

Synopsis of Specification, as far as the Wellington Building By-laws are concerned, for the erection of Shop and Offices Willis St. for Mr. A.A. Barnett.

Francis Penty, Architect.

March 1902.

Site. The site of the proposed building is that at present occupied by Shop No. 61 in Willis St. in the city of Wellington.

Lime mortar. The lime mortar to be composed of two measures of Dunedin lime, one measure of Portland cement, and six measures of clean sharp fresh water sand. The lime and sand to be well mixed, tempered, and beaten together, and the cement to be mixed with the lime mortar as the latter is being used.

All mortar that has become set previous to being used to be rejected.

Cement ditto. All cement mortar to be made with English Portland of an approved quality and clean sharp sand mixed in the proportions of one of the former to two of the latter. The cement is to be gauged in small quantities as required, for which purpose proper gauging boxes are to be provided. No cement that has become set or dead to be reworked, but to be at once rejected.

The cement mortar is to be used in the work in a precisely similar manner to that described for the lime mortar.

Bricks. The ~~common~~ bricks are to be the best, hard, square, and well burnt that can be obtained in the neighbourhood of Wellington.

Bond. All brickwork to be laid in approved bond, care being taken to cross all joints, and all the heading courses are to be whole bricks. No four courses of bricks when set in mortar shall measure more than  $1\frac{1}{2}$ " over the same quantity, when set dry.

Jointing. All mortared joints in the plastered walls to be left rough for the better adhesion of the stucco ~~hereafter described~~, and all ditto behind the match lining to be struck with the

trowel as the work proceeds.

Flushing. Every brick is to be flushed through with mortar and hammered down to a <sup>solid</sup> bed as it is laid so that every joint may be filled.

Brickwork in The front pediment, all walls 9" thick and under, also cement mortar. all window mullions and piers between doors and windows and windows and windows, to be built with cement mortar.

Ditto in lime All brickwork other than the above to be built with lime ditto. mortar.

Iron bond. Build into the walls every 60" in height, two rows of No. 18 gauge black hoop iron (well tarred)  $1\frac{1}{4}$ " wide, and turn the ends thereof at the angles, and at the openings down into the joints of the brickwork round a brick.

External arches. Form over both the external and internal reveals of all window openings in front elevation, save the square headed ditto, proper two half bricks rim relieving arches.

Relieving Turn over all lintels over all door and window openings, ditto. proper two half brick relieving arches.

Form proper arches in brick walls over all ~~arches~~-drains.


Sleeper walls. Form with good cement concrete under all sleepers below the ground floor level, proper walls 24" high by 9" in thickness.

Damp proof Put to all concrete and brick walls at such levels as may course. be directed, a complete damp proof course formed with stucco  $\frac{1}{2}$ " thick and bitumen  $\frac{1}{4}$ " ditto. Said stucco to be made with English Portland cement and clean sharp sand of equal proportions, and said bitumen, by boiling gas tar three consecutive days, and whilst hot the bitumen thus formed is to be laid on the stucco.

Flues. Form where shown on the drawings, three proper air vents ~~th~~ ventilate the space below the lower floor, and put to ditto proper 9" x 12" gald. iron air gratings.

Form in the stone base under shop window, two fresh air inlets; fix in ditto two 18" x 12" gald. cast iron gratings, and form proper vents behind same in the brick backing of

said base.

The flues in the two flank walls to commence at the levels marked on the drawings; the mortar joints therein to be neatly flush pointed; and each flue to ~~have~~ <sup>have</sup> a cement cover thus  placed over the top thereof set in cement.

Concrete. The sleeper walls and bottom courses of footings under the brick walls to be formed with concrete of the following proportions, viz:- One part (by measure) of some approved brand of English Portland cement, three parts of broken stone or clean shingle (no stone therein to exceed 2" in any direction and two parts of clean sharp sand free from loam or other admixture.

Concrete bands &c. The concrete lintels, bands, and cores of cornices shown on sections to be formed with cement concrete as above excepting that the composition is to be four of aggregate to one of cement, and no stone in said aggregate to measure in any direction more than 1½".

Railway iron &c. Fix in the concrete lintels over openings in the rear external wall, two rows of good second hand railway iron, which must be in single lengths of 22 ft. Fix as will be directed in balcony of second floor front centre window, two 6 ft. lengths of railway iron as above and one 10 ft. ditto, and secure with six ⅝" wrought iron screw bolts, the ends of the said 6 ft. lengths to the joists of second floor.

Fix in concrete lintels over the two square headed first floor front windows, 5 ft. lengths of railway iron as above.

Stone piers. The street end of the 9" brick wall shown on ground plan and the piers which support the steel breastsummer over shop window to be formed with the best quality of Footscray blue stone built in courses so as to properly bond in with the brickwork. Each stone to be set and neatly flush pointed ~~with~~ with fine blue mortar, and the voussoirs of arch over end of passage to have 1" dowels fixed in the joints thereof.

The wall under the shop window to be faced with blue stone as above which must be bedded &c. to match that previously ~~described~~ <sup>described</sup>.

and cramped at all angles with proper gald. iron cramps.

Stone templates. Fix 24" x 12" x 14" hard blue stone templates under the ends of all steel girders described herein save those over shop window. Said templates to be properly bedded, and where seen in the passage shown on ground floor plan, they are to be rubbed.

Asphalt. All earths under boarded floors to be covered with a layer measuring 2" thick of tar asphalt in strict conformity with clause ~~from the~~ 100 of Building By-laws. Said asphalt to be purchased from the Wellington City Council; to be thoroughly consolidated by rolling or otherwise, and to measure the above thickness when finished.

Floor and roof The floors and roof to be constructed with timbers of the following sizes, viz:-

Joists (ground floor)	6" x 2" placed 18" C. to C.
Joists (first and second floor)	12" x 2" do do.
Wall plates	4½" x 3"
Ridge	10" x 2"
Rafters	4" x 2" placed 18" C. to C.
Ceiling joists	6" x 3" placed 18" C. to C.
Collar ties	6" x 1" do do.
Hips and valleys	10" x 2"
Struts	4" x 3"
Sarking	8" x 1" seconds quality R.P.

King rods. Every ceiling joist to be connected in the centre with a ½" diamr. wrot. iron rod either to the ridge or to the rafter. Said rods to be properly threaded at each end and fitted with nuts and washers.

Trimmers. All trimmers and trimming joists or rafters to be 1" thicker than the ordinary ditto.

Bridging. Fix one row of 2" x 2" herring bone bridging to each lay of joists on first and second floor.

Partitions. The W.C. partitions (two) on top floor to be 7 ft. high formed with 1½" solid tongues, grooved, and beaded boarding and finished on top with 4" x 3" moulded both sides capping.

All partitions other than the above to be formed with 4" x 2" studs (placed 18" C. to C.) and top and bottom plates. Put to centre of each of said partitions, one row of zigzag bracing (placed horizontally) formed with 4" x 2" timber.

Anchor ties. Fix with proper coach screws or otherwise as may be directed to ends of steel, floor, and ceiling joists, say 40 proper wrot. iron anchor ties each weighing 9 lbs.

Steel joists. Fix complete the following steel joists the manufacture of Messrs Dorman, Long and CO. of Middleborough, Viz:-

No. 4 each 23 ft. long weighing 62 lbs. per foot.

" 2 each 23 ft. do. 62 lbs. do.

Steel plates. Fix with four rows of  $\frac{3}{4}$ " steel rivets, spaced, the two top rows 4" C. to C. and the two bottom rows 6" ditto, two 14" x  $\frac{1}{2}$ " steel plates (in single lengths) to the two steel joists over shop front, and countersink the heads of said rivets where the plates rest on the flank walls of the building. The heads of said rivets where not differently described to stand up rather more than half their diameter, and the head of each rivet to be properly snapped.

Drains. The sewage drains (those shown in red on ground plan) to be formed with 4" bore socketted stoneware pipes, truly laid, jointed with strong cement stucco, and where under the building they are to be embedded in an surrounded with good solid concrete 4" thick, and in every other respect laid in strict conformity with clause 154 of Sanitary By-laws.

The storm water drains (those shown in blue on site plan) to be in all respects similar to the sewage drain excepting that they need not be laid in and embedded with concrete.

Buchan trap. Fix where shown on site plan, a 4" Buchan trap, fitted with fresh air inlet, and connect the trap with 4" bore pipes to the vent. pipe.

Syphon ditto. Fix in the storm water drain, a 4" syphon trap, and put to ditto, a proper cleaning eye with a small hinged iron door fixed immediately over same.

Inspection chamber. Construct where shown on site plan with concrete bottom and

brick sides all rendered in cement stucco and built in strict conformity with the City Engineer's requirements, one inspection chamber with flag cover complete.

Iron gutters. Put to the external W.Closet and shed eaves, 4", and where else shown in the drawings, 6" 24 gauge gald. O.G. <sup>gutter</sup> and fix same with strong gald. iron brackets placed not exceeding 36" apart. Put to said gutters all needful angles, stopped ends socket outlets &c., and well solder both sides of all joints therein.

Downspouts. Connect the above cesspool to drain under shop floor with a 3" bore cast iron socketted downspout, and make all joints therein watertight by well caulking same with oakum and white lead.

Put from the 6" eaves gutter at rear of building, to gullies in yard, two stacks of 3" bore 24 gauge gald. iron downspouts which must be fitted at top with proper 24 gauge gald. iron hoppers, and at bottom with shoes.

Main vent pipe. Fix where shown on site plan, a main ventilating shaft and cowl in conformity in all respects with clause 161 of Sanitary By-laws.

Terminal vents. Fix in conformity with clause 163 of Sanitary By-laws, the necessary terminal vents.

Corrugated iron &c. Cover the roofs with red edged roofing felt and 24 gauge gald. corrugated iron (orb brand) laid with a side lap of two corrugations and an end ditto of 8", and secure each sheet to the sarking previously described with three rows of 2½" lead headed nails placed not exceeding 6" apart.

Ridging. Cover all hips and ridging with 24 gauge galvanised iron lead edged ridging 20" girth, and dress said edging well down into the corrugations of the roof iron. 3 lbs. lead 2½" wide to be used for the above edging.

W.C.Apparatuses. Fix in the three Closets on upper floor, W.C. apparatuses complete, consisting of cane and white washdown pedestal basins, and Muntz metal cisterns each 20" long, fitted with Garnham's patent noiseless ball cocks and flushing valves.

Said cisterns to be fitted with chains and ivory handles; connected to the pedestals with  $1\frac{1}{4}$ " bore heavy lead piping; fitted with overflows, and fixed complete on neat 1" shelving. Connect said basins to drains ~~under shop floor~~ <sup>for such length as is within the building</sup> with 4" bore heavy drawn lead soil piping, <sup>and external throats with 22 gauge galv. iron</sup> and properly ventilate the traps thereof in conformity with clause 171 of Sanitary By-laws. The W.C. in yard to have a pedestal basin and cistern as above fixed therein, and to be fitted up in all respects in strict conformity with Sanitary By-laws.

The tender is to provide and fix complete everything of every description which may be necessary to thoroughly complete the above closet fittings, wastes, and vent pipes in all respects in strict conformity with the Wellington Sanitary By-laws. anything which may have been omitted in describing same in this specification notwithstanding.

Toilet basin Fix in position shown on drawings, toilet basins ~~value~~ and and gullies. put to ditto proper  $1\frac{1}{2}$ " lead traps and screwed iron wastes, and fix same so as to discharge on to <sup>a</sup> trapped <sup>gully</sup> gullies which <sup>is</sup> ~~are~~ to be fixed in <sup>yard</sup> ~~passage~~ to receive same. Said <sup>gully</sup> gullies to be fitted with small dished covers and gratings complete.

Lathing. Lath with proper sawn totara laths, the shop ceiling, the sides and soffits of beams thereon, and the soffit of stairs where seen from shop.

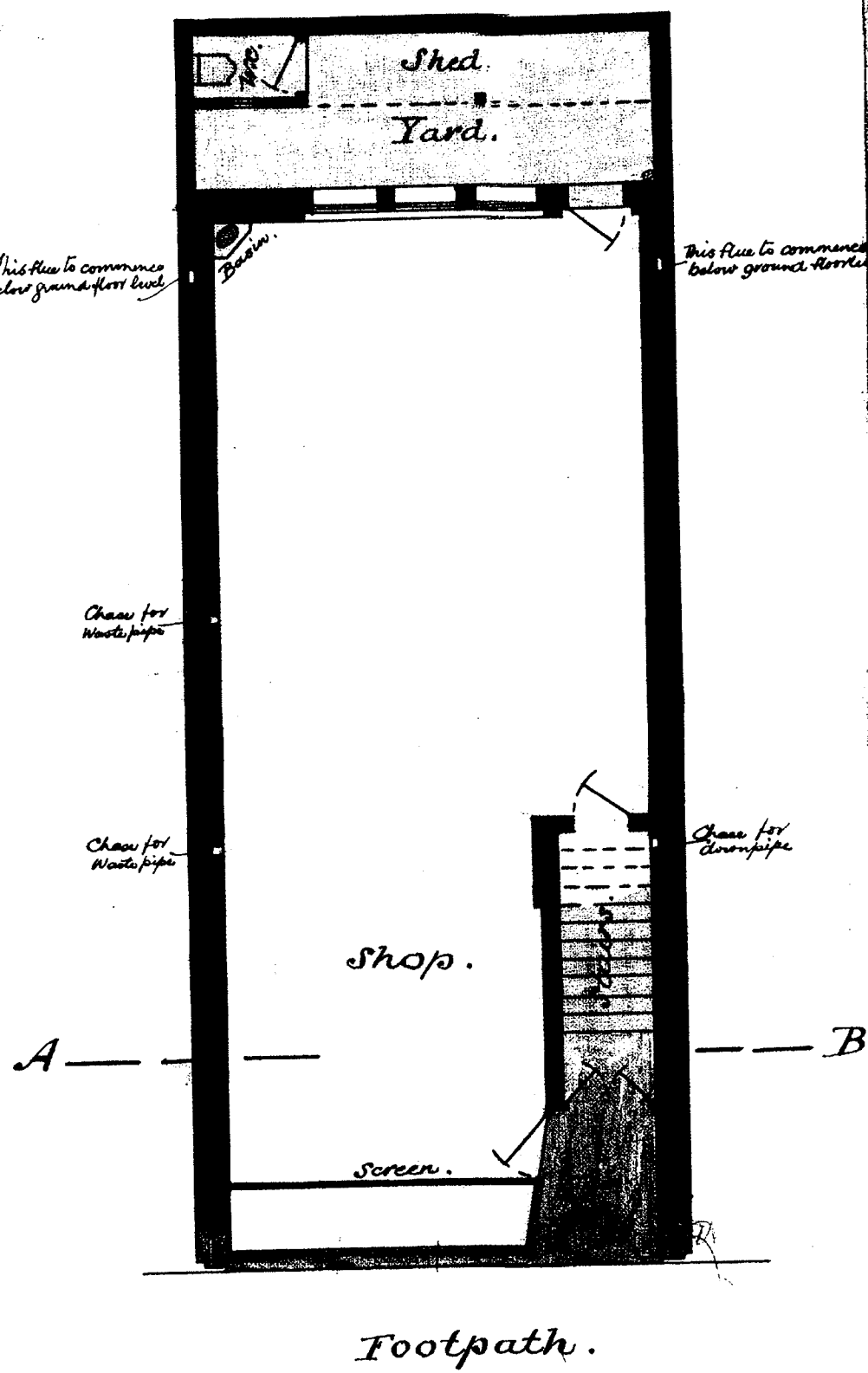
Concrete floors. Form the floor of ~~passage which gives access to yard from Willis St., also the floor of said yard and W.C.~~ and shed in ditto, with an under layer 4" thick of good cement concrete, and render same 1" thick with good cement stucco.

Channels. Form in the above concrete floor#, such channels as may be directed.

Three coat plaster.

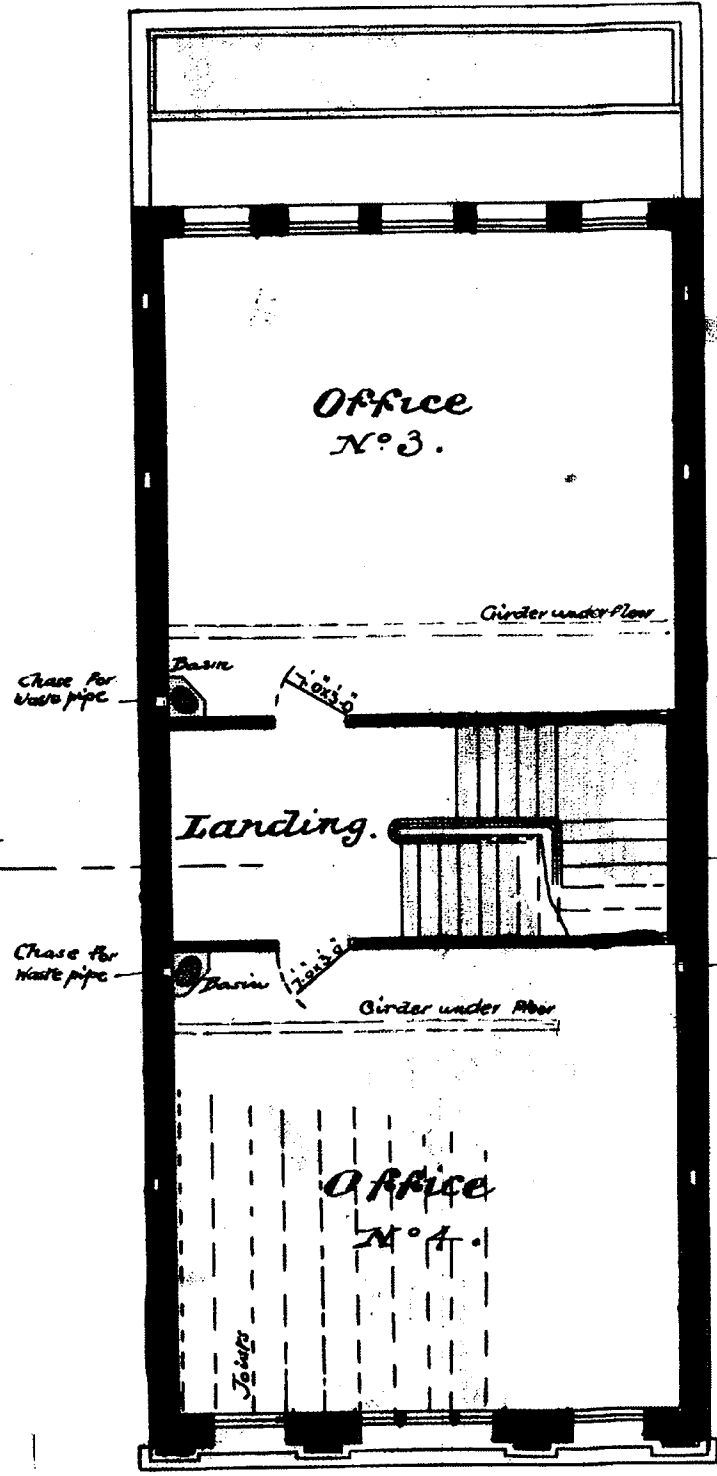
Render in a workmanlike manner with lime & hair mortar made with one measure of well slacked lime to two ditto of sand, a little cement, & Plaster of Paris & a sufficiency of clean cow's hair all well mixed together the ceilings of shop, beams & stair soffit, & when thoroughly dry float & set ditto with well gauged putty.

*Proposed Business Premises  
Willis Str For M<sup>r</sup> A.A. Barnett.*

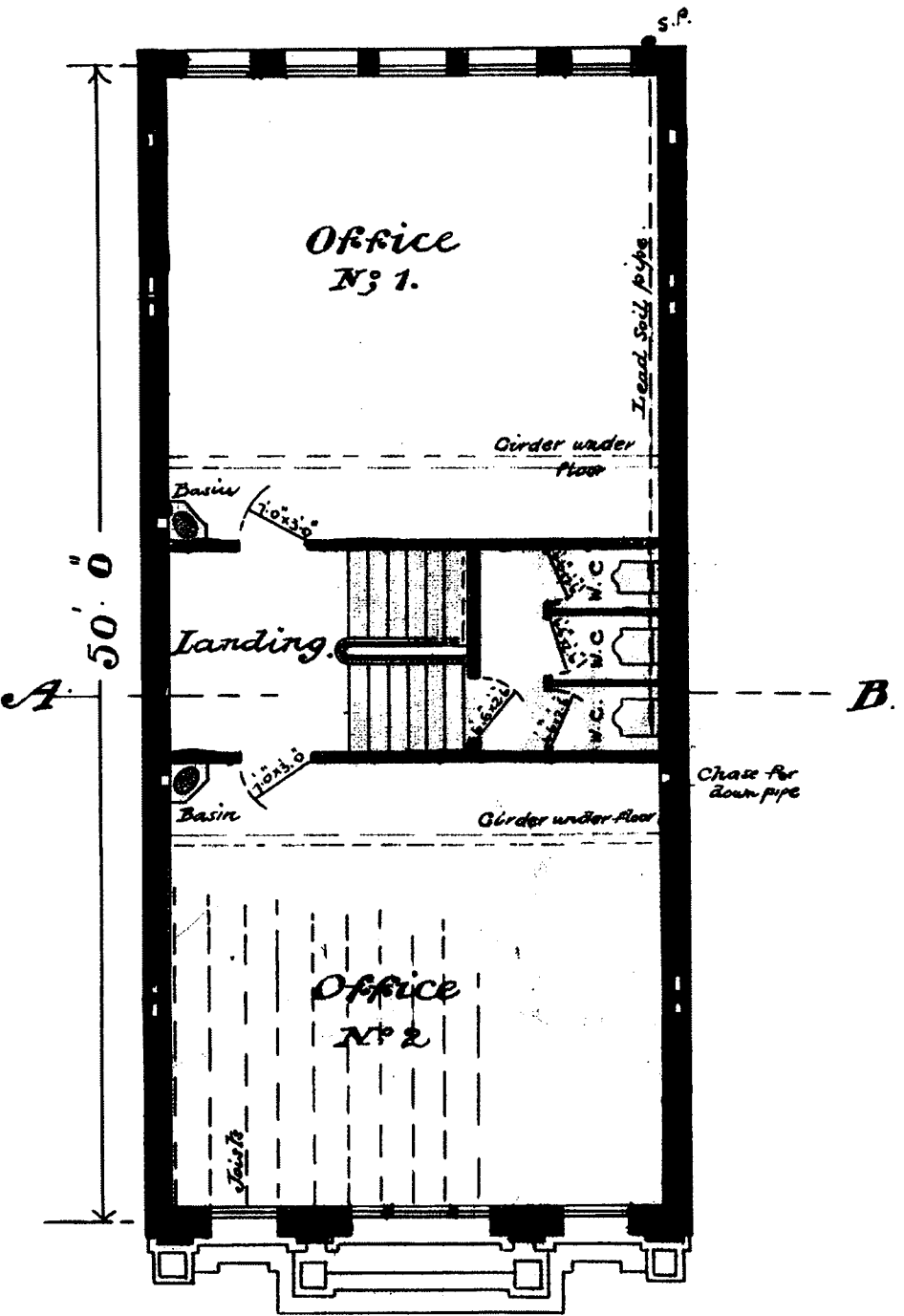


*Ground Plan.*

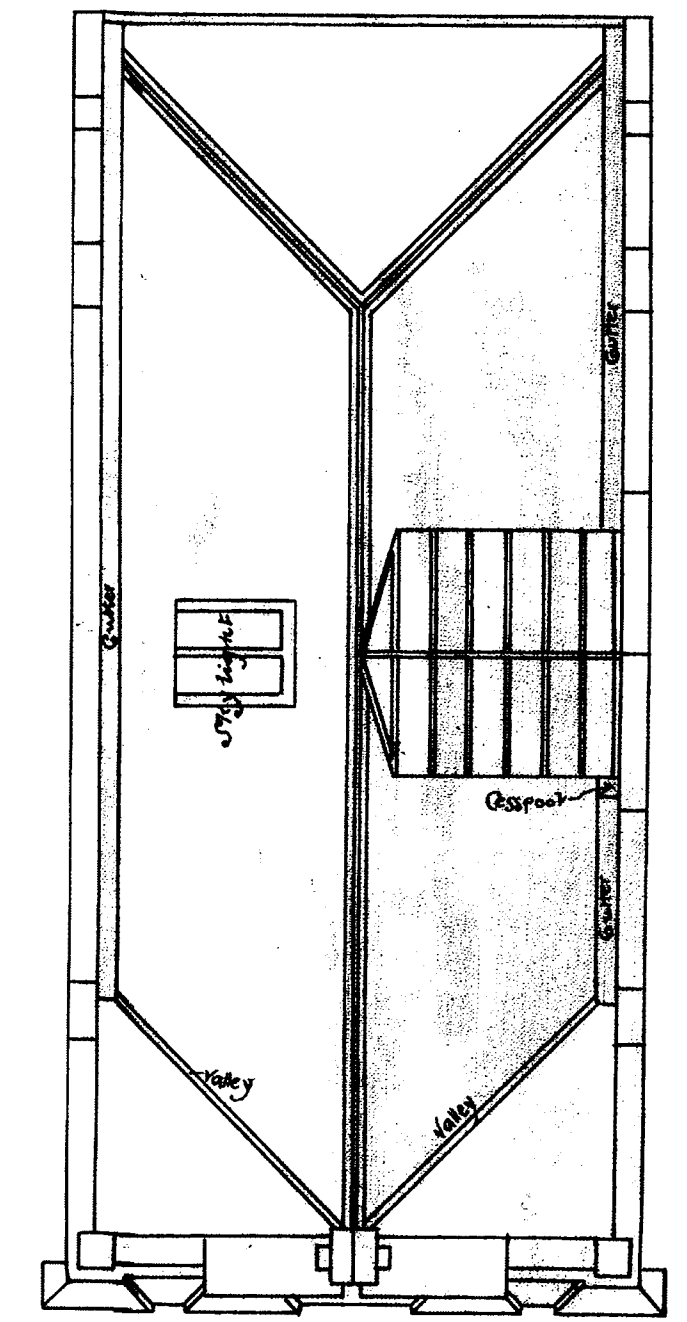
10



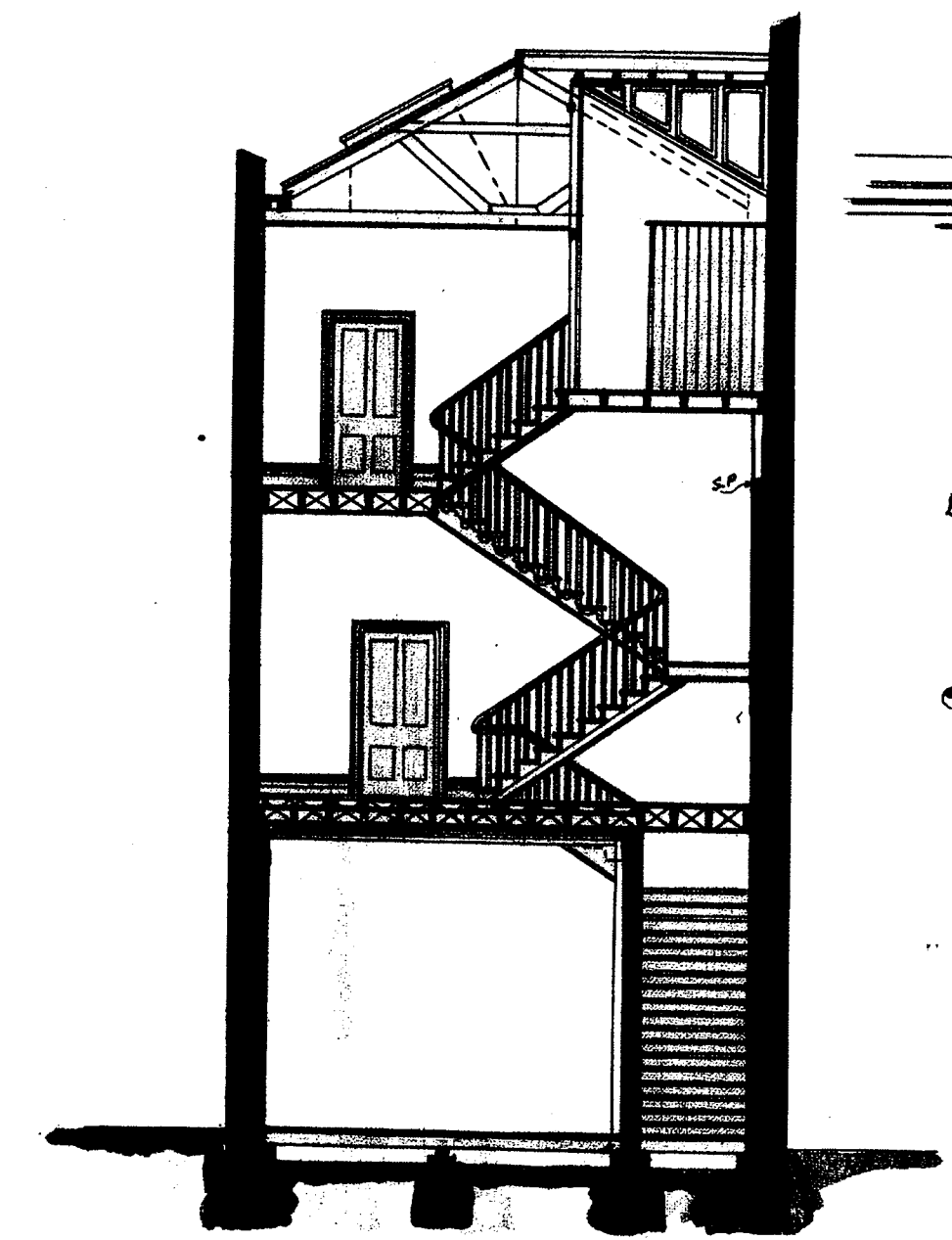
*First Floor Plan.*



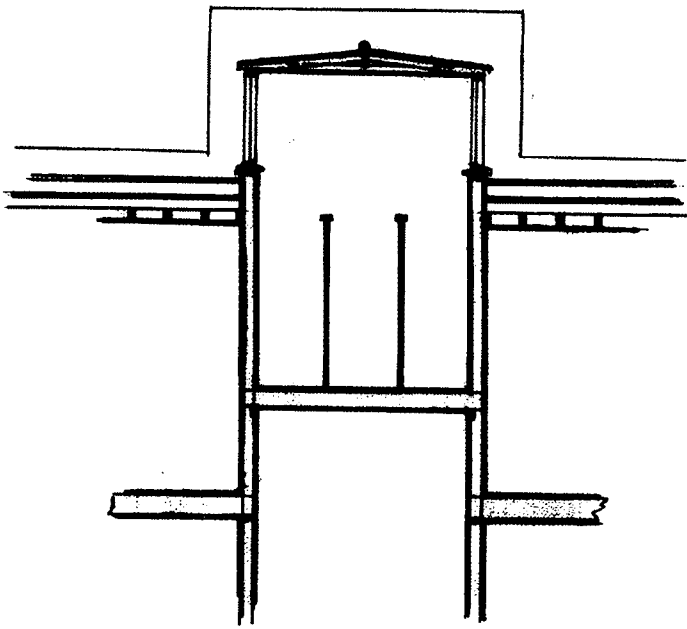
*Second Floor Plan.*



*Roof Plan.*



*Section A.B.*



*Section of W.C.*

*Scale Eight Ft. to an Inch.*

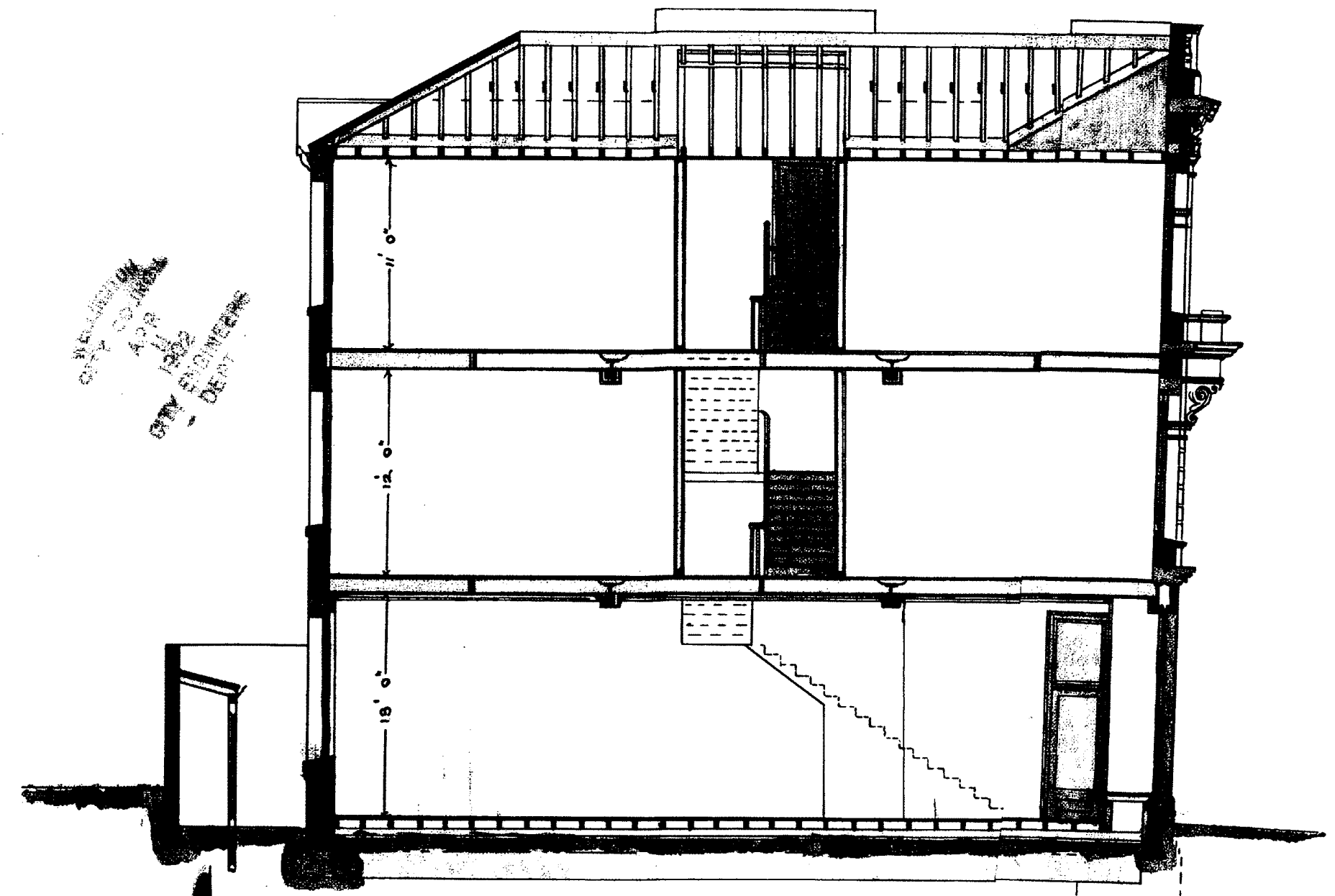
*Printed by  
W. & A. G. S. 1840*

FRANK COUNTY,  
ARCHT.  
LAMB  
WELLSINGTON

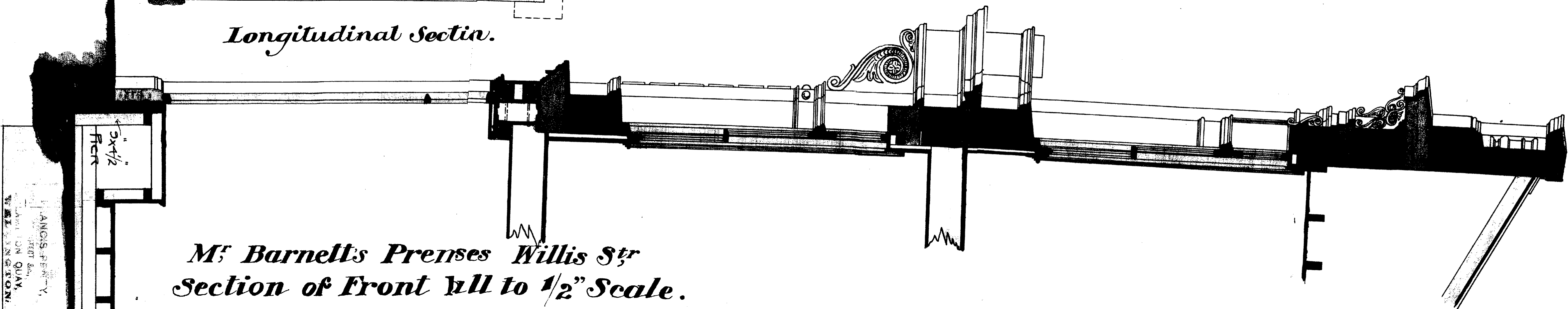


THE STANDARD  
CIVIL ENGINEERING

W. BARNETT  
CITY ENGINEER  
APR 1902  
CITY ENGINEERS  
- DEPT.



*Longitudinal Section.*



*M<sup>s</sup> Barnett's Presses Willis Str  
Section of Front Wall to 1/2" Scale.*

LANCIS PERITY,  
ARCHT. & ENGR.  
101 N. QUAY,  
WILKINSON.