NEW YORK CITY HOUSING AUTHORITY

63 PARK ROW NEW YORK, N. Y.

FOREWORD

The Memo to Architects began with a series of mimeographed fliers (intra-office memos) sent to architects designing projects for the New York City Housing Authority.

These fliers originated from many sources, such as a new Building Department ruling; a specification amendment; a revised construction detail; an improved procedure.

As the leaflets piled up they were gathered together from time to time, organized, revised and issued as a pamphlet.

The continuing flow of revisions to any edition may have caused mild consternation to architects in midstream of their work, but it also indicated that the Authority was flexible and ready to adopt any good new idea that had been proved desirable.

The present edition has been overhauled by the various Authority Divisions concerned, and edited to conform to current State and Federal standards.

Its loose-leaf form will be convenient, we believe, to architects and their consultants. Revisions (and revisions there will be) can be inserted as complete pages, and the superseded pages destroyed.

The subject matter, which supplements the standard specifications and standard details, falls into three main classes: procedures; details that have proved workable in public housing design; and suggestions for the architects' guidance.

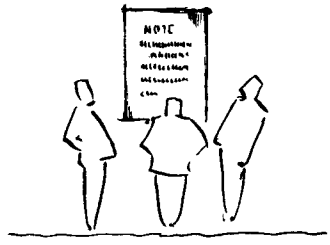
Mandatory provisions are distinguished by the words, "shall" or "must". The temptation to underline words or phrases has been resisted. In a handbook so crammed with detail some items must be more important than others, but all, we believe, are noteworthy.

Our attempt has been to offer only details and procedures that will make a complex and delicately-meshed operation easier and quicker to do. Initiative, resource, and creative power are beyond the limits of this handbook. For these we rely on our architects and on their consultants.

Chairman
New York City Housing Authority

C O N T E N T S

NOTES ON PROCEDURES



SECTION I NOTES ON PROCEDURES

ARCHITECTS planning New York City Housing Authority-sponsored projects must observe the mandatory statements in this section so that the Authority's work can be carried out in an orderly manner.

Other procedures that save time both for the architects and the Authority are suggested but not required.

In addition, explanatory material is included for the architects' information.

ARCHITECTS CORRESPONDENCE

Letters or memoranda from architects relating to work in progress shall be keyed, as follows:

Subject Heading	No. of copies required
1. Agenda and Meetings	7
a. Architects shall submit an agenda to the Authority at least two days before the date of each meeting with the Authority staff.	
b. Architects shall keep minutes of all meetings in reference to the work in hand, e.g., with the Authority, the Borough President's Office, the State Division of Housing, the Public Housing Administration, etc., recording all topics discussed and agreements reached. Minutes must be dated and must be numbered consecutively.	
2. Letters or memoranda concerned with:	5
a. Surveys and maps	
b. Street changes and grades	
c. Specifications	
d. Cost estimates	
e. Department of Housing and Buildings	
f. Board of Standards and Appeals	
3. Architects' Statements	2
Architects are asked to submit bills in accordance with the terms of the Architect's Contract. The Authority desires to make payments promptly when they are due, and welcomes the architects' cooperation in making complete phase submissions and in calling attention to any delay in the Authority office.	

GENERAL NOTES

The Authority, and only the Authority, will arrange any necessary coordination with City departments, and with Utility Companies and, as an agency of the City, will obtain and give to the architects any information required

from other City departments. Architects should refer all questions to the Authority. No meetings with City or Utility Company officials should be held without a representative of the Authority.

Final lot and block numbers cannot be assigned to sites not yet acquired by the Authority. Architects shall use existing block designations for filing plans with the Department of Housing and Buildings and shall note on drawings that all lots are included.

See Exhibit I p. 15 for itemized list, division of responsibility for removing, enlarging, and relocating on-site public utilities as needed. Architects should send to the Authority a detailed description of work to be done by the City as soon as site improvement layouts show what work will be required. The work must be checked to avoid interferences from utility lines to remain, relocations and additional utility lines.

Standard basic specifications have been prepared by the Authority. The design staff as well as the specification writer must be familiar with them. Architects are responsible for appropriate amendments. After agreemeent is reached between the architect and the Authority, corrected copies must be submitted.

Few questions about drawings can be discussed to advantage over the telephone: meetings with Authority staff are designed to give architects opportunity for full discussion.

Decisions reached at meetings and recorded in minutes of meetings require no further confirmation provided that minutes are accepted without correction.

Decisions reached by telephone must be confirmed by a memorandum from the architect to the Authority.

Standards and requirements for projects built with Federal, State or City aid will differ in some details. Standards applying to one or another program are keyed as follows:

Federally-aided housing ..... F:A

State-aided housing ..... S:A

City-aided housing ..... HA:A

Housing without cash subsidy ..... HA:NS

Standards and requirements not keyed to any program shall apply to all NYCHA-administered developments.

REPRODUCTION PROCEDURE

All study and preliminary drawings shall be in pencil on paper. Final contract drawings may be inked on tracing cloth or reproduced on tracing cloth (by the "Duplico" process, "C-B" process or similar methods approved by the Authority). Blueprints, black-on-white prints and reproductions of final contract drawings shall be ordered from firms designated by the Authority and are paid for by the Authority. Exception: under fixed fee (lump sum) contracts, the architect pays for reproduction of final contract drawings on tracing cloth.

Copies of each month's orders shall be sent to the Authority's Planning Division before the fifth day of the following month. Orders must note tracing size, number of prints, drawing number, and name and address of architect or consultant ordering prints.

SCHEDULE FOR SUBMITTING DRAWINGS, AMENDMENTS TO STANDARD SPECIFICATIONS, MODELS, ETC., FOR THE HOUSING AUTHORITY'S REVIEW; HA:A, HA:NS and F:A projects

Note: S:A, State-aided projects shall follow a phasing schedule based on the provisions of the Architect's Contract.

Preliminary and final drawings with accompanying data shall be submitted according to the phase schedule below. All submissions must be complete for each phase. Dates of submission and of Authority review will be scheduled for each project at the start of work.

PHASE 1

Study unit plans, 1/8 in. scale. Show room areas, over-all dimensions, average gross area per room and linear feet of outside wall per room.

Study site plan and block model, 100-scale or larger. Show principal existing contours on the site plan, and build them up on the model unless site is practically flat.

Site plan should show north point, names of bordering streets and location of existing trees to be saved.[1] It must be checked against all information available on street widenings, curb elevations and zoning regulations (current and proposed). The Authority will help architects to get this information.

Review by Authority staff (conference with architects as needed). The site and unit plans are then formally submitted to the New York City Housing Authority Members at the earliest scheduled meeting thereafter.

Note: Conferences with Authority staff on site and utility data: location of boiler plant, heating distribution, service entry points, fire equipment access, sewer and water lines take place between Phase 1 and Phase 2.

PHASE 2

Revised Phase 1 drawings.

Preliminary basement[2] and entrance floor plans, 1/8 in. scale:

Preliminary structural scheme, including section of spandrel beam over window.

Study site plan at 60-scale, or larger, with tentative proposed grades and elevations, checked against current information on street widenings, curb elevations and zoning regulations (current and proposed).

Add roads, fire lanes, walks, parking spaces, play and service areas, including playground[3], if any; and note location of boiler room, children's center and other principal non-dwelling spaces.

Show, in general, location of lawns and planted areas.

Preliminary site utility plans; heating, gas, electric, water, sewers, and yard drainage, 100-scale, or larger.

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[1] Architects shall consult with the Authority about trees to be saved. The Authority will provide information on locations and elevations.

[2] The word "basement" is used throughout in the MEMO TO ARCHITECTS for convenience, whether the space is legally termed a basement or a cellar.

[3] The word "playground" is used to indicate a supervised play space to be maintained by the Department of Parks. Other play spaces shall be labelled "play areas."

Note: Quarter-inch scale preliminary unit plans (typical and special) may be submitted at this time. They are required in the next phase.

The unit plan data required in first submission should be revised, if necessary, and resubmitted. Additional data for the second submission as follows: Apartment distribution; no. of construction rooms; no. of rental rooms; total cubage (totals broken down for different building heights); building coverage; total site area; density; site area minus land to be used for playground; no. of elevators of each height limit. Data shall be submitted on separate sheets.

Review and approval, by Authority

The Authority will submit preliminary utility data to architects during Phase 2.

Between Phase 2 and Phase 3, architects should arrange to file plans with the Department of Housing and Buildings. Plans should be filed in preliminary form, to secure an application number, as soon as they are far enough advanced so that they will be completed by the time the Department is ready to examine them.

Architects shall send the Authority 3 copies of the site plan with arrows showing all entrances requiring house numbers (See Section V p. 79) before filing. The Authority will return one copy to the architects showing the house numbers assigned by the Borough President's office.

See information on filing plans, in this section.

Note: An exhibition model, at 50-scale, and a perspective in color are required before the work is considered complete. One or the other should be sent to the Authority before plans are filed with the Department of Housing and Buildings. A rough preliminary sketch of the perspective showing the proposed point of view should first be submitted to the Authority for approval.

PHASE 3

Revised Phase 2 drawings

Preliminary unit plans (typical and special) showing furniture arrangement, door swings, columns, electric outlets, radiators, and risers, 1/4 in. scale. See Section IV pp. 67-69 for required furniture sizes.

Preliminary site plan at 40-scale (or 60-scale for large sites). Architects may use 50-scale, if approved by the Authority.

Show data required for study site plan. Add:

Legal street grades; Existing property lines
Proposed project property lines
Contract limit lines for street and yard work
Existing and proposed street curbs
Existing contours or spot elevations; Proposed contours
Building corner grades and other strategic grades
Basement, first floor and roof elevations
Preliminary catch basin and drain inlet locations
Trees and shrubs (*including types, sizes and base elevations of existing trees*)
Paving materials; ramps; retaining walls
List names of proposed plants
Crosshatch trees and shrubs

If the project includes a playground to be maintained by the Department of Parks, its proposed layout and equipment will be submitted by the Authority to the Department of Parks for preliminary approval.

Black-on-white print of the site plan showing yard lighting (to be shown on working drawings after approval).

Preliminary cost estimates of site improvements including cut and fill.

Review and approval by Authority.

Notes:

a. Final utility data will be given to architects by the Authority during Phase 3.

b. As soon as building locations are definitely fixed on the site, architects shall show them in pencil on the reverse side of the original topographic survey.

c. Before submitting Phase 3 drawings, architects shall obtain from the Authority budgets for Street and Yard Improvements, Topsoil and Planting and Public Playground.

Current square foot costs of the above items and current unit costs of various materials and items of planting and construction are available to architects upon request.

Preliminary and final estimates shall in no case exceed the budgets.

PHASE 4

Revised preliminary site plan: Add elevations of top of catch basin frames and drain inlets

Revised Phase 3 unit plans

Preliminary mechanical drawings:

Plumbing, heating and electric site plans, same scale as general site plan

Building plans, 1/8 in. scale

Preliminary structural drawings:

Unit plans, 1/4 in. scale

List of HA Standard Details that will be incorporated without change into the final drawings (except SY, TP and TY details).

Note: Yard drainage details should be submitted. See Section II p. 37.

Preliminary architectural details, including revised HA Standard Details

Preliminary color schedule. See Section I p. 13.

Final revision of project data

Required Data:

A note shall accompany the table to say that these figures are for information only and are not to be used for estimating.

I. Area Computations

Note: Items 1-7 to be given both in square feet and in acres.

1. Total area

   Area within project property lines or private property to be acquired together with the area of streets closed, plus the area of any property donated by the City. Exclude streets to be left open, proposed new public streets, and land to be ceded to the City for street widening.

2. Net housing area

   Total housing area, excluding playground.

3. Ground area covered by dwelling buildings.
4. Ground area covered by non-dwelling buildings, or by building extensions not used for dwellings.
5. Net residential site area
   Item 2 minus item 4
6. Playground area
   Area for playground. Small play areas on project property are not included.
7. Total coverage
   Item 3 plus item 4
8. Area between project property lines and future curb lines.
9. Percent of coverage
   Item 7 divided by item 1
10. Density
    Number of persons per acre of total area (item 1). Use average occupancy figures, not maximum, for calculating density. See note 6, Exhibit XLII p. 74 for average occupancy factors.
11. Residential floor area
    Area of all floors used for residential purposes including public halls, stairways and elevators serving dwelling units (excluding floor area of basements not used for dwelling purposes) in square feet.
12. Floor area ratio
    Item 11 divided by item 5, in square feet.
13. Average number of rooms per dwelling.

II. Unit Distribution *(one table for each type of building unit)*

UNIT DESIGNATION			NUMBER OF STORIES			NUMBER OF TIMES USED		
Apt. Design Letter[1]	Persons per Apt. (max. occ.)	Const. Rms. per Apt.[2]	TOTAL PER FLOOR			TOTAL PER UNIT		
			Apts.	Pers.	Const. Rooms	Apts.	Pers.	Const. Rooms
		TOTALS						

GROSS AREA PER FLOOR[3] AVERAGE GROSS AREA PER ROOM[4]

[1] DESIGN LETTER: A letter used to indicate the apartment type. See Exhibits XL-XLII pp. 72-74 for design letters.

[2] Definition of CONSTRUCTION ROOM: An enclosed space (having one or more windows) to be used as living room, bedroom or kitchen. Kitchen and dining space, whether separated or not, are combined to equal one construction room. Strip kitchens, bathrooms and closet spaces are not counted as construction rooms.

[3] GROSS AREA PER FLOOR: The total square foot area including walls, partitions, etc.

[4] AVERAGE GROSS AREA PER ROOM: Gross area per typical floor divided by the number of construction rooms on that floor. *Note:* If a unit has setbacks, the gross area per room should also be computed by dividing the total residential floor area of all floors by the total number of construction rooms.

III. Summarized Apartment Distribution *(All Buildings)*

APARTMENT DESIGN LETTER					TOTALS
PERSONS PER APARTMENT (MAX. OCC.)					
ROOMS PER APARTMENT					
NUMBER OF APARTMENTS					
NO. OF CONSTRUCTION RMS.					
NO. OF RENTAL ROOMS[1]					
% TYPE APARTMENTS					
TOTAL NO. OF BUILDINGS	TOTAL BUILDING CUBAGE[2]				

Review and approval by Authority

PHASE 5

Complete pencil Working Drawings. *Note:* Submit black-on-white prints. Amendments to Standard Specifications, typed on white paper, double-spaced.

Note: Amendments shall be submitted two weeks after submission of Working Drawings.

General construction cost estimates

Final cost estimate of site improvements, with a separate estimate of all work on the playground area, if the project includes a playground. Submit separate site improvement estimates for each Section if the project is divided into Sections. The Authority will provide a form for final estimates on SY and TP contracts.

Heating schedule and data on electric feeder and distribution systems. See Section VII.

Note: See Exhibits II and III pp. 16-20 for cost estimate forms, and Section II for schedule of contract drawings.

Review and approval by Authority

Note: Show all planted areas by symbol and label PL.

Shrubs and trees shall not be crosshatched, as required for Phase 3.

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[1] Definition of RENTAL ROOM: An enclosed space to be used as a living room, bedroom or kitchen. If the combined area of living room, kitchen and dining space equals or exceeds 260 sq. ft., it shall be counted as 2½ rental rooms, whether the dining space is in living room or kitchen. F:A. Count each dining space as one-half room.

[2] BUILDING CUBAGE shall be calculated as follows:

a. The cubic content is the actual cubic space included within the outer surfaces of enclosing walls and contained between the outer surface of the roof and 6 in. below the finished surface of the lowest floors. Penthouses, bulkheads, boiler stacks, roof tank enclosures, vaults, pits, enclosed porches and other enclosed appendages shall be included as part of the cube of the building. Do not include footings, outside steps, parapets, stoops, terraces, open areaways, and ramps.
b. No additional allowance is to be made for pipe access spaces (up to 5 ft. clear headroom) with or without a concrete walkway, or for excavated basement spaces without concrete floors. The cube of unfinished basement space with a floor slab shall be included.
c. Boiler room volume shall be calculated to the bottom of the floor slab.
d. Include one-half the volume of open porches with roofs.
e. Include comfort stations, if any (not wading pools or sandpits).

Architects shall consult with the Authority in regard to treatment of area between proposed and existing street curbs. Show on the drawings and describe in specifications.

PHASE 6

Final Working Drawings
Final Amendments to Standard Specifications, coordinated with all plan revisions. Note: One week after submission of working drawings
One cloth tracing and 4 blueprints of equivalent direct radiation charts
Final color schedule. See Section I p. 13

Final check and review, signing and dating

NUMBER OF SETS REQUIRED FOR EACH PHASE, F:A and S:A PROJECTS

Note: Each set should be labelled with its phase number.

PHASE 1
6 stapled sets of study site and unit plans
6 extra copies of site plan

PHASE 2
5 stapled sets of revised study site plan, site utility plans and all basements and entrance floor plans
8 extra copies of site plan
5 extra copies of site utility plans
7 copies of project data

PHASE 3[1]
5 stapled sets of preliminary site plan and unit plans
8 extra copies of site plan
4 copies of preliminary site improvement cost estimates

PHASE 4
12 copies of revised preliminary site plan
10 stapled sets of mechanical site plans
4 stapled sets of other mechanical drawings
3 stapled sets of structural drawings
4 stapled sets of architectural details, including revised HA Standard details, plus 3 copies of a list of HA details that will be incorporated unchanged in the final drawings
7 copies of revised project data
3 copies of preliminary color schedule

PHASE 5
4 stapled sets of complete working drawings, black-on-white prints
1 stapled set of A, FS, SS, SY, TP, TY
2 extra copies of the General Site Plan
5 copies of general construction cost estimates
5 copies of Amendments to Standard Specifications (directed to Specification Division, New York City Housing Authority)

PHASE 6
5 stapled sets of working drawings and two extra copies of the General Site Plan
1 stapled set of A, FS, SS, SY, TP, TY
5 copies of final Amendments to Standard Specifications
7 copies of final color schedule

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[1] F:A. Submit 2 extra sets of preliminary site plan and unit plans (Phase 3) on federally-aided projects.

NUMBER OF SETS REQUIRED FOR EACH PHASE,
HA:A and HA:NS PROJECTS

One less set or one less copy of the items listed above shall be submitted.

COLOR SCHEDULE

Architects shall submit 3 copies of a preliminary color schedule for Authority approval. The schedule shall be complete with a color swatch at least one inch square for each color and samples of other finishes, e. g., asphalt tile.
Trade names and numbers should be used for paint samples with a general note on the schedule saying that they are given for purposes of identification only. If colors are not standard, the architect shall give the formula. Identified samples of other finishes shall be qualified by the note, "similar to . . . "
Seven copies of the final schedule shall be submitted after Authority approval, each copy complete with paint color swatches, but without other finish samples. See Section IV for Authority suggestions on paint materials and colors. The final color schedule shall have a note saying "These color swatches are submitted as a guide. Final approval of colors will be given only after sample walls on the job have been painted."
See Exhibit IV p. 21: Color Schedule Notes.

DRAWING CHANGE PROCEDURE

Exhibit V p. 22 describes the methods for revisions to drawings both during the bidding period and after the contract has been awarded. Architects shall follow this procedure.

INSTRUCTIONS ON FILING PLANS

Plans should be filed with the Department of Housing and Buildings as noted in the schedules for submitting drawings outlined above, p. 8. The project name shall appear on the upper half of every sheet of the application form.
Architects shall be sure to indicate on the application forms the live loads for various spaces, particularly special spaces such as children's centers, child health stations, maintenance and management spaces, coal bunkers, etc.
When the foundation contract is let separately, architects should obtain approvals from the Department of Housing and Buildings necessary for using foundation plans and should deliver foundation applications with foundation plans.
Architects should give a week's notice of intention to file plans to the Authority's Information Division. They should also deliver the project perspective or exhibition model (if already formally accepted by the Housing Authority) to the Planning Division so that one or the other can be photographed to accompany a press release.
On the day that plans are filed, notify the Information Division immediately so that the press release can appear in the next edition of the newspapers.
When plans are filed in the Department of Housing and Buildings and Objections are received, it is suggested that the Architect consult with the Project Adviser about the action that is to be followed in requesting reconsiderations.
Copies of these Amendments shall be furnished to the New York City Housing Authority.

INFORMATION FOR FILING FOR APPROVAL OF PAINT STORAGE ROOM AND PAINT SHOP

Note: Applications for approval for Brooklyn and Queens shall be filed in Brooklyn.

Applications for approval for Bronx, Manhattan and Richmond shall be filed in Manhattan.

See Section V p. 83 for design details

1. Indicate type and size of windows and height above floor.
2. Indicate on Fire Department forms details of construction: walls, floors, and ceiling.
3. Provide for portable fire extinguishers and pails of sand.
4. Indicate that painters' clothing is hung on hook strips and not in any enclosed space.
5. Note that the New York City Housing Authority will have complete supervision of these spaces and that a responsible individual will have control at all times.
6. Indicate number of occupants in these spaces.
7. On plan, indicate layout of electrical installations and also type of switches and outlets, if any. Also indicate layout of sprinkler system.
8. State on application form that all mixing of paints will be done by hand and that there will be no machines used for mixing.
9. State on application forms that no gasoline, naptha, etc., will be stored or used in these premises.

NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

N. Y. C. H. A. MEMO TO ARCHITECTS—February 1952 Page 15

EXHIBIT I

DIVISION OF RESPONSIBILITY FOR FACILITIES, UTILITIES, SERVICES AND SITE WORK FOR NEW PROJECTS

ITEM	FACILITIES IN EXISTING PUBLIC STREETS AND WIDENED STREETS	NEW SITE FACILITIES FOR PROJECT ONLY *(Except new streets to be dedicated)*	EXISTING SITE FACILITIES SERVICING OTHER THAN PROJECT	EXISTING SITE FACILITIES SERVICING PROJECT ONLY	
	FURNISH, INSTALL, MAINTAIN, ENLARGE, RELOCATE, CHANGE, ADJUST, OR REMOVE	FURNISH, INSTALL, MAINTAIN, ENLARGE, RELOCATE, CHANGE, ADJUST, OR REMOVE	MAINTAIN, ENLARGE, RELOCATE, ADJUST, OR REMOVE	DISCONTINUE OR REMOVE	MAINTAIN
Sewers - Storm and Sanitary Combined	CITY	AUTHORITY	CITY OR AUTHORITY (1)	CITY	AUTHORITY
Water Supply	CITY	AUTHORITY	CITY OR AUTHORITY (1)	CITY	AUTHORITY
Fire Protection - Hydrants Communication & Signal System	CITY	CITY	CITY	CITY	CITY
Police Protection including Communication & Signal System	CITY	CITY	CITY	CITY	CITY
Street Lighting	CITY	AUTHORITY	CITY *-(removal only)*	CITY	- -
Paving, Curbing, Grading and Drainage	CITY	AUTHORITY	- - - - -	AUTHORITY	AUTHORITY
Sidewalks bordering Project	AUTHORITY	AUTHORITY	- - - - -	AUTHORITY	AUTHORITY
Retaining Walls	CITY	AUTHORITY	- - - - -	AUTHORITY	AUTHORITY
Manholes	CITY OR UTILITY CO.	AUTHORITY	CITY OR UTILITY Co. (2)	AUTHORITY OR UTILITY CO.	AUTHORITY
Catch Basins	CITY	AUTHORITY	- - - - -	AUTHORITY	AUTHORITY
Electric Service	UTILITY CO.	AUTHORITY	UTILITY CO.	UTILITY CO.	- - -
Gas Service	UTILITY CO.	AUTHORITY	UTILITY CO.	UTILITY CO.	- - -

(1) S:A. By Authority if relocation of sewers and water mains is caused solely for convenience of project.
(2) For City-owned utilities adjustment to grade will be performed by the Authority.

COST ESTIMATE FORM FOR STATE-AIDED PROJECTS

SUMMARY OF ESTIMATED COST OF HOUSES NYS

Prepared by: DATE

A. PROJECT DATA

BUILDING TYPE	NO. OF STORIES	NO. OF BUILDINGS	NO. OF D. U. PER BUILDING	TOTAL NO. OF D. U.

B. COST SUMMARY

	TOTAL COST	COST / D. U.
1. FOUNDATIONS AND SUPERSTRUCTURES	$	$
2. MECHANICAL WORK Plumbing Electric Heating & Ventilation	$	$
Sub-Total	$	$
3. RANGES & REFRIGERATORS	$	$
4. SERVICES & MAINTENANCE EQUIPMENT	$	$
5. PLAYGROUND & COMMUNITY EQUIPMENT	$	$
6. SITE AND LANDSCAPE WORK	$	$
7.	$	$
8.	$	$
9.	$	$
10.	$	$
11.	$	$
12.	$	$
MISCELLANEOUS	$	$
TOTAL ESTIMATED PROJECT COST	$	$
TOTAL 1460 ACCOUNT AS PER BUDGET of APPLICATION DATED	$	$

NOTE: This form is intended as a guide only, and should be modified to conform to the conditions of project.

NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION EXHIBIT II page 1

_____ HOUSES NYS _____ DATE: _____

NO OF D. U.

C. BREAKDOWN OF FOUNDATION AND SUPERSTRUCTURE COSTS

(ALL BUILDINGS)

ITEM	QUANTITY	UNIT COST	TOTAL UNIT COST	TOTAL COST OF ITEM
1. Excavation				
Rock		$	$	
Earth				
TOTAL				$
2. Concrete (Incl. Forms)				
Slabs			$	
Foundation Walls				
Superstructure Walls				
TOTAL				$
3. Steel				
Framing			$	
Reinforcing				
TOTAL				$
4. Masonry				
Brick			$	
Tile				
TOTAL				$
5. Lathing and Plastering			$	
TOTAL				$
6. Roofing and Sheet Metal Work			$	
TOTAL				$
7. Miscellaneous Iron			$	
SUB TOTAL				$

_____ HOUSES NYS _____ DATE: _____

NO OF D. U.

C. BREAKDOWN OF FOUNDATION AND SUPERSTRUCTURE COSTS

(ALL BUILDINGS)

SUB TOTAL (CARRIED F'W'D) _____

		QUANTITY	COST	TOTAL UNIT COST	TOTAL COST OF ITEM
8.	Windows & Glazing			$	
	TOTAL				$
9.	Special Doors			$	
	TOTAL				$
10.	Tile Floors			$	
	TOTAL				$
11.	Carpentry & Millwork Framing			$	
	TOTAL				$
12.	Painting & Finishing			$	
	TOTAL				$
13.					
	TOTAL				$
14.					
	TOTAL				$
Miscellaneous					
	TOTAL				$

TOTAL COST OF FOUNDATIONS & SUPERSTRUCTURE $

NOTE: Break down each item as required.

PRELIMINARY COST ESTIMATE: HA:NS PROJECTS

HOUSES

No. of Construction Rooms — No. of buildings

No. of Apartments — No. of stories

Total Cubage

	Total	Approximate Cost Per Room:Per Apt.
(A) Contracts 5 & 6 General Construction See Breakdown		
Contract 7 - Heating & Ventilation		
Contract 8 - Electric		
Contract 9 - Plumbing		
Contract 10 - Elevators		

	Total	Per Apt.
(B) Ranges Refrigerators	Units	
(C) Street & Yard		
(D) Topsoil & Planting		

GRAND TOTAL

Preliminary Estimate submitted

DATE

NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION — EXHIBIT III page 1

PRELIMINARY COST ESTIMATE: HA:NS PROJECTS

HOUSES

BREAKDOWN OF CONTRACTS 5 & 6

Contract 5
Div. I, II, III - Excavation, Concrete Foundation & Piling

Contract 6

Div. I	- Excavation, Filling & Grading
II	- Concrete & Cement Work
III	- Masonry (Brick & Hollow Tile Work)
IV	- Furnishing of Exterior Sills
V	- Caulking
VI	- Spandrel type waterproofing
VII	- Roofing, Sheet Metal & Insulating and also Div. XXII
VIII	- Metal Windows and Trim
IX) X)	- Combination Bucks and Trim-(Metal Covered)
XI	- Metal Stairs (included in XIII)
XII	- Steel Stack
XIII	- Miscellaneous & Ornamental Iron
XIV	- Incinerators
XV	- Metal Toilet Partitions
XVI	- Metal Furring, Lathing & Metal Base
XVII	- Plastering
XVIII	- Ceramic Tile Work
XIX	- Asphalt Tile (including Linoleum)
XX	- Carpentry — without installation of Kitchen Cabinets
XXI	- Kitchen Cabinets & Installed Broom Closets
XXII	- Insulation of Boiler Room, etc. (included in Div. VII)
XXIII	- Glazing
XXIV	- Miscellaneous Metal Units & Locker Room
XXV	- Linoleum Floor covering (included in Div. XIX)
XXVI	- Finished Hardware
XXVII	- Overhead Clothes Dryers
XXVIII	- Painting
XXIX	- Dustproofing Treatment
XXX	- Shades
XXXI	- Venetian Blinds

TOTAL

Plus 10% overhead and profit

Submitted to New York City Housing Authority

(DATE)

COLOR SCHEDULE NOTES

Architects are asked to choose paint colors within apartments from the list below, based on Martin-Senour "Nu Hue" color chips.

I. Living room, bedroom and passageway walls:
(one color only)
Nos. 868, 901, 902, 935

II. Kitchen and bath walls
(one color only)
Nos. 785, 880, 892, 895

III. Trim, casings, metal-covered doors, etc.
(one color only, or one color for trim and casings and another for the apartment entrance door)
Nos. 602, 614, 623, 726, 728, 764, 874

NOTE: Base color should match asphalt tile. No samples are included.

Architects may examine the color chips on file in the Planning Division and order the chips they propose to use in their color schedules from Martin-Senour, 9 East 56 Street, New York City.

DRAWING CHANGE PROCEDURE DURING THE BIDDING PERIOD AND AFTER A CONTRACT HAS BEEN AWARDED

A. REVISIONS MADE DURING THE BIDDING PERIOD

All revisions to plans or specifications during the bidding period must be covered by Addenda. The architect shall prepare the material for Addenda and send three copies directly to the appropriate Authority Division as follows:

Specification Div. - Architectural Specifications.

Mechanical Div. - Mechanical Specifications and Drawings

Construction Div. - Foundation Specifications, Contract Documents and all Drawings other Mechanical.

Construction Div. - Structural Design and Pile Data.

Revisions are made in one of two ways:

1. *If revision is small and easily described in words:*

   No immediate change in tracings
   Architect sends a description of the change to the Authority Division as listed above and the Authority issues an Addendum to each bidder.

   Example:

Drawing change Drawing No. 353	In the upper right hand corner of Drawing No. 353 delete the words, "copper flashing".

   Note: Tracings must be conformed to the Addenda Later.

2. *If the revision cannot be described in words:*

   Architect revises the tracing and draws a circle around it in pencil on the back of the tracing. The revision is described and dated in the Revision Box and the tracing is sent to the Planning Division of the Authority for printing.

   The architect also writes a detailed description of the change to the Authority office as listed above, and the Authority issues an Addendum, with the print, to each bidder.

NOTE: No changes can be made to tracings later than seven days before the date of bid opening.

B. PROCEDURE IMMEDIATELY AFTER DATE OF BID OPENING

Architect conforms all drawings to comply with revisions and addenda issued during the bidding period, and draws heavy lines across the revision box above the last revision noted, putting the bid opening date within these lines. See Appendixes. Pencilled circles on the back of the tracing are then removed and each tracing (whether it has been revised or not) is labelled "Conformed 5-6-7-8-9 Bid Drawing", "Conformed Foundation Bid Drawing" or "Conformed 6-7-8-9 Bid Drawing" as the case may be. Tracings are then sent to the Planning Division of the Authority for printing.

C. REVISIONS MADE AFTER DATE OF BID OPENING

1. *If revision is small and easily described in words:*

   No immediate change in tracings.
   Architect sends a description of the revision to the project adviser, Planning Division, and a Bulletin will be issued to the contractor by the Authority.

Note: Tracings must be conformed to the Addenda Later.

2. *If the revision cannot be described in words:*

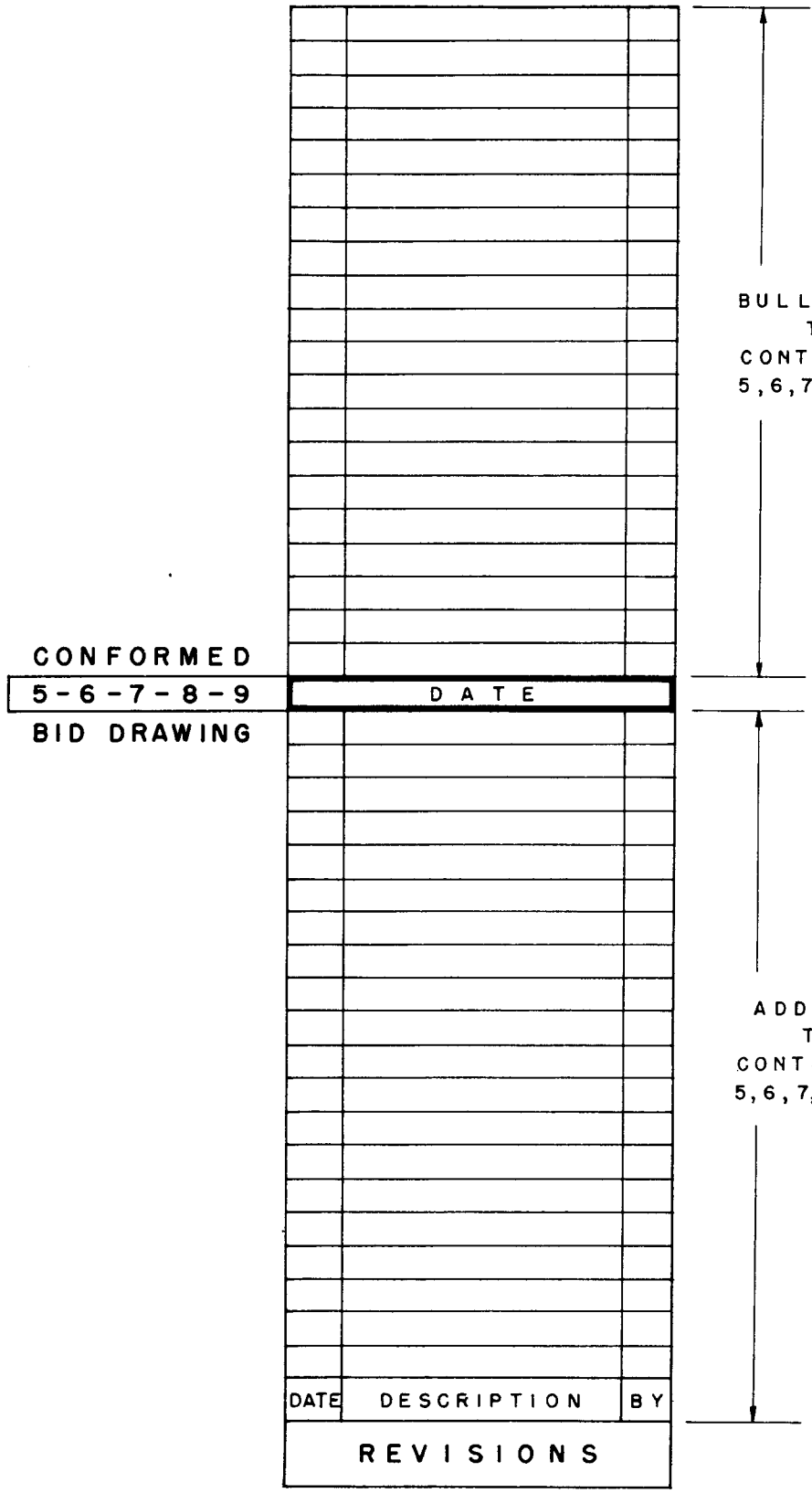
   Architect revises the tracing, circles the revision on the back of the tracing, describes and dates the revision in the Revision Box, and sends the tracing and a written description of the revision to the project adviser. A Bulletin and prints of the tracing will be issued to the contractor by the Authority.

D. PROCEDURE NECESSARY WHEN FOUNDATION CONTRACT AND SUPERSTRUCTURE CONTRACT ARE AWARDED SEPARATELY

Revisions to the Superstructure Contract during the bidding period may also affect the Foundation Contract after the latter has been let. Space, therefore, must be left in the Revision Box, above the heavy lines drawn at the time of letting the Foundation Contract on all tracings applicable to the Foundation Contract, with similar heavy lines between the top of this space and the first revision sent to bidders on the Superstructure Contract during the bidding period. Such revisions will be issued to the Foundation Contractor as Bulletins and to the bidders on the Superstructure Contract as Addenda. After both contracts are awarded further revisions will be issued as Bulletins to both contractors.

See Appendixes for sample Revision Boxes, (1) when Foundation and Superstructure Contracts are let together, and (2) when the Foundation Contract is let separately.

1st APPENDIX TO MEMO
ON
DRAWING CHANGE PROCEDURE

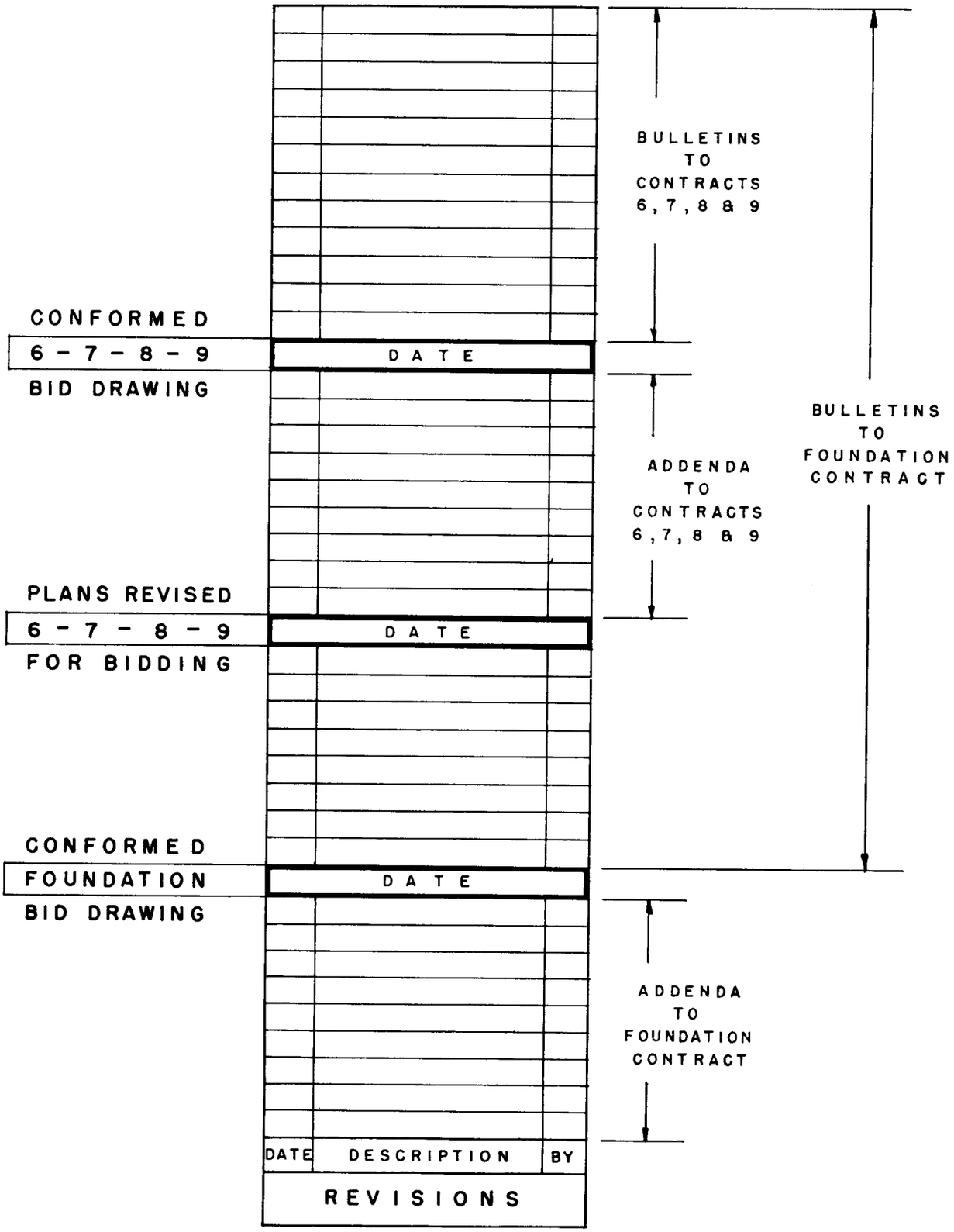


NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

APPENDIX, EXHIBIT V page (1)

2nd APPENDIX TO MEMO
ON
DRAWING CHANGE PROCEDURE



NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

APPENDIX, EXHIBIT V page(2)

CONTRACT DRAWINGS AND SPECIFICATIONS

11

SECTION II

CONTRACT DRAWINGS AND SPECIFICATIONS

This section contains a schedule for organizing contract drawings, with lists of information to be shown on them. Architects shall follow the organization legend.

About two months before the bid advertising date, the Authority will send the architect four copies of a questionnaire asking for a list of contract and non-contract drawings, and also asking for estimated quantities to be used in the Form of Proposal (e.g., cubic yardage of rock excavation, old concrete excavation, etc.). Special care must be taken by architects and their engineers to submit quantity estimates that are realistic and adequate.

The list of contract and non-contract drawings shall be complete for each separate contract; e.g., Contract 10, for Elevators, shall list all architectural, structural and electrical drawings showing elevator locations, cab details, etc.

Any changes in titles, additions to or deletions from the list of contract drawings that are made before the date of advertising for bids must be sent to the Authority. Non-contract drawings included for information in any list shall be marked with an asterisk and noted: "For information only, not in contract."

Notes on specifications and on items to be included in different contracts will also be found in this section.

SCHEDULE OF CONTRACT DRAWINGS

Contract drawings shall be lettered and numbered according to the schedule outlined below. Scales are determined by the series number, as a rule. Revision dates must be added in pencil each time a revision is made until final drawings are complete. Each sheet of the set shall then be given the sixth phase submission date. Over-all standard sheet size is 36 in. by 48 in. to trim line (not borders). Sheets shall not exceed this size.

ORGANIZATION LEGEND

A –Architectural and General Site Plans

HA–NYCHA Standard Details

FS –Foundation, Structural

SS –Superstructure, Structural

H –Heating

E –Electrical

P –Plumbing

EL–Elevators

SY–Detailed Site Plan

TP–Topsoil and Planting

$\frac{SY}{TY}$ –Playground

NUMBERING SCHEDULE AND SCALES

A Title Sheet: Drawing Schedule. See Diagram 20, p. 38 at the end of this section for sample form and content.

A-1 General Site Plan, 40-scale, (60-scale for large sites).
Note: The General Site Plan may be drawn at 50-scale, if approved by the Authority.

A-2 Building Location Plan, same scale as site plan.

A-3 Diagrammatic Basement Plan, same scale as site plan.*
* *Note:* For information only, not in Contract.

A-4 Combined Utilities Plan.

SERIES NUMBERS

The series numbers below indicate the type of drawings that fall within the series and the scales to be used, whether the drawing is on street and yard, plumbing, or other work. The organization legend, prefixed to the series number (as TP-54, E-360, etc.) defines the nature of the work. See Diagram 20, p. 38 for examples.

Series 10 to 49 Detailed Site Plans, 20-scale (30-scale for large sites). Topsoil and Planting Plans, 20-scale (30-scale for large sites).

50 to 99 Site Construction Details, scale as required. Topsoil and Planting Details, scale as required.

100 to 149 Basement Plan of each building, 1/8 in. scale.
Non-excavated basements may be drawn at 1/16 in. scale.

150 to 199 Typical and First Floor Plans of each building, 1/8 in. scale.

200 to 249 Typical unit plan of each unit, 1/4 in. scale. Plans of management spaces, boiler room, children's center, and child health station, (if any) 1/4 in. scale (in addition to 1/8 in. scale Basement and First Floor Plans noted in the 100 Series above).

250 to 299 Elevations, 1/16 in. scale, developed where necessary. Elevations of special buildings, or parts of buildings (e.g., children's center) may be shown at 1/4 in. scale.

300 to 349 Grade Elevations of each building, 1/8 in. scale, or at 1/16 in. scale, if approved by the Authority.
Note: It is desirable to show grade elevations on the appropriate basement plan drawings.

350 to 399 Architectural, Construction or Mechanical Details, scale as required.[1]
Kitchen and bath details at 1/4 in. scale.

HA-400 to 550 NYCHA Standard Details. See HA-400 for detailed list.

Note: Standard Details are supplied by the Authority for the architect's convenience. They may be reproduced and incorporated in the final set of drawings, with the project title, architect's name, etc., added in the title box. The architect is responsible for conforming them to the demands of the project if they are used, and for providing any other necessary details. The

[1] Exhibit XX p. 39 shows a list of details usually necessary in addition to NYCHA Standard Details. The list is for general guidance only, as different projects will, of course, require different sets of details.

letter R shall be added after the drawing number if the architect changes the Standard Details, and the revisions made by the architect shall be listed and dated in the title box.

INFORMATION REQUIRED ON PLANS

I. Show on the general site plan, A-1:

North point
Numerical scale
Legend
Streets, fire lanes, walks
Play, service, sitting areas
Landscape storage, service yard (labelled)
Floor elevations, interpolated contours on street sidewalks, finish grades at building corners and walk intersections
Legal street grades, existing top of curb grades, abutting property grades
Proposed and existing street curbs. Indicate and dimension curbs and curb cuts. Dimension drop curbs from centerline to nearest intersection of project property lines
Project property lines, existing property lines, contract limit lines
Basement, first floor, roof elevations
Label special building uses (boiler room, children's center, etc.)
Surface materials (lawns, planting, pavements) labelled
Existing trees and shrubs to remain. Note type, size and ground elevation at base
Catch basins, drain inlets
Retaining walls, ramps
Playground, if any
House numbers for apartment entrances and special entrances. See Section V p. 79 for list of special entrances.

II. Show on the building location plan, A-2: All site and building dimensions necessary for staking out buildings. Conform these dimensions to final topographic map.

III. Show on the diagrammatic basement plan, A-3: Major rooms, labelled.

IV. Show on the combined utilities plan, A-4: All utility lines and the location of all tree pits.

V. Show on detailed site plans:

All information necessary to the contractor for estimating and executing the landscape construction work. Coordinate with the Standard Specifications and with all Amendments to the Specifications.

Show all data required on General Site Plan, and add the following information:
Series No. SY-10-20
Legend on all drawings

All dimensions, radii, P.T.'s and P.C.'s
High points—low points, with elevations
Grades at walk intersections and corner elevations
Proposed contours interpolated, but no existing contours
Existing abutting property grades
Street and project light standards
Project light standard locations: Dimension from buildings
Street and project hydrants
Post indicator valves and hose bibs
Benches: State number of units and show in what direction they face
All play equipment: Label and dimension
Mark lawns and planting areas "PL"
All trees: Locate in symbol form
Dimension trees in paved surfaces
Retaining walls: Note TW and BW elevations
Fences: Use standard symbol for each type
See Exhibit XXXI p. 53
Curbs: Label flush, or give height of raised curbs
Drop curbs
Road stanchions
Steps, ramps: Show with grades
Catch basins and drain inlets: Show top of frame elevations and dimension from buildings
(Complete information, inverts, etc., to be shown on E, P and H Site Plans)
All construction details, using NYCHA symbols (several scales)
Knockout strip, if necessary. See NYCHA Standard Details
Series No. SY 51 to 100
Use or revise HA Standard Details. *Note:* If Standard Details are used without revision, the drawing numbers will fall in the HA-400 to 550 series.

Series No. $\frac{\text{SY}}{\text{TY}}$ 51 to 100

Playground details

Note: Work between Project Property and New Curb Line
SY drawings must show all excavating, filling and grading between project property line and new curb line.
The General Construction Contract carries excavating, filling and rough grading to project property lines only.

VI. Show on topsoil and planting plans:

All information necessary to estimate and execute the work. The plans shall be coordinated with the other construction contracts.
North point
Numerical scale
Legend on all drawings
Lawns: Label, define limits
Trees: Include existing trees to remain or to transplant; use symbols and put size on plant list

Shrubs: Put name (or symbol) of plant in plant beds
Hedges: Use different symbol for each type
Fences: Show chain link, pipe rail, post and chain, etc.
Plant list: (a) Put quantities on plans:
(b) Use nomenclature to conform to "Standardized Plant Names," current edition
Concrete or other paving patterns
Hose bibs

VII. Show on architectural plans:

A. On preliminary unit plans:
Columns
Pipe enclosures
Radiators
Steam risers
Electric outlets (no wiring)
Door swings
Furniture
Note: See Section IV pp. 67-69 for furniture size and minimum number of pieces required. Allow for normal circulation.

B. On final eighth-scale plans, Series A-150
Label each apartment as follows:

$$\frac{\text{Apt. letter}^1}{\text{Number of persons (maximum occupancy)}} \quad \text{e.g.,} \quad \frac{A}{4}$$

C. On final quarter-scale unit plans, Series A-200
All items under A above, omitting furniture and adding electric wiring. Label each apartment as follows:

$$\frac{\text{Apt. letter—number of construction rooms}}{\text{Design letter—number of persons}} \quad \text{e.g.,} \quad \frac{A\text{-}4}{F\text{-}4}$$

Note: If non-dwelling spaces occur on the first floor, they are not labelled as described in footnote (1). Each apartment on that floor shall have the same apartment letter as that of the apartment directly above it.

VIII. Structural Foundation Drawings:

Wherever foundation work is affected.
Show on plans:
Location, elevation and size of all louvers, brick vents, window and door openings, steam conduit openings, plumbing and electric sleeves or other openings
Elevations of unexcavated or unpaved pipe access spaces, and lines showing top of slope down to basement floors
Exterior grade elevations at all corners
Notes or sections showing extent of waterproofing under Foundation Contract and any anchors, dowels, or any other special items to be built in by Foundation Contractor

[1] Apartment letters are assigned clockwise starting from elevator in each unit, A, B, C and so on (or starting from stairs in walk-up buildings).

Details:

Sections through interior and exterior grade beams, walls and piers, with lines separating and defining work in Foundation Contract from that in Superstructure Contract

Section through unexcavated or unpaved pipe access spaces adjacent to floor slabs

Sections through pits showing walls built in Foundation Contract, slabs in Superstructure Contract, and railing sleeves, if required to be installed under the Foundation Contract

Details of:

Steam conduit openings

Door, window, access window, vent, and louver openings showing blocking, anchors, etc.

Ramp railing sleeves

Stair nosings, if required for any stairs in Foundation Contract

Frames for area gratings

Special boiler room openings, walls and slabs

Coal-hole covers

Any other items to be built in by Foundation Contractor

Note: Average tip elevations for piles are established for each building in the Form of Proposal for bidding.
Architects shall instruct their structural consultants not to repeat this information on the plans.

IX. Working drawings in general:

Shade in the buildings concerned on each title block site plan.

Show north point on basement, typical and first floor plans.

Show dimensions to center line of partitions, to inner face of exterior wall back-up, the masonry openings of windows, and dimensions between these openings.

Label spaces and equipment on drawings to conform to the terms used in the specifications: i.e., "pipe access space" for basements less than 5 ft. high, "stairways" (not stairhalls) "st. s." for steel saddle, "bench" for bench in maintenance spaces but "wood seat" for children's center, etc.

Exhibit XXI p. 40 lists general notes that are submitted to the Department of Housing and Buildings. These notes must be edited by the architect to conform to the project concerned and must appear on one of the Contract Drawings.

X. Show on Mechanical Drawings:

A. Plumbing Drawings

P-1 same scale as A-1	Plumbing site plan showing proposed points of water supply (at least two) and gas and water services to each building, also domestic water and standpipe distribution between buildings.
	Note number of apartments for each gas service point of entry.
	Indicate walk layout, heavy-duty pavement over water lines and tank locations, if any.

P-10-49 20 scale (30 scale for large sites)	Utilities plan showing all existing sewers, water mains, and gas mains around project, indicating which, if any, will be removed or abandoned, and new sewers, water mains or gas mains to be installed by the City or by a Utility Company. House sewers, yard drains and appurtenances: yard drainage and house sewer plan showing house sewer connections to each building and yard drainage layout. This plan includes details of manholes, inlets, catch basins, etc. necessary for yard drainage.
100 Series 1/8 in. scale	Basement plan of each building showing drainage, water and gas layout, also standpipe cross-connection layout, if standpipe is required.
200 Series 1/4 in. scale	Plan of children's center, boiler rooms, management spaces and child health station. Separate plans are more convenient if these spaces are not in basements.
350 Series scale as required.	Plumbing riser sheets. Standpipe riser sheet, if standpipe system is required. Stack detail showing all plumbing stack conditions with piping layout to fixtures. Scale, 1 in. to 1 ft. Miscellaneous details, including hot water tanks, laundry details, etc.

Plumbing plans must show location, extent and elevation of dropped slabs and hung ceilings.

Note: Information on the following items is given by the mechanical engineers to the architects and structural engineers in sketch form. Architects shall incorporate this information on their tracings:

Location of the plumbing shafts, stack numbers, and size of soil, waste, vent and leader lines. If standpipe is required, locations and size of standpipe and hose racks.

Size and location of roof drains and stack vents. If standpipe is required, the roof plans also show location of house tank and roof manifolds.

Shaft and sleeve openings, and sizes and locations required for plumbing work, including the slot required for the installation of bath traps.

B. Heating and Ventilating Drawings

H-1 Series same scale as A-1, or H-10 Series 20 (or 30) scale	Heating site plan, showing steam distribution system. Show on the same sheet each street crossing and former street crossing, showing steam conduits and all other utilities at these points. Steam pipes must be reinforced under motor traffic roads. Architects or their landscape consultants shall give heating engineers the location of these roads.
100 Series 1/8 in. scale	Cellar plan for each building showing heat piping system. Show tank and pump room layout.
350 Series scale as required	Layout of boiler plant showing piping and equipment in plan and section, including layout of coal bunkers. See Section VI p. 102 for coal bunker design notes.

A detail sheet or sheets containing all necessary details and schedules including:

Details:
- boiler settings
- furnace design
- conduits, main drips
- risers, including supports and drips
- escutcheons
- pipe hangers
- expansion loops
- hot water heating connections
- fans

Diagrams:
- fuel oil piping
- heating risers

Schedules:
- fan and pump

Heating and ventilating plans must show location, extent and elevation of dropped slabs and hung ceilings.

Chain-operated valves for boiler plants and heating systems shall be marked on drawings.

C. Electrical Drawings

E-1 Series same scale as A-1	Electric site plan showing the distribution for light and power, yard lighting, telephone distribution and steam trench location for impulse wiring. For each building, note number of apartments, total demand or connected load and largest motor, also quantity and size of motors (or total horse power) for the heating plant. Show proposed point or points of entry for telephone service. *Note:* Telephone conduit usually is placed in the steam trench between buildings. Show also old and new property lines, old and new curb lines.
E-10 20 scale (30 scale for large sites)	Plan showing existing light, power, fire alarm, police telephone and public telephone lines to remain, and those to be removed or abandoned. Show sleeve locations for police communication lines.
100 Series 1/8 in. scale	Cellar plan for each building showing all electric work in the cellar and a riser diagram for the building.
200 Series 1/4 in. scale	Separate electrical plans for special areas such as children's centers or management offices, etc., that occur above the cellar.
350 Series scale as required	Schedules of distribution panels, lighting panels, metering, etc., and details such as lighting fixtures.

Electrical plans must show location, extent and elevation of dropped slabs and hung ceilings.

Note: Information on the following items is given by the electrical contractor to the architects in sketch form. Architects then incorporate this information on their tracings:

Layout of outlets and circuiting within the unit plans.

Layout of electric outlets and fixtures not shown on electric drawings, e.g., apartments, inside and outside lighting for roof bulkheads and elevator machine rooms.

D. Elevator Drawings

EL 350 Series	Plan of hatchway and of machine room, half-in. scale.
scale as required	Sections, hatchway and machine room, quarter-in. scale.

Note: Details of elevator cabs and fronts are shown on HA-411.

XI. Playgrounds

Architects designing the layout and equipment for playgrounds, to be maintained by the Department of Parks, shall submit a sketch of the proposed design to the New York City Housing Authority. The Authority will forward it to the Park Department for review and comment and will return the sketch to the architects.

Architects are free to consult directly with the Chief Park Designer's office during the planning of playgrounds, but submission of proposed sketches and of final drawings and specifications shall be made through the Authority office.

Final playground drawings shall be presented on a set of sheets separated from other project drawings, labelled with the appropriate organization legend (see p. 27) and with the letters TY added, as $\frac{\text{A-1, SY-10,}}{\text{TY TY}}$ etc.

They shall provide a space near the title block noted for the signature of the Commissioner of the Department of Parks.

Note: The Park Department issues Standard Details of comfort station, play equipment, surface finishes, etc. (TY series) that should be incorporated where they apply. These may be obtained from the Housing Authority.

PREPARATION OF SPECIFICATIONS FOR CONTRACTS 5 AND 6

The architect and his specification writer shall consult with the Chief, Division of Specifications and Materials Research, for general guidance at the start of specification work.

The Authority provides standard specifications. The architect is responsible for appropriate amendments and for coordinating the drawings, standard specifications and amendments.

Specification amendments of other projects will be lent to the architect on request. They shall be used for guidance as to form only.

Space designations, equipment terms, etc., on drawings must follow the nomenclature of the standard specifications.

Amendments to standard specifications are first submitted during Phase 5. See Section I p. 11. The specification writer must use revised Phase 2, 3 and 4 drawings as a basis for his work. Specifications must be checked against Phase 5 drawings before being submitted.

Revised amendments, submitted during Phase 6, shall incorporate all appropriate revisions resulting from the review of Phase 5 drawings as well as revisions resulting from the specification review.

See Section I p. 13 for drawing change procedure during the bidding period and after the contract has been awarded.

ALLOCATION OF CONTRACT WORK

Projects may be divided into two areas, contracts for which may be let either simultaneously or one after the other.

If the contracts are to be let simultaneously the two areas shall be called SECTION A and SECTION B.

If the contracts are to be let at different times, the areas shall be called SECTION I and SECTION II.

FOUNDATION CONTRACT NOTES

The Foundation Contract (Contract 5) may be let before the Superstructure Contracts (Contracts 6-7-8-9). In that case, architects shall deliver foundation permits with foundation plans.

Architects shall prepare complete Contract 5 drawings and specifications whether or not the contract is let separately.

The protection of existing trees is included in the Demolition Contract, but maintenance of protection fencing shall be included in Contract 5.

If, however, the project requires no Demolition Contract, protection fencing and its maintenance shall be included in Contract 5.

No "A" drawings are needed in Contract 5 except site plans. SY drawings at 20-scale shall be included for grading purposes, but not SY construction details, unless expensive or heavy retaining walls are to be built under the Foundation Contract.

When Contract 5 will be let separately, rough grading for the playground (if any) is included, but foundations for the playground comfort station are not included unless the comfort station is on piles, or on unusually deep or difficult foundations. The Foundation Contract usually calls for rough grading of areas within the project property line to five inches below the proposed finished grades. It is assumed that this work will be completed before the Street and Yard or Topsoil and Planting Contractors begin work.

The first floor slab over the boiler room will not be included in Contract 5, but beams and girders necessary to brace boiler room walls shall be called for in the Foundation Contract.

GENERAL CONSTRUCTION CONTRACT NOTES

Projects with skip-stop elevators shall include in the amendments to Standard Specifications (Contract 6, Div. XXVIII, Section Eleven) a paragraph under "Special lettering required . . ." to the effect that each elevator door

at the entrance floor shall have painted on it the words, FLOOR STOPS, followed by the floor numbers at which that elevator stops. Lettering shall be 1½" high, painted above the glass panel.

STREET AND YARD CONTRACT NOTES

Rough grading, filling and excavating outside the project property line but within the contract limit line (including the sidewalk area) will usually be done under the Street and Yard Contract. No installations are permitted above grade outside of project property lines. Trees may be planted, subject to City approval, on the street sidewalk. Fine grading of all sub-grades will be a part of the Street and Yard Contract.

Contract 12 will include an asphalt pavement over a coal bunker roof extension.

Wading pools, comfort stations, drinking fountains and sandpits in playgrounds shall be included in Contract 12.

Specifications for all Street & Yard and Topsoil & Planting work for playgrounds usually will be bound as a separate part of the Specifications, and labelled "Part II." Suitable cross reference to this Part shall be made under the "Scope of the Work" in all applicable sections of the various Contract Documents.

PLUMBING CONTRACT NOTES

Yard basins and drains will be installed, as a rule, under the Plumbing Contract at the locations and to the top of frame elevations indicated by the landscape architect on the Street and Yard Drawings. It is assumed that they will be installed before the Street and Yard or Topsoil and Planting Contractors begin work. See Standard Specifications.

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DIAGRAM 20

TITLE SHEET

SAMPLE OF FORM AND CONTENT

DRAWING SCHEDULE

GENERAL INFORMATION

TITLE	
TITLE SHEET	A
SITE PLAN	A 1
BUILDING LOCATION PLAN	A 2
DIAGRAMMATIC CELLAR PLAN*	A 3
*(FOR INFORMATION ONLY, NOT IN CONTRACT)	

SITE PLANS

TITLE	H	P	SY	E	TP
STREET & YARD PLANS-20 SCALE(30 SCALE LARGE SITES)	H 11	P 11	SY 11	E 11	
TOPSOIL & PLANTING - 20 SCALE (30 SCALE LARGE SITES)					TP 21
STREET & YARD CONSTRUCTION DETAILS - SCALE			SY 51	E 51	
AS REQUIRED			SY 52	E 52	

FOUNDATIONS

TITLE	A	FS	H	P	E
BASEMENT PLANS - 1/8" SCALE					
BUILDINGS 1, 3, 6	A 100	FS 100	H 100	P 100	E 100
" 2, 5, 7	A 101	FS 101	H 101	P 101	E 101
MECHANICAL DETAILS - SCALE AS REQUIRED					
STANDPIPE SECTIONS - NO SCALE				P 110	
RISER DIAGRAMS " "			H 111	P 111	E 111
" " " "			H 112	P 112	E 112
TYPICAL DETAILS & SCHEDULES			H 353	P 353	E 353
FOUNDATION DETAILS - SCALE AS REQUIRED					
MISCELLANEOUS FOUNDATION DETAILS		FS 321			
" " "		FS 322			
BOILER ROOM - 1/4" SCALE					
PLANS		FS 200	H 200		
SECTIONS		FS 201	H 201		

SUPERSTRUCTURES

TITLE	A	SS
TYPICAL BUILDINGS - 1/8" SCALE		
BUILDINGS 6, 8, 14	A 151	
" 7, 9, 13	A 152	
TYPICAL UNIT FLOOR PLANS - 1/4" SCALE		
TYPICAL FLOOR, UNIT A, B,	A 200	SS 200
" " " AR, BR.	A 201	SS 201
MANAGEMENT SPACE	A 210	SS 210
CHILDREN'S CENTER	A 211	SS 211
CHILD HEALTH STATION	A 212	SS 212
ELEVATIONS OF SUPERSTRUCTURE - 1/16" SCALE		
DEVELOPED ELEVATIONS BLDGS. 1, 3, 6	A 251	
" " " 2, 5, 7	A 252	
GRADE ELEVATIONS - 1/8" SCALE		
DEVELOPED GRADE ELEVATIONS, BLDG. 1, 3, 6 (1)	A 301	
" " " " 2, 5, 7 (1)	A 302	
ARCHITECTURAL DETAILS SCALE AS REQUIRED		
STAIR UNIT A, B,	A 351	
" " AR, BR,		
(1) IF NOT ON BASEMENT PLANS		

H.A. STANDARDS

TITLE	
BRICK AND HOLLOW TILE WALLS, SECTIONS ETC.	HA 401
MACHINE ROOM WINDOW ETC.	HA 402
STEEL WINDOW SCHEDULE ETC.	HA 403

SYMBOLS AND ABBREVIATIONS (SEE HA 400)

LIST OF DETAILS USUALLY FURNISHED BY ARCHITECTS IN ADDITION TO NYCHA STANDARD DETAILS

NOTE: This list is for general guidance only; it is not inclusive or definitive.

ARCHITECTURAL DETAILS

Wall Sections
Framing Details
Exterior details, including entrance doorways and steps
Stair and public halls
Kitchen and bath
Bulkheads
Boiler stack
Architectural ironwork

FOUNDATION DETAILS

Pile caps and footings
Columns and spread footings
Coal bunker

MECHANICAL DETAILS

Boiler plant
Elevator layout
Sidewalk elevator layout
Heating riser diagrams and details
Plumbing stack and details
Plumbing riser section
Electric panel board and risers

NEW YORK CITY HOUSING AUTHORITY
PLANNING DIVISION
EXHIBIT XX

NOTES USUALLY MARKED ON PLANS FILED WITH THE DEPARTMENT OF HOUSING AND BUILDINGS.

TO BE EDITED FOR THE PROJECT CONCERNED. WHERE MATERIAL APPEARS IN BRACKETS, ARCHITECTS WILL CHOOSE THE APPLICABLE ITEM.

1. All exterior masonry walls will be laid up in one part Portland Cement, one part lime and six parts sand; all joints thoroughly filled in.

2. Sec. 7.1.1.3 Sub (6) of the Building Code will be complied with in that structural clay tile not directly exposed to the weather in exterior panel walls will comply with A.S. T.M.,D., C56-41 and will have exterior shells of at least five-eighths of an inch in overall thickness and webs of at least one-half inch in overall thickness.

3. The inside of typical exterior walls to be furred, and furring at pipes and similar spaces, unless otherwise shown, will be done with (3/4" channels spaced 16" O.C., 3.4 lb. expanded metal lath and plaster) (gypsum board and plaster).

4. Access panels to furred ceilings will be of metal. All plastering, plaster partitions, furring, etc., to be gypsum plaster.

5. All furred-out spaces at pipes will be fire-stopped at floor and roof slab with concrete at least 4" thick.

6. The space around the incinerator will be fire-stopped with mineral wool for the full height of the floor and roof slab at each level.

7. All other furred-out spaces will be closed at floors and roof with concrete slabs.

8. All paved walks, surfaces and areaways will be drained adequately within the site.

9. Walks or other surfaces will not exceed a pitch of 1" per foot. Walks at building entrances to have a maximum grade of 4%. Cross slope of street sidewalks will be 3%.

10. All outside steps and their rails will comply with Section 62, Multiple Dwelling Law. Guard rails on area or retaining walls will be at least 3 ft. 6 in. high above grade and to be substantially supported and anchored.

11. Approval will be obtained from the Fire Department for all hydrant locations. Fire prevention application for hydrants will be filed, if required by the Department of Housing and Buildings.

12. Steel casement sash will have an openable area at least 5% of the room area.

13. All cleaning of windows will be in conformity with the Window Cleaning Code.

14. All casement windows will be provided with extension type hinges with extra depth to permit reaching through for cleaning.

15. All outswinging windows with less than 7'0" clear headroom from the ground will open over a planted area. Wherever the outswinging windows occur directly over paved areas with less than 7'0" clear headroom from the ground, the leaves will be equipped with clevises on the hinges or stops to restrict the opening to a distance of 6".

16. All windows in stair and public halls will be of steel; glazed with clear glass; no pane over 360 sq. inches.

17. Gas outlets will be provided for gas ranges.

18. Interviewers will be in compliance with Rule 3.7 of Rules for Inspection of Approved Opening Protective Assembly as of Amendment effective July 2, 1945. Board of Standards and Appeals Cal 1139 SR 39.

19. Minimum clear story height, finished floor to finished ceiling, will be 8'0". Girders and beams will not cross any room or encroach upon any required room spaces. One room in each apartment will be at least 132 sq. ft. in area and every other room except a kitchen will be at least 80 sq. ft. in area and of lawful width. These areas are to be provided within the 8'0" ceiling height. Ceilings and haunches are unplastered.

20. All buildings will be entirely fireproof in accordance with subdivision 25 of Section 4, Multiple Dwelling Law.

21. All incombustible insulation, accoustical materials and expansion joint fillers will be of a type approved by the Board of Standards and Appeals for use proposed.

22. Section 33, subdivision 3, of the Multiple Dwelling Law and the Department rules will be complied with, in that woodwork or other combustible material adjoining and less than 1 ft. away from any cooking appliance will be protected by 3/16" thick (cement asbestos board) (incombustible material).

23. Ventilation will be provided for all entrance floors and cellars by means of windows or other approved means.

24. (A standpipe system will be provided in each building. Separate application covering same filed. Location of standpipes, etc., will comply with sections 16.1.1 and 16.2.1, Building Code).

25. All openings to elevator shafts will be provided with doors having a 1½ hour rating. All doors to elevator shafts and doors in elevator cabs to be provided with automatic devices as required by section 51, Multiple Dwelling Law. Doors to be self-closing and provided with vision panel of approved type clear wire plate glass.

26. Floor numerals will be provided on all floors in stairhalls in accordance with Section 122, General Municipal Law and rules of Department of Housing and Buildings.

27. Parking on project will be for the use of tenants only.

28. All floors in public halls will be of concrete with (monolithic cement) (terrazo) (quarry tile) finish. All floors in apartments to be l/8" asphalt tile in 1/16" setting bed on concrete slab. Asphalt tile to be a type approved by Board of Standards and Appeals.

29. Hardware for stairhall doors and bulkhead doors, will meet the requirements of the Department in that knobs shall be provided on both sides of fire-stair doors and no latch, lock or tumbler which will not permit access to or from fire-stair will be used.

30. Interior fire alarm system approved by the Fire Department and meeting the requirements of the rules of the Board of Standards and Appeals will be used in the Children's Center.

31. Separate applications for curb cuts will be filed.

32. In compliance with Section 83 of the Multiple Dwelling Law, there will be an adequate number of superintendents, assistant superintendents, caretakers, etc., in charge of these buildings at all times who will be under the direct supervision of the New York City Housing Authority.

33. Washing machines in laundries are of an accessory use for the tenants in the project and will not be used for business purposes. Maximum capacity of each machine is 10 lbs. of dry laundry.

34. A resurvey will be made according to law at the completion of second tier of beams showing locations, profiles of buildings and extensions, also elevations of finished slabs of first residential floor.

35. Artificial lighting of public halls and stairhalls will comply with Section 37 of the Multiple Dwelling Law.

Entrance Floors and Cellars:

36. Incinerator to be built in accordance with all rules and regulations of the Building Code and in accordance with manufacturer's specifications; chimney walls will be at least 9 in. thick for a distance of at least 40' 0" above the roof of the combustion chamber, built of 3¾ in. brick and 4½ in. firebrick lining with an air space between brick and firebrick. Above this point the chimney wall will be constructed with at least 8" of brickwork. Four-inch solid cinder block partitions will be built from roof of combustion chamber to underside of floor slab so as to close off completely every room from space over incinerator, and to form a seal between incinerator room and furred spaces.

37. Incinerator enclosure rooms will be ventilated to outer air by (windows) (ducts) (louvres) and to have 4" thick hollow cinder concrete block enclosing partitions.

38. Ventilation for boiler room will comply with the requirements of the Building Code.

39. All unassigned spaces on entrance floors will be used for ordinary general cellar purposes.

40. Gas meters will be placed in spaces provided on Entrance Floors and Cellar as per Section 64 of the Multiple Dwelling Law.

41. Structural plans show all footings, foundations, walls, beams and girders, reinforcing, etc., in conformity with Building Code.

42. Wherever floor drains are located on Entrance Floors or Cellars, a hose bibb or faucet will be provided within room.

43. Section 77 of the Multiple Dwelling Law will be complied with. No leader, drain or house trap will be located in any bathroom or water closet compartment. All traps are to be accessibly located.

44. Heating pipes leaving and entering boiler building and other buildings through large masonry opening will have openings around pipes closed up with masonry. Other exterior pipe openings will be closed up with material having a fire resistive rating of 4 hours.

45. Section 34, subdivision 2 of the Multiple Dwelling Law will be complied with in that all walls below the ground level and all cellar or lower floors shall be dampproofed and water-proofed if found necessary.

46. No spraying, dipping or immersing will be done in paint shop or on premises. Application for sprinkler system and fire prevention in paint shop and paint storage rooms and exterminator room will be filed.

47. Application will be filed with Fire Department for approval of quantity and type of material to be stored in paint storage room and permit obtained.

48. All partitions in Maintenance and Management, Children's Center and Health Center unless otherwise shown, will be 2" solid plaster partitions and any sash shown as part therewith, will be of (metal) (wood).

49. Partitions around kitchenettes will be of an approved material having a one-hour rating. Partitions between rooms will be of at least 2" solid plaster on metal lath and channels or of 2" solid gypsum board and plaster. All building code requirements will be complied with.

50. There will be lighting fixtures adjacent to the mail boxes and controlled by a timing switch on the wall. A lighting fixture with constant current will be provided in the public hall near the elevators.

51. All toilets for laundries, craftrooms, boiler rooms, and those in management and maintenance spaces will have hydrolithic waterproof cement floor and a base at least 6 in. high of (hydrolithic waterproof cement) (impervious glazed) facing tile). All other toilet rooms will have tile floor and 6 in. tile base. Toilet stalls will be of metal. Waterproofing will be of type as per Cal. 179 - 39 SM as approved by Board of Standards and Appeals Mar. 25, 1943.

52. Every door giving access to the entrance and stair halls from the outside of building will contain not less than 5 sq. ft. of glazed surface.

53. See Drawing No. --- for schedule of doors, types, sizes, etc.

54. Entrance hall, stair hall and elevator enclosure partitions will be of an approved material having a 3-hour fire-resistive rating and complying with the Building Code. Public hall enclosure partitions will be of an approved material having a (1-hour) (3-hour) fire-resistive-rating. All other partitions on entrance floors and cellar will be of 4" hollow cinder concrete blocks, unplastered, unless otherwise noted or indicated.

55. Children's Center, Health Center, Maintenance and Management, Social Rooms and Shops, etc., are of accessory use to the project.

56. All required stairs will be at least (3 ft.) (3 ft. 8 in.) (4 ft. 6 in.) wide in the clear between (the wall and the metal handrail) (between handrails). Stair landings at the various floor levels will be (3'8") (4 ft. 6 in.). Stairs will have (steel) (reinforced concrete) risers, stringers, and treads. The upper surface of stair railing will be not less than 2'6" or more than 2'8" above the front edge of the stair treads. The upper surface of every balustrade or railing placed in stair landing will be not less than 2'8" or more than 3'0" above the level of landing. The treads and risers of every stair will be so proportioned that the product of the tread, exclusive of the nosing, and the riser in inches will not be less than 70 nor more than 75, but the riser will not exceed 7-3/4" in height and the tread exclusive of the nosing will not be less than 9½" wide.

57. All public hall and stair hall window vents will be (stationary to a height of 3'6" above finished floor) (provided with guard rails).

58. Incinerator hopper assembly will be of a type approved by the Board of Standards and Appeals as meeting the requirements for a one-hour rating as per calendar 808-46-SM approved 5/4/48 by the Board of Standards and Appeals. Hopper doors will comply with Sec. 11.2.5.2 b 3 of Building Code. Signs over incinerator hopper doors will be provided as per Section 701 (d), Administrative Building Code.

59. All doors from public halls to stair-halls will be 1-hour fire-proof, self-closing, double glazed with 2 sheets of 1/4" wire glass each 360 sq. in. with air space between. All apartment entrance doors will be 1-hour fire-proof, self-closing. The complete door assembly will comply with the rules of the Board of Standards and Appeals. All door bucks and trim will meet the same requirements.

60. All apartment bathrooms will have tile floors with at least a 6" tile base. They will be provided with electric light.

61. Where furred-out spaces are provided at rated partitions, they will be fire-stopped at each tier and enclosed with 1½" plaster in lieu of direct plastering.

62. Dimensions of all rooms and bathrooms are from center to center of plaster partitions, unless otherwise indicated, and elsewhere to face of masonry.

63. Mechanical ventilation for interior bathrooms will be operated as required by Section 76 of the Multiple Dwelling Law. Ducts will be provided with combination fusible link type fire gravity damper with louvres and key lock for final adjustment at each opening.

64. All bedrooms having one window will have 18 sq. ft. between stop beads, as per Section 30 of the Multiple Dwelling Law, or louvres in bedroom doors.

65. All (parapet walls will be 12" thick and) (railings) will be carried up at least 3'6" above finished roof.

66. All plumbing stacks will be carried up 4'0" above finished roof.

67. Roof covering will be constructed as follows: 4-ply felt and pitch with slag finish: using not less than 200# of pitch per square of roof and 300# of slag per square of roof. Leader boxes will be flush with finished roof.

68. Stair bulkhead doors will be 1-hour fireproof, self-closing. Bucks and trim shall have the same rating.

69. Section 62, subdivision 2 of the Multiple Dwelling Law, also Department requirements relative to radio antennas and wires will be complied with.

70. All hung ceilings will comply with Section 8.4.10.5 Building Code.

71. Plastering on Masonary will comply with Section 8.4.10.13 Building Code.

DESIGN OF SITE IMPROVEMENTS

III

SECTION III DESIGN OF SITE IMPROVEMENTS

The following information is intended to supplement or explain the standards and practices of the Authority in various phases of site design.

Site improvements shall be designed to meet the needs of people concentrated in a relatively small area. The site design shall provide for all circulation of pedestrian and vehicular traffic within the project. The site plan shall include walks, roads, play areas, playground, if any, sitting areas, service courts, parking facilities, lawns and planted areas.

Exhibit XXX p. 51 contains general site and landscape criteria to guide landscape architects.

REFERENCE INFORMATION

The Authority will provide landscape architects with topographical maps, official street change maps and, upon request, sewer maps, drainage plans or other utility maps. The landscape section of the Authority is available for consultation and assistance.

Exhibit XXXI p. 53 lists standard symbols and abbreviations to be used on site plans.

BUILDING LOCATION INFORMATION

The architect and landscape consultant shall collaborate in providing a pleasing building composition with suitable open areas and a good workable system of access and circulation.

Consider building locations for:

Best exposure and sunlight

Best use of all existing grades or balancing of cut and fill as far as possible

Preservation of existing fine trees

Natural site features such as rivers, views, natural rock outcrops, etc., avoiding jagged rocks, steep slopes or other hazardous conditions

Street setbacks

Zoning requirements

Note special site requirements for buildings with boiler rooms, coal bunkers, oil storage tanks, maintenance spaces, bulk storage rooms, and loading platforms.

Provide for:

Management: A parking area nearby

Community Center: Convenient access from boundary street

Children's Center: South exposure preferred, east permitted

Landscape Storage (dirt surface): Vehicular access

PARKING AREAS

Amendments to the Zoning Resolution require parking facilities for passenger automobiles in Class A Multiple Dwelling projects as follows:

Area Districts	Minimum Quantity of Parking Spaces Required
A and B	20% of dwelling units
C	30% of dwelling units
D and DD	40% of dwelling units
E, F and F-1	50% of dwelling units

Note: Public housing projects subsidized by City, State or Federal funds must provide at the outset one-half of the parking area specified above, and must also demonstrate that the other half can be provided later in open spaces within the project.

The openings from street to parking areas shall be not more than 10 ft. wide for an area having a separate entrance and exit, and not more than 20 ft. wide for an area having one opening for both exit and entrance. See Diagrams 30, 31 and 32, pp. 58-60.

CIRCULATION

Roadways: Heavy-Duty Asphalt or Reinforced Concrete

Provide emergency vehicular access for fire equipment, police, etc. It is not intended that laundry and milk trucks, etc., shall have vehicular access to the site. Stanchions with chains shall be installed at vehicular entrances.
Electric transformer vaults and some manholes may require servicing by heavy trucks and should be located in heavy-duty pavement areas.
All service utility features should be placed in roadway areas.
Oil tanks shall not be placed under pavements designed for heavy vehicles.
Provide drop curbs at all vehicular entrances to the project.

Walks: Asphalt or Concrete

Walks shall be designed for the most direct and easy flow of travel through the project from all building entrances to streets. Steps should be avoided if possible.
Special consideration should be given to the volume of traffic between certain points such as project walks leading to boundary streets, schools, playgrounds, stores, transportation stops, etc.
Avoid sharp angles in walk edges at walk intersections and on fire lanes.
Walks, vehicular roads and dropped curbs shall be designed to avoid street and project light standards, police or fire alarm boxes, hydrants, etc. Site plans shall designate these existing or proposed installations both on boundary streets and within the project.

SITTING AREAS AND ENTRANCE COURTS

Provide ample space for pedestrian traffic and for off-path baby carriage parking areas with a few benches near entrance courts. These areas should be placed between 25 ft. and 50 ft. from building entrances.
Benches usually should be set back from walks, facing large open lawn areas or views. Avoid placing benches close to windows and service areaways or facing directly opposite each other on walks or small paved spaces.

PLAY AREAS

There are usually three types of play areas in each project:

Children's Center play area (supervised)
Children's play areas (unsupervised)
Playground (to be maintained by the Department of Parks)

Playgrounds and play areas should be located for minimum noise nuisance to apartment dwellers and should not be placed in courts or across main walkways. All play area entrances shall be located to discourage through circulation. Play areas should be enclosed by chain link fence and paved with a bituminous surface (except as noted). They should generally be surrounded outside by trees and occasional shrubbery.

The children's center play area shall be located with a southerly or easterly exposure. It shall be enclosed with a boundary fence having a maintenance gate. The play area shall be divided into two sections by a chain link fence with a gate. One section is for the youngest group and should be without apparatus except for a Play Pyramid. The separating chain link fence shall also divide equally 500 sq. ft. of unpaved digging space. In the larger area provide a Junior Exercise Unit and either a Pipe Tunnel, a What Not or a Play Pyramid. A garden area not over 4 ft. wide should be provided for each section. A hose outlet shall be provided. See Diagram 54, p. 96.

Play areas are designed for small children. The number, location and size should be determined by neighboring facilities, type of terrain, number of tenants, etc. For suggested play apparatus, see Exhibit XXXII p. 61.

The playground, if included, will be for children and for adults. It will be designed to serve the neighborhood, as well as the tenants, and usually will include a comfort station, softball and handball courts, a wading pool, sandpit, drinking fountain, etc.

GRADING AND SURFACE DRAINAGE

The final grading plan should be designed to conform to established legal street grades and curb lines. When necessary, a temporary scheme shall be provided to conform to existing public streets and curbs.

The elevation of the first floors of buildings and building corner grades should be set above legal street grades and adjacent roads and walks to insure adequate drainage away from the buildings.

Avoid draining excessive amounts of water over sidewalks, steps, ramps and large paved areas, or through long swales in planted areas.

Use arrows to show flow directions of surface water where the grade is very flat.

Catch basins and drain inlets shall be located and dimensioned from buildings on the site plans. See Diagram 33, p. 64.

Catch basins in paved areas should be located with sufficient pitch to insure drainage in freezing weather, avoiding pedestrian hazards. Place catch basins, etc., at the edge of paved areas or granite block pavements. Particular attention should be paid to draining nearly flat paved areas. Basins should not be placed immediately at corners of walk intersections.

The drainage system shall be designed to obtain a flow of "self-cleaning" velocity (assumed to be a minimum of 3 ft. per second).

Sufficient cover shall be provided over underground facilities, both existing and proposed.

PAVING TYPES

Street sidewalks shall be constructed of concrete on cinders and shall conform to current specifications of the Office of the Borough President.

Project walks shall be of asphalt or concrete, depending upon site conditions.

S:A. Concrete walks are preferred where feasible.

Play areas generally shall be of asphalt.

Vehicular areas shall be paved with heavy-duty asphalt or with reinforced concrete.

Tree pit areas shall be paved with granite block, perforated concrete block, slabs, or grilles.

Granite or concrete block, brick, or flagstone may be used in pedestrian traffic divides, such as islands, or in strips between two surface types.

The landscape architect shall consult with the Authority as to the preferred types of pavement for each project.

FENCES

Chain link fencing 3 ft. high should be used where needed to prevent cross cutting of lawns and shrubbery, as at walk intersections. Fencing extending from building corners to walk intersections is recommended.

Post-and-chain fences are useful as barriers where long grass areas abut street sidewalks.

Diagram 34, p. 65, illustrates fence types and uses.

FLAGPOLE

A flagpole shall be placed in a central position visible from several points but not near a playground, school, swimming pool, or other structure which usually has a flagpole. It should be placed adjacent to the management building for convenience and, if possible, near a paved area where groups can gather for celebrations.

PLANTING DESIGN

The entire project should be suitably planted with trees.

Large lawn areas should be established, and small topsoil areas should be treated exclusively as shrub beds.

It is desirable to use large masses of sturdy, inexpensive plant material that will resist harsh usage.

Ground cover areas cannot be maintained and are therefore not acceptable. Use low-growing shrubs instead.

In choosing plant material, consideration should be given to city growing conditions, sunlight, hard usage, and vandalism.

Massed shrub beds should be planted in staggered rows to discourage people from walking through them.

Solid or thorny hedges may also be used as barriers to protect lawns.

Steep terraces are to be avoided if possible. Where steps occur on slopes, however, sod strips 12 inches wide used beside the cheek walls and bordered by shrubbery will help reduce erosion.

Avoid placing shrubs where they will hide siamese connections.

SITE AND LANDSCAPE CRITERIA

AREAS	MINIMUM	MAXIMUM	PREFERRED
1. Entrance Courts-Baby Parking	750 Sq. Ft.	1500 Sq. Ft.	1000 Sq. Ft.
2. Childrens Center Play Area			
With three playrooms	4500 Sq. Ft.	5000 Sq. Ft.	
With four playrooms	6000 Sq. Ft.	6500 Sq. Ft.	6500 Sq. Ft.
Sand Pit			500 Sq. Ft.
3. Landscape Storage			1000 Sq. Ft.
BENCHES			
1. Distance from Windows	15 Feet		
2. Quantity	One Unit per 3-5 D.U. - (5 Units in dense neighborhood)		
BUILDING LOCATIONS			
1. Setback from Proj. Prop. Line	10 Feet		
2. Between Bldg. Corners:	50 Feet		
3. Between Bldg. Walls:			
One-story Bldg.	50 Feet		
Add 5 Ft. for each additional story to:	110 Feet		
MAIN ENTRANCE LOCATIONS			
(Perimeter buildings-from Proj. Prop. Line)	10 Feet	100 Ft.	50 Ft.
	(NOTE: See Also Zoning Ordinance)		
CATCH BASINS - DRAIN INLETS			
1. Distance from Trees	10 Feet		
2. Distance from Benches	10 Feet		
GRADES			
1. Lawns	one %	one ft.Vert. to Three ft. Horizontal	Two %
2. All open paved areas	one %	Three %	Two %
3. Roads and Fire Lanes	one %	Five %	Two %
Roads - Access	one %	Ten %	Two %
4. Walks - Yard	one %	Four %	Two %
Walks - Access	one %	Eight %	Two %
5. Ramps - Treads	one %	Ten %	Five %
6. Benches	one %	Three %	Two %

NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

EXHIBIT XXX page 1

STEPPED RAMPS	MINIMUM	MAXIMUM	PREFERRED
1. Risers	5 In.	7½ In.	6 In.
2. Length of treads			5 Ft.
ROADWAYS - WIDTHS			
1. Access to Buildings	10 Ft.	20 Ft.	15 Ft.
2. Fire Lanes	20 Ft.	25 Ft.	20 Ft.
3. Rounded Corners	R=15 Ft.	(Consult NYCHA)	
SHRUB SPACING			
1. Distance from Buildings			None
2. Spacing *(distance between plants)*	Equal to first numeral of plant height, i.e., 3'-4' shrub = 3' O.C. Narrow upright plants, should be spaced closer, i.e., California privet.		
TREES			
1. Change in grade - cut		Six Inches	
Change in grade - fill		4 Ft. (In tree wells)	
2. In Paved Areas - (size of tree)		4 In. to 5 In. Caliper	
3. Proposed Trees Major Trees - Space Between (In Rows)	35 Ft.	50 Ft.	40 Ft.
WALKS			
1. Service-widths to meter & tank rooms	2½ Ft.		2½ Ft.
2. Connecting - widths	8 Ft.	12 Ft.	10 Ft.
3. Promenade - widths	12 Ft.	15 Ft.	15 Ft.
4. Main Entrance - widths	10 Ft.		15 Ft.
5. Rounded or cut corners			6 Ft. (R=6 Ft.)
6. Distance from Buildings	10 Ft.		

STANDARD SYMBOLS & ABBREVIATIONS

FOR GENERAL SITE PLANS, STREET AND YARD AND TOPSOIL & PLANTING CONTRACT DRAWINGS

FOR: SITE PLANS AND STREET AND YARD CONTRACT DWGS.

ABBREVIATIONS

LIMIT LINE

Ex. P.L.	Existing Property Line
P.P.L.	Project Property Line
C.L.L.	Contract Limit Line

GRADES

El.	Elevation
Fin. Gr.	Finish Grade
H.P.	High Point
L.P.	Low Point
T.W.-B.W.	Top of Wall Bottom of Wall
T.C.-B.C.	Top of Curb Bottom of Curb

PAVEMENTS

Asph.	Asphaltic Concrete
H.D.	Heavy Duty Asphalt
Conc.	Concrete Yard Walks
Reinf. Conc.	Reinforced Concrete
G.B.	Granite Block
B.P.	Brick Pavement
Asph. Bl.	Asphalt Block
Fl.	Flagstone
Ex. Jt.	Expansion Joint

UTILITIES

St.	Steam
E.	Electrical
T.	Telephone
S.S.	Storm Sewer
San.	Sanitary Sewer
G.	Gas
W.	Water
Inv.	Invert
C.B.	Catch Basin
D.I.	Drain Inlet
M.H.	Manhole
T.V.	Transformer Vault
T.F.	Top of Frame

FENCES

C.L.F.	Chain Link Fence
W.I.F.	Wrought Iron Fence
P.C.	Post and Chain
P.R.F.	Pipe Rail Fence
Sn.	Stanchion
R. Sn.	Removable Stanchion

PLAY AREA EQUIPMENT

P.F.E.U.	Exercise Unit
Jr.Ex.U.	Junior Exercise Unit
Tu.	Pipe Tunnel
Laby.	Labyrinth
P.P.	Play Pyramid
T.S.	Tunnel Slide
Logs	Log Pile
P.L.	Play Log
Slide	Play Slide
Jr. Slide	Jr. Slide (Kindergarten)
Ta.	Tunnel Table
W.D.	Wood Dodger
P.Tu.	Pipe Turret
B.B.	Basketball Standards

MISCELLANEOUS

S.Y.	Street & Yard
T.P.	Topsoil & Planting
℄	Center Line
O.C.	On Center
C to C	Center to Center
O.D.	Outside Diameter
I.D.	Inside Diameter
Dwg.	Drawing
N.I.C.	Not In Contract
Pl.	Planted Area
L	Lawn
R	Radius
P.C.	Point of Curvature
P.T.	Point of Tangency
P.C.C.	Point of Compound Curvature
Tan	Tangent

STANDARD SYMBOLS & ABBREVIATIONS *(CONTINUED)*

FOR: SITE PLANS AND STREET AND YARD CONTRACT DWGS.

SYMBOLS

P.P.L.	Project Property Line
EX.P.L.	Existing Property Line
C.L.L.#12	Contract Limit Line (Indicate Contract No. where differences occur.)
0.00	Future Curb Line Established Legal Grade
0.00	Existing Curb Line Existing Curb Grade
100 101	Existing Contour Proposed Contour
+102.3	Spot Elevation
TW 108.5 BW 104.75	Top & Bottom of Wall Elevations
TC 108.6 BC 108.	Top and Bottom of Curb Elevations
FL. EL. 113.2	Floor Elevation
TF110.5 CB	Top of Frame Elevation New Catch Basin
(TO REMAIN) CB	Existing Catch Basin (to remain)
TF112.3 DI	New Drain Inlet
FLAGPOLE	Flagpole
12 U	Bench (Arrow indicates direction bench faces) (12 U indicates No. of 3'-3" Units)
ASPH.	Asphaltic Concrete
H.D.	Heavy Duty
CONC.	Concrete Yard Walks
REINF. CONC.	Reinforced Concrete
EX. JT.	Construction Joint (Panel Marking) Dummy Joint Expansion Joint
G.B.	Granite Block
BR	Brick Pavement
FL	Flagstone
ASPH. BL.	Asphaltic Block
PL.	Planted Areas
F 3	Raised Curb (No. indicates height) Flush Curb
TC 87.2 BC 86.5 V	Variable Height Curb (Use T.C. & B.C. at all changes of height or grade)
R1 R2	Retaining Wall (No. indicates changes in cross-section details)
+ BW 108.5 TW 113.0 W	Free Standing Wall
	Stepped Ramp (with pipe rails)

STANDARD SYMBOLS & ABBREVIATIONS *(CONTINUED)*

FOR: STREET AND YARD CONTRACT DWGS.

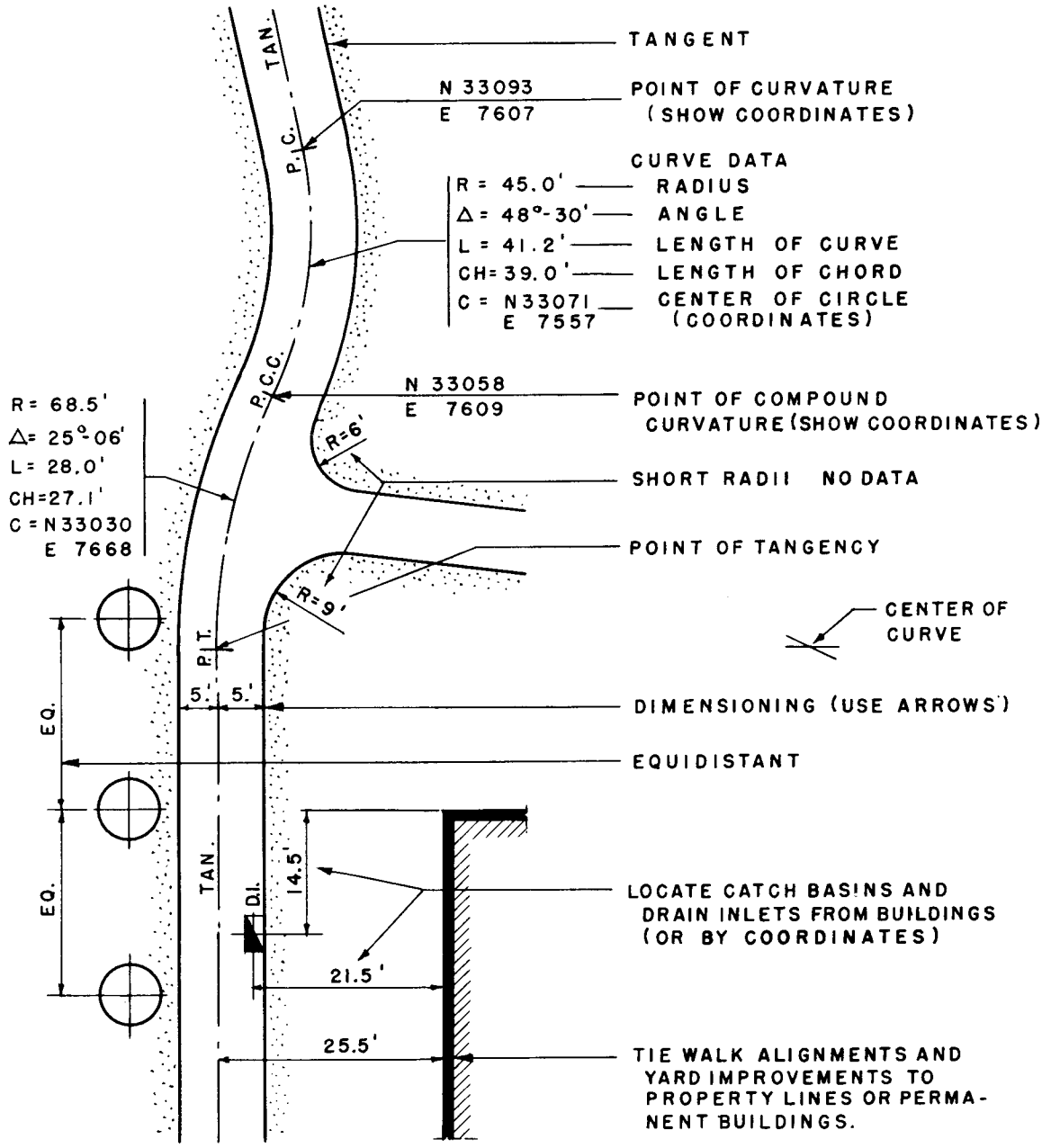
SYMBOLS

- Guard Fence in piers
- Guard Fence on Curb
- 3½ — Chain Link Fence on piers (No. designates height)
- 4 — Chain Link Fence on Curb (No. designates height)
- W I F — Wrought Iron Fence
- Timber Rail Fence
- Fixed Stanchions w/chain
- Fixed Stanchion
- o R. — Removable Stanchion
- 18" MAPLE #21 79.6 — Existing Tree (to remain) Designate Caliper, Name Number & Grade Elevation
- 24" #22 — Existing Tree (to be cut) Designate Caliper and Number
- 8" N.MAPLE #23 — Existing Tree (to be moved) Designate Caliper, Name and Number
- #23 89.7 — Existing Tree (new location) Designate Number and Grade Elevation.
- Tree Pit in lawn area
- Tree Pit in paved area
- Tree in Tree Well
- Tree in Half Well
- Tree on Tree Wall
- Proposed Utility (Solid Line)
- Existing Utility (Broken Line)
- ST — Steam Main
- 24" SS — Storm Sewer
- 8" SAN — Sanitary Sewer
- 6" YD — Yard Drain Line
- 4" W — Water Main
- 3" G — Gas Main
- E — Electrical Conduit
- T — Telephone (Underground)
- P — Police Alarm
- MH — Man Hole
- TV — Transformer Vault
- S Y — Street Light - Yard Light (Free-Standing)
- Y — Bracket Yard Light
- PB — Electrical Pull Box
- New Hydrant
- Existing Hydrant
- Hydrant - Siamese
- HB — Hose Bib On Building
- HB — Hose Bib Free-Standing
- SW — Street Washer

STANDARD SYMBOLS & ABBREVIATIONS *(CONTINUED)*

FOR: STREET AND YARD CONTRACT DWGS.

ALIGNMENT DATA



USE COORDINATES TO LOCATE ALL KEY POINTS. OTHERWISE TIE IN KEY POINTS OF LAYOUTS BY DIMENSION LINES TO PROPERTY LINES, BUILDING LINES OR OUTSIDE OF BUILDINGS TO BE BUILT OR TO REMAIN ON THE SITE.

STANDARD SYMBOLS & ABBREVIATIONS *(CONTINUED)*

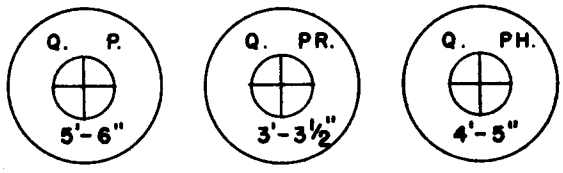
FOR: TOPSOIL AND PLANTING DWGS.

SYMBOLS

MAJOR TREES

Use initials of botanical names as symbols to indicate their respective variety. Where duplicate initials may occur on the same plan, use the second letter of species name. Indicate caliper in every case: —

EXAMPLES: —



Quercus Palustris	Quercus Prinus	Quercus Phellos
5-6" caliper	3-3½" caliper	4-5" caliper

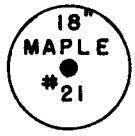
MINOR TREES & SPECIMEN PLANTS

Use first two letters of genus name and initial of species name to indicate their respective variety. When duplicate symbols occur on same plan, use second or more letters of species name. Indicate height only when 2 sizes of same plant are used.

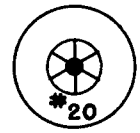
EXAMPLES: —

Magnolia Soulangeana	Magnolia Stellata	Molus Spectabilis
8-10' high 6-8' high	5-6' high	6-8' high

EXISTING TREES



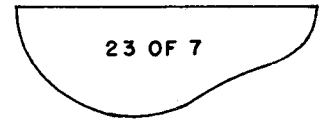
EXISTING TREE to remain at grade.



EXISTING TREES in well and half-well.

SHRUBS

Shrubs shall be symbolized in beds by a numeral to correspond to a numeral in the plant list. Quantities shall be indicated. Example:



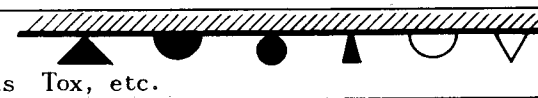
PLANT LIST

Plant list shall be drawn on each sheet of planting plans as shown below:-

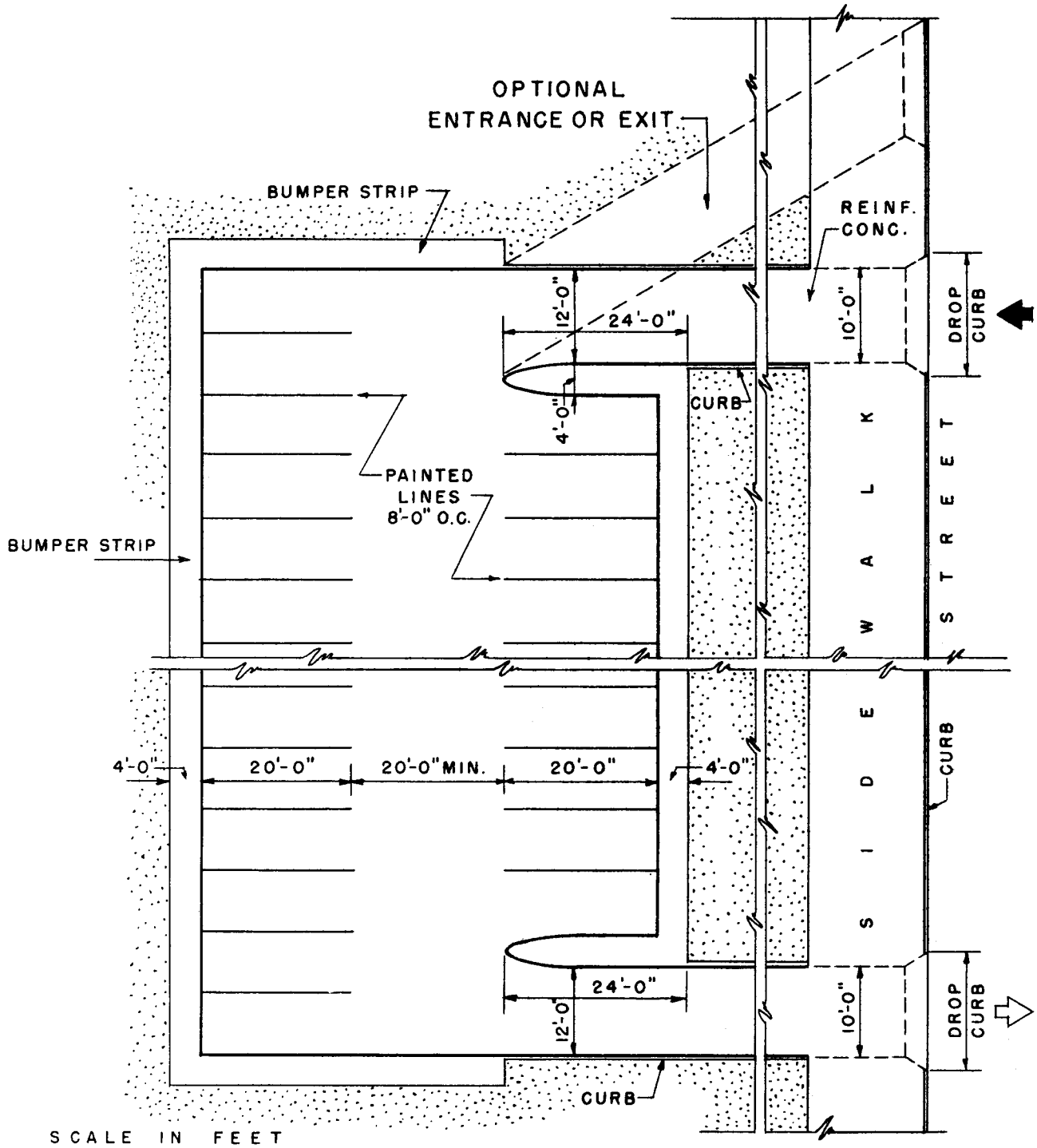
SYMBOL	BOTANICAL NAME	SIZE	SPACING
7	Chaenomeles lagenaria pygmaea	3'-4'	3'-0"
8	Ligustrum obtusifolium regelianum	2½'-3'	2½'-0"
9	Viburnum dentatum	4'-5'	4'-0"

Avoid continuous rows or aisles in shrub planting.

VINES



Indicate each vine by symbol as shown: — Rhus Tox, etc.



SCALE IN FEET

0 5 10 20 30

= PLANTING

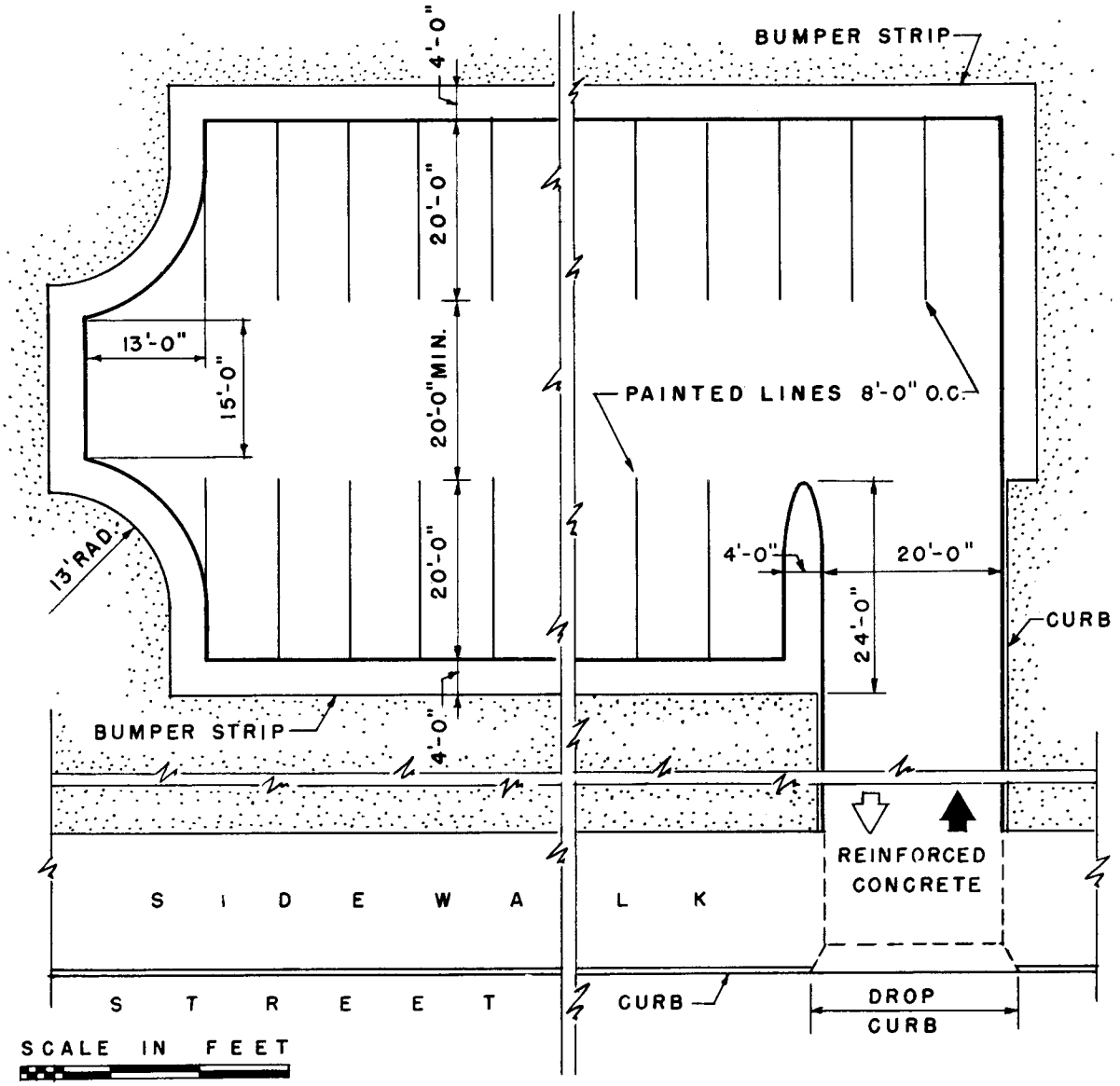
NOTE: SEE DEPARTMENT OF HOUSING AND BUILDINGS RULES AND REGULATIONS RELATING TO PARKING AREAS IN REGARD TO NUMBER OF ENTRANCES, DISTANCE FROM STREET ETC.

PARKING AREA
PARALLEL TO STREET
(A) WITH SEPARATE ENTRANCE AND EXIT

NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

DIAGRAM 30



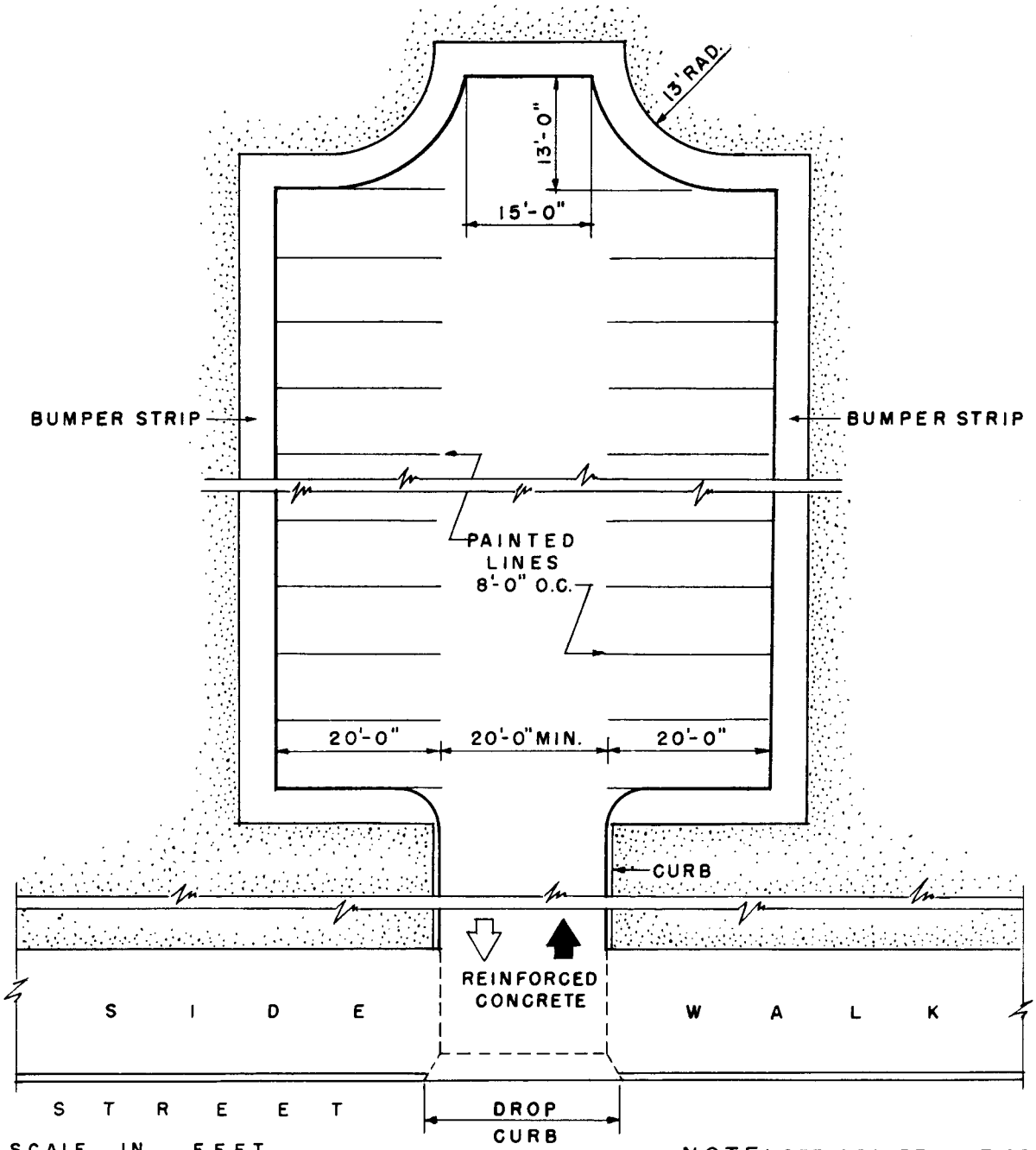
NOTE: SEE DEPARTMENT OF HOUSING AND BUILDINGS RULES AND REGULATIONS RELATING TO PARKING AREAS IN REGARD TO NUMBER OF ENTRANCES, DISTANCE FROM STREET ETC.

PARKING AREA
PARALLEL TO STREET
(B) WITH COMBINED ENTRANCE AND EXIT

NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

DIAGRAM 31



NOTE: SEE DEPARTMENT OF HOUSING AND BUILDINGS RULES AND REGULATIONS RELATING TO PARKING AREAS IN REGARD TO NUMBER OF ENTRANCES, DISTANCE FROM STREET ETC.

PARKING AREA
AT RIGHT ANGLE TO STREET

NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

DIAGRAM 32

SUGGESTED EQUIPMENT FOR PLAY AREAS IN PUBLIC HOUSING PROJECTS

FOR CONSTRUCTION DETAILS - SEE N.Y.C.H.A. AND DEPT. OF PARKS STANDARDS.

I. UNSUPERVISED PLAY AREAS

A. Housing Project Site

1. Children's Play Area (Junior) Ages 6 to 8

Junior Exercise Units
Junior Play Slides
Play Logs
Wood Dodgers
Pipe Tunnels
Log Piles
Removable Shower

2. Children's Play Area (Intermediate) Ages 9 to 12

Pipe Frame Exercise Units
Play Slides
Wood Dodgers
Basketball Backstops (Single)
Roller Skating Areas - Ice Skating

3. Children's Play Area (Senior) Ages 13 to 15

Basketball Courts)
Roller Skating Areas)
Softball Fields) If no Playground Adjacent
Ice Skating Rink (1))

4. Older Children's Playground Ages 16 to 18

Softball Fields)
Basketball Courts)
Football Fields (1))
Soccer Fields (1)) If no Public Play Fields Adjacent
Ice Skating Rink (1))
Baseball Fields (1))

(1) For large projects

5. Adult Play Areas Age 19 and over

Boccie Court (where played)	)	
Bowling Green (where played)	)	Space allowed in lawn areas -
Croquet Field (where played)	)	to be provided and supervised
Badminton Courts	)	by Management.
Horseshoes	)	

II. SUPERVISED PLAY AREAS

B. Housing Project Site

1. Children's Center Play Areas Ages 3 to 5

Junior Exercise Units
Play Pyramids
Pipe Tunnels
Log Piles

2. Community Center Ages 12 and over

Paddle Tennis
Table Tennis
Shuffleboard
Volleyball Courts (1)
Tables and Benches
Croquet (or Roque) (1)
Badminton Courts (1)
Areas for movies and dancing (1)

C. Playground Adjacent to Housing Project
Subject to Park Department Approval:

1. Children's Playground (Junior) Ages 3 to 7

Kindergarten Slides
Kindergarten Swings
Sand-pits
See-saws
Wading Pools

2. Children's Playground (Senior) Ages 8 to 12

Play Slides
Play Swings
Pipe Frame Exercise Units
Wading Pools
Paddle Tennis
Roller Skating Areas

---

(1) For Large Projects

3. Older Children's Playground Ages 13 to 18

Basketball Courts
Volleyball Courts
Handball Courts
Shuffleboard
Horseshoes
Paddle Tennis
Table Tennis
Roller Skating Areas
Softball Fields
Baseball Fields (1)
Football Fields (1)
Soccer Fields (1)
Track (1)

4. Adult Playground Ages 19 and over

Basketball Courts
Volleyball Courts
Handball Courts
Paddle Tennis
Badminton Courts
Tennis Courts (1)
Baseball Fields (1)
Softball Fields
Football Fields (1)
Soccer Fields (1)
Track (1)
Area for Dancing and Movies
Boccie Courts (where played)
Bowling Greens (where played)
Cricket Fields (where played) (1)
Croquet (or Roque)
Horseshoes
Shuffleboard
Ice Skating Rinks (1)

---

(1) For large projects

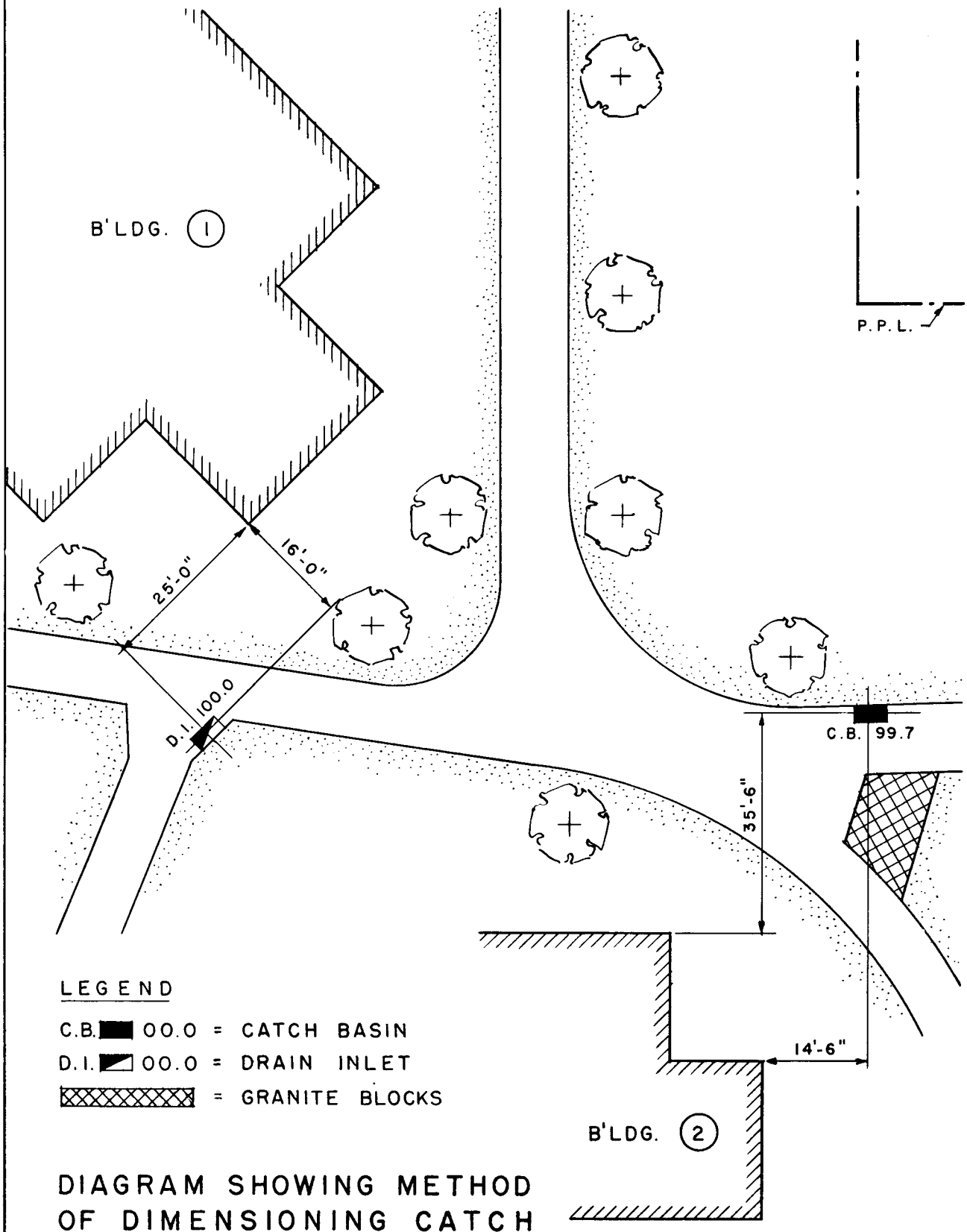
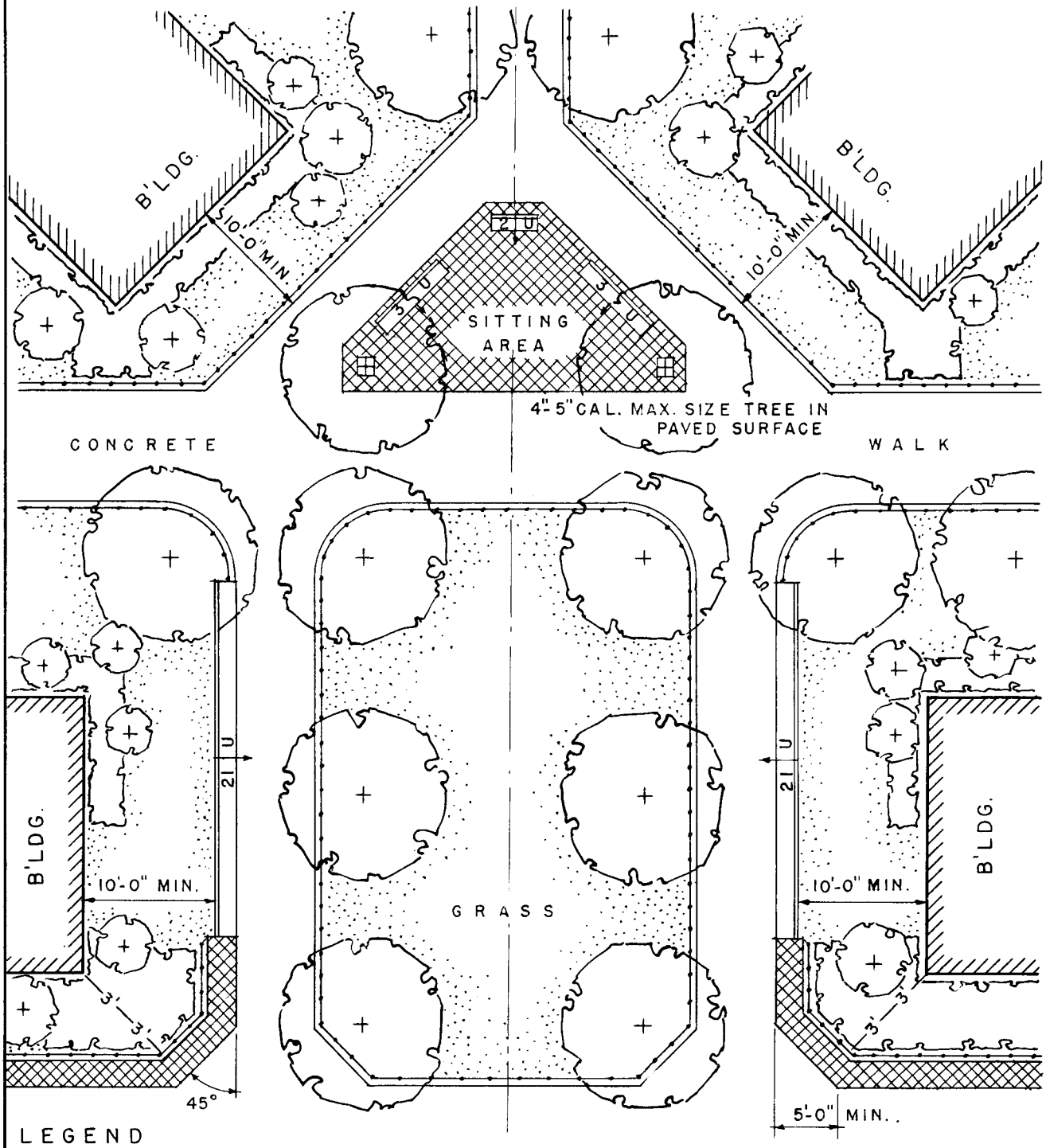


DIAGRAM SHOWING METHOD OF DIMENSIONING CATCH BASINS AND DRAIN INLETS FROM BUILDING CORNERS.

NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

DIAGRAM 33



LEGEND

TREE IN PAVED AREA

GRANITE BLOCK GRASS

BARRIERS AGAINST CROSSING PLANTED AREAS

-3'—3'- CHAIN LINK FENCE (SHOWING HEIGHT.)

POST AND CHAIN FENCE IN FOOTINGS

3 U BENCH

TYPES AND USES OF FENCES & BARRIERS, WALK INTERSECTIONS AND SITTING AREAS

SCALE IN FEET

0 5 10 20 30

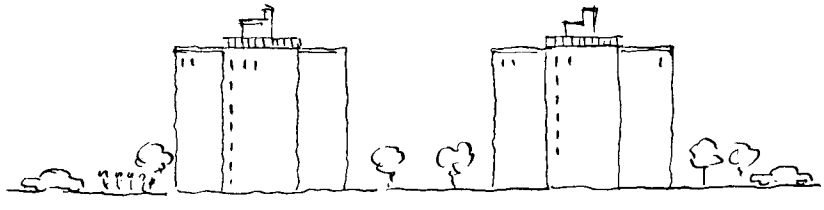
NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

DIAGRAM 34

DESIGN OF DWELLING SPACES

IV



SECTION IV DESIGN OF DWELLING SPACES

This Section applies to apartment layout and equipment. All areas and all furniture requirements are minimum standards for the program to which they are keyed HA:A, S:A, etc.), If not keyed, the standards and requirements apply to all programs.

MINIMUM AREAS

Exhibits XL, XLI and XLII pp. 72-74 give minimum net room areas for HA:A, HA:NS, S:A and F:A programs.

DWELLING DESIGN

Architects will be given the apartment distribution for the project concerned.

All dwellings, except one- or two-person apartments, shall have at least two exposures.

Minimum clear ceiling heights shall be 8 ft. for all NYCHA-administered projects (designed at 8 ft. 0½ in.).

Passageways within apartments should be not less than 2 ft. 10 in. clear in straight runs, with allowance for furniture moving at changes of direction.

Electric outlets should be located to serve best the probable furniture arrangement in each room.

S:A. Place standing radiation under wide windows about 6 in. away from the window jamb nearest the riser pipes, to cut down horizontal runs, unless the distance is less than the minimum required between radiator and risers. Radiators under small windows shall be centered.

LIVING ROOMS

The living room shall be at least 10 ft. 6 in. in its smallest dimension for areas up to 170 sq. ft. and 11 ft. for a room of 170 sq. ft. or over.

It is desirable that living rooms be planned for privacy if this can be done without sacrificing design economy, and without creating passageways in the dwelling unit parallel to public halls.

Allow space for:

Couch or davenport	3′0″ x 6′9″
Two easy chairs	2′6″ x 3′0″
A desk or table	2′0″ x 3′4″
Radio and other incidental pieces	1′4″ x 2′8″

Note: Furniture shall be shown on preliminary unit plans. See Section I p. 8.

DINING SPACE

Dining space shall be large enough for furniture sizes and clearances noted below:

Dining Table Sizes

Table for 1 to 4 persons	2′6″ x 4′0″
5 to 6 persons	3′0″ x 4′0″
7 to 8 persons	3′0″ x 6′0″
Clearance between table and wall for one chair	2′0″
for two or more chairs	2′6″

Space for chairs at the dining room table shall allow for the number of persons in the apartment.

F:A. One- and two-bedroom apartments may have dining space separated from the kitchen. Larger apartments shall have dining space within the kitchen.

S:A. Dining space is preferred in the kitchen.

HA:NS. Dining space shall be provided out of the main lines of circulation, accessible to the kitchen and living room, and adjacent to a window. One-bedroom apartments may have dining space in the living room.

In general, dining space in a foyer that serves as a passage and is without direct natural light is not acceptable.

KITCHENS

See Diagram 40, p. 75 for suggested layout.

The kitchen should be so designed that its equipment is shielded from entrance or from living room. See also *Dining Space,* above.

Economical plumbing layouts result from combined stacks (bath-bath, kitchen-kitchen or kitchen-bath) and from simple stack design.

The minimum acceptable kitchen width is 7 ft. 2 in. for two parallel rows of equipment, and 5 ft. 2 in. for a single row.

S:A. Minimum kitchen width, 7 ft. 6 in. for two rows, 5 ft. 6 in. for a single row.

Apartment cut-out panels should be placed in kitchens against the pipe shaft wall. They must not be placed over or within kitchen cabinets or where easily reached by children.

Ranges shall be at least 2 feet from windows.

Refrigerators shall be labelled on plan as follows:

R/L (or R/R) / 6 (or 4). L or R indicates left or right position of hinges as one faces the refrigerator; 6 or 4 indicates cubic capacity.

Provide 2 ft. 4 in. space (plus 2 in. if refrigerator door opens against a partition). Refrigerators have 6 cubic feet capacity, as a rule. Occasionally 4-ft. low-boy refrigerators are used in small dwellings.

HA:NS projects shall have table-top ranges in apartments for four or more persons, maximum width 36 ¾ in.

Other apartments shall have low oven ranges, maximum width 21 in.

Allow space for cleaning sidewalls of ranges, minimum 2 in., with additional allowance if it is impossible to locate the range gas riser in the plumbing shaft. Three-inch clearance each side of the range is preferred, except where range adjoins sink.

F:A. Gas risers shall be exposed in kitchens. Allow 3-in. clearance for 6-story buildings and 4-in. clearance for higher buildings.

S:A and **F:A.** Kitchen sinks shall not be enclosed. Cabinet worktops shall be hardwood. Kitchen sink must have work space (drainboard or work-top) on each side.

F:A. Work surface shall be at least 2 ft. by 2 ft. for two-person dwellings, increasing by six linear inches for each additional person.

Kitchen storage is provided in base and wall cabinets. Cabinets must not be placed over ranges. See Standard Detail HA-406.

KITCHEN SHELVING

Minimum Sq. Ft. of Shelving Include area of drawers	HA:A, S:A, F:A projects	HA:N:S projects
1 — Bedroom	30	35 1/2
2 — "	38	43 1/2
3 — "	46	51 1/2
4 — "	55	60 1/2

BEDROOMS

Allow space for the following items:

Principal bedroom: (B.R. No. 1) Twin beds or double bed, child's crib, dresser and two chairs, (or one chair and night table).

Two-person bedroom: Twin beds, dresser and two chairs.

One-person bedroom: Single bed, dresser and two chairs.

Note: At least one 2-person bedroom in each apartment shall accommodate twin beds. Two-person bedrooms must not be less than 9 ft. 2 in. in the smallest dimension.

Furniture Sizes

Bedroom:	Double bed	4′ 9″ x 6′ 9″
	Twin or single bed	3′ 6″ x 6′ 9″
	Child's crib	2′ 6″ x 4′ 6″
	Dresser	1′10″ x 3′ 6″
	Chair or night table	1′ 6″ x 1′ 6″

Double beds should be accessible from both sides. If single beds are not so accessible, allow space to move them away from the wall for making up.

Note: Furniture shall be shown on preliminary unit plans. See Section I p. 8.

CLOSETS

Each dwelling shall have coat closet, linen closet and broom closet (which may be in kitchen).

There shall be a clothes closet for each bedroom, preferably in the bedroom. Only one clothes closet per dwelling may be in the hall.

S:A. No clothes closet in a hall may be farther than 5 ft. from its bedroom door. One closet, preferably the coat closet, shall be 9 sq. ft. in area, with door and lock.

F:A projects shall have a general storage closet, preferably in or near the kitchen, with door 2 ft. 6 in. wide.

HA:A, and **HA:NS.** Walk-up buildings shall have a storage closet in each dwelling, approximately 10 sq. ft.

Doors will be provided only for coat closets, broom closets and storage closets. Exception: **HA:NS** clothes closets shall have doors. Provide clearance for rugs.

One closet door in each dwelling shall have a lock.

Program	Locked closet
F:A	storage
S:A	coat
HA:A (walk-up building)	storage
HA:A (elevator building)	coat
HA:NS	principal bedroom

Closets without doors shall have nibs only when the resulting wall space is useful for furniture. Nibs shall not be over 2 ft. long.

MINIMUM CLOSET MEASUREMENTS

	Depth (center to center of partition)	Width			Shelving
Coat	24 in.	30 in. (2-per. D.U.) 36 in. (3- & 4-per. D.U.) 48 in. (6-per. D.U.) 60 in. (8-per. D.U.			1 shelf
		S:A 9 sq. ft.			
Clothes	24 in.	F:A. 30 in. per person[1] (B.R. No. 1) 24 in. per person (other B.Rs.) S:A & H:A. 24 in. per person			1 shelf
Linen	minimum 18 in. maximum 24 in.		S:A	F:A, HA:A, HA:NS	See HA-406
		2-per. D.U.	3	4 sq. ft.	
		4-per. D.U.	3.75-4	5 sq. ft.	
		6-per. D.U.	4.5-5	6 sq. ft.	
		8-per. D.U.	4.5-5	7 sq. ft.	
Broom	24 in.	16 in.			See HA-406
Storage		F:A. 8 sq. ft. (2- & 4-per. D.U.) 10 sq. ft. (over 4-per. D.U.) H:A & HA:NS. 10 sq. ft. (walk-up) bldgs.			2 shelves, 12 in. deep (nominal) at 5 ft. and 6 ft.

[1] One linear foot of this five-foot closet may be provided outside of Bedroom No. 1, in another closet.

BATHROOMS

No bathroom shall open directly into a kitchen.

Each bathroom shall have water closet, tub and lavatory. Provide wood dado strip, medicine cabinet, toilet paper holder (on dado) drying rack over tub, and bracket light with convenience outlet over medicine cabinet. See Diagram 40, p. 75.

HA:NS. Walls around tub shall be finished with tile up to 6 ft. Provide shower over tub and white water closet seat covers in housing without cash subsidy.

COLOR SCHEDULE

See Section I pp. 9 and 12 for submission of color schedules. Schedules must be checked against the Schedule of Interior Finishes, HA-415.

Note all spaces to receive different colors above and below dado rails in column headed "Remarks" of HA-415.

The New York City Housing Authority believes that color is an important part of project design and that architects should choose the colors that will best further their design.

Since repainting is a heavy budget item, however, the Authority recommends certain types of paint that have proved to be practical for various surfaces and locations, and also asks architects to choose the colors within apartments from a range of NYCHA color samples.

See the General Construction Standard Specifications for approved types under the Schedule of Painting and Materials for Painting. Colors not suitable to the type of paint noted in the schedule or not appropriate to the location of the painted material should be avoided.

Examples:

a. All exterior steel sash are given two coats of pure raw linseed oil and white lead paste over a shop coat. The pigment needed for dark tones would destroy the wearing quality of lead and oil.

b. Main entrance doors are painted with alkid resin enamels. Light shades will not stand the type of use given to entrance doors.

c. Bath and kitchen walls and ceilings are enameled. It is an economy to use the same color for these two spaces. Architects must indicate on plans the line of demarcation between kitchen ceilings and adjoining ceilings that will be finished in industrial flat paint.

d. Kitchen cabinets are delivered finished in white enamel, and shall not be repainted.

e. All wood interior doors shall have NYCHA Standard Specification finish: stain, shellac, varnish. Architects should note this in the color schedule, with a description of the stain to be matched. Exception: If flush panel doors are used in the children's center, they may be painted.

f. Walls in community centers and children's centers should be painted with bright, cheerful colors.

SCHEDULE OF MINIMUM NET ROOM AREAS (1)

FOR HA:A PROJECTS - NOTE MODIFICATIONS OF THESE AREAS FOR HA:N S PROJECTS FOLLOWING THIS SCHEDULE.

DESIGN LETTER (2)	MAX. OCC. (3)	DWELLING TYPE	L.R.	D.Sp.	KIT	1st B.R.	2nd B.R.	3rd B.R.	4th B.R.	Const. Room Count
A	1	Comb. Living, Dining & Sleeping Rm. Kitchen	165		49					2
D	2	L.R. Kitchen Din. Alcove One 2-pers. B.R.	150	49	49	125				3
F	4	L.R. Kit. Din. Alcove Two 2-pers. B.R.	160	55	55	125	115			4
I	6	L.R. Kit. Din. Sp. in Kitchen. Three 2-pers. B.R.	180	130		125	125	115		5
K	8	L.R. Kit. Din. Sp. in Kitchen. Four 2-pers. B.R.	200	145		125	125	115	115	6

(1) Net room areas are computed to inside finished surfaces of walls and partitions excluding offset entrances, columns, and closets.

(2) Design letter is a letter used to indicate the apartment type.

(3) See Note 6, Exhibit XLII, for calculation of average occupancy.

MODIFICATION OF MINIMUM ROOM AREAS FOR HA:N S PROJECTS

LIVING ROOM:	175 square feet	(1-bedroom apartment)
	185 square feet	(2-bedroom apartment)
	195 square feet	(3-bedroom apartment)
LIVING ROOM & DIN. SPACE:	205 square feet	(1-bedroom apartment only)
BEDROOM:	135 square feet	(1st bedroom)
	130 square feet	(2nd & 3rd. bedrooms, 2 persons)

KITCHEN & DINING SPACE: 110-125 square feet.

NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

EXHIBIT XL

SCHEDULE OF MINIMUM NET ROOM AREAS FOR S:A PROJECTS

DESIGN LETTER	MAX.(1) OCC.	DWELLING TYPE	L.R.	D.SP.	KIT	1st B.R.	2nd B.R.	3rd B.R.	4th B.R.	ROOM COUNT
A	1	Comb. Living, Dining Cooking & Sleeping Rm.	180							1
B	2	Comb. Living, Sleeping Rm. Separate Kit., Dining Sp. in either L.R. or Kit.	160	25	45					2
D	2	L.R., Kit., Din. Sp. in either: One 2-pers. B.R.	150	30	45	125				3
F	4	L.R.; Kit.; Din. Sp. in either: Two 2-pers. B.R.	160	50	55	125	115			4
I	6	L.R.; Kit.; Din. Sp. in either: Three 2-pers. B.R.	175	65	60	125	115	115		5
K	8	L.R.; Kit.; Din. Sp. in either: Four 2-pers. B.R.	185	75	65	125	115	115	115	6
L	10	L.R.; Kit.; Din. Sp. in either: Five 2-pers. B.R.	190	85	70	125	2nd, 3rd, 4th & 5th B.R. 115			7

(1) Infants 2 years of age or under are not counted as persons. See Note 6, Exhibit XLII, for calculation of average occupancy.

SCHEDULE, RANGE OF NET ROOM AREAS FOR F:A PROJECTS

DESIGN LETTER	NO. OF BEDROOMS	D. SPACE IN LIVING R.		D. SPACE IN KITCHEN		1ST BR.	2ND BR.	3RD BR.	4TH BR.	5TH BR.	MAX. OCC.	ROOM COUNT.
		LR. & D.S.	K.	LR.	K. & D.S.							
D	1	175	50-55	145-150	70-90	125					2	3½
F	2	190	60-70	155-160	90-105	.125	110				4	4½
I	3	-	-	160-180	110-125	125	110	110			6	5½
K	4	-	-	160-180	130-155	125	110	110	110		8	6½
L	5	-	-	160-180	150-175	125	110	110	110	110	10	7½

Notes:

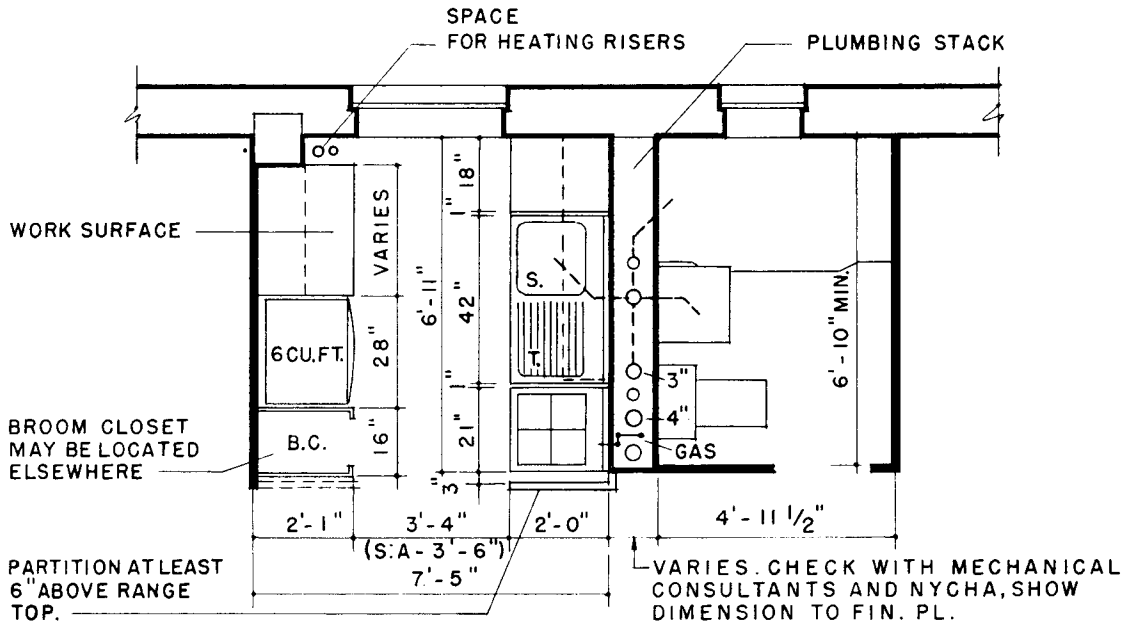
1. The 2nd bedroom in any dwelling may be increased to 115 sq. ft. if 5 sq. ft. is subtracted from the Living Room-Din.-Kit. aggregate area of that dwelling.
2. Areas given are net areas inside room wall exclusive of closets or offset entrances.
3. Minimum width of living room 10'-6".
4. Minimum width of bedroom 9'-2".
5. The figures relate to maximum occupancy standards; every child of whatever age counts as a person. These figures are given for use in determining space requirements during planning for furniture location and size.
6. Average occupancy, not maximum occupancy, is used in calculating density. Average occupancy figures are as follows: 1-Br, 2; 2-Br, 3.5; 3-Br, 5; 4-Br, 7; 5-Br, 9.

NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

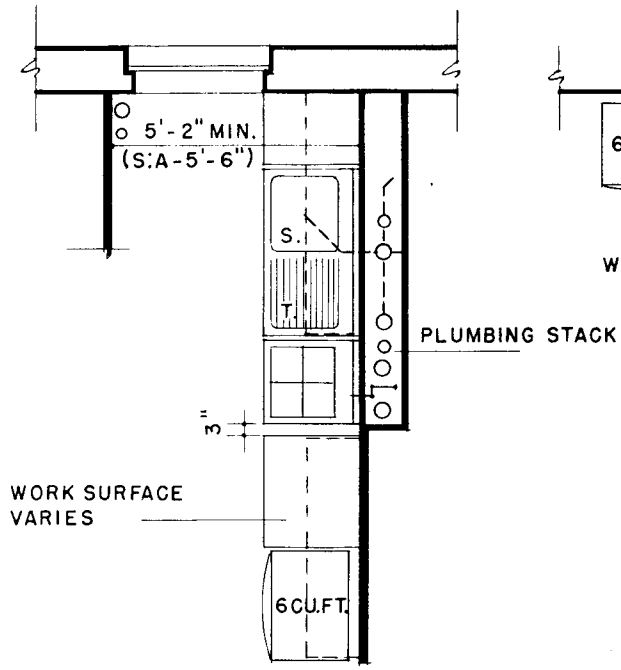
EXHIBIT XLII

KITCHEN LAYOUTS

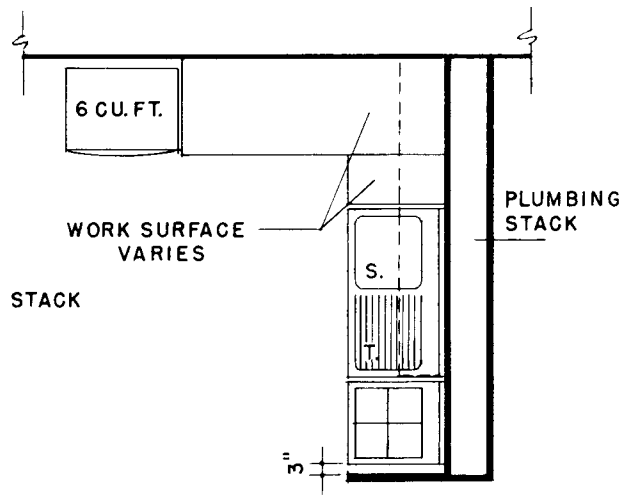


SKETCH OF BASIC LAYOUT OF KITCHENS

F:A. GAS RISERS MUST BE EXPOSED IN KITCHENS.



TYPICAL STRIP LAYOUT



TYPICAL "L" LAYOUT

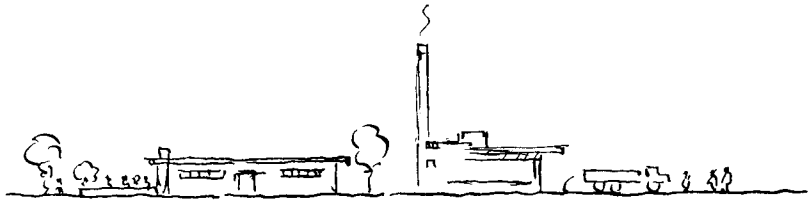
NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

DIAGRAM 40

DESIGN OF NON-DWELLING SPACES

V



SECTION V DESIGN OF NON-DWELLING SPACES

Community buildings, basements and public spaces such as entrances, elevators, public halls, and stairways are the usual non-dwelling spaces referred to in this section. Basement space may be used for maintenance shops, community centers, laundries, etc., if windows are high enough for good daylight and ventilation without resorting to excessive areaways. Management offices, children's centers, child health stations are located usually on the first floor of dwelling buildings, or, when project size warrants, in a community building.

Space for activities operated by non-project organizations must be planned with the cooperation of the body concerned. Certain arrangements for children's centers, child health stations, etc., have proved workable and are noted in this section, but the list is not inclusive or definitive.

BASEMENT SPACES: GENERAL NOTES

Any basement space that has headroom 5 ft. or over must be paved. It is important, therefore, that spaces between incinerators or other service rooms and doors to the outside be as short as possible, if the rest of the basement is used for pipe access. Access to pump rooms, meter rooms, etc., shall not be planned through tenant storage, small parts storage, paint storage, laundries, or similar spaces. Meter rooms must not open into pump rooms. Drained basement floors must be graded accurately to the drains.

Pipe access spaces with headroom under 5 ft., or with less than 25 per cent of the space having over 5 ft. headroom, need not be paved. Access doors to such spaces must be set at least 3 ft. above the adjacent basement floor level, and shall not exceed 3 ft. in width and 4 ft. in height. Interior access doors should be planned, if possible, so that 20-ft. pipe lengths can be carried into the pipe space for repairs. If not, an access window should be provided in the outside wall. See HA-401.

Ventilation of pipe access spaces should be provided by means of openings spaced to provide cross-ventilation and shall be equal in area to approximately 1/4 of 1% of the area of the pipe access space. See HA-401.

Ramps should run against building walls. They shall be 8 ft. wide at loading centers, 6 ft. at paint shop and 5 ft. at other locations. Ramp slopes of 10% to 12% are desirable; 12 1/2% is the maximum slope for legal exits from stairways. Fifteen percent may be used for laundry and paint shop ramps; 20% for maintenance use other than paint shops.

The boiler room shall have an engineer's office, at least 8 ft. by 10 ft., with coat closet and, unless the maintenance staff shower room is conveniently located, a toilet and shower. Provide a drinking fountain.

Window guards shall be provided for:

Maintenance shop; Small parts storage
Laundries; Paint shop and paint storage room
All other basement spaces, if window sill is less than 5 ft. above grade.
See HA-401 for window guard detail

The basement of one building in each project shall be provided with natural light and ventilation for unassigned future use.

COMMON STORAGE SPACES

Each project shall have:

1. Tenant storage room or rooms, within about 500 ft. of the farthest building to be served. Allow approximately 3 sq. ft. per family. Tenant storage rooms usually are planned in basements. They may not be used for passage. Windows are not required if the rooms are otherwise ventilated. Vents shall not be near pipes. Two exits must be provided if any point in the tenant storage room is more than 100 ft. away from an exterior door. The occupancy figure is two persons.
2. Perambulator storage rooms.
   Allow 6 sq. ft. per dwelling.
   Provide this space in each building, preferably on the entrance floor with access from the lobby only. If this is not practicable, the space shall be in the basement, reached by ramp conveniently near the main entrance. Show lock rails on plans.
   S:A. Perambulator rooms shall be in basements for dead storage only.

LAUNDRIES

Each project shall have one or more basement laundry rooms, depending on project size. Location and number of laundries shall be determined in consultation with the NYCHA Planning Division.

See Diagram 50, p. 90 for suggested layout and HA-410 for details.

The laundry is entered by ramp or, preferably, from grade, through a baby carriage lobby. It shall contain space for one washing machine for each 40 families. Show location of one extractor and two gas-fired tumbler dryers for each 10 to 12 washers, one double laundry tray, and space for future mangles convenient to four electric outlets.

Provide a 2-inch gas main and a sleeve through an exterior wall for future vent for gas dryers. All washing equipment except the two laundry trays and slop sink drains shall be marked N.I.C.

No laundry shall have less than 20 machines, preferably more.

Provide also a small toilet room, benches and a closet with a lock. Allow 1 1/2 running ft. of bench per washing machine.

The room shall have both artificial and natural light, as well as natural ventilation. No shades are required.

Room for possible extension of laundry shall be provided in an adjacent space.

Two exits must be provided if the laundry is planned for more than 49 people, or if the exit is more than 100 ft. away from any point within the laundry. Occupancy is based on 25 sq. ft. per person.

Exception: If the entire basement is less than 2500 sq. ft. only one exit is required.

INCINERATOR ROOMS

Basement incinerator rooms should be located at an outside wall, if possible, for direct ventilation. There must be at least 6 ft. clearance in front of incinerator firing doors. The room shall provide space for one 20-in. diameter ash can for each five families served.

Incinerator rooms and, in general, other basement spaces should be reached by ramps. No stairs to the basement shall be provided except when required by law or in special cases.

HOUSE NUMBERS

House numbers are assigned to the following entrances, in addition to the dwelling entrances:

Management office
Permanent maintenance space
Laundry
Community center, and any
supplementary community space
(illuminated)
Children's center
Child health station, if any
Stores, if any

In addition, an illuminated sign, "Night Emergency" shall be provided at the permanent maintenance entrance.

Mail slots shall be provided in entrance doors of:

Management office
Community center
Children's center
Child health station (if any)

PUBLIC HALLS

Windows in public halls are desirable but not mandatory. Economy of plan is of prime importance and takes precedence over daylighting in public halls or stairways.

Incinerators must be placed in public halls, not in stairways, with hopper doors opening directly into hallways.

Slop sinks should be provided in all buildings, the number and locations as noted:

Heights	*Locations*
3-story buildings	1 on 1st floor
6-story buildings	1 each on 2nd and 5th floors
buildings over 6-story	1 on every 3rd floor

See HA-404 for core partition details and HA-415, Schedule of Finishes, for finish materials of public halls and stairways.

Stairways in walk-up buildings shall have walls of glazed tile running full height. Floor beams should be flush with the tile face, for economy. They shall have a smooth steel-trowelled finish and shall be painted. Bulkheads above shall be of brick.

All building entrance doors leading to public halls shall swing in.

The entrance floor elevator hatchway door shall swing in the direction of traffic flow.

Provide a knocker (or rotary bell) combined with an interviewer at each apartment entrance door. See Standard Specifications.

Exception: **HA:NS** projects shall have chimes and interviewer.

MANAGEMENT OFFICES

Diagram 51, p. 91 shows two suggested arrangements of management office space, indicating circulation. It is to be used only as a guide. Rooms should be planned with the advice of the New York City Housing Authority Planning Division. Movable partitions are not acceptable.

Provide a sign: MANAGEMENT OFFICE.

The principal entrance vestibule (preferably facing a project boundary street) leads into a public waiting room which shall provide:

WAITING SPACE for 2% of project families.

Space for queues at cashiers' windows for rent payment.

Access to public toilet, housing assistants' space and administrative offices, all controlled by receptionist.

OFFICE SPACE is subdivided as follows:

CASHIERS' ROOM located so that cashiers' windows open to waiting room with a door to the clerical office space. One cashier's window for each 600 families. This space should be large enough also for bookkeeper's and typist's desks, with wall space for file cabinets and safe. The division between cashiers' and waiting space should be a counter with a glass partition over. Sliding windows for wickets shall be solid, not glazed. See HA-413.

Exterior windows in the cashiers' room shall be glazed with opaque glass from sill to above eye-level outside and shall be of special design. See HA-403.

Show location of bookkeeper's desk in cashiers' space. See Section VII p. 110 for buzzer control of cashiers' space door.

CLERICAL OFFICE SPACE, adjacent to housing assistants' interview rooms. Space for clerical staff and filing cabinets depends on project size. Consult the NYCHA Planning Division. Receptionist's switchboard is placed within the clerical office space with a window to the waiting space. See HA-413.

HOUSING ASSISTANTS' OFFICES, one for each 400 project families.

HA:NS. Provide one housing assistant's office for each 500 families.

MANAGER'S OFFICE, with space for manager, secretary, and for interviewing 5 to 6 people, and for a 5-ft. table in addition to usual office equipment. Minimum area 150 sq. ft., preferably 200 sq. ft.

ASSISTANT MANAGER'S OFFICE, if project has over 1200 families.

MAINTENANCE SUPERINTENDENT'S OFFICE, (about 200 sq. ft.) if project contains over 800 families, with space for interviewing 2 to 3 people, and for secretary. Provide access to manager's office and an entrance to maintenance space so located that it can be used as a secondary entrance to management office space by the staff. Permanent maintenance space should be below the management office space, if possible. See pp. 81-84.

Services for management offices include:

STAFF ROOM, located without direct connection to toilet rooms. Provide small sink, gas range, refrigerator, and kitchen cabinet.

TOILET ROOMS for men and women. Men's toilet shall have lavatory, urinal and water closet. Women's toilet shall have lavatory and water closet.

COAT CLOSETS for all management office spaces, except cashiers' space. Provide small supply closet in cashiers' space.

GENERAL SUPPLY CLOSET, preferably off passage.
SLOP SINK CLOSET.
WATER COOLER for management staff.

General Notes for Management Offices

Clear ceiling height throughout management space shall be 8 ft.

Provide:

Canopy or other shelter over outside door, to give good protection
Dado rail in all offices and reception space, 32 in. high to rail center
Window shades
Sufficient electric outlets for fans and office appliances
Pipe access space under floor, if there is no basement

See Exhibit L p. 94 for shelving requirements and design.

Note: Cornerstone location is usually near the management office entrance. It should be near a public street for convenience when the cornerstone is laid.

MAINTENANCE SPACE

Maintenance space is divided into three main categories: Permanent, seasonal and general storage sections. See Diagram 52, p. 92 for suggested organization.

The PERMANENT SECTION should be in the same building as the management offices, connected as described under administrative office space above. Layout shall minimize handling of maintenance supplies between rooms. Two exits are required.

It shall contain:

ASSISTANT SUPERINTENDENT'S OFFICE, so located that it controls all operations of the permanent section and affords some supervision of the seasonal section, using glazed panels where necessary. Space shall be adequate for 3 desks and a plan table.

Area for Office (approximate)

Project size	Area, sq. ft
400- 600 D.U.'s	200
1000-1200 D.U.'s	220
1800-2000 D.U.'s	220

TOILET ROOM, off the assistant superintendent's office.

Provide window shades for office.

SAMPLE ROOM, adjacent to assistant superintendent's office. Provide wood shelving and space for plan rack. Minimum area, about 80 sq. ft.

WATCHMAN'S ROOM, off lobby and near assistant superintendent's office. (60 sq. ft. up to 1200 D.Us; 80 sq. ft. for projects of 1800 to 2000 D.Us.) Provide a ¾ in. gas connection so located that a unit gas heater can be attached.

MAINTENANCE SHOP, located next to small parts storage room and near entrance, equipped with:

Double entrance door 6 ft. wide
Power and gas connections
Three-quarter inch gas supply
Sink with hot and cold water
Three-phase power line with No. 8 wire for testing equipment
Utility outlets
Separate 6-circuit panel for shop machinery
Air pressure line from boiler room, if located in same building
Allow convenient space for work benches, 20-ft. pipe lengths, etc.

Notes: (a) Avoid interference from overhead piping
(b) Consult New York City Housing Authority Planning Division for location of equipment.

Areas for Maintenance Shop (approximate)

Project size	Area, sq. ft.
400- 600 D.U.'s	800
1000-1200 D.U.'s	1000
1800-2000 D.U.'s	1200

SMALL PARTS STORAGE ROOM, adjacent to shop. Provide only one pass window, between small parts storage and corridor. See HA-413. Provide 6-ft. wide double door between small parts storage and passage and, if possible, an access door to bulk storage room. Allow space for 20-ft. pipe lengths, lumber racks and shelving.

BULK STORAGE ROOM, accessible to truck loading facilities by a 6-ft. wide double door. Allow space for refrigerators, ranges, etc.

Areas for small parts and for bulk storage rooms

Project size	Small parts	Bulk Storage
400- 600 D.U.'s	1000 sq. ft.	900 sq. ft.
1000-1200 D.U.'s	1200 sq. ft.	1000 sq. ft.
1800-2000 D.U.'s	1400 sq. ft.	1000 sq. ft.

Services for the spaces noted above:

LOCKER ROOMS, TOILET and SHOWER ROOM, and LUNCH ROOM, for porters and for mechanics.

See Diagram 52, p. 92 for space relation and Diagram 53, p. 93 for the approximate number of lockers in each locker room.

The Authority will supply the architect with the actual number needed for each project.

Equip lunch room with gas range, refrigerator, sink and kitchen cabinets. Lunch room, 300, 450 and 500 sq. ft. for small, medium and large projects respectively.

GARAGE, a separate building near the permanent section, shall have space for 3 cars. Part of the garage may be used for storing snow-removal equipment, etc. Garage doors should be 9 ft. by 9 ft.

The SEASONAL SECTION contains:

PAINT SHOP, located near, but well protected from incinerator. Areas 600, 900 and 1200 sq. ft. for small, medium and large projects, respectively.

Provide cross ventilation by vent louvres in two windows on opposite walls, sprinklers and sink. The door must be 3 ft. 8 in., F.P.S.C., swinging in direction of egress.

PAINT STORAGE ROOM, adjacent to paint shop and near exterior loading facilities. Provide cross ventilation, either as in paint shop, or by a vent louvre in one window and a duct in the opposite wall leading to the outer air, and sprinklers. The door must be similar to that in the paint shop.

Paint storage room layout and construction must have New York City Fire Department approval.

Note: Electric equipment in paint shop and paint storage room shall have explosion-proof devices and shall comply with the New York City New Electrical Code, Article 23, Class 1 locations. See also Section I p. 14.

Paint storage quantities

Project size D.U.'s	Gals. paint (sealed containers)	Gals. paint (open containers)	Gals. oil, shellacs solvents, etc. (sealed cont.)
400-1000	2500	150	300
1000-2000	3750	225	450
2000 & over	5000	350	600

PAINTERS' DRESSING ROOM, adjacent to toilet and shower room, areas 600, 800 and 1000 sq. ft. for small, medium and large projects, respectively.

Provide wood hook strips with hooks 14 in. c to c.

TOILET and SHOWER ROOM, number of fixtures depends on project size. Three water closets, 2 urinals, 2 showers, and 4 lavatories will be adequate for projects of 1000 to 1400 dwellings.

SHADE WASHING and DRYING SHOP, where called for, provided with cross ventilation.

Equip with hot and cold water, floor drain, plumbing connections 6 in. above floor, and gas connection.

Note: Shade washing and drying shops are not called for, as a rule. It is desirable, however, to provide near the paint shop an unassigned ventilated room having a floor drain, that could be converted to a shade washing shop.

EXTERMINATORS' SHOP, areas 100, 150 and 200 sq. ft. for small, medium and large projects, respectively, equipped with sprinklers.

Note: Two means of egress are required for seasonal maintenance spaces.

The GENERAL STORAGE SECTION may be planned in a building separated from permanent and seasonal maintenance spaces. Separate rooms shall be provided for:

BUILDING SUPPLIES STORAGE: Brick, sand, lime, cement, etc. Provide loading facilities and 6-ft. wide double door.

OCCASIONAL STORAGE: Humus, topsoil, etc.

Areas for Building Supplies and for Occasional Storage (approx.)

Project size	Area, sq. ft. each space
400- 600 D.U.'s	800
1000-1200 D.U.'s	900
1800-2000 D.U.'s	1000

GARDEN EQUIPMENT and TOOLS STORAGE, areas, 500 sq. ft. for small projects, 600 sq. ft. for medium and large projects. Provide 6-ft. wide double door.

See Section III p. 47 for outdoor landscape storage area.

General Notes for Maintenance Spaces

All work spaces shall have good natural light and ventilation.

See Diagram 53, p. 93, HA-413 and Exhibit L p. 94 for shelving requirements and design.

COMMUNITY CENTER

The community center is usually planned in a basement with good natural light, or, if project size warrants, in the basement and ground floor of one building. Access to it should be convenient for the project and for the surrounding neighborhood. It contains two meeting rooms and about four club rooms, with services, unless the project is very large and more rooms are considered necessary.

Two exits are required unless the entire area is less than 2500 sq. ft., occupied by less than 75 persons, and if the exit is no more than 100 ft. from any point within the community spaces.

Floor levels shall be not more than 3 ft. below outside grade in at least half of the number of rooms provided.

Occasionally the community center is housed in a separate building that may contain also the children's center, child health station and management offices.

It should be near a paved play area to permit outdoor chalk games, jumping rope, and a space for table games such as ping-pong.

Over-all space allowance: approximately 9 sq. ft. per family, or less if other recreation facilities exist in the project neighborhood.

F:A. Community center and children's center spaces combined shall not exceed 10 sq. ft. per family.

Entrance to community center shall be separated from apartment entrances. Provide an entrance sign: COMMUNITY CENTER, with electric light.

An OFFICE (120 sq. ft. or more) near the entrance shall be provided. Two offices may be required if the community center is large. The office should have a glazed partition for control. Provide coat closet.

MEETING ROOMS are intended for small assemblies, dances, lectures, community suppers, etc. The larger meeting room shall have a kitchen adjoining. The two meeting rooms may have double doors between them. Sliding partitions are not acceptable. Provide a dado rail at folding chair height in meeting rooms. Except in special cases, they should not be intended for use by

more than 74 persons, to avoid the expense of mechanical ventilation and special exits that would be required.

Provide a check room near the large meeting room.

The KITCHEN should be large enough for 6 to 8 workers. It shall have a combination sink and tray, 4-burner range, refrigerator, cabinets and counter-height work space. A counter which can be used as a cafeteria serving space shall be provided between the kitchen and meeting room, with hinged wood shutters above the counter. A locked storage closet shall be provided within the kitchen space, and the kitchen as a whole should be so planned that it can be locked.

Each meeting and club room in the community center must have a generous closet. Provide coat hooks or wood dowel sticks at 4 ft. 6 in. and 5 ft. 6 in. along one wall, or in an open alcove, in each meeting and club room. The number of hooks depends on room size and use.

A large storage space shall be planned for tables and folding chairs. One storage closet shall be provided for bulky articles such as phonographs, tennis racquets, boxing gloves, etc. This closet may be in the entrance hall.

One club room shall be designed for woodworking, clay modeling and similar activities, equipped with slop sink and electrical outlets for small power tools, and provided with a large storage closet.

Provide public toilets for men and women, and a small staff toilet (lavatory and water closet).

General Notes for Community Center

Allow 10 sq. ft. per person in meeting rooms and 15 sq. ft. per person in club rooms, except that one club room shall be planned for table games and be figured at 25 sq. ft. per person.

Architects should instruct their mechanical consultants to keep piping in rooms as high as possible.

Ceiling pipes throughout community centers should not be below light fixtures. Steam and water mains should run, where possible, through passages rather than through rooms.

Electric lighting shall be designed for good general illumination and, in addition, for adequate table-height working light in club rooms. No window shades are required, except that two-toned shades shall be installed in a room suitable for showing movies.

A drinking fountain (bubble type) shall be installed in the corridor (two, if meeting and club room spaces are extensive or if they are not contiguous). One should be near the office.

Entrance doors should have a small sight panel.

Meeting and club room doors shall not have sight panels or door checks.

See New York City Housing Authority Schedule of Finishes, HA-415, for suggested finishes of walls, floors and ceilings.

See Exhibit L p. 94 for shelving in closets.

CHILDREN'S CENTER

Diagram 54, p. 96 shows a suggested organization for the children's center to accommodate approximately 60 children, containing the following spaces:

SMALL VESTIBULE, opening into waiting space

DIRECTOR'S OFFICE, near the entrance with a glazed partition section to control entrance and waiting spaces
Provide sleeves for telephone connection
Area about 150-180 sq. ft., minimum dimension 9 ft. 6 in.
WAITING SPACE at entrance, open to corridor, to accommodate about 15 people. Provide movable seats
Children's movable clothes lockers, one for each child, in corridor
See HA-414 for detail
ISOLATION ROOM, 80-100 sq. ft., adjoining director's office
Provide coat closet and toilet room with water closet, lavatory and medicine cabinet
KITCHEN with entrances from corridor and from exterior
Provide a large store room adjacent, with door ventilation (or better) and a larder with exterior ventilation
Storeroom and larder should not be near incinerator or boiler flue
Kitchen equipment:
Six-burner range with oven, broiler, hood, and ventilating fan
Double sink with two drain boards (no enclosure under sink)
Two 8-cu. ft. refrigerators
Base and wall cabinets. See HA-406
Kitchen layout shall include free space for kitchen staff dining
Provide ½ in. gas outlet and 1 ½ in. direct individual waste connection for sterilizer near sink, and show position of sterilizer, but mark it N.I.C.
Allow wall space for this equipment as follows:
Range, 66 in.; Sink and drain boards, 92 in.; Sterilizer, 36 in.
Two refrigerators, 2 ft. 6 in. each, plus space for required clearances.

Allow 6 running inches of wall cupboard shelving per child, and approximately the same for floor cupboards.

A U-shaped kitchen layout is desirable, with sink near center of U and with work-top space each side of range. There should be convenient access from the kitchen to an incinerator hopper door. An alcove (or closet) for two food trucks shall be planned near the kitchen corridor door.

Food trucks are approximately 2 ft. x 3 ft. 6 in.

Corridor door to kitchen shall be double-acting, with vision panel and kick plates (both sides).

WOMEN'S STAFF ROOM, for rest and for conferences.

WORK ROOM, for repairing furniture and play equipment, for light laundry and for teachers' and parents' use.

Provide two closets, one for linen storage, approximately 9 sq. ft. in floor area, one for tools, approximately 8 sq. ft.

Work room shall be equipped with sink-and-tray combination and overhead drying rack (apartment type).

Provide space for future work bench.

Services for spaces noted above, all off corridor

STAFF TOILET and STAFF COAT CLOSET.

MEN'S TOILET.

SLOP SINK CLOSET with space for cleaning equipment.

STORAGE CLOSET for folding furniture.

Children's Playrooms

Three children's playrooms, one for each age group, shall be provided, as a rule. Large projects may require four playrooms. Playrooms shall be self-contained, without folding partitions. Minimum area of one room (for the youngest children) shall be 550 sq. ft.; the other rooms shall be at least 750 sq. ft. each. The minimum area per child is 35 sq. ft. Southern exposure is preferred; northern exposure alone is not acceptable.

The rooms shall be protected from public view, either by the playground or by landscaping. Ceilings shall be 10 ft. high, unobstructed by beams, and shall have acoustical treatment. Each room shall have an observation window, with window shade, from corridor. Exterior windows should be designed to provide good natural ventilation and to avoid glare. Window canopies may be used if necessary. Window sills shall be about 24 in. high from floor. Double- or triple-hung sash is preferred. Heating shall be provided by protected floor radiators. Show on drawings that exposed heating pipes are covered up to 6 ft. from floor.

Provide flat softwood chair rail, 50 in. from floor to center of rail, a small sink, 21 in. from floor, and movable toy storage cabinets in each room. Allow three linear feet of shelving per child. See HA-414 for detail of toy storage cabinet, and HA-405 for doors between playrooms and corridor.

Services for Children's Playrooms

A TOILET for each playroom opening from the room, near the playground door. Provide vision panel in playroom wall (or toilet door) unless toilet is planned so that doors may be omitted. (Provide door bucks in that case for possible future doors.) At least 2 lavatories and 2 water closets shall be provided in each toilet room. Water closets shall be 10 in. high in each of the three toilets. Note height on plans or sections. Lavatories shall be 21 in. from floor with strainer in drain. Provide a tile wainscot 4 ft. high on walls and columns, a marble shelf with slanting mirror, a storage cabinet, and a wood hook strip for towels. Storage cabinet shall be similar to kitchen cabinet Type A-2 (HA-406) but only 6 in. deep. Set cabinet just above tile wainscot. Heating pipes in toilet rooms shall be covered with asbestos.

A COT CLOSET large enough to hold two cot carriers, 27 in. by 52 in. each, with blanket shelves above and with double doors opening into each children's room.

TEACHERS' SUPPLY CLOSET for each playroom, approximately 2 ft. deep.

STORAGE SPACE for outdoor toys, designed as part of the building structure and with convenient access from both sections of the play area. Area about 130 sq. ft., length at least 12 ft. Provide door to play area preferably on narrow end, and also a door to the interior of the building.

CHILDREN'S CENTER PLAY AREA

Each playroom shall have direct access to an outdoor play area, divided by chain link fencing into two separate unequal sections, (the smaller for the youngest group) with gates for access. See HA-467. Minimum area shall be 4,500 sq. ft., minimum width, 50 ft. The play area shall be partly shaded by a canopy or overhang from the building. See Diagram 54, p. 96 and Section III p. 49 for further details.

All windows and doors shall be detailed for screens. Screens will not be installed initially.

Window shades are required, except in toilet rooms. Shades in playrooms shall be two-toned.

All exterior doors to open out shall have door checks, with door knobs set 48 in. from floor, and panic bolts.

Main entrance door shall be a single door, glazed above center rail. Provide a sign: CHILDREN'S CENTER.

Provide door checks on doors from playrooms to corridors and locks on all room doors.

Provide interior fire alarm system.

All electric switches to be 5 ft. from floor.

Provide pipe access space under floor if there is no basement.

SPACE FOR AFTER-SCHOOL CARE

Architects may be asked to design a children's center having additional playrooms and services for after-school care of young children.

The addition consists in general of:

TWO PLAYROOMS, each 750 sq. ft., equipped with toy storage cabinets and small sink.

TWO CLOSETS for each playroom, one large enough for cots.

BOYS' TOILET and GIRLS' TOILET off the corridor adjacent to the playrooms. (No men's toilet is needed in this case.)

AN OFFICE connecting with the director's office.

A CLOSET for outdoor toys, similar to that described above.

The playrooms shall have access to a play area separated from the younger children's play area by chain link fence.

See Exhibit L p. 94 for shelving in closets.

CHILD HEALTH STATION

Diagram 55, p. 97 shows the desirable space organization for a child health station.

Preferred location for the carriage shelter is within the building if space permits. If the shelter must be outside, it should be placed in the lee of the building.

The various rooms shall have space for the following equipment:

WAITING ROOM
Desk and chair at control point between waiting room and entrance to weighing and undressing room, etc.
Sixteen movable chairs, with ample space between and around them
Demonstration table, 26 x 36 in.
Play Pen, within the waiting room, minimum area 60 sq. ft.
See HA-414 for gate detail
Six small chairs
Table, 24 in. sq.
Bookshelves, 36 in. high

NURSE'S OFFICE, adjacent to the waiting room, that can be used also for isolation space
Desk 30 x 50 in.; Chair

PUBLIC TOILET, off waiting room. Provide one normal-sized toilet, one child's toilet, one lavatory, set 28 in. from floor, and a dado rail for toilet paper holder and towel rack

WEIGHING AND UNDRESSING ROOM
Table, 30 x 50 in.; Bench
Clothes hamper, 12 in. sq.
Ten cubicles, See HA-414
Slop sink

DOCTORS' OFFICES
(each office)
Desk, 20 x 37 in. Two chairs
Table, 20 x 60 in.
Table, 16 x 20 in.
Lavatory (standard apt. type)

UTILITY ROOM
Table, 24 x 50 in.
Refrigerator, 6 cu. ft.
Four-burner gas range
Combination sink and laundry tray (standard apartment type)
Twenty sq. ft. of shelving: use standard kitchen cabinet details

STAFF ROOM
Table, 30 x 50 in.
Six chairs

STAFF TOILET
Lavatory
Toilet

REDRESSING ROOM
Ten cubicles
Slop sink
Bench

CONSULTATION ROOM
Desk, 20 x 37 in.
Two chairs
Table, 20 x 30 in.
Three file cabinets

SLOP SINK CLOSET, with space for cleaning equipment

General Notes for Child Health Station

Staff room and doctors' offices shall each have a coat closet. Ample storage space for linen and other equipment shall be provided opening off the corridor and near the utility room.

All the equipment listed above except cubicles, shelving and plumbing fixtures will be provided by the agency operating the center.

Provide an entrance sign: CHILD HEALTH STATION.

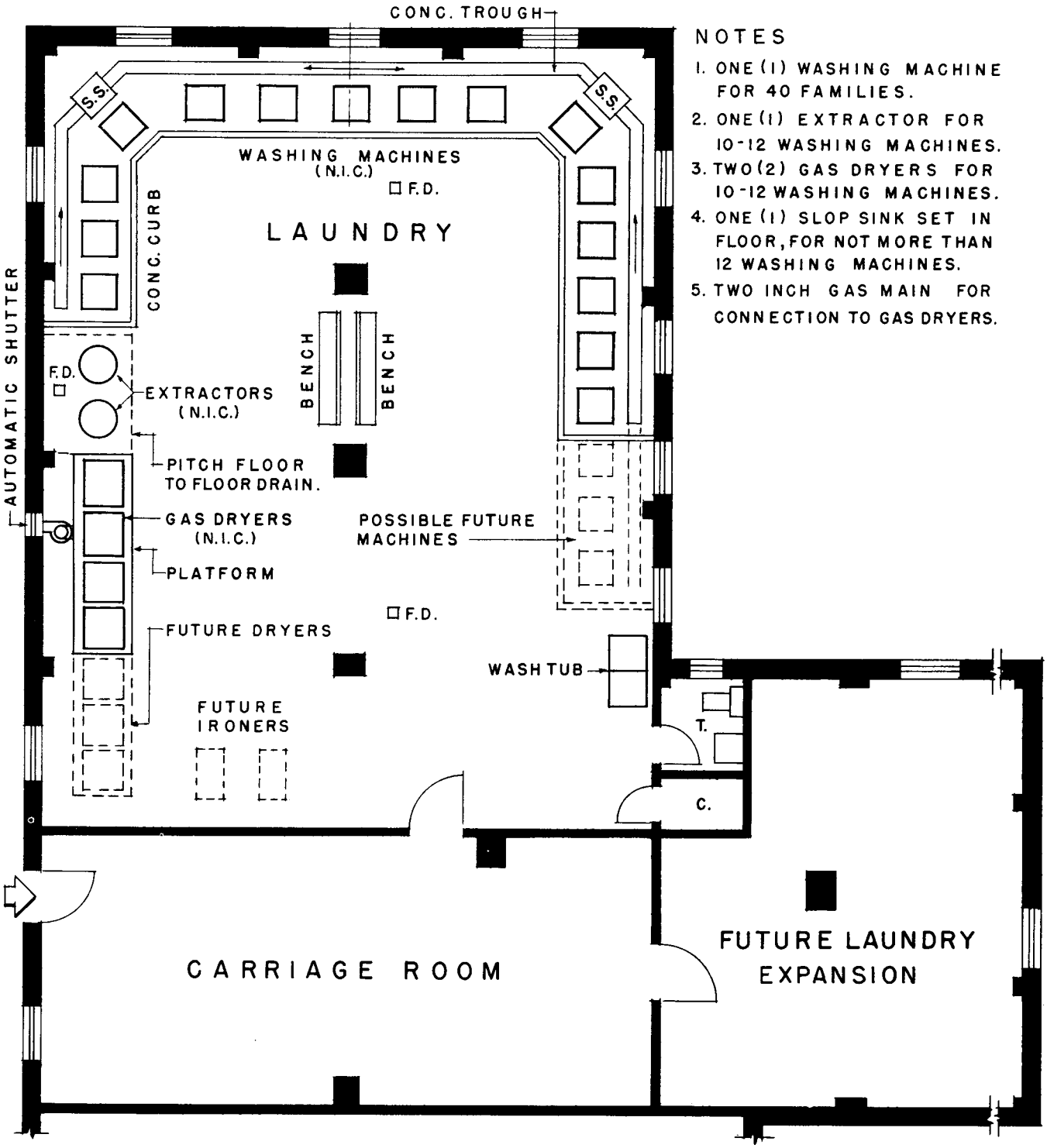
Windows and doors shall be detailed for screens, but screens will not be provided initially.

Dado rails shall be provided in waiting room, and window shades for all windows. Provide protected radiators, and protect heat risers up to 6 ft. from floor. See Exhibit L p. 94 for shelving requirements in closets.

Provide pipe access space under floor if there is no basement.

COMFORT STATION

A comfort station is provided in a playground to be administered by the Department of Parks. It should be designed in harmony with project buildings, but the plan layout and details must conform to Park Department standards. See Section II pp. 36 and 37.



NOTES

1. ONE (1) WASHING MACHINE FOR 40 FAMILIES.
2. ONE (1) EXTRACTOR FOR 10-12 WASHING MACHINES.
3. TWO (2) GAS DRYERS FOR 10-12 WASHING MACHINES.
4. ONE (1) SLOP SINK SET IN FLOOR, FOR NOT MORE THAN 12 WASHING MACHINES.
5. TWO INCH GAS MAIN FOR CONNECTION TO GAS DRYERS.

ABBREVIATIONS

S.S. - SLOP SINK
F. D. - FLOOR DRAIN
T. - TOILET

LAUNDRY ROOM LAYOUT

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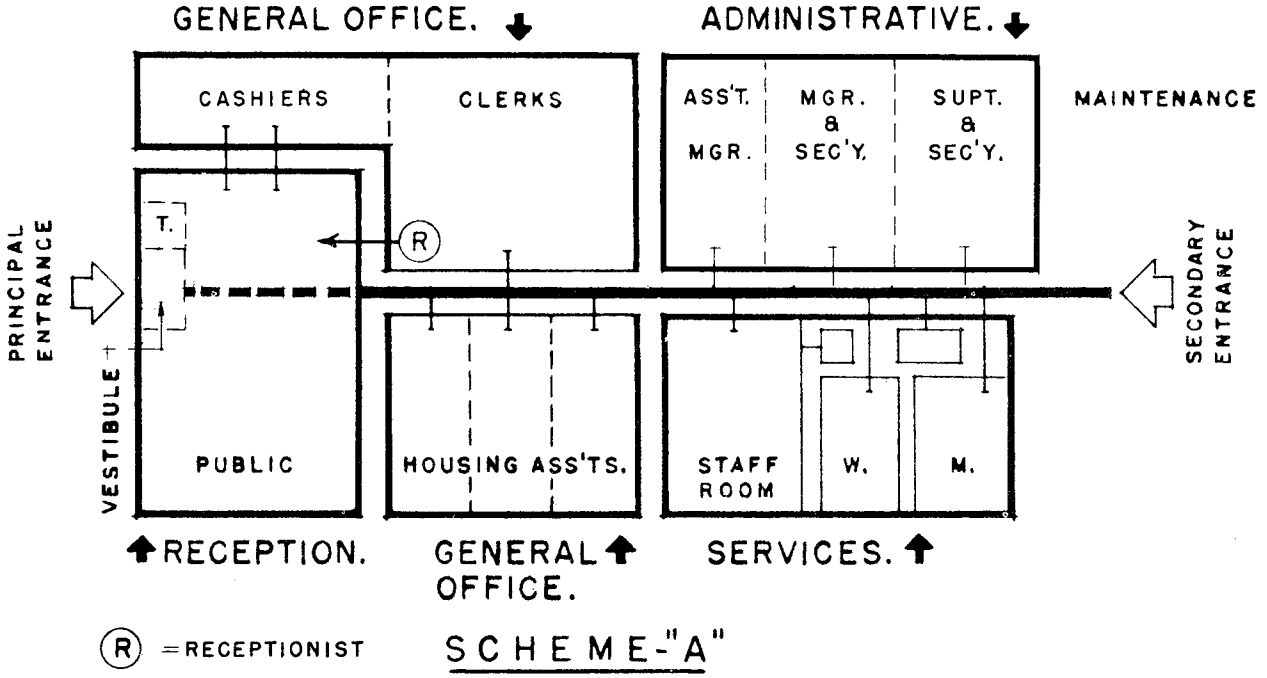
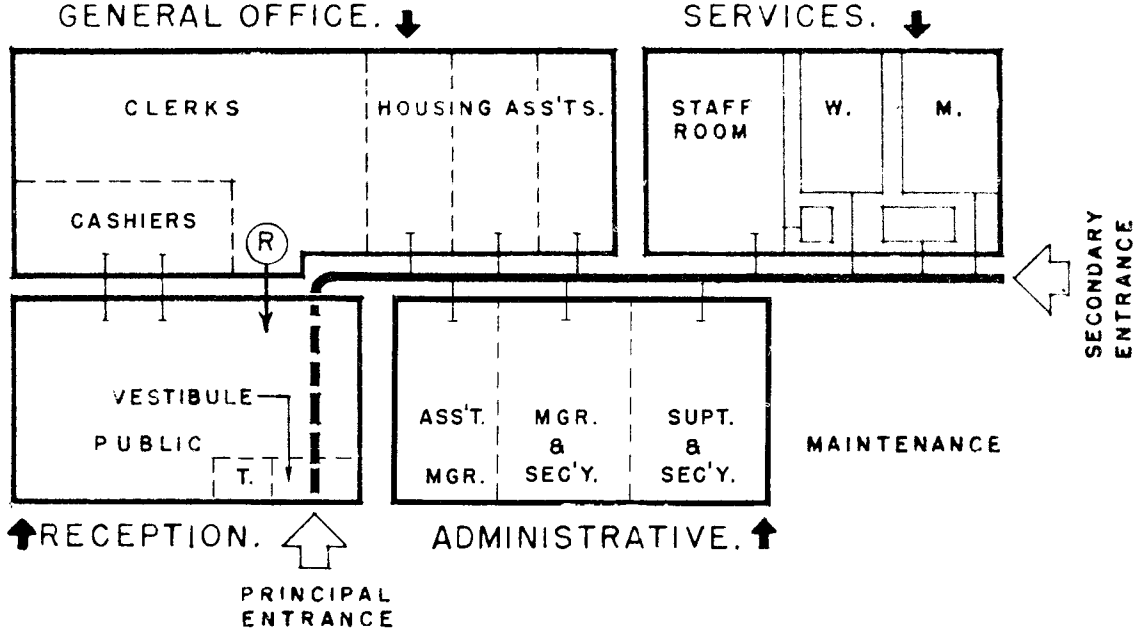
DIAGRAM 50



(R) =RECEPTIONIST

SCHEME-"A"



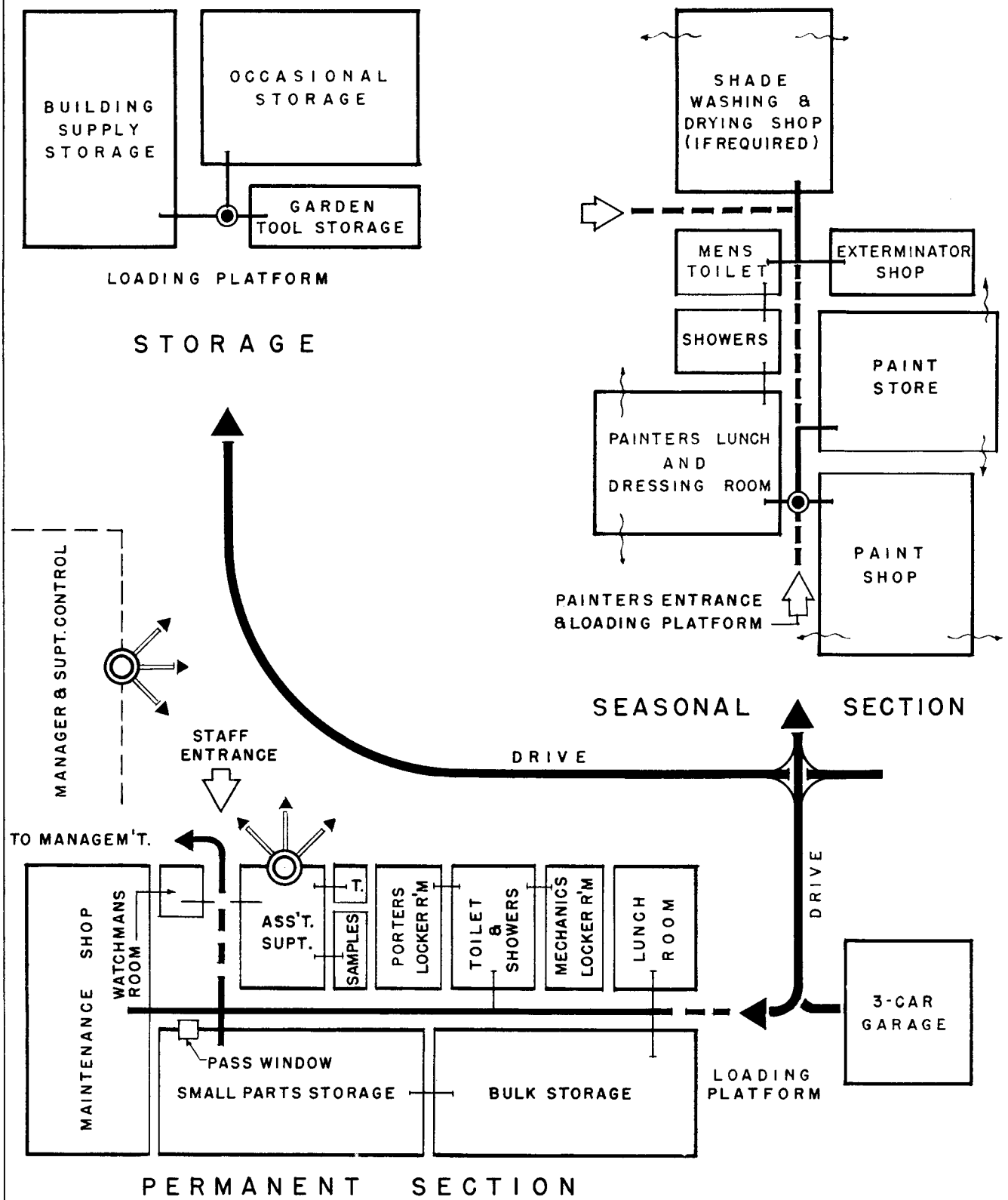
SCHEME-"B"

LAYOUT FOR
MANAGEMENT SPACE

NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

DIAGRAM 51



MAINTENANCE SPACE

(LAYOUT & RELATIONSHIP)

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PLANNING DIVISION

DIAGRAM 52

DISTRIBUTION OF STEEL SHELVING AND LOCKERS

SPACE	ITEM	QUANTITY PER		
		600 DU	1200 DU	1800 DU
SHOP	NAIL BINS COUNTER 3'-0" x 2'-0" x 3'x0"	1	1	1
	STORAGE ROOM CABINETS TYPE "E", 3'-0" x 1'-6" x 7'-3"	1	2	2
SMALL PARTS STORAGE	STORAGE ROOM CABINETS TYPE "E", 3'-0" x 1'-6" x 7'-3"	5	5	5
	STORAGE ROOM SHELVING TYPE "A", 3'-0" x 1'-6" x 7'-3"	11	19	24
	TYPE "B", 3'-0" x 1'-6" x 7'-3"	10	18	22
	SHELVING TYPE "F-11", 3'-0" x 1'-0" x 7'-3"	6	10	12
	BINS TYPE "F-23", 3'-0" x 1'x0" x 7'-3"	2	2	4
BULK STORAGE	STORAGE ROOM SHELVING TYPE "C", 3'-0" x 1'-6" x 7'-3"	20	30	40
PAINT SHOP	STORAGE ROOM CABINETS TYPE "D", 3'-0" x 1'-6" x 7'-3"	1	1	1
	PAINT STORAGE ROOM SHELVING 3'-0" x 2'-0" x 7'-3"	4	6	10
LOCKER ROOM: FIREMEN PORTERS WATCHMEN	LOCKERS, CLOTHES: 1'-0" x 1'-6" x 6'-0"	1 TO 40 D.U.'S	1 TO 50 D.U.'S	1 TO 50 D.U.'S
LOCKER ROOM: MECHANICS	LOCKERS, CLOTHES: 1'-0" x 1'-6" x 6'-0"	1 TO 60 D.U.'S	1 TO 50 D.U.'S	1 TO 50 D.U.'S

SHELVING REQUIREMENTS FOR CLOSETS

NOTE: ALL DIMENSIONS NOMINAL

SPACE	ITEM
PUBLIC HALLS	SLOP SINK CLOSETS 1 shelf, 10 in. deep @ 5½ ft. from floor
MANAGEMENT	COAT CLOSETS See HA-406 SUPPLY CLOSET (GENERAL) 5 shelves, 12 in. deep @ 2,3,4,5 and 6 ft. from floor, around three sides SUPPLY CLOSET (CASHIERS') Similar to general supply closet, but shelving at back only.
MAINTENANCE	SAMPLE ROOM 4 shelves, 16 in. deep @ 3,4½,5½ and 6½ ft. from floor.
LAUNDRY	CLOSET 4 shelves, 16 in. deep @ 2½,3½,4½ and 5½ ft. from floor.
COMMUNITY CENTER	CLOSETS IN ROOMS (EXCEPT GAME ROOM) One side, 4 shelves, 12. in deep @ 2,3,4 and 5 ft. from floor. Other side, 3 shelves, 12 in. deep @ 2,3½ and 5 ft. from floor. KITCHEN Cabinets, see HA-406. Shelving under serving counter: One open shelf, 12 in. deep @ 1½ ft. from floor. Storage closet: 4 shelves, 12 in. deep @ 2½,3½,4½ and 5½ ft. from floor. STORAGE CLOSET 4 shelves, alternating 12 and 24 in. deep, @ 1½,3, 4½, and 5½ ft. from floor, on two sides. STORAGE CLOSET (FURNITURE) No shelves. STORAGE (GAMES) 6 shelves, 24 in. deep, 8 in. o.c., starting at 1½ ft. from floor. CHECK ROOM 2 shelves, 12 in. deep, 5½ and 6½ ft. from floor, plus hanging poles for at least 75 coats. COAT CLOSET See HA-406.

NEW YORK CITY HOUSING AUTHORITY

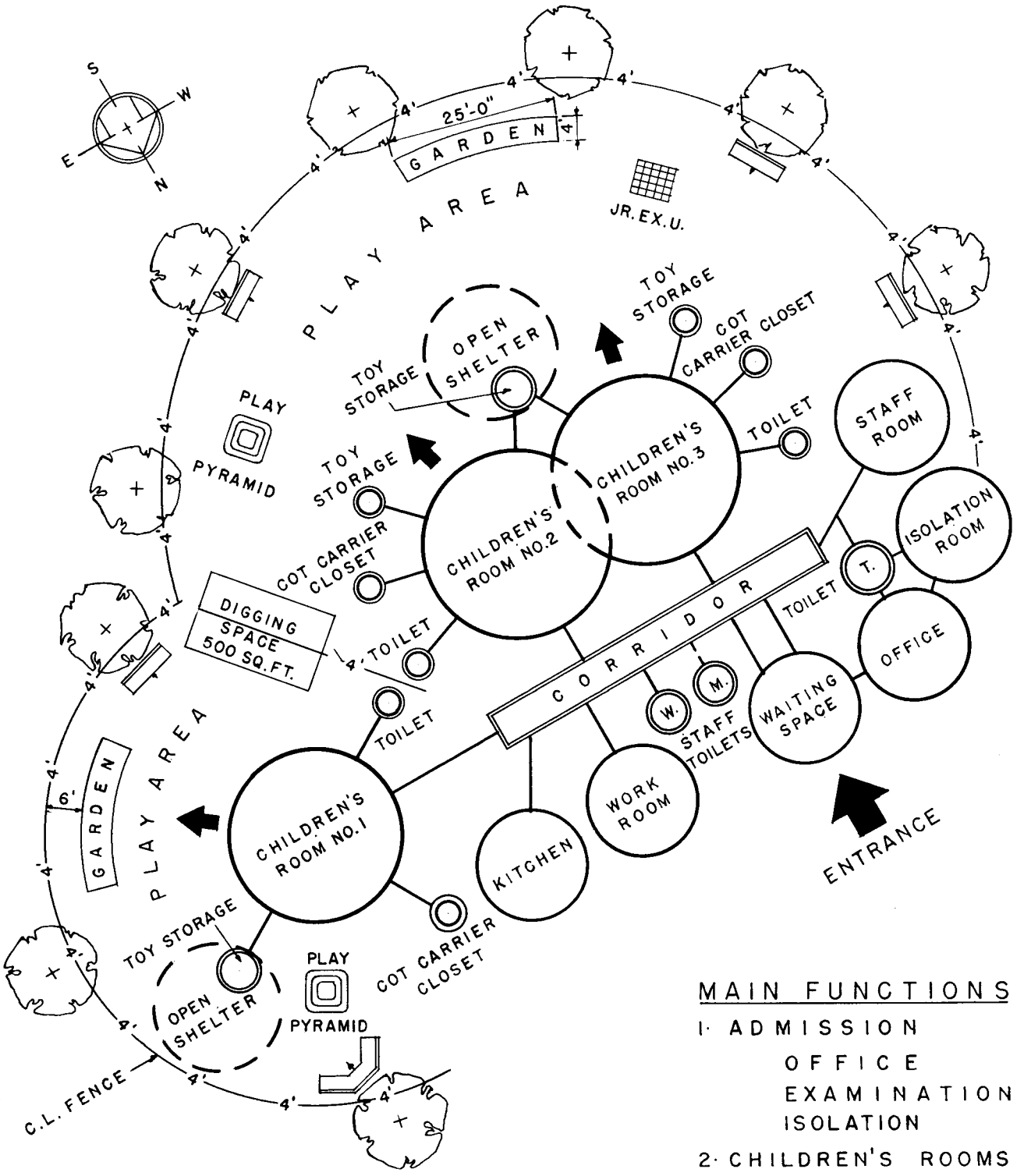
PLANNING DIVISION

EXHIBIT L page 1

SHELVING REQUIREMENTS FOR CLOSETS

NOTE: ALL DIMENSIONS NOMINAL

SPACE	ITEM
CHILDREN'S CENTER	COAT CLOSETS See HA-406. KITCHEN CUPBOARDS See HA-406. FOOD CART CLOSET OR RECESS No shelves. WORK ROOM, LINEN STORAGE, See HA-406. WORK ROOM, TOOL STORAGE 3 shelves, 12 in. deep @ 3,4 and 5 ft. from floor. STORAGE CLOSET (FURNITURE) No shelves. SLOP SINK CLOSET 3 shelves, 12 in. deep @ 3,4, and 5 ft. from floor, at side of slop sink. COT CLOSETS See HA-414. TEACHER'S SUPPLY CLOSET One side and back, 5 shelves, 10 in. deep @ $1\frac{1}{2}$, $2\frac{1}{2}$, $3\frac{1}{2}$, $4\frac{1}{2}$, and $5\frac{1}{2}$ ft. from floor. Other side one shelf, 12 in. deep @ $5\frac{1}{2}$ ft. from floor with rod under. OUTDOOR TOY STORAGE 2 shelves, 18 in. deep @ $3\frac{1}{2}$, and 5 ft. from floor. AFTER-SCHOOL CARE - PLAYROOM CLOSETS Similar to teachers' supply closets.
CHILD HEALTH STATION	COAT CLOSETS See HA-406. SLOP SINK CLOSET 3 shelves, 12 in. deep @ 3,4, and 5 ft. from floor, at side of sink. LINEN STORAGE 4 shelves, 12 in. deep @ $2\frac{1}{2}$, $3\frac{1}{2}$, $4\frac{1}{2}$, and $5\frac{1}{2}$ ft. from floor, around three sides.



MAIN FUNCTIONS

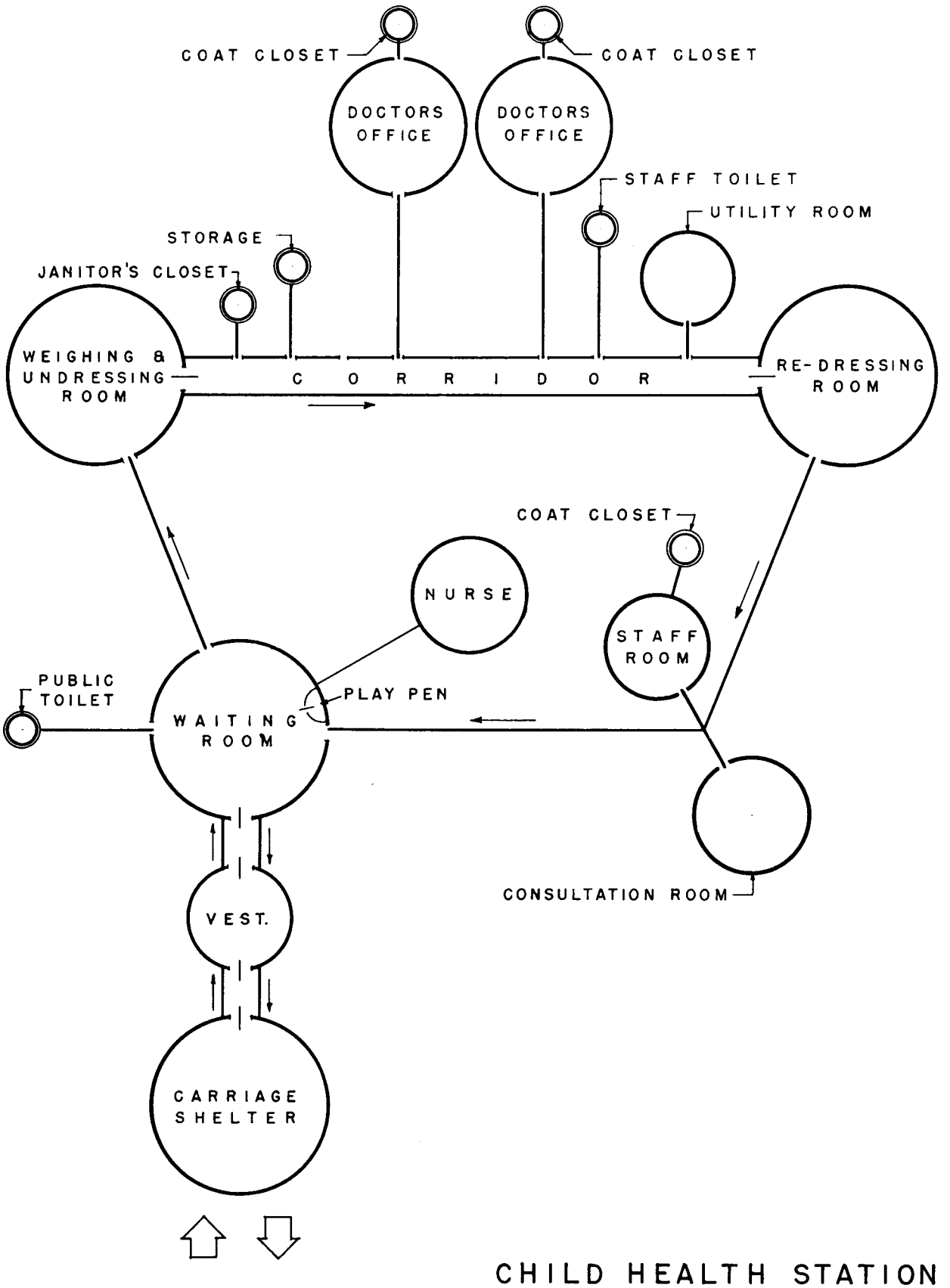
1. ADMISSION
   - OFFICE
   - EXAMINATION
   - ISOLATION
2. CHILDREN'S ROOMS
   - PLAYING
   - EATING
   - SLEEPING
3. PLAY AREAS
   - OUTDOOR PLAY
4. SERVICES

CHILDREN'S CENTER SPACE ORGANIZATION

NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

DIAGRAM 54

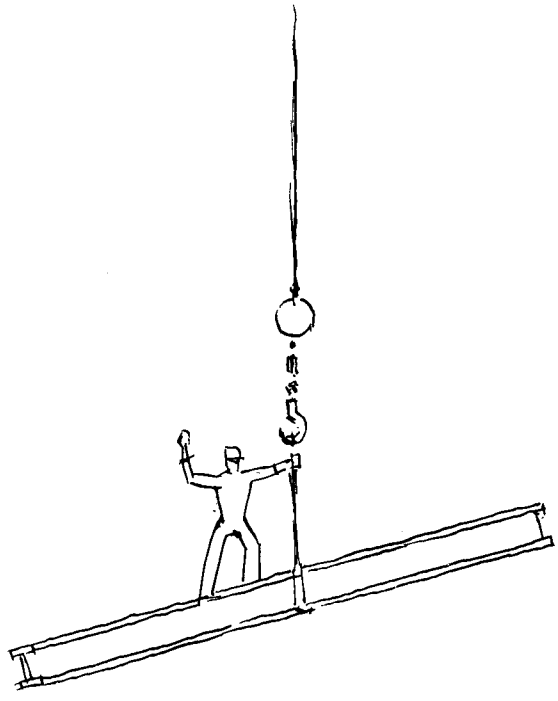


CHILD HEALTH STATION
SPACE ORGANIZATION

NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

DIAGRAM 55



STRUCTURAL DESIGN

VI

SECTION VI STRUCTURAL DESIGN

This section contains notes on structural design details that have been found appropriate and economical for NYCHA-administered projects, and also a list of design data required by the Authority.

STRUCTURAL DESIGN DATA

As soon as the structural design is sufficiently advanced, architects shall send the Authority data on the type of foundation to be used for each building.

Give the pile capacity where piles are used and recommendations, if any, to include options for piles of other capacities than those shown. Give the soil capacity where spread footings are used.

Pile caps should be placed, as a rule, directly below basement floors and at pipe access space levels. Footings should be kept also at high levels where soil conditions permit.

Mechanical lines should be located, whenever possible, so that pile caps and footings need not be dropped.

Basement floors that support hot water tanks should be framed so that the loads from the tanks are carried to pile caps or footings. The method suggested is to provide a reinforced concrete slab at least 6 ft. wide, supported at each end on walls, footings or pile caps. This slab would form part of the pump room floor.

In some cases it will be economical to support small structures such as comfort stations, handball courts, etc., on piles. Architects should refer this question to their structural consultants. If piles are recommended, the work shall be included in the Foundation Contract. See Section II p. 36.

Complete design data, as itemized below, shall be submitted to the Authority. Six copies of the data are required. Architects shall instruct their engineers to use the basic data for design loads listed in Exhibit LX p. 104.

ROOF LOAD PER SQ. FT.

Live Load .....
Roofing and Insulation .....
Fill (Roofs are generally flat without fill) .....
Slab .....
Total per square foot .....

FLOOR LOAD PER SQ. FT.

Live Load .....
Partitions .....
Finish .....
Fill (generally none required) .....
Slab .....
Total per square foot .....

LIST AREAS OF SPECIAL LOADING

Working Stresses shall follow New York City Building Code. Check materials to be used.

Structural Steel .....
Reinforced Concrete
Class "A" average .....
Class "B" average .....
Controlled Concrete
3500 lb. concrete[1] .....
3000 lb. concrete .....
2500 lb. concrete .....
2000 lb. concrete .....
1750 lb. concrete .....
Wood—Give classification, grade and unit stresses to be used for beams, compression members and tension members.

SPECIAL PARTITION LOADS

Stair Halls .....
Public Halls .....
Elevators .....
Others .....

STAIRS

Steel Stairs .....
Concrete Stairs .....

LIST BUILDINGS WITH SPREAD FOOTINGS

LIST BUILDINGS WITH PILES

AVERAGE ELEVATION OF GRADE AND BEARING STRATUM AT EACH BUILDING

Building	Grade	Bearing Stratum
1	.....	.....
2	.....	.....
3	.....	.....
4	.....	.....
5	.....	.....
6	.....	.....
7	.....	.....
8	.....	.....
9	.....	.....
10	.....	.....
11	.....	.....
12	.....	.....

[1] Architects shall inform the Authority where it is proposed to use 3500 lb. concrete before design is submitted for approval.
3,000 lb. concrete should be used generally for structural work;
2,000 lb. concrete for reinforced concrete on ground; plain concrete for cellar floors and piles. *Note:* Concrete for piles is subject to the Building Code.

ALLOWABLE SOIL PRESSURE UNDER SPREAD FOOTINGS
TYPE OF PILE AND BEARING CAPACITY
TYPICAL WALL CONSTRUCTION (thickness and types of materials)

GENERAL SCHEME OF DESIGN

Structural Steel Frame	Curtain Wall
Concrete Frame	Cantilever Flat Slab
Bearing Wall	Non-fireproof
Skeleton Wall	Bar Joists

THICKNESS OF FLOOR CONSTRUCTION BETWEEN BEAMS
BEAM FIREPROOFING MATERIAL (for steel)
COLUMN FIREPROOFING MATERIAL (for steel)
TYPICAL STORY HEIGHT
BASEMENT STORY HEIGHT
CAVITY WALL CONSTRUCTION

Note: The Authority has prepared Standard Details of cavity wall construction that have been used successfully on former projects. These details are recommended to architects designing cavity walls. See HA-401.

CONSTRUCTION DETAILS

Pile spacing shall be 2 ft. 6 in. on centers, except where the Building Code requires a greater spacing. Lintels over 4 ft. in span shall be connected to spandrel beams.

Where footings are installed at different elevations and a slope of 1 vertical to 2 horizontal is used, the slope should be figured from the edge of the excavation for the lower footing, allowing about one foot from the edge of the footing to the edge of the excavation. This is particularly necessary in sandy soils.

Pump pits and any other large pits below basement levels should have reinforced concrete slabs (6-in. thick or more) with keys to pit walls. Provide waterproofing if borings indicate ground-water above or near pit floor elevation.

Column supports must be designed for all roof and floor slabs and machinery supports in roof bulkheads, including stair and elevator bulkhead roof slabs and elevator machine room floor slab (on same level). This avoids long concrete testing periods and permits the concrete sub-contractor to complete his work before final brickwork is installed. Elevator beam supports must be designed for the greatest loading that would be attained by any standard elevator of the type and size required for the job. See Section VII p. 111.

Partitions 2 in. thick are accepted by the Department of Housing and Buildings and are mandatory for **HA:A, HA:NS** and **F:A** projects. **S:A.** projects, however, require between dwelling units a 2 ¼ in. partition to obtain a sound reduction of at least 40 decibels at an average frequency of 256 to 1024 cycles per second. See HA-404.

Concrete columns should not be plastered, as a general rule. Details shall be submitted to the Authority for review. See Diagram 60, p. 105 showing various relations of plaster partitions to columns.

Amendments to Standard Specifications shall delete reference to chamfering columns and shall require that exposed column corners be slightly rounded to a smooth and uniform radius. See Diagram 61, p. 106 for recommended relation of plaster partitions to ceiling beams.

Diagram 62, p. 107 shows a scheme for column design that has been found economical in NYCHA project experience. It is also recommended that column ties generally consist of one hoop together with cross ties hooked at each end around intermediate bars for each tie, instead of ties consisting entirely of hoops. With this arrangement, tie spacing will be closer in columns with a larger number of bars. It is also more economical to use large-sized bars than a greater number of small bars in columns, and, for slab reinforcement, large-sized bars instead of small bars at closer spacing. Straight bars should be used for negative reinforcement rather than bent bars.

Architects shall provide the structural engineers with dimensioned locations of all heavy equipment carried on framed floors so that the structural engineers can design for these loads, for example, an 800-lb. safe, 25 in. sq., to be located in the cashiers' space of the management office. (Label N.I.C.)

Short offsets in masonry walls should be avoided. If they are necessary, the designing engineer should pay special attention to shrinkage and to temperature changes at the offsets.

If railings are used instead of masonry parapets, ample allowance for distortion due to temperature stresses should be made (e.g., by provision of double unconnected posts, at about 30 ft. spacing, by gaps at corners or by loose connections between post and rails). Particular attention should be paid to parapet flashing and roofing details.

Provide copper flashing for stair bulkhead doors detailed to form a protective drip over the door, if the brickwork above extends a half-story or more above the floor.

Comfort stations, and small structures such as wading pools, sand pits, etc., shall not be designed for controlled concrete. Class A average concrete should be used for comfort stations, and either Class A average or 1:2:4 concrete for the small structures.

BOILER ROOM DETAILS

Boiler room layout shall be planned so that it can be converted from oil to coal firing, but no coal- or ash-handling equipment will be installed initially. If, however, the type of future ash-handling would require an elevator, the shaft will be constructed.

Boiler and stack capacity shall be designed for coal-stoker firing.

Coal bunkers shall be designed so that they may be used temporarily for storage, garage, or other maintenance purposes.

Coal bunker roof slabs extending beyond building walls will be finished with a 1½-inch asphalt pavement (installed under the Street and Yard Contract). Roof construction should be sloped for drainage, and the finished surface at coal holes should be raised about an inch above surrounding areas.

Coal bunkers shall have four concrete inserts under each coal manhole to provide anchorage for coal screens which the Authority may install later. Bunkers planned for coal delivery direct from trucks should have coal-holes spaced to avoid coal trimming.

Boiler stacks within exterior building walls are preferably of steel, unless steel is in short supply, since they give better insurance against smoke leakage than masonry stacks. Masonry is preferable for stacks outside buildings or adjacent to exterior walls, to avoid corrosion. Round masonry stacks are preferred to square or many-sided stacks.

S:A. Exception to above: State-aided projects shall have square stacks.

Boiler room floor elevations should be chosen with reference both to estimated rock excavation and ground water conditions. Architects should discuss any unusual or difficult conditions with Authority staff members.

If the boiler room floor is considerably below other basement levels, the boiler room floor slab should be 8 in. thick with a moderate amount of reinforcement, unless the ground water level is known to be above the floor level. In this case a stronger slab is required. The economy of using sheet piling also should be considered.

Note: If, by exception, any project is designed for coal-firing, oil tanks will not be installed, except where special site conditions make possible future tank installation unusually expensive. Necessary sleeves through foundations for future oil piping will be installed on all projects, however, and engineers shall be required to complete the design for future tank installation and for all necessary piping.

WINDOW DETAILS

Metal casement sash are used for dwelling spaces, and commercial projected sash for basement spaces. See NYCHA Standard Detail, HA-403, for types and sizes.

BATHROOM DETAILS

Bathroom walls will be finished in hard white plaster except where showers are installed over tubs. Lead bends and traps in bathroom ceilings shall not be furred in.

Structural drawings must show a slot in the slab for the bathtub drain.

TELEPHONE DETAILS

The Telephone Company requires, for buildings up to and including 6 stories, 1 in. sleeves through each floor slab for each pair of apartments. Buildings over 6 stories require 1 ½ in. sleeves. In addition, space must be provided to mount strip boxes. As the size of those boxes will vary, the size should be ascertained for each building, and wall space provided. This space can be in a meter room, if it does not interfere with electrical equipment, or in some other accessible space in the cellar. Strip boxes should not be placed in narrow corridors or in spaces to which the public has access. See also Section VII p. 111.

BASIC DATA FOR DESIGN LOADS

LIVE LOADS PER SQ. FT.

Flat Roofs	40 lbs.
Apartment floors	40 lbs.
Stairs, stair halls, exit passage-ways, and entrance lobbies	100 lbs.
Public halls in connection with apartments	40 lbs.
Office spaces	50 lbs.
Playrooms	100 lbs.
Storage spaces	120 lbs.

DEAD LOADS

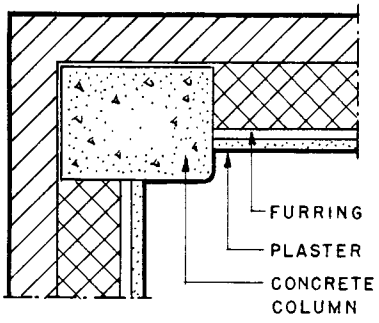
Concrete	144 lbs. per cu.ft.
Brick	120 lbs. per cu.ft.
10½ in. wall, face brick with 6 in. back-up blocks	75 lbs. per sq.ft.
Plaster on metal lath (furring exterior walls)	10 lbs. per sq.ft.
Plaster on masonry	5 lbs. per sq.ft.
Allowance for roofing and insulation	6 lbs. per sq.ft.
Asphalt tile flooring	1 lb. per sq.ft.
Allowance for 2 in. solid plaster partitions	20 lbs. per sq.ft. of floor area

WEIGHTS OF PARTITIONS PER SQ. FT. OF PARTITION

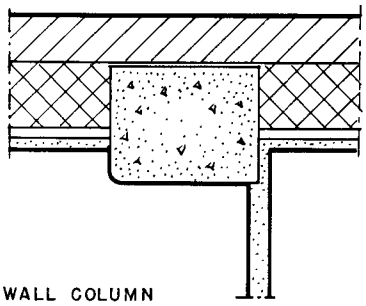
2 in. solid plaster with metal lath	17 lbs.
2 in. solid plaster with gypsum lath	20 lbs.
4 in. facing tile (no plaster)	30 lbs.
6 in. facing tile (no plaster)	45 lbs.
4 in. hollow tile (no plaster)	20 lbs.
6 in. hollow tile (no plaster)	27 lbs.
6 in. solid cinder block (plaster on one side)	48 lbs.

All concrete reinforcement bars to be intermediate grade.

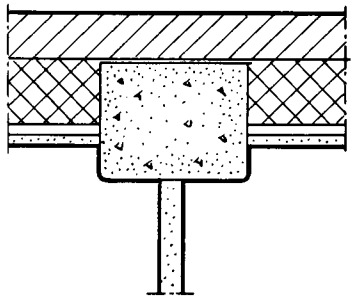
NOTE: These data are subject to review by architects and engineers. Special loadings or materials shall be called to the attention of the Authority.



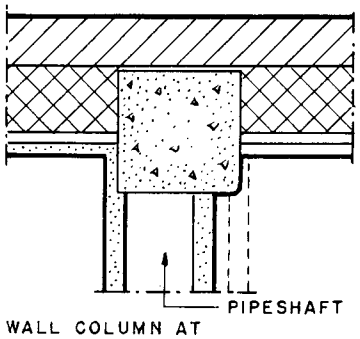
CORNER COLUMN



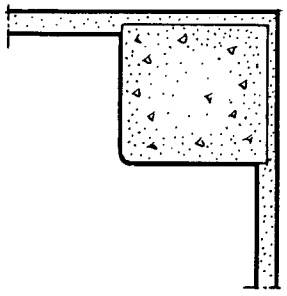
· WALL COLUMN AT PARTITION
· TYPICAL FOR BATH ROOMS



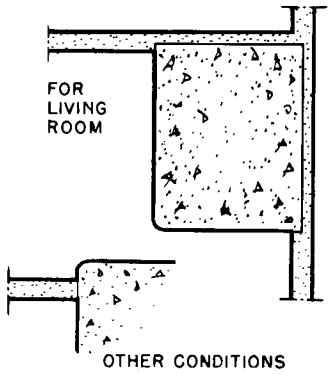
WALL COLUMN CENTERED ON PARTITION



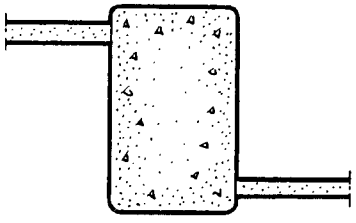
· WALL COLUMN AT PARTITIONS: COORDINATE MEASUREMENTS WITH MECHANICAL CONSULTANTS



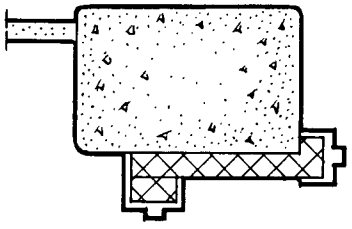
INTERIOR CORNER COLUMN



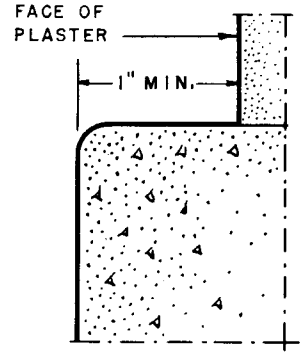
INTERIOR COLUMN BUTTED PARTITIONS



INTERIOR COLUMN STAGGERED PARTITIONS



INTERIOR COLUMN AT APT. ENTRANCE



DETAIL

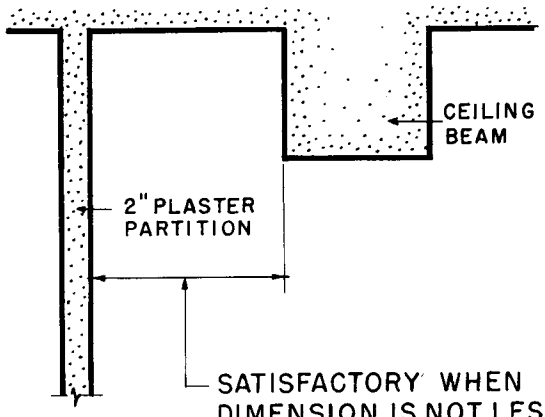
TYPICAL COLUMN DETAILS

NEW YORK CITY HOUSING AUTHORITY

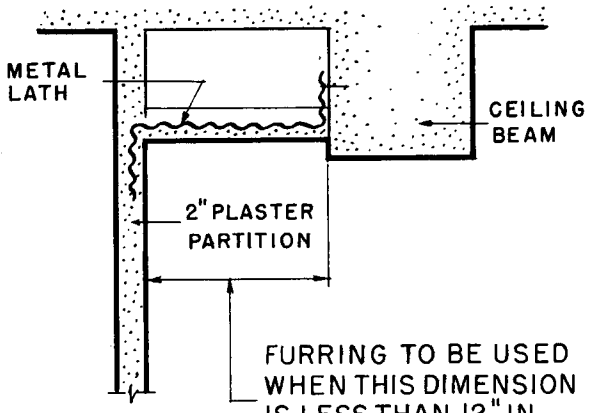
PLANNING DIVISION

DIAGRAM 60

A.

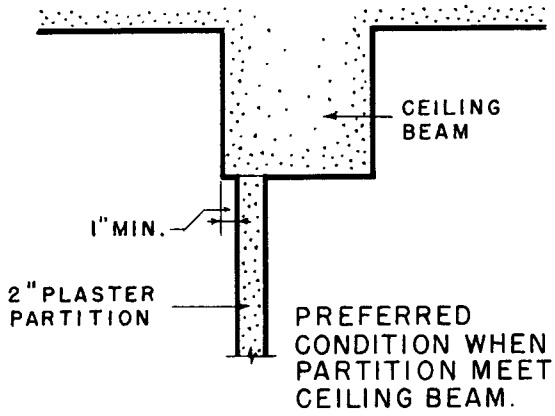


B.

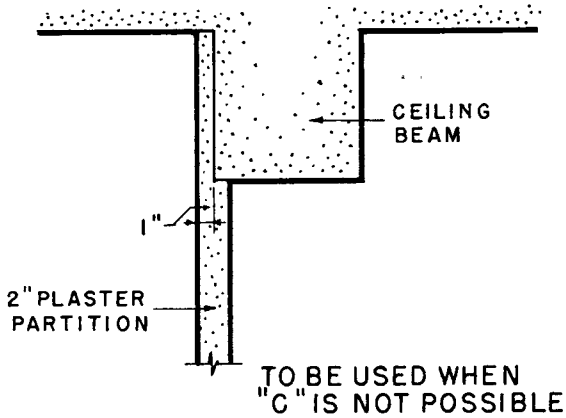


CONDITIONS "A" AND "B" TO BE AVOIDED AND EITHER "C" OR "D" USED WHEREVER DESIGN PERMITS. ARCHITECTS TO WORK WITH STRUCTURAL ENGINEERS TO EFFECT BEST POSSIBLE RELATION OF CEILING BEAMS TO PARTITIONS.

C.



D.



RELATION OF PARTITIONS TO CEILING BEAMS.

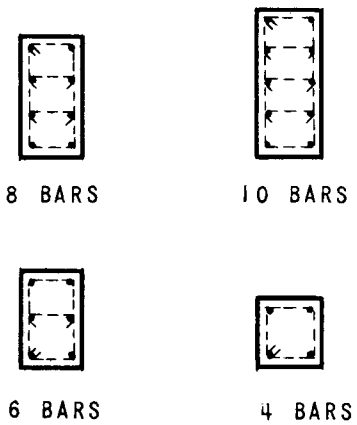
NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

DIAGRAM 61

COLUMN	1ST	2ND	3RD	4TH	5TH	6TH	7TH	8TH	9TH	10TH	11TH	12TH	13TH	14TH
FLOOR	3000#/IN^2 CONTROLLED CONCRETE													
	14 @ 8' - 6"													
E	24x11½ 8-1 1/8□	24x11½ 6-1 1/8□	24x11½ 6-1 φ	24x11½ 6-¾ φ 8 - 1⅛□	Dowels 18x11½ 6-1 1/8□	18x11½ 6-7/8φ	18x11½ 6-5/8φ	18x11½ 4-5/8φ 4 - 1φ	Dowels 11½x11½ 4-1 φ	11½x11½ 4-5/8φ	11½x11½ 4-5/8φ	11½x11½ 4-5/8φ	11½x11½ 4-5/8φ	11½x11½ 4-5/8φ
I	30x14 10-1¼□	30x14 8x1¼□	30x14 8-1 φ	30x14 8-5/8φ 8 - 1⅛□	Dowels 26x11½ 8-1 1/8□	26x11½ 6-1 1/8□	26x11½ 6-¾ φ	26x11½ 6-5/8φ 6 - 1□	Dowels 16x11½ 6-1 □	16x11½ 4-¾ φ	16x11½ 4-5/8φ	16x11½ 4-5/8φ	16x11½ 4-5/8φ	16x11½ 4-5/8φ

E = TYPICAL EXTERIOR COLUMN
I = TYPICAL INTERIOR COLUMN



TYPICAL COLUMN DESIGN

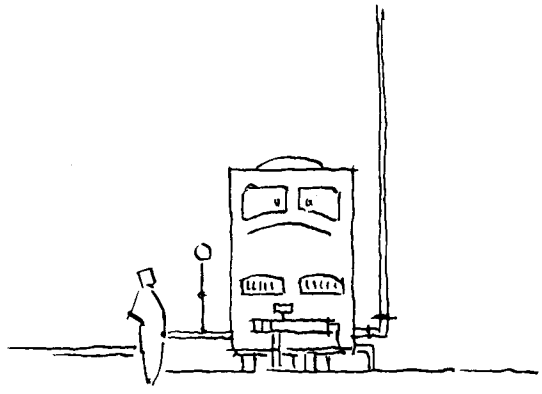
LENGTH OF DOWELS

3/4φ - 4'-3" 1 1/8□ - 5'-9"
1φ - 5'-3" 1 1/4□ - 6'-3"

NOTE: MINIMUM COLUMN DIMENSION 11½"
COLUMN SIZE IS CHANGED AT 5TH & 9TH FL.
COLUMN SIZE REMAINS CONSTANT IN SEVERAL FLOORS
ALL COLUMNS ARE REDUCED IN SIZE AT THE SAME FLOOR LEVEL

THIS DESIGN APPLIES TO 14-STORY BUILDINGS. A SIMILAR SCHEME FOR 6-STORY BUILDINGS WOULD INCLUDE TWO SIZES FOR EACH COLUMN, ALL CHANGES OCCURING AT A DEFINITE FLOOR LEVEL

FRED N. SEVERUD, CONSULTING ENGINEER
STUDY OF COLUMN DESIGN
FOR NEW YORK CITY HOUSING AUTHORITY



MECHANICAL DESIGN

VII

SECTION VII MECHANICAL DESIGN

The notes in this Section are under five headings: GENERAL NOTES, PLUMBING, HEATING, ELECTRICAL and ELEVATOR DETAILS.

The subjects are largely unrelated items noted here to save time for the architects' consultants.

GENERAL NOTES

Architects shall obtain from the mechanical engineers complete, dimensioned stairway drawings showing the location of standpipe risers, control valves, piping, and hose racks to ensure that legal clearance will be maintained.

The structural engineers will design framed floors supporting heavy equipment to carry the superimposed loads. See Section VI p. 102. The mechanical engineers, in checking shop drawings, shall verify that the equipment is actually supported on the structural members designed to carry them, and that it is not heavier than originally assumed.

Special care should be given to coordination of all piping in basement spaces, particularly community spaces, to avoid conflict between pipes and light fixtures, awkward conditions in meeting rooms, etc. See Section V p. 85.

PLUMBING DETAILS

WATER SUPPLY HOUSE TANKS: Where house tanks are required in the design of the water supply system, tank capacity must provide 7 gallons per person storage above the required fire reserves.

If the roof tank house pumps are not located in the boiler room, an additional gong connected to the pump room alarm shall be installed either in the boiler room or in the assistant superintendent's office, whichever is nearer to the house tank pump room.

Each house pump shall have an hourly rating equivalent to the house storage (7 gallons per person per hour). House pump sets shall be provided in duplicate, and wired for simultaneous operation in emergency.

HOT WATER CIRCULATING PUMPS: The Standard Specifications require that a hot water circulating pump shall be provided at each hot water heater where indicated on the drawings. This applies only to buildings five stories or less in height. Special cases, such as hot water from one heater serving two or more buildings, or unusually long runs, shall be discussed with the Authority for review and final decision on the number of pumps required.

BOILER FEED PUMPS AND RECEIVERS: The receiver of the boiler feed pump shall be designed to prevent overflow of condensate waste when the heating system picks up the loads after overnight shutdown.

LAUNDRIES: Hot and cold water supplies to laundries shall be taken off at the mains at one point to permit possible future metering.

PIPE SPACES FOR PLUMBING STACKS: Architects shall check with their consultants and with the Mechanical Division of the Authority for minimum widths of plumbing stacks. Dimensions shall be shown from face to face of finished plaster.

VACUUM BREAKERS for all hot and cold water piping must be supplied where hose connections are installed as follows:

a. In incinerator rooms
b. In hot water tank rooms
c. At laundry trays and connections to washing machines
d. At any other fixture within a building having a hose connection

GAS SERVICE shall enter a building at least ten feet away (horizontally) from a basement stairway. Gas meters or gas pressure regulators shall not be nearer than ten feet to a basement stairway.

HEATING DETAILS

A Heating Schedule shall be filled out for each project. See Diagram 70, p. 112 for the information needed.

Community rooms shall have wall or floor radiators.

ELECTRICAL DETAILS

CODES: Design of the power and lighting systems shall be in accordance with the latest Electrical Code of the City of New York. This Code is acceptable to the National Board of Fire Underwriters.

Voltage drop shall not exceed 2½% from the property line to the farthest outlet. Engineers shall prepare sketches of electrical feeder and distribution systems, showing methods used to arrive at voltage drop and feeder sizes.

After feeder and distribution systems are approved by the Authority, engineers shall file a drawing with the Department of Water Supply, Gas and Electricity (as required by N.Y.C. Electrical Code, Section B.30.157.9) and secure approval before completion of contract drawings.

WIRE TYPE: The Authority uses Type "R" wire for all electrical work, except where special conditions make other types more economical.

METER ROOMS and GAS AND ELECTRIC SERVICE ROOMS should be adequate for the required equipment, and should be located to minimize conduit runs and wiring.

Check meters shall not be provided.

Arrange submetering on the contract drawings as follows:

a. One in each building, metering all public light and power.
b. One metering all boiler room light and power.

ELECTRICAL RISERS for apartment cut-out panels shall be located in the pipe shaft so as to avoid interference between electric and plumbing work.

BUZZERS—DIRECTORY: No electric bells or door buzzers shall be provided for apartment entrance doors.

Child health stations shall have a two-way buzzer system between nurse's desk and doctors' offices.

Provide buzzer in the assistant superintendent's office (in maintenance space) controlled by a foot-operated button at each cashier's wicket and at the reception desk in management office space.

Provide a flush button and electric door opener for cashiers' space door, controlled at the bookkeeper's desk.

Provide mail boxes in each entrance hall. Elevator buildings shall have a directory combined with the mail boxes.

PUBLIC HALL LIGHTING OUTLETS: Although present electrical code requirements limit the number of public hall lighting outlets permitted on a single circuit to 12, the Department of Water Supply, Gas and Electricity has granted waiver of the requirement for New York City Housing Authority projects. A maximum of 16 such outlets on a single circuit may be used if not more than 40 watts will be supplied by any one outlet. Stair hall lighting design in tall buildings should follow this arrangement.

Entrance lobby lighting must be designed to illuminate mail boxes.

MANAGEMENT OFFICE SPACE: Work spaces and offices in management space shall have fluorescent ceiling fixtures throughout, designed to provide 40 ft.-candles at desk level.

EXTERIOR LIGHTING: Architects should make allowance for tree growth in placing exterior lights, particularly when lights are attached to buildings, to avoid the need of adding future standard yard lights.

LAUNDRIES shall be provided with a separate service switch to permit future metering.

TELEPHONE SLEEVES between floors should be placed in the front corner of closets, preferably so routed that one sleeve serves two apartments on each floor.

Sleeves at points of entry from the street should be threaded on the street side and should be turned up approximately 6 in. above basement or pipe access space floors to protect cables.

Sleeves through foundation walls, either for points of entry or for interconnection between buildings, should be located approximately 2 ft. below finished grade. See Section VI p. 103 for sleeve sizes.

POLICE COMMUNICATION SLEEVES shall be made of two-inch galvanized hot-dipped conduit set 2 ft. 6 in. below grade and capped at each end.

ELEVATOR DETAILS

The basis of elevator design for **HA:A, S:A** and **F:A** projects shall be as follows:

SIX-STORY STRUCTURES: One 1000-lb. car at 100 ft. per minute, stopping at 1, 2, 3, 4, 5, 6. Exception: **S:A.** Use 2000-lb. car.

STRUCTURES TALLER THAN SIX STORIES: Two 2000-lb. cars at 100 ft. per minute: One car stopping at 1, 3, 5, 7, 9, 11, 13; the other car stopping at 1, 2, 4, 6, 8, 10, 12 and 14.

HA:NS. Elevators in housing without cash subsidy shall stop at every floor. Elevators in **HA:NS** buildings 14 or more stories high shall be 2000-lb. cars at 200 ft. per minute. There shall be one call button for the two elevators on each floor, placed between hatchway doors. Both doors should be close to the call button and hinged on the side away from the button.

Car-in-motion light shall be installed with each call button.

Elevators will not be carried to the basement unless the main entrance is on that floor.

The main floor elevator landing should have easy access to exterior grade and the elevator hatch door should not swing into traffic flow.

_____ HOUSES

HEATING SCHEDULE

			BLDG. NO.	BLDG. NO.	BLDG. NO.	BLDG. NO.	BLDG. NO.	BLDG. NO.	BLDG. NO.	BLDG. NO.	TOTALS
HEATING	RADIATORS APT. & ENT. FLOORS	No. of Exposed Radiators									
		D.C.R. Sq.Ft.of Exposed Radiators (1)									
		No. of Concealed Floor Radiators									
		Sq.Ft. of Concealed Floor Radiators									
		E.D.R. of Concealed Floor Radiators (2)									
	RADIATORS BASEMENTS	No. of Exposed Radiators									
		D.C.R. Sq.Ft. of Exposed Radiators									
	TOTALS	Total Number of Radiators									
		Total Sq. Ft. of D.C.R.									
		Total Sq. Ft. of E.D.R.									
	UNIT H'TRS	No. of Unit Heaters									
		Total Sq.Ft. E.D.R. of Unit Heaters									
	UNIT VENTILATORS	No. of Unit Ventilators									
		Total CFM, Outside Air 0° to 70°F.									
		Total Sq.Ft. E.D.R.of Unit Ventilators									
	EXPOSED & INSULATED PIPE SURFACES	Actual Surface Sq.Ft. of Steam Risers									
		Sq.Ft. E.D.R. of Steam Risers									
		Actual Surface Sq.Ft. of Return Risers									
		Sq.Ft. E.D.R. of Return Risers									
		Actual Surface Sq.Ft. of Exp. Return Mains and Pump Discharges									
		Sq.Ft. E.D.R. of Exp. Return Mains and Pump Discharges									
		Actual Surface Sq.Ft. of Exp. Steam Mains and Branches									
		Sq.Ft. E.D.R. of Exp. Steam Mains and Branches									
		Actual Surface Sq.Ft. of Insulated Steam Mains, Incl. Distr. Mains									
		Sq.Ft. E.D.R. of Insulated Steam Mains, Incl. Distr. Mains									
		E.D.R. for Radiator Branches									
		Total Sq.Ft. E.D.R. for Heating									
	DOMESTIC HOT WATER	No. of Apts.									
		Gallons Storage									
		Heating Rate:-									
		Gallons per Hour (120° F. Rise)									
		Actual Surface of Tank Coil									
		E.D.R. of Tank Coil									
Total E.D.R. Heating and Hot Water											
		Total Construction Rooms									
		Construction Rooms Per Apt. (Average)									
		Total Heating E.D.R. per Apt. (Sq.Ft.)									
		Total Heating E.D.R. per Const. Room									
		Apt. Floors Heating E.D.R. (Sq.Ft.)									
		Apt. Floors Heating E.D.R. Per Apt.									
		Apt. Floors heating E.D.R. Per Const. Rm.									

Boiler Pressure To Be Maintained

Estimated Pressure Drop to Farthest Control

Pressure Drop From Control Valve To Farthest Radiator

Pressure Drop From Farthest Radiator To Pump Inlet

BTU Per Sq. Ft. of Steam Risers

BTU Per Sq. Ft. of Return Risers

BTU Per Sq. Ft. of Exposed Steam Mains & Branches

BTU Per Sq. Ft. of Exposed Return Mains & Branches

BTU Sq. Ft. of Insulated Steam Mains Incl. Distr. Mains

BTU Per Sq. Ft. of Cast Iron Radiation - Exposed

BTU Per Sq. Ft. of Cast Iron Radiation - Concealed

(1) D.C.R. - Direct Cast Iron Radiation

(2) E.D.R. - Equivalent Direct Radiation (240 BTU/Sq.Ft./Hr.)

INSIDE DESIGN TEMPERATURES:-

FORMULA FOR SELECTION OF SIZE AND NUMBER OF BOILERS:-

FORMULA FOR SELECTION OF HOT WATER TANK COILS:-

NEW YORK CITY HOUSING AUTHORITY

PLANNING DIVISION

DIAGRAM 70

LIST OF DIAGRAMS AND EXHIBITS

SECTION I

SECTION II

SECTION III

SECTION IV

SECTION V

SECTION VI

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