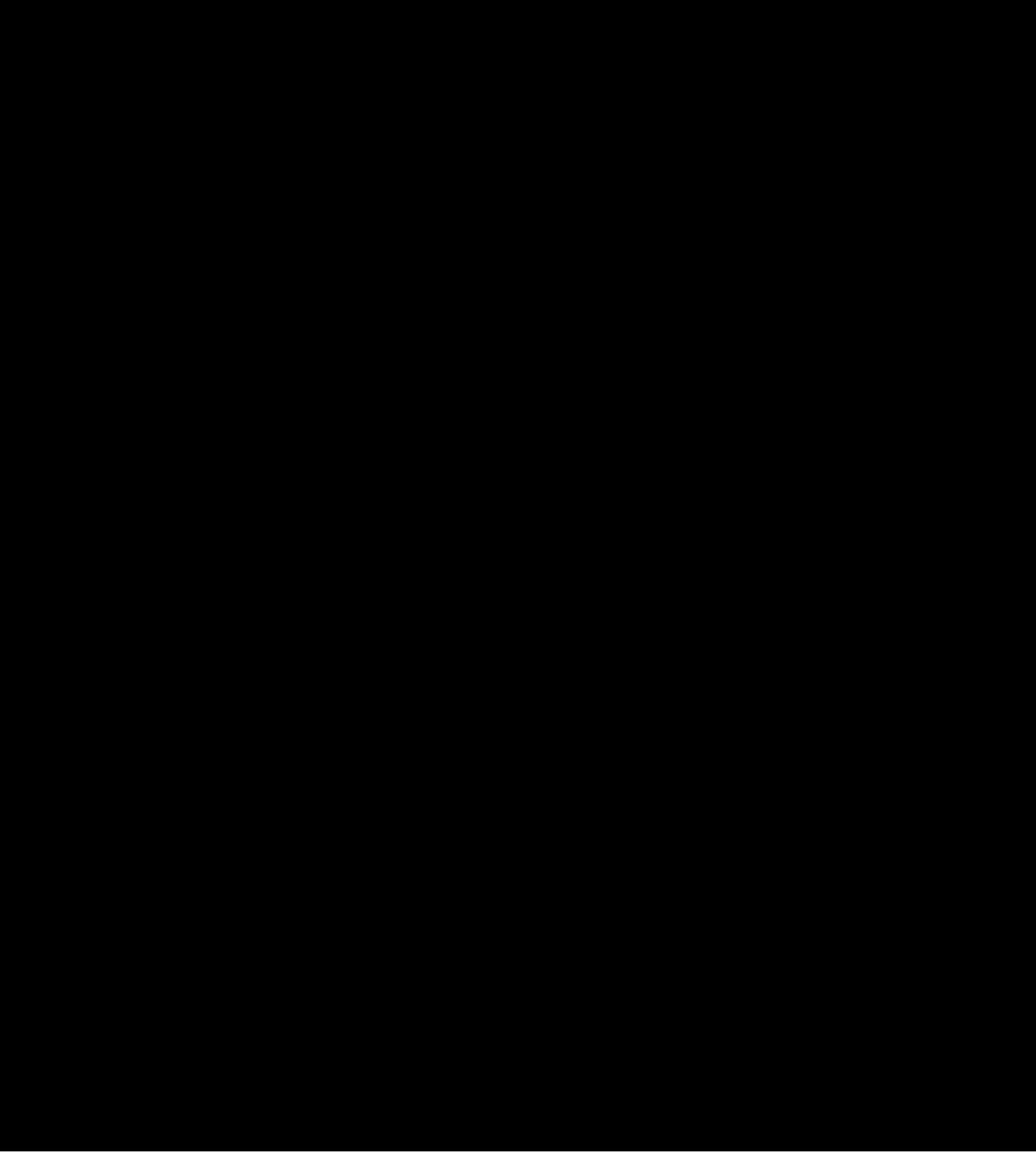




PROGRAM OF THE WILLIAMSBURG PROJECT

Prepared by the

NEW YORK CITY HOUSING AUTHORITY

Technical Division

December 24, 1934

THE SITE

The 12 block project is bounded by Maujer Street (north), Bushwick Avenue (west), Scholes Street (south) and Leonard Street (east).

Ten Eyck Street and Stagg Street are to be closed between Bushwick Avenue and Leonard Streets.(1)

A new school is to be built on Scholes Street between Humboldt Street and Graham Avenues on a site 400' x 300' which site includes playground under the control and jurisdiction of the school.(2)

The Extension School on Bushwick Avenue between Ten Eyck and Stagg Streets on a plot 100' x 200' is to remain undisturbed until the completion of the new school when its equipment will be removed to a school adjacent to the site, the old structures demolished and replaced by a group of stores or market.

(1) For justification of this site see:-

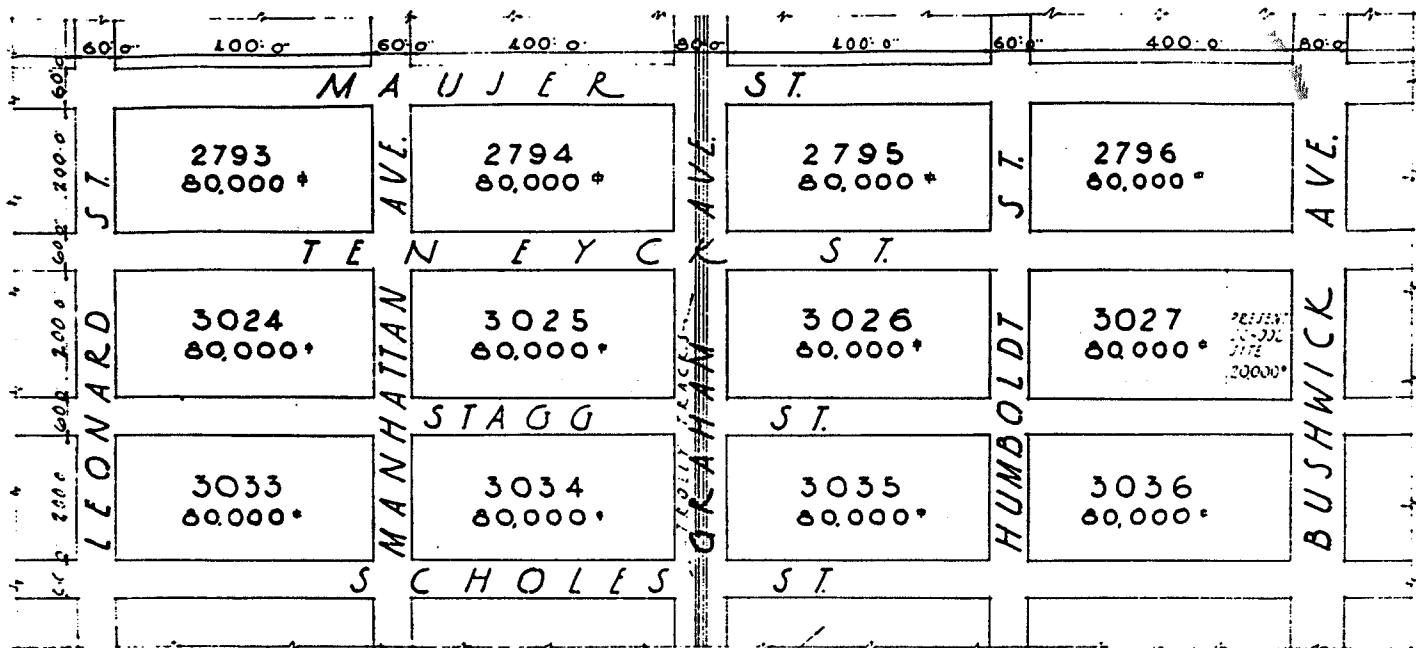
Memo #1, March 24, 1934, to PWA from the NYC Housing
Authority

Memo #II, March 28, 1934, as above

Memo #IV, May 5, 1934, as above

Memo #V, July 31, 1934, as above

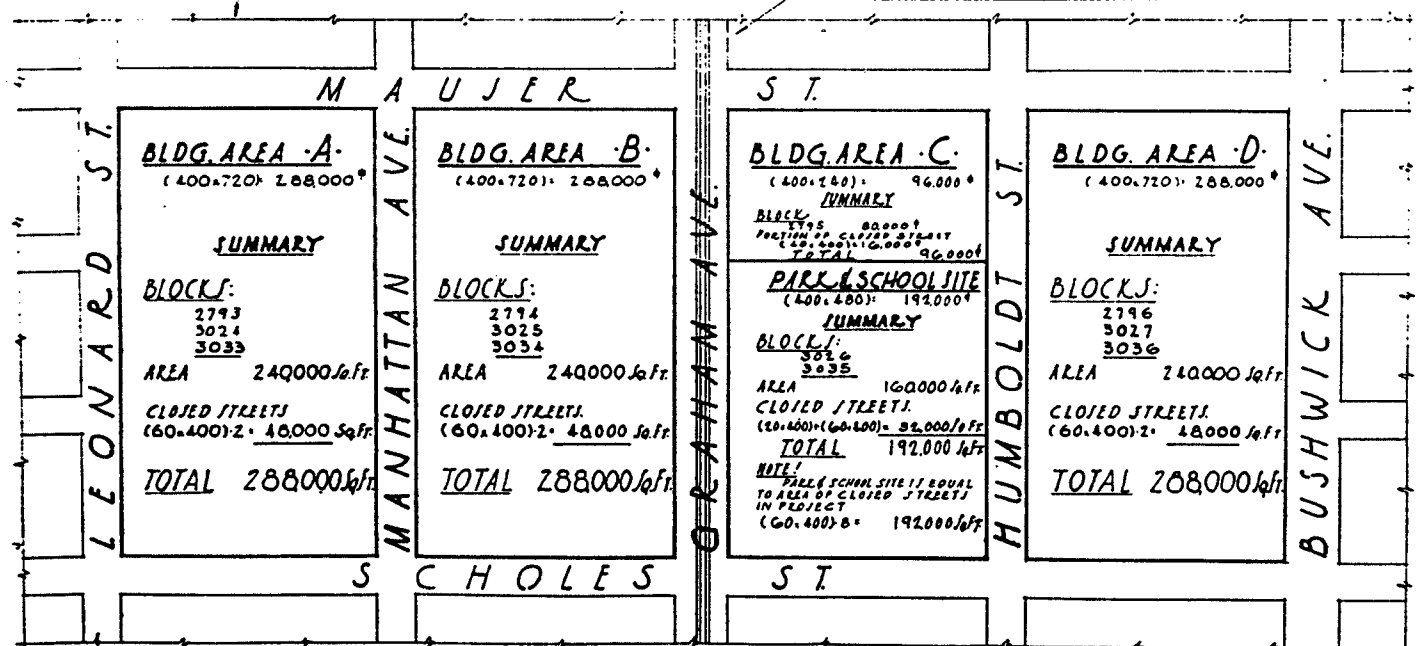
(2) See Appendix I - "Educational Facilities adjacent to
Williamsburg Project".



PRESENT BLOCK PLAN

- WILLIAMSBURG PROJECT -

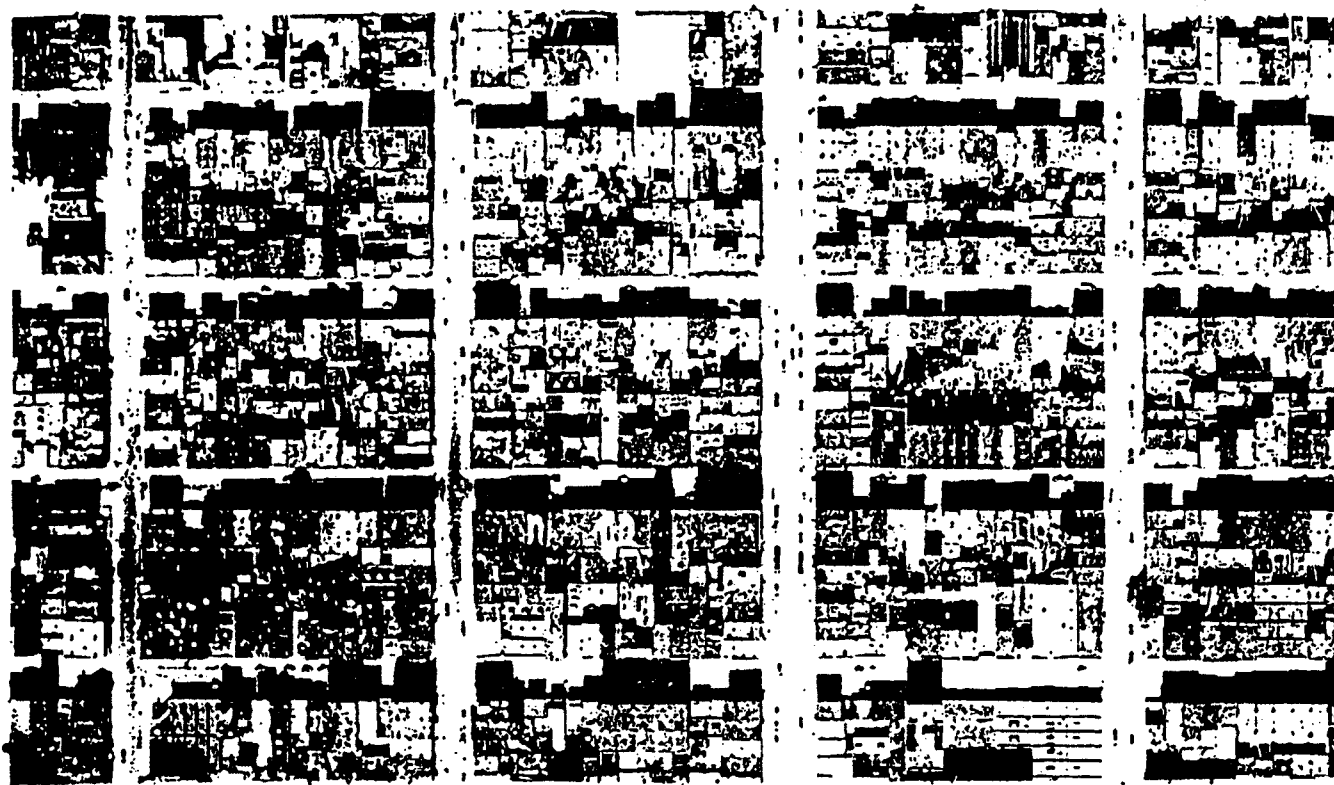
PROPOSED BUILDING AREAS



SUMMARY

BUILDING AREA	160,000 *	22.04 ACRES
PARK & SCHOOL SITE	192,000 *	4.41 "
NET PROJECT AREA	1,152,000 *	26.45 ACRES
AREA OF UNCLOSSED STREETS INCLUDING 1/2 OF BOUNDING STREETS	306,600 *	7.04 "
TOTAL GROSS AREA FOR PURPOSE OF CALCULATING DENSITY OF POPULATION (1870-780)	1,458,600 *	33.49 ACRES

TITLE	
DRAFTING AREA	
WILLIAMSBURG PROJECT	
DATE OF CHECKED BY	491
DATE FOR 18194	56
SCALE 1/8" = 1'-0"	



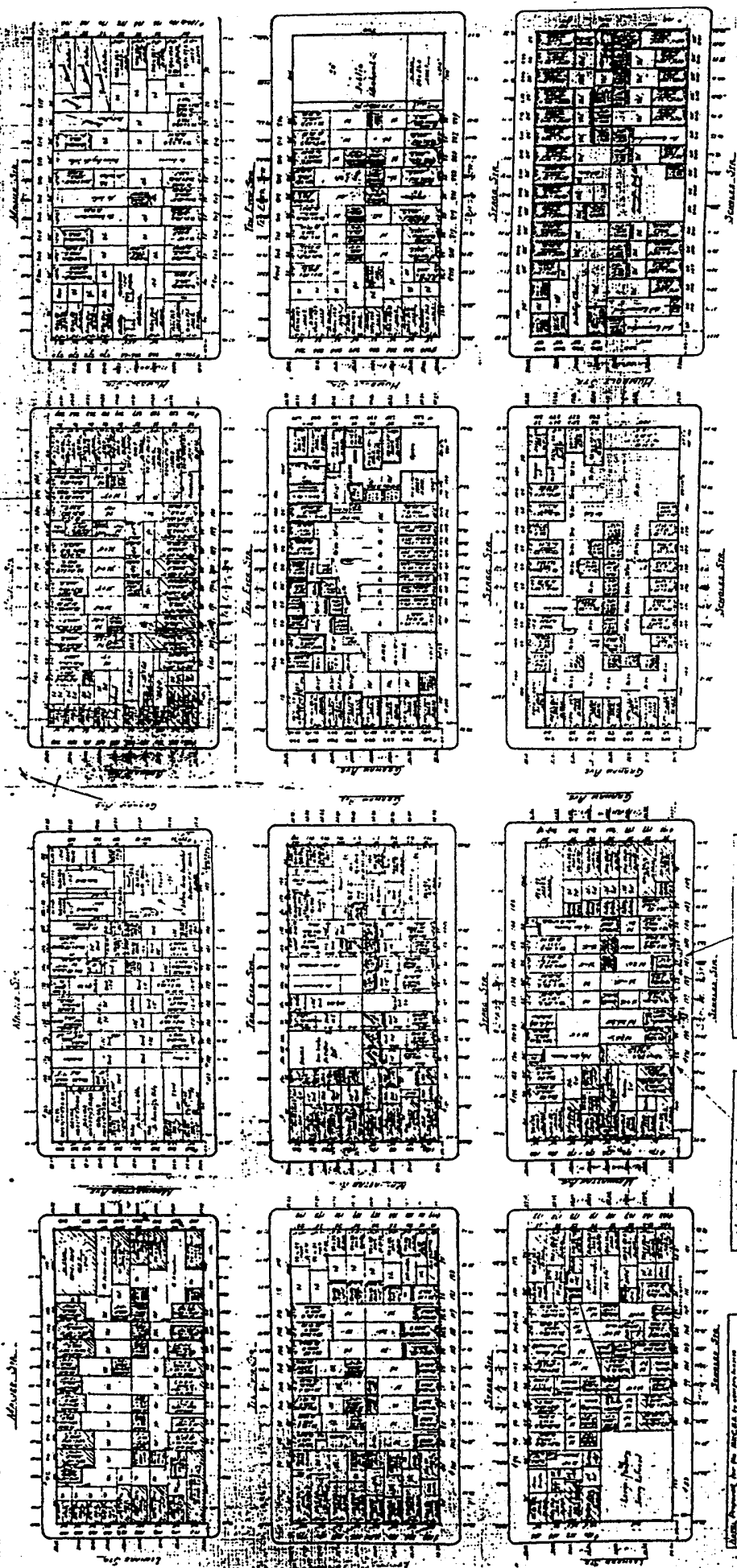
AIRAL PHOTOGRAPH OF WILLIAMSBURG SITE

NEW YORK CITY HOUSING AUTHORITY

THE SITE (Continued)

Sub-Surface Conditions and Elevations of Project

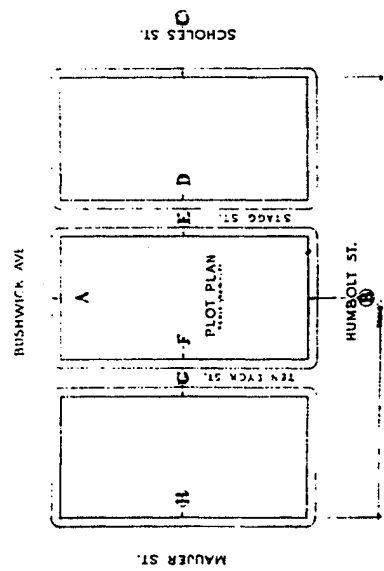
- (1) The map of Sub-Surface Conditions contains all the facts available from the sources noted.
The Office of the Borough President of Brooklyn is engaged in working out the changes in service lines involved in the closing of Ten Eyck and Stagg Streets. No important utilities lie within these streets.
- (2) The map showing the elevations of yards and cellar bottoms with reference to curbs discloses that if the entire area of twelve blocks, including streets to be closed were graded to warped planes following the pitch of existing curbs such warped planes would lie approximately 7" below present curbs.
- (3) Cross Section, showing elevation of cellar bottoms, yards, etc., with reference to the curb have been prepared for the entire area.

[illegible]

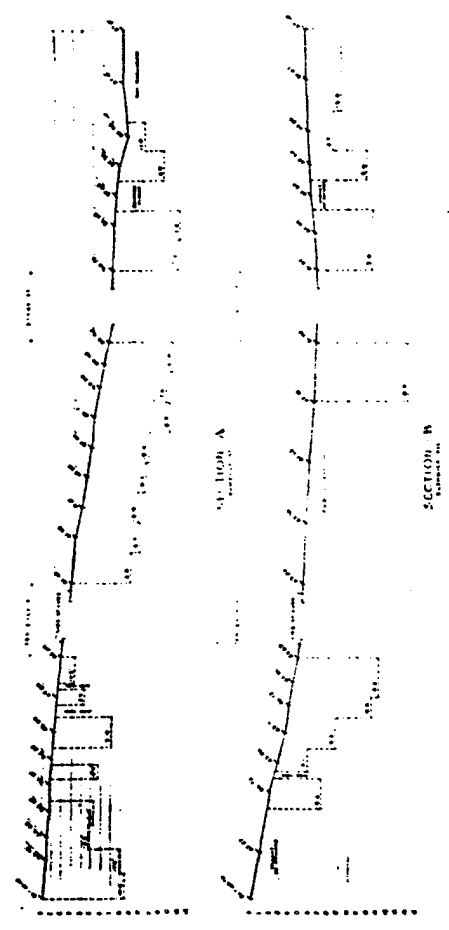
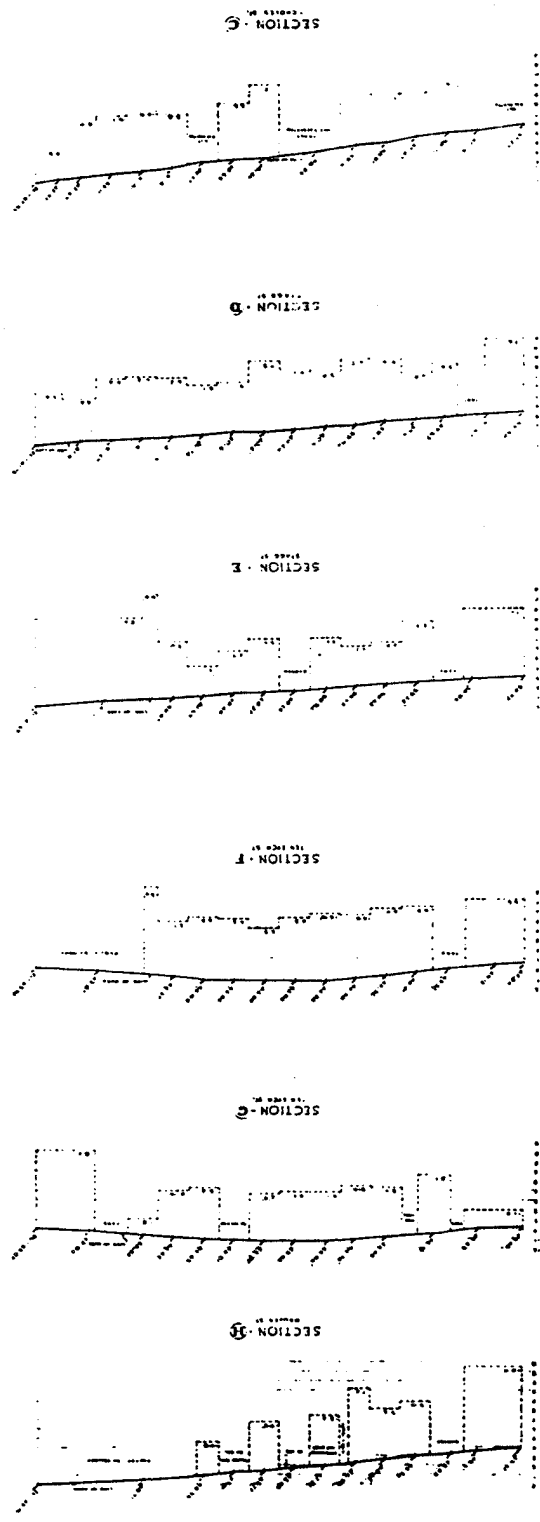


PRESENT
CURB AND CELLAR ELEVATIONS

HORIZONTAL SCALE 1/32" = 1'-0"
VERTICAL SCALE 1/4" = 1'-0"



NEW YORK CITY HOUSING AUTHORITY
WILLIAMSBURG PROJECT



DISTRIBUTION OF POPULATION WITHIN THE AREA

(1) An attached chart gives the distribution of apartments by rentals paid, number of rooms occupied and number of persons in apartments within the 16 block area as originally surveyed. The distribution within the 12 block project may be assumed as the same as in the 16 blocks.

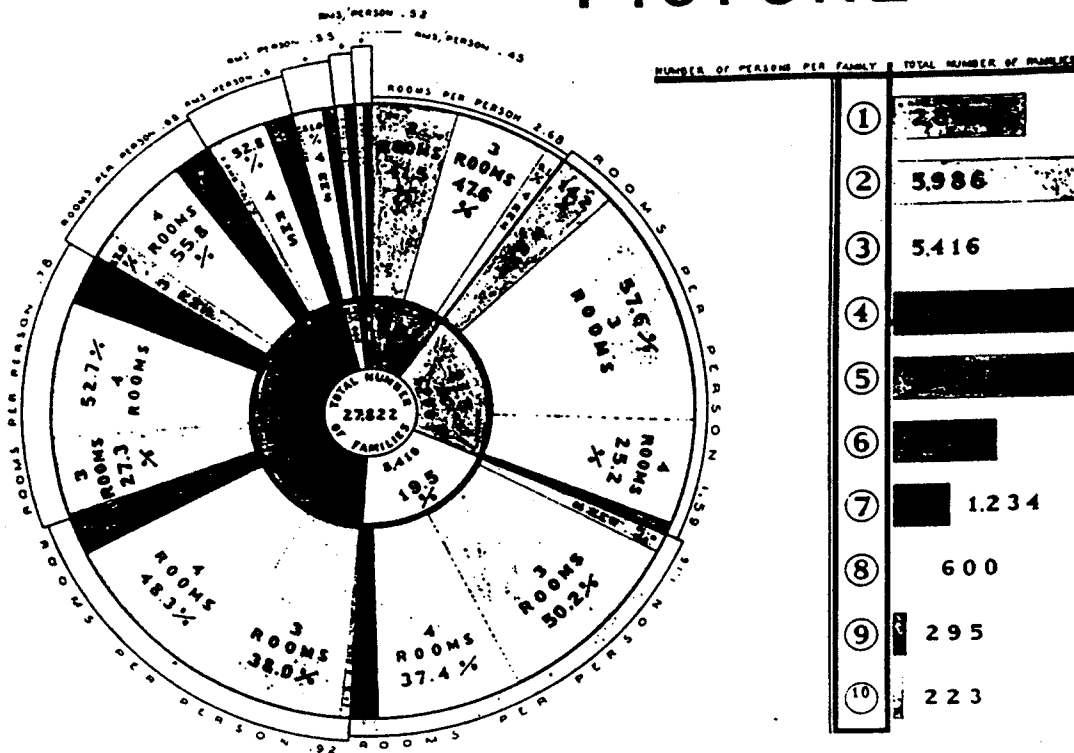
(2) A second chart gives the distribution as above for typical low rental areas of Manhattan and Brooklyn.

Compiled from the Survey of Capital Investment by Industry, 1934-1935.

Compiled from field survey of California Invertebrate Survey-June 22, 1934.

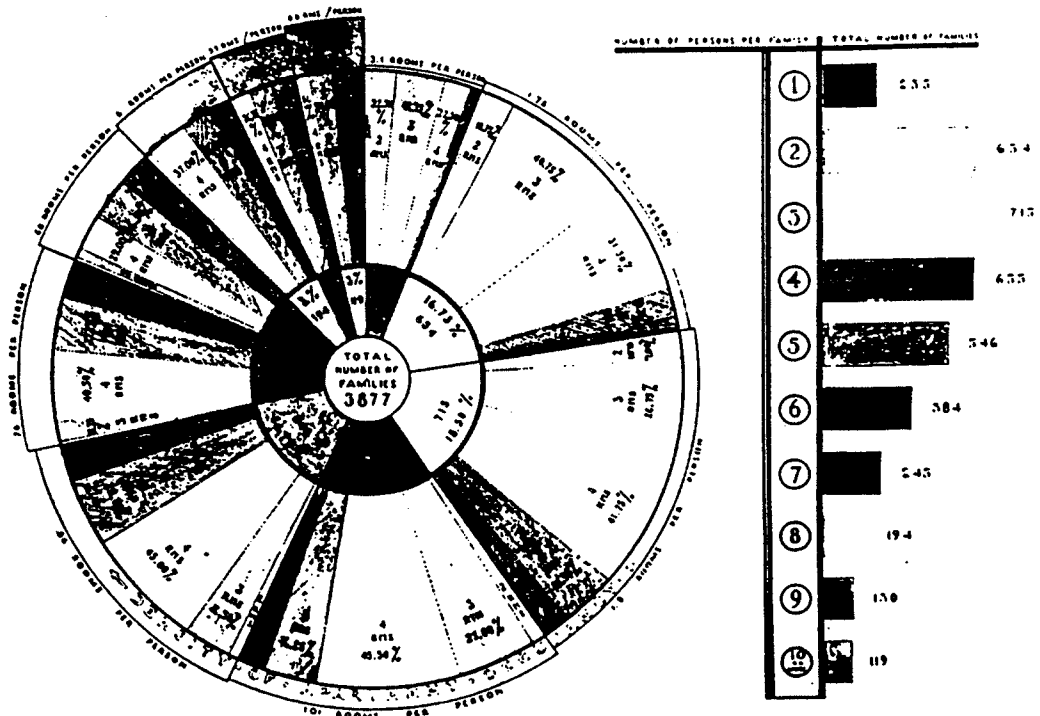
[illegible]

PICTURE OF A



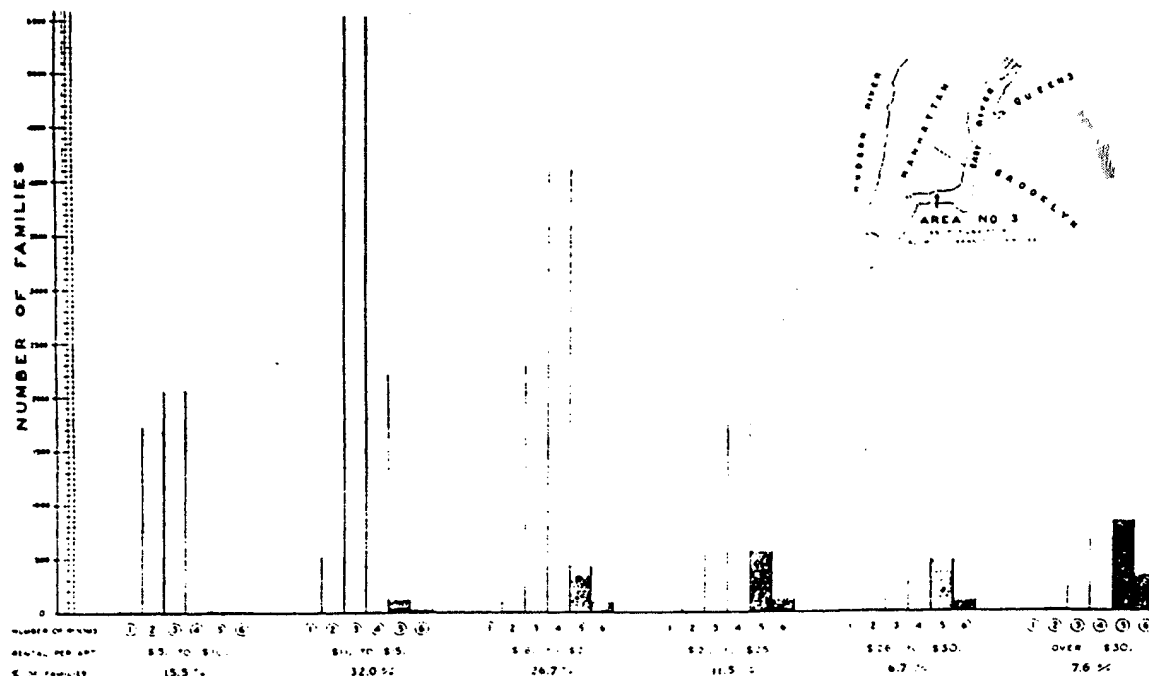
COLUMBIA UNIVERSITY HOUSING ORIENTATION STUDY - CAROL ARONOVICI DIRECTOR

PICTURE OF



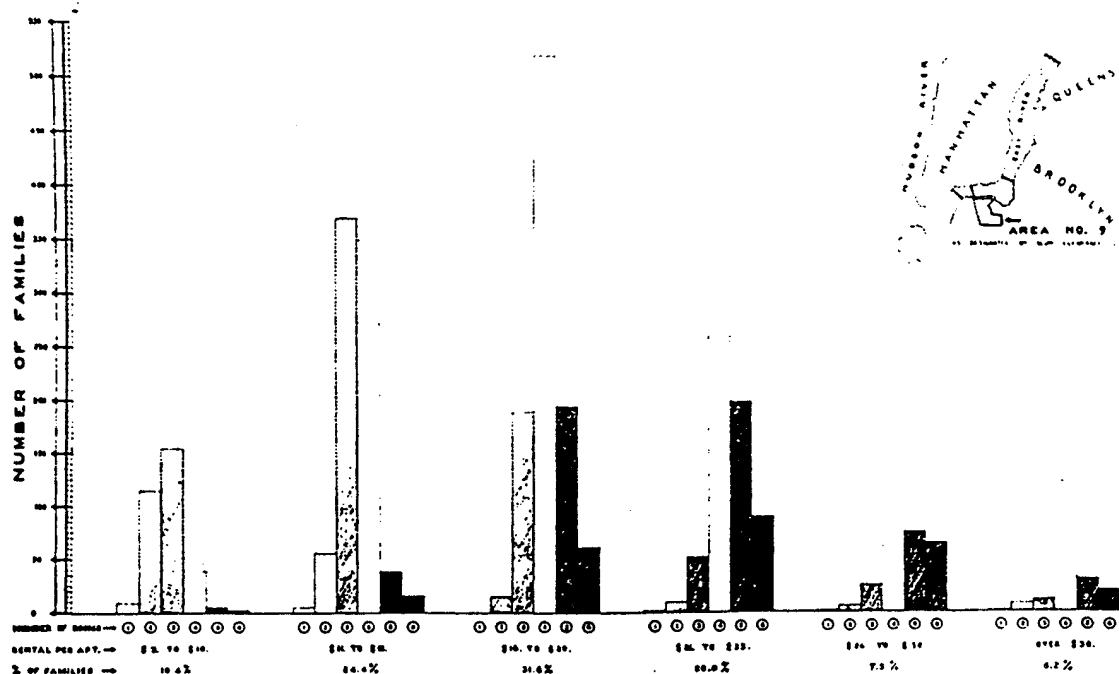
COLUMBIA UNIVERSITY HOUSING ORIENTATION STUDY - CAROL ARONOVICI DIRECTOR

NEIGHBORHOOD



RANGE OF RENTALS PAID BY FAMILIES FOR APARTMENTS OF VARIOUS SIZES
 BASED ON SURVEY OF 26,353 FAMILIES IN BOROUGH OF MANHATTAN, N.Y.C. JUNE 1934
 AREA NO. 3 AS DESIGNATED BY SLUM CLEARANCE COMMITTEE

A NEIGHBORHOOD



RANGE OF RENTALS PAID BY FAMILIES FOR APARTMENTS OF VARIOUS SIZES

BASED ON SURVEY OF 3786 FAMILIES IN BOROUGH OF BROOKLYN, N.Y.C.
 AREA NO. 9 - APRIL 1934 - COLUMBIA UNIVERSITY HOUSING ORIENTATION STUDY
 CAROL ARONOVIC, DIRECTOR

PRESENT STORES WITHIN THE AREA

The chart and diagramatic plan attached give the results of a survey covering use and occupancy of stores within the area.

SEE Appendix II

NEW YORK CITY HOUSING AUTHORITY
 COMPILED BY
 NEW YORK CITY HOUSING AUTHORITY
 ACCORDING TO: CLASSIFICATION-NUMBER-STREET FRONTAGE-
 WILLIAMSBURG AREA

COMPILED SURVEY OF BUSINESS
 WILLIAMSBURG AREA
 DISTRIBUTION BY BLOCKS: NUMBER OF STORES AND STREET FRONTAGE IN EACH BLOCK

DATE: 10-1-54
 BY: [Signature]
 CHECKED BY: [Signature]

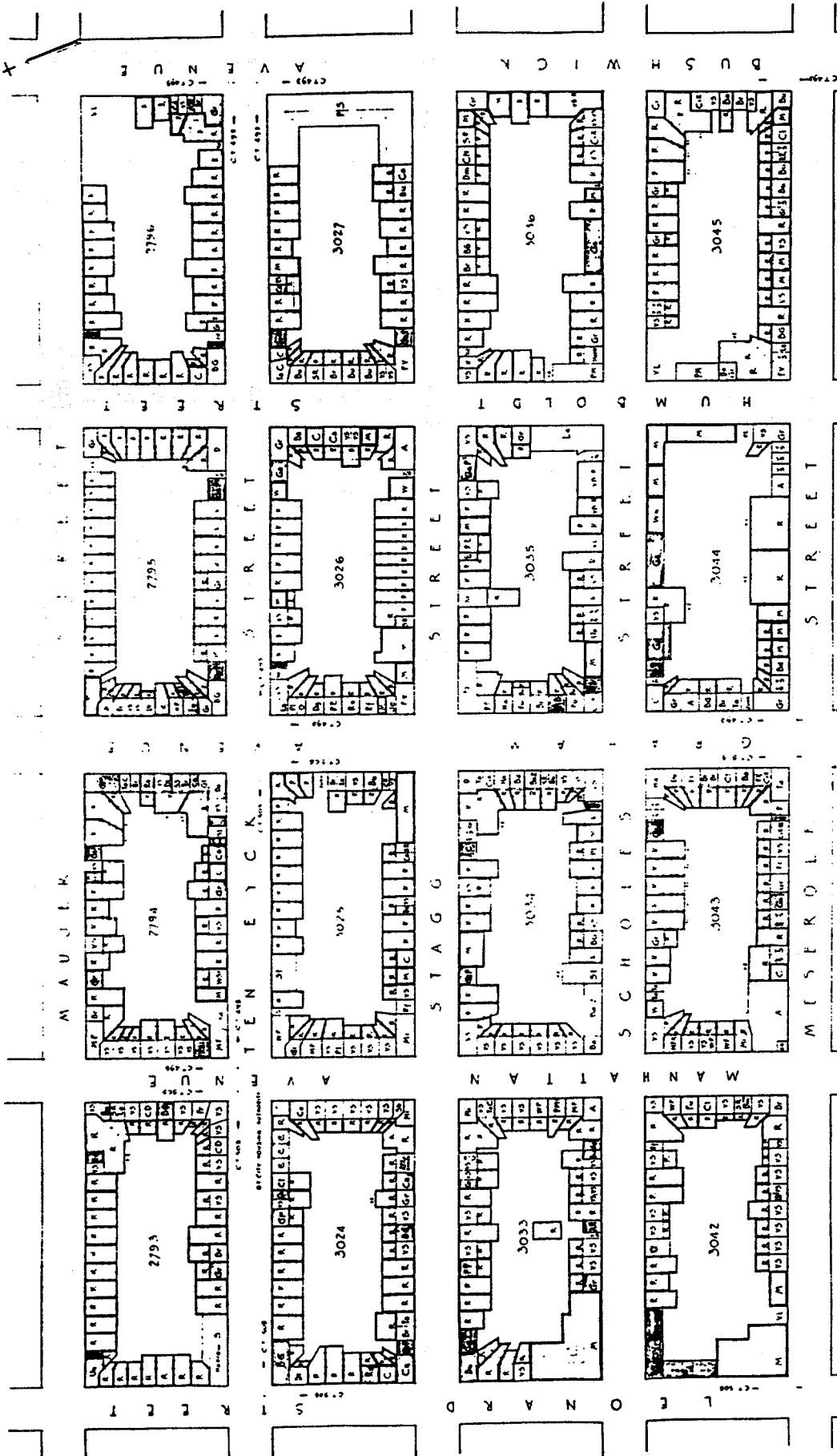
SYMBOL	KIND OF BUSINESS-ESTAB.	NUMBER OF STORES	STREET FRONTAGE	2793	2794	2795	2796	3024	3025	3026	3027	3033	3034	3035	3036
1 DU	BUTCHER SHOPS	9	186'-0"	1 13'-0"	1 13'-0"	1 13'-0"	1 13'-0"	1 13'-0"	1 13'-0"	1 13'-0"	1 13'-0"	1 13'-0"	1 13'-0"	1 13'-0"	1 13'-0"
2 GR	GROCERIES	19	412'-0"	2 40'-0"	3 75'-0"	2 61'-0"	2 43'-0"	1 75'-0"	1 25'-0"	1 25'-0"	4 100'-0"	2 37'-0"	1 11'-0"	1 25'-0"	2 50'-0"
3 BA	BAKERIES	3	63'-0"												
4 DAZ	ditto - DAKING ON PREMISES	2	98'-0"												
5 FV	Fruits and Vegetables	4	98'-0"												
6 DM	Public Markets - Groc. Meats - Dairy - Fruit - Veg.	2	50'-0"												
7 DA	DAIRY	2	25'-0"												
8 CN	CANDY AND NUT SHOP	2	55'-0"												
9 CA	CONFECTIONERY - CANDY - FOUNTAIN	11	291'-0"	2 36'-0"	1 13'-0"	1 10'-0"	4 86'-0"	1 25'-0"	1 13'-0"	1 25'-0"	2 37'-0"				
10 RE	RESTAURANTS	1	13'-0"	1 13'-0"											
11 DI	DELICATESSENS	1	13'-0"												
12 CL	CLUBS	3	72'-0"	1 25'-0"	1 25'-0"	1 20'-0"	1 25'-0"	1 25'-0"	1 25'-0"	1 25'-0"	1 20'-0"	1 25'-0"	1 24'-0"		1 73'-0"
13 BG	Beer, Garden and Bar	7	165'-0"	2 50'-0"	2 50'-0"	1 20'-0"	1 25'-0"	2 48'-0"	2 48'-0"						
14 ME	Mens Furnishings	5	123'-0"												
15 MF	ditto - with Hats and Shoes	0	0												
16 CM	Clothing - Men - Women - Children	1	25'-0"												
17 WF	Womens Wear - Coats - Suits - Dresses	1	25'-0"												
18 DM	Dressmakers	3	31'-0"												
19 TA	Custom Tailors	3	31'-0"												
20 MI	MILLINERY	3	31'-0"												
21 SH	Shoes - Men - Women - Children	1	15'-0"												
22 PR	Rugs	1	25'-0"												
23 HO	Second Hand Goods	1	25'-0"												
24 LA	Launderies	4	70'-0"												
25 CL	Cleaning and Drains	3	60'-0"												
26 TA	TAILORS	2	34'-0"												
27 BR	BARBER AND BEAUTY SHOPS	10	186'-0"	1 25'-0"	3 43'-0"	1 10'-0"	1 10'-0"	1 20'-0"	1 12'-0"	1 14'-0"	1 25'-0"		1 14'-0"	1 25'-0"	1 25'-0"
28 SR	Shoe Repair Shops	6	98'-0"												
29 SS	Shoe Shining Parlors	1	15'-0"												
30 FU	Household Furnishings	3	70'-0"												
31 DR	DRY GOODS	1	25'-0"												
32 DP	DRESSING	1	21'-0"												
33 UP	UNDOCTORY SHOP	1	25'-0"												
34 RA	R A B I O S	2	45'-0"												
35 DR	DRUG STORES	2	45'-0"												
36 CI	CIGAR AND TOBACCO	0	0												
37 CX	ditto - with Dry Meats and Meats	4	70'-0"												
38 HA	HARDWARE STORES	2	40'-0"												
39 FL	FLOORING AND GREENHOUSE	1	30'-0"												
40 TE	TELEPHONY	1	13'-0"												
41 PR	PRINTING	1	18'-0"												
42 GA	Public Automobile Garages	3	125'-0"												
43 GA	ditto - with Accessories	0	0												
44 GA	PRIVATE Automobile Garages	14	284'-0"	1 10'-0"											
45 AC	Automobile Accessories	1	25'-0"												
46 AR	Automobile Repair Shop	1	16'-0"												
47 FS	Automobile Filling Station	0	0												
48 MD	Motorcycles and Bicycles	2	40'-0"												
49 ST	STABLES	1	25'-0"												
50 GL	GLASS - Plate and Window	1	13'-0"												
51 PI	Plumbing Contractors - Pipes, Sinks, Stoves	3	53'-0"												
52 HP	Heating, Venting, and Air Conditioning Supplies	1	18'-0"												
53 RO	Roofing	2	45'-0"												
54 SI	Steel and Iron	3	95'-0"												
55 JO	JOINT	1	20'-0"												
56 NO	NOTED	1	20'-0"												

TOTAL OCCUPIED STORES 169 3679'-0"
 TOTAL VACANT STORES 86 1675'-6"
 TOTAL NUMBER STORES 255 5354'-6"

NOTE: Industrial, Wholesale, Manufacturing and Educational Buildings Omitted

REVISIONS	DATE	BY	REASON
1	10-1-54	[Signature]	Initial Survey
2	10-1-54	[Signature]	Correction of Errors

TITLE	Block Distribution Schedule BUS. & RES. SURVEY WILLIAMSBURG AREA
DATE	10-1-54
BY	[Signature]
REASON	Initial Survey



BUSINESS AND RESIDENTIAL FRONTAGE SURVEY
 BUREAU OF BUSINESS RESEARCH
 COLLEGE OF THE CITY OF NEW YORK
 DIRECTOR: S. BRADFORD

110 11
 SURVEY taken during last half of 1946.
 FOR ALL IN STREETS AND GRADUALLY SET WORKING, SURVEY TAKEN JAN. 1946.
 SOLID COLORED LINES SHOW BUILDING FOOTPRINTS AND ALL SPACES
 OUTLINE IN DASHED LINES SHOW BUILDING FOOTPRINTS AND ALL SPACES
 OUTLINE IN DASHED LINES SHOW BUILDING FOOTPRINTS AND ALL SPACES
 OUTLINE IN DASHED LINES SHOW BUILDING FOOTPRINTS AND ALL SPACES

BASIC ASSUMPTIONS

An extended study of use and occupancy of structures in slum and blighted areas and of 23 Housing projects built between 1903 and 1933 in New York led to the establishment of the following as conditions which would best serve the requirements and needs:

Gross Area per Room - average in project 200 sq.ft. (3)

Net Area per Room - range in project 120-130 sq.ft. (3)

Height 4 and 6 stories (4) (5)

Coverage 32.4%

- (3) For the main body of facts upon which these conclusions are based see Appendix III - "Survey of 23 Low Cost Housing Projects in N.Y.C."
- (4) See Appendix IV - "Chart Showing Vacant and Occupied Apartments in Residential Buildings", also "Summary: Vacancies in Walk-up Apartments" in "Survey of 23 Low Cost Housing Projects" in Appendix II.
- (5) See Appendix V for a discussion of Height.

DISTRIBUTION OF APARTMENTS BY ROOMS AND PERSONS*

Surveys disclosing the distribution of families by persons within the lower income of lower rent paying brackets serve merely to define the aims of housing under current conditions of first cost and cost-of-use. Except for a small percentage of families within these brackets, apartments of 5 or more rooms are definitely beyond their reach. The high cost-of-use of one and two room apartments, if provided with cooking facilities makes their introduction in any considerable quantity a dubious venture.

Caution is required, however, in applying the facts of surveys to the present or to projects financed under low interest rates and long term amortization. It is probable that, with rents averaging \$7.00 in a project the demand for apartments would shift toward a larger number of rooms per apartment than in projects where the average rent is \$10.00 or \$12.00.

Opinion is divided in respect to the introduction of combination kitchen and living room. Facts as to the rentals paid and the number of such occupied rooms in existing housing projects seems to warrant the introduction of a limited number of such combination rooms in two and three room apartments.

*See Appendix 7

DISTRIBUTION OF APARTMENTS BY ROOMS AND PERSONS (cont.)

The distribution of apartments by rooms and by persons is based upon a study of occupancy in the 23 housing projects, modified in the light of probabilities due to the introduction of lower rental per room in this project. (1)

(1) See Appendix III

UNIT APARTMENT PLANS

The following characteristics should be noted as representing the outcome of the study:

- (a) Universal width of cross section with no departures from straight runs of exterior wall except as it occurs in the simple form of the tee and cross plans.
- (b) All units with straight end connections.
- (c) Center line of supports located upon longitudinal axis of all plan forms. All plans reversible over both transverse and longitudinal axis to meet conditions of orientation and outlook.
- (d) Universal length of floor slabs for all forms of plans.
- (e) No interference with plumbing and heating lines and floor beams when single slab construction is used.
- (f) Smooth ceilings with no exposed beams except in one instance in tee plans.

- (g) High efficiency in retardation of sound from story to story if stone concrete slab be used.
- (h) The ready application of these units to any type of site plan likely to be considered.

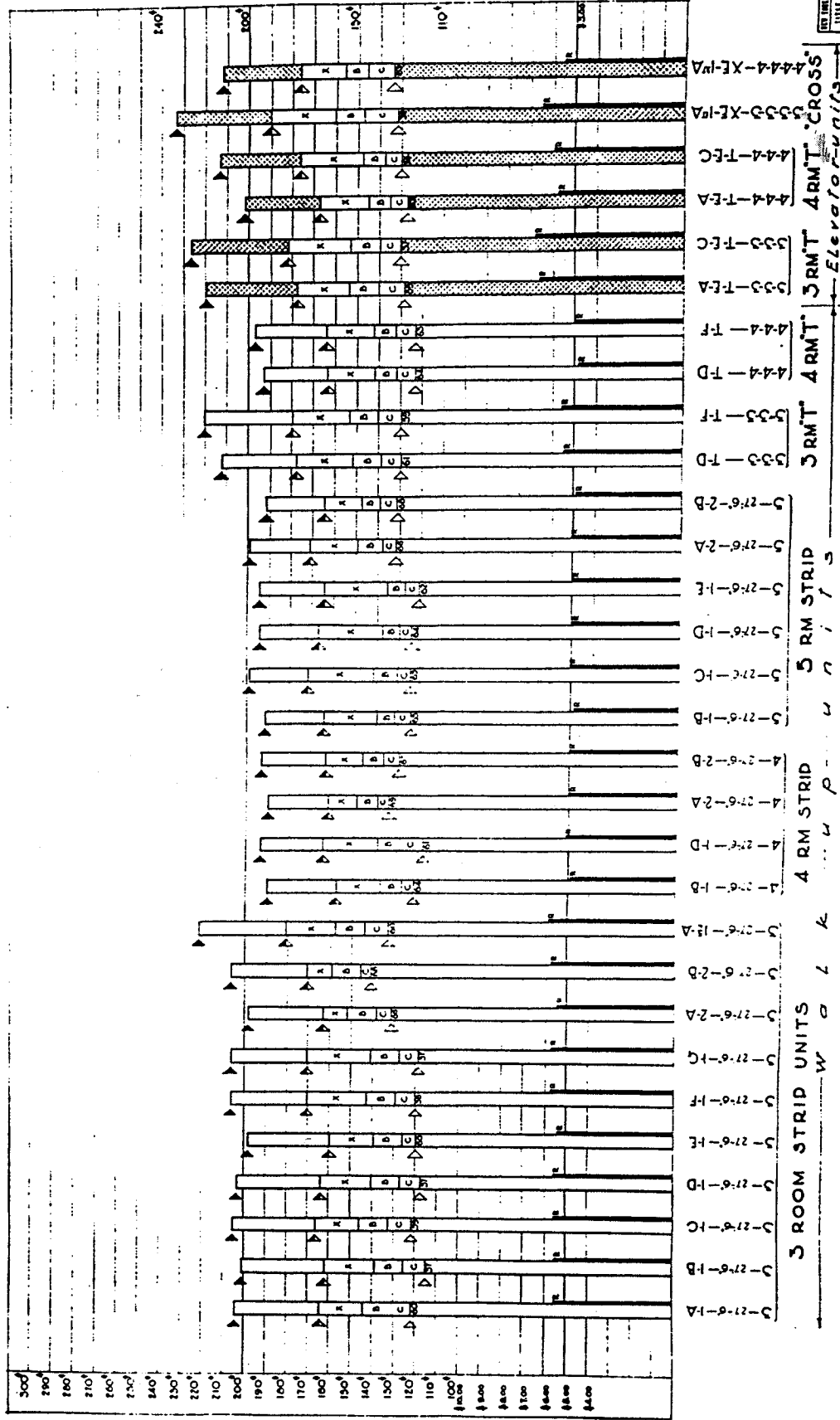
Note: For the relation between these unit apartment arrangements expressed in terms of cost-of-use per room per month see graph next sheet.

NEW YORK CITY HOUSING AUTHORITY

GRAPHIC ANALYSIS OF COMPARATIVE APARTMENT PLANS. 12/11/34

Columns indicate Unit with Elevators
 Indicates Average Gross Room Area
 Apartment Area per Room
 Net Room Area
 C or Red portion of Columns indicates Average Area of Closets per Room
 D- Yellow
 X- Blue

Figures in main Columns indicate percentage of Efficiency of Plan;
 (Net Room Area compared to Gross Room Area)



ROOMS-Only full kitchens (with door & window) Living Rooms are considered as part of Kitchen Kitchens as Rooms, Dining Alcoves being considered as part of Kitchen Kitchens as part of Living Rooms
 APARTMENT AREA-Area within interior faces of bounding walls of Apartment

GROSS ROOM AREA-Gross Area of typical floor, including outside walls, divided by number of Rooms on typical floor
 NET ROOM AREA-Sum of Net Areas of Rooms on typical floor divided by number of Rooms on typical floor

NEW YORK CITY HOUSING AUTHORITY
 ANALYSIS OF COMPARATIVE APARTMENT PLANS
 12/11/34
 100'

NUMBER OF ROOMS
OCCUPANCY
AVERAGE GROSS ROOM AREA
GROSS AREA RENTAL PER RM
AVERAGE NET ROOM AREA
PERCENTAGE OF EFFICIENCY
STORAGE SPACE PER ROOM (WARDROBES & CLOS)
PERCENTAGE OF EFFICIENCY (INCL STORAGE SPACE)
AVERAGE SIZE OF LIVING ROOM
AVERAGE SIZE OF CHAMBER
AVERAGE SIZE OF KITCHEN
LINIAL FEET OUTSIDE WALL PER RM
OUTSIDE WALL RENTAL PER ROOM
LINIAL FEET PARTITION PER RM
PARTITION RENTAL PER ROOM
STAIRS INCINERATOR PER ROOM
STAIRS INCINERATOR RENTAL PER ROOM
PLUMBING ARRANGEMENT
PLUMBING RENTAL PER ROOM
ELEVATOR PER ROOM
ELEVATOR RENTAL PER ROOM
ADDITIONAL ENTRANCE DOOR PER ROOM
ADDITIONAL DOOR RENTAL PER ROOM
TOTAL RENTAL PER ROOM FOR ELEMENTS CONSIDERED

PLAN
DESIGNATION

NEW YORK CITY HOUSING AUTHORITY	
TITLE	
APARTMENT PLAN ANALYSIS	
DRAWN BY (CHECKED BY)	26
M.O. (NL M.F.)	2
DATE Oct. 3 RD '34	25

NEW YORK CITY HOUSING AUTHORITY		
TITLE <u>APARTMENT PLAN</u> <u>ANALYSIS</u>		
DRAWN BY W.G.C.	CHECKED BY H.L.M.C.F.	17 2
DATE Oct. 3 RD '34		16



NEW YORK CITY HOUSING AUTHORITY		
TITLE		
<u>APARTMENT PLAN</u>		
<u>ANALYSIS</u>		
DRAWN BY	CHECKED BY	3
N.E. #2	N.Y.C.H.A.	2
DATE	Oct. 3 RD '54	2

\$1

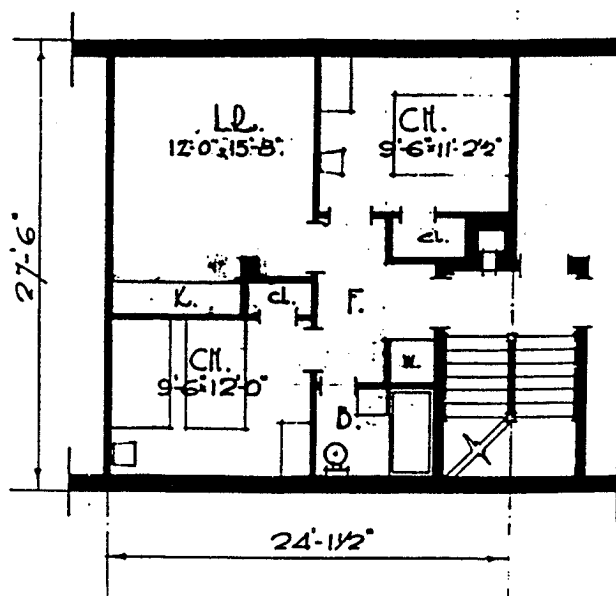
\$

\$

\$

\$

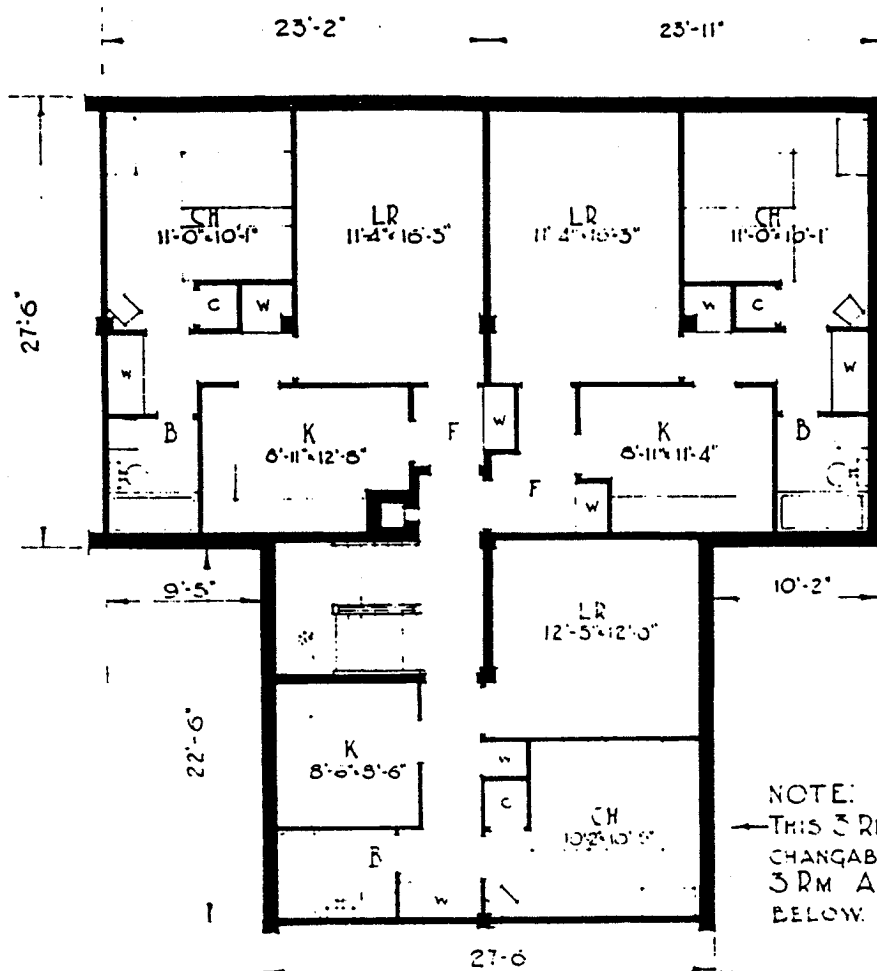
\$



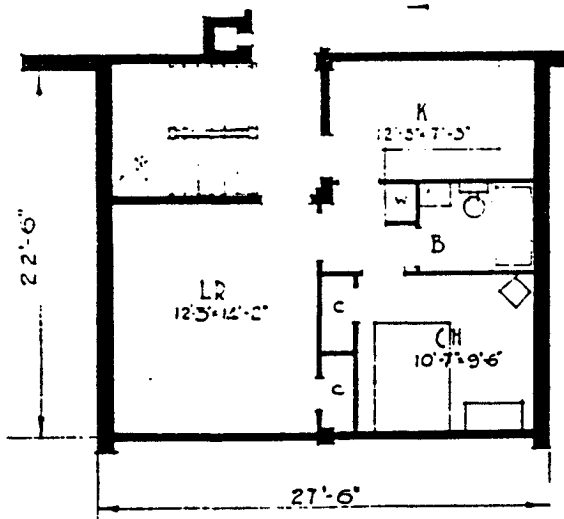
③

REVISIONS		
No.	DATE	
1.	10/3/34	Relocated Strip Kitchen Revised calculations

NEW YORK CITY HOUSING AUTHORITY		
TITLE		
APARTMENT PLAN ANALYSIS		
DRAWN BY	CHECKED BY	7
R.	R.L. M.P.	2
DATE	OCT. 3 RD '34	6

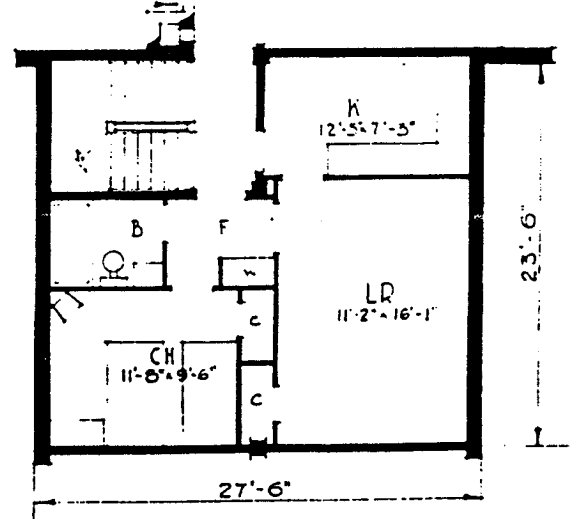


NOTE:
THIS 3 RMS APT. IS INTER-
CHANGABLE WITH THE
3 RM APTS SHOWN
BELOW.



WITH THIS UNIT SUBSTITUTED
TOTAL RENTAL PER RM = \$5.43

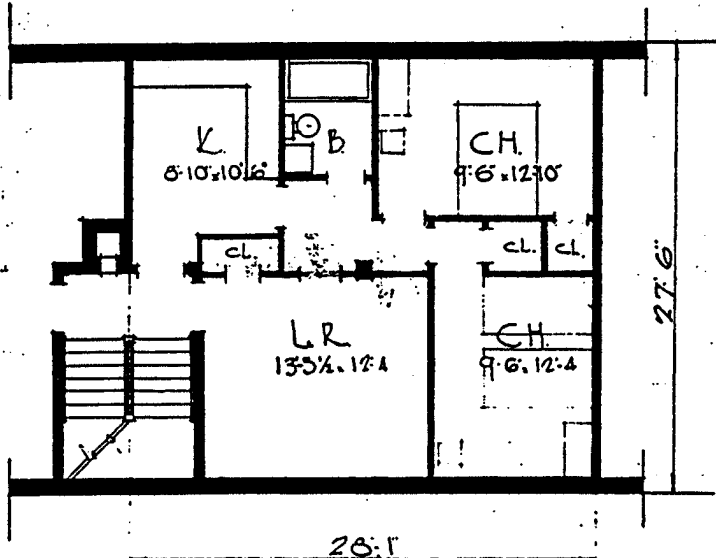
Avg. Net Rm. Area - 131.71⁹
Lin. Ft. Part p.Rm - 36'-2" = 51.14
Additional Entrance
Door p.Rm - III = 2.012



WITH THIS UNIT SUBSTITUTED
TOTAL RENTAL PER RM = \$5.52

Avg. Grog Rm. Area - 2157⁹ = 1.57
Net - 135.51⁹
Lin. Ft. Outside Wall p.Rm - 15'-8" = 1.92
Part. p.Rm - 37'-0" = 1.16
Plumb. Arrangement - 27'-1" = 1.41
Additional Entrance
Door p.Rm - III = 2.012

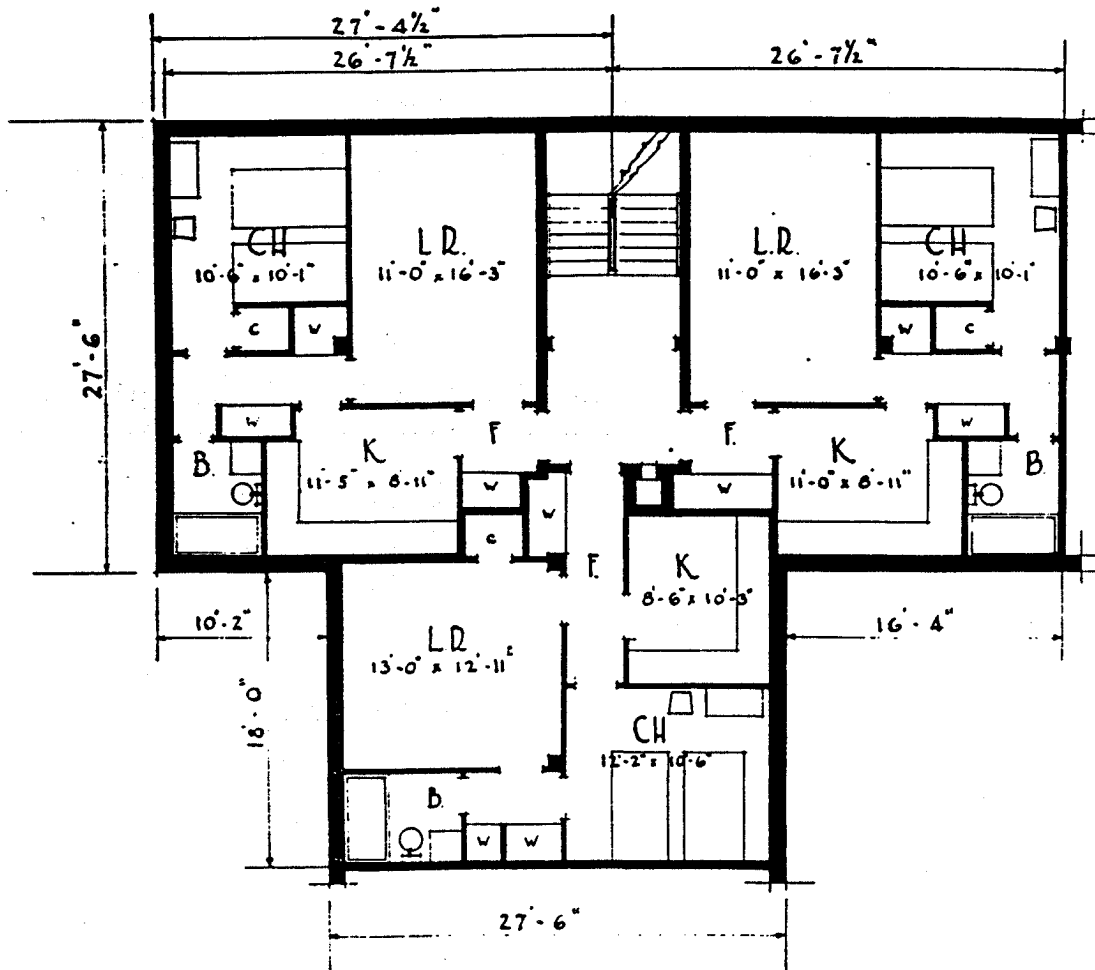
NEW YORK CITY	
TITLE APARTMENT PLAN ANALYSIS	
DRAWN BY H.L.M.F.F.	478
DATE: Nov 15, 1934	2
SCALE: 1/8" = 1'-0"	



④

REVISIONS		
NO.	DATE	DESCRIPTION
1.	10/2/34	Relocated L.R. Closet Revised Calculations.

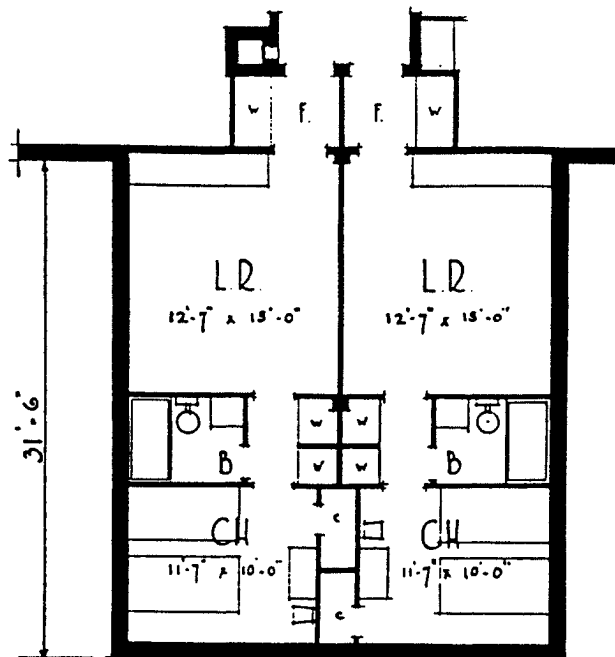
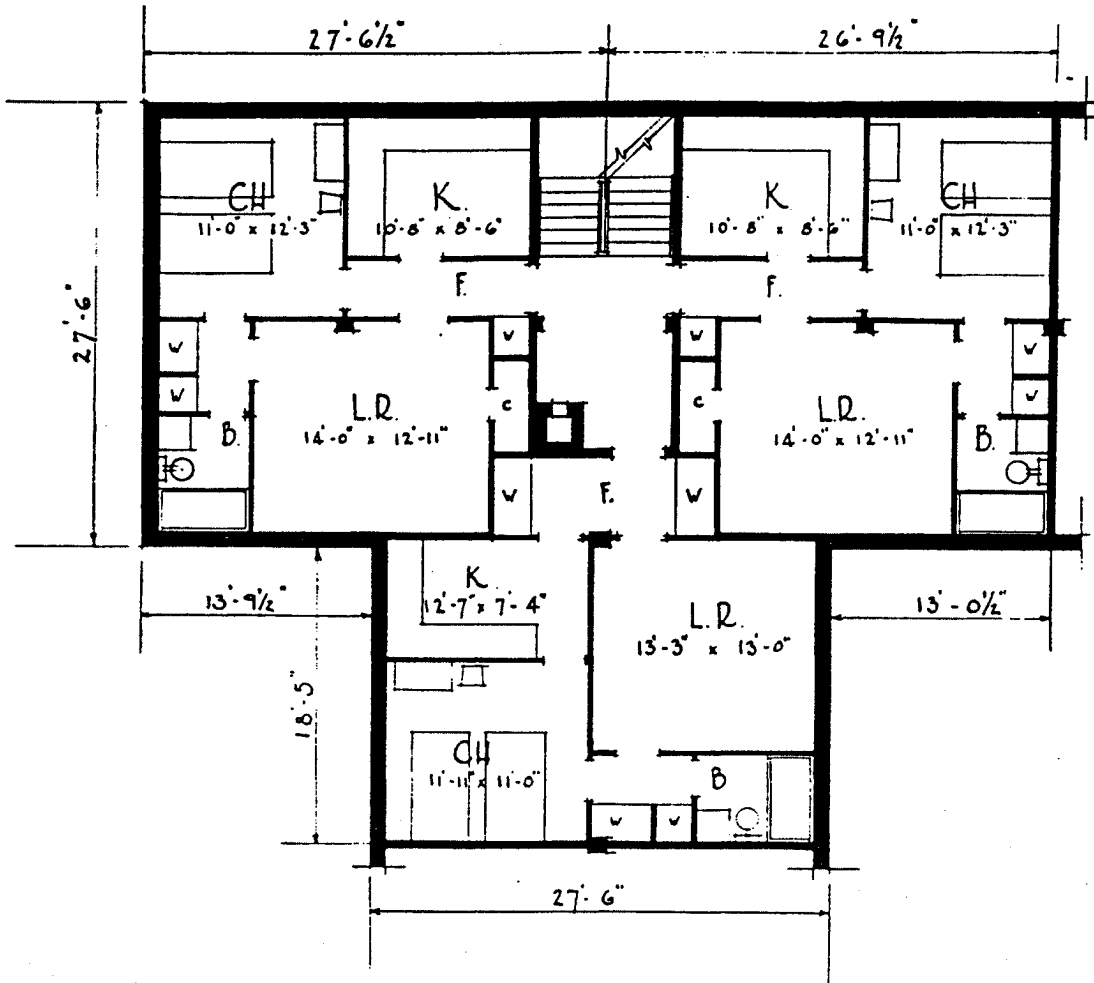
NEW YORK CITY HOUSING		
TITLE		
APARTMENT PLAN		
ANALYSIS		
DESIGNED BY	H.L.M.F.	11
ME.	H.L.M.F.	2
DATE	Oct 3 1934	10



33
3

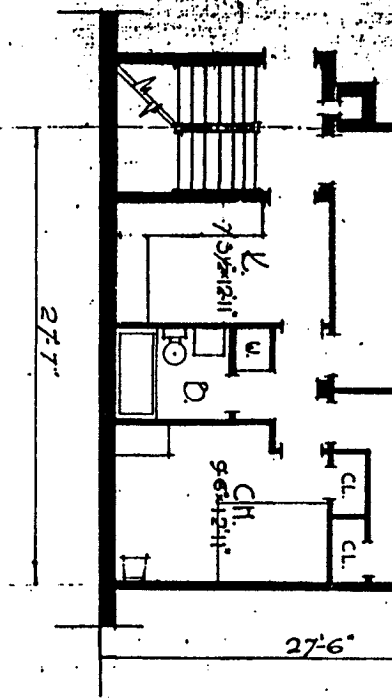
NEW YORK CITY HOUSING AUTHORITY			
TITLE			
APARTMENT PLAN			
ANALYSIS			
DRAWN BY	CHECKED BY	489	
T.C	H.L.M.P.	2	
DATE Nov. 15th '34		72	

33	10	236	172	141	60	11	64	184	125	90	181	244	301	120	10	64	173	-	-	-	-	617	3-3-2-2 T-G
2-2																							



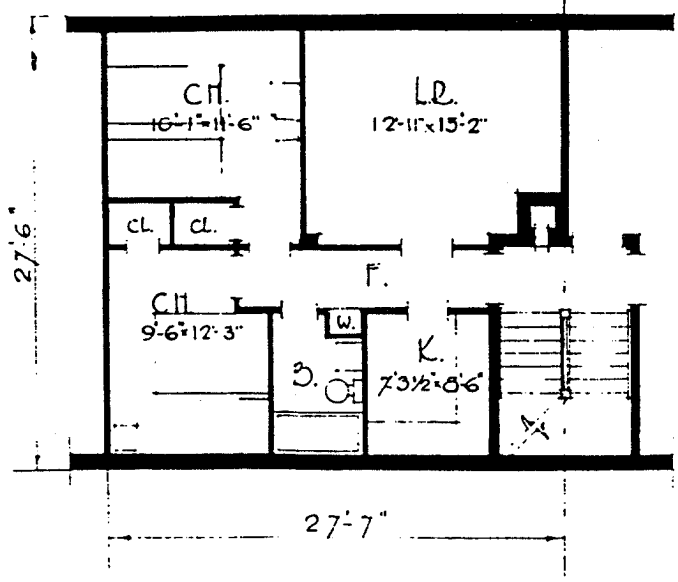
NEW YORK CITY HOUSING AUTHORITY	
TITLE	
APARTMENT PLAN	
ANALYSIS	
DRAWN BY	CHECKED BY
T.C.	W.L.M.F.
DATE Dec. 19 th '34	
498	2
102	
SCALE: 1/8" = 1'-0"	

2-2



4

NEW YORK CITY HOUSING AUTHORITY			
TITLE			
APARTMENT PLAN			
ANALYSIS			
DATE	CHECKED BY	DATE	CHECKED BY
Oct. 3, 1934	ALMIF.	10.	2.
		9.	



④

REVISIONS		
No.	DATE	
1	10/16/34	Revised CL's & location of beds. Revised calculations.

NEW YORK CITY HOUSING AUTHORITY

TITLE

APARTMENT PLAN ANALYSIS

DRAWN BY

CHECKED BY

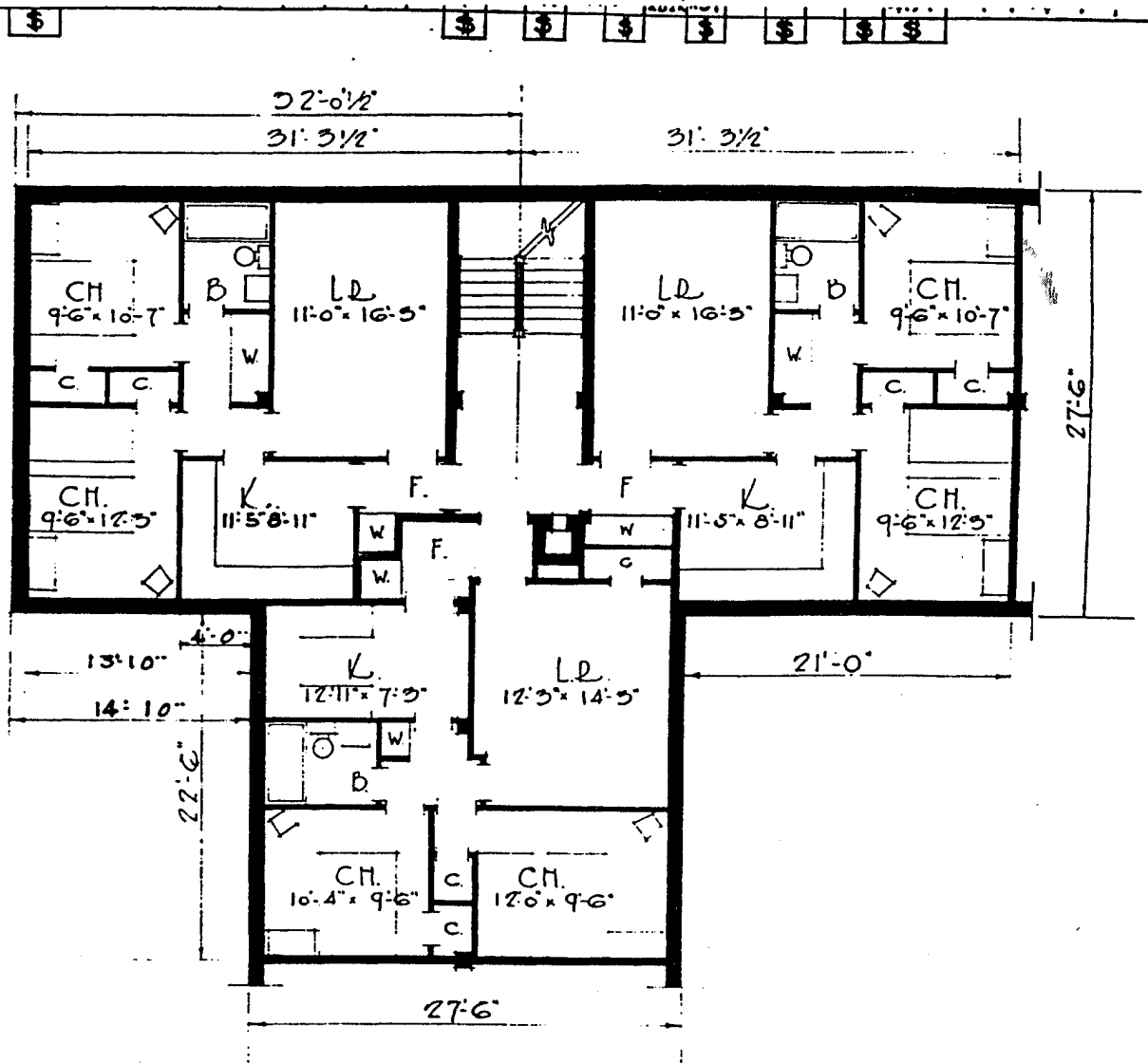
DATE

Ocr. 3rd 34

9

2

8



44
4

REVISIONS		
No.	DATE	Revised Designation
1	12-7-34	

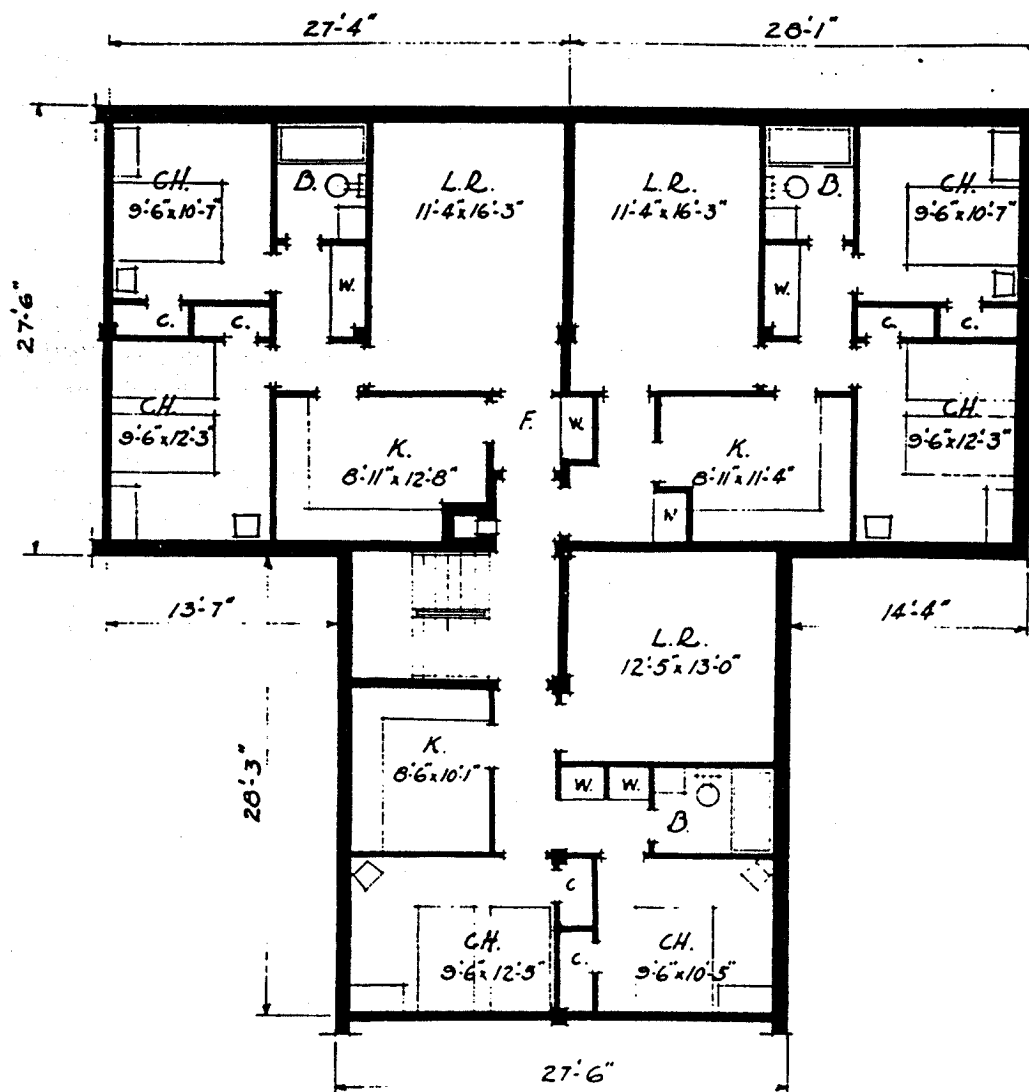
APARTMENT PLAN
ANALYSIS

PLAN NO. 465

BY: NLM-F 2

NOV 15, 1934 77

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



4.4
4.

REVISIONS			NEW YORK CITY HOUSING AUTHORITY		
No.	DATE		TITLE		
1	11-19-34	Revised Eagers.	APARTMENT PLAN		
2	12-1-34	Revised Designation.	ANALYSIS		
			DRAWN BY	CHECKED BY	426
			W.G.C.	H.L.M.F.	2
			DATE Oct. 16-34		50
SCALE: 1/8" = 1 FOOT					

\$

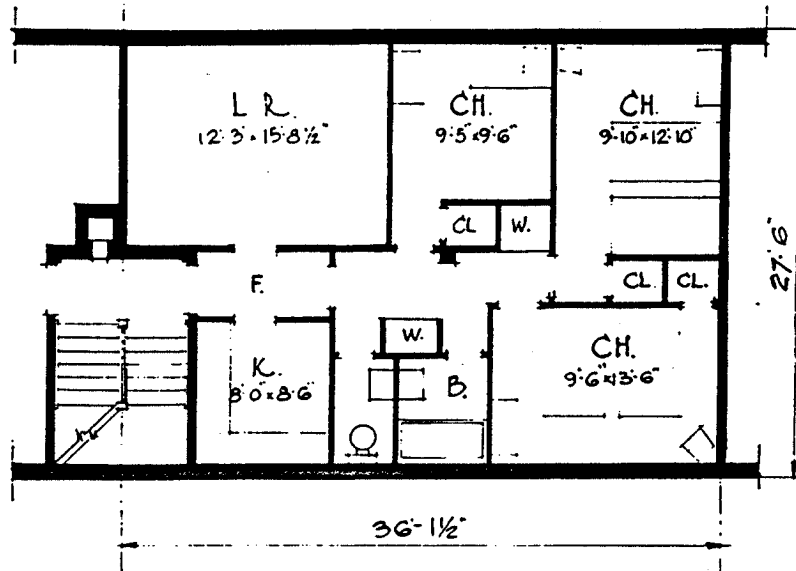
\$

\$

\$

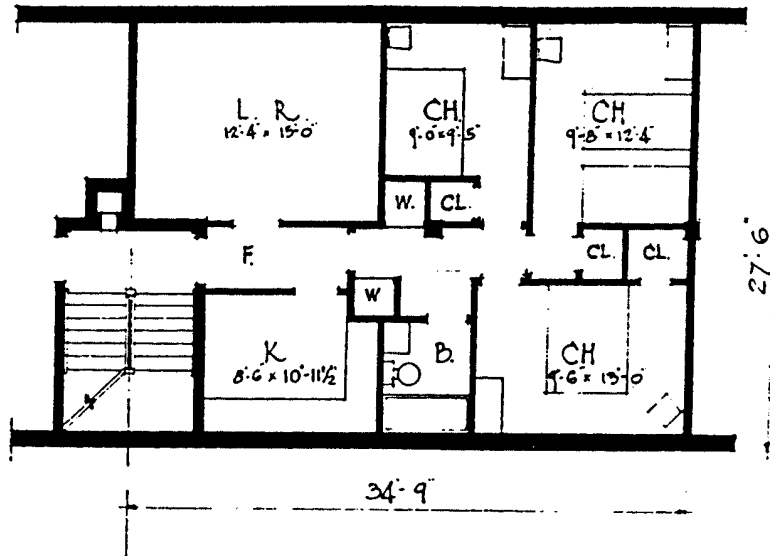
\$

\$



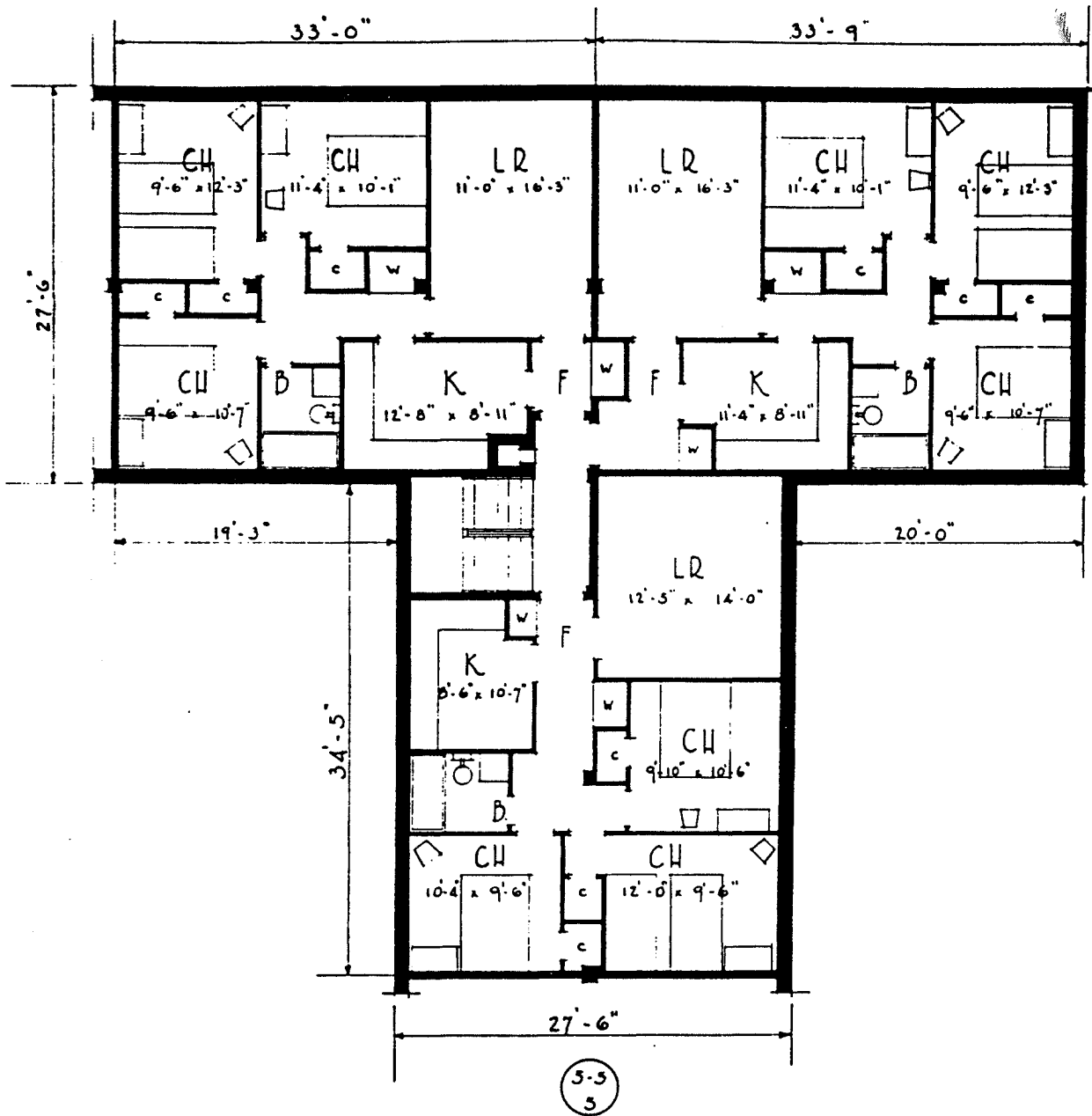
5

NEW YORK CITY HOUSING AUTHORITY			
TITLE			
APARTMENT PLAN			
ANALYSIS			
DRAWN BY	CHECKED BY	422	
I.L.L.	H.L. M.F.	2	
DATE Oct. 16 th '34		47	

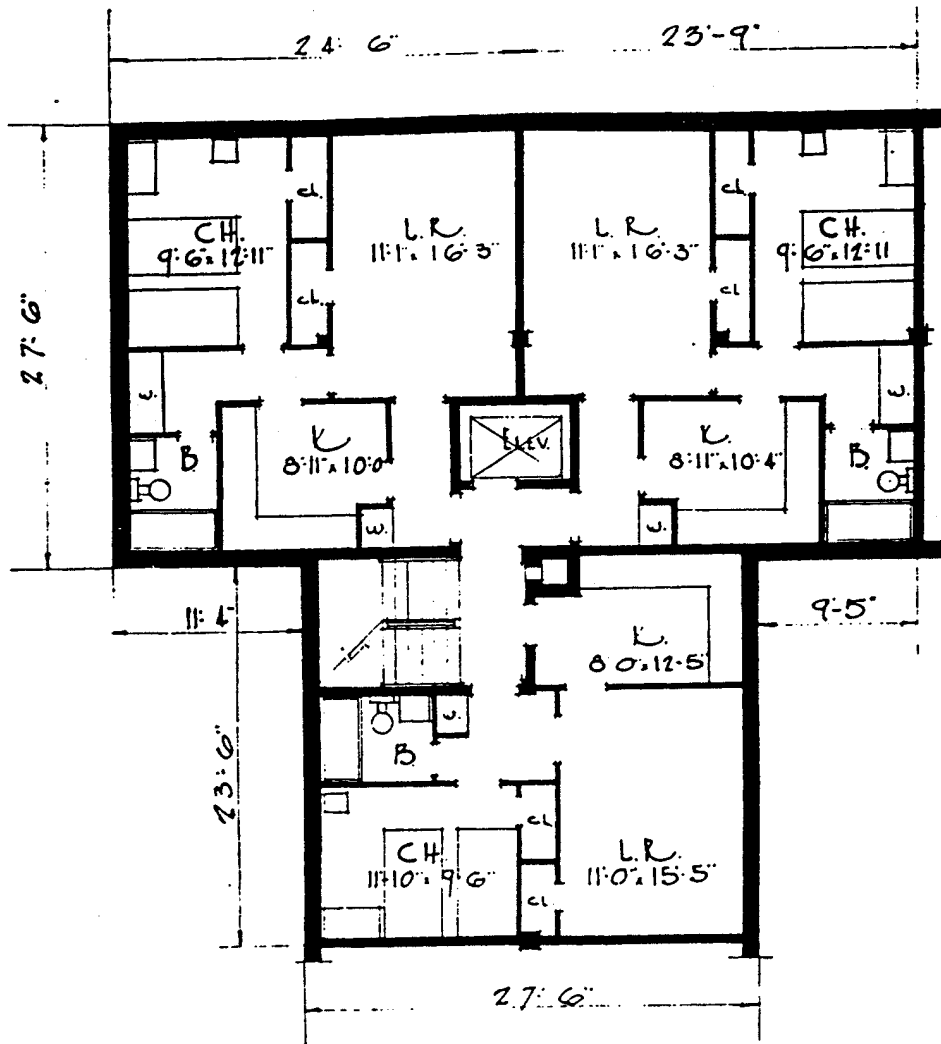


5

NEW YORK CITY HON. C. AD. H.			
TITLE			
APARTMENT PLAN			
ANALYSIS			
DRAWN BY	CHECKED BY	421	
I.L.L.	R.L.M.F.	2	
DATE Oct. 16 th '34		46	

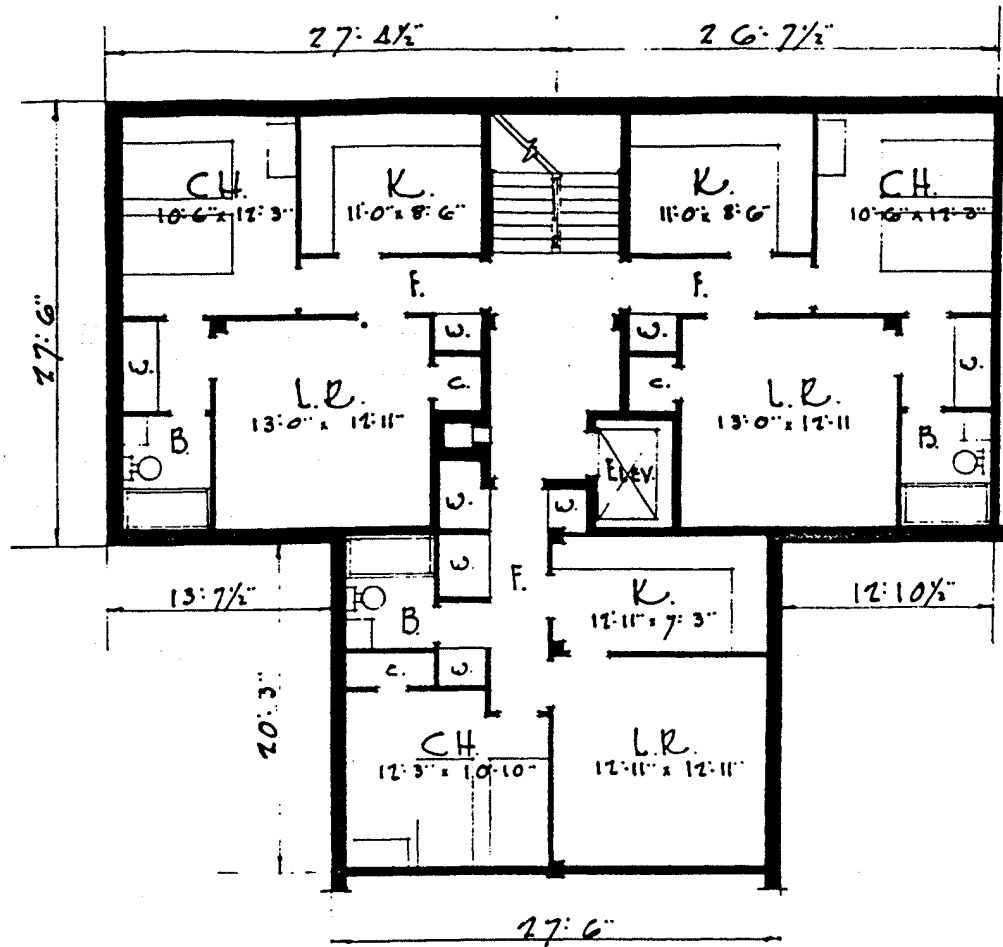


NEW YORK CITY HOUSING AUTHORITY			
TITLE			
APARTMENT PLAN			
ANALYSIS			
DRAWN BY	CHECKED BY	500	
T.C.	H.L.M.F.	2	
DATE DEC. 20 th 1934		104	
SCALE: 1/8" = 1'-0"			



53
3

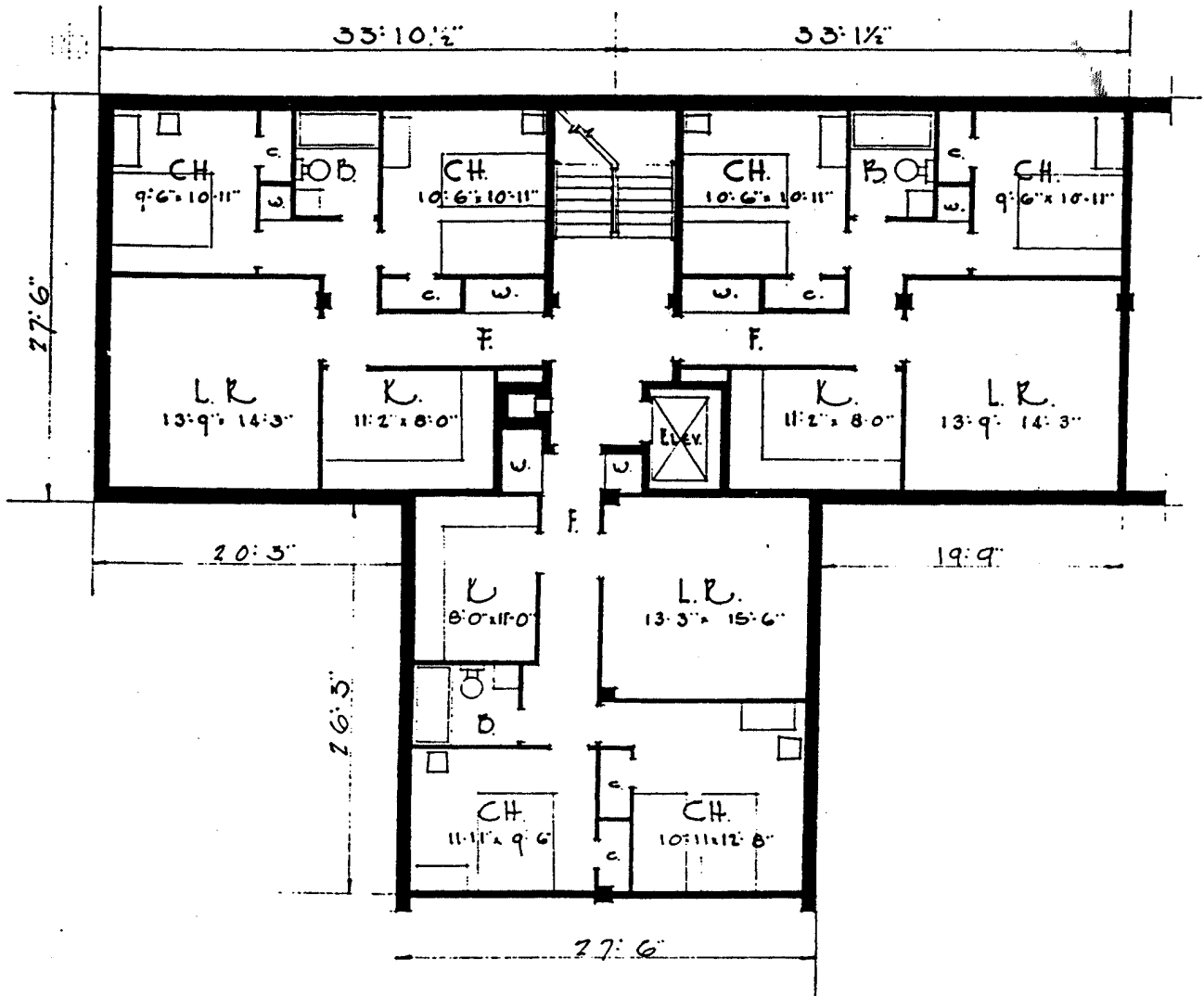
NEW YORK CITY HOUSING AUTHORITY	
TITLE APARTMENT PLAN ANALYSIS	
DRAWN BY J.E. W.C.C.	460
DATE NOV. 15, 1934	73
SCALE - 1/8" = 1 FOOT	



333

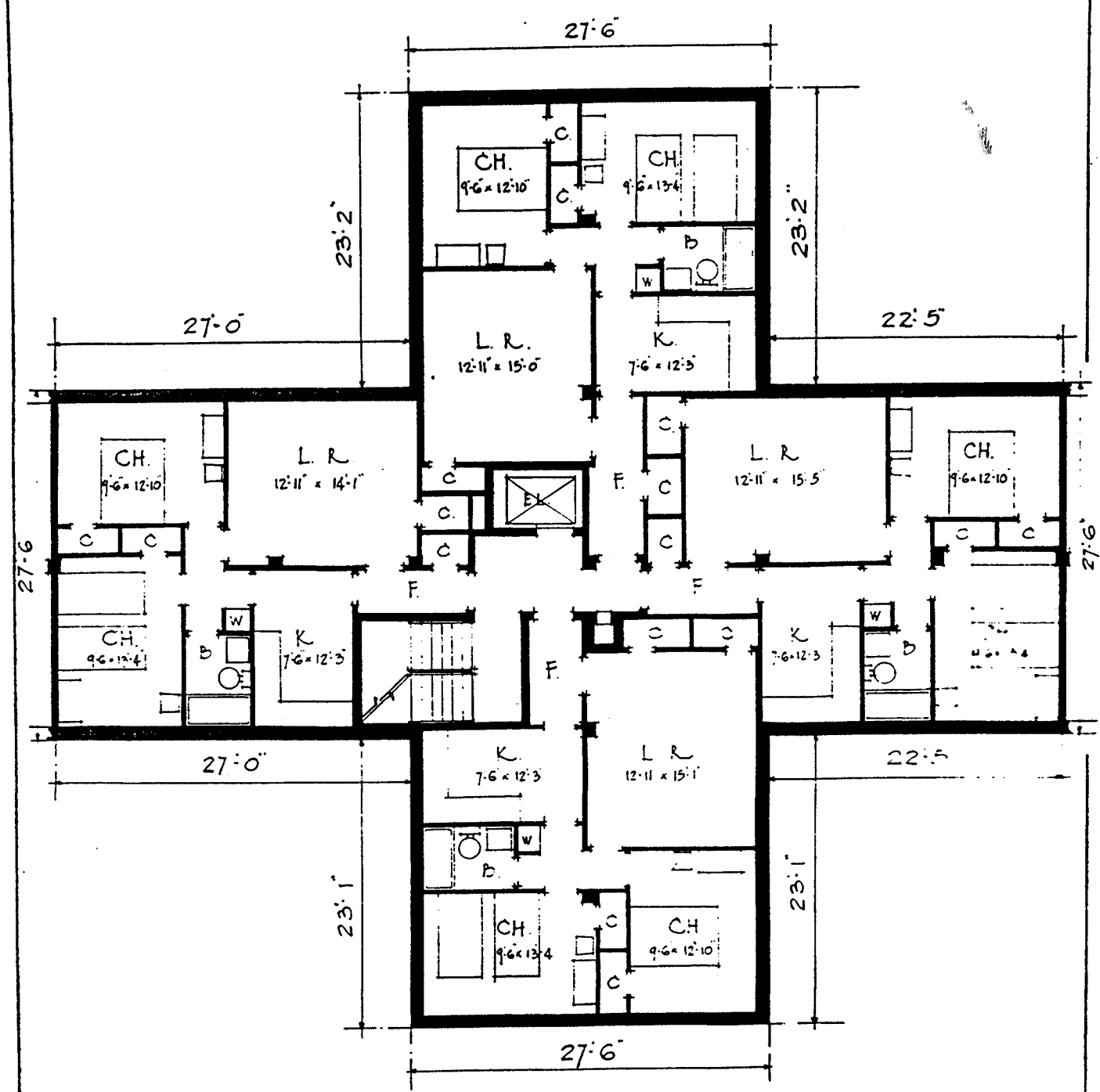
NEW YORK CITY HOUSING AUTHORITY			
TITLE APARTMENT PLAN ANALYSIS			
DRAWN BY W.C. T.C.	CHECKED BY H.L.M.F.	475	2
DATE Nov. 15, 1934		87	
SCALE - 1/8" = 1'-0"			

NEW YORK CITY HOUSING AUTHORITY		
TITLE <u>APARTMENT PLAN</u> <u>ANALYSIS</u>		
DRAWN BY J.L.L.	CHECKED BY N.L.M.F.	469
		2
DATE Nov. 15 1954		81
SCALE- $\frac{1}{4}'' = 1 \text{ FOOT}$		



4.4
4

REVISIONS			NEW YORK CITY HOUSING AUTHORITY	
No.	DATE	Revised Designation	FILE	
1	12-34		APARTMENT PLAN ANALYSIS	
			DATE Nov 15, 1934	474
			SCALE: 1/8" = 1'-0"	2
				06



4
4
4

NEW YORK CITY DEPARTMENT OF HEALTH	
TITLE APARTMENT PLAN ANALYSIS	
DESIGNED BY JUL	470
CHECKED BY H.L.M.T.	2
DATE Nov. 15 1934	82
SCALE: 1/8" = 1 FOOT.	

SITE PLAN

The general location of the school was dictated by the aim to give it a location, central in respect to the project itself and to the schools adjacent.

The arrangement of structures was the outgrowth of seeking certain well-defined utilitarian and aesthetic objectives, as for example: (1)

- (1) Location of all entrances from courts at reasonable distances from streets.

From this decision there follows a train of very important consequences:

- (a) No cross hall from street to court needed in basement or ground floor.

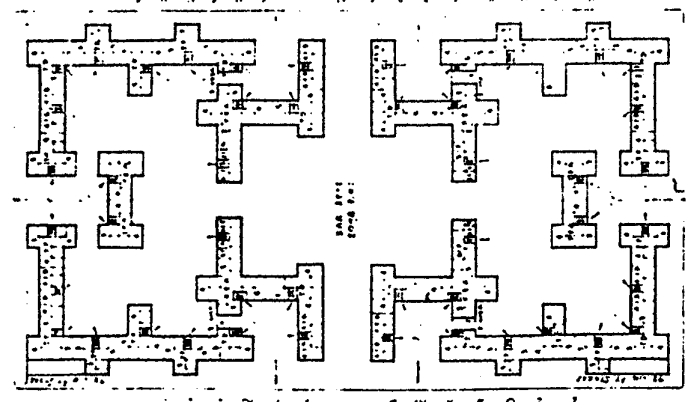
This makes any departure from typical apartment plans unnecessary.

- (b) The freeing of that side of the basement opposite entrances for utility lines the entire length of structures so that lines may be run without traps.

- (2) A majority of east and west exposures. Open spaces of varying dimensions and shapes and long vistas.

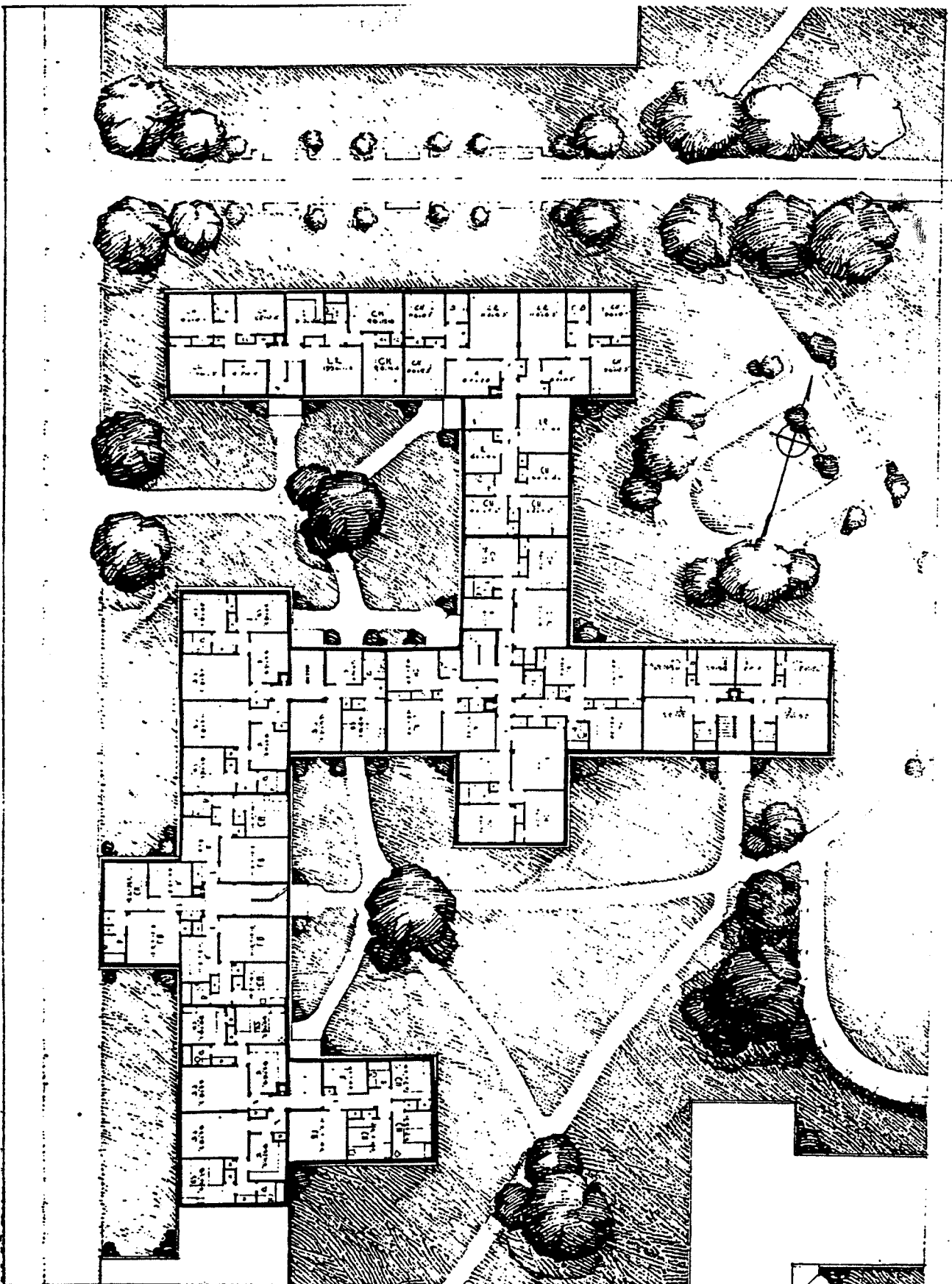
Long unbroken street facades avoided by minor street courts and set-backs for street planting.

- (1) See Appendix VI for comparative analysis of various site plan arrangements.

[illegible]

TYPE	AVT.	W/ SIGHTS	W/ GROUND	ALL SIGHTS	TOTALS
2 R M	7	40	17	40	117
3 R M	4	36	17	36	100
5 P M	1	14	11	14	47
		104	45	104	159

[illegible]



WILLIAMSBURG PROJECT

Drawing showing typical apartment units assembled in plot plan arrangement.

SEV. TOWN CITY ENGINEER AUTHORITY			
TITLE			
ASSEMBLED UNITS IN PLOT PLAN ARRANGEMENT			
DATE OF PREPARED BY	5		
DATE	11		
DATE DEC 27/1934	47		
SCALE	1/8" = 1'-0"		

FINANCIAL SET-UP

For justification or explanation of the items accompanied by a Roman numeral see appendices with corresponding numeral.

PROGRAM FOR WILLIAMSBOURG PROJECT

December 18, 1934

Financial Set-up

Item	Refer to App. No.	Walk-up Apartment Structures			Elevator Apartment Structures			Stores			Project Total
		Rate	Per Room	Total for 5,104 Rooms	Date	Per Room	Total for 1,514 Rooms	Date	Total for 1,600 l.f.		
Land Cost	-	\$4. sq.ft. ex- cluding present school site	\$ 568.14	\$2,899,816.04	Same as Walk-ups	\$ 568.14	\$ 860,183.96	-	-	\$3,760,000.00	
Rehabilitation Construction Cost	VII IX	\$16,000.00 per block	27.20	136,854.40	"	27.20	41,168.60	"	-	180,000.00	
Builder's Fee	-	\$ 3514 per cubic foot	863.94	4,356,471.73	\$ 3.935 per c.f.	940.87	1,424,470.68	\$ 223.29 Same as Walk-ups	371,664.00	6,152,606.41	
Architect's Fee	-	\$ 4%	34.14	174,256.87	Same as Walk-ups	37.63	56,978.83	"	14,866.56	246,104.26	
Carrying Charges Operating Capital	-	\$ 3%	25.61	130,694.15	"	28.23	42,734.12	"	11,149.92	184,578.19	
Contingencies	-	\$ 0.5%	4.27	21,782.36	"	4.70	7,122.36	"	1,866.32	30,763.03	
Land Development Total Initial Costs	-	\$ 2.5%	21.34	108,911.79	"	23.52	36,611.77	"	9,231.60	159,815.16	
Amount of Grant	-	\$15. per Room	15.00	76,560.00	"	15.00	22,710.00	"	-	99,270.00	
Amount of Loan	-	30% Construction & Land Dev. Cost	1,874.86	8,038,023.49	"	1,673.52	2,833,711.43	"	419,980.32	10,991,715.24	
Land Cost	-	"	260.86	1,329,903.82	"	296.76	434,184.20	"	111,499.20	1,878,562.92	
Interest on Loan Amortization of Loan	-	"	746.15	3,808,237.93	"	818.62	1,239,373.27	"	308,481.12	5,356,152.32	
Land Cost	-	"	568.14	2,899,816.04	"	568.14	860,183.96	"	-	3,760,000.00	
Interest on Loan Amortization of Loan	-	\$ 3%	22.38	114,248.94	"	24.56	37,181.20	"	9,254.43	160,684.57	
Land Rent	-	\$ 44 payments 1.12%	8.36	42,682.94	"	9.17	13,880.98	"	3,454.99	59,998.91	
Maintenance Total Operating Costs	VIII IX	\$ 5%	17.04	86,994.48	"	17.04	25,806.62	"	-	112,800.00	
Annual Rent	-	\$38.00	38.00	193,982.00	\$ 42.80	42.80	64,346.00	\$ 356.00 per 15 ft. Vacancies	5,866.67	264,143.67	
Monthly Rent	-	"	85.78	437,848.36	"	93.27	141,212.70	"	18,576.09	597,637.15	
Less Store Surplus	-	\$ 5% Vacancies	7.52	38,407.76	Same as Walk-ups	8.16	12,387.08	\$ 455. per l.f. 10% Vacancies	93,600.00	672,661.06	
Net Monthly Rent	-	"	-94	-	"	-94	-	"	Surplus	78,023.91	
	-	"	6.56	-	"	7.22	-	"	Net Total Rentals	597,637.15	

MECHANICAL INSTALLATIONS

The study of this phase of the problem has not advanced to a point where conclusions may be drawn as between a central and isolated plants. The lower money rates, the longer amortization and the confinement of taxes to the cost of site, which now constitute the point of departure in any study have changed the problems of design in a radical way. The importance of first cost has decreased and the cost-of-use now becomes the controlling factor.

Considerable work has been done by individuals and groups which seems to indicate cost-of-use advantages in producing electricity for the use of the project. To the Technical Division this claim is yet to be demonstrated.

For some time the trend has been toward higher cost of individual plants and lower rates for services furnished by the Utilities. The end of these divergent trends is not yet in sight.

The decision as between the use of oil or coal shifts from one to the other with every unrelated shift of prices. No amount of calculation can lift this problem out of the field of speculation. This applies with approximately the same force to small and large plants.

APPENDIX I

EDUCATIONAL FACILITIES ADJACENT TO THE
WILLIAMSBURG PROJECT

APPENDIX 1

EDUCATIONAL FACILITIES ADJACENT TO THE

WILLIAMSBURG PROJECT

Assumption - 12 blocks in Williamsburg Project

Probable population new project	7,000*
Present population	<u>5,450</u>
Increase	1,550
Per cent of increase	29%
Present number of school children	1,410
Assume 29% increase	<u>410</u>
Probable no. of school children new project	1,820

Relation between capacity and use of schools

adjacent to the boundaries of the 12 blocks:

<u>School</u>	<u>Capa- city</u>	<u>Enroll- ment</u>	<u>Unused Capacity</u>
PS 18 (Elementary)	1607	1444	163
Immaculate Conception El. 460		425	35
PS 36 (Elementary)	1835	1482	353
PS196 (Elementary)	384	286	98
PS 196 (Jr. High)	1801	1512	289
Holy Trinity High School	400	400	
Holy Trinity Elementary	400	300	100
PS 43 (Elementary)	785	395	390
Annex, Boys High School	1053	528	<u>525</u>
			1,953

*Note - Actual population will depend upon physical arrangement.

EDUCATIONAL FACILITIES (Cont.)

(The Annex to Williamsburg Continuation School draws largely from without the area. Its discontinuance would have little bearing upon the problem of providing school facilities.)

From the above it seems that a 12 block project of the density proposed might bring about an increase of 400 to 500 in school population

(Figures from the Slum Clearance Committee and Columbia University Housing Orientation Survey.)

12/24/34

A P P E N D I X I I

SHOPPING FACILITIES - STORES AND OFFICES

APPENDIX 11

SHOPPING FACILITIES - STORES AND OFFICES

In the twelve Williamsburg blocks under consideration there are a total of 255 stores, 5354 front feet.* Eighty-six of these stores, representing 1675 front feet, are vacant. The average present rental per month for the occupied stores is \$40.00.** The present actual annual rental derived from stores then is

$$(255 - 86) \times \$40.00 \times 12 = \$81,120.00$$

Manhattan Avenue was until eight or nine years ago a thriving shipping center - stores there rented for from three to four hundred dollars a month. It is logical to suppose that some measure of this prosperity will return when the Authority substitutes a population with definitely higher purchasing power than that of the present obsolescent neighborhood. It is also only logical to suppose that given pleasant shopping facilities adequately served by transportation, many purchasers from outside the area will be attracted to it.

Let us, for the purposes of a conservative estimate, however, entirely discount the above suppositions.

The population of the twelve blocks at the present time is 5,450. The proposed population is about

7,000. The store income increased only in direct proportion with this numerical increase in the population of the twelve blocks would be

$$(\$81,120 : 5,450 = x : 7,000) \quad \$104,000$$

On the proposed basis of 1,600 lineal feet of stores in the Williamsburg Project at \$65.00 a front foot per year, allowing for 10% vacancies, the total rental would be \$93,600.00. The proposed 1,600 lineal feet of stores would be equal to 44% of the front footage of present occupied stores.

* Bureau of Business Research
College of the City of New York

** New York City Housing Authority, Real Estate Dept.

12/24/34

APPENDIX III

"SURVEY OF 23 LOW COST HOUSING PROJECTS
IN NEW YORK CITY."

(SEE SEPARATE VOLUME)

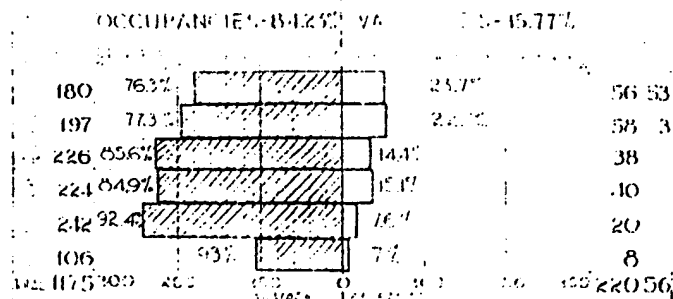
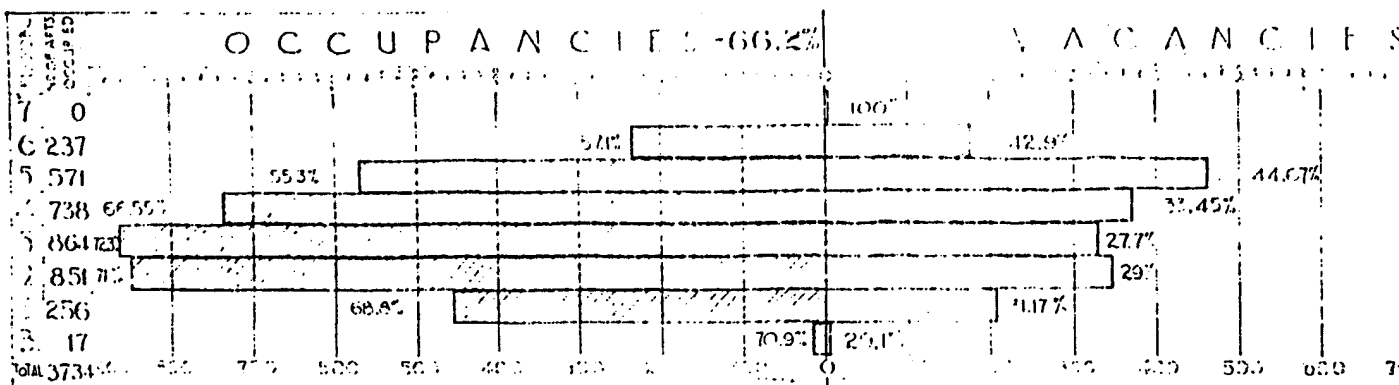
A P P E N D I X I V

CHART SHOWING VACANT AND OCCUPIED APARTMENTS

IN RESIDENTIAL BUILDINGS

CHART SHOWING VACANT & OCCUPIED APARTMENTS IN RESIDENTIAL BUILDINGS

APPROXIMATELY 25 BUILDINGS IN LOWER EAST SIDE STUDIED



REAL PROPERTY INVENTORY
C.W.A. PROJECT #10
101 PARK AVENUE

A P P E N D I X V

HEIGHT OF STRUCTURES

APPENDIX V

HEIGHT OF STRUCTURES

Given an established density and other conditions equal, 4 story walk-up structures permit lower rent than 3 story walk-up or 6 story elevator structures. This might lead one to assume that the interest of low cost housing would best be served by confining structures to uniform height of 4 stories.

Surveys of old, walk-up structures in congested areas indicate that no resistance to walking-up is found until the fifth story is reached. Surveys in new walk-up structures disclose a slight increase in vacancies which suggests some slight resistance to climbing more than two flights of stairs. The latter surveys may be taken as a better guide to judgment since in the old structures there were advantages in point of better light in the upper stories. It seems fair, in view of the trend disclosed by higher vacancies in the 5th, 6th, and 7th stories to assume that resistance toward climbing more than two flights of stairs may increase with time.

The problem of determining upon what proportion of 3 and 4 story walk-up and 6 story elevator structures to use in a given project can not be reduced to other than a guess as to future trends. The fourth floor of a 4 story walk-up provides the lowest cost housing. The aim of low rental housing would be served by the inclusion of such within a project.

There would seem to be justification in this project

for a small percentage of elevator structures at such slightly higher rentals as would be required by the higher cost-of-use. While 3 story structures would not likely undergo rapid obsolescence the cost-of-use would be higher than in 4 story walk-ups. Elevator structures at slightly higher rentals would seem to be justified in that they would tend to spread the use of the project over a slightly wider range of income categories. Their inclusion would be in line with a definite trend.

12/24/34

A P P E N D I X VI

A STUDY OF SITE PLAN RENTAL RELATIVES

APPENDIX VI

RATING OF PLOT PLAN ARRANGEMENTS IN TERMS OF
COST-OF-USE PER MONTH PER ROOM "RELATIVES"

In order to set up such Relatives covering any arrangement and combination of unit apartment plans, the variant elements in such arrangements must be considered. In the plans under consideration such elements fall into two categories:*

- (A) Number of end walls used.
- (B) Relative efficiency of unit apartment plans used.

A. The multipliers here below established represent the monthly cost-of-use arising out of fixed charges on the first cost plus the cost of operation and maintenance arising out of each component part of end walls. When the quantities of component parts of end walls in a given plot plan are multiplied by the corresponding multipliers, the products summed and divided by the number of rooms in the given plot plan the quotient will constitute the cost-of-use per month per room relative of the scheme for end walls.

* See "Note" on page 4.

Multipliers for Component Parts of End Walls

<u>Component Parts</u>	<u>Multiplier</u>
Basement Portion	\$2.40
Typical Story	2.73
Parapet	.57
Steel and column for end wall over roof	.21

B. The relative efficiency of apartment plan units was established by an inspection of the per room relative rentals derived in the "Comparative Plan Analysis", end walls in this case having been omitted. The multipliers set down here below represent for rooms in each such unit apartment plan of three, four or six stories the difference in terms of cost-of-use per month per room between each unit and an average of the most efficient three and four room units.** When the quantities of rooms in apartment plan units in a given plot plan are multiplied by the corresponding multipliers, these products summed and divided by the number of rooms in the given plot plan the quotient will constitute the cost-of-use per month per room relative of the scheme for unit apartment plans used.

** Four Story Units - 3-3-3-T-D and 4-4-4-T-D
average = \$4.80.

Multipliers per Room by Classification of Apartment Unit:Walk-up Apartments

	<u>Multiplier Per Room</u>	
	<u>Three Story</u>	<u>Four Story</u>

2 Room ApartmentsIn "T" Plans

a. With stair in tail . .	none	designed
b. With stair in head . .	.91	.61

3 Room ApartmentsIn "Strip" Plans

a. 3 Rooms	1.05	.70
b. 3 Rooms with K-LR Com- bination	1.45	1.05

In "T" Plans

a. With stair in tail . .	.59	.28
b. With stair in head . .	.72	.41

4 Room Apartments

<u>In "Strip" Plans</u>	.45	.15
-----------------------------------	-----	-----

In "T" Plans

a. With stair in tail . .	.00	.25
b. With stair in head . .	.15	.10

5 Room Apartments

<u>In "Strip" Plans</u>	.45	.25
-----------------------------------	-----	-----

In "T" Plans

a. With stair in tail . .	.22	.47
b. With stair in head . .	none	designed

Elevator ApartmentsMultiplier Per Room2 Room ApartmentsIn "T" Plans

a. With stair in tail . .	none	designed
b. With stair in head . .	none	designed

3 Room ApartmentsIn "T" Plans

- a. With stair in tail 1.50
- b. With stair in head 1.61

In Cross Plans 1.17

4 Room ApartmentsIn "T" Plans

- a. With stair in tail68
- b. With stair in head92

In Cross Plans35

5 Room ApartmentsIn "T" Plans

- a. With stair in tail none designed
- b. With stair in head none designed

In Cross Plans do

The results obtained by procedure "A" and "B" above in respect to any plot plan arrangement can be compared with similar results for other plot plan arrangements in order to determine the relative efficiency of each arrangement.

In order to obtain rental relatives which would be close to actual rentals, the constant average rental per room which was taken as a base under "B" (\$4.80) and the rental factor derived from land cost (land cost per room x $\frac{.04}{11.4}$) may be summed with "A" and "B". ***

*** Note: When dealing with plot plans of unequal density this land cost factor becomes a "Relative" along with "A" and "B".

12/24/34

PROGRAM FOR WILLIAMSBURG PROJECT - APPENDIX 6

EXAMPLES OF PLOT PLAN ARRANGEMENTS RATED IN TERMS OF COST-OF-USE PER MO. PER RM. RELATIVES.

STRIP UNITS

COVERAGE 36.5%

ALL 4-STORY T-UNITS

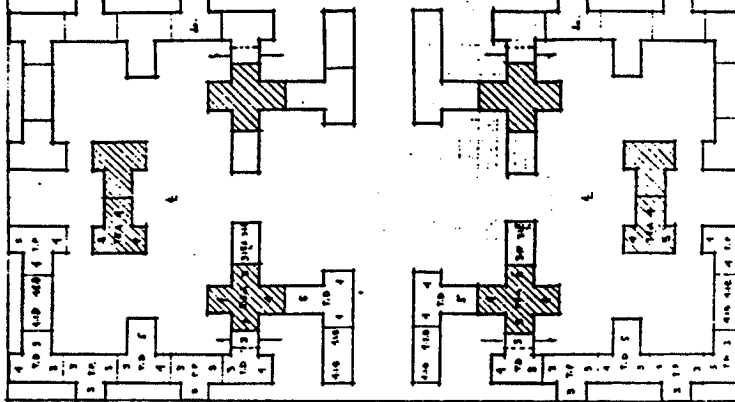
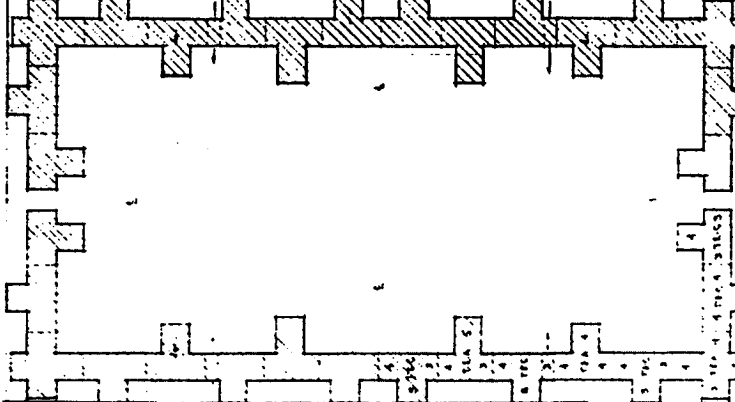
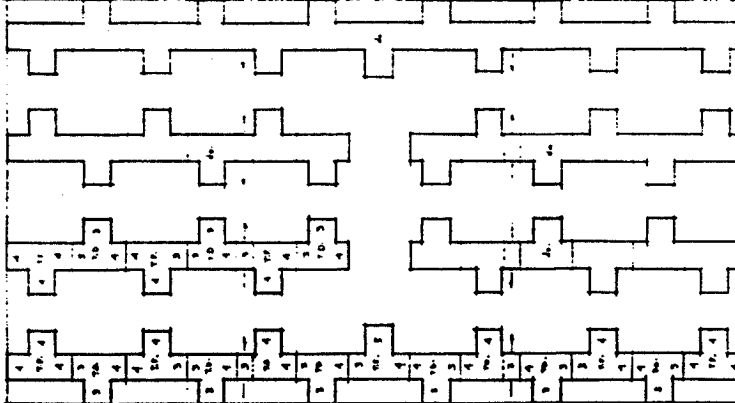
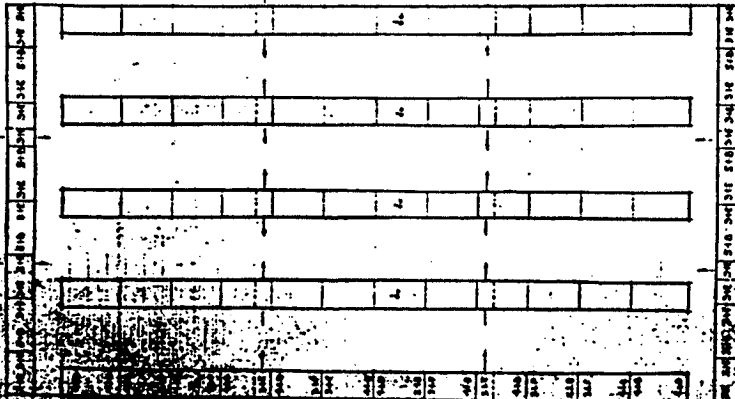
COVERAGE 38.2%

ALL 6-STORY ELEVATOR UNITS

COVERAGE 26.6%

TYPICAL BLOCK FROM WHISKEY SITE PLAN
DEC. 15, 1934

COVERAGE 34.2%



"A" VARIANT	0.127
"B" VARIANT	0.376
"B" CONSTANT	4.800
LAND	1.901
TOTAL	\$7.20

"A" VARIANT	0.127
"B" VARIANT	0.020
"B" CONSTANT	4.800
LAND	1.907
TOTAL	\$7.15

"A" VARIANT	0.375
"B" VARIANT	1.028
"B" CONSTANT	4.800
LAND	1.903
TOTAL	\$8.11

"A" VARIANT	0.416
"B" VARIANT	0.294
"B" CONSTANT	4.800
LAND	1.903
TOTAL	\$7.41

SEE THE CITY BOARD JUNE 1935
TITLE
WHISKEY APPROPRIATE &
PLOT PLAN RELATIVES
DATE DRAWN 1934

SCALE
AS SHOWN
ON PLANS

APPENDIX VII

APARTMENT DISTRIBUTION AND
CONSTRUCTION COST CHART

SPECIFICATIONS AND ESTIMATES

December 20, 1956.

PROGRAM FOR WILLIAMSBURG PROJECT
APPENDIX VII

APARTMENT DISTRIBUTION AND CONSTRUCTION COST SHEET

Side Height	Apt. Type	Persons Accommodated	Unit Estimated	# Rooms in this Unit	Estimated Cost of Unit	# Cu. ft. in Unit	Cost per cu. ft.	# Cu. ft. in Unit per RM.	Cost per room	# Apts. of this type in Williamsburg	% this type Apt. in Williamsburg	# Rooms this type in Williamsburg	# Persons Accommodated	Total cu. ft. this type structure	Total const. cost this type structure
4	E. 12.3 CM	2	2 (Full)	16	\$ 10,042.62	52,061	3.562	3863	\$ 1177.46	40	2.15	80	80	840,840	\$ 94,212.00
4	E. 12.3 CM	4	2-1-1-4	12	11,787.06	32,072	.368	2673	922.25	36	1.95	108	144	228,684	109,002.00
4	E. 12.3 CM	3	2-1-4	18	11,113.19	29,628	.376	2469	922.10	69	8.75	207	207	811,009	127,702.17
4	E. 12.3 CM	3	2-2-3-2-4	26	28,994.64	92,491	.267	2869	916.22	878	20.95	1712	1725	4,421,425	571,802.00
4	E. 12.3 CM	3	4-2-2	16	13,468.22	37,324	.360	2333	841.12	124	4.95	496	420	1,127,168	117,200.48
4	E. 12.3 CM	3	4-4-5-7-4	48	39,202.27	111,159	.2437	2316	799.89	207	27.15	2028	2225	4,694,948	1,614,044.54
4	E. 12.3 CM	7	5-1-3	20	16,780.21	46,188	.341	2509	789.01	22	1.95	110	124	228,990	96,791.11
4	E. 12.3 CM	7	5 (Full)	20	16,168.04	45,635	.322	2222	769.40	70	3.75	280	420	789,700	225,440.00
Average for walk-up Structures.											77.15	6104	9265	22,229,228	4,254,671.72

Side Height	Apt. Type	Persons Accommodated	Unit Estimated	# Rooms in this Unit	Estimated Cost of Unit	# Cu. ft. in Unit	Cost per cu. ft.	# Cu. ft. in Unit per RM.	Cost per room	# Apts. of this type in Williamsburg	% this type Apt. in Williamsburg	# Rooms this type in Williamsburg	# Persons Accommodated	Total cu. ft. this type structure	Total const. cost this type structure
4	E. 12.3 CM	2	2 (Full)	16	\$ 10,042.62	52,061	.353	2434	1025.08	48	2.65	144	144	246,006	147,611.22
4	E. 12.3 CM	3	2-2-3-2-4	72	79,188.70	198,760	.394	2590	1020.40	144	8.25	432	442	1,191,940	476,044.80
4	E. 12.3 CM	3	4-4-5-7-4	72	62,239.49	160,228	.398	2226	878.23	96	8.15	384	420	844,400	237,272.72
4	E. 12.3 CM	3	4-4-5-7-4	96	94,922.46	224,680	.378	2340	884.61	121	7.5	524	420	1,222,160	429,222.44
Average for Elevator Structures.											22.95	1214	1741	2,421,876	1,420,470.48
Average for all Dwelling Structures											100%	6618	7996	16,651,104	2,675,142.20

Average for all Dwelling Structures	3508	2421	872.52	1872	100%	6618	7996	16,651,104	2,675,142.20
-------------------------------------	------	------	--------	------	------	------	------	------------	--------------

September 6, 1934
Revised December 19, 1934

NEW YORK CITY HOUSING AUTHORITY

OUTLINE SPECIFICATION

FOR

APARTMENT UNITS

GENERAL CONDITIONS

To be written to suit special
job requirements.

GENERAL
CONDITIONS

DEMOLITION

The demolition and removal of all existing structures, roads, sidewalks, trees, shrubs, etc., including removal from site of all debris.

DEMOLITION

(See New York Building Congress Standard specification for demolition, Part B., for requirements as to methods.)

EXCAVATING

All excavating of whatever nature to the lines and levels indicated on the drawings required for footings, walls, trenches for piping and conduit within and without the buildings, tunnels, general basement areas, sidewalks, roadways, courts and playing fields. Including backfill and grading.

EXCAVATING

(See New York Building Congress Standard Specifications for Excavating, Part B., for requirements as to me-

thods.)

MASS AND REINFORCED CONCRETE

Stone or gravel concrete for all wall and chimney footings, foundation walls, foundation footings and incinerator foundations, of sizes, dimensions and extent indicated on drawings.

MASS AND
REINFORCED
CONCRETE

(See New York Building Congress Standard Specifications for Masonry and Concrete Materials, Part B., and New York Building Congress Standard Specifications for Mass and Reinforced Concrete, Part B., for requirements as to materials and methods.)

CEMENT WORK

Cinder fill and stone or gravel concrete slabs integrally finished for all floors resting directly on earth; cement finish floors in stair-halls, landings, etc., where indicated or specified; cinder fill and screed coat on all flat roofs to provide drainage to leaders, as indicated.

CEMENT
WORK

WATERPROOFING

The complete waterproofing of basement walls and floors, extent as enumerated in detailed specifications and as indicated on drawings.

WATERPROOF-
ING

The following waterproofing methods will be considered:-

- (1) Integral waterproofing, using waterproofing compound mixed integrally with concrete wall and floor mixtures.

Where this method is adopted the work will be included in the Mass and Reinforced Concrete sub-division for walls, and in the Cement Finish sub-division for Concrete base slabs for floors on earth.

WATERPROOFING - continued

(2) Waterproofing by Plastic Coatings using either

(a) Cement Plastic Coat method or

(b) Iron Coating Method.

(See New York Building Congress Standard Specifications for Waterproofing by Plastic Coatings, Part B., for requirements as to materials and methods.)

MASONRY

All exterior walls starting from top of Concrete Foundations. Stair enclosure walls, and partitions indicated on drawings to be of masonry together with chimneys and incinerator stacks.

MASONRY

The following materials of construction will be considered:-

Exterior Walls

(1) Common brick. Precast concrete sills.

(2) Common brick facing with loadbearing hollow tile backing. Precast concrete sills.

Stair Enclosures

Structural Glazed Tile with glazed surface on stair side and other side prepared to receive plaster.

Chimneys and Incinerator Stacks.

Common brick with fire brick linings.

Copings

Cast concrete.

Interior Column Covering

Hollow tile or concrete.

MORTAR

All exterior and interior walls Chimneys and Incinerators

MORTAR

One (1) part of Portland
Cement
Three (3) parts of Sand
15% of Lime Putty

Fire Brick

Laid in fire-clay.

All mortar for exterior masonry
shall be waterproofed. The
following methods will be con-
sidered:-

2% (by weight of lime and
cement) of Amonium Stearate
added to the mixing water.

(See New York Building Congress
Standard Specifications for Ma-
sonry and Concrete Materials,
Part B., and New York Building
Congress Standard Specifications
for Masonry, Part B., for require-
ments as to materials and methods.)

STRUCTURAL STEEL

Furnishing, fabricating, shop painting, deliver-
ing, erecting and field painting of all
structural steel, floor beams, girders
and columns and the furnishing, fabrica-
ting, shop painting and delivering of all
loose lintels together with the prepara-
tion and submission for approval of all
shop and erection drawings.

STRUCTURAL
STEEL

The following types of framing will be con-
sidered:-

Floors: Interior Structural Steel
Columns and beams with
flat slab.

Roofs: Interior Structural Steel
Columns and girders with
steel joists, either trussed
type or junior beams, with
2" concrete slab on ribbed
lath.

STRUCTURAL STEEL - continued

(See New York Building Congress Standard Specifications for Structural Steel, Part B., for requirements regarding materials and methods.)

FLOOR AND ROOF CONSTRUCTION

The following types will be considered:-

FLOOR AND ROOF CONSTRUCTION

Floors: Flat Concrete Slab - integrally float finished to receive wood or asphalt tile floors.

Roofs:

- (1) As above to receive roofing
- (2) Steel joists - 2" concrete slab - pitched to walls, screeded smooth. Hung ceiling.

(See New York Building Congress Standard Specifications for Concrete Arches and Concrete Fireproofing, Part B., for requirements regarding materials and methods.)

ROOFING AND SHEET METAL

All labor and material required for skylights, flashings, both wall and pipe, roof drainage outlets, scuppers, leaders and leader heads if exterior, roofing and roof insulation.

ROOFING AND SHEET METAL

The following methods will be considered:-

Skylights

Galvanized iron or toncon metal.

Flashings

Copper base and Counter-flashings.

ROOFING AND SHEET METAL - continued

Roofing

Standard (20 year) pitch and felt, or asphalt and felt.

If clothes drying space is provided on roofs consideration should be given to roof protection along walkways.

Roof Insulation

Celotex, Masonite, Insulite and similar products of thicknesses giving insulation equivalent to 1" of cork,

(See New York Building Congress Standard Specification for Roofing and Sheet Metal, Part B., for requirements regarding materials and methods.)

CAULKING

Caulking of all joints between masonry jambs and window and door frames between frames between frames and steel lintels.

CAULKING

(See New York Building Congress Standard Specification for Caulking, Part B., for requirements regarding materials and methods.)

WINDOW FRAMES AND SASH

Furnishing and installing all exterior window frames throughout of kinds and sizes indicated on the drawings.

WINDOW
FRAMES
AND
SASH

The following type will be considered:-

- (1) Rolled steel frames and outward swinging sash with steel interior jamb linings and stool.

ARCHITECTURAL IRON

All stairs, including strings, treads, risers, platforms, newels and balusters.

ARCHITECTURAL
IRON

Consideration will be given to stairs with cement filled treads and platforms.

(See New York Building Congress Standard Specification for Architectural Iron, Part B., paragraphs 19 to 37, inclusive for basic construction. Consideration will be given to standard stairs approximating this basic construction.)

Furnishing and installing exterior and interior ladders, steel sills at exterior doors, cast iron sills at doors from roof pent houses to roofs, cast iron cleanout doors and frames at base of chimneys and pipe rails and standards.

(See New York Building Congress Standard Specifications for Architectural Iron, Part B., for requirements regarding materials and methods.)

HOLLOW METAL AND METAL COVERED WORK

Furnishing, fabricating, delivering and erecting combination buck, frame and trim at all interior doors, constructed of cold rolled furniture steel of gauges indicated on detail drawings.

HOLLOW METAL
AND METAL
COVERED
WORK

Bucks shall be designed and constructed to receive the type of partition in which it is to be set.

Consideration will be given to the use of hollow metal or metal covered doors at all entrances to apartments from stairways and in other locations where fireproof doors are required.

(See New York Building Congress Standard Specifications for Hollow Metal for requirements regarding materials and methods.)

METAL FURRING AND LATHING

Furnishing and installing suspended ceilings, miscellaneous furring and lathing of beams, girders and columns, lathed ceilings below steel joist floor and roof construction, steel corner beads, together with steel stud and metal lath partitions, and exterior wall furring where so noted on drawings.

METAL FUR-
RING AND
LATHING

Consideration will be given to the following type of partitions:-

- (1) Steel channel studs and expanded and painted metal lath on one side - to finish $2\frac{1}{2}$ " and 2" thick when plastered both sides.

(See New York Building Congress Standard Specification for Metal Furring and Lathing, Part B., for requirements regarding materials and methods.)

PLASTERING

Plastering all walls, ceilings, and partitions in rooms and spaces as noted on the Finishing Schedules, using cement plaster, hard wall gypsum or lime plaster with hard white finish or float finish as noted.

PLASTERING

(See New York Building Congress Standard Specification for Plastering, Part B., for requirements regarding materials and methods.)

GLASS AND GLAZING

Furnishing and installing all glass throughout as follows:-

GLASS AND
GLAZING

- (1) All exterior windows, except bathrooms, single strength, B. quality, flat or vertical drawn sheet glass.
- (2) All bathroom windows with an approved obscure glass.
- (3) All exterior doors, double strength, B. quality, flat or vertical drawn sheet glass.

GLASS AND GLAZING - continued

- (4) All fireproof doors, where indicated to be glazed, (hollow metal or metal covered wood) 1/4" wired plate glass.

(See New York Building Congress Standard Specifications for Glass and Glazing, Part B., for requirements regarding materials and methods.

PAINTING

All painting and finishing for the various rooms and spaces of the kinds called for on the Finishing Schedules:-

PAINTING

Two coats of lead, zinc and oil paint (in addition to shop coat)

- (1) All steel window frames, sash, steel sills and exposed surfaces of Structural Steel lintels.
- (2) All exterior hollow metal door frames and doors.
- (3) All exterior ladders and other Architectural Iron.

Two coats of lead and oil paint (in addition to shop coat)

- (1) All interior stairs, ladders, and other Architectural Iron.
- (2) All interior wood trim, including hook rails, shelving and cleats in closets.
- (3) All radiators and all piping exposed in finished rooms and spaces.

Metal Enamel Primer and two coats of Metal Enamel (in addition to shop coat)

- (1) All steel bucks and steel jamb hinges and window stools.

One coat of Sealer and Primer (colored to match finish coat) and two coats of flat Lithopone Paint on

PAINING - continued

- (1) All hard white plastered wall and partition surfaces, except Kitchens and Bathrooms.

Two Coats of Cold Water Paint on

- (1) All plaster ceilings including beam and girder fireproofing except Bathrooms and Kitchens.

One coat of Enamel Undercoater, and one coat of half enamel undercoater and half enamel and one coat of enamel on all interior doors throughout.

One coat of Sealer and Primer, one coat of Enamel Undercoater, one coat Half Enamel Undercoater and Half Enamel, and one coat of Flat Enamel on all plastered walls and ceilings of Kitchens and Bathrooms.

Two coats of Aluminum Paint on

- (1) All covered pipes, fittings and iron body valves, etc., exposed in Boiler Rooms.
- (2) All uncovered pipes, fittings, iron body valves, etc., in unfinished rooms and spaces.

(See New York Building Congress Standard Specification for Painting, Part B., for requirements regarding materials and methods.)

TILE AND MARBLE

The furnishing and laying of all floor and wall tile and marble saddles in Bathrooms, as noted as the Finishing Schedules. Consideration will be given to the following:-

TILE AND
MARBLE

Floor Tile - (1) Vitreous Hexagonal - Standard Patterns.

Wall Tile - (1) Glazed tile base and 3"x6" white glazed wall tile with plain cap.

TILE AND MARBLE - continued

(See New York Building Congress Standard Specifications for Tile Work, Part B., for requirements regarding materials and methods.)

WOOD FLOORS

Furnishing, delivering, laying and finishing wood floors of the types and in locations indicated on the Finishing Schedules.

WOOD
FLOORS

The following types of wood floors will be considered, all laid in Mastic:-

- (1) Plain White Oak - #2 Common
- (2) Plain Red Oak - #2 Common

These materials may be laid in standard strips or blocks formed of strips, using special methods, will be considered.

Asphalt Tile Floors

The furnishing and laying of all asphalt tile floors and base in locations indicated on the finishing schedules. Asphalt tile to be 1/8" thick of colors selected and laid in accordance with manufacturer's directions.

INCINERATORS

Furnishing, fabricating and delivering all grates, combustion chamber doors, cleanout doors, flue hopper doors, screens at top of flues, and other equipment required for built-in-type incinerators of the number indicated on the drawings and of capacities required for various locations, together with erection Drawings and Details, Supervision, Tests and Guarantee.

INCINERATORS

CARPENTRY WORK

Rough Carpentry - the furnishing of all materials and installation of all furring strips and grounds necessary for the attachment of trim and fixtures.

CARPENTRY
WORK

Finished Carpentry - furnishing, delivering and erecting all finished wood work as specified and as shown in the finishing schedules. This item will include, generally, all wood doors, interior and exterior, wardrobe fronts, kitchen cabinets and closets, shelving, coat strips, clothes poles, base and picture mould. Also the attachment of all finished hardware furnished by the contractor for hardware.

HARDWARE

The furnishing and delivering of all finished hardware as selected, and as called for in the schedule.

HARDWARE

WINDOW SHADES

Furnishing, delivering and erecting shades for all exterior windows together with the furnishing and attaching of all shade brackets to the metal sash according to details shown. Shades to be linen cloth on spring rollers.

WINDOW
SHADES

GAS RANGES

Furnishing and delivering all gas ranges as selected.

GAS
RANGES

REFRIGERATORS

Furnishing, delivering and installing all mechanically operated refrigerators as selected.

REFRIGERA-
TORS

ELECTRIC WORK

Furnishing, delivering and installing of all materials required to complete the elec-

ELECTRIC
WORK

ELECTRIC WORK - continued

tric wiring for lighting, electric bells, door openers, refrigerators, telephones, radios, etc. as shown on the electrical drawings, together with the furnishing and erection of all electrical fixtures as selected.

PLUMBING

Furnishing all materials and labor to complete the plumbing work as shown on plans and outlined in the specifications, generally, including all drainage piping, hot and cold brass water piping, gas piping, soil and vent piping and furnishing, delivering and erecting all fixtures as selected. All work to be done in strict compliance with the city codes and ordinances.

PLUMBING

HEATING

Furnishing, delivering and installing all materials necessary to complete the heating work as shown on plans and outlined in specifications, generally to include all radiators, valves, supply and return piping, boilers, accessories, pumps, etc. required for a complete heating system. (Studies are being made as to relative merits of one or more central boiler plants for supplying steam and hot water. The arrangement of boiler plants will depend upon the conclusions reached by this investigation.)

HEATING

ELEVATORS

Furnishing and installing complete, elevators where shown on the drawings. Elevators to be push-button automatic control type of capacities required. Hatchway doors of hollow metal with closing devices as selected.

ELEVATORS

NEW YORK CITY HOUSING AUTHORITY

Technical Division

Unit
3-1-A
4 Story

Preliminary Estimate of Complete Labor & Material Costs

Item	Material	Area	Quantity	Unit Cost	Total Cost
Exterior Wall	12" Com. Brick	1372 s.f.	28.8 M	\$40.00	\$ 1,152.00
Parapet Wall	8" " "	104 s.f.	1.5 M	42.00	63.00
Coping	Cast Concrete	45 l.f.	45 l.f.	.75	33.75
Sills	" "	72 l.f.	72 l.f.	.80	57.60
File Furring	2" Unglazed Vitritile	100 s.f.	100 s.f.	.36	36.00
Stair Enclosure	6" " "	496 s.f.	496 s.f.	.54	267.84
Incinerator	Flue, Comb. Cham- ber & Accessories	Complete	$\frac{1}{2}$	625.00	312.50
Pent House	Walls, Roof, Door & Skylight	"	$\frac{1}{2}$	266.00	133.00
Floor Slabs	6" Reinforced Concrete	2168 s.f.	2168 s.f.	.39	845.52
Roof Slab	2" " " 8" Joists	542 s.f.	542 s.f.	.23	124.66
Wall Furring	Metal, Lath & Plaster	1080 s.f.	1080 s.f.	.19	205.20
Plaster Ceilings	$\frac{1}{2}$ " White Finish	1419 s.f.	1419 s.f.	.065	92.23
Suspended Ceilings	Metal, Lath & Plaster	613 s.f.	613 s.f.	.23	140.99
Dividing Par- titions	2 $\frac{1}{2}$ " Solid Plaster	580 s.f.	580 s.f.	.23	133.40
Interior Par- titions	2" Solid (Gross) Plaster	1972 s.f.	1972 s.f.	.21	414.12
Bath Room Wainscoat	Tile	292 s.f.	292 s.f.	.80	233.60
Floors Bath Room	"	88 s.f.	88 s.f.	.55	48.40
Floors Kitchen	Asphalt Tile	292 s.f.	292 s.f.	.17	49.54
Floors All others	Wood Block	1464 s.f.	1464 s.f.	.18	263.52
Double Partitions	Metal, Lath & Plaster	236 s.f.	236 s.f.	.27	63.72
Base-Kitchen	Asphalt Tile	128 l.f.	128 l.f.	.25	32.00
Base Wood Floors	Wood or Metal	508 l.f.	508 l.f.	.25	127.00
Picture Mould	"	404 l.f.	404 l.f.	.05	20.20
Exterior Windows	Steel Case- ment, Metal Casings	1-6'-0" 1 $\frac{1}{2}$ -4'-3" 1-3'-2" 1-1'-8"	324 s.f.	L.S.	210.00
Glazing Sash	S.S. B. Quality Clear Glass	"	324 s.f.	.125	40.50
Painting Sash	2 Field Coats	"	324 s.f.	.10	32.40
					\$5,132.69

Unit
3-1-A
4 Story

Brought Forward

\$5,132.69

Item	Material	Area	Quantity	Unit Cost	Total Cost
Main Entrance Door	Wood	Complete	1	\$50.00	\$ 25.00
Entrance Doors	Kalamain	"	4	35.00	140.00
Interior "	Wood	8-2'0"x6'8" 8-2'6"x6'8" 4-3'0"x6'8"	20	7.50	150.00
" Door Bucks	Comb. Metal	"	20	4.75	95.00
Door Saddles	Wood	-	16	.75	12.00
Bath Rm. Saddles	Marble	-	4	2.50	10.00
Wardrobe Fronts	Wood	220 s.f.	220 s.f.	.50	110.00
Roofing	20 year Bond 1" Insulation	570 s.f.	570 s.f.	.19	108.30
Sheet Metal	Flashings	70 l.f.	70 l.f.	.80	56.00
	Leader Boxes	1	1	10.00	10.00
Shelving	Closets and Wardrobes	-	4 apts.	5.00	20.00
Kitchen Cabinets	Dresser, Closet & Shelving	-	4 "	50.00	200.00
Gas Range	Standard	-	4 "	35.00	140.00
Refrigerator	"	-	4 "	75.00	300.00
Painting	Ceilings Walls, Trim	-	4 "	75.00	300.00
Shades	Cloth	-	18	1.00	18.00
Stairs	Steel - Cement Treads&Landings	Complete	1	952.00	476.00
Stair Halls	Cement Finish	60 s.f.	60 s.f.	.15	9.00
Structural Steel	Beams, Columns & Lintels	-	9800 lbs.	.04	392.00
Fireproofing & Plaster	" "	-	Allocw.	L.S.	115.00
Plumbing	Standard		4 apts.	300.00	1,200.00
Heating	2 Pipe Vacuum Oil Fired		12 Rms.	60.00	720.00
Electric	Standard		12 "	30.00	360.00
Basement	Excavation, Footings, Walls, Cols. etc.	Complete		L.S.	1,014.20
					\$11,113.19

Cost Per Room - $\frac{11,113.19}{12} = \$926.10$

Cost Per Cu.Ft. - $\frac{11,113.19}{29,628} = \$.375$

NEW YORK CITY HOUSING AUTHORITY

Unit

Technical Division

3-1-K-A
L

Preliminary Estimate of Complete Labor & Material Costs

4 Story

Item	Material	Area	Quantity	Unit Cost	Total Cost
Exterior Wall	12" Com. Brick	1460 s.f.	30.7 M	\$40.00	\$ 1,228.00
Parapet "	8" " "	108 s.f.	1.5 M	42.00	63.00
Coping	Cast Concrete	48 l.f.	48 l.f.	.75	36.00
Sills	" "	78 l.f.	78 l.f.	.80	62.40
Tile Furring	2" Unglazed Vitritile	100 s.f.	100 s.f.	.36	36.00
Stair Enclosure	6" " "	496 s.f.	496 s.f.	.54	267.84
Incinerator	Flue, Comb. Chamber & Accessories	-	$\frac{1}{2}$	625.00	312.50
Pent House	Walls, Slab, Door & Skylight	-	$\frac{1}{2}$	265.00	132.50
Floor Slabs	6" Reinforced Concrete	2230 s.f.	2230 s.f.	.39	869.70
Roof Slabs	2" " " 8" Joists	570 s.f.	570 s.f.	.23	131.10
Wall Furring	Metal, Lath & Plaster	1200 s.f.	1200 s.f.	.19	228.00
Plaster	$\frac{1}{2}$ " White Finish	1590 s.f.	1590 s.f.	.065	103.35
Ceilings	Metal, Lath & Plaster	670 s.f.	670 s.f.	.23	154.10
Suspended Ceilings	2 $\frac{1}{2}$ " Solid Plaster	580 s.f.	580 s.f.	.23	133.40
Dividing Partitions	(Gross)	2120 s.f.	2120 s.f.	.20	424.00
Interior Partitions	2" " "	2120 s.f.	2120 s.f.	.20	424.00
Wainscoat					
Bath Room	Tile	232 s.f.	232 s.f.	.30	69.60
Floors					
Bath Room	"	88 s.f.	88 s.f.	.55	48.40
Floors					
All others	Wood Block	1900 s.f.	1900 s.f.	.18	342.00
Double Partitions	Metal, Lath & Plaster	236 s.f.	236 s.f.	.27	63.72
Base	Wood or Metal	660 l.f.	660 l.f.	.25	165.00
Picture Mould	"	130 l.f.	130 l.f.	.05	6.50
Sash	Steel Case-ment, Metal Casings	4-6'-0" 10-4'-3" 4-1'-8"	385 s.f.		227.00
Glazing	S.S. B. Quality Clear	"	385 s.f.	.125	48.12
Sash					
Painting	2 Field Coats	"	385 s.f.		58.50
Sash					
					\$5,374.21

Unit

3-1-K-A
L

4 Story

Brought Forward \$ 5,374.21

Item	Material	Area	Quantity	Unit Cost	Total Cost
Main Entrance	Wood	-	$\frac{1}{2}$	\$50.00	\$ 25.00
Entrance Doors	Kalamein		4	35.00	140.00
Interior Doors	Wood	12-2'0"x6'8" 8-2'6"x6'8" 4-3'0"x6'8"	24	7.50	180.00
Door Bucks	Metal Comb.	"	24	4.75	114.00
" Saddles	Wood		20	.75	15.00
Bath Room					
Saddles	Marble		4	2.50	10.00
Wardrobe Fronts	Wood	100 s.f.	100 s.f.	.50	50.00
Roofing	20 year Bond 1" Insulation	615 s.f.	615 s.f.	.19	116.85
Sheet Metal	Flashings Leader Boxes	1	1	10.00	10.00
Shelving	Wood Closets & Wardrobes		4	5.00	20.00
Kitchenette	Complete		4 apts.	200.00	800.00
Painting	Ceilings Walls, Trim		4 apts.	L.S.	320.00
Shades	Cloth		18	1.00	18.00
Stairs	Steel - Cement Treads&Landings		$\frac{1}{2}$	952.00	476.00
Stair Halls	Cement	60 s.f.	60 s.f.	.15	9.00
Structural	Columns, Beams & Lintels				424.00
Steel	"				135.00
Fireproofing					1,000.00
Plumbing	Standard		4 apts.	250.00	1,000.00
Heating	2 Pipe Vacuum Oil Fired		12 Rms.	60.00	720.00
Electric	Standard		12 "	35.00	420.00
Basement	Excavation, Walls, Floor, etc.		Allow.	L.S.	1,250.00

\$11,787.06

Cost Per Room - $\frac{11,787.06}{12} = \$982.25$

Cost Per Cu.Ft. - $\frac{11,787.06}{32,072} = \$.368$

NEW YORK CITY HOUSING AUTHORITY

Unit
3-3-3-T-D

Technical Division

4 Story

Preliminary Estimate of Complete Labor & Material Costs

Item	Material	Area	Quantity	Unit Cost	Total Cost
Exterior Wall	12" Com. Brick	4372 s.f.	92 M	\$40.00	\$ 3,680.00
Parapet "	8" " "	324 s.f.	4.5 M	42.00	189.00
Coping	Cast Concrete	140 l.f.	140 l.f.	.75	105.00
Sills	" "	210 l.f.	210 l.f.	.80	168.00
Incinerator	Flue, Comb. Chamber & Accessories	Complete	1	625.00	625.00
Pent House	Walls, Slab, Door & Skylight	"	1	272.00	272.00
Tile Wall	2" Unglazed				
Furring	Vitritile	196 s.f.	196 s.f.	.36	70.56
Stair Enclosure	6" " "	1416 s.f.	1416 s.f.	.54	764.64
Floor Slabs	6" Reinforced Concrete	6960 s.f.	6960 s.f.	.39	2,714.40
Roof Slabs	2" " "				
	8" Joists	1740 s.f.	1740 s.f.	.23	400.20
Furring Walls	Metal, Lath & Plaster	3588 s.f.	3588 s.f.	.19	681.72
Plaster	1/2" White				
Ceilings	Finish	4686 s.f.	4686 s.f.	.065	304.59
Hung Ceilings	Metal, Lath & Plaster	1982 s.f.	1982 s.f.	.23	455.86
Dividing Partitions	2 1/2" Solid Plaster	1972 s.f.	1972 s.f.	.23	453.56
Interior Partitions	2" Solid Plaster	(Gross) 7548 s.f.	7548 s.f.	.20	1,509.60
Wainscoat					
Bath Room	Tile	876 s.f.	876 s.f.	.80	700.80
Floors					
Bath Room	"	264 s.f.	264 s.f.	.55	145.20
Floors	Asphalt				
Kitchen	Tile	1100 s.f.	1100 s.f.	.17	187.00
Floors					
All others	Wood Block	4920 s.f.	4920 s.f.	.18	885.60
Double Partitions	Metal, Lath & Plaster	356 s.f.	356 s.f.	.27	96.12
Base	Asphalt				
Kitchen	Tile	416 l.f.	416 l.f.	.25	104.00
Base	Wood or				
Wood Floors	Metal	1668 l.f.	1668 l.f.	.25	417.00
Picture Mould	"	1260 l.f.	1260 l.f.	.05	65.00
Sash	Steel Casement, Metal Casings	12-6'-0" 15-4'-3" 12-3'-2" 12-1'-8"	937 s.f.	L.S.	600.00
Glazing	S.S. B. Quality				
Sash	Clear Glass	"	937 s.f.	.125	104.62
Painting					
Sash	2 Field Coats	"	937 s.f.	.10	93.70
					\$15,791.17

Brought Forward \$15,791.17

Item	Material	Area	Quantity	Unit Cost	Total Cost
Main Entrance	Wood	Complete	1	\$50.00	\$ 50.00
Entrance Doors	Kalamein	"	12	35.00	420.00
Interior "	Wood	28-2'0"x6'8" 40-2'6"x6'8" 12-3'0"x6'8"	80	7.50	600.00
Door Bucks	Metal Comb.	"	80	4.75	380.00
" Saddles	Wood	68	68	.75	51.00
Bath Rm. "	Marble	12	12	2.50	30.00
Wardrobe Fronts	Wood	816 s.f.	816 s.f.	.40	326.40
Roofing	20 year Bond 1" Insulation	1773 s.f.	1773 s.f.	.19	336.87
	Flashings	172 l.f.	172 l.f.	.80	137.60
Sheet Metal	Leader Boxes	2	2	10.00	20.00
Shelving	Wood Closets & Wardrobes	-	12 apts.	5.00	60.00
Kitchen Cabinets	Dresser, Clos- et, Shelves	-	12 "	50.00	600.00
Gas Range	Standard		12 "	35.00	420.00
Refrigerator	"		12 "	75.00	900.00
Painting	Ceilings Walls, Trim	-	12 "	75.00	900.00
Shades	Cloth	48	48	1.00	48.00
Stairs	Steel - Cement Treads&Landings	Complete	1	891.00	891.00
Stair Halls	Cement	224 s.f.	224 s.f.	.15	33.60
Structural Steel	Columns, Beams & Lintels	27850 lbs.	27850 lbs.	.04	1,114.00
Fireproofing	"	-	-	L.S.	350.00
Plumbing	Standard	Complete	12 apts.	300.00	3,600.00
Heating	2 Pipe Vacuum Oil Fired	"	36 Rms.	60.00	2,160.00
Electric	Standard	"	36 "	30.00	1,080.00
Basement	Excavation, Walls, Floor, etc.	"	-	L.S.	2,695.00
					\$32,994.64

Cost Per Room - $\frac{32,994.64}{36} = \$916.65$

Cost Per Cu.Ft. - $\frac{32,994.64}{92,491} = \$.357$

NEW YORK CITY HOUSING AUTHORITY

Unit
3-3-2-2-T-F

Technical Division

4 Story

Preliminary Estimate of Complete Labor & Material Costs

Item	Material	Area	Quantity	Unit Cost	Total Cost
Exterior Wall	12" Com. Brick	6465 s.f.	136 M	\$40.00	\$ 5,440.00
Parapet wall	8" " "	465 s.f.	6.5 M	42.00	273.00
Coping	Cast Concrete	199 l.f.	199 l.f.	.75	149.25
Sills	" "	252 l.f.	252 l.f.	.80	201.60
Tile Furring	2" Unglazed Vitritile	300 s.f.	300 s.f.	.36	108.00
Stair Enclosure	6" " "	1244 s.f.	1244 s.f.	.54	671.76
Incinerator	Flue, Comb. Chamber & Accessories	Complete	1	625.00	625.00
Pent House	Walls, Roof, Door & Skylight	"	1	272.00	272.00
Floor Slabs	6" Reinforced Concrete	8532 s.f.	8532 s.f.	.39	3,327.48
Roof Slabs	2" " " 8" Joists	2133 s.f.	2133 s.f.	.23	490.59
Wall Furring	Metal, Lath & Plaster	6492 s.f.	6492 s.f.	.19	1,233.48
Plaster Ceilings	1/2" White Finish	5670 s.f.	5670 s.f.	.065	368.55
Suspended Ceilings	Metal, Lath & Plaster	2450 s.f.	2450 s.f.	.23	563.50
Dividing Partitions	2 1/2" Solid Plaster	2448 s.f.	2448 s.f.	.23	563.04
Interior Partitions	2" Solid Plaster	(Gross) 7888 s.f.	7888 s.f.	.20	1,577.60
Wainscoat Bath Room	Tile	1168 s.f.	1168 s.f.	.80	934.40
Floors Bath Room	"	352 s.f.	352 s.f.	.55	193.60
Floors Kitchen	Asphalt Tile	728 s.f.	728 s.f.	.17	123.76
Floors All others	Wood Block	6400 s.f.	6400 s.f.	.18	1,152.00
Double Partitions	Metal, Lath & Plaster	592 s.f.	592 s.f.	.27	159.84
Base-Kitchen	Asphalt Tile	288 l.f.	288 l.f.	.25	72.00
Base Wood Floors	Wood or Metal	2144 l.f.	2144 l.f.	.25	536.00
Picture Mould	"	1560 l.f.	1560 l.f.	.05	78.00
Exterior Windows	Steel Case-ment, Metal Casings	16-6'-0" 20-4'-3" 8-3'-2" 16-1'-8"	1164 s.f.	L.S.	726.80
Glazing Sash	S.S. B. Quality Clear Glass	"	1164 s.f.	.125	145.50
Painting Sash	2 Field Coats	"	1164 s.f.	.10	116.40
					\$20,103.15

Brought Forward -					\$20,103.15
Item	Material	Area	Quantity	Unit Cost	Total Cost
Main Entrance	Wood	Complete	1	\$50.00	\$ 50.00
Entrance Doors	Kalamein	"	16	35.00	560.00
Interior Doors	Wood	32-2'0"x6'8" 48-2'6"x6'8" 16-3'0"x6'8"	96	7.50	720.00
Door Bucks	Comb. Metal	"	96	4.75	456.00
Door Saddles	Wood	-	80	.75	60.00
Bath Rm. Saddles	Marble	-	16	2.50	40.00
Wardrobe Fronts	Wood	1292 s.f.	1292 s.f.	.50	646.00
Roofing	20 year Bond 1" Insulation	2154 s.f.	2154 s.f.	.19	409.26
	Flashings	244 l.f.	244 l.f.	.80	195.20
Sheet Metal	Leader Boxes	3	3	10.00	30.00
Shelving	Closets and Wardrobes	-	16 apts.	5.00	80.00
Kitchen	Dresser, Clos- et & Shelving	-	8 K	50.00	400.00
Cabinets		-	8 KT	200.00	1,600.00
Gas Range	Standard	-	8 K	35.00	280.00
Refrigerator	"	-	8 K	75.00	600.00
Painting	Ceilings Walls, Trim	-	Allow.	L.S.	1,000.00
Shades	Cloth	-	60	1.00	60.00
Stairs	Steel - Cement Treads&Landings	-	1	891.00	891.00
Stair Halls	Cement Finish	288 s.f.	288 s.f.	.15	43.20
Structural Steel	Beams, Columns & Lintels	-	31200 lbs.	.04	1,248.00
Fireproofing & Plaster	" "	-	Allow.	L.S.	450.00
Plumbing	Standard	-	8 K	300.00	2,400.00
		-	8 KT	250.00	2,000.00
Heating	2 Pipe Vacuum Oil Fired	-	40 Rms.	60.00	2,400.00
Electric	Standard	-	40 "	30.00	1,200.00
Basement	Excavation, Foot- ings, Walls, Cols. etc.	-	-	-	3,375.96
					\$41,297.77

Cost Per Room - $\frac{41,297.77}{40} = \$1,032.44$

Cost Per Cu.Ft. - $\frac{41,297.77}{114,086} = \$.362$

Cost of 40 Rooms = \$41,297.77
 " " 24 " (3-3-3-T-F) = 22,455.25
 " " 16 " (2-2-T-F) = 18,842.52
 " per Room 2-2-T-F 1,177.66

NEW YORK CITY HOUSING AUTHORITY

Technical Division

Unit
4-2-B

Preliminary Estimate of Complete Labor & Material Costs 4 Story

Item	Material	Area	Quantity	Unit Cost	Total Cost
Exterior Wall	12" Com. Brick	1723 s.f.	36.0 M	\$40.00	\$ 1,440.00
Parapet "	8" " "	131 s.f.	1.8 M	42.00	75.60
Coping	Cast Concrete	56 l.f.	56 l.f.	.75	42.00
Sills	" "	92 l.f.	92 l.f.	.80	73.60
2" Tile Furring	Unglazed Vitritile	100 s.f.	100 s.f.	.36	36.00
Stair Enclosure	6" " "	416 s.f.	416 s.f.	.54	224.64
Incinerator	Flue, Comb. Cham- ber & Accessories	L.S.	1/2 Complete	625.00	312.50
Pent House	Walls, Slab, Door & Skylight	"	1/2 "	272.00	136.00
Structural Slab	6" Reinforced Concrete	2780 s.f.	2780 s.f.	.39	1,084.20
Roof Slab	2" Concrete Joists	695 s.f.	695 s.f.	.23	159.85
Furring Walls	Metal, Lath & Plaster	1380 s.f.	1380 s.f.	.19	262.20
Ceiling Plaster	1/2" White Finish	1890 s.f.	1890 s.f.	.065	112.85
Hung Ceilings	Metal, Lath & Plaster	770 s.f.	770 s.f.	.23	177.10
Dividing Par- titions	2 1/2" Metal, Lath & Plaster	580 s.f.	580 s.f.	.23	133.40
Interior Par- titions	2" Metal, Lath & Plaster	(Gross) 2880 s.f.	2400 s.f. Pl. 2880 s.f. L.	.20	576.00
Wainscoat Bath Room	Tile	292 s.f.	292 s.f.	.80	233.60
Floors Bath Room	"	88 s.f.	88 s.f.	.55	48.40
Floors Kitchen	Asphalt Tile	408 s.f.	408 s.f.	.17	69.36
Floors All others	Wood Block	1936 s.f.	1936 s.f.	.18	348.48
Double Partitions	Double M., L. & Plaster	236 s.f.	236 s.f.	.27	63.72
Base Kitchen	Asphalt Tile	148 l.f.	148 l.f.	.25	37.00
Base Wood Floors	Wood or Metal	672 l.f.	672 l.f.	.25	168.00
Picture Mould	"	528 l.f.	528 l.f.	.05	26.40
Exterior Windows	Steel Case- ments, Metal Casings	4c-6'-0" 10c-4'-3" 4c-3'-2" 4c-1'-8"	428 s.f.	L.S.	270.00
Glazing Sash	S.S. B. Quality Clear Glass		428 s.f.	.125	53.50
Painting Sash	2-Field Coats		428 s.f.	.10	42.80
					\$6,207.20

Unit
4-2-B
4 Story

Item	Material	Area	Quantity	Unit Cost	Total Cost
Main Entrance Door	Wood	Complete	$\frac{1}{2}$	\$50.00	25.00
Entrance Doors	Kalamein	4-3'x7' 4-2'8"x6'8"	8	35.00	280.00
Interior Doors	Wood	16-2'x6'8" 16-2'6"x6'8"	32	7.50	240.00
Door Bucks	Metal Comb.	"	32	4.75	152.00
" Saddles	Wood	-	28	.75	21.00
Bath Rm. "	Marble	-	4	2.50	10.00
Wardrobe Fronts	Wood	80 s.f.	80 s.f.	.50	40.00
Roofing	20 year Bond 1" Insulation	716 s.f.	716 s.f.	.19	136.04
Sheet Metal	Flashings Leader Boxes	2	2	10.00	20.00
Shelving	Wood Closets & Wardrobes	-	4 apts.	5.00	20.00
Kitchen Cabinets	Wood Dressers, Shelving, etc.	-	4 apts	50.00	200.00
Gas Range	Standard	-	4 "	35.00	140.00
Refrigerator	"	-	4 "	75.00	300.00
Painting	Ceilings Walls, Trim	-	4 "	100.00	400.00
Shades	Cloth	-	22	1.00	22.00
Stairs	Steel, Cement Treads&Landings	Complete	$\frac{1}{2}$	952.00	476.00
Stair Halls	Cement Finish	60 s.f.	60 s.f.	.15	9.00
Struct. Steel	Beams & Cols.	-	10600 lbs.	.04	424.00
Fireproofing & Plaster	" "	-	1	L.S.	125.31
Plumbing	Standard	Complete	4 apts.	325.00	1,300.00
Heating	2 Pipe Vacuum Oil Fired	"	16 Rms.	60.00	960.00
Electric	Standard	"	16 "	30.00	480.00
Basement	Walls, Floors, Stairs & Cols.	"	1	L.S.	1,405.07
					\$13,458.22

Cost Per Room - $\frac{13,458.22}{16} = \$841.13$

Cost Per Cu.Ft. - $\frac{13,458.22}{37,324} = .36$

NEW YORK CITY HOUSING AUTHORITY

Technical Division

Preliminary Estimate of Complete Labor & Material Costs

Unit
4-4-4-T-D

4 Story

Item	Material	Area	Quantity	Unit Cost	Total Cost
Exterior Wall	12" Com. Brick	5042 s.f.	106 M	\$40.00	\$ 4,240.00
Parapet "	8" " "	390 s.f.	5 M	42.00	210.00
Coping	Cast Stone	167 l.f.	167 l.f.	.75	125.25
Sills	" "	275 l.f.	275 l.f.	.80	220.00
Tile Furring	2" Unglazed Vitritile	196 s.f.	196 s.f.	.36	70.56
Stair Enclosure	6" "	1416 s.f.	1416 s.f.	.54	764.64
Incinerator	Flue, Comb. Chamber & Accessories	Complete	1	625.00	625.00
Pent House	Walls, Slab, Door & Skylight	"	1	272.00	272.00
Floor Slab	6" Reinforced Concrete	8412 s.f.	8412 s.f.	.39	3,280.68
Roof "	2" Concrete Joists	2103 s.f.	2103 s.f.	.23	483.69
Furring Walls	Metal, Lath & Plaster	4184 s.f.	4184 s.f.	.19	794.96
Plaster Ceilings	1/2" White Finish	7960 s.f.	7960 s.f.	.065	517.40
Hung Ceilings	Metal, Lath & Plaster	2410 s.f.	2410 s.f.	.23	554.30
Dividing Partitions	2 1/2" Solid Plaster	1972 s.f.	1972 s.f.	.23	453.56
Interior Partitions	2" Solid Plaster	(Gross) 7844 s.f.	6250 s.f. (Pl) 7844 s.f.	.20	1,568.80
Maincoat Bath Room	Tile	876 s.f.	876 s.f.	.80	700.80
Floors Bath Room	"	264 s.f.	264 s.f.	.55	145.20
Floors Kitchen	Asphalt Tile	1172 s.f.	1172 s.f.	.17	199.24
Floors All others	Wood Block	6136 s.f.	6136 s.f.	.18	1,104.48
Double Partitions	Metal, Lath & Plaster	356 s.f.	356 s.f.	.27	96.12
Base Kitchen	Asphalt Tile	432 l.f.	432 l.f.	.25	108.00
Base Wood Floors	Wood or Metal	2304 l.f.	2304 l.f.	.25	576.00
Picture Mould	"	1012 l.f.	1012 l.f.	.05	50.60
Exterior Windows	Steel Casements, Metal Casings	12c-6'-0" 23c-4'-3" 20c-3'-2" 12c-1'-8"	1293 s.f.	L.S.	801.66
Glazing Sash	S.S. B. Quality Clear	"	1293 s.f.	.125	161.63
Painting Sash	2 Field Coats	"	1293 s.f.	.10	129.30
					\$18,253.87

Unit
4-4-4-T-D
4 Story

Brought Forward \$18,253.87

Item	Material	Area	Quantity	Unit Cost	Total Cost
Main Entrance Door	Wood	Complete	1	\$50.00	\$ 50.00
Entrance Doors	Kalamein	12-3'x7'	12	35.00	420.00
Interior Doors	Wood	36-2'x6'8" 52-2'6"x6'8" 12-3'x6'8"	100	7.50	750.00
Door Bucks	Metal Comb.	100	100	4.75	475.00
" Saddles	Wood	88	88	.75	66.00
Bath Rm. "	Marble	12	12	2.50	30.00
Wardrobe Fronts	Wood	816 s.f.	816 s.f.	.40	326.40
Roofing	20 year Bond 1" Insulation	2116 s.f.	2116 s.f.	.19	402.04
Sheet Metal	Flashings Leader Boxes	2	2	10.00	20.00
Shelving	Wood Closets & Wardrobes	-	12 apts.	5.00	60.00
Kitchen Cabinets	Wood Dresser Closet&Shelves		12 "	50.00	600.00
Gas Range	Standard		12 "	35.00	420.00
Refrigerator	"		12 "	75.00	900.00
Painting	Ceilings-Kalsomine-Walls & Trim-Lead & Oil			L.S.	1,000.00
Shades	Cloth	-	67	1.00	67.00
Stairs	Steel - Cement Treads&Landings		1	891.00	891.00
Stair Halls	Cement Finish	225 s.f.	225 s.f.	.15	33.75
Struct. Steel	Beams & Cols.		33200 lbs.	.04	1,328.00
Fireproofing & Plaster	" "			L.S.	372.00
Plumbing	Standard		12 apts.	320.00	3,840.00
Heating	2 Pipe Vacuum Oil Fuel		48 Rms.	60.00	2,880.00
Electric	Standard		48 "	30.00	1,440.00
Basement	Walls, Floor, Steps, Cols. etc.			L.S.	3,417.21
					\$38,202.27

Cost Per Room - $\frac{38,202.27}{48} = \$795.88$

Cost Per Cu.Ft. - $\frac{38,202.27}{111,159} = \$ 34.37$

NEW YORK CITY HOUSING AUTHORITY

Technical Division

Preliminary Estimate of Complete Labor & Material Costs

Unit
4-2-B
Story
High Stores

Item	Material	Area	Quantity	Unit Cost	Total Cost
Exterior Wall	12" Com. Brick	1723 s.f.	36 M	\$40.00	\$1440.00
Parapet "	"	"	"	"	"
Bulk Head "	8" " " "	453 s.f.	6.3 M	42.00	264.60
Coping	Cast Concrete	84 l.f.	84 l.f.	.75	63.00
Sills	" " " "	91 l.f.	91 l.f.	.80	72.80
Tile Furring	2" Unglazed Vitrified Tile	115 s.f.	115 s.f.	.36	41.40
Stair Enclosure	6" " " "	590 s.f.	590 s.f.	.54	318.60
Incinerator	Flue, Comb. Cham- ber & Accessories	Complete	$\frac{1}{2}$	630.00	315.00
Pent House	Roof, Walls, Door, Slab & Skylight	"	$\frac{1}{2}$	272.00	136.00
Structural Slab	6" Reinforced Concrete	2085 s.f.	2085 s.f.	.39	813.15
	7" " "	695 s.f.	695 s.f.	.44	305.80
Store Slab	5 $\frac{1}{2}$ " " "	498 s.f.	498 s.f.	.36	179.28
Roof Slab	2" Concrete	"	"	"	"
	8" Joists	695 s.f.	695 s.f.	.23	159.85
Roof Slab Stores	2" Concrete	"	"	"	"
	10" Joists	500 s.f.	500 s.f.	.25	125.00
Furring Walls	Metal, Lath & Plaster	1330 s.f.	1330 s.f.	.19	252.70
Ceiling Plaster	$\frac{1}{2}$ " White Finish	1890 s.f.	1890 s.f.	.065	112.85
Suspended Ceilings	Metal, Lath & Plaster	1235 s.f.	1235 s.f.	.23	284.05
Dividing Partitions	2 $\frac{1}{2}$ " Solid Plaster	435 s.f.	435 s.f.	.23	100.05
Interior Partitions	2" " "	(Gross) 2160 s.f.	2160 s.f.	.20	432.00
Wainscoat	"	"	"	"	"
Bath Room	Tile	219 s.f.	219 s.f.	.80	175.20
Floors-Bath Rm	"	66 s.f.	66 s.f.	.55	36.30
Floors-Kitchen	Asphalt Tile	306 s.f.	306 s.f.	.17	52.02
Floors-Others	Wood Block	2640 s.f.	2640 s.f.	.18	475.20
Double Partitions	Metal, Lath & Plaster	177 s.f.	177 s.f.	.27	47.59
Base-Kitchen	Asphalt Tile	111 l.f.	111 l.f.	.25	27.75
Base Wood Floors	Metal or Wood	764 l.f.	764 l.f.	.25	191.00
Picture Mould	"	396 l.f.	396 l.f.	.05	19.80
Sash	Steel Case- ment, Metal Casings	5-61'-0" 71'-4'-3" 6'-3'-2" 5'-11'-8"	367 s.f.	L.S.	235.50
Glazing Sash	S.S. B. Quality Clear Glass	"	367 s.f.	1.25	46.88
Painting Sash	2 Field Coats	"	367 s.f.	1.10	40.37

Unit 4-2-B
4 Story
With Stores

21-

Brought Forward

\$ 6,660.07

	Material	Area	Quantity	Unit Cost	Total Cost
Store	6"-H.T. Pl. 2-5	396 s.f.	396 s.f.	\$.40	\$ 158.40
Partitions	2 1/2" Solid Pl.	1132 s.f.	1132 s.f.	.23	260.36
Main Entrance	Wood	Complete		50.00	25.00
Entrance Doors	Kalamein	"		35.00	245.00
Interior Doors	Wood	14-2'0"x6'8" 12-2'6"x6'8" 2-3'0"x6'8"		7.50	210.00
Door Bucks	Metal Comb.	"		4.75	133.00
Door Saddles	Wood	"		.75	17.25
Bath Rm.	Marble	"		2.50	12.50
Wardrobe Fronts	Wood	60 s.f.	60 s.f.	.50	30.00
Roofing	20 year Bond 1" Insulation	1220 s.f.	1220 s.f.	.19	231.80
Sheet Metal	Flashings Leader Boxes	138 l.f. 3	138 l.f. 3	.80 10.00	110.40 30.00
Shelving	Closets and Wardrobes	-	3 apts.	5.00	15.00
Kitchen	Dresser, Clos- et & Shelving	Complete	3 "	50.00	150.00
Cabinets	Standard	"	3 "	35.00	105.00
Gas Range	"	"	3 "	75.00	225.00
Refrigerator	"	"	3 "	75.00	225.00
Painting	Ceilings Walls, Trim	-	Allow.	L.S.	450.00
Shades	Cloth	"	14	1.00	14.00
Stairs	Steel Strings Cement Treads	"	1/2	983.00	491.50
Structural	Beams, Columns & Lintels	"	23200 lbs.	.04	928.00
Steel	"	"	Allow.	L.S.	710.00
Fireproofing	"	"	"	L.S.	1,300.00
Plumbing	Standard	"	"	L.S.	1,300.00
Heating	2 Pipe Vacuum Oil Fired	"	"	L.S.	1,100.00
Electric	Standard	"	"	L.S.	600.00
Store Fronts & Bulk Head	Hollow Metal	"	"	L.S.	750.00
Basement	Walls, Floor Partitions, etc.	"	"	L.S.	2,042.80
Stair Halls	Cement Finish	80 s.f.	80 s.f.	.15	12.00

Cost of Apts. 12 Rms. \$841.13

Cost of Stores \$6,523.52

Cost per Lin. Ft. \$1,232.29

6,523.52

281-1

Preliminary Estimate of Complete Labor & Material Costs

4 Story

Item	Material	Area	Quantity	Unit Cost	Total Cost
Exterior Wall	12" Com. Brick	5503 s.f.	115.5 M	\$40.00	\$4,620.00
Parapet "	8" " "	419 s.f.	5.9 M	42.00	247.80
Coping	Cast Concrete	180 l.f.	180 l.f.	.75	135.00
Sills	" " "	286 l.f.	286 l.f.	.80	228.80
Tile Furring	2" Unglazed Vitritile	196 s.f.	196 s.f.	.36	70.56
Stair Enclosure	6" " "	1272 s.f.	1272 s.f.	.54	686.88
Incinerator	Flue, Comb. Chamber & Accessories	Complete	1	625.00	625.00
Pent House	Walls, Roof, Door & Skylight	"	1	272.00	272.00
Floor Slabs	6" Reinforced Concrete	9040 s.f.	9040 s.f.	.39	3,525.60
Roof Slabs	2" " " 8" Joists	2260 s.f.	2260 s.f.	.23	519.80
Wall Furring	Metal, Lath & Plaster	4532 s.f.	4532 s.f.	.19	861.08
Plaster	1/2" White Finish	6090 s.f.	6090 s.f.	.065	395.85
Ceilings	Metal, Lath & Plaster	2450 s.f.	2450 s.f.	.23	563.50
Suspended Ceilings	2 1/2" Solid	2088 s.f.	2088 s.f.	.23	480.24
Dividing Partitions	2" Solid (Gross) Plaster	10232 s.f.	10232 s.f.	.20	2,046.40
Wainscoat					
Bath Room	Tile	876 s.f.	876 s.f.	.80	700.80
Floors					
Bath Room	"	264 s.f.	264 s.f.	.55	145.20
Floors					
Kitchen	Asphalt Tile	1164 s.f.	1164 s.f.	.17	197.88
Floors					
All others	Wood Block	6780 s.f.	6780 s.f.	.18	1,220.40
Double Partitions	Metal, Lath & Plaster	708 s.f.	708 s.f.	.27	191.16
Base					
Kitchen	Asphalt Tile	436 l.f.	436 l.f.	.25	109.00
Base					
Wood Floors	Wood or Metal	2512 l.f.	2512 l.f.	.25	628.00
Picture Mould	"	2000 l.f.	2000 l.f.	.05	100.00
Exterior Windows	Steel Casement, Metal Casings	12-6'-0" 32-4'-3" 12-3'-2" 12-1'-8"	1376 s.f.	L.S.	852.75
Glazing Sash	S.S. B. Quality Clear Glass	"	1376 s.f.	.125	172.00
Painting Sash	2 Field Coats	"	1376 s.f.	.10	137.60
					\$19,733.30

Unit
4-4-5-T-D
4 Story

Brought Forward					\$19,733.30
Item	Material	Area	Quantity	Unit Cost	Total Cost
Main Entrance	Wood	Complete	1	\$50.00	50.00
Entrance Doors	Kalamein	"	12	35.00	420.00
Interior Doors	Wood	40-2'-0" 56-2'-6" 12-3'-0"	108	7.50	810.00
Door Bucks	Comb. Metal	"	108	4.75	513.00
Door Saddles	Wood		96	.75	72.00
Bath Rm. Saddles	Marble		12	2.50	30.00
Wardrobe Fronts	Wood	868 s.f.	868 s.f.	.50	434.00
Roofing	20 year Bond 1" Insulation	2290 s.f.	2290 s.f.	.19	435.10
	Flashings	220 l.f.	220 l.f.	.80	176.00
Sheet Metal	Leader Boxes	3	3	10.00	30.00
	Closets and Wardrobes	-	12 apts.	5.00	60.00
Shelving					
Kitchen	Dresser, Clos- et & Shelving		12 apts.	50.00	600.00
Cabinets					
Gas Range	Standard		12 "	35.00	420.00
Refrigerator	"		12 "	75.00	900.00
	Ceilings				
Painting	Walls, Trim		Allow.	L.S.	1,100.00
Shades	Cloth		68	1.00	68.00
	Steel - Cement				
Stairs	Treads&Landings		1	891.00	891.00
Stair Halls	Cement Finish	192 s.f.	192 s.f.	.15	28.80
Structural	Beams, Columns				
Steel	& Lintels		35400 lbs.	.04	1,416.00
Fireproofing					
& Plaster	" "		Allow.	L.S.	450.00
Plumbing	Standard		12 apts.	320.00	3,840.00
	2 Pipe Vacuum				
Heating	Oil Fired		52 Rms.	60.00	3,120.00
Electric	Excavation, Foot- ings, Walls, Cols.				
Basement	etc.				
					<u>3,479.00</u>
					\$40,636.20

Cost Per Room - $\frac{40,636.20}{52} = \$781.47$

Cost Per Cu.Ft. - $\frac{40,636.20}{119,287} = \$.34$

Total Cost 4-4-5 = \$40,636.20
Cost of 32 Rms. in 4 Rm.Apts. @ \$795.88 = 25,468.16
Cost of 20 Rms. in 5 Rm.Apts. 15,168.04

Cost per Room (5) \$758.40
Cost per Cu.Ft. \$.332

NEW YORK CITY HOUSING AUTHORITY

Unit 5-1-B

Technical Division

4 Story

Preliminary Estimate of Complete Labor & Material Costs

Item	Material	Area	Quantity	Unit Cost	Total Cost
Exterior Wall	12" Com. Brick	2142 s.f.	45 M	\$40.00	\$ 1,800.00
Parapet Wall	8" " "	182 s.f.	2.3 M	42.00	96.60
Coping	Cast Concrete	69.5 l.f.	69.5 l.f.	.75	52.12
Sills	" "	105 l.f.	105 l.f.	.80	84.00
Tile Furring	2" Unglazed Vitritile	100 s.f.	100 s.f.	.36	36.00
Stair Enclosure	6" " "	496 s.f.	496 s.f.	.54	267.84
Incinerator	Flue, Comb. Chamber & Accessories	Complete	1/2	625.00	312.50
Pent House	Walls, Roof, Door & Skylight	"	1/2	266.00	133.00
Floor Slabs	6" Reinforced Concrete	3472 s.f.	3472 s.f.	.39	1,354.08
Roof Slabs	2" " "	868 s.f.	868 s.f.	.23	199.64
Wall Furring	8" Steel Joists	868 s.f.	868 s.f.	.23	199.64
Plaster	Metal, Lath & Plaster	1756 s.f.	1756 s.f.	.19	333.64
Ceilings	1/2" White Finish	2594 s.f.	2594 s.f.	.065	169.61
Suspended Ceilings	Metal, Lath & Plaster	938 s.f.	938 s.f.	.23	215.74
Dividing Partitions	2 1/2" Solid Plaster	580 s.f.	580 s.f.	.23	133.40
Interior Partitions	2" Solid (Gross) Plaster	4012 s.f.	4012 s.f.	.20	802.40
Wainscot					
Bath Room	Tile	292 s.f.	292 s.f.	.80	233.60
Floors	"	88 s.f.	88 s.f.	.55	48.40
Bath Room					
Floors	Asphalt Tile	360 s.f.	360 s.f.	.17	61.20
Kitchen					
Floors	Wood Block	2740 s.f.	2740 s.f.	.18	493.20
All others					
Double Partitions	Metal, Lath & Plaster	236 s.f.	236 s.f.	.27	63.72
Base					
Kitchen	Asphalt Tile	148 l.f.	148 l.f.	.25	37.00
Base	Wood or Metal	1000 l.f.	1000 l.f.	.25	250.00
Wood Floors					
Picture Mould	"	800 l.f.	800 l.f.	.05	40.00
Sash	Steel Casement, Metal	4-6'-0" 14-4'-3" 4-3'-2" 4-1'-8"	495 s.f.	L.S.	320.00
Glazing	S.S. B. Quality Clear Glass	"	495 s.f.	.125	61.88
Sash					
Painting	2 Field Coats	"	495 s.f.	.10	49.50
Sash					
					\$7,635.07

Brought Forward \$ 7,635.07

Item	Material	Area	Quantity	Unit Cost	Total Cost
Main Entrance	Wood	Complete	1/2	\$50.00	25.00
Entrance Doors	Kelamain	"	4	35.00	140.00
Interior Doors	Wood	16-2'-0" 20-2'-6" 4-3'-0"	40	7.50	300.00
Door Bucks	Metal Comb.	"	40	4.75	190.00
Door Saddles	Wood	-	36	.75	27.00
Bath Rm. Saddles	Marble	-	4	2.50	10.00
Wardrobe Fronts	Wood	172 s.f.	172 s.f.	.50	86.00
Roofing	20 year Band 1" Insulation	886 s.f.	886 s.f.	.19	168.34
Sheet Metal	Flashings Leader Boxes	96 l.f. 2	96 l.f. 2	.80 10.00	76.80 20.00
Shelving	Closets and Wardrobes	-	4 apts.	7.50	30.00
Kitchen Cabinets	Dresser, Closet & Shelving	-	4 "	50.00	200.00
Gas Range	Standard	-	4 "	35.00	140.00
Refrigerator	"	-	4 "	75.00	300.00
Painting	Ceilings Walls, Trim	-	4 "	120.00	480.00
Shades	Cloth	-	26	1.00	26.00
Stairs	Steel - Cement Treads & Landings	-	1/2	952.00	476.00
Stair Halls	Cement	60 s.f.	60 s.f.	.15	9.00
Structural Steel	Beams, Columns & Lintels	-	13400 lbs.	.04	536.00
Fireproofing	"	-	-	L.S.	175.00
Plumbing	Standard	Complete	4 apts.	525.00	1,300.00
Heating	2 Pipe Vacuum Oil Fired	"	20 Rms.	60.00	1,200.00
Electric	Standard	"	20 "	30.00	600.00
Basement	Excavation, Walls, Floor, etc.	"	Allow.	L.S.	1,630.00
					\$15,780.21

Cost Per Room - $\frac{15,780.21}{20} = \$789.01$

Cost Per Cu.Ft. - $\frac{15,780.21}{46,188} = \$.341$

NEW YORK CITY HOUSING AUTHORITY

Unit
3-3-3-T-E-A

Technical Division

6 Story
Elevator

Preliminary Estimate of Complete Labor & Material Costs

Item	Material	Area	Quantity	Unit Cost	Total Cost
Exterior Wall	12" Com. Brick	6751 s.f.	142 M	\$40.00	\$ 5,680.00
Parapet "	8" " "	337 s.f.	4.7 M	42.00	197.40
Coping	Cast Concrete	145 l.f.	145 l.f.	.75	108.75
Sills	" "	321 l.f.	321 l.f.	.80	256.80
Tile Furring	2" Unglazed Vitritile	294 s.f.	294 s.f.	.36	105.84
Stair & Public Hall Enclos.	6" " "	2100 s.f.	2100 s.f.	.54	1,134.00
Incinerator	Flue, Comb. Chamber & Accessories	Complete	1	760.00	760.00
Stair Pent House	Walls, Roof, Door & Skylight	"	1	272.00	272.00
Floor Slabs	6" Reinforced Concrete	10500 s.f.	10500 s.f.	.39	4,095.00
Roof Slabs	2" " "				
Furring	8" Joists	1750 s.f.	1750 s.f.	.23	402.50
Ext. Walls	Metal, Lath & Plaster	5640 s.f.	5640 s.f.	.19	1,071.60
Plaster Ceilings	1/2" White Finish	8400 s.f.	8400 s.f.	.065	546.00
Hung Ceilings	Metal, Lath & Plaster	2310 s.f.	2310 s.f.	.23	531.30
Dividing Partitions	2 1/2" Solid Plaster	2628 s.f.	2628 s.f.	.23	604.44
Int. " "	2" " "	11718 s.f.	11718 s.f.	.20	2,343.60
Wainscoat					
Bath Room	Tile	1314 s.f.	1314 s.f.	.80	1,051.20
Floors-Bath Rm.	"	396 s.f.	396 s.f.	.55	217.80
Floors-Kitchen	Asphalt Tile	1596 s.f.	1596 s.f.	.17	271.32
Floors					
All others	Wood Block	7446 s.f.	7446 s.f.	.18	1,340.28
Base - Kitchen	Asphalt Tile	612 l.f.	612 l.f.	.25	153.00
Base	Wood or Metal				
Wood Floors	Metal	2676 l.f.	2676 l.f.	.25	669.00
Picture Mould	"	1800 l.f.	1800 l.f.	.05	90.00
Sash	Steel Casement, Metal Casings	18-6'-0" 24-4'-3" 18-3'-2" 18-1'-8"	1440 s.f.	L.S.	929.40
Glazing	S.S. B. Quality Clear	"	1440 s.f.	.125	180.00
Sash	2 Field Coats	"	1440 s.f.	.10	144.00
Painting Sash					
Elevator Shaft Encl.	6" Hollow Tile	1014 s.f.	1014 s.f.	.34	344.76
Stair & Public Hall Floors	Cement Finish	72 s.f.	72 s.f.	.15	10.80
Double Partition	Metal, Lath & Plaster	354 s.f.	354 s.f.	.27	95.58
					\$23,606.37

Unit
3-3-3-T-E-A
6 Story
Elevator

Brought Forward \$23,606.37

Item	Material	Area	Quantity	Unit Cost	Total Cost
Main Entrance	Wood	Complete	1	\$50.00	\$ 50.00
Entrance Doors	Kalamain	"	24	35.00	840.00
Interior Doors	Wood	54-2'0"x6'8" 60-2'6"x6'8" 18-3'0"x6'8"	132	7.50	990.00
Door Bucks	Comb. Metal	"	132	4.75	627.00
Door Saddles	Wood	"	114	.75	85.50
Bath Rm. Saddles	Marble	"	18	2.50	45.00
Wardrobe Fronts	Wood	864 s.f.	864 s.f.	.50	432.00
Roofing	20 year Bond 1" Insulation	1865 s.f.	1865 s.f.	.19	354.35
	Flashings	185 l.f.	185 l.f.	.80	148.00
Sheet Metal	Leader Boxes	3	3	10.00	30.00
Shelving	Wood Closets & Wardrobes	-	18 apts.	5.00	90.00
Kitchen Cabinets	Dresser, Clos- et & Shelving	Complete	18 "	50.00	900.00
Gas Range	Standard	"	18 "	35.00	630.00
Refrigerator	"	"	18 "	75.00	1,350.00
Painting	Ceilings. Walls, Trim	-	18 "	L.S.	1,200.00
Shades	Cloth	"	72	1.00	72.00
Stairs	Steel - Cement Treads&Landings	Complete	1	1,217.00	1,217.00
Structural Steel	Beams, Columns & Lintels	"	46000 lbs.	.04	1,840.00
Fireproofing	"	"	Allow.	L.S.	975.00
Plumbing	Standard	"	18 apts.	300.00	5,400.00
Heating	2 Pipe Vacuum Oil Fired	"	54 Rms.	60.00	3,240.00
Electric	Standard	"	54 "	30.00	1,620.00
Basement	Excavation, Walls, Floor, etc.	"		L.S.	3,587.35
Elevator	Push Button 1200 lbs.@ 100'	"	1)	L.S.	5,700.00
" Doors	Kalamain	"	7)		-
Elevator Pent House	Walls, Roof, Door & Skylight	"	1	L.S.	325.00

\$55,354.57

Cost Per Room - $\frac{55,354.57}{54} = \$1,025.08$

Cost Per Cu.Ft. - $\frac{55,354.57}{130,884} = \$.423$

NEW YORK CITY HOUSING AUTHORITY

Unit
3-3-3-3-X-E-A

Technical Division

Preliminary Estimate of Complete Labor & Material Costs

6 Story
Elevator

Item	Material	Area	Quantity	Unit Cost	Total Cost
Exterior Wall	12" Com. Brick	10356 s.f.	217 M'	\$40.00	\$ 8,680.00
Parapet "	8" " "	476 s.f.	6.7 M	42.00	281.40
Coping	Cast Concrete	204 l.f.	204 l.f.	.75	153.00
Sills	" "	413 l.f.	413 l.f.	.80	330.40
Tile Furring	2" Unglazed Vitritile	168 s.f.	168 s.f.	.36	60.48
Stair & Public Hall Enclos.	6" " "	3018 s.f.	3018 s.f.	.54	1,629.72
Incinerator	Flue, Comb. Chamber & Accessories	Complete	1	760.00	760.00
Stair Pent House	Walls, Roof, Door & Skylight	"	1	272.00	272.00
Floor Slabs	6" Reinforced Concrete	15282 s.f.	15282 s.f.	.39	5,959.98
Roof Slabs	2" " "				
	8" Joists	2547 s.f.	2547 s.f.	.23	585.81
Furring Walls	Metal, Lath & Plaster	8466 s.f.	8466 s.f.	.19	1,608.54
Plaster	1/2" White				
Ceilings	Finish	11475 s.f.	11475 s.f.	.065	745.88
Hung Ceilings	Metal, Lath & Plaster	3015 s.f.	3015 s.f.	.23	693.45
Dividing Partitions	2 1/2" Solid Plaster	2604 s.f.	2604 s.f.	.23	598.92
Int. "	2" " "	15618 s.f. (Gross)	15618 s.f.	.20	2,123.60
Wainscoat					
Bath Room	Tile	1752 s.f.	1752 s.f.	.80	1,401.60
Floors-Bath Rm.	"	528 s.f.	528 s.f.	.55	290.40
Floors-Kitchen	Asphalt Tile	2640 s.f.	2640 s.f.	.17	448.80
Floors					
All others	Wood Block	10350 s.f.	10350 s.f.	.18	1,863.00
Double Partitions	Metal, Lath & Plaster	1416 s.f.	1416 s.f.	.27	382.32
Base - Kitchen	Asphalt Tile	1038 l.f.	1038 l.f.	.25	259.50
Base	Wood or Metal				
Wood Floors		4068 l.f.	4068 l.f.	.25	1,017.00
Picture Mould	"	2760 l.f.	2760 l.f.	.05	138.00
Sash	Steel Casement, Metal Casings	24-6'-0" 24-4'-3" 30-3'-2" 24-1'-8"	1839 s.f.	L.S.	1,186.68
Glazing	S.S. B. Quality				
Sash	Clear Glass	"	1839 s.f.	.125	228.88
Painting Sash	2 Field Coats	"	1839 s.f.	.10	183.90
Stair & Public Hall Floors	Cement Finish	732 s.f.	732 s.f.	.15	109.80
Elevator Encls.	6" Hollow Tile	1014 s.f.	1014 s.f.	.34	344.76
					\$33,357.82

Unit
3-3-3-3-X-E-A
6 Story
Elevator

Brought Forward \$33,337.82

Item	Material	Area	Quantity	Unit Cost	Total Cost
Main Entrance	Wood	Complete	1	\$50.00	\$ 50.00
Entrance Doors	Kalamein	"	30	35.00	1,050.00
Interior Doors	Wood	132-2'0"x6'8" 48-2'6"x6'8" 24-3'0"x6'8"	204	7.50	1,530.00
Door Bucks	Comb. Metal	"	204	4.75	969.00
Door Saddles	Wood	-	180	.75	135.00
Bath Rm. Saddles	Marble	-	24	2.50	72.00
Wardrobe Fronts	Wood	408 s.f.	408 s.f.	.50	204.00
Roofing	20 year Bond 1" Insulation	2545 s.f.	2545 s.f.	.19	483.55
Sheet Metal	Flashings Leader Boxes	4	4	10.00	40.00
Shelving	Wood Closets & Wardrobes	Complete	24 apts.	5.00	120.00
Kitchen Cabinets	Dresser, Closet & Shelving	"	24 "	50.00	1,200.00
Gas Ranges	Standard	"	24 "	35.00	840.00
Refrigerator	"	"	24 "	75.00	1,800.00
Painting	Ceilings Walls, Trim	"	Allow.	L.S.	1,500.00
Shades	Cloth	"	102	1.00	102.00
Stairs	Steel - Cement Treads&Landings	"	1	1,217.00	1,217.00
Structural Steel	Beams, Columns & Lintels	-	79000 lbs.	.04	3,160.00
Fireproofing	"			L.S.	1,650.00
Plumbing	Standard	Complete	24 apts.	500.00	7,200.00
Heating	2 Pipe Vacuum Oil Fired	"	72 Rms.	60.00	4,320.00
Electric	Standard	"	72 "	30.00	2,160.00
Basement	Excavation, Walls, Floor, etc.	"	Allow.	L.S.	4,823.33
Elevator	Push Button 1200 lbs. @ 100'	"	1	L.S.)	5,700.00
" Doors	Kalamein	" (Slide)	7	L.S.)	-
Elevator Pent House	Walls, Door, Grating & Skylight	"	Allow.	L.S.	325.00

\$74,188.70

Cost Per Room - $\frac{74,188.70}{72} = \$1,030.40$

Cost Per Cu.Ft. - $\frac{74,188.70}{220} = \$.337$

NEW YORK CITY HOUSING AUTHORITY

Unit
4-4-4-T-E-A

Technical Division

Preliminary Estimate of Complete Labor & Material Costs

6 Story
Elevator

Item	Material	Area	Quantity	Unit Cost	Total Cost
Exterior Wall	12" Com. Brick	8092 s.f.	170 M	\$40.00	\$ 6,800.00
Parapet "	8" " "	412 s.f.	6 M	42.00	252.00
Coping	Cast Concrete	177 l.f.	177 l.f.	.75	132.75
Sills	" "	402 l.f.	402 l.f.	.80	321.60
Tile Furring	2" Unglazed Vitritile	294 s.f.	294 s.f.	.36	105.84
Stair & Public Hall Encls.	6" " "	2370 s.f.	2370 s.f.	.54	1,279.80
Incinerator	Flue, Comb. Chamber & Accessories	Complete	1	760.00	760.00
Stair Pent House	Walls, Roof, Door & Skylight	"	1	272.00	272.00
Floor Slabs	6" Reinforced Concrete	13056 s.f.	13056 s.f.	.39	5,091.84
Roof Slabs	2" " "	2176 s.f.	2176 s.f.	.23	500.48
Furring Ext. Walls	8" Joists	6840 s.f.	6840 s.f.	.19	1,299.60
Plaster Ceilings	Metal, Lath & Plaster	9900 s.f.	9900 s.f.	.065	643.50
Hung Ceilings	1/2" White Finish	2610 s.f.	2610 s.f.	.23	600.30
Dividing Partitions	Metal, Lath & Plaster	2628 s.f.	2628 s.f.	.23	604.44
Int. "	2 1/2" Solid Plaster	12750 s.f.	12750 s.f.	.20	2,550.00
Wainscoat Bath Room	2" " "	1314 s.f.	1314 s.f.	.80	1,051.20
Floors-Bath Rm.	Tile	396 s.f.	396 s.f.	.55	217.80
Floors-Kitchen	"	1668 s.f.	1668 s.f.	.17	283.56
Floors All others	Asphalt Tile	9762 s.f.	9762 s.f.	.18	1,757.16
Base - Kitchen	Wood Block	648 l.f.	648 l.f.	.25	162.00
Base Wood Floors	Asphalt Tile	3384 l.f.	3384 l.f.	.25	846.00
Picture Mould	Wood or Metal	2400 l.f.	2400 l.f.	.05	120.00
Sash	"	18-6'-0" 42-4'-3" 18-3'-2" 18-1'-8"	1860 s.f.	L.S.	1,191.60
Glazing Sash	Steel Case-ment, Metal Casings	"	1860 s.f.	.125	232.50
Painting Sash	S.S. B. Quality Clear	"	1860 s.f.	.10	186.00
Elevator Shaft Encl.	2 Field Coats	1014 s.f.	1014 s.f.	.34	344.76
Stair & Public Hall Floors	6" Hollow Tile	72 s.f.	72 s.f.	.15	10.80
Double Partition	Cement Finish	1062 s.f.	1062 s.f.	.27	286.74
	Metal, Lath & Plaster				
					\$27,904.27

Unit
4-4-4-T-E-A
6 Story
Elevator

Brought Forward					\$27,904.27
Item	Material	Area	Quantity	Unit Cost	Total Cost
Main Entrance	Wood	Complete	1	\$50.00	\$ 50.00
Entrance Doors	Kalamein	"	18	35.00	630.00
Interior Doors	Wood	54-2'-0" 78-2'-6" 18-3'-0"	150	7.50	1,125.00
Door Bucks	Comb. Metal	"	150	4.75	712.50
Door Saddles	Wood	"	132	.75	99.00
Bath Rm. Saddles	Marble	"	18	2.50	45.00
Wardrobe Fronts	Wood	1122 s.f.	1122 s.f.	.50	561.00
Roofing	20 year Bond 1" Insulation	2244 s.f.	2244 s.f.	.19	426.36
Sheet Metal	Flashings Leader Boxes	3	3	10.00	30.00
Shelving	Wood Closets & Wardrobes	"	18 apts.	5.00	90.00
Kitchen	Dresser, Closet & Shelving	"	18 "	50.00	900.00
Gas Range	Standard	"	18 "	35.00	630.00
Refrigerator	"	"	18 apts.	75.00	1,350.00
Painting	Ceilings Walls, Trim	"	Allow.	L.S.	1,500.00
Shades	Cloth	"	96	1.00	96.00
Stairs	Steel - Cement Treads & Landings	Complete	1	1,217.00	1,217.00
Structural	Beams, Columns Steel & Lintels	"	55700 lbs.	.04	2,228.00
Fireproofing	"	"	Allow.	L.S.	1,125.00
Plumbing	Standard	"	18 apts.	310.00	5,580.00
Heating	2 Pipe Vacuum Oil Fired	"	72 Pms.	60.00	4,320.00
Electric	Standard	"	72 "	30.00	2,160.00
Basement	Excavation, Walls Floor, etc.	"	"	L.S.	4,260.00
Elevator	Push Button 1200 lbs. @ 100'	"	1	L.S.	5,700.00
" Doors	Kalamein	"Slide	7	"	"
Elevator Pent House	Walls, Roof, Door & Skylight	"	1	"	325.00
					\$65,239.49

Cost Per Room - $\frac{63,239.49}{72} = \$876.33$

Cost Per Cu. Ft. - $\frac{63,239.49}{160,228} = \$.395$

NEW YORK CITY HOUSING AUTHORITY

Unit
4-4-4-4-X-E-A

Technical Division

Preliminary Estimate of Complete Labor & Material Costs

6 Story
Elevator

Item	Material	Area	Quantity	Unit Cost	Total Cost
Exterior Wall	12" Com. Brick	11543 s.f.	242 M	\$40.00	\$ 9,680.00
Parapet "	8" " "	575 s.f.	8 M	42.00	336.00
Coping	Cast Concrete	246 l.f.	246 l.f.	.75	184.50
Sills	" "	545 l.f.	545 l.f.	.80	436.00
Tile Furring	2" Unglazed Vitritile	168 s.f.	168 s.f.	.36	60.48
Stair & Public Hall Enclos.	6" " "	3060 s.f.	3060 s.f.	.54	1,652.40
Incinerator	Flue, Comb. Chamber & Accessories	Complete	1	760.00	760.00
Pent House	Walls, Roof, Door & Skylight	"	1	272.00	272.00
Floor Slabs	6" Reinforced Concrete	18660 s.f.	18660 s.f.	.39	7,277.40
Roof Slabs	2" " "				
Furring	8" Joists	3110 s.f.	3110 s.f.	.23	715.30
Ext. Walls	Metal, Lath & Plaster	10020 s.f.	10020 s.f.	.19	1,903.80
Plaster	1/2" White Finish	14125 s.f.	14125 s.f.	.065	918.12
Hung Ceilings	Metal, Lath & Plaster	3540 s.f.	3540 s.f.	.23	814.20
Dividing Partitions	2 1/2" Solid Plaster	4236 s.f.	4236 s.f.	.23	974.28
Int. "	2" " "	19548 s.f.	19548 s.f.	.20	3,909.60
Wainscoat					
Bath Room	Tile	1752 s.f.	1752 s.f.	.80	1,401.60
Floors-Bath Rm.	"	528 s.f.	528 s.f.	.55	290.40
Floors-Kitchen	Asphalt Tile	2208 s.f.	2208 s.f.	.17	375.36
Floors					
All others	Wood Block	14610 s.f.	14610 s.f.	.18	2,629.80
Double Partitions	Metal, Lath & Plaster	1416 s.f.	1416 s.f.	.27	382.32
Base - Kitchen	Asphalt Tile	840 l.f.	840 l.f.	.25	210.00
Base	Wood or				
Wood Floors	Metal	5076 l.f.	5076 l.f.	.25	1,269.00
Picture Mould	"	3120 l.f.	3120 l.f.	.05	156.00
Sash	Steel Casement, Metal Casings	24-6'-0" 48-4'-3" 29-3'-2" 24-1'-8"	2373 s.f.	L.S.	1,521.80
Glazing	S.S. B. Quality				
Sash	Clear Glass	"	2373 s.f.	.125	296.63
Painting Sash	2 Field Coats	"	2373 s.f.	.10	237.30
Elevator Shaft Encl.	6" Hollow Tile Pl.	1014 s.f.	1014 s.f.	.34	344.76
Stair & Public Hall Floors	Cement Finish	97 s.f.	97 s.f.	.15	14.55
					\$39,023.60

Unit
4-4-4-4-X-E-A
6 Story
Elevat. r
Brought Forward 379,023.60

Item	Material	Area	Quantity	Unit Cost	Total Cost
Main Entrance	Wood	Complete	1	\$50.00	50.00
Entrance Doors	Kalamain	"	24	35.00	840.00
Interior Doors	Wood	120-2'-0" 120-2'-6" 24-3'-0"	264	7.50	1,980.00
Door Bucks	Comb. Metal	"	264	4.75	1,254.00
Door Saddles	Wood	240	240	.75	180.00
Bath Rm. Saddles	Marble	24	24	2.50	60.00
Wardrobe Fronts	Wood	408	408	.50	204.00
Roofing	20 year Bond 1" Insulation	3150 s.f.	3150 s.f.	.19	598.50
Sheet Metal	Flashings	300 l.f.	300 l.f.	.80	240.00
	Ladder Boxes	4	4	10.00	40.00
Shelving	Closets	24 cpts.	24 cpts.	5.00	120.00
Kitchen	Dresser, Closet & Shelving	24 "	24 "	50.00	1,200.00
Gas Range	Standard	24 "	24 "	35.00	840.00
Refrigerator	"	24 "	24 "	75.00	1,800.00
Painting	Ceilings Walls, Trim	24 "	-	L.S.	2,000.00
Shades	Cloth		125	1.00	125.00
Stairs	Steel - Cement Treads & Landings		1	1,217.00	1,217.00
Structural	Beams, Columns Steel & Lintels	-	82000 lbs.	.04	3,280.00
Fireproofing	"	-	Allow.	L.S.	1,000.00
Plumbing	Standard	Complete	24 cpts.	310.00	7,440.00
Heating	7 Pipe Vacuum Oil Fired	"	96 Rms.	60.00	5,760.00
Electric	Standard	"	96 "	30.00	2,880.00
Basement	Excavation, Foot- ings, Walls, etc.	"	-	L.S.	5,865.36
Elevator	Push Button 1200 lbs. @ 150' per min.	"	1)	L.S.	5,700.00
" Doors	Kalamain	"	7)		-
Elevator Paint House	Walls, Roof, Door & Skylight	"	1	L.S.	325.00

881,923.46

Cost Per Room - $\frac{84,922.46}{96} = 884.61$

Cost Per Cu.Ft. - $\frac{84,922.46}{594,68} = .143$

APPENDIX VIII

MAINTENANCE

APPENDIX VIIIMAINTENANCE

Thirty-eight dollars per room is estimated as the annual cost for maintenance, administration and insurance for walk-up structures. This estimate is based on a study of corresponding figures for 23 housing projects now in operation in New York City and of record of the State Housing Board.

The following quotation is taken from the Annual Report of the latter organization for 1933:

"The most striking fact that appears in this table is the effect of increasing size of operations upon the trend of operating costs. The amalgamated Housing project more than doubled in size during the years 1928 to 1932. In 1932 there were 627 apartments containing 2,441 rooms as against 308 apartments with 1,185 rooms in 1928. in five years, the wage and fuel bills per room per month were each cut about 50 per cent and the expense for administration per room per month decreased by 40 per cent."

In point of size and uniform control the developments of the Metropolitan Life Insurance Company approach more nearly the scale of this project than any others in the city. The total annual maintenance cost per room of

APPENDIX IX

CONSTRUCTION COST AND MAINTENANCE OF STORES

Construction cost of stores, when introduced at the street level in apartment structures, has been estimated at \$232.29 per lineal foot. The construction cost of unit 4-2-B with stores and three stories of apartments and without stores but with four stories of apartments was estimated. Seventy-five per cent of the cost of the latter was subtracted from the total cost of the former to arrive at a cost for the stores.

Calculations show that the free standing stores will not exceed the above figure.

Maintenance on stores, which includes heat and hot water, is estimated on the basis of \$55.00 per 15'0" store per year.

12/24/34

A P P E N D I X X

EXAMPLES OF WORKING DRAWINGS

MADE FOR PURPOSES OF ESTIMATES.

the Company's three projects (consisting of 5 story walk-up structures, totaling 9844* rooms) for a period of six years follows:-

TABLE XXXV - STATE BOARD OF HOUSING REPORT - 1931

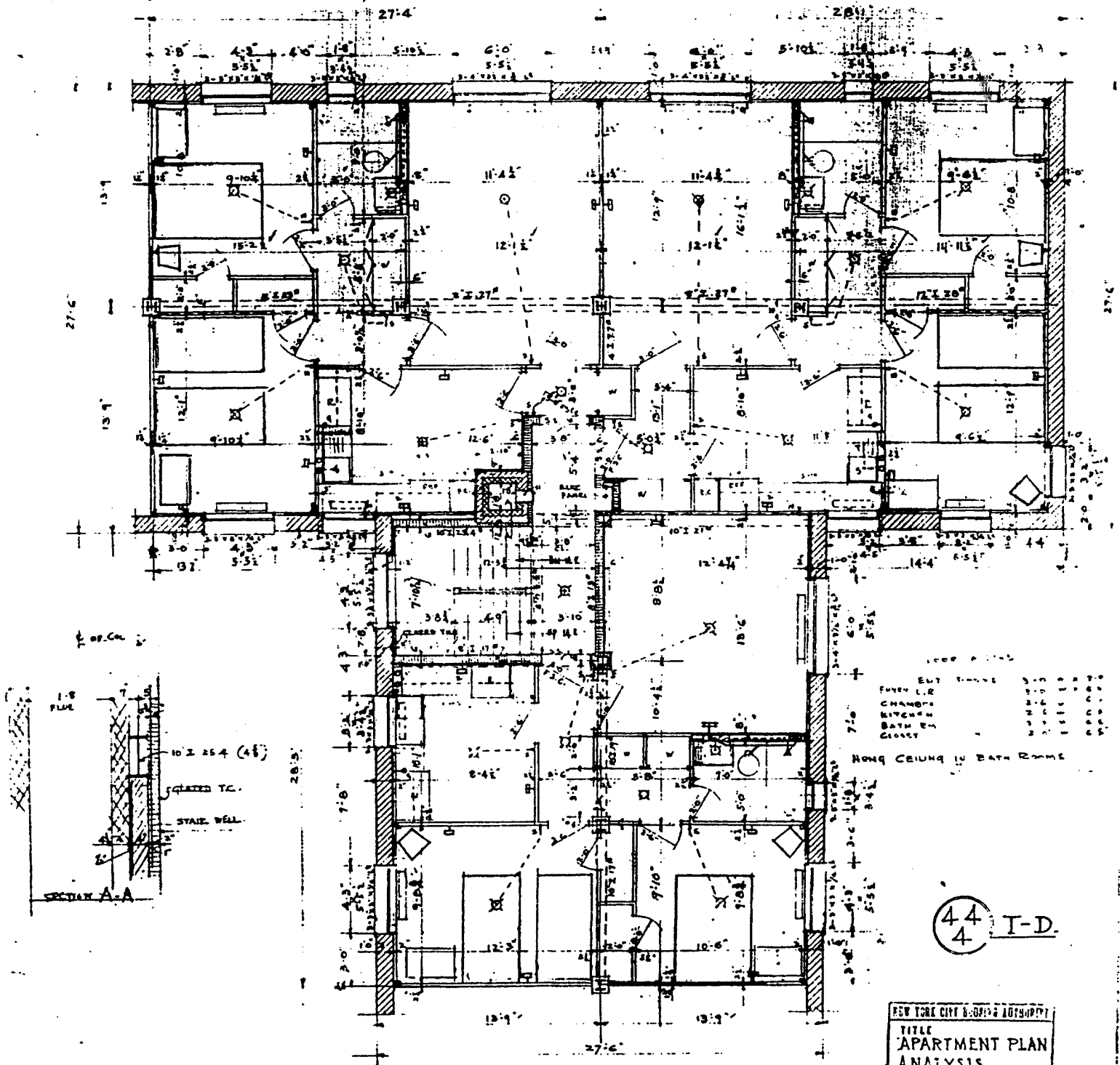
Project	No. Rooms	1930	1929	1928	1927	1926	1925	Average
1	2880	\$34.80	32.47	36.00	31.92	34.30	34.02	33.91
2	1980	33.86	32.76	34.45	33.88	35.71	36.01	34.44
3	4984	34.18	32.47	34.02	31.80	32.16	35.89	33.42

Study of costs of elevator upkeep and power in projects under the control of State Board of Housing indicates that these items will total \$4.50 per room per year in elevator structures. Maintenance in these structures is, therefore, estimated at \$42.50 per room per year.

* Includes 1392 rooms which are smaller than any proposed for the Williamsburg Project.

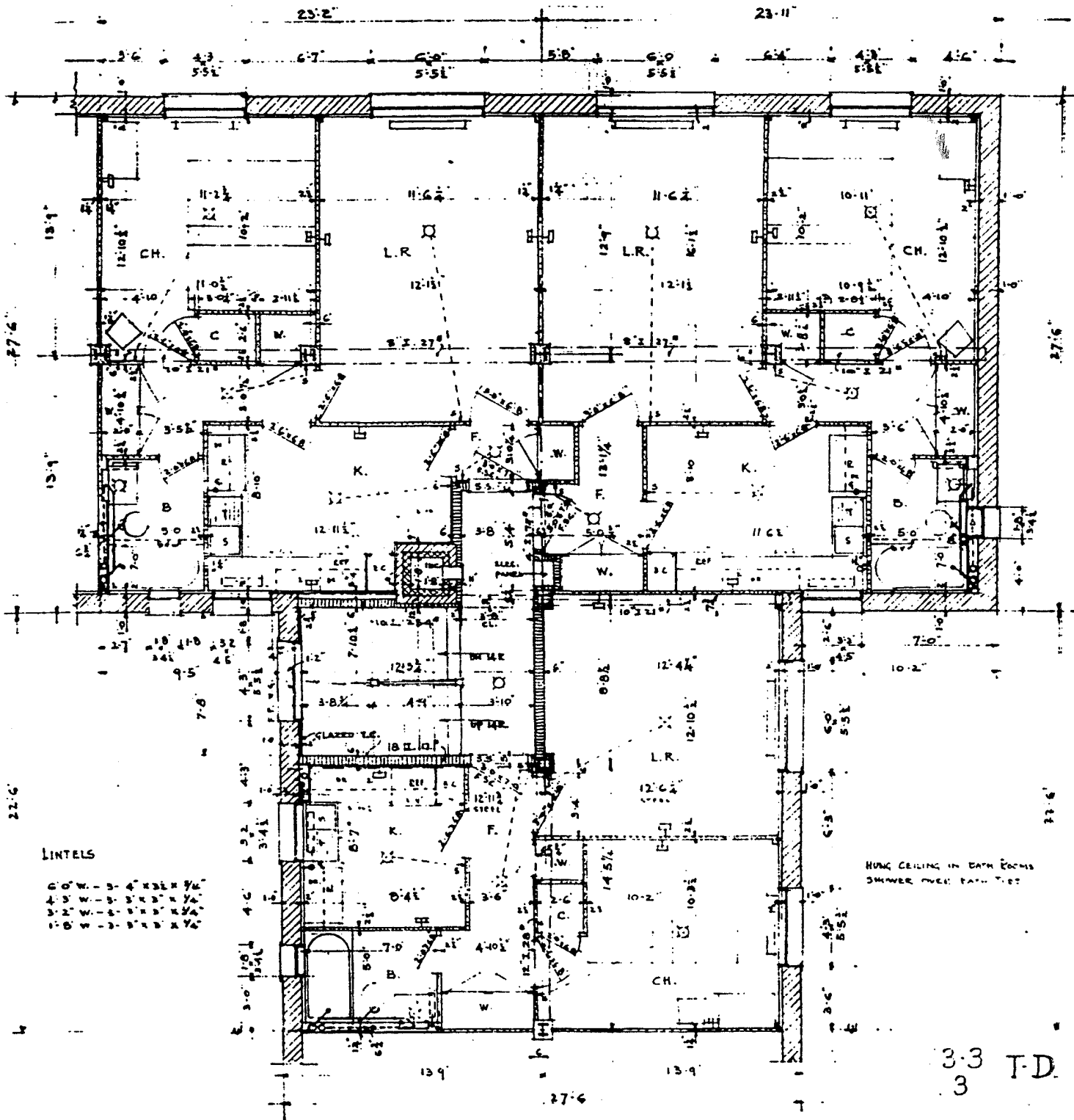
APPENDIX IX

CONSTRUCTION COST AND MAINTENANCE OF STORES



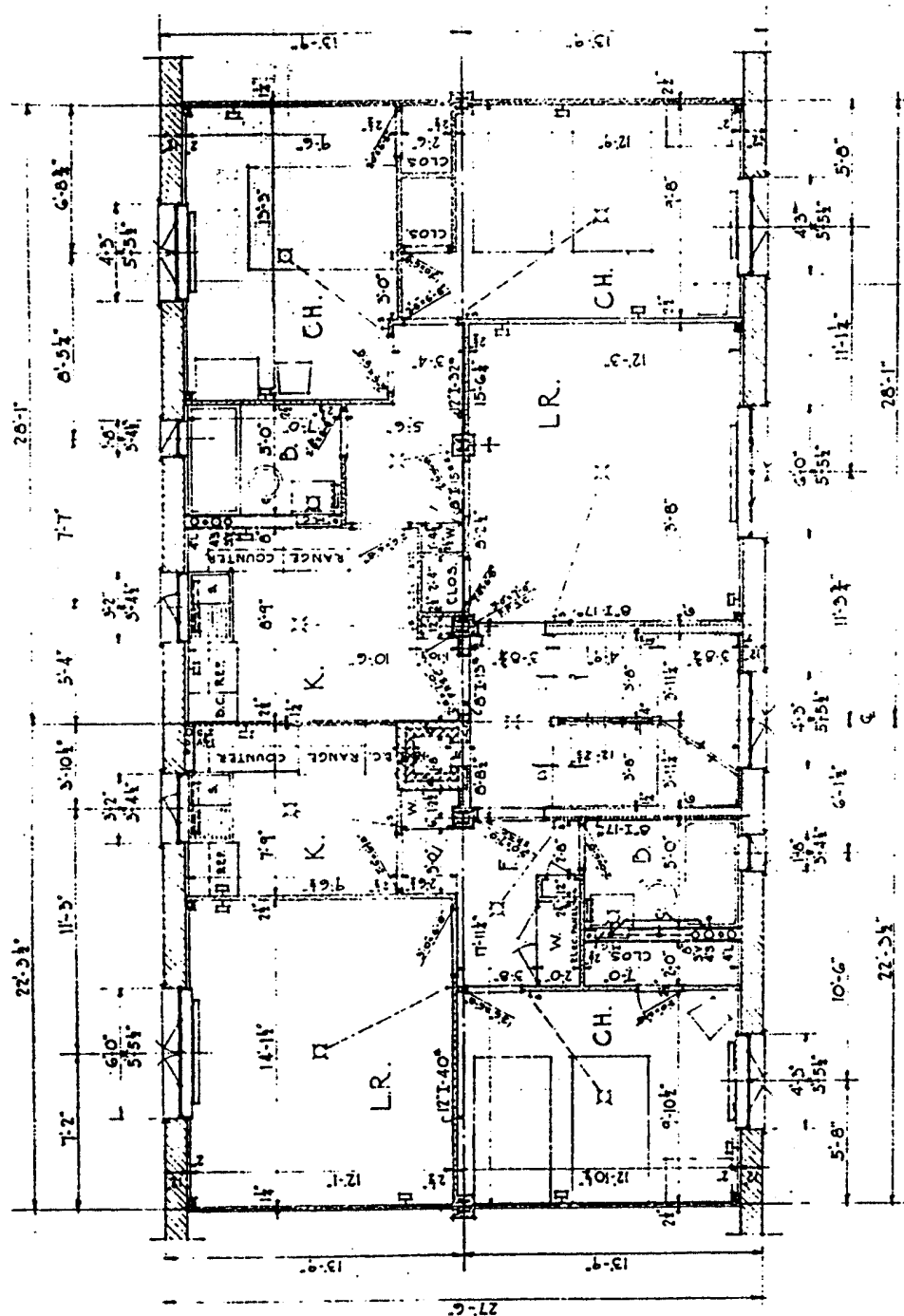
44 I-D.
4

NEW YORK CITY BUILDING DEPARTMENT	
TITLE APARTMENT PLAN ANALYSIS	
NAME OF BUILDING	447
NO.	2
DATE NOV. 6 1934	60
SCALE 1/4" IN. = 1 FT.	



NEW YORK CITY HOUSING AUTHORITY	
TITLE APARTMENT PLAN ANALYSIS	
DESIGNED BY 1711	CHECKED BY 446
DATE NOV. 5, 1954	23
SCALE: 1/4" = 1 FT.	

NEW YORK CITY BUILDING AUTHORITY			
TITLE			
APARTMENT PLAN			
ANALYSIS			
MADE BY	CHECKED BY	DATE	NO.
		NOV 1941	25
SCALE 1/4" = 1'-0"			

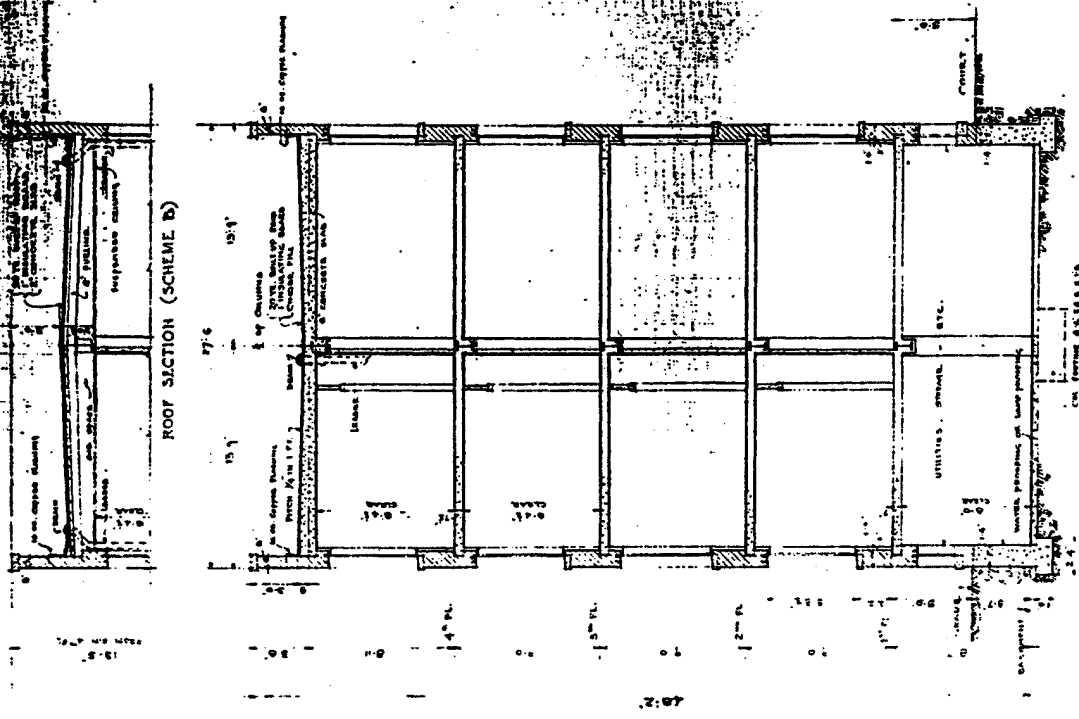


4

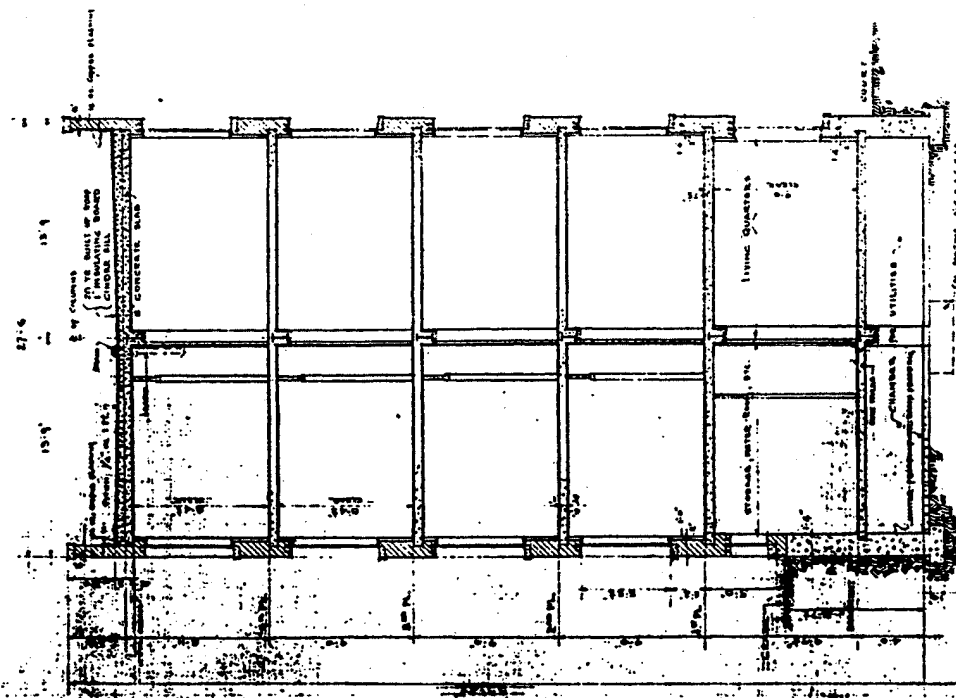
5

FOR THE CITY ENGINEER			
TYPICAL			
CROSS SECTION			
NO. 1	472	2	
DATE	10-12-40	24	
BY	1/2	1/2	

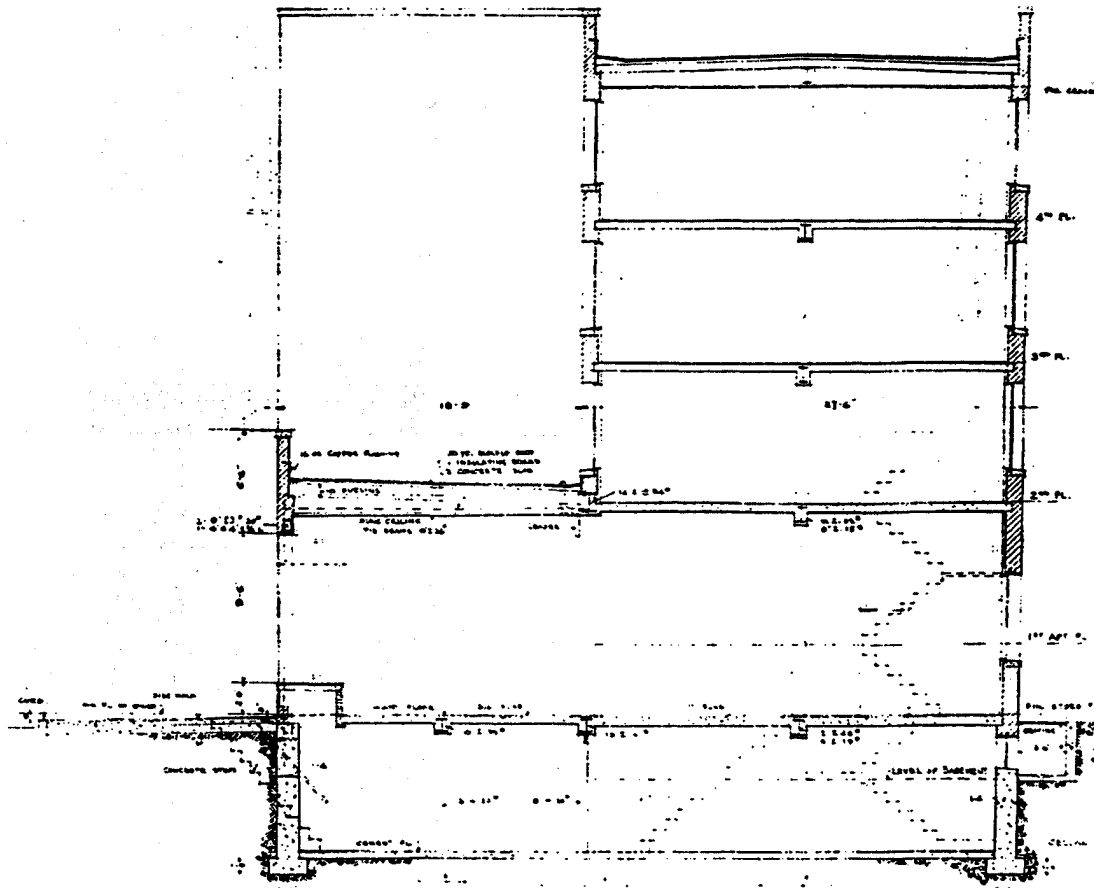
ROOF SECTION (SCHEME B)



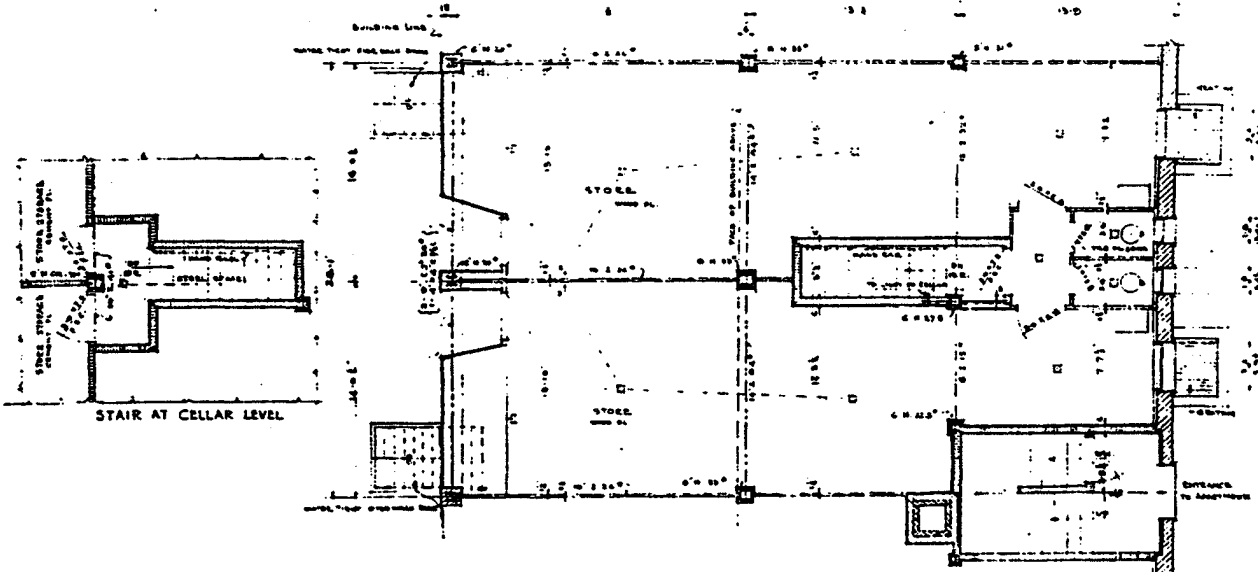
SECTION - B



SECTION - A



SECTION

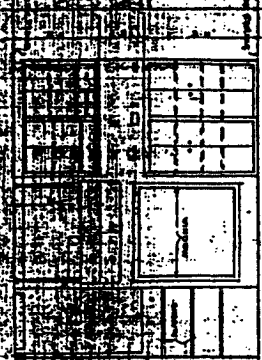


PLAN

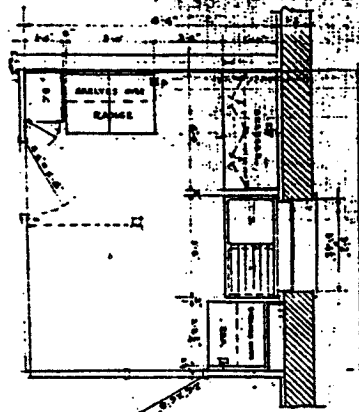
CITY OF NEW YORK	
TITLE: TYPICAL SECTION & PLAN OF STORES	
MADE BY	196
EXT.	2
DATE DEC. 16, 1911	101
SCALE: 1/4" = 1 FT.	



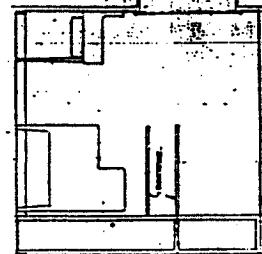
ELEVATION - B



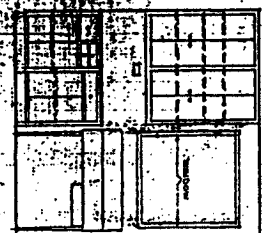
ELEVATION - A



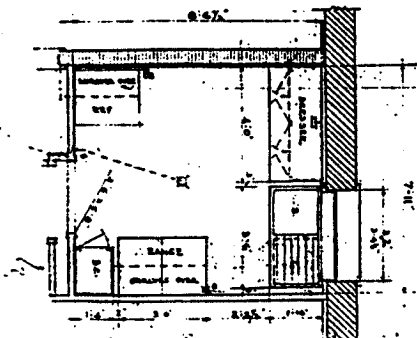
PLAN



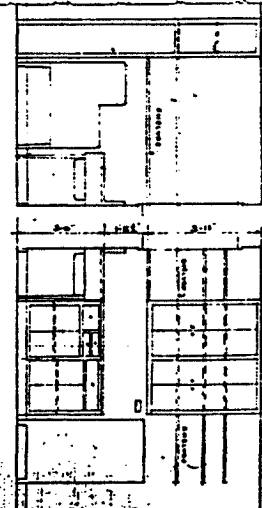
ELEVATION - B



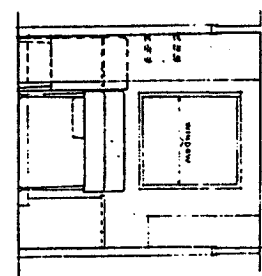
ELEVATION - A



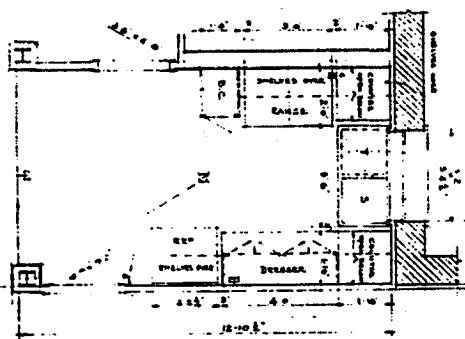
PLAN



ELEVATION - B

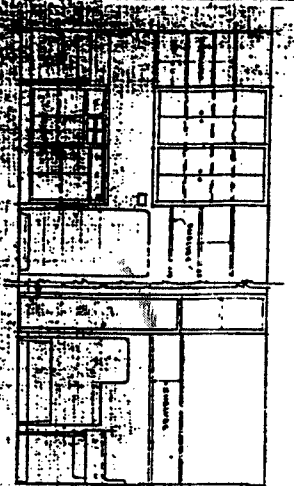


ELEVATION - A

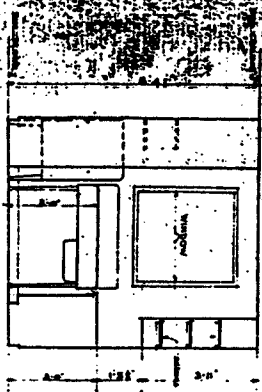


PLAN

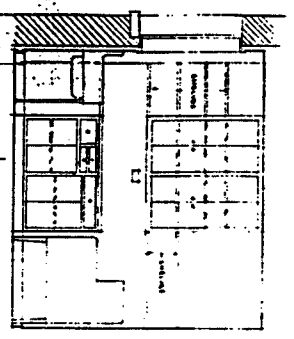
SEE PLAN FOR LAYOUT
 UNIT - TYPICAL
 KITCHEN LAYOUT
 UNIT - 10' x 10'
 UNIT - 10' x 10'
 UNIT - 10' x 10'



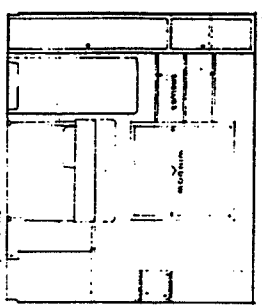
ELEVATION - B
ELEVATION - C



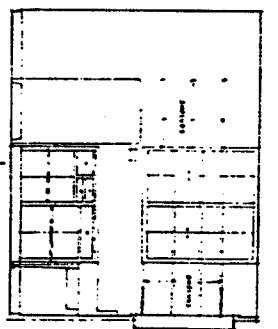
ELEVATION - A



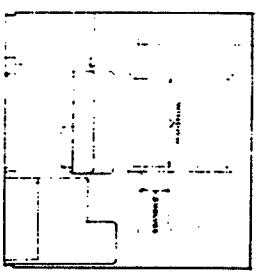
ELEVATION - B



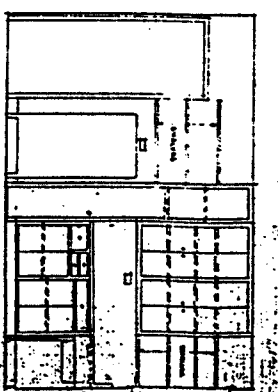
ELEVATION - A



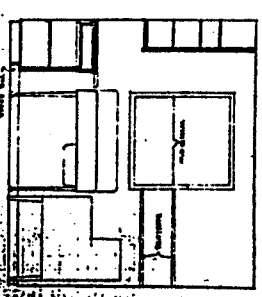
ELEVATION - B



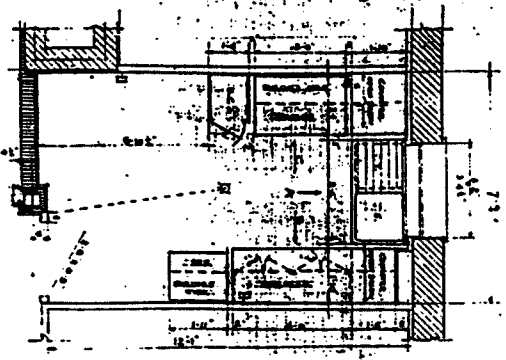
ELEVATION - A



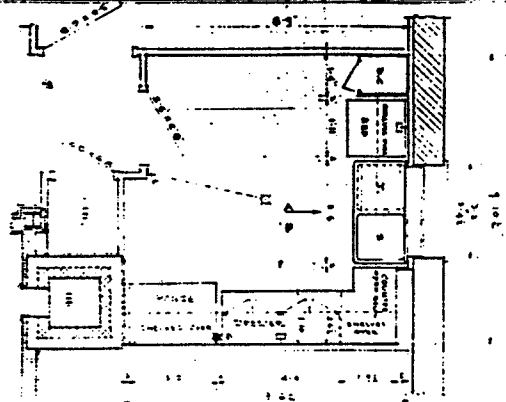
ELEVATION - B



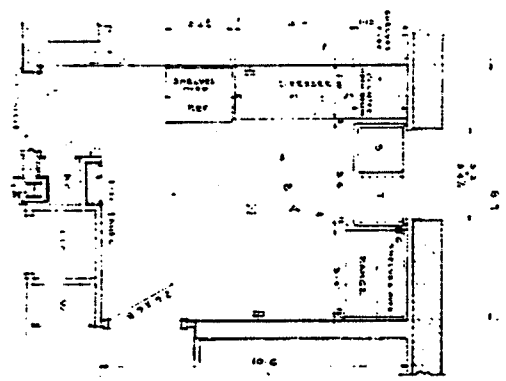
ELEVATION - A



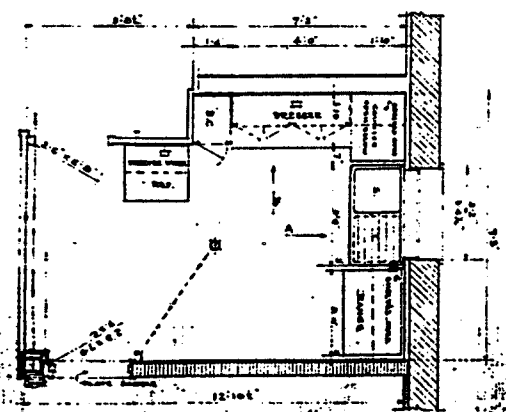
PLAN



PLAN



PLAN

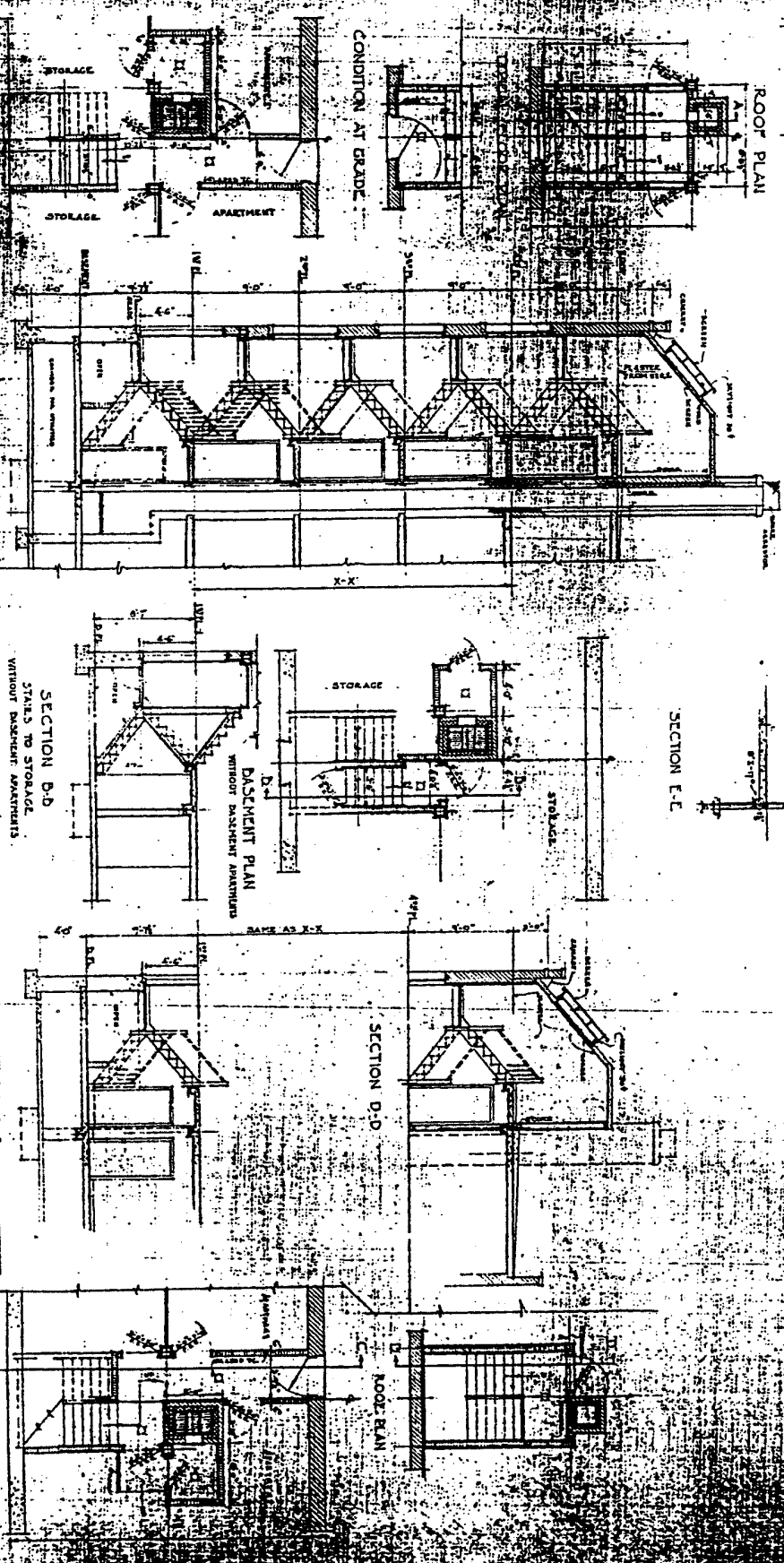


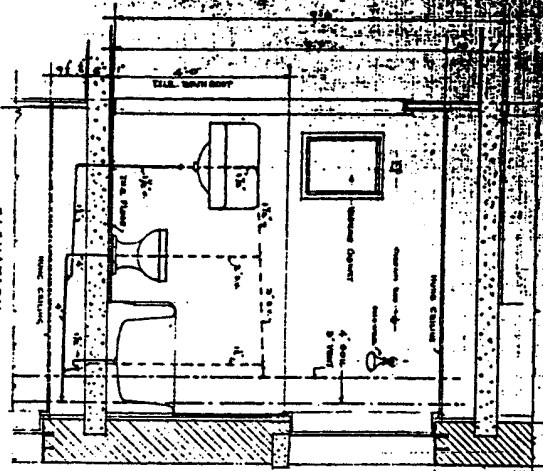
PLAN

THE ARCHITECTURAL
 RECORD
 MAY 1925
 P. 10

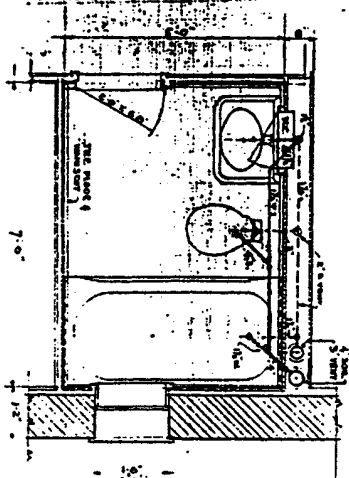
STAIR DETAILS RIBBON TYPE PLAN SCALE 1/4"=1'-0"

NO. 100	STAIR DETAIL
NO. 101	STAIR DETAIL
NO. 102	STAIR DETAIL
NO. 103	STAIR DETAIL
NO. 104	STAIR DETAIL
NO. 105	STAIR DETAIL
NO. 106	STAIR DETAIL
NO. 107	STAIR DETAIL
NO. 108	STAIR DETAIL
NO. 109	STAIR DETAIL
NO. 110	STAIR DETAIL

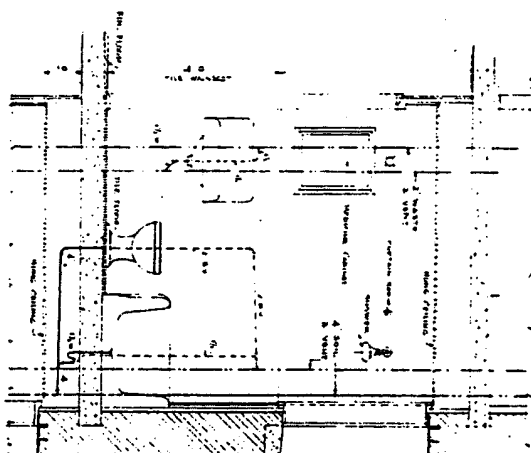




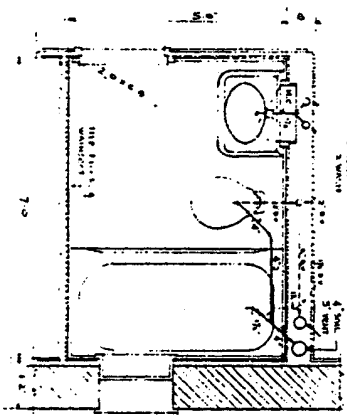
ELEVATION



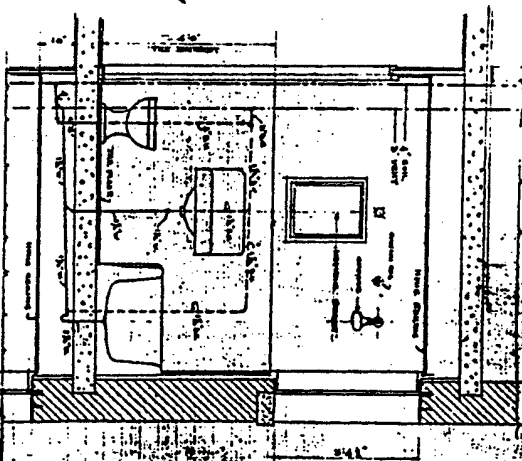
PLAN
SCHEME - A



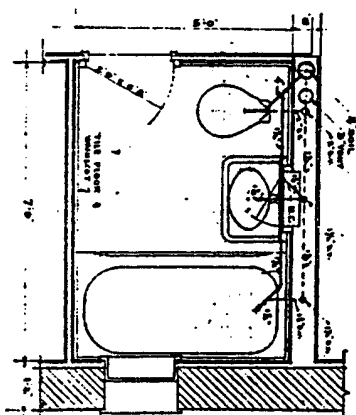
ELEVATION



PLAN
SCHEME - B



ELEVATION



PLAN
SCHEME - C

100% TYPICAL
 BATH ROOMS
 100% TYPICAL
 BATH ROOMS
 100% TYPICAL
 BATH ROOMS
 100% TYPICAL
 BATH ROOMS

