

No 235

S P E C I F I C A T I O N of Work to be
done and of Materials to be
supplied in completely erecting
a WAREHOUSE, TORY STREET, WELLING-
TON for The TRUSTEES OF THE JONES
ESTATE, according to Plans pre-
pared by,

CRICHTON & MCKAY FF.RI.B.A.
& HAUGHTON A.R.I.B.A.

REGD. ARCHITECTS ,
WELLINGTON.

G E N E R A L

N O T E

The Plans show a four storey Building but pro-
vision has been made for an extra storey which will be
added later.

The site is situated in Tory Street, Wellington.

The levels as shown on the Plans are approximate-
ly correct. As the depths of the foundations may vary the
Contractor must allow in his tender for any extra work (more
or less) as required to secure a solid bottom to the Archi-
tects satisfaction.

The Contractor will be held responsible for all
damages to any person, place or thing during the progress of
the work, and he must compensate, make good or restore as the
case may demand.

At the completion of the works remove all rubbish,
scrub all floors, clean all glass and generally leave the
buildings and site in a neat and tidy condition ready for
occupation.

EXCAVATOR

Excavate for the foundations of all walls, piers, etc. to the various widths and depths shown on the Drawings. The trenches for all footings to be taken out level and stepped as required or shown. Remove all loose spoil from the bottom of trenches and well ram same with a heavy iron rammer immediately before laying the concrete. Any water accumulating in trenches and other excavations must be baled out prior to laying concrete, so that it may be laid in dry trenches.

Shore the sides of the excavations (where necessary) in a substantial manner with 2" planks and heavy inclined shores wedged to solid bearing. Fill in and well ram round footings after laying, and fill in and well ram and consolidate the earth around foundations.

All surplus earth from the excavations etc. to be evenly distributed over site well wetted, tamped and rolled with a heavy roller where directed.

C O N C R E T E W O R K .

C E M E N T shall be Portland Cement of approved N.Z. brand. Four cubic ft. shall be taken as the standard barrel or three bags each containing 120 lbs. of cement.

S A N D Shall be specially approved clean, sharp, fairly coarse, free from loam, clay, earthy or vegetable matter. The sand shall be obtained from a fresh water river. Sea beach sand will not be accepted. The Architects may order the sand and gravel to be washed if they deem it necessary.

G R A V E L The gravel shall consist of hard blue stone or crushed boulders, free from loam, clay, earthy or vegetable matter, obtained from a fresh water river. Sea beach gravel will not be accepted.

B L U E S T O N E F O R R E I N F O R C E D W O R K shall be of specially approved crushed blue stone, clean and free from dirt of any kind.

Gravel and blue stone shall be specially approved well graduated to sizes hereafter specified.

M I X I N G Concrete aggregate shall be mixed with clean water to an approved consistency by a power driven batch mixing machine of the latest type, and before being deposited in the boxing the concrete shall be turned with a spade in the barrows to prevent the large stones lying at the bottom.

Over wet concrete will not be accepted, but shall be of such consistency as will flow readily into the forms.

All concrete shall be deposited immediately it is mixed and shall be well spaded and agitated to prevent voids etc.

Re-tempering of partially set concrete will not be permitted.

CONCRETE FOR REINFORCED WORK TO FOOTINGS.

COLUMNS, BEAMS, GIRDERS, WALLS, FLOORS, STAIRS ETC. shall be composed of four parts crushed blue stone which will pass through a $\frac{3}{4}$ " ring, two parts of sand graded to pass through a $\frac{1}{4}$ " mesh screen and one part of cement.

REINFORCED CONCRETE

The whole of the footings, columns, beams, girders, walls, floors, stairs etc. as generally indicated on Framing Plans and coloured blue grey on general Drawings are to be of reinforced concrete to sizes shown by details. Further details and particulars will be furnished as required.

The Contractor shall work to these Drawings with accuracy and the rods shall be bent and placed exactly as shown.

BOXING

The boxing for reinforcement work shall be constructed of T. & G. white pine board not less than 1" in thickness, dressed smooth on side against which the concrete is laid. It shall be made with close watertight joints laid horizontally, and shall mould the concrete to a smooth surface. Where seen all sharp corners shall be chamfered and all corners filleted.

The inside of all boxing to be treated with one good

coat of dead whitewash so as to ensure the concrete not sticking to the forms.

The whole of the boxing shall be supported with adequate struts, beams and bearers, well stayed and strutted to take any weights they are required to carry, and any other weights from building operations to prevent any movement while the concrete is being placed and rammed.

The boxing for walls and columns to be clamped, bolted and wedged, and shall be open on one side, and this side shall be boxed only as the concrete is placed in position.

The bottom timbers underneath boxing for beams and joists shall be on wedges resting on the top of posts. The sides of the forms shall then be bolted or clamped to these timbers in such a manner that the whole of the timbers supporting the floor slabs and the sides of the beams can be removed without disturbing the bottom timbers or the posts.

Hand holes shall be left in the beam boxing to enable all rubbish to be easily removed from the boxing immediately before the concrete is laid.

The boxing for beams and girders shall be cambered $\frac{1}{4}$ " for every 10' of span.

Expert workmen, supervised by an experienced foreman, shall be employed on the construction of the boxing.

REINFORCEMENT

The reinforcing rods shall be plain, round, mild steel bars in accordance with the British Standard Specification for Mild Steel for structural purposes. They shall

be free from loose rust, grease, paint and dirt of any description. The rods to be of uniform length of the dimensions shown, bent to the desired shape, and all stirrups and bindings shall be true to the dimensions shown. No welding or jointing will be permitted.

Where rods cross they shall be wired together with No. 20 binding wire.

All stirrups shall be made to templates and fixed to the main rods by No. 20 binding wire to protect them against displacement during the filling in of the concrete.

All outside walls to have two $\frac{1}{2}$ " steel rods each side of opening and on bottom of windows and doors, placed 2" from each opening and outside of wall.

NOTE

Before placing any concrete, all forms and reinforcement to be inspected and passed by the Architects to see that they are plumb, accurately placed and supported so that no bulging or misplacement can occur, and that enough separators are used to ensure holding the reinforcement in the right place.

CONCRETE WORK

The concrete shall be placed in the boxing immediately after mixing, spread in layers not more than 3" thick and well rammed, tamped and agitated to secure perfect contact between concrete and reinforcement and a concrete of thorough density. Concrete shall not be placed in piles in forms to be hoed later to a level, but shall be spread uniformly.

Each section shall be carried out as far as possible in one operation, but where it is necessary to stop the work

temporarily it shall not be agitated to produce "laitance".

When the depositing of concrete is resumed the working surface of the concrete previously placed shall be roughened, thoroughly cleaned, loose matter and "laitance" removed and covered with a layer of cement $\frac{1}{2}$ " thick 1 to 1.

The new concrete shall then be rammed against the old as hard as possible without injuring it.

The concrete in piers and columns shall be formed in each storey height in one continuous operation, and the construction joint shall be at the underside of the floor.

Haunches and columns capitals shall be considered as part of, and built monolithic with, the floor construction.

Girders, joists and slabs shall not be poured over freshly formed walls or columns without allowing a period of at least two hours to elapse to allow for shrinkage and settlement to these walls and columns.

Reinforced concrete shall be stopped at such points which will have the least possible effect on the strength of the structure.

Construction joints in floors shall be located near the centre of span of slabs, beams and girders, unless a beam intersects a girder at this point, in which case the joints in the girder shall be offset a distance equal to twice the width of the beam.

No joints shall be allowed between the floor slabs, beams or girders.

The floors and roofs to have embedded in the whole of the upper surface of concrete No. 14 gauge 3" mesh wire

bonding placed 1" from top of floor finish.

Before the reinforced patent roof covering is laid on roof (See beginning of Plumber) the roofs are to be graded on top to an extra thickness with similar concrete so as to give a fall of not less than 1" in 10 ft. from centre to side gutter as indicated on Plans.

The Staircase and Landings to be constructed of reinforced concrete to the various pitches shown by detailed drawings. Steps to have rounded nosings.

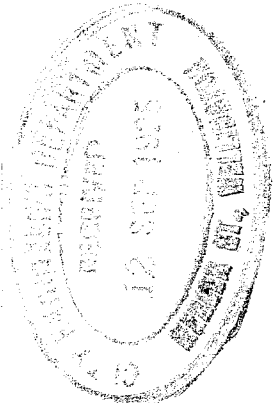
Thoroughly well fix all the necessary wrot. iron bolts, ties and other fastenings required for fixing newels, balusters, handrail etc.

Great care to be exercised to avoid disturbing the set of the placed concrete. Barrow runs shall be raised well above the reinforcement to allow the workmen to deposit and work the concrete without in any way displacing the steel.

The boxing shall not be removed from the floor slabs and sides of girders, beams and joists until the expiry of 14 days and the casing of columns, bottom boards and struts for 28 days after the concrete is set and only then with the direct permission of the Architects.

The Contractor is to make provision for roughening the surface of all concrete where finished with stucco immediately the boxing is removed so as to form a sufficient key for the plastering.

The Contractor to make proper provision for pipe leads to suit the telephone, electricity etc. and generally make provision and assist the other trades as directed by the Architects.



GROUND FLOOR

The whole of the Ground Floor coloured blue grey on Plans to be filled in to height required with river ballast levelled off to an even surface, well rolled and consolidated and then covered with 4" thick of concrete finished off in addition with fine stuff 2 to 1, screeded smooth and laid with slight falls to approval.

ELEVATOR PITS

Construct Pits for Elevators 2'6" deep full size of cage with 6" concrete sides and bottoms, finished on the exposed faces with 1" of cement stucco one to one mixed with approved quantity of "Texement" as directed to make a waterproof job.

S T E P S

The outside and entrance steps to be constructed of concrete in one layer on good hard metal filling. Level off top with 1" stucco one to one, to have rounded edges etc. as directed.

PARTITIONS

shall be constructed of 4" coke breeze blocks well bedded in cement and mortar composed of 3 parts sand and one part cement.

Over all openings provide and fix coke breeze lintels 12" deep and reinforced with four $\frac{1}{2}$ " dia. rods well bonded with No. 8 black iron wire as directed. Lintels shall have a bearing at ends of at least 9".

Generally bed all door and window frames and other iron work shown and specified under "Smith & Founder".

BRICKLAYER

MATERIALS

BRICKS

shall be specially picked hard, well burnt double pressed facing bricks.

MORTAR

shall be composed of 3 parts clean sharp fresh water sand free from dirt of any kind and one part best N.Z. Portland Cement well mixed together immediately before being used.

The portions of Main Elevation to Tery Street coloured pink shall be faced with brickwork set in cement mortar.

Brickwork shall be well tied to concrete by means of galvd. iron ties built into same. Ties shall be of No. 6 wire. As the bricks are laid the joints shall be raked out 1" deep to taking pointing. All joints shall afterwards be filled with coloured mortar key jointed as directed.

At the completion of all work, brickwork shall be cleaned down with a 10% solution of Muriatic Acid and left free from stains.

CARPENTER & JOINER.

T I M B E R

shall be free from all shakes, loose knots or other defects. It shall be cut square and to the full dimensions specified or shown on the Drawings.

All timber in framing and linings to be Heart of Red Pine, Oregon or Kauri.

All timber to be well seasoned.

G R O U N D S

Provide and fix proper Heart of Totara bevelled grounds wherever required for fixing Joiners work, also slips to form grooves in concrete work for flashings.

Grounds and slips to be fixed into position when concrete is being formed.

D O O R S

Doors from Entrance Vestibule and passage opening into Offices shall be 2" thick framed and panelled as shown, hung folding with three 4" steel butts to each half to 4" x 2" solid rebated frame bolted to concrete, and to fasten with bolts, lock and furniture of the p.c. value of 20/-/ (20/-)

All other inside doors to be 2" thick framed and panelled as shown, hung with three 4" steel butts to 4" x 2" solid rebated frames, bolted to concrete, and to fasten with locks and furniture of the p.c. value of 12/6 each door.

All inside doors to be Heart of Red Pine.

The outside doors to Goods Entrance shall be 2½"

thick framed and panelled as shown, to be hung folding with four

5" stout wrot. iron loose pin hinges, four to each half, to 6" x 4" solid rebated and moulded frame and transome and to fasten with lock and bolts of the p.c. value of £2/10/0/

The Front Entrance doors shall be 2½" thick framed and panelled as shown, hung folding with four 4" steel butts to 6" x 3" solid rebated frame and transom, and to fasten with lock and furniture of the p.c. value of £2/0/0.

Provide and fix approved door and window to the Lift Machinery Room on roof as directed.

All outside doors and frames to be Heart of Totara.

W I N D O W S

All windows to be of steel (See Smith & Founder).

S T A I R C A S E

The staircase to be provided with 3" x 3" moulded handrail, ramped, dowelled and belted to newels and iron balustrading specified in "Smith & Founder".

ELECTRIC ELEVATORS

The Elevators will be supplied and installed by the Proprietors under a separate contract, but the Contractors must supply all necessary overhead beams etc. also approved gates, which will meet with the City Council's requirements.

W.C. SEATS

Each pedestal closet is to be provided with an approved seat and cover with all necessary fastenings.

SMITH & POUNDER

All ironwork shall be of the very best quality finished and fixed in a workmanlike manner, in accordance with the best modern practice. Bolts shall have a square head the thickness to be equal to the diameter, and the width twice the diameter; they shall be screwed with a clean thread, Whitworth's Standard, and shall have nuts equal in size to the heads, and shall have two washers each in diam. three times that of bolt, and one quarter the diam. of the bolt in thickness. All ironwork to be dipped in Linseed Oil while hot from the forge.

Provide and fix 1" diam. iron dowels to all outside door sills as directed.

STEEL WINDOWS

The whole of the windows to be of approved strong steel section for frames and astragals, provided with pivot hung sashes as shown fixed off the centre to enable to be cleaned.

The outer frames to have continuous 1" x $\frac{3}{4}$ " L-tongues and in all cases windows are to be carefully bedded all round with Stonemason's mastic to secure a perfectly watertight job.

Provide approved fastenings and cords all to Architects approval.

The stairs from Ground Floor to Roof are to be provided with $\frac{7}{8}$ " x $\frac{7}{8}$ " square wrot. iron balustrading and approved newels as shown all true to form and sizes and let into concrete, run with lead and securely fixed to prevent vibration.

The balustrading to all stairs to go round landings at well-holes in all cases.

ELEVATORS

Both Goods and Passenger Elevators

will be supplied by Proprietors under separate contracts. (See
Carpenter & Joiner).

PLUMBER

ROOFS

The main roof also roof to Machinery Room is to be covered with "Rok", "Regal" or other approved similar material reinforced in three thicknesses with successive coats of special bitumastic paint between, all fixed according to Manufacturers Catalogue, and to approval of Architects. First thickness to be saturated felt, second thickness one ply patent roofing, and third thickness three ply patent roofing all put on to secure a permanent watertight job. The whole to be laid with proper falls and channels to outlets, and the material to be taken over feather fillets well up against walls to give an effective depth of not less than 8".

Dress down through walls (with overflows) and provide 5 lb. lead 4" diam. outlet pipes to discharge into cistern head of down pipes.

Flash walls with 5 lb. lead not less than 6" wide let 1" into chase in concrete well secured and pointed with cement to secure a permanent watertight job.

Provide 4" dia. cast iron socketted downpipes at outlet end of gutters with all necessary bends, elbows, shoes etc. well secured with strong cast iron clips and spikes, and provided with approved plain cast iron cistern head to carry water into gully of storm water drain.

Flash with 5 lb. lead the junction of walls between old and new Buildings as required.

WASH BASINS

Provide and fix wash-basins in each Lavatory where shown, securely fixed to walls on iron brackets.

Each basin to be provided with brass plugs, gratings and chains, also 2" screwed galvd. iron waste pipes with lead traps and brass inspection caps to discharge into gullies

W.C.'S

Provide and fix in each W.C. a pedestal closet basin where shown, properly connected up to drains with junctions and wiped joints. At about 6 ft. above floor level of each closet provide and fix an approved 3 gallon flushing cistern with all necessary fittings and external overflows etc. complete. Cisterns to be properly connected up to closet pans in best style of workmanship and left in good working order to the satisfaction of Architects.

The soil pipes from W.C.'s to be socketted cast iron down to drain caulked with lead and made gas tight.

Provide all junctions and bends required and properly connect to drains.

WATER SUPPLY

Lay on the water from the Corporation Main with 1/2" galvd. iron piping to cisterns of W.C.'s and Lavatory basins. W.C.'s to be supplied with approved high pressure bib cocks, copper balls and regulating valves to cisterns. The other points to be fitted with approved high pressure bib cocks.

ELECTRIC LIGHT

Allow in tender for installing Electric Light to 40 points where directed by Architects. The whole of the work to be carried out in accordance with the Fire Underwriters Regulations and the City By-laws, and must be

passed and approved by both Bodies before taken over by the Proprietors. Supply and fix approved cord pendants and brackets with all switches, lamp-holders, lamps and opal shades etc. required.

D R A I N S

Provide and lay where shown on Site Plan 4" double glazed stoneware socketted drain pipes with all junctions, bends etc. All pipes under Building to be laid in 6" of good concrete all round to comply with City By-laws.

Provide and fix 4" glazed stoneware gully [&] Buchan Traps where shown.

DRAIN VENTILATION

From the sewer side of Buchan traps lead off a 4" vent pipe carried well above main roof parapet, securely fixed and terminated with approved 12" terminal vent. First 12 feet of vent pipe to be of cast iron, and remainder to be of 22 gauge grooved galva. iron, all soldered and made gas tight.

Provide and lay 4" storm water drain where shown, laid in concrete same as above drain. Pipes and method of laying to be same as specified for soil drains.

The whole of the Plumber's Work to be carried out completely and in accordance with the Sanitary By-laws in all respects.

PLASTERER

STUCCO

All stucco to be composed of two parts clean sharp fresh water sand, and one part best quality N.S. Portland Cement. Finishing coat to be composed of equal parts of cement and sand.

OUTSIDE STUCCO WORK

The whole of the exterior walls where exposed to view, tops and backs of all parapets, returns and reveals etc. where coloured Yellow on Elevations shall be rendered in cement stucco not less than $\frac{1}{4}$ " thick in two coats trowelled smooth with a steel trowel and lined out in imitation of Ashlar work.

All mouldings, lettering etc. shown on Front Elevation to be carried out as shown and according to details which will be supplied.

All concrete walls, columns, ceilings etc. inside, also all walls and ceilings to staircases are to be rendered in stucco and screeded off even, and then finished with a coat of "Sirapite" or other similar hard white setting cement.

The risers, treads and strings of staircases to be finished with $1\frac{1}{4}$ " of stucco trowelled perfectly smooth. Steps to be rounded on outer edges.

PAINTER & GLAZIER

The whole of the exterior wood and ironwork is to be primed, stopped with putty and painted three coats in addition with approved full bodied paint finished in approved tints.

Outer doors and frames to be varnished with one coat of best Copal Varnish in addition.

Steel windows and frames are to be painted all over with approved anti-corrosive paint before fixing, and exposed faces each side painted three coats after fixing.

All inside woodwork is to be oiled spirited and varnished. All to be rubbed down smooth after each coat.

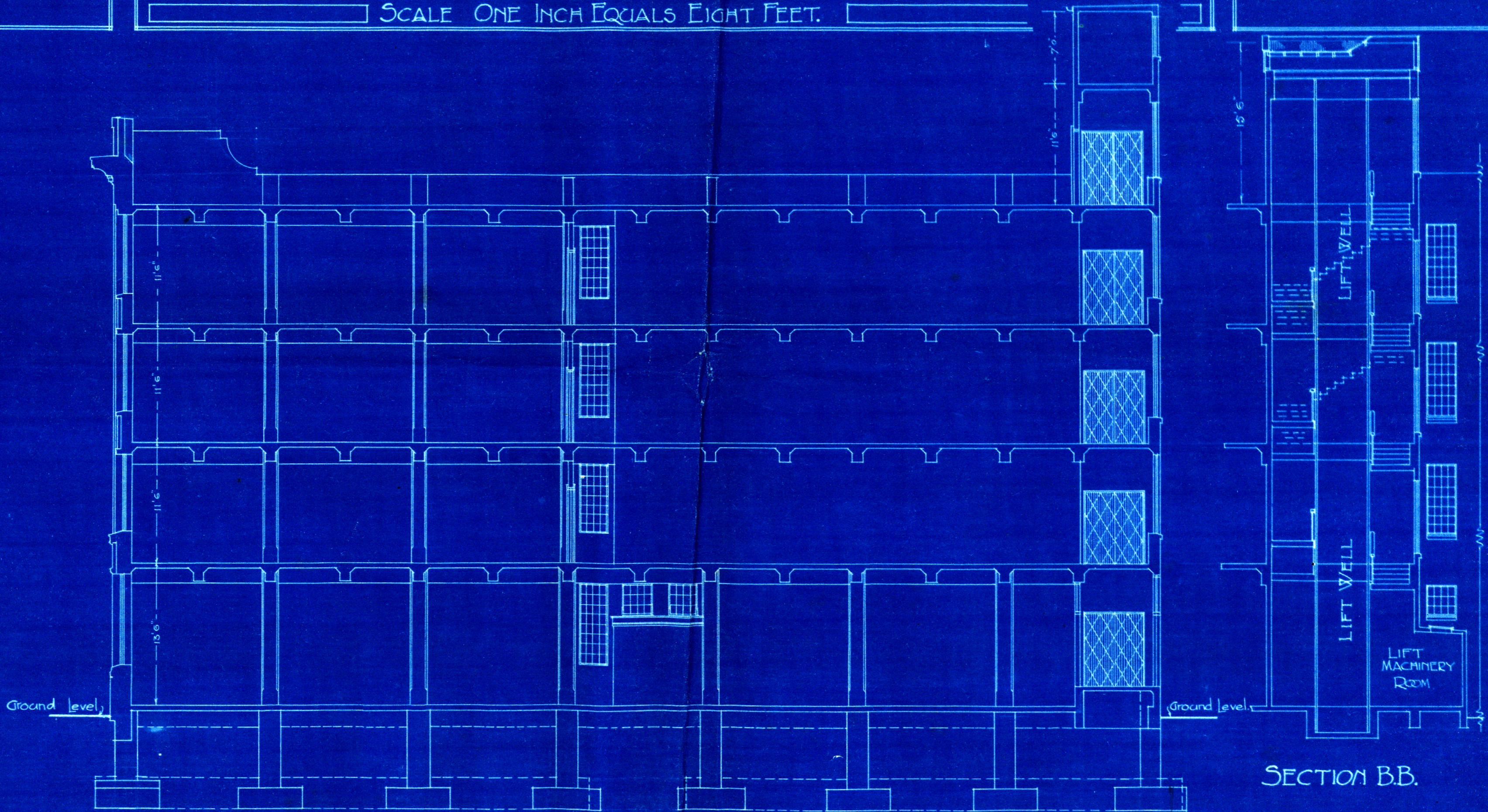
Iron balustrading to be painted three coats finished in approved tints.

GLAZIER

The whole of the windows and fanlights on Street Frontages to be glazed with 21 oz. sheet glass to approval, and the sashes to back and side walls to be glazed with approved rough wired plate.

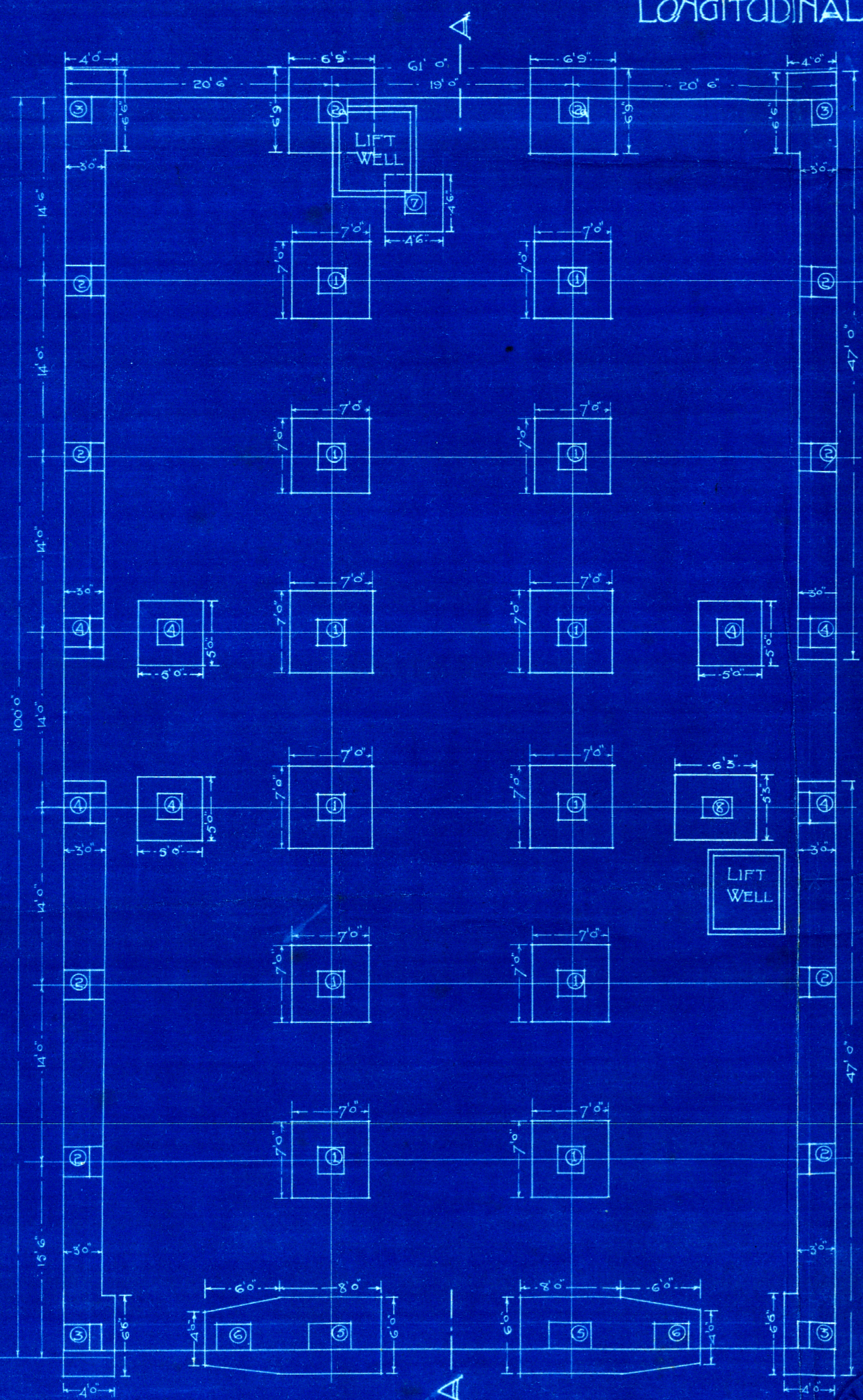
All glass to be properly bedded, stopped in, and back puttied, and left clean and perfect at completion of all work. All glass to be well secured with metal pins to approval.

NEW WAREHOUSE
 TORY STREET WELLINGTON
 FOR THE TRUSTEES. JONES ESTATE
 SCALE ONE INCH EQUALS EIGHT FEET.

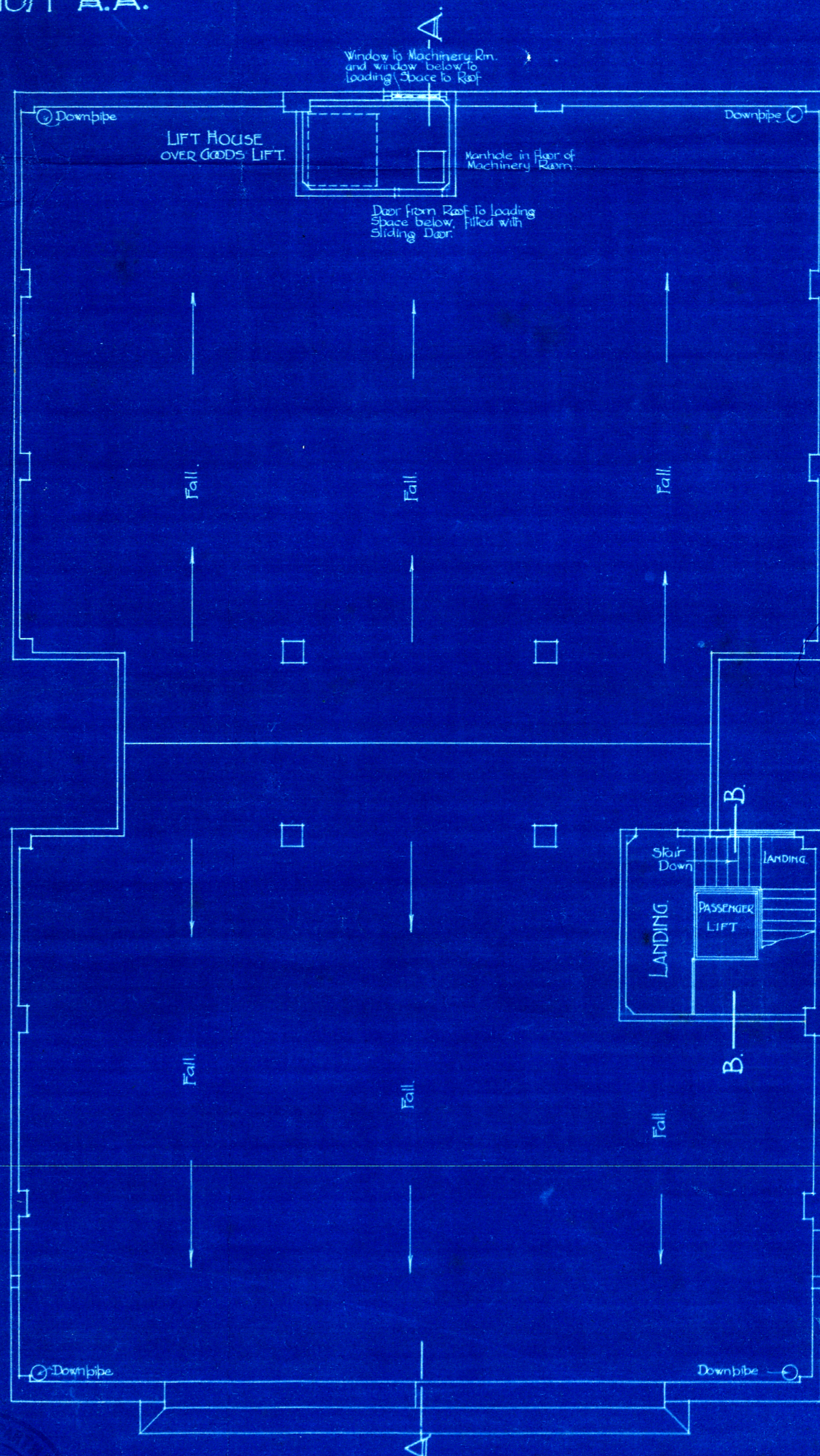


LONGITUDINAL SECTION A.A.

SECTION B.B.



FOUNDATION PLAN.



ROOF PLAN.



NEW WAREHOUSE

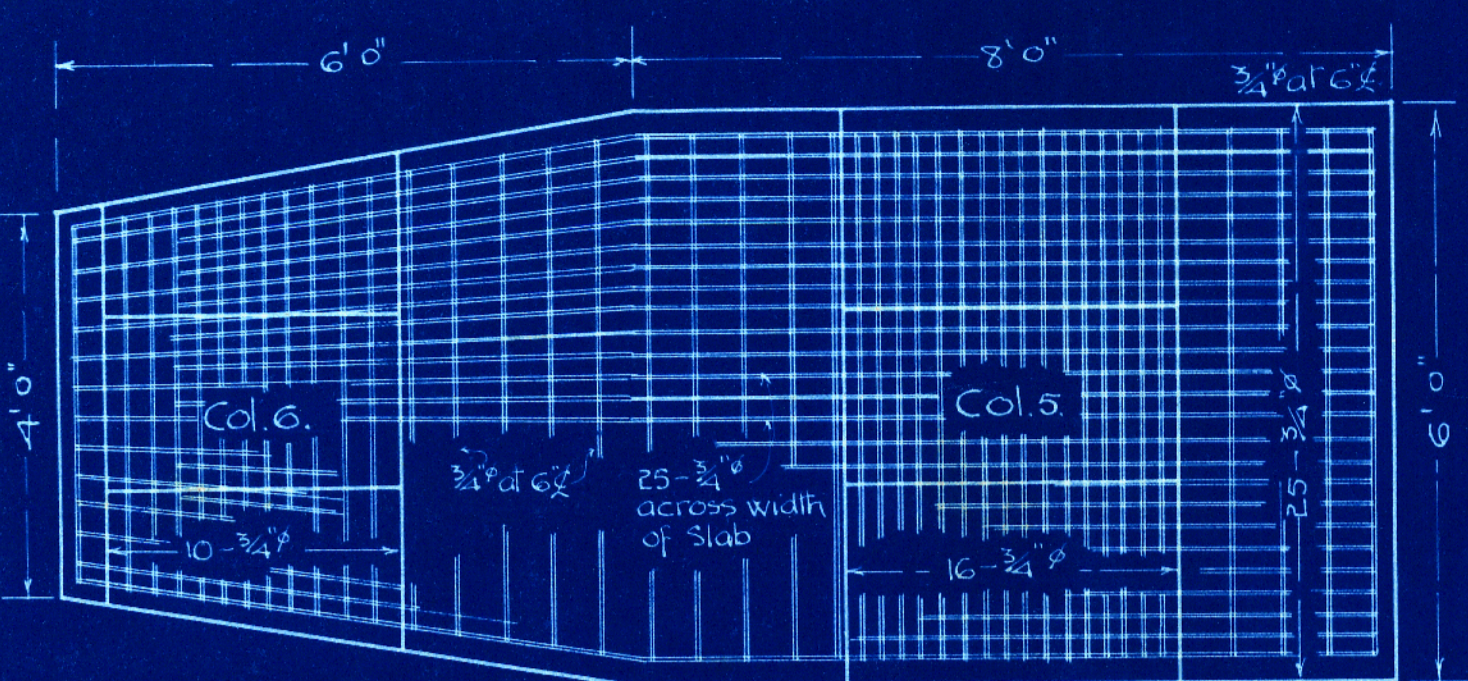
TORY STREET WELLINGTON

FOR THE TRUSTEES, JONES ESTATE.

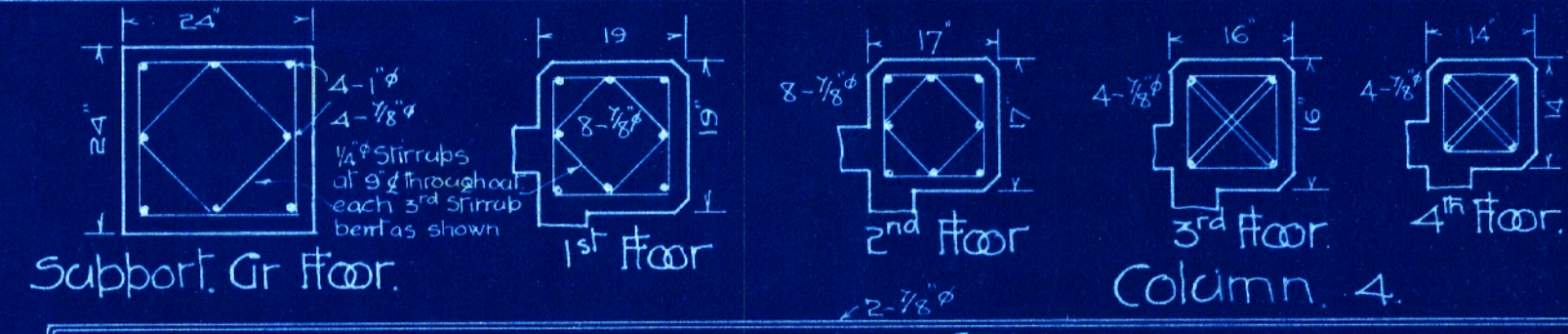
SCALE: HALF INCH EQUALS ONE FOOT.

Beam	Width	Depth		Reinforcement		
		over all	To steel bottom	Top	extra rods single end	single end
A	12	21	18	6-3/4"	1-3/4"	2-3/4"
A1	12	21	18	6-3/4"	4-3/4"	—
B	12	21	18	6-3/4"	1-3/4"	5-3/4"
B1	12	21	18	6-3/4"	4-3/4"	—
B2	12	21	18	4-3/4"	1-1/2"	2-3/4"
C	12	24	21	6-3/4"	1-1/2"	—
D	12	24	21	6-3/4"	1-1/2"	4-3/4"
D1	12	24	21	6-3/4"	6-3/4"	4-3/4"
E	12	37	35	6-3/4"	1-3/4"	2-3/4"
F	12	37	35	6-3/4"	1-3/4"	—
G	12	45	39	6-3/4"	1-1/2"	2-3/4"
G1	12	45	39	6-3/4"	2-3/4"	—
H	12	45	39	6-3/4"	1-1/2"	—
I	12	31	28	5-3/4"	1-1/2"	2-3/4"
J	12	31	28	5-3/4"	1-1/2"	—
K	12	27	25	5-3/4"	1-1/2"	5-3/4"
L	12	27	24	5-3/4"	1-1/2"	5-3/4"
M	12	31	28	4-3/4" + 4-7/8"	4-3/4" + 4-7/8"	—

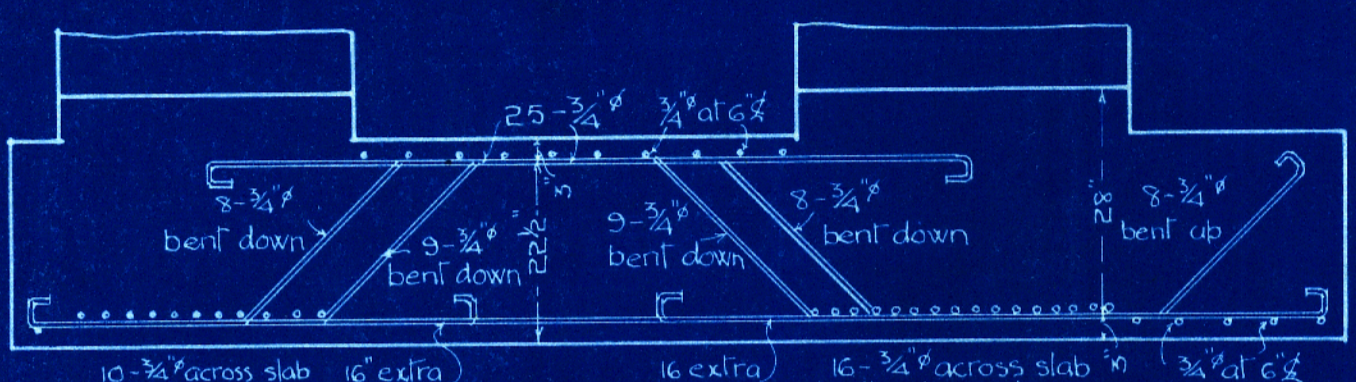
Stirrups 1/4" spaced as shown on Drawings.
Rods to be bent up as shown on Drawings.
Walls to be 6" thick with 1/2" of steel with 3/8" of 5/16" dia.
Floor slab to be 4" thick overall, 3" to steel with 3/8" of 5/16" dia.
* To have 12" of steel dia 6" dia across top of beam.



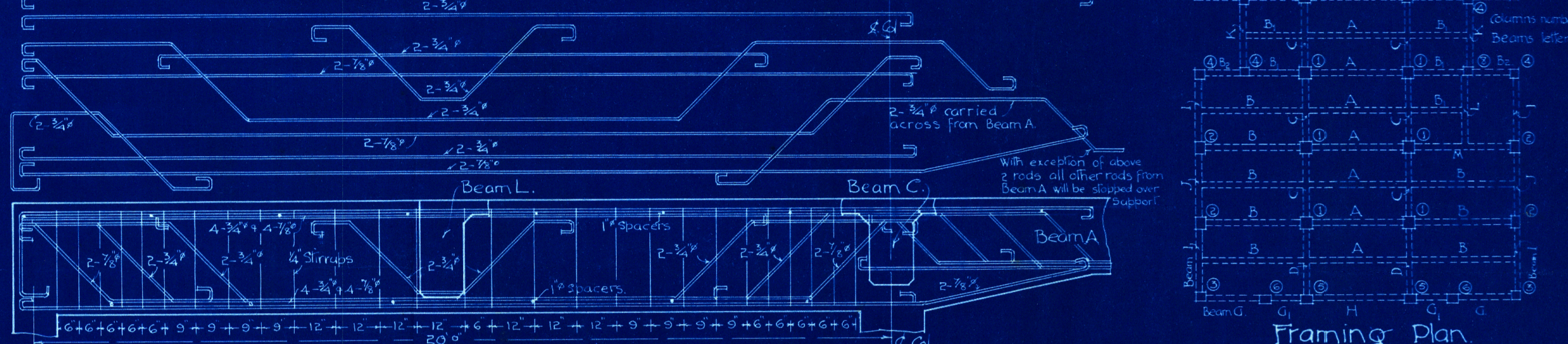
Plan of Foundation to Cols 5 and 6.



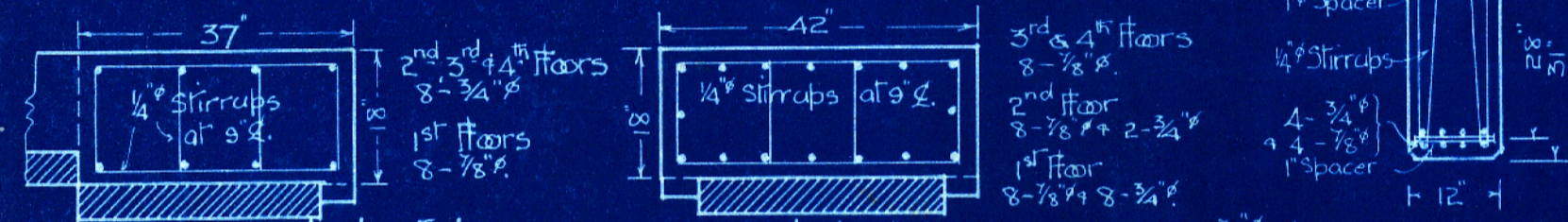
Support, Gr. floor.



Section thro Foundation to Cols 5 and 6.



Framing Plan.



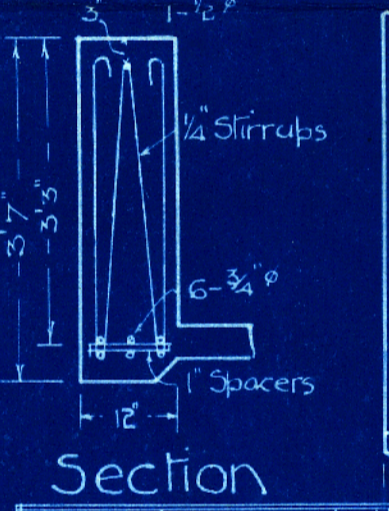
Support, 1st, 2nd, 3rd & 4th floors. Support, 1st, 2nd, 3rd & 4th floors.



Support, Ground floor. Column 6. Support, Ground floor. Column 5.

Schedule of Columns.

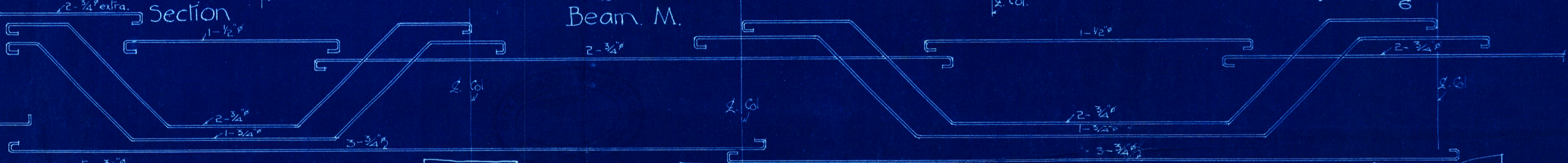
Column	Overall size	Steel	Overall size	Steel	Overall size	Steel	Overall size	Steel
1	15	4-3/8"	18	4-3/8"	20	4-3/8"	22	4-3/8"
2	16	4-3/8"	18	4-3/8"	20	4-3/8"	22	4-3/8"
3	13	4-3/8"	17	4-3/8"	19	4-3/8"	21	4-3/8"
4	14	4-3/8"	16	4-3/8"	18	4-3/8"	20	4-3/8"
5	12	4-3/8"	14	4-3/8"	16	4-3/8"	18	4-3/8"
6	10	4-3/8"	12	4-3/8"	14	4-3/8"	16	4-3/8"
7	11	4-3/8"	13	4-3/8"	15	4-3/8"	17	4-3/8"
8	12	4-3/8"	14	4-3/8"	16	4-3/8"	18	4-3/8"



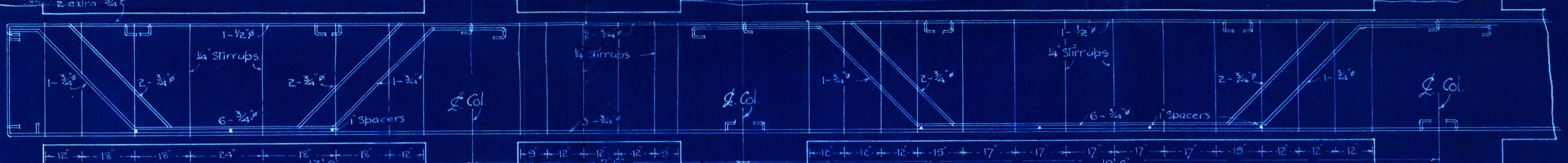
Section.

Col. No.	Size	Depth over all	Depth to steel	Reinforcement
1	6'9" x 6'9"	25'	22'	14-3/8" & 14-3/8"
2	5'0" x 5'0"	25'	22'	12-3/8" & 12-3/8"
3	4'6" x 4'6"	23'	20'	8-3/4" & 8-3/4"
4	6'3" x 5'5"	25'	22'	16-3/4" & 12-3/4"

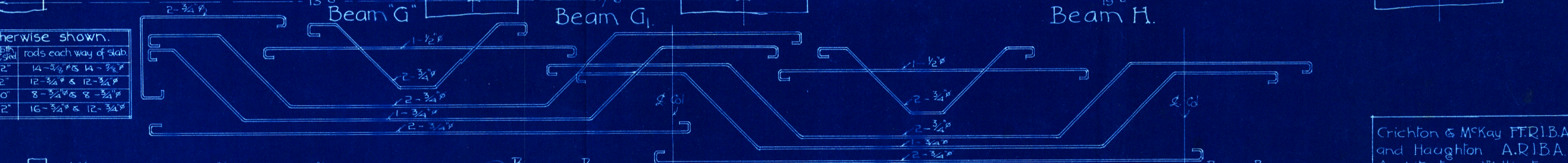
Foundations not otherwise shown.



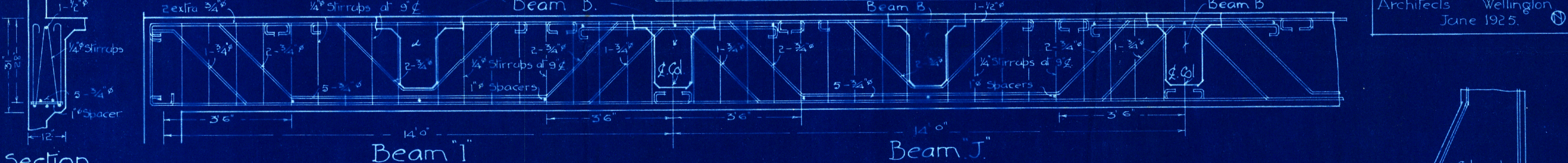
Beam M.



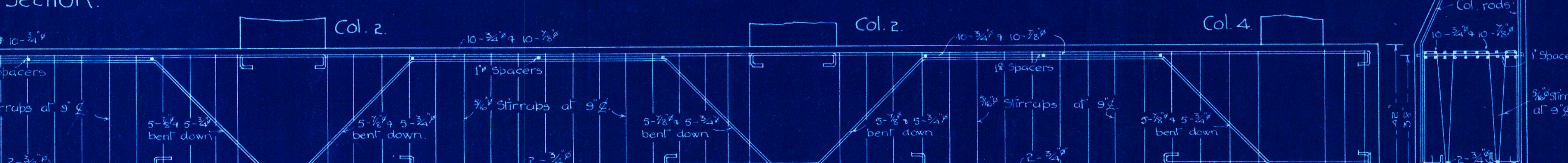
Beam G.



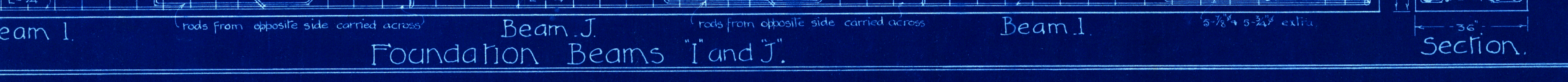
Beam G1.



Beam B.



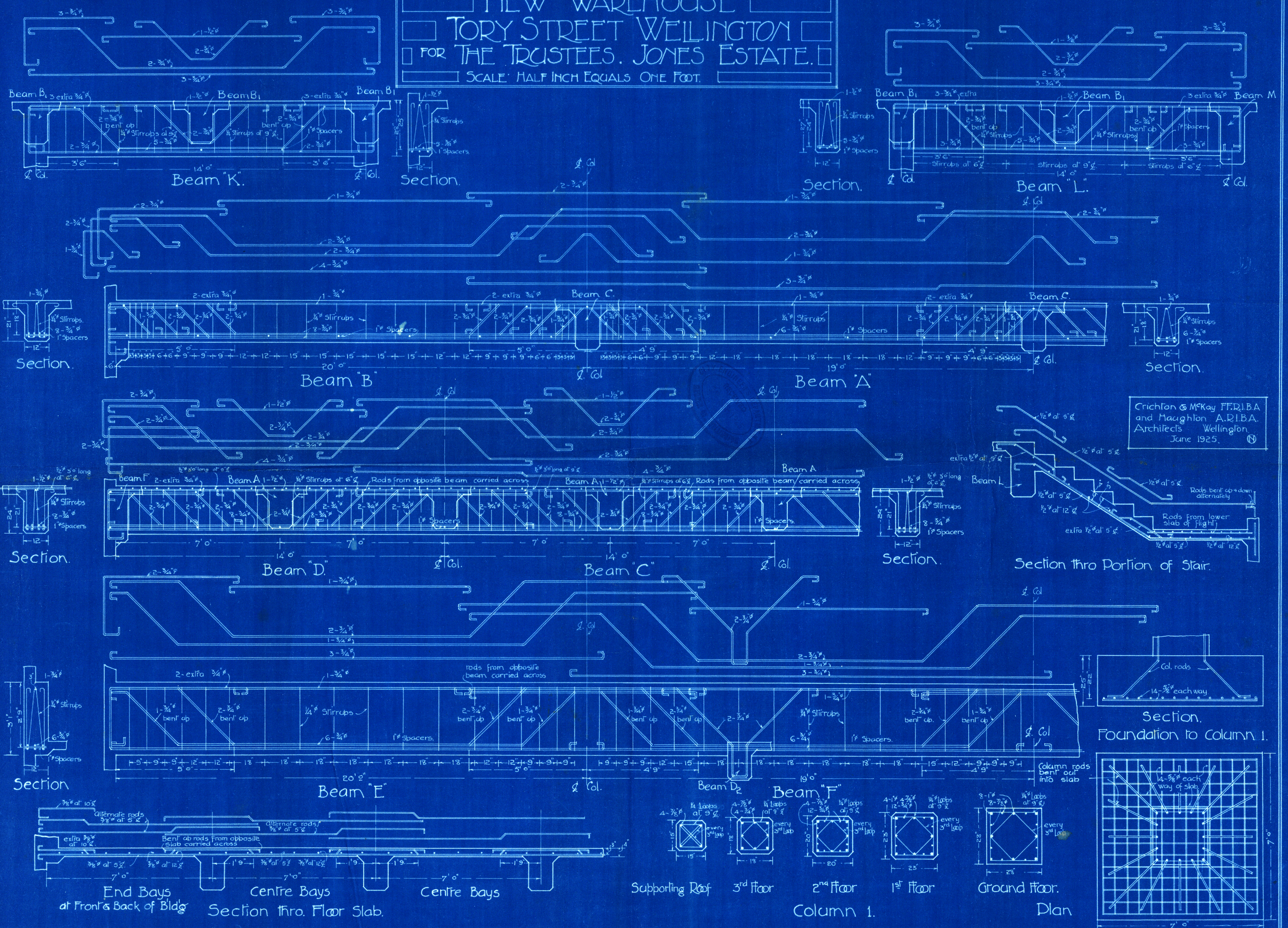
Beam I.



Foundation Beams I and J.

Crichton & McKay F.R.I.B.A.
and Haughton A.R.I.B.A.
Architects Wellington
June 1925.

NEW WAREHOUSE
TORY STREET WELLINGTON
FOR THE TRUSTEES. JONES ESTATE.
 SCALE: HALF INCH EQUALS ONE FOOT.



Crichton & McKay F.F.R.I.B.A.
 and Maughton A.R.I.B.A.
 Architects Wellington
 June 1925.