection.

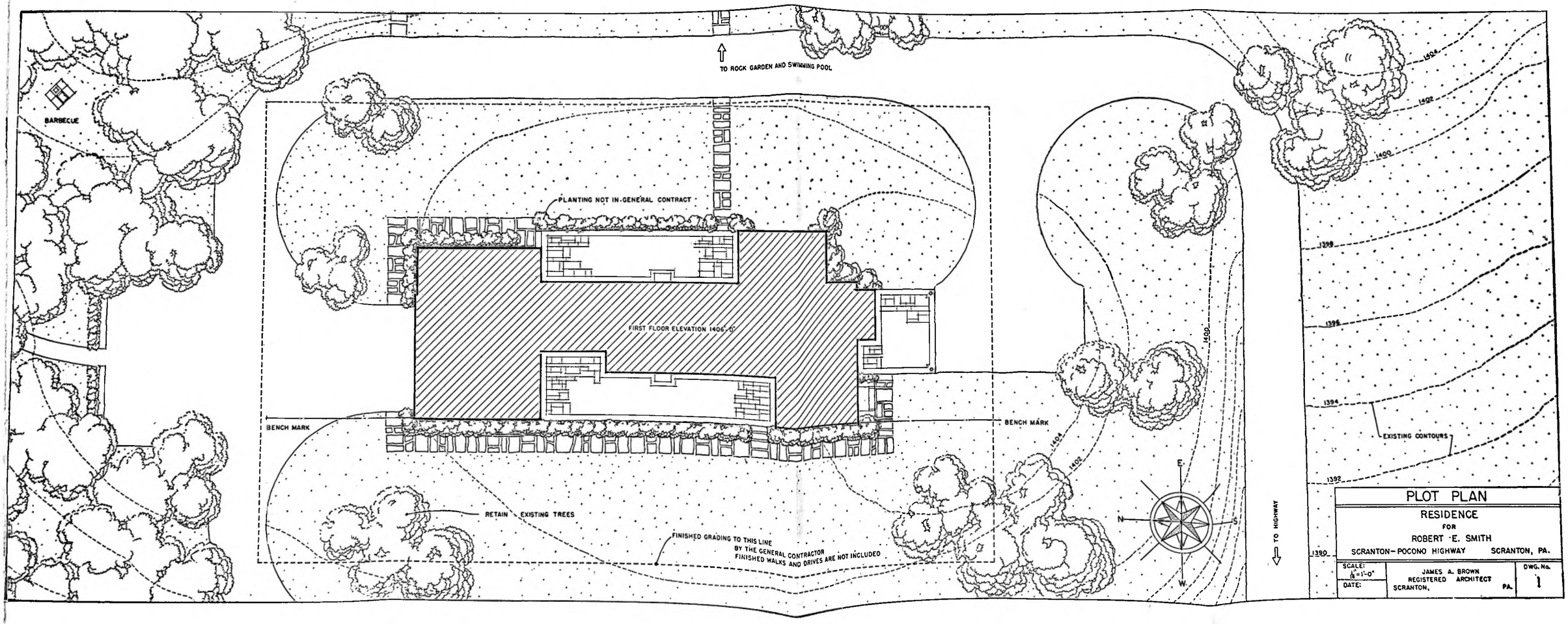
10. In specifying excavating, how would you cover the possibility that rock might be encountered?

Drawings for use with Instruction Text

SPECIFICATION WRITING

(PART 2)

Serial 2175B-1—BB. 267



PLOT PLAN

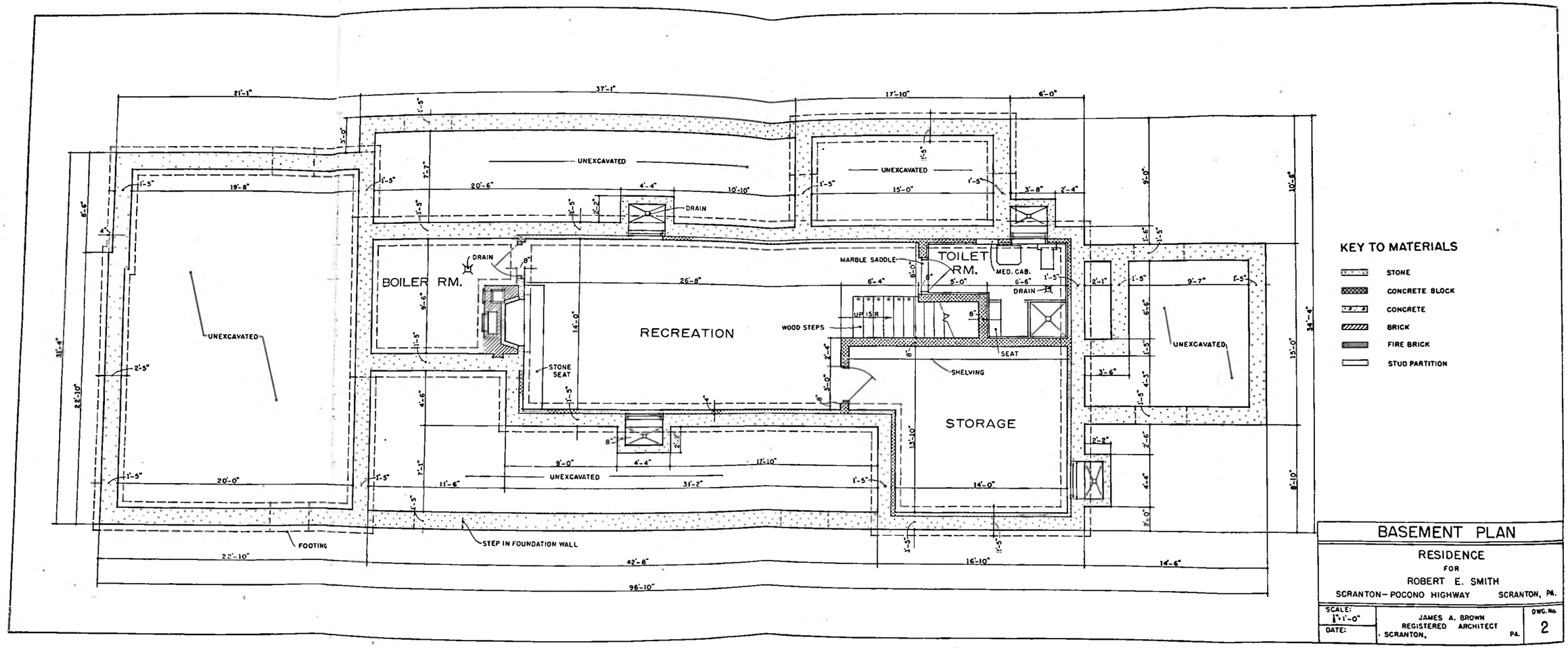
RESIDENCE

FOR

ROBERT E. SMITH

SCRANTON–POCONO HIGHWAY SCRANTON, PA.

SCALE: 1/8" = 1'-0"	JAMES A. BROWN REGISTERED ARCHITECT SCRANTON, PA.	DWG. No. 1
DATE:		



KEY TO MATERIALS

- STONE
- CONCRETE BLOCK
- CONCRETE
- BRICK
- FIRE BRICK
- STUD PARTITION

BASEMENT PLAN

RESIDENCE
FOR
ROBERT E. SMITH
SCRANTON–POCONO HIGHWAY SCRANTON, PA.

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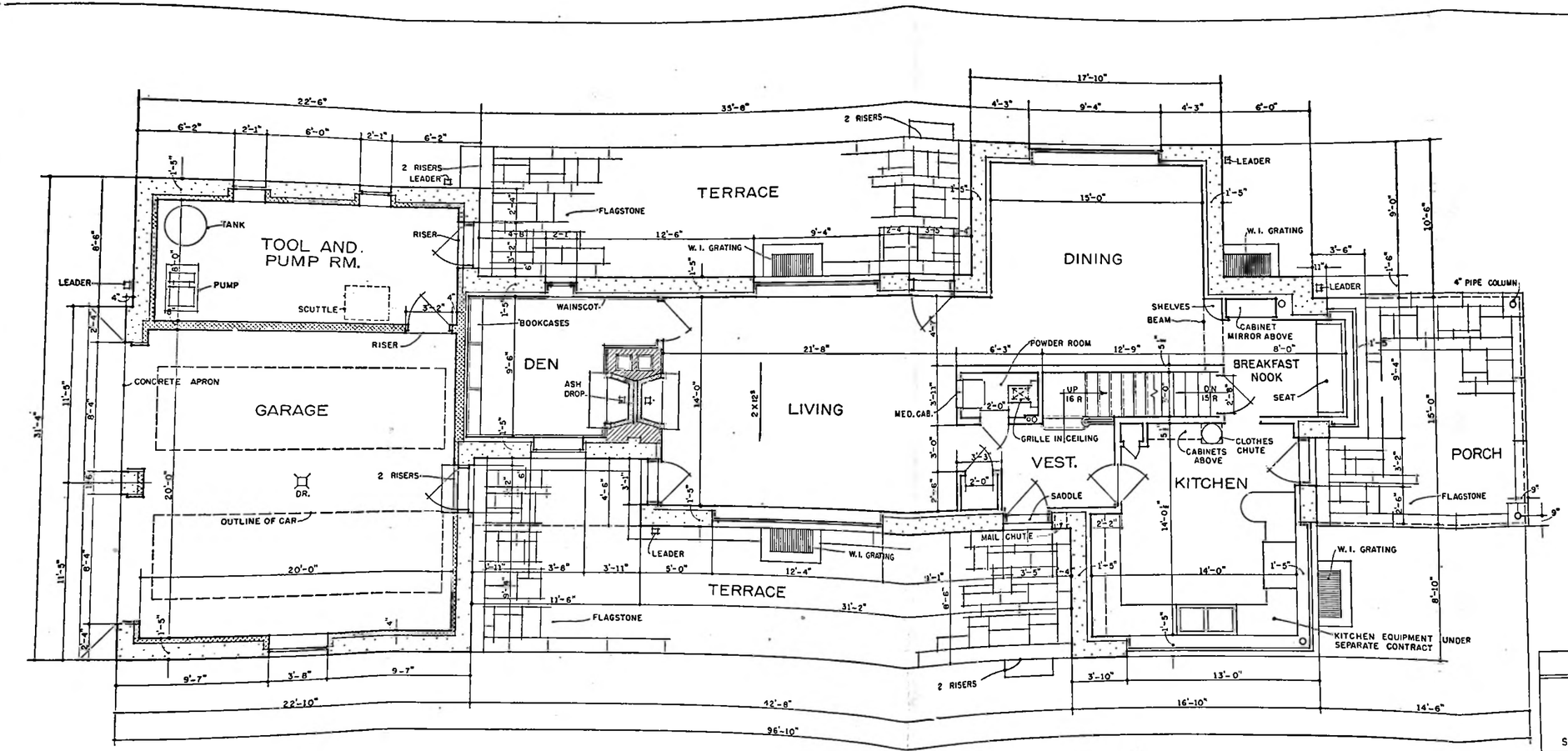
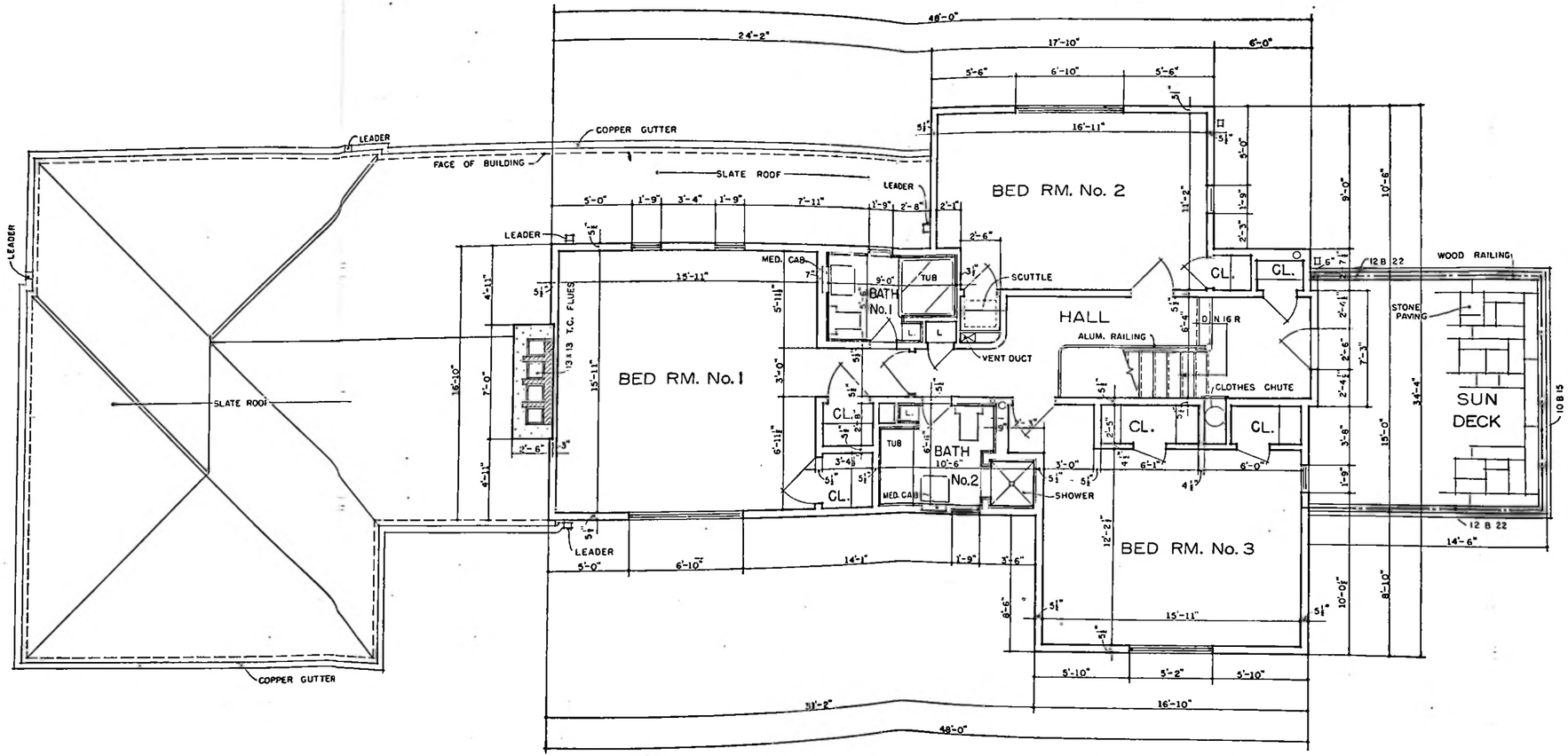


FIRST FLOOR PLAN

RESIDENCE
FOR
ROBERT E. SMITH
SCRANTON-POCONO HIGHWAY SCRANTON, PA.

SCALE: 1/4"=1'-0"	JAMES A. BROWN REGISTERED ARCHITECT SCRANTON, PA.	DWG. No. 3
DATE:		



SECOND FLOOR PLAN

RESIDENCE
FOR
ROBERT E. SMITH
SCRANTON–POCONO HIGHWAY SCRANTON, PA.

SCALE: $\frac{1}{8}$"=1'-0"	JAMES A. BROWN REGISTERED ARCHITECT SCRANTON, PA.	DWG. No. 4
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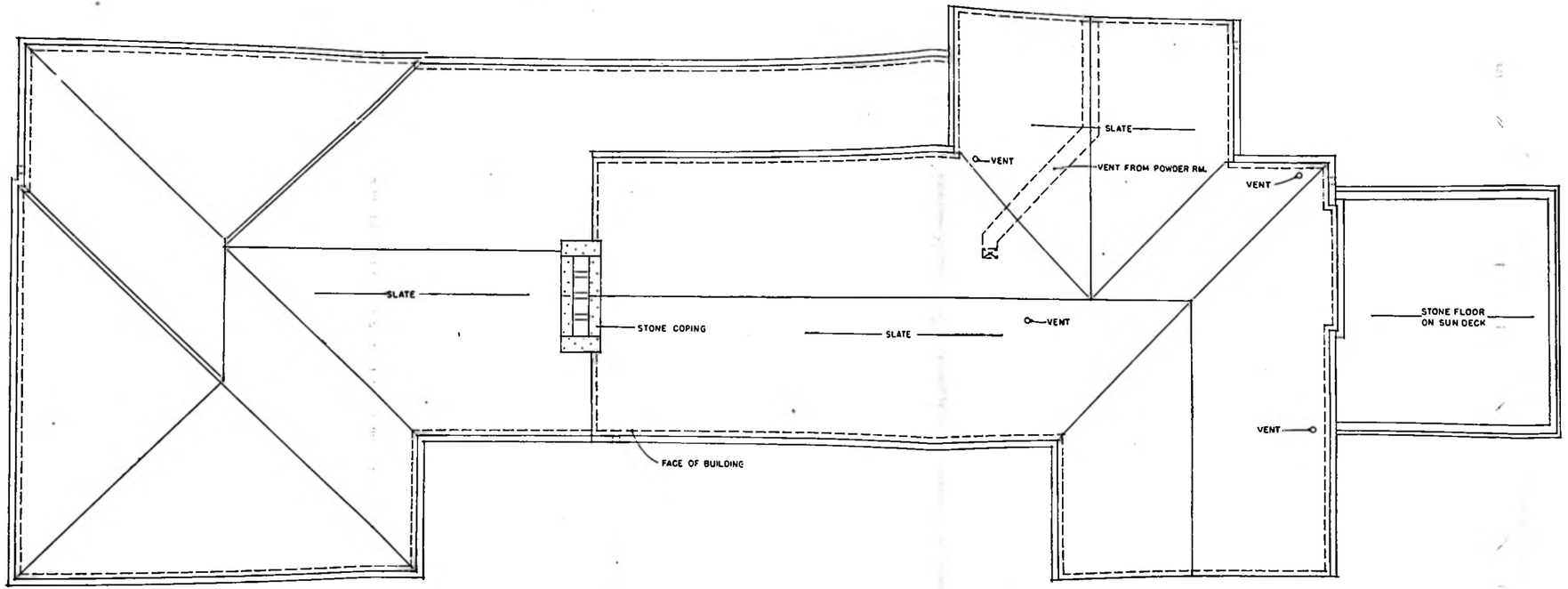


ROOF PLAN

RESIDENCE

FOR

ROBERT E. SMITH

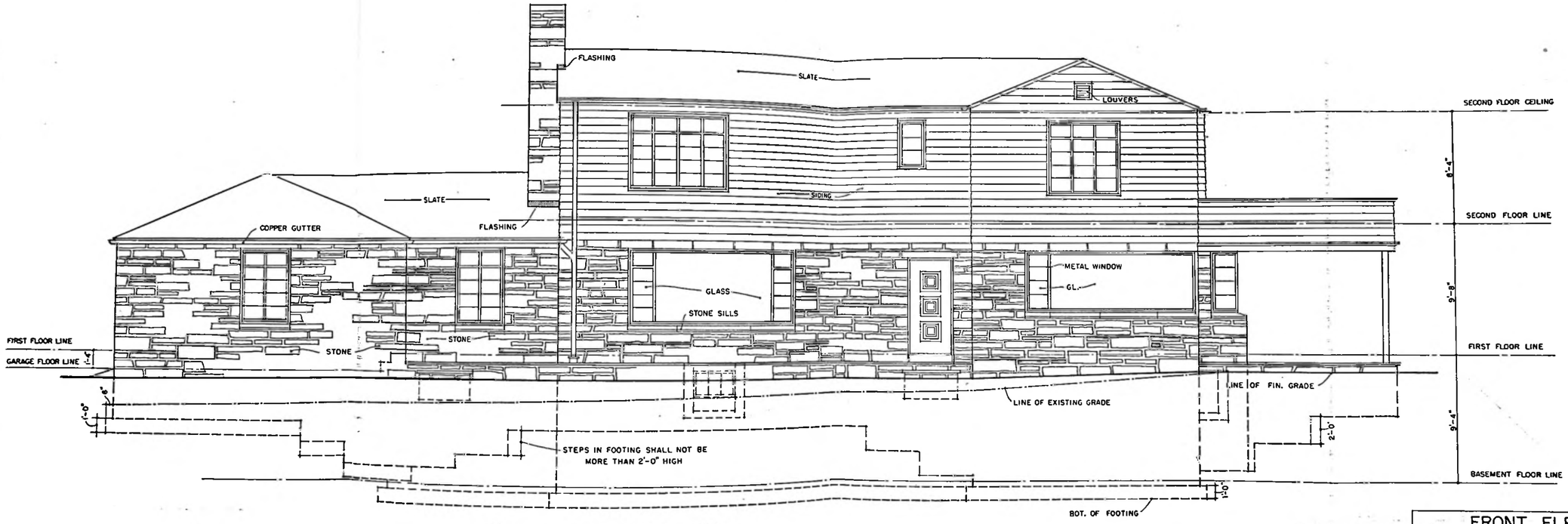
SCRANTON- POCONO HIGHWAY SCRANTON, PA.

SCALE: 1/8" = 1'-0"

DATE:

JAMES A. BROWN
REGISTERED ARCHITECT
SCRANTON, PA.

DWG. No. 5



FRONT ELEVATION

RESIDENCE
FOR
ROBERT E. SMITH
SCRANTON – POCONO HIGHWAY SCRANTON, PA.

SCALE: 1/4" = 1'-0"	JAMES A. BROWN REGISTERED ARCHITECT SCRANTON, PA.	DWG. No. 6
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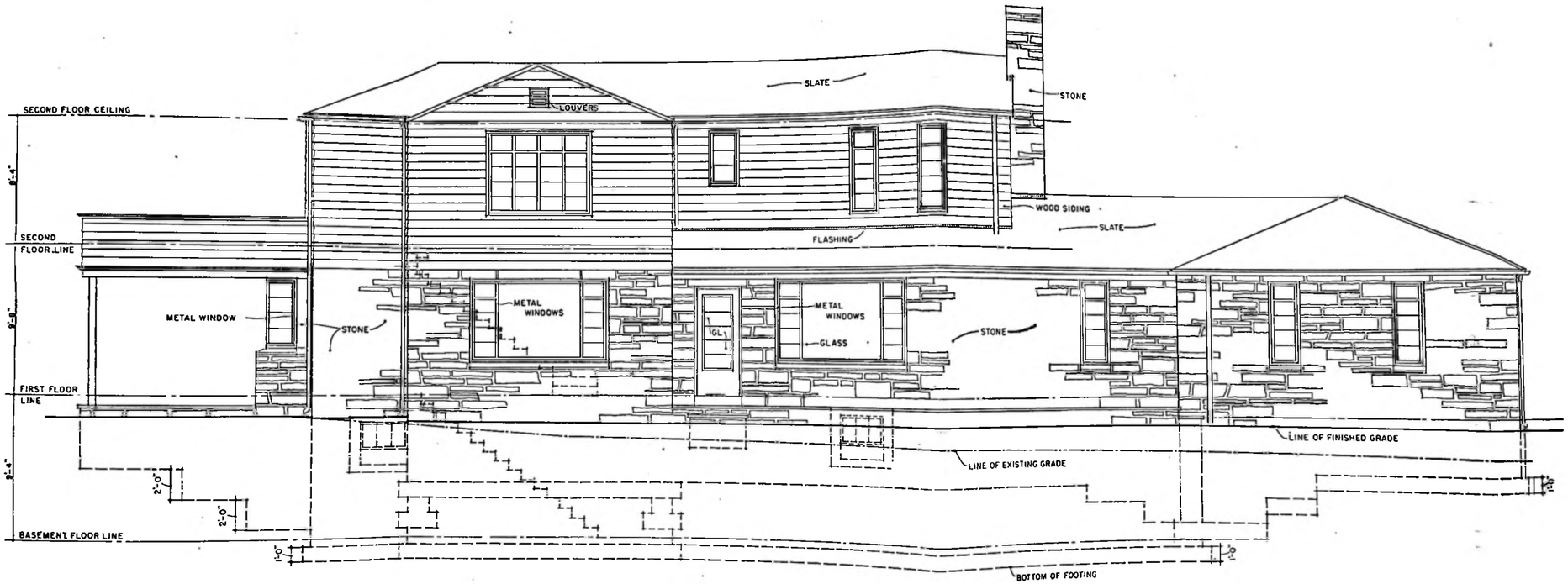

REAR ELEVATION

RESIDENCE
FOR
ROBERT E. SMITH
SCRANTON - POCONO HIGHWAY SCRANTON, PA.

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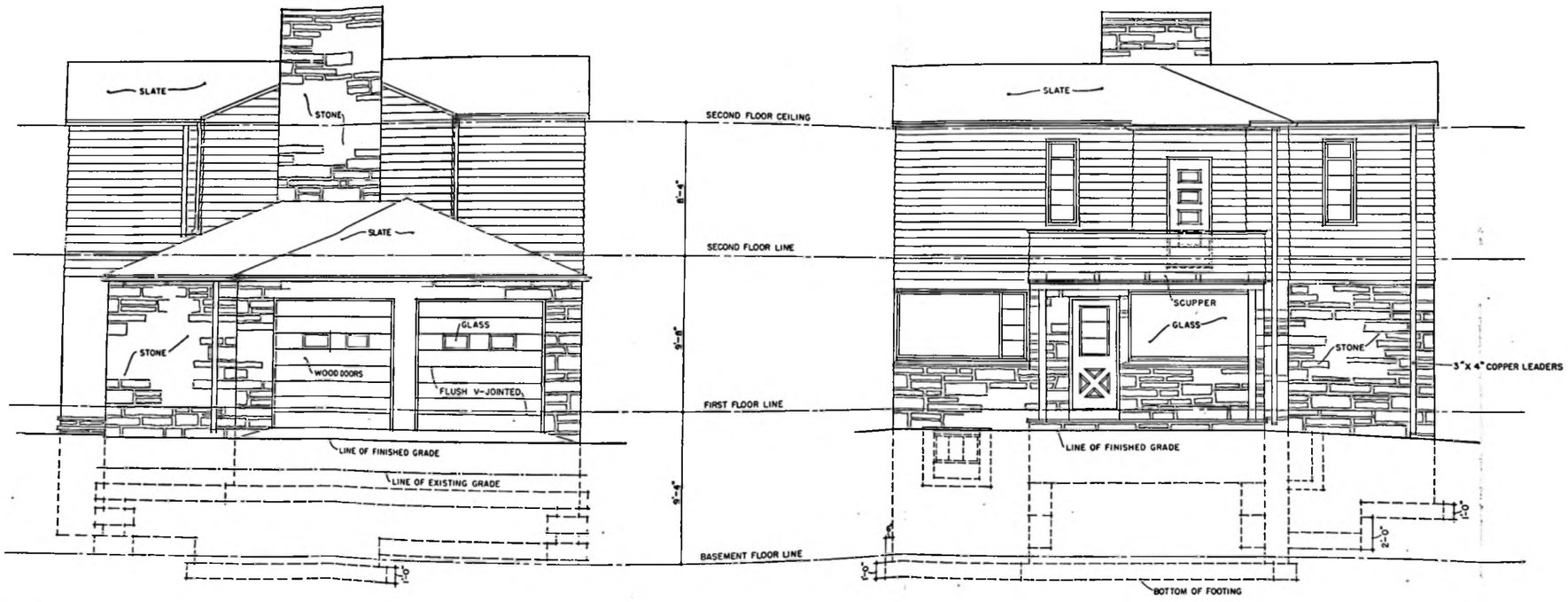
DATE:		



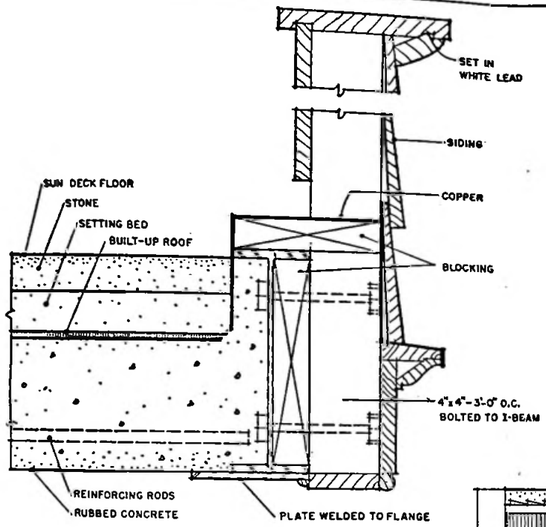
END ELEVATIONS

RESIDENCE
FOR
ROBERT E. SMITH
SCRANTON–POCONO HIGHWAY SCRANTON, PA.

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

JAMES A. BROWN
REGISTERED ARCHITECT
SCRANTON, PA.

DWG. No. 8



SECTION AT SUN DECK

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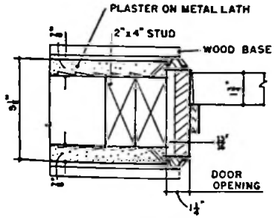
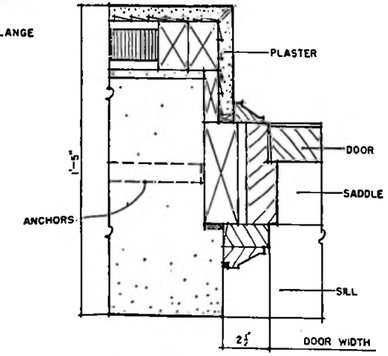


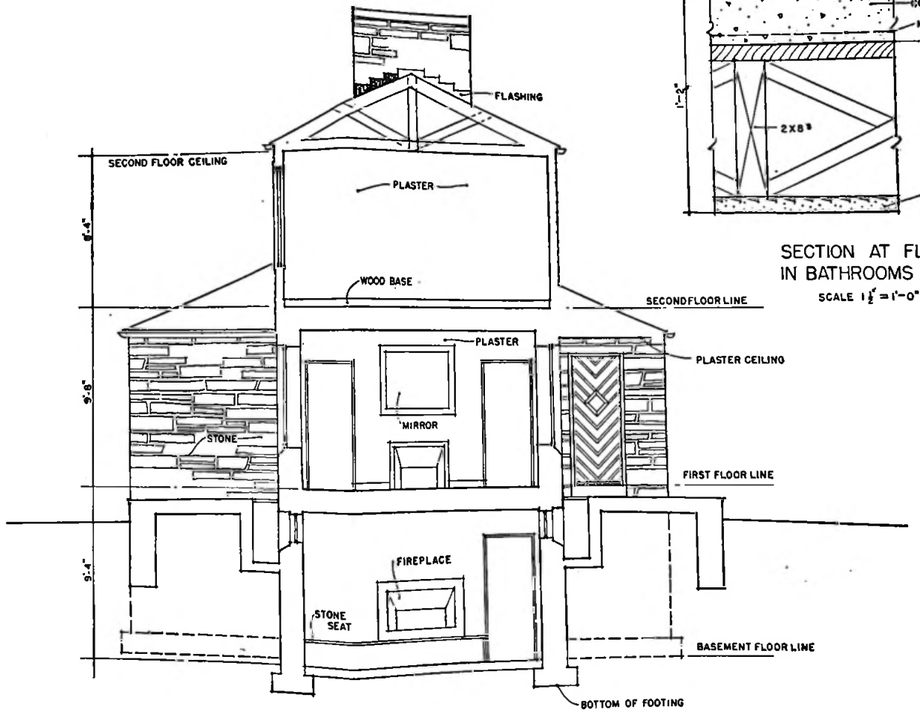
PLAN AT JAMB
TYPICAL INTERIOR DOOR

SCALE 1½"=1'-0"



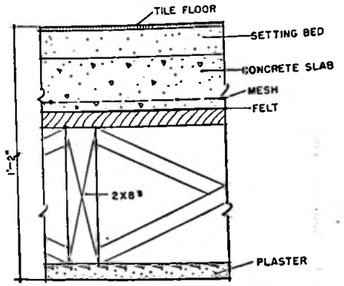
PLAN AT JAMB
TYPICAL EXTERIOR DOOR

SCALE 1½"=1'-0"



TRANSVERSE SECTION

$\frac{1}{8}$"=1'-0"



SECTION AT FLOOR
IN BATHROOMS

SCALE 1½" = 1'-0"

SCHEDULE OF FINISHES

ROOM	FLOOR	BASE	WALL	CEILING	REMARKS
BASEMENT					
REC. RM.	CEMENT	—	—	PLASTER	
BOILER RM.	CEMENT	—	—	PLASTER	
TOILET RM.	TILE	TILE	TILE	K. CEMENT	
STORAGE RM.	CEMENT	—	—	PLASTER	
FIRST FL.					
LIVING RM.	WOOD	WOOD	PLASTER	PLASTER	
DINING RM.	WOOD	WOOD	PLASTER	PLASTER	
DEN	WOOD	WOOD	PLASTER	PLASTER	WOOD WAINSCOT
BK. NOOK	RUBBER TILE	WOOD	PLASTER	PLASTER	
KITCHEN	RUBBER TILE	RUBBER	K. CEMENT	K. CEMENT	
VEST.	WOOD	WOOD	PLASTER	PLASTER	
POWDER RM.	RUBBER TILE	GLASS	K. CEMENT	K. CEMENT	STRUC. GLASS WAINSCOT
GARAGE	CEMENT	—	—	PLASTER	
PUMP RM.	CEMENT	—	—	PLASTER	
SECOND FL.					
BED RM.#1	WOOD	WOOD	PLASTER	PLASTER	
BED RM.#2	WOOD	WOOD	PLASTER	PLASTER	
BED RM.#3	WOOD	WOOD	PLASTER	PLASTER	
BATH RM.#1	TILE	GLASS	K. CEMENT	K. CEMENT	STRUC. GLASS WAINSCOT
BATH RM.#2	TILE	GLASS	K. CEMENT	K. CEMENT	STRUC. GLASS WAINSCOT
HALL	WOOD	WOOD	PLASTER	PLASTER	

NOTE: ALL CLOSETS SHALL HAVE SAME FINISH AS ADJOINING ROOMS
ALL RUBBER TILE WILL BE FURNISHED AND INSTALLED BY THE OWNER

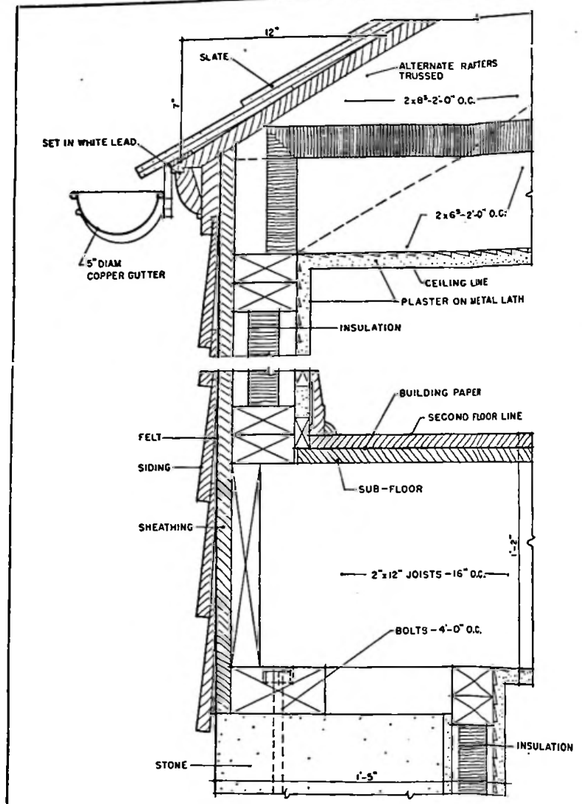
MISCELLANEOUS DETAILS

RESIDENCE
FOR
ROBERT E. SMITH
SCRANTON-POCONO HIGHWAY SCRANTON, PA.

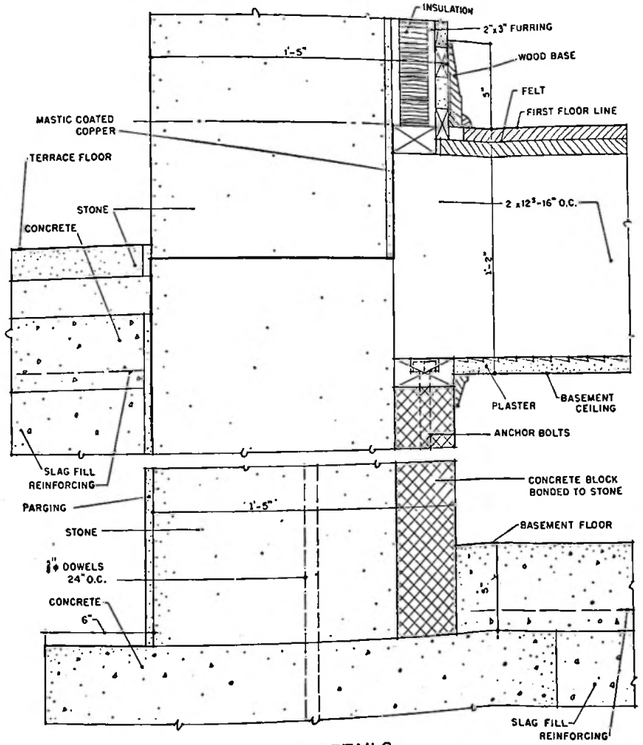
SCALE: AS NOTED
DATE:

JAMES A. BROWN
REGISTERED ARCHITECT
SCRANTON, PA.

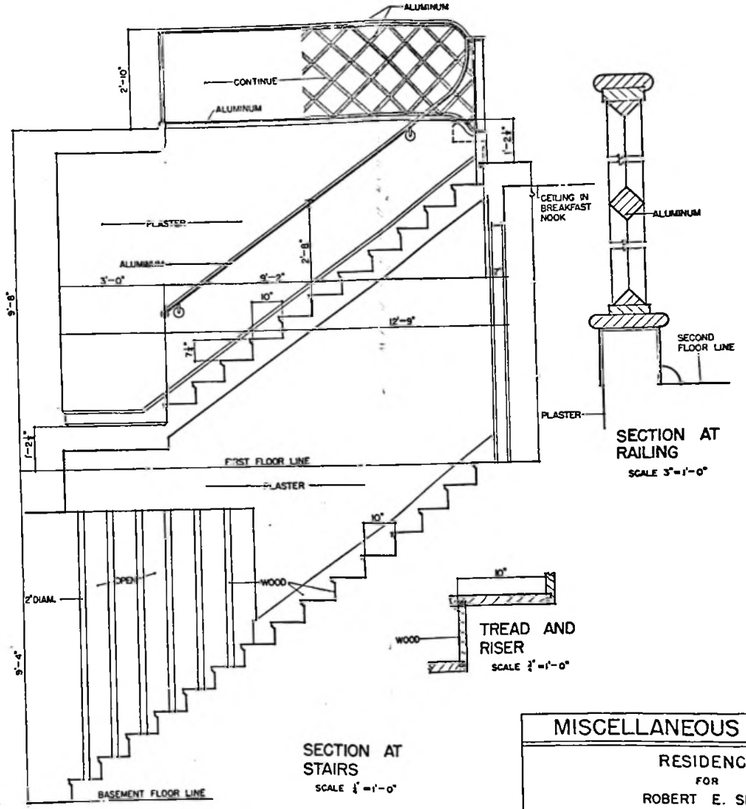
DWG. No. 9



TYPICAL DETAILS
SECOND FLOOR & ROOF
SCALE 1½" = 1'-0"



TYPICAL DETAILS
BASEMENT & FIRST FLOOR
SCALE 1½" = 1'-0"



SECTION AT RAILING
SCALE 3" = 1'-0"

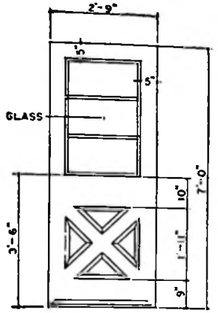
TREAD AND RISER
SCALE 3" = 1'-0"

SECTION AT STAIRS
SCALE ¼" = 1'-0"

MISCELLANEOUS DETAILS

RESIDENCE
FOR
ROBERT E. SMITH
SCRANTON – POCONO HIGHWAY SCRANTON, PA.

SCALE: AS NOTED	JAMES A. BROWN REGISTERED ARCHITECT SCRANTON, PA.	DWG. No. 10
DATE:		



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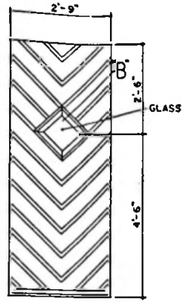

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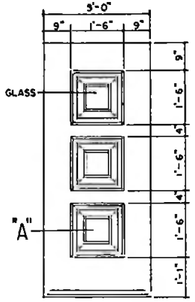

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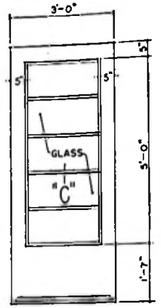

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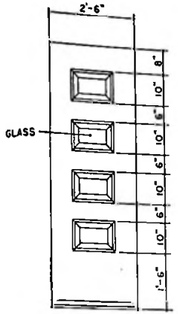

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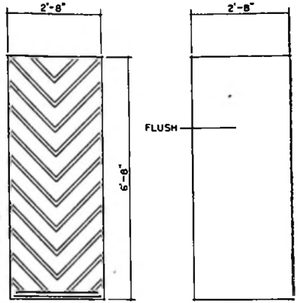
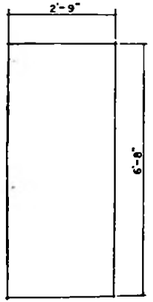
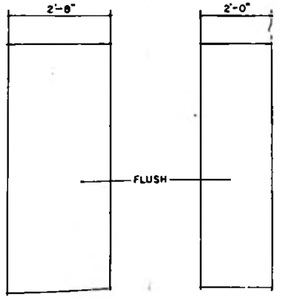


EXTERIOR INTERIOR

TYPE "F"



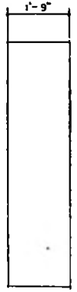
TYPE "G"



TYPE "H"

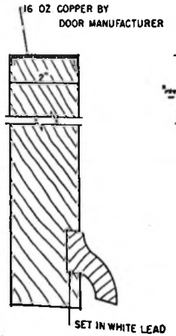
TYPE "J"

SCALE 1/4" = 1'-0"



TYPE "K"

TYPE "L"



DETAIL AT EXTERIOR DOORS

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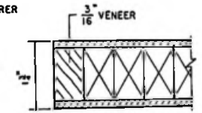
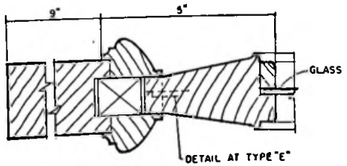


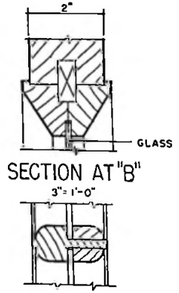
TYPICAL SECTION INTERIOR DOORS

3"= 1'-0"



SECTION AT "A"

3"=1'-0"



SECTION AT "B"

3"= 1'-0"

SECTION AT "C"

3"=1'-0"

DOOR SCHEDULE

LOCATION	TYPE	WIDTH	HEIGHT	THICKNESS	REMARKS
BASEMENT					
BOILER RM. TO REC. RM.	H	2'-8"	6'-8"	1 3/4"	
TOILET RM. TO REC. RM.	H	2'-8"	6'-8"	1 3/4"	
STORAGE TO REC. RM.	H	2'-8"	6'-8"	1 3/4"	
FIRST FLOOR					
PUMP RM. TO TERRACE	B	2'-9"	7'-0"	2"	
LIV. RM. TO E. TERRACE	D	3'-0"	7'-0"	2"	
KITCHEN TO PORCH	A	2'-9"	7'-0"	2"	
VEST. TO TERRACE	C	3'-0"	7'-0"	2"	
LIV. RM. TO W. TERRACE	F	2'-8"	6'-8"	2"	
GARAGE TO TERRACE	B	2'-9"	7'-0"	2"	
DEN TO LIVING RM.	H	2'-8"	6'-8"	1 3/4"	
VEST. TO POWDER RM.	J	2'-0"	6'-8"	1 3/4"	
VEST. TO CLOSET	J	2'-0"	6'-8"	1 3/4"	
VEST. TO KITCHEN	H	2'-8"	6'-8"	1 3/4"	
BK. NOOK TO STAIRS	H	2'-8"	6'-8"	1 3/4"	
PUMP RM. TO GARAGE	H	2'-8"	6'-8"	1 3/4"	
KITCHEN TO CLOSET	L	1'-2"	6'-8"	1 3/4"	
2ND FLOOR					
BED RM. #1 TO HALL	H	2'-8"	6'-8"	1 3/4"	
BED RM. #2 TO HALL	H	2'-8"	6'-8"	1 3/4"	
BED RM. #3 TO HALL	H	2'-6"	6'-8"	1 3/4"	
BATH #1 TO HALL	J	2'-0"	6'-8"	1 3/4"	
BATH 2 TO HALL	J	2'-0"	6'-8"	1 3/4"	
LINEN TO HALL	K	1'-9"	6'-8"	1 3/4"	
CLOSET TO HALL	J	2'-0"	6'-8"	1 3/4"	
BED RM. #1 TO CLOS.	G	2'-9"	6'-8"	1 3/4"	
BED RM. #1 TO CLOS.	G	2'-9"	6'-8"	1 3/4"	
BED RM. #2 TO CLOS.	J	2'-0"	6'-8"	1 3/4"	
BED RM. #2 TO CLOS.	J	2'-0"	6'-8"	1 3/4"	
BED RM. #3 TO CLOS.	J	2'-0"	6'-8"	1 3/4"	
BED RM. #3 TO CLOS.	J	2'-0"	6'-8"	1 3/4"	
HALL TO SUN DECK	E	2'-6"	7'-0"	2"	

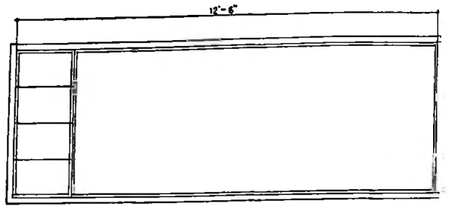
DOOR DETAILS

RESIDENCE
FOR
ROBERT E. SMITH
SCRANTON-POCONO HIGHWAY SCRANTON, PA.

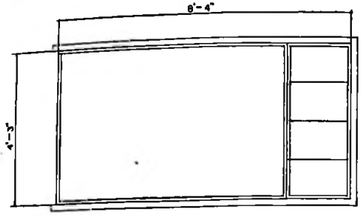
SCALE: AS NOTED
DATE:

JAMES A. BROWN
REGISTERED ARCHITECT
SCRANTON, PA.

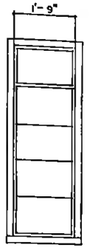
DWG. No. 11



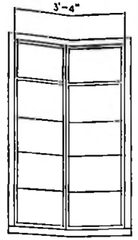
1-THUS



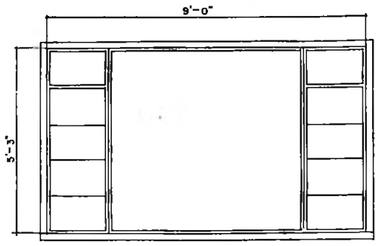
1-THUS



7-THUS



2-THUS



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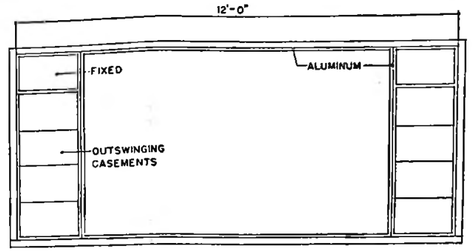

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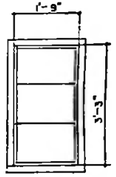

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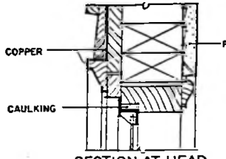
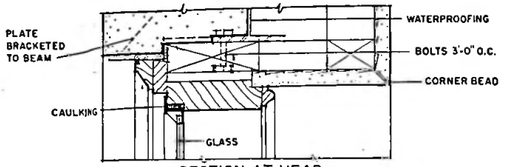
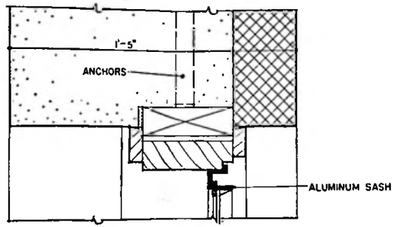


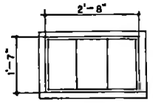
SECTION AT HEAD



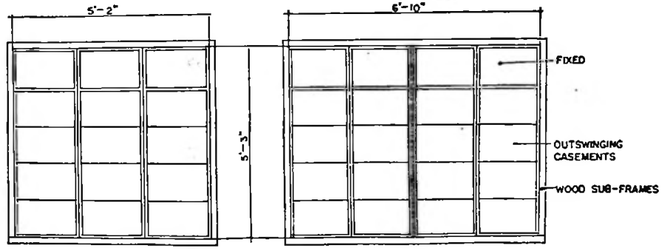
SECTION AT HEAD



PLAN AT JAMB



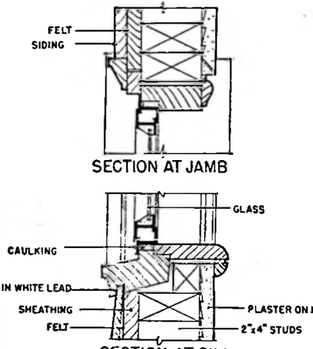
4-THUS



1-THUS

2-THUS

ELEVATIONS OF WINDOWS
SCALE $\frac{1}{4}$" = 1'-0"



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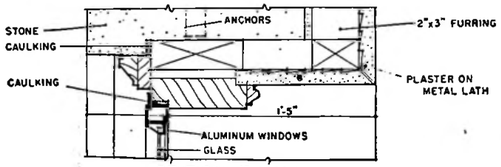

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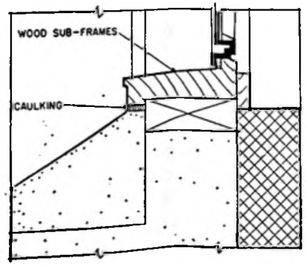
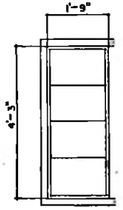
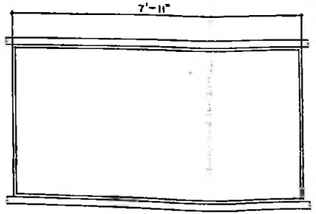


SECTION AT SILL

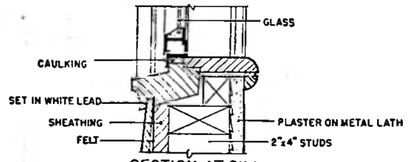
DETAILS AT BASEMENT WINDOWS
SCALE $\frac{1}{4}$" = 1'-0"



2-THUS

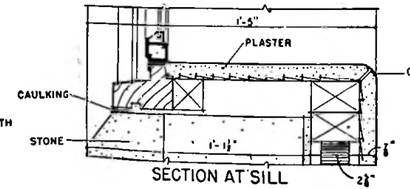


1-THUS



SECTION AT SILL

DETAILS OF SECOND FLOOR WINDOWS
SCALE $\frac{1}{4}$" = 1-0"



SECTION AT SILL

DETAILS OF FIRST FLOOR WINDOWS
SCALE $\frac{1}{4}$" = 1'-0"

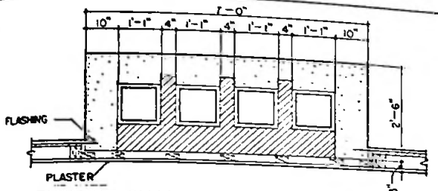
WINDOW DETAILS

RESIDENCE
FOR
ROBERT E. SMITH
SCRANTON-POCONO HIGHWAY SCRANTON, PA.

SCALE: AS NOTED
DATE:

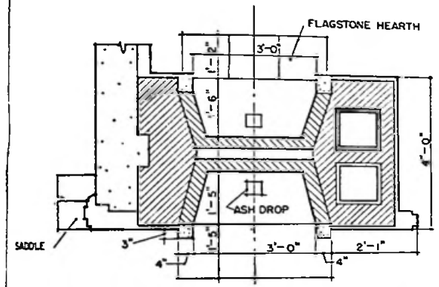
JAMES A. BROWN
REGISTERED ARCHITECT
SCRANTON, PA.

DWG. No. 12



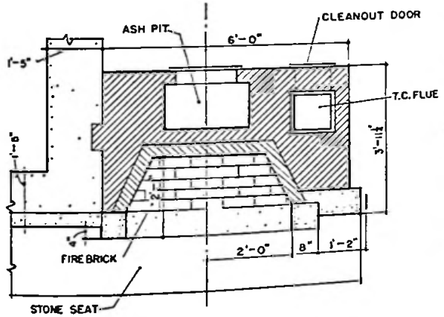
PLAN OF CHIMNEY AT SECOND FLOOR

$\frac{1}{4}$" = 1'-0"



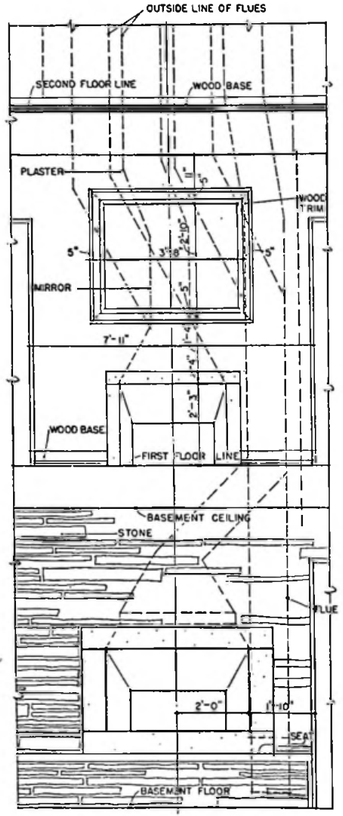
PLAN OF CHIMNEY AT FIRST FLOOR

$\frac{1}{4}$" = 1'-0"



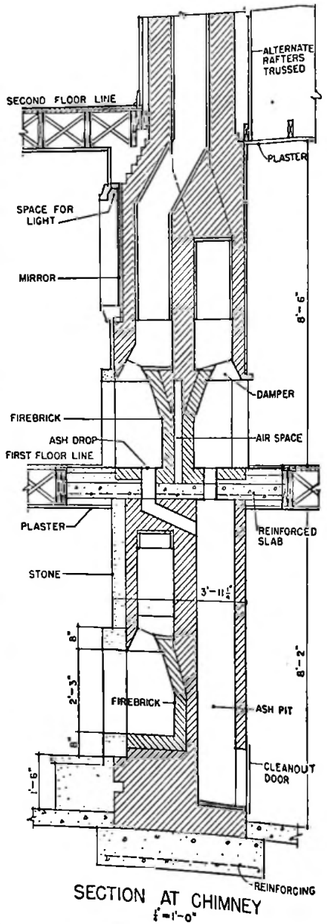
PLAN OF CHIMNEY AT BASEMENT

$\frac{1}{4}$" = 1'-0"



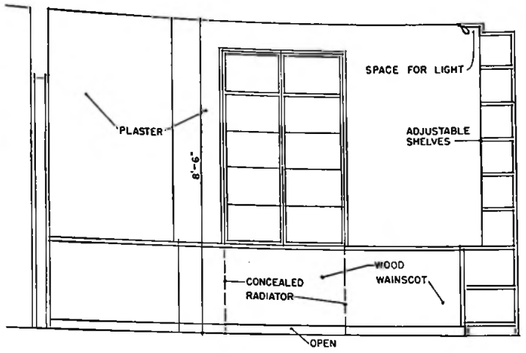
ELEVATION AT FIREPLACES IN LIVING RM. AND RECREATION RM.

$\frac{1}{4}$" = 1'-0"



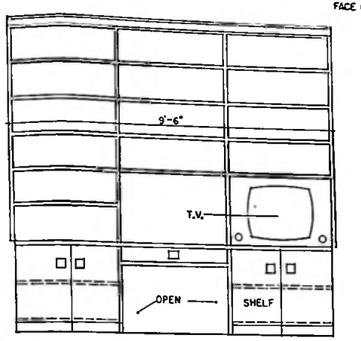
SECTION AT CHIMNEY

$\frac{1}{4}$" = 1'-0"



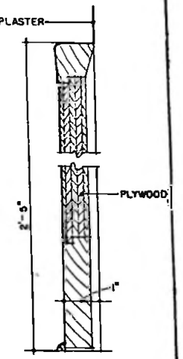
WEST ELEVATION IN DEN

$\frac{1}{4}$" = 1'-0"



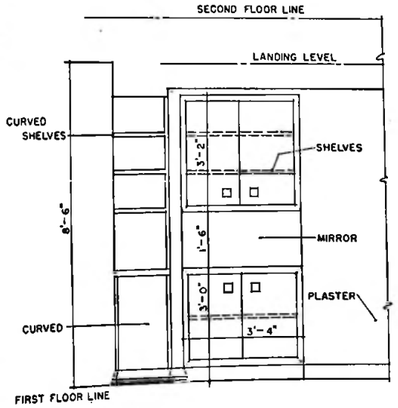
NORTH ELEVATION IN DEN

$\frac{1}{4}$" = 1'-0"



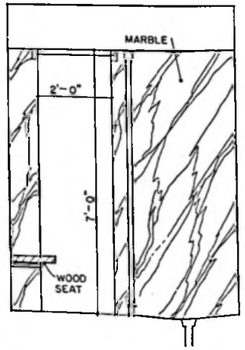
SECTION AT WAINSCOT

3" = 1'-0"



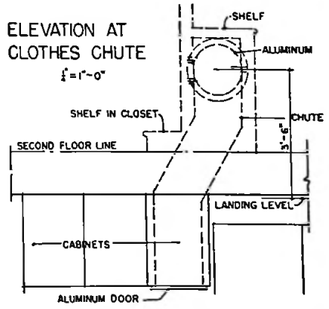
CABINETS IN BREAKFAST NOOK

$\frac{1}{4}$" = 1'-0"



SECTION AT SHOWER

$\frac{1}{4}$" = 1'-0"



ELEVATION AT CLOTHES CHUTE

$\frac{1}{4}$" = 1'-0"

MISCELLANEOUS DETAILS

RESIDENCE

FOR

ROBERT E. SMITH

SCRANTON-POCONO HIGHWAY SCRANTON, PA.

SCALE: AS NOTED	JAMES A. BROWN REGISTERED ARCHITECT SCRANTON, PA.	DWG. No. 13
DATE:		


SDI