STATE OF NEW YORK
OFFICE OF GENERAL SERVICES
DESIGN AND CONSTRUCTION GROUP
THE GOVERNOR NELSON A. ROCKEFELLER
EMPIRE STATE PLAZA
ALBANY, NY 12242

ADDENDUM NO. 2 TO PROJECT NO. Q0763

CONSTRUCTION WORK
ASBESTOS REMOVAL, DEMOLITION
AND REPLACE WINDOWS
DUNLAP BUILDING NO. 102, A-SIDE
MANHATTAN PSYCHIATRIC CENTER
600 E. 125th STREET
WARDS ISLAND, NEW YORK

November 20, 2012

NOTE: This Addendum forms a part of the Contract Documents. Insert it in the Project Manual. Acknowledge receipt of this Addendum in the space provided on the Bid Form.

INTRODUCTORY INFORMATION

1. Document 000105 Certification Page: Discard the Document bound in the Project Manual and insert in its place the attached Document (page 000105 - 1) noted "Revised 11/13/2012".

2. Page 000110 - 3: Add "DIVISION 23 – HEATING VENTILATING AND AIR CONDITIONING, Section Number and Title, 230700 Piping Insulation".

SPECIFICATIONS

3. Section 079200 Joint Sealers: Discard the Section bound in the Project Manual and insert in its place the attached Section (pages 079200 - 1 through 079200 - 8) noted "Revised 11/16/2012".

4. Section 085653 Aluminum Security Windows: Discard the Section bound in the Project Manual and insert in its place the attached Section (pages 085653 - 1 through 085653 - 31) noted "Revised 11/7/2012".

5. Section 085656 OMH furnished Windows (FW): At all footers, 16 pages total, change "085653" to "085656".

6. Page 085656 – 12, Article 2.04, Paragraph A: Add to Acceptable Window Manufacturers "MIAMI WALL SYSTEMS, INC., 701 W. 25th Street, Hialeah, FL 33010".

7. Page 088853 – 1, Subparagraph 1.01 C. 1.: Delete this Subparagraph in its entirety.

8. Section 099101 Construction Painting: Discard the Section bound in the Project Manual and insert in its place the attached Section (pages 099101 - 1 through 099101 - 10) noted "Revised 11/9/2012".

9. Section 220700 Piping Insulation: Discard the Section bound in the Project Manual and insert in its place the attached Section (pages 220700 - 1 through 220700 - 9) noted "Revised 11/5/2012".

10. Section 230700 Piping Insulation: Add the attached Section (pages 230700 - 1 through 230700 - 7) to the Project Manual.

APPENDIX

11. Petition for an Asbestos Variance: Discard the Appendix Section bound in the Project Manual and insert in its place the attached "Petition for an Asbestos Variance" (twenty-one (21) pages).

12. Window Testing Report: Add the attached Appendix "Window Testing Report" (twelve (12) pages) to the Project Manual.

DRAWINGS

13. Drawing No. G-001: Add the following thirty-seven (37) Reference Drawings to the Index of Drawings: 53/2001, 53/2002, 53/2010, 53/2011, 53/3001, 53/3002, 53/3003, 53/3004, 53/3005, 53/3009, 53/3010, 63/3043, 71/3046, 80/3048, 53/4002, 53/4005, 53/4008, 53/4009, 53/4011, 53/4012, 53/4014, 53/4022, 53/4023, 53/4024, 53/4025, 53/4026, 63/4035, 70/4045, 73/4048, , 75/4053, 77/4056, 77/4057, 77/4059, 79/4060, 79/4061, 79/4062, 81/4069.

14. Drawing No. A-002, Abandoned Electrical Demolition Notes: Delete Note E3 in its entirety and insert the following Note E3 in its place:

    "E3. Existing Sprinkler System and Existing Fire Detection System: Refer to General Notes – Demolition, Note G8, this drawing."

15. Drawing No. A-002, Abandoned Electrical Demolition Notes: Add the following Note E8:

    "E8. ALL existing Exit Signs and existing Exit Sign Lighting Fixtures at existing exit doors are to remain operational."

16. Drawing Nos. H-101, H-102, H-103, H-104, H-105, H-106, H-107, H-108, H-109, H-110, H-111, H-112, H-113, H-114, H-115, H-116, and H-117: Add the following General Notes to ALL the aforementioned drawings:

    "A. First (1st) Floor through Sixteenth (16th) Floors, inclusive and the Basement Floor where applicable: Provide piping insulation at all un-insulated existing domestic hot and cold pipe and fittings that has had the existing asbestos containing pipe insulation removed (asbestos abatement) from it and still remains in use, unless otherwise indicated."

    "B. Basement (Bsmt) Floor through Sixteenth (16th) Floors, inclusive: Provide piping insulation at all un-insulated existing heating (steam and condensate) piping that has had the existing asbestos containing pipe insulation removed (asbestos abatement) from it and still remains in use as part of the 'temporary heat system', unless otherwise indicated. This work is a part of Alternate Number 1 – refer to specification section "Alternates: Section 012300".

17. Drawing No. A-101, Plan Notes, Access Corridor Only: Add the following to Note 2:

    "Paint Type IAL-2."

18. Drawing No. A-102, Plan Notes, Access Corridor Only: Add the following to Note 2:

    "Paint Type IAL-2."

19. Drawing No. A-104, Table – Existing HVAC, Plumbing And Electric Materials To Be Removed – First (1st) Thru Seventh (7th) Floors: Add the following to AC UNITS:

    "The quantity listed at AC UNITS does NOT include any of the existing AC Units indicated by a boxed symbol "AC" at the existing windows located in the exterior walls."

20. Drawing Nos. A-101, A-102, A-103, A-104, A-105, A-106, A-107, A-108, A-109, A-110, A-111, A-112, A-113, A-114, A-115, A-116, and A-117: Add the following General Notes to ALL the aforementioned drawings:

    "GN-2. Refer to General Note A on Drawing Nos. H-101 thru H-117 for piping insulation requirements at all un-insulated existing domestic hot and cold pipe and fittings."

    "GN-3. Refer to General Note B on Drawing Nos. H-101 thru H-117 for piping insulation requirements at all un-insulated existing heating (steam and condensate) piping."

21. Drawing Nos. A-109, A-110, A-111, A-112, A-113, A-114, A-115, A-116, and A-117: Add the following General Note to ALL the aforementioned drawings:

    "GN-1. General Note GN-1 does NOT apply to this Drawing."

22. Drawing No. A-501, Window Detail 3/A-501: Delete Note at "All Existing Steel Lintels:..." in its entirety and insert the following Note in its place:

    "At ALL Existing Steel Lintels – ALL existing steel lintel surfaces exposed after removal of existing windows prepare and paint as follows, prior to installation of replacement windows: Prepare existing exposed surfaces of existing steel lintels in accordance with standard SSPC-SP3; Prime with Paint Type ESP; Apply finish paint manufacturer's recommended cold galvanizing compound over Paint Type ESP; Finish paint with Paint Type EAL-3."

23. Drawing No. A-502, Head Detail 1/A-502 and Head Detail 2/A-502: Add "circled Key Note 27" pointing to Existing Steel Lintels.

24. Drawing No. A-502, Key Notes: Add circled Key Note 27 to read:

    "circled Key Note 27: At ALL Existing Steel Lintels – ALL existing steel lintel surfaces exposed after removal of existing windows prepare and paint as follows, prior to installation of replacement windows: Prepare existing exposed surfaces of existing steel lintels in accordance with standard SSPC-SP3; Prime with Paint Type ESP; Apply finish paint manufacturer's recommended cold galvanizing compound over Paint Type ESP; Finish paint with Paint Type EAL-3."

25. Drawing No. A-511, Installation Head Detail 1a/A-511: Delete Note at "Existing Steel Lintel:..." in its entirety and insert the following Note in its place:

    "At ALL Existing Steel Lintels – ALL existing steel lintel surfaces exposed after removal of existing windows prepare and paint as follows, prior to installation of replacement windows: Prepare existing exposed surfaces of existing steel lintels in accordance with standard SSPC-SP3; Prime with Paint Type ESP; Apply finish paint manufacturer's recommended cold galvanizing compound over Paint Type ESP; Finish paint with Paint Type EAL-3."

26. Reference Drawings: The following thirty-seven (37) Reference Drawings are attached to this Addendum: 53/2001, 53/2002, 53/2010, 53/2011, 53/3001, 53/3002, 53/3003, 53/3004, 53/3005, 53/3009, 53/3010, 63/3043, 71/3046, 80/3048, 53/4002, 53/4005, 53/4008, 53/4009, 53/4011, 53/4012, 53/4014, 53/4022, 53/4023, 53/4024, 53/4025, 53/4026, 63/4035, 70/4045, 73/4048, , 75/4053, 77/4056, 77/4057, 77/4059, 79/4060, 79/4061, 79/4062, 81/4069.

END OF ADDENDUM

James Dirolf, P.E.
Director of Design

DWM

SECTION 079200

JOINT SEALERS

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Glazing Sealants: Section 088100.

1.02 SUBMITTALS

A. Waiver of Submittals: The "Waiver of Certain Submittal Requirements" in Section 013300 does not apply to this Section.

B. Submittal Packages: Submit the Quality Assurance Package prior to other submittal packages. After Quality Assurance Package is approved, submit the Product Data, Samples, and Quality Control Submittals (all the required specified submittal items shall be submitted at the same time).

C. Quality Assurance Package:
   1. Sealant Manufacturer's Qualifications:
      a. Names, addresses and facility contacts of 5 similar projects where manufacturer's sealant has been in operation for a minimum of 3 years.
   2. Sealant Installation Company Qualifications:
      a. Name, business address and telephone numbers of the sealant installation company.
      b. Names, addresses and facility contacts of 5 similar sealant installation projects of this project's size and scope this company has completed in past 3 years.
   3. Sealant Installer's Qualifications:
      a. Name of person supervising sealant installation and completion of Work of this section.
      b. Names, addresses and facility contacts of 5 similar sealant installation projects this person has supervised in the past 3 years.
      c. Written certification from the sealant manufacturer the person supervising the Work is trained and qualified in the installation of the accepted sealant products.
   4. Sealant Contractor's Qualifications:
      a. Name of person supervising the installation and completion of the Work of this section.
      b. Names, addresses and facility contacts of 5 similar sealant projects of this project's size and scope this person has supervised in the past 3 years.

D. Product Data: Catalog sheets, specifications, and installation instructions for each product specified except miscellaneous materials.

E. Samples:
   1. Sealants: One pint or standard tube.
   2. Joint Fillers: 24 inch long full section.
   3. Gaskets: 24 inch long full section.
   4. Joint Primer/Sealer/Conditioners: One pint.
   5. Backer Rods: 24 inch long full section.
   6. Bond Breaker Tape: 24 inch long full section.

F. Quality Control Submittals:
   1. Installer's Qualifications Data: Affidavit required under Quality Assurance Article.
   2. Company Field Advisor Data: Name, business address, and telephone number of Company Field Advisor.

G. Certifications: Upon substantial completion, submit the following:
   1. Provide certification from the sealant manufacturer confirming that the sealant manufacturer has reviewed all sealant details, and tested all contact surfaces, and finds same suitable for use with proposed sealant, the purpose intended and compatible with the surface with which they are in contact. The sealant manufacturer’s certification shall include the following based upon tests performed on production run materials:
   2. Adhesion certification and test data to production samples of metal, glass and stone tested in accordance with ASTM C 794, establishing adhesive over the temperature range as described under the performance criteria section of the Specification.

H. Test Reports:
   1. Pre-construction Sealant Testing: Pre-construction testing program and test reports from the joint sealant manufacturer verifying the strength, compatibility and adhesion testing identified in Article 4.02 of the Specification Section.
   2. Field Sealant Testing: Test reports evidencing compliance with the field testing of sealant as described in Article 4.03 E of this Specification Section.
   3. Submit test data from the sealant manufacturer confirming that polyurethane and silicone sealants, whether utilized structurally or as a weather seal, in contact with the building’s limestone will not stain the stone or otherwise have a deleterious effect on the stone substrates.

I. Warranties: Submit all warranties described in Article 1.04 F of this Specification Section.

1.03 QUALITY ASSURANCE

A. Sealant Manufacturer’s Qualifications: The manufacturer of sealant and all related products shall be regularly engaged in the production of such products, shall have furnished such products for 5 similar projects that have been in operation for a minimum of 3 years, and is subject to the Director’s approval.

B. Sealant Company Qualifications: The Company installing the Work of this Section shall be experienced in sealant work, and shall have been engaged in sealant work of this project’s size and scope for a minimum of 3 years.

C. Installer's Qualifications: The persons installing the sealants and their supervisor shall be personally experienced in the installation of sealants and shall have been regularly employed by a company engaged in the installation of sealants for a minimum of three (3) years.
   1. Furnish to the Director the names and addresses of five similar projects which the foregoing people have worked on during the past three (3) years.
   2. Furnish a letter from the sealant manufacturer, stating that the foregoing people are authorized to install the manufacturer's sealant materials and that the manufacturer's specifications are applicable to the requirements of this Project.

D. Pre-Work Conference: Prior to starting the Work and before materials are ordered, a conference will be held at the Site for the purpose of reviewing the Contract Documents, specifications, details, application requirements shop drawings, approved submissions, and the requirements of the Work. The meeting shall be attended by the Contractor, the sealant installer/applicator and the sealant manufacturer's Company Field Advisor and any other respective representatives. Other participants may be invited at the discretion of the Director.

E. Field Example: Prior to installation of sealant, install one mock-up sealant installation at a selected window opening for review and approval of installation method.

F. Container Labels: Include manufacturer's name, trade name of product, kind of material, federal specification number (if applicable), expiration date (if applicable), and packaging date or batch number.

G. Test and validate sealants used for exterior weathersealing per the Sealant Waterproofing Restoration Institute (SWRI).

H. Warranties:
   1. Silicone Sealants: Provide a written warranty, agreeing to repair or replace silicone sealant compounds which have failed to provide airtight and watertight joints for any reason, or which appear to have failed in adhesion, cohesion, abrasion-resistance, migration-resistance, stain-resistance, general durability or any other form of apparent deterioration (excluding inherent qualities and limitations clearly specified in the manufacturer’s data which was submitted). Period of warranty shall be twenty (20) years, and warranty shall be signed by the Manufacturer, the installer and the Contractor.
   2. Sealants for Granite, Marble and Limestone: 20 year Non-Stain Warranty.

1.04 PROJECT CONDITIONS

A. Environmental Requirements:
   1. Temperature: Unless otherwise approved or recommended in writing by the sealant manufacturer, do not install sealants at temperatures below 40 degrees F or above 85 degrees F for non silicone sealants and below minus 20 degrees F or above 125 degrees F for silicone sealants.
   2. Humidity and Moisture: Do not install the Work of this section under conditions that are detrimental to the application, curing, and performance of the materials.
   3. Ventilation: Provide sufficient ventilation wherever sealants, primers, and other similar materials are installed in enclosed spaces. Follow manufacturer's recommendations.

B. Protection:
   1. Protect all surfaces adjacent to sealants with non-staining removable tape or other approved covering to prevent soiling or staining.
   2. Protect all other surfaces in the Work area with tarps, plastic sheets, or other approved coverings to prevent defacement from droppings.

PART 2 PRODUCTS

2.01 SEALANTS

A. Type 1 Sealant: Low-Modulus Nonacid-Curing Silicone Sealant: ASTM C 920, Type S (single component) and Grade NS (nonsag); Class: 25; Provide one of the following:
   1. “SCS2000 Silpruf” (GE/Momentive).
   2. “795 Building Sealant” or “790 Silicone Building Sealant” (Dow Corning Corp.).

B. Sealant Colors: Provide color as indicated or, if not indicated, as selected by the Director from manufacturer's standard colors.

2.02 JOINT FILLERS

A. Expanded Polyethylene Joint Filler: Flexible, compressible, closed-cell polyethylene of not less than 10 psi compression deflection (25 percent).

2.03 GASKETS

A. Adhesive Closed-Cell PVC Gasket: Closed-cell, flexible, self adhesive, non-extruding, polyvinylchloride foam gaskets; ASTM D 1667.

2.04 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Elastomeric Tubing (Backer Rod) Sealant Backings: Closed-cell “rope” complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 26 deg F. Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and otherwise contribute to optimum sealant performance.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

D. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants with joint substrates.

E. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine all joint surfaces for conditions that may be detrimental to the performance of the completed Work. Do not proceed until satisfactory corrections have been made.

3.02 PREPARATION

A. Clean joint surfaces immediately before installation of sealant and other materials specified in this Section.
   1. Remove all loose materials, dirt, dust, rust, oils and other foreign matter that will impair the performance of materials installed under this Section.
   2. Remove lacquers, protective coatings and similar materials from joint faces with manufacturer's recommended solvents.
   3. Do not limit cleaning of joint surfaces to solvent wiping. Use methods such as grinding, acid etching or other approved and manufacturer's recommended means, if required, to clean the joint surfaces, assuring that the sealant materials will obtain positive and permanent adhesion.

B. Set joint fillers at proper depth and position as required for installation of bond breakers, backer rods, and sealants. Do not leave voids or gaps between the ends of joint filler units.

C. Priming Joint Surfaces:
   1. Prime joints of friable (crumbly, chalky) masonry surfaces which are to receive Type 1 Sealant.
   2. Prime joints other than those above if so recommended by the manufacturer's printed instructions.

3. Do not allow the primer/sealer to spill or migrate onto adjoining surfaces.

3.03 JOINT BACKING INSTALLATION

A. Install bond breaker tape in relaxed condition as it comes off the roll. Do not stretch the tape. Lap individual lengths.

B. Install backer rod of sufficient size to fill the joint width at all points in a compressed state. Compress backer rod at the widest part of the joint by a minimum of 25 percent. Do not cut or puncture the surface skin of the rod.

3.04 SEALANT INSTALLATION

A. Sealant Installation: Comply with manufacturer and industry requirements and as follows unless otherwise indicated:

1. Clean out joints immediately before installing joint sealants to comply with joint sealant manufacturer's written instructions. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
2. Prime joint substrates where recommended in writing by joint sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces. Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing, joint seal.
3. Comply with joint sealant manufacturer's written installation instructions and applicable portions of ASTM C1193 for products applications, and conditions indicated, unless more stringent requirements apply.
4. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability. Do not leave gaps between ends of sealant backings or stretch, twist, puncture, or tear sealant backings. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and back of joints.
5. Place sealants so they directly connect and fully wet joint substrates. Completely fill recesses provided for each joint configuration. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability. Immediately after sealant application and before skinning or curing begins, tool sealants according

to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint. Provide concave joint configuration per Figure 5A in ASTM C1193, unless otherwise indicated.

6. Remove excess sealants form surfaces adjacent to joint. Clean off excess sealants or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.
7. Install sealants with ratchet hand gun or other approved mechanical gun. Where gun application is impractical, install sealant by knife or by pouring as applicable.

3.05 FIELD QUALITY CONTROL

A. Test Samples:
1. Where directed, for each 1000 linear feet of joint installed, cut out and carefully remove a 6 inch long sample of the undisturbed sealant and joint backer material from the newly installed Work. Remove the samples in the presence of the Director's Representative who will retain them for evaluating and testing.
2. Reseal cut out areas with the same materials.

3.06 CLEANING

A. Immediately remove misapplied sealant and droppings from metal surfaces with solvents and wiping cloths. On other materials, remove misapplied sealant and droppings by methods and materials recommended in writing by the manufacturer of the sealant material.

B. After sealants are applied and before skin begins to form on sealant, remove all masking and other protection and clean up remaining defacement caused by the Work.

PART 4 – QUALITY CONTROL

4.01 PRE-PRODUCTION CONSTRUCTION TESTING

A. Field-Adhesion Testing of Non-Structural Sealants: Provide field test joint-sealant adhesion to joint substrates as follows:
1. Extent of Testing: Test completed elastomeric sealant joints as follows:
   a. Perform 10 tests for the first 1000 feet of joint length for each type of elastomeric sealant and joint substrate.
   b. Perform one test for each 1000 feet of joint length thereafter or one test per each floor per elevation.
2. Test Method: Test joint sealants by hand-pull method described below:
   a. Make knife cuts from one side of joint to the other, followed by two cuts approximately 2 inches at sides of joint and meeting cross cut at one end. Place a mark 1 inch from cross-cut end of 2-inch piece.

b. Use fingers to grasp 2-inch piece of sealant between cross-cut end and 1-inch mark; pull firmly at a 90-degree angle or more in direction of side cuts while holding a ruler along side of sealant. Pull sealant out of joint to the distance recommended by sealant manufacturer for testing adhesive capability, but not less than that equaling specified maximum movement capability in extension; hold this position for 10 seconds.

c. For joints with dissimilar substrates, check adhesion to each substrate separately. Do this by extending cut along one side, checking adhesion to opposite side, and then repeating this procedure for opposite side.

3. Inspect joints for complete fill, for absence of voids, and for joint configuration complying with specified requirements. Record results in a field adhesion test log.

4. Inspect tested joints and report on the following:

   a. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate. Compare these results to determine if adhesion passes sealant manufacturer's field-adhesion hand-pull test criteria.

   b. Whether sealants filled joint cavities and are free from voids.

   c. Whether sealant dimensions and configurations comply with specified requirements.

5. Record test results in a field adhesion test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions.

6. Repair sealants pulled from test area by applying new sealants following same procedures used to originally seal joints. Ensure that original sealant surfaces are clean and new sealant contacts original sealant.

7. Evaluation of Field Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

END OF SECTION

GMS/DWM

SECTION 085653

ALUMINUM SECURITY WINDOWS

PART 1 GENERAL

1.01 DESCRIPTION

A. This project involves replacement of windows on the A-Side of the Dunlap Building Number 102 of the Manhattan Psychiatric Center. Aluminum Security Windows for a portion of the Work of this project are furnished by the owner (FBO) – OMH - and are located on site in four (4) tractor-trailer sized trailers sitting in the paved parking lot area on the North-East side of the A-Side Dunlap Building Number 102. Work related to the Owner Furnished Windows is specified elsewhere, at: OMH Furnished Windows (FW): Section 085656. The OMH Furnished Windows are denoted FW on the Construction Drawings.

1. The work in this Section is for Aluminum Security Windows in additional to the units furnished by the owner, to complete the balance of the replacement project and to substitute stored window units that are not deemed unsuitable for use on the building. The Aluminum Security Windows provided under this Section will be a design matching exterior and interior sightlines and finishes of the existing stored windows as depicted on the drawings.

B. The Contractor awarded the Aluminum Security Windows shall be responsible for the engineering, detailing, fabrication and installation of the complete window system. The work shall include all labor, materials, tools, equipment, protection and engineering services required to manufacture, deliver, furnish and install all items necessary for the proper execution and completion of the Work, as shown on the Drawings and as specified herein and/or as otherwise required to provide a complete, code-complying and warranted installation.

C. The Aluminum Security Windows Work includes replacement of windows in existing openings of the A-Side of the Dunlap Building Number 102 from the Basement (Bsmt) floor through the sixteenth (16th) floors, inclusive. The work in this Section is the manufacture and installation of new replacement windows furnished by the Contractor. Work involving the "OMH Furnished Windows (FW)" units specified in Specification Section 085656.
The scope of work shall include all of the following materials, labor and services and all other materials, labor and services required to make the work complete:

1. Aluminum and glass windows including mullions, glass, security glazing, accessories, hardware, trim and other items commonly regarded as components of "windows".
2. Surveying of all existing window openings into which new windows are to be installed.
3. Probing of existing construction at existing window openings as may be required to establish structural requirements for installation of replacement windows.

4. Proposal documents, shop drawings, structural calculations, structural calculations, test data, manufacturer's data, certifications of compliance, selected samples of materials as specified herein. Proposal Documents: The "Proposal Documents" shall include sketch details (head, jamb and sill) of each window type and manufacturer's catalog data pertaining to the proposed window(s). The manufacturer's data shall include test data certifying product compliance with the specified AAMA performance criteria. Proposal documents shall also show surrounding masonry, existing window framing components to remain and proposed flashing work to conform to referenced documents.
5. All blocking, straps, anchors, etc. that may be required for new windows.
6. Aluminum sill, jamb and head receptors.
7. Aluminum window sills.
8. All glass and glazing, security glazing and accessories associated with the windows.
9. All reinforcing (stiffeners, brackets, etc.) required to strengthen or reinforce the aluminum members of the windows.
10. All sealants, joint fillers, gaskets, etc. necessary to produce a watertight and airtight installation including sealants at the perimeter of the windows and at the junction of other façade components.
11. All structural silicone sealant associated with glazing of operable vent windows.
12. Weeps, baffles, thermal breaks, flashings, etc. necessary to meet performance requirements.
13. All anchors, inserts, embedded devices, etc. necessary to support the windows.
14. Window cleaning safety anchors.
15. Coordination with other trade contractors that have components of their work contiguous to the windows.
16. Protection and cleaning of finished work.
17. Participation in coordination meetings throughout the course of the Work.
18. Preparation of “as-built” shop drawings reflecting all changes (from original “approved” shop drawings) that may have occurred during the course of the work.

D. The Aluminum Security Windows for the Work of this project shall be manufactured and installed by this contract and shall be in strict accordance with this Specification Section in its entirety including all required submittals.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Joint Sealants: Section 079200.

B. OMH Furnished Windows (FW): Section 085656.

C. Glass and Glazing: Section 088100.

D. Security Glass and Glazing: Section 088853.

1.03 REFERENCES

A. NAFS North American Fenestration Standard/Specification for windows, doors, and skylights AAMA/WDMA/CSA 101/I.S.2/A440-08, developed and published by American Architectural Manufacturers Association.

1.04 QUALITY ASSURANCE

A. Source Limitations: So that there will be undivided responsibility, award the Owner Furnished Window work to a single manufacturer specializing in this type of work, with a minimum of five (5) years continuous operations and experience which has successfully completed, comparable sized projects. This Work includes but is not limited, to designing, engineering, fabricating and transporting Aluminum and Glass Windows so that all performance and aesthetic requirements are adhered to.

B. Professional Engineer Qualifications: Engage the services of a professional engineer who is legally qualified to practice in the State of New York and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of Aluminum and Glass Windows that are similar to those indicated for this Project in material, design, and extent.

C. Contractor’s Engineering Responsibility: Engage a qualified professional engineer to prepare or supervise the preparation of data for the Owner Furnished Window remediation and modifications, including drawings and comprehensive engineering analysis that show the systems' compliance with the specified requirements.

D. Installer Qualifications: Engage an experienced installer to perform work of this Section who has specialized in installing replacement Aluminum and Glass Windows similar to those required for this Project and who is acceptable to the system manufacturer and to the Construction Manager.

E. Product Options: Information on the Drawings and in these Specifications establishes requirements for Aluminum and Glass Window’s aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sight lines and relationships to one another and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including established engineering methodology (i.e., calculations) preconstruction mock-up testing, field-testing, and/or in-service performance.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval and only to the extent needed to comply with performance requirements. Where modifications are proposed, submit comprehensive explanatory data to Architect for review.

F. Reference Standards: The following references include agencies, industry associations, manufacturing and testing societies, etc. which publish “standards” applicable to the Work described in this Section. Particular standards of each reference are noted elsewhere in this Section. Unless more restrictive criteria are explicitly called-out in these Specifications, the requirements described in the referenced standard shall be deemed applicable to the Work. Where the language in any of the documents referred to herein is in the form of a recommendation or suggestion, such recommendations or suggestions shall be deemed mandatory under this Contract.

1. Fenestration Standard: comply with AAMA/WDMA/CSA101/I.S.2/A440-10, “Standard Specification for windows, doors and unit skylights”, for minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.
2. GANA "Sealant Manual" and "Glazing Manual".
3. SMACNA "Architectural Sheet Metal Manual".
4. Where tempered glass is indicated or required by authorities having jurisdiction, provide the type of products indicated which comply with ANSI Z97.1 and requirements of CPSC 16 CFR Part 1201 for category II materials. Subject to compliance with requirements and local authorities having jurisdiction, provide safety glass with a permanent certification label of Safety Glazing Certification Council (SGCC) or other certification agency acceptable to authorities having jurisdiction.
5. The Window Falls Prevention Program of the New York City Department of Health and Mental Hygiene (for safety features associated with operable windows).
6. ASTM Standards:
   A36 – Standard Specification for Carbon Structural Steel.
   A123 – Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
   A653 – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
   A1008 – Standard Specification for Structural Steel (SS), Sheet, Carbon, Cold-Rolled.
   A1011 – Standard Specification for Steel, Sheet and Strip, Carbon, Hot-Rolled.
   B209 – Standard Specification for Aluminum Sheet and Plate.
   B221 – Specification for Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.
   B429 – Standard Specification for Extruded Structural Pipes and Tubes.
   C509 – Standard Specification for Cellular Elastomeric Performed Gasket and Sealing Material.
   C612 – Standard Specification for Mineral Fiber Block and Board Thermal Insulation.
   C794-01 Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants
   C864 – Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spaces.
   C920 – Standard Specification for Elastomeric Joint Sealants.

C1036 – Standard Specification for Flat Glass.
C1048 – Standard Specification for Heat-Treated Flat Glass.
C1193 – Standard Guide for Use of Joint Sealants.
C1401 – Standard Guide for Structural Sealant Glazing.
D1056 – Standard Specification for Flexible Cellular Materials-Sponge or Expanded Rubber.
D2287 – Specification for Nonrigid Vinyl Chloride Polymer and Copolymer Molding and Extrusion Compounds.
E283 – Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Across the Specimen.
E330 – Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls By Uniform Static Air Pressure Difference.
E331 – Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
E1300 – Standard Practice for Determining Load Resistance of Glass in Buildings.
E1332 - 10a Standard Classification for Rating Outdoor-Indoor Sound Attenuation.
E2190 –Standard Specification for Insulating Glass Unit Performance and Evaluation.

G. Mock-Ups:
1. Pre-Construction Testing Mock-Up: One complete test specimen shall be fabricated at an independent AAMA Certified testing laboratory for performance testing. Refer to Part 4 – "Quality Control" of this Specification Section for more information.

1.05 DESIGN REQUIREMENTS

A. The following criteria represent the minimum performance requirements expected of the Aluminum and Glass Windows.

B. Wind Loads:
1. The design wind load for the façade elements of the building have been calculated using ASCE-7. The design loads shall be as follows:
   a. Zone 4 (at typical field): 33 psf positive, 33 psf negative
   b. Zone 5 (5 feet from corners): 33 psf positive, 60psf negative
2. Under full wind pressures, deflection normal to the plane of the wall of framing members with spans not exceeding 13'-6" shall be limited to L/175 or ¾", whichever is less. Deflection normal to the plane of the wall of framing members with spans exceeding 13'-6" shall be limited to L/240 + ¼".
3. The Aluminum Security Windows shall be designed to withstand 1.5 times the full design positive and negative wind pressure without component failure or damage other than a maximum permanent deformation in framing members of 0.20 in. Deflection of any member

under 1.5 times design wind load shall not result in any glass, sealant, gasket or fastener failure.

4. At corners and other changes in plane, both surfaces shall be assumed to experience the most severe combinations of negative and positive pressures simultaneously.
5. Fasteners anchoring the windows to the supporting structure shall be engineered to a factor of safety of no less than 4.0 or safety factors recommended by the fastener manufacturer, whichever is greater.

C. Air Infiltration: Air infiltration through the Aluminum and Glass Windows and doors shall not exceed the air infiltration performance defined by AAMA for "AW" (Architectural) Performance Class windows and doors.

D. Water Resistance Test:
1. For both fixed and operable elements of the windows, no water penetration shall be permitted at the differential static pressure of 12 psf. Water penetration shall be defined as the appearance of uncontrolled water on the indoor face of any part of the work. "Controlled" water is that which is drained harmlessly to the exterior without wetting interior surfaces or insulation.
2. Drain any water entering at joints to the exterior by employing a weep system.

E. Condensation Resistance: The Aluminum and Glass Window framing members and receptors shall be equipped with a positive "thermal break" constructed of low thermal conductance plastic so as to reduce heat loss through the mullion and to prevent excessive condensation on the indoor face of the work. Excessive condensation is defined as water, ice or frost on more than 5% of the interior surface of any metal component of the wall or the accumulation of uncontrolled water from condensation visible on the wall at any interior location or uncontrolled condensation concealed in the final assembly. Compliance with the condensation resistance criteria shall be demonstrated by thermographic diagrams (see Article 1.07.H of this Specification Section) or thermal testing. Circumstances under which excessive condensation will not be permitted to occur are:
1. Ambient outdoor wintertime temperature of 15°F; 15 miles per hour wind.
2. Indoor ambient wintertime temperature of 70°F and relative humidity of 30%.
3. Indoor ambient wintertime temperature of 55°F and relative humidity of 30%.

F. Overall Thermal and Solar Performance: Overall Thermal and Solar Performance characteristics for the Aluminum and Glass Window assemblies (including glass specified in this Section, frame, sill starter and head receptor) shall be equal to or better than the following:
1. U-Value (Winter): 0.50 Btu/h/sf/F (maximum)
3. Solar Heat Gain Coefficient (SHGC): 0.37 (maximum)

G. Applications of Structural Silicone Sealant: Where structural silicone bonds to a metal, stone or glass surface, the weakest element in the line of stress must have a minimum ultimate strength of 100 psi. Except where more restrictive requirements may be identified in this Specification, when exposed to the specified wind load, the stress on the structural silicone should not exceed 20 psi or represent a safety factor of less than 5:1.

H. Provisions for Thermal Movement: Accommodate thermal movements caused by an ambient exterior temperature of –10 deg. F and an exterior metal surface temperature of +150 deg. F; in combination with an interior temperature range of +55 deg. F to 100 deg. F.

I. Glass Design: Glass and Glazing: Specification Section 088100.

J. Operable Windows: Notwithstanding the more severe water penetration resistance noted in Article 1.05 D. above, all operable windows shall have a minimum rating C-AW-PG60 per AAMA/WDMA/CSA101/I.S.2/A440-08. Comply with the following:

1. AAMA/WDMA/CSA101/I.S.2/A440-08 for:
   a. Vertical Deflection Test.
   b. Hardware Load Test.
   c. Durability tests in accordance with the life cycle testing prescribed in AAMA 910-93 for "AW" (Architectural) Performance Class products.
2. Safety requirements established by the Window Falls Prevention Program of the New York City Department of Health and Mental Hygiene as pertain to the restrictive opening of windows.

K. Fixed Windows: Notwithstanding the more restrictive water penetration resistance specified in Article 1.05 D above, all fixed window within the Aluminum and Glass Window system shall comply with the performance requirements defined in AAMA/WDMA/CSA 101/I.S.2/A440-05 for F-AW-PG60 products.

L. Flatwork Tolerances: Opaque spandrel elements, slab edge covers and other exposed sheet or plate fabricated items shall be flat and free of bow or "oil canning" or "read thru" of stiffeners, welds, etc. Exposed metal faces shall be of such flatness that the maximum uniform bow in two feet shall not exceed 1/32 in. and the maximum overall variation in plane between high and low point within a panel shall not exceed 1/16 inch. Notwithstanding the aforementioned criteria, the visual appearance of such elements shall be judged exclusively by the Architect who reserves the right to reject any visually objectionable flatwork.

M. Window Cleaning Safety Anchor: The window cleaning safety anchors shall be provided and installed into the window frames as described in Article 2.1.P. The window assembly with the window cleaning safety anchors shall resist the following load:

1. Drop test with a 250 lb rigid weight, falling a distance of 4 ft. without fracture (reference Article 4.5.3 of ASME/ANSI A39.1a).

N. Acoustical Requirements:

1. System Acoustic Performance Requirements: Windows shall be provided with complete window assemblies (including receptors, framing, glazing) meeting or exceeding the transmission loss values in each third octave band as stated in the table below when installed per plans and specifications and tested in a laboratory condition per ASTM E90. Tested windows shall be fully operational.

O. Human Impact Resistance: Installed window shall be capable of resisting an impact equivalent to a 200 lb running person, moving at the speed of 25 fps, striking the interior polycarbonate surface with their shoulder. Resistance shall be demonstrated by testing in accordance with the following:

1. Impact Test Load: 1,800 ft lbs.
   a. Equipment and Method: Standard punching bag filled with lead shot weighing (w) lbs and allowed to free fall vertically downward from a pendulum length (l) feet measured horizontally and vertically away from the point of impact. The pendulum swing shall be in a vertical plane perpendicular to the plane of the window at the point of impact.
   b. Minimum Impact Load Calculation: Pendulum length (l) times weight (w) shall equal 1,800 ft lbs.
2. Securely fasten window in a frame assembly of the same configuration that is used in the actual field condition. Use the same type, number, size and location of frame anchors used in the actual field condition.
   a. The surrounding conditions, framing and window location within the masonry opening are shown schematically on the drawings.
   b. Verify field conditions and develop adequate framing and anchorage methods.
3. Conduct impact load tests sequentially at each of the following locations and include strain gage devices for recording window component deflections as part of the test procedure:
   a. At center of interior surface of inside casement glazing.
   b. Side of interior surface of inside casement glazing, 4 inches from lock side frame member and midway between locks.
   c. Side of interior surface of inside casement glazing, 4 inches from lock side frame member and directly opposite lowest lock.
4. Notify the Director in writing a minimum of 2 weeks prior to performing the impact load test, the date, time and location where the test is to be performed.
5. Impact Load Test Reports; Include the Following:
   a. Detailed description of test with drawings showing construction of window frame structural support and fasteners, fastener types and spacings, test apparatus, and other equipment or devices used.
   b. Before and after photographs, including close-up photographs showing extent of damages, if any.
   c. Strain gage measurement recordings, including drawings showing precise locations of strain gages and component deflections incurred.

6. Window Will Have Passed the Impact Load Test When:
   a. Impact test load has not broken through the polycarbonate and made penetration contact with enclosed air space.
   b. Polycarbonate security glazing, although damaged, remains firmly held in place within perimeter casement frame and glazing stops.
   c. Polycarbonate security glazing stops, although bent and deformed, remain firmly held in place within perimeter casement frame.
   d. Polycarbonate frame, although bent and deformed, remains firmly attached to window frame by operable hinges and casement security locks
   e. Window frame, although bent and deformed, remains firmly attached to test frame enclosure.

P. Maximum Allowable Frame Section Dimensions:
   1. Window Frame Depth: 3-1/2 inches.
   2. Combined Window and Sash Frame Widths:
      a. Exterior: 3-1/2 inches.
      b. Interior: 4-1/2 inches.

Q. Pressures and Test Loads:
   1. Design Pressure (DP): 40.0 psf.
      a. Anchors, Fasteners, and Hardware: 60.0 psf.
   2. Structural Test Pressure (STP): 60.0 psf.
   3. Water Test Pressure (WTP): 12.0 psf.
   4. Impact Load: 1800 ft lbs.

1.06 LABORATORY PERFORMANCE TESTS

A. Conduct laboratory performance tests, in accordance with specified standard test methods and procedures, on a test sample unit containing a fixed insulated transom panel above operable dual side-hinged inswinging sash unit unless noted otherwise.
   1. Test sample unit shall be complete with all components indicated for fabrication and installation on approved shop drawings.
   2. Test Sample Unit Type and Size: Window Type W2, for 4 feet 8 inches wide (+/-) by 6 feet 4 inches high (+/-) masonry opening.

B. Air Leakage; ASTM E 283, Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors:
   1. Maximum Allowable Air Infiltration and Exfiltration: 0.10 cfm/lin ft of crack perimeter at 6.24 psf uniform static air pressure difference between opposite sides of the test unit.

C. Structural Performance; ASTM E 330, Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference: Conduct uniform Load Deflection and Structural Tests first to the exterior (positive) side of the window, then to the interior (negative) side.

1. Uniform Load Deflection Test: No member shall deflect more than 1/175 of its span at 60 psf (STP) uniform static air pressure difference between opposite sides of the window.
2. Uniform Load Structural Test; at 60 psf (STP) uniform static air pressure difference between opposite sides of the window.
   a. No glass breakage or permanent damage to fasteners, hardware parts, support arms, actuating mechanisms, or other damage which would cause the window unit to be inoperable.
   b. Permanent deformation of individual frame, casement unit, or vent members shall not exceed 0.2 percent of its span.

D. Water Penetration:
1. ASTM E 331; Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
   a. No observable water leakage at 6.0 psf uniform static air pressure difference between opposite sides of the window.
2. ASTM E 547; Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential.
   a. No observable water leakage after 4 cycles at 6.0 psf uniform static air pressure difference between opposite sides of the window.

E. Vertical Deflection: AAMA GS-001, applied to both interior and exterior glazed casement units individually and in upright vertical positions.
1. Casement Unit Opening Positions: 45 degrees and 90 degrees (fully open).
2. Applied Load: 60 lb concentrated load applied downward, located at bottom unrestrained corner, for an undisturbed duration of 5 minutes.
3. The casement units and vents shall properly close and operate, and show no visible damage upon conclusion of the test.

F. Ventilator (Casement Unit) Torsion: AAMA GS-001, applied to both interior and exterior unglazed casement unit and vent frames supported in horizontal positions.
1. Horizontal Frame Support: Fulcrum support block and clamp, located at diagonally opposite corners of window frame in a horizontal plane, with one free corner loaded and diagonally opposite free corner securely held in position.
2. Applied Load: 20 lb load applied downward at unrestrained corner.
3. Maximum Deflection: 0.1875(A) inches, where (A) equals the inside unglazed surface area, in square feet, of the ventilator being tested.
4. Test each corner of each frame separately.

G. Impact Load: To simulate the impact load of a 200 lb running person, moving at the speed of 25 fps, striking the interior polycarbonate surface with their shoulder.
1. Impact Test Load: 1,800 ft lbs.
   a. Equipment and Method: Standard punching bag filled with lead shot weighing (w) lbs and allowed to free fall vertically downward from a pendulum length (l) feet measured

horizontally and vertically away from the point of impact. The pendulum swing shall be in a vertical plane perpendicular to the plane of the window at the point of impact.

b. Minimum Impact Load Calculation: Pendulum length (l) times weight (w) shall equal 1,800 ft lbs.

2. Securely fasten window in a frame assembly of the same configuration that is used in the actual field condition. Use the same type, number, size and location of frame anchors used in the actual field condition.
   a. The surrounding conditions, framing and window location within the masonry opening are shown schematically on the drawings.
   b. Verify field conditions and develop adequate framing and anchorage methods.
3. Conduct impact load tests sequentially at each of the following locations and include strain gage devices for recording window component deflections as part of the test procedure:
   a. At center of interior surface of inside casement glazing.
   b. Side of interior surface of inside casement glazing, 4 inches from lock side frame member and midway between locks.
   c. Side of interior surface of inside casement glazing, 4 inches from lock side frame member and directly opposite lowest lock.
4. Notify the Director in writing a minimum of 2 weeks prior to performing the impact load test, the date, time and location where the test is to be performed.
5. Impact Load Test Reports; Include the Following:
   a. Detailed description of test with drawings showing construction of window frame structural support and fasteners, fastener types and spacings, test apparatus, and other equipment or devices used.
   b. Before and after photographs, including close-up photographs showing extent of damages, if any.
   c. Strain gage measurement recordings, including drawings showing precise locations of strain gages and component deflections incurred.
6. Window Will Have Passed the Impact Load Test When:
   a. Impact test load has not broken through the polycarbonate and made penetration contact with enclosed air space.
   b. Polycarbonate security glazing, although damaged, remains firmly held in place within perimeter casement frame and glazing stops.
   c. Polycarbonate security glazing stops, although bent and deformed, remain firmly held in place within perimeter casement frame.
   d. Polycarbonate frame, although bent and deformed, remains firmly attached to window frame by operable hinges and casement security locks
   e. Window frame, although bent and deformed, remains firmly attached to test frame enclosure.

H. Acoustical Test: ASTM E 90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions, ASTM E 336 Test Method for Measurement of Airborne Sound Insulation in Buildings, and ASTM E 413 Classification of Rating Sound Insulation.
   1. Acoustical tests shall be conducted on operable sash unit only, excluding transom panel, and for both indoor and outdoor noise sources.
   2. Minimum Sound Transmission Class (STC): 39 dB.

I. Thermal Performance (U-Value): AAMA 1503.1, using 15 mph outdoor perpendicular wind speed, U-value shall not exceed 0.45 Btu/hr/ft2/F.
   1. Test Reports: Include detailed drawings of window and thermocouple locations, test measurements taken at each thermocouple, and copy of computations used to determine U-value ratings.

1.07 SUBMITTALS

A. Proposal Documents: Prior to submission of any other submittal requirements called for by this specification section, the Contractor shall submit “Proposal Documents” that satisfactorily represent the proposed construction methodology and details that will be used to execute the work. These drawings will not be construed as "Shop Drawings" and will not relieve the fabricator of the responsibility of providing "Shop Drawings" as specified herein. The “Proposal Documents” shall include, as a minimum, the following:
   1. The Contractor’s “take-off” of the number of Aluminum Security Windows that has been included in the bid proposal.
   2. Diagrams of the building façade (i.e., elevations) that have been color highlighted (or otherwise annotated) to illustrate all the elements that have been included in the scope of the bidder’s work. These diagrams may be versions of the Architect’s own elevation drawings that have been modified by the bidder for this purpose. However, the bidder must include in this package, all “hidden” elevations that the Architect may not have illustrated in the Contract Documents.
   3. A statement confirming the Contractor’s acknowledgement that the scope of work included in the proposal includes all items defined in Article 1.01 C of this Specification Section. Should the bidder take exception to any of the items described in that paragraph, an explanation shall be submitted.
   4. A list of all Contract Document Drawings and Specification Sections that form the basis of the bid and the date of issue of all such documents. This list shall, likewise, identify all addenda and formal correspondence with any members of the design team which the Contractor wishes to represent as having informed his proposal.
   5. A project schedule that outlines the Contractor’s understanding of the project schedule and addresses the following critical dates:
      a. Anticipated award of Contract/Notice to Proceed.
      b. Submission Schedule:
         1. Sample Submissions
         2. Visual Mock-Up Shop Drawings
         3. Visual Mock-Up Completion
         4. Procurement and Production Sequence

5. Production Shop Drawings and Calculations
6. Field testing scope and locations
7. Substantial Completion

6. Photographic images of previous projects of similar scale, detail and scope along with a directory (i.e., names, titles and phone numbers) of client references who could serve to validate representations of past performance.
7. A list of all subcontractors who will be furnishing components and/or services as part of this proposal.
8. Preliminary details of the following components:
9. Typical details including mullion details, anchor details, operable window details, head, jamb and sill details.
10. Manufacturer's catalog cuts of all exposed window hardware.
11. Acoustic test report of the proposed window with the proposed glass that meets the OITC rating specified in Article 1.06.H.

B. Waiver of Submittals: The “Waiver of Certain Submittal Requirements” in Section 013300 does not apply to this Section.

C. Submittal Packages: Submit the Quality Assurance Package prior to other submittal packages. After Quality Assurance Package is approved, submit the Aluminum Security Window Package (all the remaining specified submittal items listed below shall be submitted at the same time).

D. Quality Control Submittals:
1. Permits: Submit one copy of each permit.
2. Demolition Plan: For information only, submit one copy of the demolition plan required under Quality Assurance Article.

E. Quality Assurance Package:
1. Window Manufacturer’s Qualifications:
   a. Names, addresses and facility contacts of 5 similar projects where manufacturer’s aluminum security windows and all related hardware has been in operation for a minimum of 3 years.
2. Window Installation Company Qualifications:
   a. Name, business address and telephone numbers of the aluminum security window installation company.
   b. Names, addresses and facility contacts of 5 similar aluminum security window installation projects of this project’s size and scope this company has completed in past 3 years.
3. Window Installer’s Qualifications:
   a. Name of person supervising window installation and completion of Work of this section.
   b. Names, addresses and facility contacts of 5 similar aluminum security window installation projects this person has supervised in the past 3 years.
   c. Written certification from the aluminum security windows manufacturer the person supervising the Work is trained and qualified in the installation of the accepted aluminum security window products.

4. Window Contractor’s Qualifications:
   a. Name of person supervising the installation and completion of the Work of this section.
   b. Names, addresses and facility contacts of 5 similar aluminum security window projects of this project’s size and scope this person has supervised in the past 3 years.
5. Welders Qualifications:
   a. Name of person supervising any required welding and completion of Work related to this section.
   b. Names, addresses and facility contacts of 5 similar aluminum security window installation projects with any associated welding this person has supervised in the past 3 years.
   c. Written certification from the welding company the person supervising the associated welding Work is trained and qualified in welding as specified and/or indicated on the construction drawings.

F. Shop Drawings: Submit complete shop drawings, signed and sealed by a Professional Engineer licensed in the State of New York, showing fabrication and installation of the Aluminum and Glass Windows including plans, elevations, sections, details of components, and attachments to other components of Work. Show details of all conditions for every member, joint, anchorage and glazing system. Show details of support system, method of attachment, anchorage details and interface with adjacent work. Show all component locations and intersection details. Show method of isolating dissimilar materials. Show provisions for expansion and contraction. Show method of drainage of the system including gutters, weeps and flashings. Show all hardware associated with operable windows. Show re-glazing sequence.
   1. Assemble shop drawings of the principal component parts, into this submittal and prepare coordination details and erection diagrams for the Aluminum and Glass Windows. In addition, coordinate other work which is contiguous to or contained within the Aluminum and Glass Windows, but not part of the system, into this shop drawing submittal.
   2. Clearly identify on all shop drawings that information required from other related trades in order to complete the work represented on the submission. Identify all dimensions and conditions requiring field verification.
   3. Should, subsequent to initial review by the Architect, any shop drawing require resubmission, all revisions on that shop drawing shall be clearly noted by encircling (a.k.a. “clouding”) or otherwise clearly identifying all changes to the drawing. Re-submitted shop drawings containing revisions that have not been highlighted will be rejected.

G. Calculations: Provide the following calculations containing the seal and signature of a Professional Engineer licensed in the State of New York:
   1. Provide calculations indicating that all fasteners, anchors, clips, brackets, etc. have been designed to resist the loading specified herein.
   2. Submit calculations for each type, size and thickness of exterior glass for specified wind loads and thermal stress loads. Submit glass manufacturer's substantiating data.

3. Submit calculations for all applications of structural silicone sealant that indicate that stresses and safety factors in the proposed applications do not exceed those specified herein.

H. Thermographic Diagrams: To demonstrate compliance with the condensation resistance specified herein, submit thermographic diagrams for each proposed typical aluminum mullion indicating graphically the temperature gradient through the mullions for the ambient temperatures and humidity described in this Specification. Indicate the dew point at each instance.

I. Overall Thermal and Solar Performance Data: Using actual laboratory test data and/or computer modeling techniques recognized by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) or otherwise acknowledged by the New York City Energy Conservation Code, submit data defining the average U-value (summer and winter) and average Solar Heat Gain Coefficient (SHGC) for each window type incorporated in the façade of the building. Those calculations shall be based on the glass types specified herein and shall include glass, frames, sill starter, head receptor and jamb receptor if they are part of the assembly.

J. Manufacturer’s Product Data: Submit manufacturer’s product data for each product specified, including details of construction relative to materials, dimensions of individual components, profiles, and finishes.

K. Certifications: Upon substantial completion, submit the following:

1. Certification stating that the completed Aluminum and Glass Windows comply with these Specifications, that the component parts were properly designed or selected for the application made, and that installation methods complied with manufacturer's printed instructions and their field representatives' verbal instructions, and were proper and adequate for the condition of installation and use in each case, signed by the Contractor and the single firm awarded the Aluminum and Glass Windows enclosure system work.
2. Certification, Insulating Glass: Submit certification that the insulating glass units have been granted the IGCC classification "CBA" or equivalent SIGMA certification. Provide certification by the structural silicone sealant manufacturer that insulating glass unit secondary seals are compatible with the proposed structural silicone sealant.
3. Manufacturer’s and fabricator's certification that all paint finishes and coatings comply with the Contract Documents.
4. Welder certificates indicating that welders comply with requirements specified in "Quality Assurance", Article 1.07 E.5 of this Specification Section.
5. Installer certificates signed by manufacturer certifying that installers comply with requirements in "Quality Assurance", Article 1.08 of this Specification Section.
6. Provide certification from the sealant manufacturer confirming that the sealant manufacturer has reviewed all sealant details and tested all contact surfaces, and finds same suitable for use with proposed sealant, the purpose intended and compatible with the surfaces with which they

are in contact. The sealant manufacturer's certification shall include the following based upon tests performed on production run materials:

a. Adhesion test data to production samples of metal, glass and stone tested in accordance with ASTM C 794, establishing adhesive over the temperature range as described under the performance criteria section of the Specification.

b. Compatibility statement that the materials in contact with the sealant such as gaskets, spacers, setting blocks, are compatible with the sealant after 21 days exposure to ultra violet, 2000-4000 (micro watt u.v. radiation).

c. Statement confirming that the structural sealant dimensions (per shop details) when exposed to the specified wind load, the stress on the silicone sealant does not exceed 20 psi and represents a safety factor of no less than 5:1.

7. Provide certification and inspection reports confirming that the manufacturer of the structural silicone sealant used in the assembly of the Aluminum and Glass Windows has made regular inspections of glazing work in progress at the point of glazing for job production units to verify that glazing is proceeding in accordance with the sealant manufacturer's recommendations and the approved quality control program. The sealant manufacturer shall submit inspection reports covering his observations to the Architect and the Construction Manager.

L. Test Reports:

1. Product Test Reports: Submit test reports authored by an AAMA certified testing agency indicating that the window elements proposed for use have been certified for the AAMA performance grade specified herein. Provide product test reports based on evaluation of comprehensive tests performed within the last five (5) years by a qualified independent testing agency, for each type, grade, and size of Aluminum and Glass Window. Test results based on use of down-sized test units will not be accepted. In addition, submit up-to-date (within five (5) years) certified test reports from an independent testing laboratory stating that the windows have been tested and meet the performance requirements for condensation and thermal resistance and comply with referenced standards.

2. Window Cleaner Safety Anchor Test Report: Submit a test report confirming that the window cleaning safety anchors have been tested against the criteria outlined in Article 1.05.M of this Specification Section. The test report shall be signed and sealed by a Professional Engineer licensed in the state of New York.

3. Pre-construction Sealant Testing: Pre-construction testing program and test reports from the joint sealant manufacturer verifying the strength, compatibility and adhesion testing identified in Article 4.02 of the Specification Section.

4. Field Sealant Testing: Test reports evidencing compliance with the field testing of sealant as described in Article 4.03 E of this Specification Section.

5. Production Testing of Windows: Test reports evidencing compliance with the production testing of windows as described in Article 4.03 of this Specification Section.
6. Field Testing of Windows: Test reports evidencing compliance with the field testing of windows as described in Article 4.04 of this Specification Section.

7. Outdoor Indoor Transmission Class (OITC) Test Report.
   a. Provide test report from an independent laboratory substantiating that the window assembly satisfies the OITC rating specified in Article 1.06.H. Laboratory testing shall have been performed in accordance with ASTM E90-09. The OITC value shall have been calculated in accordance with ASTM E1332-10a.

M. Samples: Submit the following samples:
1. Samples for verification of each type of exposed aluminum finish required in manufacturer's standard sizes. Where finishes involve normal color and texture variations, include sample sets showing the full range of variations expected.
2. Samples of each type of glass, setting block, face shim, edge block, glazing sealant and gasket.
3. Glass: 12" x 12" specimen of the proposed insulating glass.
4. Samples of each exposed hardware component associate with operable vent windows - 2 of each item.
5. Complete Type W2 window unit with insulating panel above, fully glazed and all hardware in place, to represent the quality of materials and workmanship to be provided in other windows to be installed.
   a. Deliver sample window to Director’s Representative at the Site.
   b. Samples will be returned and, if approved, may be used in the work.

N. Glazing Schedule: Provide a glazing schedule utilizing the same designations shown on the Drawings listing glass types and thicknesses for each size opening and location.

O. Maintenance Manual: Provide a maintenance manual, describing the procedures to be followed in cleaning and maintaining the Aluminum and Glass Windows.

P. Warranties: Submit all warranties described in Article 1.10 of this Specification Section.

Q. Quality Control Submittals:
1. Test Reports: Certified laboratory and field performance test reports, bearing independent testing laboratory AAMA seal of approval and certification, for each test conducted.
   a. Test Reports: Include detailed drawings of windows and components tested showing size and location of all test loads and measuring devices used, tabulated record of readings and measurements taken, copies of any computations made using test

data, and any other information required by the standard test method or procedure.

2. Manufacturer's Warranty: Sample copy of window manufacturer's 10 year warranty covering workmanship and materials.

R. Survey of Existing Windows: The Contractor shall provide a detailed survey of ALL the existing windows, ALL glazing and ALL related parts and/or ALL paraphernalia of ALL that is stored in the four (4) existing trailers on the MPC-OMH site.

S. Contract Closeout Submittals:
1. Operation and Maintenance Data: Deliver 2 copies, covering the installed products, to the Director's Representative.
2. Manufacturer's Warranty: Copy of specified warranty.
3. Maintenance Training: VHS tape showing how the windows are to be operated and maintained plus eight hours of one or more periods of instruction to Facility maintenance personnel.

1.08 QUALITY ASSURANCE

A. Aluminum Security Windows Manufacturer's Qualifications: The manufacturer of aluminum security windows and all related hardware shall be regularly engaged in the production of such products, shall have furnished such products for 5 similar projects that have been in operation for a minimum of 3 years, and is subject to the Director's approval.

B. Aluminum Security Windows Company Qualifications: The Company installing the Work of this Section shall be experienced in aluminum security window work, and shall have been engaged in aluminum security window work of this project's size and scope for a minimum of 3 years.

C. Installer's Qualifications: The person supervising the Work of this Section shall be experienced in aluminum security window work, and shall have been engaged in the assembly and supervision of installation of aluminum security windows for a minimum of 3 years.

D. Pre-Installation Conference: Before the aluminum security windows are scheduled to be installed, the Director's Representative will call a conference at the site, for the purpose of reviewing the Contract Documents, shop drawings, approved submissions, and the requirements of the Work. The contractor, installers and their respective representatives shall attend. Other participants may be invited at the discretion of the Director.

E. Testing Agency: Specified laboratory and field performance tests shall be performed by an independent AAMA certified testing laboratory.

F. Field Example: Prior to installation of windows, install one mock-up window for review and approval of installation method and field impact load test if laboratory impact load test is required.

1.09 DELIVERY, STORAGE, AND HANDLING

A. Deliver window units assembled in sturdy, protective crates or cartons.
   1. Mark crates or cartons with sufficient identification for proper window location.

B. Store and handle windows in a manner that will not cause damage to the finish.

1.10 WARRANTY

A. Special Warranty: The one year period required by Paragraph 9.8 of the General Conditions is extended to 5 years for the work of this Section. Refer to Supplementary Conditions.

B. Manufacturer's Warranty: In addition to the 5 year period specified above, furnish the window manufacturer's printed 10 year warranty for the Work of this section.
   1. The warranty shall include but not be limited to; infiltration, leakage water penetration, glazing frame deflection or deformation, hardware, fasteners, venetian blinds, weatherstripping, finish durability (surface crazing, peeling, discoloration, blistering, or powdering), and other defects which would impair the aesthetic or performance properties of the window.

1.11 MAINTENANCE

A. Spare Parts: Furnish the following items in the manufacturer's original containers properly labeled with the names of the items and locations to be used. Match finishes of installed products. Store spare parts and special keys and tools at the Site where directed.
   1. Complete Windows:
      a. One of Type W1.
      b. One of Type W1-0.
      c. Four of Type W2.
      d. Two of Type W2-0.
      e. Two of Type W3.
      f. One of Type P1.
      g. One of Type P1-A.
      h. One of Type W6.
      i. One of Type P4.
   2. Hardware:
      a. Four pair of sash to frame hinges.
      b. Four pair of sash to sash hinges.
      c. Four pair of interior sash primary locks.
      d. Four pair of interior sash secondary locks.
      e. Four pair of sash latches.
      f. One hundred escutcheon shields.
   3. Glass: Four percent of each glass type and size, used in each window type. Minimum of one each. Verify dimensions in the field.

a. If exterior sash frame is designed in accordance with Subparagraphs 2.02 E.2.a. and 2.02 F.2.a. furnish preglazed sash frame.

4. Venetian Blinds:
   a. One hundred complete replacement units with controls.
   b. One hundred blind control knobs.
5. Keys and Special Tools:
   a. One hundred and fifty primary lock keys.
   b. Fifty secondary lock keys.
   c. All keys shall be keyed as specified.
   d. Oval head manual driver and power tool bit for each type of tamper-resistant screw and bolt size installed.

PART 2 PRODUCTS

2.01 ALUMINUM WINDOW CATEGORY

A. Comply with the AAMA NAFS A440-08 requirements for Architectural Grade (AW Performance Grade) Windows for the following window types:
   1. Side Hinged Inswinging Casement Units: Dual sash unit, double-glazed with Type S-1 Security Glass in the interior sash and Type D Glass in the exterior sash.
      a. Hinge the inswinging dual sash unit to provide independent hinging of the interior sash for maintenance access to air space and venetian blind between the interior and exterior sashes.
   2. Fixed Units: Fixed units glazed with Type M insulated glass, and fixed insulated panels where indicated.
   3. Projected Units: Top hinged projected out glazed with Type M insulated glass, with fixed units above, and louvers where indicated.

2.02 MATERIALS

A. Aluminum Shapes: ASTM B 221, extruded aluminum, 6063 T5 or T6 temper.
   1. Minimum Wall Thickness: 1/8 inch.
      a. Type S-1 Glazing Stops: 3/16 inch minimum thickness.
   2. Interior Sash Rabbet Depth: Fabricate interior sash extrusion to provide a minimum of 1-1/4 inch rabbet depth for a one inch bite and 1/4 inch setting block required for Type S-1 security glass.

B. Window Frame: Extend above dual sash unit and transom bar to enclose fixed insulating panel where required.
   1. Transom Bar Section: Same width and depth as window frame.
   2. Unsupported Extrusion Legs: Provide increased thickness, or concealed and thermally nonconductive connecting supports, to reduce deflection and deformation of unsupported extrusion legs.
   3. Drainage: Provide frame chambers and transom bars with concealed drainage downward to exterior egress at bottom of sill section.

4. Anchors: Use concealed clips designed and installed to withstand impact load. Bolt anchors may penetrate jamb and head sections only where adjacent exposed finishes do not allow concealment of clips.
5. Thermal Barrier: Continuous poured in place and interlocking polyurethane bridge with 3/8 inch minimum separation between exterior and interior aluminum frame contact surfaces.

C. Starter Sill: Extruded Aluminum starter sill with sealed end dams secured with a minimum of two fasteners.

D, Jamb Receptor: Two piece extruded aluminum jamb receptor. Tested to resist the impact load rebound.

E. Interior Sash Frame: Extrusion shall include lip projection to cover exposed inner edge of Type S-1 perimeter glazing material.

F. Concealed Security Eyelet: One stainless steel concealed security eyelet for interior window washer at each dual inswinging operable unit.
1. Location: On lock side of the window between window and operable sash frames.
2. Applicable Safety Regulations: Comply with ANSI A39.1, New York State Labor Department (NYSDOL), Industrial Code Rule No. 21, and Occupational Safety and Health Act (OSHA) requirements.
   a. Minimum Load Capacity: 5,000 ft lbs.
3. Style: Model WGS-SE by Weatherguard Service, Inc., PO Drawer F, Marietta, GA 30061, (770) 422-4808.
4. Structural Anchorage: Stainless steel bolted connection, through window frame and steel backer plate, secured to jamb structural support as required.

G. Glazing Stops:
1. Interior Sash: Extruded 90 degree angular snap-in stop, 3/16 inch thick and located on outer side of sash, secured in place with 3 No. 12 flat head stainless steel screws.
   a. Screws shall be located at center and one-third the distance from each end of the stop to the center screw.
2. Exterior Sash; Either of the Following:
   a. Structural glazing with a disposable sash frame.
   b. Extruded snap-in stop located on inner side of sash.

H. Reglazing Methods: Design and fabricate the window to allow reglazing as indicated.
1. Interior Sash: Remove and reinstall glazing stops on outer side of sash.
2. Exterior Sash; Either of the Following:
   a. Remove and replace entire sash frame, including glazing.
   b. Remove and reinstall glazing stops to reglaze sash.

I. Window Frame Gaskets: Extruded elastomeric neoprene or EPDM, type recommended by window manufacturer, with integral flanges on each side, continuous and without splices except at integrally sealed corners.

1. Gasket Between Casements: Same as window frame gasket material but with minimal compressibility to prevent exterior sash inward deformation during designed wind load and laboratory test conditions.

J. Window Fasteners: Concealed non-magnetic stainless steel with visible heads, exposed within enclosed air space when interior casement is open, finished to match adjacent surfaces.
   1. Flush Fastener Heads: Phillips head.
   2. Raised Fastener Heads:
      a. Hexagonal head for attaching window frame and concealed clips to surrounding perimeter enclosure.
      b. Oval head tamper resistant fasteners by Avdel Division of Newman Industries, Inc., 50 Lackawanna Ave., Parsippany, NJ 07054, (201) 263-8100

K.. Anchors: Window manufacturer’s recommended anchorage devices and methods. Provide brackets or clips with fasteners that do not penetrate the window frame members.

L. Hardware for Inswinging Casements:
   1. Hinges: Extruded aluminum and fully concealed, with 1/4 inch diameter stainless steel pin, designed to allow interior sash unit to open not less than 85 degrees.
      a. Number of Hinges per Sash: One pair for sash heights less than 4 feet and 1-1/2 pair for sash heights 4 feet or greater.
   2. Interior Sash Primary Locks; Either of the Following:
      a. Concealed Three-Point Security Lock: Model No. 107 by Kane Manufacturing Corp., 515 N. Farley St., Kane, PA 16735, (800) 952-6399.
         1) Locate horizontal slide bolts at top and bottom of interior sash (lock side) frame and horizontal slide bolt at center.
         2) Escutcheon Shield: 1-1/2 inch diameter stainless steel around exposed keyhole, permanently affixed and unremovable from exposed side of sash frame.
         3) Keying: Key primary locks alike, with 36 keys total.
      b. Friction Pin Locks: Three concealed cam locks, series 300 stainless steel, friction pin with adjustable strikes and keepers, operable by custodial wrenches that can only be removed when sash is locked.
         1) Cam locks shall be hidden behind sash frame opening for custodial wrench.
            a) Escutcheon Shield: 1-1/2 inch diameter stainless steel around exposed keyhole, permanently affixed and unremovable from exposed side of sash frame.
         2) Locate top and bottom locks one-sixth the sash height maximum below and above horizontal sash members. Locate center lock midway between top and bottom locks.

3) Custodial wrenches shall fit tightly and snugly into escutcheon, frame, and lock openings. Wrenches shall have a 1/4 inch diameter hole in the handle for attachment to metal rings and chains.
4) Install friction pin locks so that cams rotate in an upward direction to open.
5) Filing of friction pin locks is not permitted. Make adjustment for proper fit by changing the thickness of the friction pin lock adjuster.

3. Interior Sash Secondary Lock: Gem 7 pin tumbler, cylinder cam lock, with circular keyway and high security tumbler by Fort Lock Corp., 300 N. River Rd., River Grove, IL 60171-1097, (708) 456-1100. Provide two cylinder locks per window. Key shall be removable from lock only when lock is in locked position.
   a. Location: Six inches maximum from head and sill.
   b. Center lock upon a 1-1/2 inch diameter stainless steel escutcheon shield, permanently affixed and unremovable from exposed side of sash frame.
   c. Keying: Key secondary locks alike, with 36 keys total.
   d. Install cam locks so that cams rotate in an upward direction to open.
   e. Secure cam locks to the sash with a locking nut or tabs that are mechanically fastened to the sash. Tabs secured to the sash with glue alone are not permitted.
4. Adjustable Limit Devices: Model No. 37-34-00-101 by Truth Hardware, 701 W Bridge Ave., Owatonna, MN 55060, (800) 806-6167, installed at head and sill between interior sash and window frame, to allow and limit sash opening to 6 inches maximum measured from the outer edge of the window sash to the adjacent wall on the strike side.
5. Sash to Sash Locks: Two mechanical locking devices per window to keep interior and exterior sash together while window is being opened or closed and in either open or closed positions.
   a. Location: At one-fourth the frame height, below and above the horizontal frame members.

M. Venetian Blinds: Manufacturer's product designed for installation and use within window enclosed air space between exterior and interior inswinging casements.
1. Head Channel: Extruded Aluminum, 6063-T5 Temper, one inch wide by 7/8 inch high maximum size by 0.050 inch minimum thickness; furnished complete with tilting mechanism, and lifting mechanism, cord lock, stiffeners, ladder drums and cradles, installation brackets, and accessory items required for type of blind and installation indicated.
   a. Concealed head channel between interior and exterior top glazing stops.
   b. Tilting Mechanism: Tilter assembly designed to position tilt of slats at desired angle with smooth operation.
      1) Tilt Mechanism: Manually operated from recessed aluminum control knob, located on interior hinge-side surface of interior inswinging casement frame,

connected to head channel tilt mechanism by a concealed neoprene covered woven bronze flexible wire cable with tubular bronze connectors.

a) Equip tilt mechanism with overload protector to disengage tilter assembly when excessive torque is applied at tilt control knob.

b) Tilt Control Knob: Aluminum, finished to match adjacent frame surface, with nylon bushings and concealed fasteners.

c. Lifting Mechanism: Designed to smoothly raise and lower slats to any up or down position while maintaining horizontal angle position of slats.

1) Equip lifting mechanism with crash-proof cord lock that automatically locks blind into position upon release of lift cord.

a) Cord Lock: Steel, 0.025 inch minimum thickness, securely attached to head channel.

b) Cord: Braided polyester, 130 pound minimum tensile strength, located on lock side of interior casement frame, furnished with cord separators and ring at end.

c) Cord Attachment: Concealed frame mounted hooks, with finish to match adjacent frame surface, for concealed ring attachment of cord when blind is in any up or down position.

2. Slats: Aluminum alloy, 1 inch wide and 0.008 inch thick, with rounded end corners and elliptical crown formed after finish coating and curing.

a. Slat Length: Width of enclosed air space minus 1/2 inch for 1/4 inch maximum end clearance at each casement frame jamb.

b. Finish: Polyester baked enamel, one mil minimum thickness.

3. Bottom Rail: Aluminum, one inch by 3/8 inch maximum size by 0.050 inch minimum thickness; with molded plastic end caps and hold-down pins, ladder retainers, and metal jamb-type hold down brackets.

a. Finish: Polyester baked enamel, one mil minimum, over vinyl or epoxy primer.

b. Hold-down Brackets: Finish color to match adjacent casement frame color.

4. Ladders: Braided polyester yarn, spaced not more than 24 inches apart and not less than 6 inches from slat ends, secured to ladder drum in head channel and bottom rail at sill.

a. Ladder Length: As required to tautly secure bottom rail to jamb mounted hold-down brackets and within 5/8 inch clearance between bottom rail and casement frame.

5. Ladder Drum and Cradle: One for each ladder.

a. Ladder Drum and Cradle: Steel, or plastic with a two piece plated steel roller and pin assembly.

1) Provide ladders with crimped metal ends, to prevent unraveling, before attachment to ladder drum.

6. End Braces: Steel, 0.024 inch (24 gage) minimum thickness, with reinforcing ribs and field adjustable tabs, finished to match head channel.

7. Installation Brackets: Steel, 0.038 inch (20 gage) minimum thickness, with rivet hinged safety locking front cover, finished to match head channel.
   a. Securely mount installation brackets to casement frame using concealed fasteners. Allow for easy removal and replacement of blind by opening and closing installation bracket front covers.
8. Color: Except as otherwise noted, color shall be ivory white throughout including slats, cords, ladders, and other exposed surface accessories.

N. Window Sill Extensions: Extruded aluminum, 6063 T5 or T6 temper. Color to match window finish. Configurations as indicated on the Drawings.

O.. Mullion Closure Panels: Extruded aluminum, 6063 T5 or T6 temper. Color to match window finish. Configurations as indicated on the Drawings.

P. Aluminum Joint Sealer: Silicone rubber in color to match exposed adjacent surface.

2.03 FINISHES

A. Prepare surfaces for finishing in accordance with the Aluminum Association recommendations and standards.

B. Unless otherwise specified, finish all exposed aluminum surfaces.
   1. Aluminum finishing and color applications shall be within the range of approved samples. All frame members on the same window shall be of the same color.

C. Aluminum Finish: Color Anodized, NAAMM AA-#########, heavy colored, (minimum thickness 0.7 mils), custom color to match existing anodized finish (Refer also to 085653-1.07 G.).

2.04 FABRICATION JOINTS AND WIDTHS

A. Miter corner joints and butt joint horizontal transom bar to vertical jamb at window frame.

B. Maximum Miter and Butt Joint Widths:
   1. Exterior: 0.015 inch.
   2. Interior: 0.010 inch.

C. Maximum Change In Plane (Step) Across Joints: 0.012 inch.

D. Maximum Shift In Plane Between Two Members On Opposite Sides of the Same Joint: 0.020 inch.

E. Maximum Shift in Visual Alignment Between Mitered Interior Sash and Window Frame Joints: 0.062 inch.

2.04 ACCEPTABLE WINDOW MANUFACTURERS

A. The following manufacturers of Aluminum and Glass Windows will be considered for this application. Other manufacturers of comparable quality will be entertained pending prior approval of the Owner.
MIAMI WALL SYSTEMS, INC. 701 W 25th Street, Hialeah, FL 33010
THOMAS MANUFACTURING INC. 630 Ramsey Ave. Hillside, NJ 07205
ARCHITECTURAL WINDOW MANUFACTURING CORP. 359 Veterans Blvd. Rutherford, NJ 07070
PIONEER WINDOW MANUFACTURERING Expressway Plaza, Suite 221 Roslyn Heights, New York 11577
SKYLINE WINDOWS 220 East 138th Street Bronx, NY 10451

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Examine surfaces to receive windows for defects that will adversely affect the execution and quality of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 PREPARATION

A. Coat aluminum surfaces in contact with masonry or incompatible metals with bituminous coating.

3.03 INSTALLATION

A. Install the Work of this Section in accordance with the manufacturer's printed instructions, except as shown or specified otherwise.

B. Anchor window units securely in place, plumb, level, aligned, without warp of frames or sash.

3.04 FIELD PERFORMANCE TESTS

A. Field performance tests shall be conducted by an independent AAMA approved and certified testing laboratory, employed by the window manufacturer, upon ten (10) windows randomly selected by the Director's Representative upon completion of window installations.
1. Field performance tests shall be conducted in presence of the Director's Representative.
2. Correct test failure deficiencies and retest the window until field performance test is passed.
3. If two or more windows fail the same test, the test shall be repeated on 10 additional windows, not previously tested, selected by the Director's Representative.
   a. For each subsequent set of two or more window test failures, the same procedure shall be repeated until the tests statistically

demonstrate that at least 90 percent of the installed windows pass each of the specified field performance tests.

4. Field performance tests shall be for window assembly only and shall not include perimeter crack between window frame and surrounding adjacent wall construction.

B. Air Leakage; ASTM E 783, Field Measurement of Air Leakage Through Installed Exterior Windows and Doors:
   1. Installed windows shall not exceed 0.15 cfm/lin ft of crack perimeter at 6.24 psf uniform static air pressure difference between opposite sides of the window.

C. Water Penetration; AAMA 501.3, Field Check for Water Penetration Through Installed Exterior Windows, Curtain Walls, and Doors by Uniform Static Pressure:
   1. Installed windows shall show no indication of water penetration at 8.0 psf uniform static air pressure difference between opposite sides of the windows.

D. Vertical Deflection; AAMA GS-001, applied to both interior and exterior casement ventilators separately and individually:
   1. Casement Unit Opening Positions: 45 degrees and 90 degrees (fully open).
   2. Applied Load: 60 lb concentrated load applied downward, located at bottom unrestrained corner, for an undisturbed duration of 5 minutes.
   3. The casement units and vents shall properly close and operate, and show no visible damage upon conclusion of the test.

3.05 ADJUSTING

A. Adjust movable components and hardware for smooth operation.

3.06 CLEANING

A. Clean exposed surfaces, including blinds and surfaces within the enclosed air space, without damaging finishes.

PART 4 – QUALITY CONTROL

4.01 GENERAL

A. Provide and maintain an effective Quality Control program and perform sufficient inspections, surveys and tests of all items of the Aluminum Security Window Work, including those of other trades, to ensure compliance with the Contract Documents and the requirements of the local authorities having jurisdiction. Furnish appropriate facilities, accurately calibrated instruments and testing devices required to perform the quality control operations and with sufficient work forces to cover the construction operations within the actual construction sequences. Coordinate this work with the quality control

requirements with requirements of the Owner and governing authorities having jurisdiction.

4.02 PRECONSTRUCTION MOCKUP TESTING

A. The mock-up specimen shall be subjected to performance testing either at an independent laboratory specializing in such procedures or at the window manufacturer's facilities under the supervision of a testing agency. The Contractor shall engage a recognized independent testing agency which is equipped and experienced in conducting the required tests and approved by the Owner.

B. Prior to construction of and testing of the mock-up, all required shop drawings, calculation and sample submittals shall have been reviewed and received final action. Notify the Director's Representative of the readiness of the mock-up for preliminary and final testing. Do not begin the testing program without the presence of the Director's Representative.

C. Conduct tests of specimen under the direction of an approved testing agency in the presence of the Contractor and the Director's Representative. The client OMH might also request they have a representative be present for any testing. Proceed with each test only after acceptance of the detailed outline of test procedure and approval of each mock-up assembly.

D. Prepare a sample specimen with complete perimeter components installed. Use the same materials, finishes, details, methods and anchorage system proposed for the actual window system. Simulate actual construction conditions as accurately as possible in every way. Provide extra materials as may be required to replace any which fail during tests, except intentional failure tests beyond specified performance requirements. No pretesting of the mock-up may be undertaken without written approval.

E. The testing protocol shall include the following procedures:
Preload mock-up assembly to 50% of the maximum positive and maximum negative design wind pressures. Hold each load for 10 seconds.
Perform 5 cycles of operating the operable vent windows that are incorporated in the mock-up. One cycle includes unlatching, opening, closing and re-latching.
Test for Air Infiltration (Static Pressure): ASTM E 283, except test pressure difference shall be 6.24 psf. Air leakage of 0.1 cfm/sf is permitted.
Test for Water Penetration (Static Pressure): ASTM E 331 with a water application rate of 5 gph/ft2 for 15 minutes. Test to 10 psf. No water penetration permitted.
Test for Structural Performance: ASTM E 330.
Re-test for Air Infiltration (Static Pressure): ASTM E 283, except test pressure difference shall be 6.24 psf. Air leakage of 0.1 cfm/sf is permitted.
Re-test for Water Penetration (Static Pressure): ASTM E 331 with a water application rate of 5 gph/ft2 for 15 minutes. Test to 10 psf. No water penetration permitted.
Correct any deficiencies in the mock-up observed during testing and repeat tests as may be required to show compliance with the specified performance standards

and the Contract Documents. Resubmit any submittals affected by these corrections. Deficiencies requiring repair or modification to the mock up shall mandate a complete retesting of the mock-up beginning with the specified Preliminary Test unless otherwise directed by the Architect. The Contractor shall bear all costs for additional retesting until compliance with the performance standards is accomplished. Incorporate corrective measures indicated by the test report into the final window assemblies after review by the Architect.

F. Impact Load Test: The testing protocol shall include the following in a sample installation of the Owner Furnished window in the remediated furnished assembly to simulate the impact load of a 200 lb running person, moving at the speed of 25 fps; striking the interior polycarbonate surface with their shoulder.

1. Impact Test Load: 1,800 ft lbs.
   Equipment and Method: Standard punching bag filled with lead shot weighing (w) lbs and allowed to free fall vertically downward from a pendulum length (l) feet measured horizontally and vertically away from the point of impact. The pendulum swing shall be in a vertical plane perpendicular to the plane of the window at the point of impact.
   Minimum Impact Load Calculation: Pendulum length (l) times weight (w) shall equal 1,800 ft lbs.
2. Securely fasten window in a frame assembly of the same configuration that is used in the actual field condition. Use the same type, number, size and location of frame anchors used in the actual field condition. The surrounding conditions, framing and window location within the masonry opening are shown schematically on the drawings. Verify field conditions and develop adequate framing and anchorage methods.
3. Conduct impact load tests sequentially at each of the following locations and include strain gage devices for recording window component deflections as part of the test procedure: At center of interior surface of inside casement glazing. Side of interior surface of inside casement glazing, 4 inches from lock side frame member and midway between locks. Side of interior surface of inside casement glazing, 4 inches from lock side frame member and directly opposite lowest lock.
4. Notify the Director in writing a minimum of 2 weeks prior to performing the impact load test, the date, time and location where the test is to be performed.
5. Impact Load Test Reports; Include the Following:
   Detailed description of test with drawings showing construction of window frame structural support and fasteners, fastener types and spacings, test apparatus, and other equipment or devices used. Before and after photographs, including close-up photographs showing extent of damages, if any. Strain gage measurement recordings, including drawings showing precise locations of strain gages and component deflections incurred.
6. Window Will Have Passed the Impact Load Test When: Impact test load has not broken through the polycarbonate and made penetration contact with enclosed air space. Polycarbonate security glazing, although damaged, remains firmly held in place within perimeter casement frame and glazing stops. Polycarbonate security glazing stops, although bent and deformed, remain firmly held in place within perimeter casement

frame. Polycarbonate frame, although bent and deformed, remains firmly attached to window frame by operable hinges and casement security locks. Window frame, although bent and deformed, remains firmly attached to test frame enclosure.

4.03 FIELD QUALITY CONTROL

A. At regular intervals during the course of the work, a representative of the window manufacturer shall visit the site to inspect the on-going installation of the windows. The schedule of such visits shall be established at the "Pre Installation Conference" (1.4 I), but no less than two (2) such visits (in addition to the initial visit described in item "B" below) shall be undertaken. The manufacturer's representative shall promptly prepare a written report of all such visits. Copies of those reports shall be submitted to the Director's Representative.

B. In addition to the site visits described in item "A" above, a representative of the window manufacturer shall be present at the site to supervise the initial installation of each window type. The representative shall instruct the erection crew on all matters related to proper handling and installation of each window type. The representative shall, upon completion of the exercise, prepare a written report certifying that the installers have been suitably trained in the installation techniques required for each window type. The Contractor shall submit copies of such certification to the Architect.

C. The Owner may retain an agent to perform inspection services for the Aluminum and Glass Window work required for the Project including but not limited to inspection of Aluminum and Glass Window work at the project site and, if work is performed off site, inspection of Aluminum and Glass Window work in fabrication plants. Inspections performed by the Owner's agent shall not relieve the Contractor of his responsibilities under this contract. Furnish the Owner's agent with the access to the Work, materials and facilities as may be required by him. Provide adequate notice of construction activities to allow timely inspections and observation of tests.

D. The Owner's agent may perform inspection of the Aluminum and Glass Window work during construction to satisfy governing authority having jurisdiction and the quality control established for the Project by the Contract Documents.

E. Field Testing of Completed Aluminum and Glass Windows: The following field testing installed Aluminum and Glass Windows will be conducted by the Contractor and witnessed by the Owner, and the Owner's agent:

1. After the installation of the typical windows (and allowing sufficient time for the curing of contiguous sealants), undertake field testing of two (2) selected windows to verify the airtightness and watertightness of the assembly. The protocol for this testing shall comply with AAMA Standard 502-12 – "Voluntary Specification for Field Testing of Newly Installed Fenestration Products". The Owner shall identify the exact location of the test specimens. Engage the services of an independent testing agency acceptable to the Owner and the Architect to execute this test. Promptly upon completion of the test, issue a written report

describing all observations and identifying what, if any, remedial work must be undertaken. If the initial tests fail, repair the test specimen as required and repeat the testing until compliance with the specified performance criteria is demonstrated.

END OF SECTION

GMS/DWM

SECTION 099101

CONSTRUCTION PAINTING

PART 1 GENERAL

1.01 DEFINITIONS

A. The word “paint” in this Section refers to substrate cleaners, fillers, sealers, primers, undercoats, enamels and other first, intermediate, last or finish coatings.

B. The word “primer” in this Section refers to substrate cleaners, fillers, sealers, undercoats, and other first or intermediate coats beneath the last or finish coating.

C. The words “finish paint” in this Section refers to the last or final coat and previous coats of the same material or product directly beneath the last or final coat.

D. Finish Paint Systems: Finish paint and primers applied over the same substrate shall be considered a paint system of products manufactured or recommended by the finish coat manufacturer.
   1. Finish paint products shall meet or exceed specified minimum physical properties.

1.02 SUBMITTALS

A. Painting Schedule (At the discretion of the Director’s Representative): Cross-referenced Painting Schedule listing all exterior and interior substrates to be painted and specified finish paint type designation; product name and manufacturer, recommended primers and product numbers, and finish paint color designation for each substrate to be painted.
   1. Designate exterior substrates by building name and number, substrate to be painted and surface location.
   2. Designate interior substrates by building name and number, floor, room name and number, and surface to be painted.

B. Product Data Sheets: Manufacturer’s published product data sheets describing the following for each finish paint product to be applied:
   1. Percent solids by weight and volume, solvent, vehicle, weight per gallon, ASTM D 523 gloss/reflectance angle, recommended wet and dry film thickness, volatile organic compound (VOC) content in lbs/gallon, product use limitations and environmental restrictions, substrate surface preparation methods, directions and precautions for mixing and thinning, recommended application methods, square foot area coverage per gallon, storage instructions, and shelf-life expiration date.
   2. Manufacturer’s recommended primer for each finish paint product and substrate to be painted.
   3. Manufacturer’s complete range of available colors for each finish paint product to be applied.

C. Finish Paint Type Samples (At the discretion of the Director's Representative): Two finish paint samples applied over recommended primers for each substrate to be painted.
   1. Samples shall be in the designated color and specified ASTM D 523 reflectance.
   2. Label each sample with the following information:
      a. Project number and Painting Schedule designation describing substrates and locations represented by the sample.
      b. Finish paint and primer manufacturer, product names and numbers, finish paint color and reflectance.
   3. Leave a 1 inch wide exposed strip of unpainted substrate and each coat of primer and finish paint.
   4. Sample Sizes:
      a. Wall Substrates: 12 inch square panels.
      d. Steel Angle Lintels: 8 inch long steel angles – minimum L 3" x 3".

D. Quality Control Submittals:
   1. Test Reports: Furnish certified test results from an independent testing laboratory, showing that products submitted comply with the specifications, when requested by the Director's Representative
   2. Certificates: Furnish certificates of compliance required under QUALITY ASSURANCE Article.

1.03 QUALITY ASSURANCE

A. Volatile Organic Compounds (VOCs) Regulatory Requirements: Chapter III of Title 6 of the official compilation of Codes, Rules and Regulations of the State of New York (Title 6 NYCRR), Part 205 Architectural Surface Coatings.
   1. Certificate of Compliance: List of each paint product to be delivered and installed. List shall include written certification stating that each paint product listed complies with the VOC regulatory requirements in effect at the time of job site delivery and installation.

B. Container Labels: Label each product container with paint manufacturer's name, product name and number, color name and number, thinning and application instructions, date of manufacture, shelf-life expiration date, required surface preparations, recommended coverage per gallon, wet and dry film thickness, drying time, and clean up procedures.

C. Field Examples (At the discretion of the Director's Representative):
   1. Prior to on-site painting, at locations designated by the Director's Representative, apply field examples of each paint type to be applied.
   2. Field examples to be applied on actual substrates to be painted and shall duplicate earlier approved paint samples.
      a. Interior field examples to be applied in rooms and spaces to be painted with the same products.
      b. Field Example Minimum Wet and Dry Film Thickness: As indicated on approved product data sheet.

c. Application: Apply each coat in a smooth uniform wet mil thickness without brush marks, laps, holidays, runs, stains, cloudiness, discolorations, nail holes and other surface imperfections.
   1) Leave a specified exposed width of each previous coat beneath each subsequent coat of finish paint and primer.

d. Use of Field Examples: Field examples shall serve as a quality control standard for acceptance or rejection of painting Work to be done under this Section.

3. Field Example Sizes:
   a. Wall Examples: 200 square feet with 2 foot wide strips.
   b. Door and Frame Examples: One door and frame with 12 inch wide horizontal strips.
   c. Linear Substrate Examples: 20 lineal feet with 12 inch long strips.

4. Do not begin applying paints represented by field examples until examples have been reviewed and approved by the Director's Representative.
   a. Protect and maintain approved field examples until all painting work represented by the example has been completed and approved.

D. Compatibility of Paint Materials: Primers and intermediate paints shall be products manufactured or recommended by the finish paint manufacturer.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to the Site in original, unopened containers and cartons bearing manufacturer's printed labels. Do not deliver products which have exceeded their shelf life, are in open or damaged containers or cartons, or are not properly labeled as specified.

B. Storage and Handling: Store products in a dry, well ventilated area in accordance with manufacturer's published product data sheets. Storage location shall have an ambient air temperature between 45 degrees F and 90 degrees F.

1.05 PROJECT CONDITIONS

A. Environmental Requirements:
   1. Ambient Air Temperature, Relative Humidity, Ventilation, and Surface Temperature: Comply with paint manufacturer's published product data sheet or other printed product instructions.
   2. If paint manufacturer does not provide environmental requirements, use the following:
      a. Ambient Air Temperature: Between 45 degrees F and .75 degrees F.
      b. Relative Humidity: Below 75 percent.
      c. Ventilation: Maintain the painting environment free from fumes and odors throughout the Work of this Section.

d. Surface Temperature: At least 5 degrees F above the surface dewpoint temperature.

3. Maintain environmental requirements throughout the drying period.

B. The following items are not to be painted unless otherwise specified, noted or directed:

1. Exposed stainless steel, chrome, copper, bronze, brass, and aluminum.

1.06 EXTRA MATERIALS

A. Provide extra finish paint materials, from the same production run as paints to be applied, in the following quantities for each color installed (At the discretion of the Director's Representative):

1. Paint Types EAL-3 and IAL-2: One gallon, each type.

PART 2 PRODUCTS

2.01 PAINT MANUFACTURERS

A. Where noted, the following finish paint manufacturers produce the paint types specified.

1. Ameron Protective Coatings, 201 Berry St., Brea, CA 92621, (800) 926-3766.
2. Benjamin Moore and Co., 51 Chestnut Ridge Rd., Montvale, NJ 07645, (201) 573-9600.
3. ICI Dulux Paints, 4000 Dupont Cr., Louisville, KY 40207, (800) 984-5444.
4. Inorganic Coatings, Inc., 500 Lapp Rd., Malvern, PA 19355 (800) 345-0531.
5. PPG Architectural Finishes, One PPG Plaza, Pittsburgh, PA 15272, (800) 441-9695.
6. Sherwin-Williams Co., Cleveland, OH 44101, (800) 321-8194.
7. Valspar Corp., 1401 Severn St., Baltimore, MD 21230, (800) 638-7756.

2.02 MISCELLANEOUS PRODUCTS

A. Bedding Compound: Water based pre-mixed gypsum wallboard joint compound.

B. Cleaning Solvents: Low toxicity with flash point in excess of 100 degrees F.

C. Color Pigments: Pure, nonfading, finely ground pigments with at least 99 percent passing a 325 mesh sieve.

1. Use lime-proof color pigments on masonry, concrete and plaster.
2. Use exterior pigments in exterior paints.

D. Galvanizing Compound, Cold: Single component compound with 93 percent pure zinc in the dried film and meeting the requirements of DOD-P-21035A (NAVY).

E. Masking Tape: Removable paper or fiber tape, self-adhesive and nonstaining.

F. Metal Filler: Polyester resin base autobody filler.

G. Mineral Spirits: Low odor type recommended by finish paint manufacturer.

H. Spackling Compound: Water based pre-mixed plaster and gypsum wallboard finishing compound.

I. Stain Blocker, Primer-Sealer: As recommended by finish paint manufacturer.

J. Turpentine: ASTM D 13.

2.03 FINISH PAINT TYPES

A. Physical Properties:
1. Specified percent solids by weight and volume, pigment by weight, wet and dry film thickness per coat, and weight per gallon are minimum physical properties of acceptable materials.
   a. Opaque Pigmented Paints: Physical properties specified are for white titanium dioxide base before color pigments are added.
   b. Specified minimum wet and dry film thickness per coat are for determining acceptable finish paint products. Minimum wet and dry film thickness per coat to be applied shall comply with approved finish paint manufacturer's product data sheets.
2. Gloss or Reflectance: The following ASTM D 523 specified light levels and angles of reflectance:
   a. Flat: Below 15 at 85 degrees.
   b. Eggshell: Between 5 and 20 at 60 degrees.
   c. Satin: Between 15 and 35 at 60 degrees.
   d. Semigloss: Between 30 and 65 at 60 degrees.
   e. Gloss: Over 65 at 60 degrees.

B. Exterior Finish Paint Types:
1. Paint Type EAL-3: Exterior Acrylic Latex, Gloss Enamel.
   a. Solids by Weight: 40.0 percent.
   b. Solids by Volume: 32.0 percent.
   c. Solvent: Water.
   d. Vehicle: 100 percent acrylic resin.
   e. Weight Per Gallon: 10.0 lbs.
   f. Wet Film Thickness: 3.4 mils.
   g. Dry Film Thickness: 1.2 mils.
   h. Manufacturers: Benjamin Moore, PPG, Sherwin- Williams.
2. Paint Type ESP: Exterior Steel Zinc-Rich Primer, Flat.
   a. Solids by Weight: 79.0 percent.
   b. Solids by Volume: 68.0 percent.
   c. Pigment by Weight: 90.0 percent zinc.
   d. Solvent: Water.
   e. Weight per Gallon: 24.6 lbs.

f. Dry Film Thickness: 3.0 mils if finish coated, 4.0 mils if not finish coated.
g. Manufacturers: Ameron Protective Coatings, Inorganic Coatings, Valspar.

C. Interior Finish Paint Types:
1. Paint Type IAL-2: Interior Acrylic Latex, Eggshell.
a. Solids by Weight: 51.0 percent.
b. Solids by Volume: 35.0 percent.
c. Solvent: Water.
d. Vehicle: Vinyl acrylic resin.
e. Weight Per Gallon: 11.0 lbs.
f. Wet Film Thickness: 3.8 mils.
g. Dry Film Thickness: 1.3 mils.
h. Manufacturers: Benjamin Moore, ICI Dulux, Sherwin-Williams.

D. Colors: Provide paint colors to be selected by the Director from finish paint manufacturers available color selections.
1. Safety Colors: Industry Standard ANSI Safety Colors.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine surfaces to be prepared, primed, or painted for compliance with contract documents, required environmental conditions, manufacturer's product data sheets, product label instructions and other written requirements.
1. Do not begin any phase of the work without first checking and verifying that surfaces and environmental conditions are acceptable for such work and that any earlier phase deficiencies and discrepancies have been properly corrected.
a. The commencement of new work shall be interpreted to mean acceptance of surfaces to be affected.

3.02 PREPARATION

A. Protection: Cover and protect surfaces to be painted, adjacent surfaces not to be painted, and removed furnishings and equipment from existing paint removals, airborne sanding particles, cleaning fluids and paint spills using suitable drop cloths, barriers and other protective devices.
1. Adjacent exterior surface protections include roofs, walls, landscaping, driveways and walkways. Interior protections include floors, walls, furniture, furnishings and electronic equipment.
2. Remove and replace removable hardware, lighting fixtures, telephone equipment, other devices and cover plates over concealed openings in substrates to be painted.
a. Cover and neatly mask permanently installed hardware, lighting fixtures, cover plates and other devices which cannot be removed and are not scheduled for painting.

3. Schedule and coordinate surface preparations so as not to interfere with work of other trades or allow airborne sanding dust particle to fall on freshly painted surfaces.
4. Provide adequate natural or mechanical ventilation to allow surfaces to be prepared and painted in accordance with product manufacturer's instructions and applicable regulations.
5. Provide and maintain "Wet Paint" signs, temporary barriers and other protective devices necessary to protect prepared and freshly painted surfaces from damages until Work has been accepted.

B. Clean and prepare surfaces to be painted in accordance with specifications, paint manufacturer's approved product data sheets and printed label instructions. In the event of conflicting instructions or directions, the more stringent requirements shall apply.
   1. Cleaners: Use only approved products manufactured or recommended by finish paint manufacturer. Unless otherwise recommended by cleaner manufacturer, thoroughly rinse with clean water to remove surface contaminants and cleaner residue.

C. Surfaces:
   1. Existing Structural Steel Lintels:
      a. Prepare existing steel to be painted by cleaning in accordance with Structural Steel Painting Council (SSPC) standards:
         1) SSPC-SP3: Remove loose rust, mill scale, and paint to the degree specified by power-tool chipping, descaling, sanding, wire-brushing, and grinding.
   2. Steel Doors and Frames: Fill indentations and cracks with metal filler; sand smooth to match adjacent undamaged surfaces.
   3. Gypsum Wallboard, Plaster and Cement Plaster:
      a. Fill cracks, holes, and other indentations smooth to adjacent surfaces using specified bedding, spackling, and finishing compounds.
      b. Plaster: Scrape and sand smooth ridges, spills, nibs, and other surface projections.
      c. Cement Plaster: Coat surfaces to be patched with a bonding agent. Patch cement plaster with an approved mortar patching mix and finish to match adjacent surface and texture.
      d. Gypsum Wallboard: Fill and sand smooth minor bedding and finishing compound defects.
      e. Vacuum and wipe surfaces free of all sanding residue and dust
   4. Other Substrates: See finish paint manufacturer's recommendations.

D. Painting Material Preparations:
   1. Prepare painting materials in accordance with manufacturer's approved product data sheets and printed label instructions.
      a. Stir materials before and during application for a consistent mixture of density. Remove container surface paint films before stirring and mixing.
      b. Slightly tint first opaque finish coat where primer and finish coats are the same color.

c. Do not thin paints unless allowed and directed to do so in writing within limits stated on approved product data sheets.

3.03 APPLICATION

A. Environmental Conditions:
1. Water-based Paints: Apply when surface temperatures will be 50 degrees Fahrenheit to 90 degrees Fahrenheit throughout the drying period.
2. Other Paints: Apply when surface temperatures will be 45 degrees Fahrenheit to 95 degrees Fahrenheit throughout the drying period.
3. Apply exterior paints during daylight hours free from rain, snow, fog and mist when ambient air conditions are more than 5 degrees above the surface dewpoint temperature and relative humidity less than 85 percent.
   a. When exterior painting is allowed or required during nondaylight hours, provide portable outdoor weather recording station with constant printout showing hourly to diurnal air temperature, humidity, and dewpoint temperature.
4. Exterior Cold Weather Protection: Provide heated enclosures necessary to maintain specified temperature and relative humidity conditions during paint application and drying periods.

B. Install approved paints where specified, or shown on the drawings, and to match approved field examples.
1. Paint Applicators: Brushes, rollers or spray equipment recommended by the paint manufacturer and appropriate for the location and surface area to be painted.
   a. Approved minimum wet and dry film thicknesses shall be the same for different application methods and substrates.

C. Paint Type Coats To Be Applied: Unless specified otherwise by finish paint manufacturer's product data sheet, the number of coats to be applied for each paint type are as follows:
1. Paint Types EAL and IAL:
   a. New Unpainted Surfaces: Apply 1 coat of primer and 2 coats of finish paint or as directed by the Director's Representative.
   b. Existing Painted Surfaces:
      1) Apply 2 coats of finish paint when existing paint has a lower gloss.
      2) Apply one coat of primer and 2 finish coats when existing paint has a higher gloss.
   c. Existing Structural Steel:
      1) Primed Steel: Apply 2 coats of finish paint.
      2) Unprimed Steel: Apply 1 coat of Paint Type ESP.
         a) If topcoated, apply additional coat of finish paint manufacturer's galvanized primer and 2 coats of finish paint.
2. Paint Type ESP: Apply 1 coat.
   a. Do not prime or finish paint steel to be encased in concrete, masonry, or to receive sprayed on fireproofing.

b. Allow primer to dry one week and test adhesion. Remove and replace defective primer where adhesion failures occur.

D. Surfaces: Unless otherwise specified or shown on the drawings, paint surfaces as follows:

1. Exterior Surfaces:
   a. Unprimed Ferrous Metal Substrates:
      1) Existing Unprimed Structural Steel: Paint Type EAL-3 over primer Paint Type ESP.
2. Interior Surfaces:
   b. Walls, Doors and Door Frames: Paint Type IAL-2.
3. Unless otherwise noted:
   a. Paint substrates to match adjacent wall surfaces.
   b. Paint exposed surfaces when any part of the surface is on or within 8 inches of ceiling or wall surface to be painted.
4. Doors and Frames: Unless otherwise noted, paint doors and frames the same color in the next highest gloss as adjacent wall surfaces.
   a. Where walls are not the same color on both sides of a door frame, change frame color at the inside corner of the frame stop.
   b. Prime and finish paint door faces and edges before installation.
      1) Paint door edges the same paint type color as the exterior side of the door.
   c. Do not paint door components which are clearly not intended to be painted such as non-ferrous hardware, frame mutes, and weather stripping.
   d. Do not allow doors and frames to touch until paint is thoroughly dry on both surfaces.

3.04 FIELD QUALITY CONTROL

A. Paint Samples: Assist the Director's Representative in obtaining random one quart paint samples for testing at any time during the Work.

1. Notify the Director's Representative upon delivery of paints to the Site.
2. Furnish new one quart metal paint containers with tight fitting lids and suitable labels for marking.
   a. Furnish labor to thoroughly mix paint before sampling and provide assistance with sampling when required.

3.05 ADJUSTING AND CLEANING

A. Reinstall removed items after painting has been completed.

1. Restore damaged items to a condition equal to or better than when removed. Replace damaged items that cannot be restored.

B. Touch up and restore damaged finish paints. Touch up and restoration paint coats are in addition to the number of specified finish paint coats.

C. Remove spilled, splashed, or spattered paint without marring, staining or damaging the surface. Restore damaged surfaces to the satisfaction of the Director's representative.

D. Remove temporary barriers, masking tape, and other protective coverings upon completion of painting, cleaning and restoration work.

END OF SECTION

DWM

SECTION 220700

PIPING INSULATION

PART 1 GENERAL

1.01 DESCRIPTION

A. First (1st) Floor through Sixteenth (16th) Floors, inclusive and the Basement Floor where applicable: Provide piping insulation at all existing un-insulated domestic hot and cold pipe and fittings that has had the existing asbestos containing pipe insulation removed (asbestos abatement) from it and still remains in use, unless otherwise indicated.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Through Penetration Firestops: Section 078400.

1.03 ABBREVIATIONS

A. FS: Federal Specification.

B. K: Thermal Conductivity, i.e., maximum Btu per inch thickness per hour per square foot.

C. pcf: Pounds per cubic foot.

D. PVC: Polyvinylchloride.

1.04 SUBMITTALS

A. Product Data: Manufacturer's catalog sheets, specifications and installation instructions for the following:
   1. Insulation Materials.
   2. Jacket Materials.

B. Quality Control Submittals:
   1. Installers Qualification Data:
      a. Name of each person who will be performing the Work, and their employer's name, business address and telephone number.
      b. Furnish names and addresses of the required number of similar projects that each person has worked on which meet the qualifications.

1.05 QUALITY ASSURANCE

A. Qualifications: The persons installing the Work of this Section and their Supervisor shall be personally experienced in mechanical insulation work and

shall have been regularly employed by a company installing mechanical insulation for a minimum of 5 years.

B. Regulatory Requirements:
   1. Insulation installed inside buildings, including laminated jackets, mastics, sealants and adhesives shall have a Fire Spread/Smoke Developed Rating of 25/50 or less based on ASTM E 84.

PART 2 PRODUCTS

2.01 PIPING INSULATION

A. Fibrous Glass (Mineral Fiber) Insulation: Composed principally of fibers manufactured from rock, slag, or glass, with or without binders, and asbestos free.
   1. Preformed Pipe Insulation: Minimum density 3 pcf; ASTM C 547:
      a. Class 1 (Suitable for Temperatures Up to 450 degrees F): K of 0.26 at 75 degrees F.
   2. Premolded Fitting Insulation: Minimum density 4.0 pcf, K of 0.26 at 75 degrees F; ASTM C 547, Class 1.
   3. Insulation Inserts for PVC Fitting Jackets: Minimum density 1.5 pcf, K of 0.28 at 75 degrees F; ASTM C 553, Type III.
      a. Suitable for temperatures up to 450 degrees F.

B. Flexible Elastomeric Foam Insulation:
   1. FM tested and approved, meeting the following:
      a. Maximum Water Vapor Transmission: 0.10 perm - inch based on ASTM E 96, Procedure A.
      b. K of 0.27 at 75 degrees F based on ASTM C 518 or C 177.
      c. Fire Spread/Smoke Developed Rating: 25/50 or less based on ASTM E 84.
   2. Pipe Insulation: ASTM C 534, Type I.
   3. Polyethylene and polyolefin insulation is not acceptable.

C. High Density Jacketed Insulation Inserts for Hangers and Supports:
   1. For Use with Fibrous Glass Insulation:
      a. Cold Service Piping:
         1) Polyurethane Foam: Minimum density 4 pcf, K of 0.13 at 75 degrees F, minimum compressive strength of 125 psi.
      b. Hot Service Piping:
         1) Calcium Silicate: Minimum density 15 pcf, K of 0.50 at 300 degrees F; ASTM C 533.
         2) Perlite: Minimum density 12 pcf, K of 0.60 at 300 degrees F; ASTM C 610.
   2. For Use with Flexible Elastomeric Foam Insulation: Hardwood dowels and blocks, length or thickness equal to insulation thickness, other dimensions as specified or required.

D. Cements:
   1. Fibrous Glass Thermal Insulating Cement: Asbestos free; ASTM C 195.
   2. Fibrous Glass Hydraulic Setting Thermal Insulating and Finishing Cement: ASTM C 449/C 449M.

2.02 INSULATION JACKETS

A. Laminated Vapor Barrier Jackets for Piping: Factory applied by insulation manufacturer, conforming to ASTM C 1136, Type I.
   1. Type I: Reinforced white kraft and aluminum foil laminate with kraft facing out.
      a. Pipe Jackets: Furnished with integral 1-1/2 inch self sealing longitudinal lap, and separate 3 inch wide adhesive backed butt strips.
   2. Laminated vapor barrier jackets are not required for flexible elastomeric foam insulation.

B. Premolded PVC Fitting Jackets:
   1. Constructed of high impact, UV resistant PVC.
      a. ASTM D 1784, Class 14253-C.
      b. Working Temperature: 0-150 degrees F.

2.03 ADHESIVES, MASTICS, AND SEALERS

A. Lagging Adhesive (Canvas Jackets): Childers' CP-50A, Epolux's Cadalag 336, Foster's 30-36.

B. Vapor Seal Adhesive (Fibrous Glass Insulation): Childers' CP-82, Epolux's Cadoprene 400, Foster's 85-75 or 85-20.

C. Vapor Barrier Mastic/Joint Sealer (Fibrous Glass Insulation): Childers' CP-30, Epolux's Cadalar 670, Foster's 95-44 or 30-35.

D. Adhesive (Flexible Elastomeric Foam): Armstrong's 520, Childers' CP-80, Epolux's Cadoprene 488, Foster's 82-40.

E. Adhesive (Reinforcing Membrane): Childers' Chil-Spray WB CP-56.

F. Mastic (Reinforcing Membrane): Childers' AK-CRYL CP-9.

G. Sealant (Metal Pipe Jacket): One-part silicone sealant for high temperatures; Dow Corning's Silastic 736 RTV or General Electric's RTV 106.

2.04 MISCELLANEOUS MATERIALS

A. Pressure Sensitive Tape for Sealing Laminated Jackets:
   1. Acceptable Manufacturers: Alpha Associates, Childers, Ideal Tape, Morgan Adhesive.
   2. Type: Same construction as jacket.

B. Wire, Bands, and Wire Mesh:
   1. Binding and Lacing Wire: Nickel copper alloy or copper clad steel, gage as specified.
   2. Bands: Galvanized steel, 1/2 inch wide x 0.015 inch thick, with 0.032 inch thick galvanized wing seals.
   3. Wire Mesh: Woven 20 gage steel wire with 1 inch hexagonal openings, galvanized after weaving.

C. Reinforcing Membrane: Glass or Polyester, 10 x 10 mesh. Alpha Associates Style 59, Childer's Chil-Glas, Foster's MAST-A-FAB.

PART 3 EXECUTION

3.01 PREPARATION

A. Perform the following before starting insulation Work:
   1. Clean and dry surfaces to be insulated.

3.02 INSTALLATION, GENERAL

A. Install the Work of this Section in accordance with the manufacturer's printed installation instructions unless otherwise specified.

B. Provide continuous piping insulation and jacketing when passing thru interior wall, floor, and ceiling construction.
   1. At Through Penetration Firestops: Coordinate insulation densities with the requirements of approved firestop system being installed. See Section 078400.
      a. Insulation densities required by approved firestop system may vary with the densities specified in this Section. When this occurs use the higher density insulation.

C. Do not intermix different insulation materials on individual runs of piping.

3.03 INSTALLATION AT HANGERS AND SUPPORTS

A. Reset and realign hangers and supports if they are displaced while installing insulation.

B. Install high density jacketed insulation inserts at hangers and supports for insulated piping.

C. Insulation Inserts For Use with Fibrous Glass Insulation:
   1. Where clevis hangers are used, install insulation shields and high density jacketed insulation inserts between shield and pipe.
      a. Where insulation is subject to compression at points over 180 degrees apart, e.g. riser clamps, U-bolts, trapezes, etc.; fully encircle pipe with 2 protection shields and 2 high density

jacketed fibrous glass insulation inserts within supporting members.

1) Exception: Locations where pipe covering protection saddles are specified for hot service piping, 6 inch and larger.

D. Insulation Inserts For Use with Flexible Elastomeric Foam Insulation:

1. Where clevis hangers are used, install insulation shields with hardwood filler pieces, same thickness as adjoining insulation, inserted in undersized die cut or slotted holes in insulation at support points.
2. Contour hardwood blocks to match the curvature of pipe, and shield.
3. Coat dowels and blocks with insulation adhesive, and insert while still wet.
4. Vapor seal outer surfaces of dowels and blocks with adhesive after insertion.
5. Install filler pieces as follows:

PIPE/TUBING SIZE	FILLER PIECES	POSITION
Thru 1-1/2"	2 dowel plugs	6 o'clock; in tandem
2" thru 4"	1 block, 2 dowel plugs	6 o'clock, and 4 & 8 o'clock respectively
6" thru 8"	2 blocks, 4 dowel plugs	6 o'clock; in tandem and 4 & 8 o'clock; in tandem

3.04 INSTALLATION OF FIBROUS GLASS COLD SERVICE INSULATION

A. Install insulation materials with a field or factory applied ASTM C 1136 Type I laminated vapor barrier jacket, unless otherwise specified.

B. Piping:

1. Butt insulation joints together, continuously seal minimum 1-1/2 inch wide self-sealing longitudinal jacket laps and 3-inch wide butt adhesive backed strips.
   a. Substitution: 3 inch wide pressure sensitive sealing tape, of same material as jacket, may be used in lieu of butt strips.
2. Bed insulation in a 2-inch wide band of vapor barrier mastic, and vapor seal exposed ends of insulation with vapor barrier mastic at each butt joint between pipe insulation and equipment, fittings or flanges at the following intervals:
   a. Horizontal Pipe Runs: 21 ft.
   b. Vertical Pipe Runs: 9 ft.

C. Fittings, Valves, Flanges and Irregular Surfaces:

1. Insulate with mitre cut or premolded fitting insulation of same material and thickness as pipe insulation.
2. Secure insulation in place with 16-gage wire, with ends twisted and turned down into insulation.
3. Butt insulation against pipe insulation and bond with joint sealer.

4. Insulate valves up to and including bonnets, without interfering with packing nuts.
5. Apply leveling coat of insulating cement to smooth out insulation and cover wiring.
6. When insulating cement has dried, seal fitting, valve and flange insulation, by imbedding a layer of reinforcing membrane or 4 oz. canvas jacket between 2 flood coats of vapor barrier mastic, each 1/8 inch thick wet.
7. Lap reinforcing membrane or canvas on itself and adjoining pipe insulation at least 2 inches.
8. Trowel, brush or rubber glove outside coat over entire insulated surface.
9. Exceptions:
   a. Type D Piping Systems: Valves, fittings and flanges may be insulated with premolded PVC fitting jackets, with fibrous glass insulation inserts.
      1) Additional insulation inserts are required for services with operating temperatures under 45 degrees F or where insulation thickness exceeds 1-1/2 inches. The surface temperature of PVC fitting jacket must not go below 45 degrees F.

3.05 INSTALLATION OF FIBROUS GLASS HOT SERVICE INSULATION

A. Install insulation materials with field or factory applied ASTM C 1136 Type I laminated vapor barrier jacket unless otherwise specified.

B. Canvas Jackets on Piping, Fittings, Valves, Flanges, Unions, and Irregular Surfaces:
   1. For Piping 2 inch Size and Smaller: 4 oz per sq yd unless otherwise specified.
   2. For Piping Over 2 inch Size: 6 oz per sq yd unless otherwise specified.

C. Piping:
   1. Butt insulation joints together, continuously seal minimum 1-1/2 inch wide self-sealing longitudinal jacket laps and 3-inch wide adhesive backed butt strips.
      a. Substitution: 3 inch wide pressure sensitive sealing tape, of same material as the jacket, may be used in lieu of butt strips.
   2. Fill voids in insulation at hanger with insulating cement.
   3. Exceptions:
      a. Piping in Accessible Shafts, Attic Spaces, Crawl Spaces, Unfinished Spaces and Concealed Piping: Butt insulation joints together and secure minimum 1-1/2 inch wide longitudinal jacket laps and 3 inch wide butt strips of same material as jacket, with outward clinching staples on maximum 4 inch centers. Fill voids in insulation at hangers with insulating cement.

D. Fittings, Valves, Flanges and Irregular Surfaces:
   1. Insulate with mitre cut or premolded fitting insulation of same material and thickness as insulation.

2. Secure in place with 16-gage wire, with ends twisted and turned down into insulation.
3. Butt fitting, valve and flange insulation against pipe insulation, and fill voids with insulating cement.
4. Insulate valves up to and including bonnets, without interfering with packing nuts.
5. Apply leveling coat of insulating cement to smooth out insulation and cover wiring.
6. After insulating cement has dried, coat insulated surface with lagging adhesive, and apply 4 oz or 6 oz canvas jacket as required by pipe size.
    a. Lap canvas jacket on itself and adjoining pipe insulation at least 2 inches.
    b. Size entire canvas jacket with lagging adhesive.
7. Exceptions:
    a. In Type E Service Piping Systems: Valves, fittings and flanges may be insulated with premolded PVC fitting jackets, with fibrous glass insulation inserts.
        1) Additional insulation inserts are required for services with operating temperatures over 250 degrees F or where insulation thickness exceeds 1-1/2 inches. The surface temperature of PVC fitting jacket must not exceed 150 degrees F.
    b. In Type E Service Piping Systems: Insulate fittings, valves, and irregular surfaces 3 inch size and smaller with insulating cement covered with 4 oz or 6 oz canvas jacket as required by pipe size.
        1) Terminate pipe insulation adjacent to flanges and unions with insulating cement, trowelled down to pipe on a bevel.
    c. Fittings, Valves, Flanges, and Irregular Surfaces In Concealed Piping, Piping in Accessible Shafts, Attic Spaces, Crawl Spaces, Unfinished Rooms, Unfinished Spaces, and Tunnels: Sizing of canvas surface is not required.

3.06 INSTALLATION OF FLEXIBLE ELASTOMERIC FOAM INSULATION

A. Where possible, slip insulation over the pipe, and seal butt joints with adhesive.
    1. Where the slip-on technique is not possible, slit the insulation and install.
    2. Re-seal with adhesive, making sure the mating surfaces are completely joined.

B. Insulate fittings and valves with miter cut sections. Use templates provided by the manufacturer, and assemble the cut sections in accordance with the manufacturer's printed instructions.
    1. Insulate threaded fittings and valves with sleeved fitting covers. Over lap and seal the covers to the adjoining pipe insulation with adhesive.

C. Carefully mate and seal with adhesive all contact surfaces to maintain the integrity of the vapor barrier of the system.

D. Piping Exposed Exterior to a Building, Totally Exposed to the Elements:

1. Apply flexible elastomeric foam insulation to piping with adhesive.
2. Apply reinforcing membrane around piping insulation with adhesive or mastic.
3. Adhesive Applied System: Apply 2 coats of finish. See Section 099103.
4. Mastic Applied System: Apply another coat of mastic over reinforcing membrane.

3.07 FIELD QUALITY CONTROL

A. Field Samples: The Director's Representative, may at his discretion, take field samples of installed insulation for the purpose of checking materials and application. Reinsulate sample cut areas.

3.08 PIPING INSULATION SCHEDULE

A. Insulate all cold service and hot service piping, and appurtenances except where otherwise specified.

B. Schedule of Items Not to be Insulated:
1. Chrome plated piping, unless otherwise specified.
2. Exposed piping in finished spaces, serving one fixture, or piece of equipment, and which connection from the main, branch, or riser, is 24 inches or less in length.
3. Water heater blow-off piping.
4. Air vents, pressure reducing valves, pilot lines, safety valves, relief valves.
5. Water meters.
6. Piping buried in the ground, unless otherwise specified herein.
7. Items installed by others, unless otherwise specified herein.
8. Sanitary drainage piping, unless otherwise specified herein.
9. Mechanical equipment with factory applied steel jacket.
10. Hot service piping 81 degrees F to 104 degrees F.
11. Flanges and unions in Type E service piping systems.
12. Sprinkler and standpipe piping, unless otherwise specified.

3.09 COLD SERVICE INSULATION MATERIAL SCHEDULE

TYPE	SERVICE AND TEMPERATURES	INSULATION MATERIAL	PIPE SIZES (INCHES)	MINIMUM (NOMINAL) INSULATION THICKNESS (INCHES)
D	Domestic cold water, and as specified. 33 F to 80 F.	Flex. Elastomeric Foam or Fibrous Glass	All Sizes	1/2

A. **NOTES:**
1. Sprinkler and Standpipe Piping (First 10 feet connected to domestic water main within building): Insulate with same materials and thicknesses specified for domestic cold water.

2. Roof Drain Bodies Below Roof, Horizontal Conductor Piping Including Drops, and First Fitting on Vertical conductor: Insulate with same materials and thicknesses specified for domestic cold water.

3.10 HOT SERVICE INSULATION MATERIAL SCHEDULE

	SERVICE AND TEMPERATURES	INSULATION MATERIAL	PIPE SIZES (INCHES)	MINIMUM (NOMINAL) INSULATION THICKNESS (INCHES)
E	Water and other fluids 105 F to140 F.	Flex. Elastomeric Foam or Fibrous Glass	1-1/2 & Less Over 1-1/2	1 2

END OF SECTION

DWM

SECTION 230700

PIPING INSULATION

PART 1 GENERAL

1.01 DESCRIPTION

A. Basement (Bsmt) Floor through Sixteenth (16th) Floors, inclusive: Provide piping insulation at all un-insulated existing heating (steam and condensate) piping that has had the existing asbestos containing pipe insulation removed (asbestos abatement) from it and still remains in use as part of the 'temporary heat system', unless otherwise indicated. This work is a part of Alternate Number 1 – refer to related specification "Alternates: Section 012300".

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Alternates: Section 012300.

B. Through Penetration Firestops: Section 078400.

1.03 ABBREVIATIONS

A. FS: Federal Specification.

B. K: Thermal Conductivity, i.e., maximum Btu per inch thickness per hour per square foot.

C. pcf: Pounds per cubic foot.

D. PVC: Polyvinylchloride.

1.04 SUBMITTALS

A. Product Data: Manufacturer's catalog sheets, specifications and installation instructions for the following:
   1. Insulation Materials.
   2. Jacket Materials.

B. Quality Control Submittals:
   1. Installers Qualification Data:
      a. Name of each person who will be performing the Work, and their employer's name, business address and telephone number.
      b. Furnish names and addresses of the required number of similar projects that each person has worked on which meet the qualifications.

1.05 QUALITY ASSURANCE

A. Qualifications: The persons installing the Work of this Section and their Supervisor shall be personally experienced in mechanical insulation work and shall have been regularly employed by a company installing mechanical insulation for a minimum of 5 years.

B. Regulatory Requirements:
   1. Insulation installed inside buildings, including laminated jackets, mastics, sealants and adhesives shall have a Fire Spread/Smoke Developed Rating of 25/50 or less based on ASTM E 84.

PART 2 PRODUCTS

2.01 PIPING INSULATION

A. Fibrous Glass (Mineral Fiber) Insulation: Composed principally of fibers manufactured from rock, slag, or glass, with or without binders, and asbestos free.
   1. Preformed Pipe Insulation: Minimum density 3 pcf; ASTM C 547:
      a. Class 1 (Suitable for Temperatures Up to 450 degrees F): K of 0.26 at 75 degrees F.
   2. Premolded Fitting Insulation: Minimum density 4.0 pcf, K of 0.26 at 75 degrees F; ASTM C 547, Class 1.
   3. Insulation Inserts for PVC Fitting Jackets: Minimum density 1.5 pcf, K of 0.28 at 75 degrees F; ASTM C 553, Type III.
      a. Suitable for temperatures up to 450 degrees F.

B. High Density Jacketed Insulation Inserts for Hangers and Supports:
   1. For Use with Fibrous Glass Insulation:
      a. Hot Service Piping:
         1) Calcium Silicate: Minimum density 15 pcf, K of 0.50 at 300 degrees F; ASTM C 533.
         2) Perlite: Minimum density 12 pcf, K of 0.60 at 300 degrees F; ASTM C 610.

C. Cements:
   1. Fibrous Glass Thermal Insulating Cement: Asbestos free; ASTM C 195.
   2. Fibrous Glass Hydraulic Setting Thermal Insulating and Finishing Cement: ASTM C 449/C 449M.

2.02 INSULATION JACKETS

A. Laminated Vapor Barrier Jackets for Piping: Factory applied by insulation manufacturer, conforming to ASTM C 1136, Type I.
   1. Type I: Reinforced white kraft and aluminum foil laminate with kraft facing out.

a. Pipe Jackets: Furnished with integral 1-1/2 inch self sealing longitudinal lap, and separate 3 inch wide adhesive backed butt strips.

B. Premolded PVC Fitting Jackets:
1. Constructed of high impact, UV resistant PVC.
a. ASTM D 1784, Class 14253-C.
b. Working Temperature: 0-150 degrees F.

2.03 ADHESIVES, MASTICS, AND SEALERS

A. Lagging Adhesive (Canvas Jackets): Childers' CP-50A, Epolux's Cadalag 336, Foster's 30-36.

B. Vapor Seal Adhesive (Fibrous Glass Insulation): Childers' CP-82, Epolux's Cadoprene 400, Foster's 85-75 or 85-20.

C. Vapor Barrier Mastic/Joint Sealer (Fibrous Glass Insulation): Childers' CP-30, Epolux's Cadalar 670, Foster's 95-44 or 30-35.

D. Adhesive (Flexible Elastomeric Foam): Armstrong's 520, Childers' CP-80, Epolux's Cadoprene 488, Foster's 82-40.

E. Adhesive (Reinforcing Membrane): Childers' Chil-Spray WB CP-56.

F. Mastic (Reinforcing Membrane): Childers' AK-CRYL CP-9.

G. Sealant (Metal Pipe Jacket): One-part silicone sealant for high temperatures; Dow Corning's Silastic 736 RTV or General Electric's RTV 106.

2.04 MISCELLANEOUS MATERIALS

A. Pressure Sensitive Tape for Sealing Laminated Jackets:
1. Acceptable Manufacturers: Alpha Associates, Childers, Ideal Tape, Morgan Adhesive.
2. Type: Same construction as jacket.

B. Wire, Bands, and Wire Mesh:
1. Binding and Lacing Wire: Nickel copper alloy or copper clad steel, gage as specified.
2. Bands: Galvanized steel, 1/2 inch wide x 0.015 inch thick, with 0.032 inch thick galvanized wing seals.
3. Wire Mesh: Woven 20 gage steel wire with 1 inch hexagonal openings, galvanized after weaving.

C. Reinforcing Membrane: Glass or Polyester, 10 x 10 mesh. Alpha Associates Style 59, Childer's Chil-Glas, Foster's MAST-A-FAB.

PART 3 EXECUTION

3.01 PREPARATION

A. Perform the following before starting insulation Work:
   1. Clean and dry surfaces to be insulated.

3.02 INSTALLATION, GENERAL

A. Install the Work of this Section in accordance with the manufacturer's printed installation instructions unless otherwise specified.

B. Provide continuous piping insulation and jacketing when passing thru interior wall, floor, and ceiling construction.
   1. At Through Penetration Firestops: Coordinate insulation densities with the requirements of approved firestop system being installed. See Section 078400.
      a. Insulation densities required by approved firestop system may vary with the densities specified in this Section. When this occurs use the higher density insulation.

C. Do not intermix different insulation materials on individual runs of piping.

3.03 INSTALLATION AT HANGERS AND SUPPORTS

A. Reset and realign hangers and supports if they are displaced while installing insulation.

B. Install high density jacketed insulation inserts at hangers and supports for insulated piping.

C. Insulation Inserts For Use with Fibrous Glass Insulation:
   1. Where clevis hangers are used, install insulation shields and high density jacketed insulation inserts between shield and pipe.
      a. Where insulation is subject to compression at points over 180 degrees apart, e.g. riser clamps, U-bolts, trapezes, etc.; fully encircle pipe with 2 protection shields and 2 high density jacketed fibrous glass insulation inserts within supporting members.
         1) Exception: Locations where pipe covering protection saddles are specified for hot service piping, 6 inch and larger.

3.04 INSTALLATION OF FIBROUS GLASS HOT SERVICE INSULATION

A. Install insulation materials with field or factory applied ASTM C 1136 Type I laminated vapor barrier jacket unless otherwise specified.

B. Piping:

1. Butt insulation joints together, continuously seal minimum 1-1/2 inch wide self-sealing longitudinal jacket laps and 3-inch wide adhesive backed butt strips.
    a. Substitution: 3 inch wide pressure sensitive sealing tape, of same material as the jacket, may be used in lieu of butt strips.
2. Fill voids in insulation at hanger with insulating cement.
3. Exceptions:
    a. Piping in Accessible Shafts, Attic Spaces, Crawl Spaces, Unfinished Spaces and Concealed Piping: Butt insulation joints together and secure minimum 1-1/2 inch wide longitudinal jacket laps and 3 inch wide butt strips of same material as jacket, with outward clinching staples on maximum 4 inch centers. Fill voids in insulation at hangers with insulating cement.

C. Fittings, Valves, Flanges and Irregular Surfaces:
1. Insulate with mitre cut or premolded fitting insulation of same material and thickness as insulation.
2. Secure in place with 16-gage wire, with ends twisted and turned down into insulation.
3. Butt fitting, valve and flange insulation against pipe insulation, and fill voids with insulating cement.
4. Insulate valves up to and including bonnets, without interfering with packing nuts.
5. Apply leveling coat of insulating cement to smooth out insulation and cover wiring.
6. After insulating cement has dried, coat insulated surface with lagging adhesive, and apply 4 oz or 6 oz canvas jacket as required by pipe size.
    a. Lap canvas jacket on itself and adjoining pipe insulation at least 2 inches.
    b. Size entire canvas jacket with lagging adhesive.
7. Exceptions:
    a. In Type F Service Piping Systems: Valves, fittings and flanges may be insulated with premolded PVC fitting jackets, with fibrous glass insulation inserts.
    b. In Type F Service Piping Systems: Insulate fittings, valves, and irregular surfaces 3 inch size and smaller with insulating cement covered with 4 oz or 6 oz canvas jacket as required by pipe size.
        1) Terminate pipe insulation adjacent to flanges and unions with insulating cement, trowelled down to pipe on a bevel.
    c. Fittings, Valves, Flanges, and Irregular Surfaces In Concealed Piping, Piping in Accessible Shafts, Attic Spaces, Crawl Spaces, Unfinished Rooms, Unfinished Spaces, and Tunnels: Sizing of canvas surface is not required.

3.05 FIELD QUALITY CONTROL

A. Field Samples: The Director's Representative, may at his discretion, take field samples of installed insulation for the purpose of checking materials and application. Reinsulate sample cut areas.

3.06 PIPING INSULATION SCHEDULE

A. Insulate all hot service piping, and appurtenances except where otherwise specified.

B. Schedule of Items Not to be Insulated:

1. Do not insulate the following hot service piping:
   - a. Plated or white metal piping.
   - b. Condenser water piping, unless otherwise indicated.
   - c. Exposed risers (hot water, low pressure steam and condensate return) in finished rooms.
   - d. Piping inside convector and finned tube radiation enclosures.
   - e. Short vertical and horizontal piping connections (less than 24 inches in length):
     - 1) Located exposed above floors in finished rooms or finished spaces.
     - 2) Serving one fixture, or one piece of equipment.
     - 3) Connected to horizontal mains, branch mains or riser mains.
     - 4) Conveying liquids or vapors at temperatures from 75 degrees F to 215 degrees F, unless otherwise specified.
   - f. Drains from heating equipment and appurtenances that flow to waste.
   - g. Fuel oil fill, fuel oil vent and other unheated fuel oil piping.
   - h. Gas piping.
   - i. Water and other fluids 81 degrees F to 104 degrees F.
   - j. Branch blow-down piping connections, from continuous blow-down piping to boiler sample water coolers.
   - k. Boiler blow-off and blow-down piping.
   - l. Discharge piping from steam safety and water relief valves.
   - m. Vent piping to atmosphere from installed exposed in Mechanical Equipment Rooms, Steam Service Rooms, Machine Rooms, Boiler Rooms, Penthouses and Power Plants, and connected to the following:
     - 1) Blow-off tanks.
     - 2) Flash tanks.
     - 3) Condensate tanks.

3. Do not insulate the following hot service fittings, valves, flanges and irregular surfaces:
   - a. Flanges and unions in Type F service piping system.
   - b. Hydronic Specialties:
     - 1) Flow indicators.
     - 2) Zone control valves.
     - 3) Air vents.
     - 4) Air control fittings.
   - c. Steam traps and cooling legs of steam traps.
   - d. Pressure reducing valves and pilot lines.
   - e. Safety and relief valves.
   - f. Back pressure valves.

g. Float chambers and level controllers.
h. Boiler water columns.
i. Soot blower heads.
j. Steam turbine drives.
k. Venturi tubes and orifice plates.

4. Do not insulate items installed under other Contracts.
5. Do not insulate mechanical equipment with a factory applied insulated steel jacket.

3.07 HOT SERVICE INSULATION MATERIAL SCHEDULE

	SERVICE AND TEMPERATURES	INSULATION MATERIAL	PIPE SIZES (INCHES)	MINIMUM (NOMINAL) INSULATION THICKNESS (INCHES)
F	Water and other fluids 141 F to 250 F.	Fibrous Glass	6 & Less 8 & Up	2 2-1/2
F	Steam (LPS) to 15 psig	Fibrous Glass	1-1/2 & Less 2 & Up	1-1/2 3

END OF SECTION

DWM

New York State Department of Labor
Division of Safety and Health - Engineering Services Unit
Building 12 , Room 159
State Office Campus
Albany, N.Y. 12240

Petition for an Asbestos Variance

To apply for an asbestos variance the Project Designer must:

- Complete all of the information on pages one and two of this asbestos variance request. Please type or print.
- Sign and date page two of the certification and all of the attachments.
- Send two copies of the petition and all attachments, with your $350 fee, to the address at the top of this page.
  - Make your check or money order payable to the Commissioner of Labor.
- Optional: To speed up the process you may include a self-addressed, stamped, express-mail envelope.

1a. **Is this petition related to a safety or health emergency?** _____ Yes X No
b. If yes, explain:

2a. **Name of Petitioner,** (Property Owner): NYS Office of General Services - Design & Construction
b. Street Address: 31st Floor, Corning Tower, Empire State Plaza
c. City: Albany d. State: NY e. Zip: 12242
f. Telephone Number: (518) 486 -1580 g. Fax Number: (518) 473 -1220
h. Petitioner's Federal Employee Identification Number (FEIN)

3a. **Petitioner's Agent (Asbestos Contractor) Firm Name**: Warren Panzer Engineers, P.C.
b. Street Address: 565 Washington Avenue
c. City: Albany d. State: NY e. Zip: 12206
f. Telephone Number: (518) 431 - 0007 g. Fax Number: (518) 431 - 0009

4a. Asbestos Contractor License No. 28898 b. Name of Firm: Warren & Panzer Engineers, P.C.

5. **Building Description**: Manhattan Psychiatric Center
a. Affecting premises known as: Dunlap Building No. 102, A-Side
b. These premises are situated on the ____North, ____South, ____East, ____West side of ____Street, ____Ave, ____Road.
c. County of New York
d. Street Address: 600 E. 125th Street
e. City Wards Island f. State: NY g. Zip 10035
h. Is building occupied? ____ Yes X No
i. Current function of building: Floors 2-16 Vacant

j. Approximate area (square feet) of building: k. Number of stories or height in feet: 20 Stories
l. What is within 25 feet of all four sides (North, South, East, West) of building? i.e. sidewalk, alley, land, another building, etc.:

6. **Order To Comply or Notice of Violation**. Attach copy.
a. Issued to: _____Owner _____Asbestos Contractor _____Operator _____Other
b. Name on Order or Notice: c. Date issued: / /
d. List the Industrial Code Rule (ICR) citations given on the Order to Comply or Notice of Violation:

7. If a variance has been granted previously for work closely resembling this project list:
a. Variance number: 06-0596 b. Date variance granted: 8 /17 /06

Note: Add a separate typed or printed page for each work area and work procedure. Sign and date each page.

8. **Work Area Description Table**: Attach additional tables and scale drawings of work area and pictures, as needed.

Work Area Designation	Exterior or Interior	Work/Room Area Dimensions	Type of Asbestos Containing Material (ACM)	Quantity of ACM	Condition of ACM (level of damage)	Friability of ACM (non-friable or friable)	Type of Containment (full, 2-layer tent, single layer tent, open-air, etc.)
See Attached							

9. **ICR 56 Relief Sought:** List the individual sections of ICR 56 for which relief is sought, for each work area or method used. Provide sufficient detail in an attachment. See Attached

10. **Hardship Description:** What is the hardship, (e.g. Limited room for decons, exhaust ducts must be longer than 25 feet, all surfaces are contaminated and cannot be plasticized) for each work area or method used? Provide sufficient detail in an attachment. Include condemnation letter or EPA Approval letter if applicable. See Attached

11. **Proposed Abatement Method Description for each work area or method used.** Include scale drawings and pictures as necessary. Lack of sufficient detail will delay issuance of variance decision.
    a. Will proposed abatement methods render non-friable ACM material friable? ____ Yes X No
    b. What proposed abatement method, increased engineering controls and detailed procedures will be used to compensate for the relief being sought? (i.e. Increased negative air rate, negative pressure glovebag, negative pressure glovebox, high temperature glovebag, intact component removal, etc.) Include sufficiently detailed procedures to complete the proposed work.

See Attached

Project Designer Certification

I request that the Commissioner of Labor issue a variance from the requirements of Industrial Code Rule (ICR) 56. This request is based on the information in this application and the attached documents.

I certify that the information contained in this petition is true and accurate.

I understand that if a variance is granted it may be withdrawn by the Commissioner:

- if any of the information provided in this petition is found to be inaccurate or
- if there are violations of Article 30 of the New York State Labor Law or New York State regulations.

I give the Commissioner of Labor permission to provide all of my companies records for Unemployment Insurance (U.I.) reports and contributions to employees of the New York State Department of Labor. This includes information about withholding, wage reporting, U.I. returns, U.I.registration, New Hires, and all records of U.I. delinquencies. This information may only be used for government purposes regarding the licensing and certification of this company as required by Article 30 of the New York State Labor Law and the regulations of the New York State Department of Labor, and for monitoring the company's compliance with Article 30 and ICR 56.

12 a. Project designer name (print): Kevin J. McGill

b. Project Design Asbestos Contractor firm name: Warren Panzer Engineers, P.C.

c. Street: 565 Washington Avenue

d. City: Albany e. State: NY f. Zip: 12206 g. Phone: (518) 431 - 4331

h. Designer certificate number: 01-16245 i. Expiration Date: 03 / 31 / 2013

j. Design Firm Asbestos Contractor License Number 28898 k. Expiration Date: 07 / 31 / 2013

13 a. Project designer signature: b. Date: 11 / 16 / 12

MANHATTEN PSYCH CENTER, WARDS ISLAND, NY

BACKGROUND

This site is a former psychiatric hospital. It is no longer in operation, except for the basement and first floor corridors, and has not been occupied in about 14 years. The property owner is New York State. They are looking to renovate the building. Due to the size of the building (twenty stories), it is very difficult to remove exterior window caulking and glazing to the exterior as prescribed by ICR 56-11.6. Because of this we are seeking relief from ICR 56.

QUESTION 9 – ICR 56 RELEIF SOUGHT

1. 56-7.5(b1, e1) – Personal and waste decontamination enclosures – Remote decons will be utilized
2. 56-7.11(a-e) – Regulated abatement work area enclosure – Poly drop cloths will be used
3. 56-9.2(d) – Clearance air sampling – most recent daily samples which meet clearance criteria will be used as clearance air samples

QUESTION 10 – HARDSHIP DESCRIPTION

Due to the size of the building and the access to the exterior of the windows, we find it extremely difficult to remove the windows to the exterior. Since this is a vacant site, we feel the health and safety of the public will not be an issue.

QUESTION 11 – PROPOSED ABATEMENT METHOD

- Windows shall be removed from one (1) floor at a time. Each floor will be considered the regulated abatement work area. All other ACM shall be removed prior to the removal of the windows. There is a lockable door from the elevator lobby to the unoccupied side of the building and only asbestos certified personnel shall be permitted in the area until after final clearance is achieved. All doors to the work areas shall have appropriate signage.
- A remote personal/waste decontamination enclosure system that fully complies with ICR 56 as required for large asbestos projects will be used.
- Two (2) people at all times shall perform the window caulk and glazing material removal utilizing manual methods only. One (1) person shall be responsible for keeping the material constantly wet, while they remove the asbestos materials. The second person will be responsible for making sure that a HEPA vacuum is in operation within 4 inches of the material being removed at all times.
- Where windows can be removed in tact they will be removed from the interior of the building without disturbing the glazing compound and wrapped with two (2) layers of 6-mil polyethylene sheeting and disposed of in their entirety.
- Drop cloths of 6-mil polyethylene sheeting will be placed below all work areas, on the exterior, and extend at least the (10) feet per story outward from the building up to a maximum of thirty (30) feet as well as to the side of the work zone. Polyethylene sheeting will be placed on the interior side at least ten (10) feet from the wall to the center of the room.
- Following the removal of asbestos materials, the immediate work area shall be wet cleaned and HEPA vacuumed.
- The work area shall remain vacated except for certified workers and authorized visitors until a satisfactory visual inspection has been achieved.
- After removal is complete and a minimum drying period of twenty (20) minutes has elapsed, the abatement locations shall be inspected and determined to be free of debris and dry, the asbestos abatement will be considered complete.

Excluding the variance requests outlined above, abatement activities will be conducted in accordance with ICR 56.

If you have any questions or need additional information, please fell free to contact me at (518) 431-0007 or email kmcgill@warrenpanzer.com

Respectfully submitted,

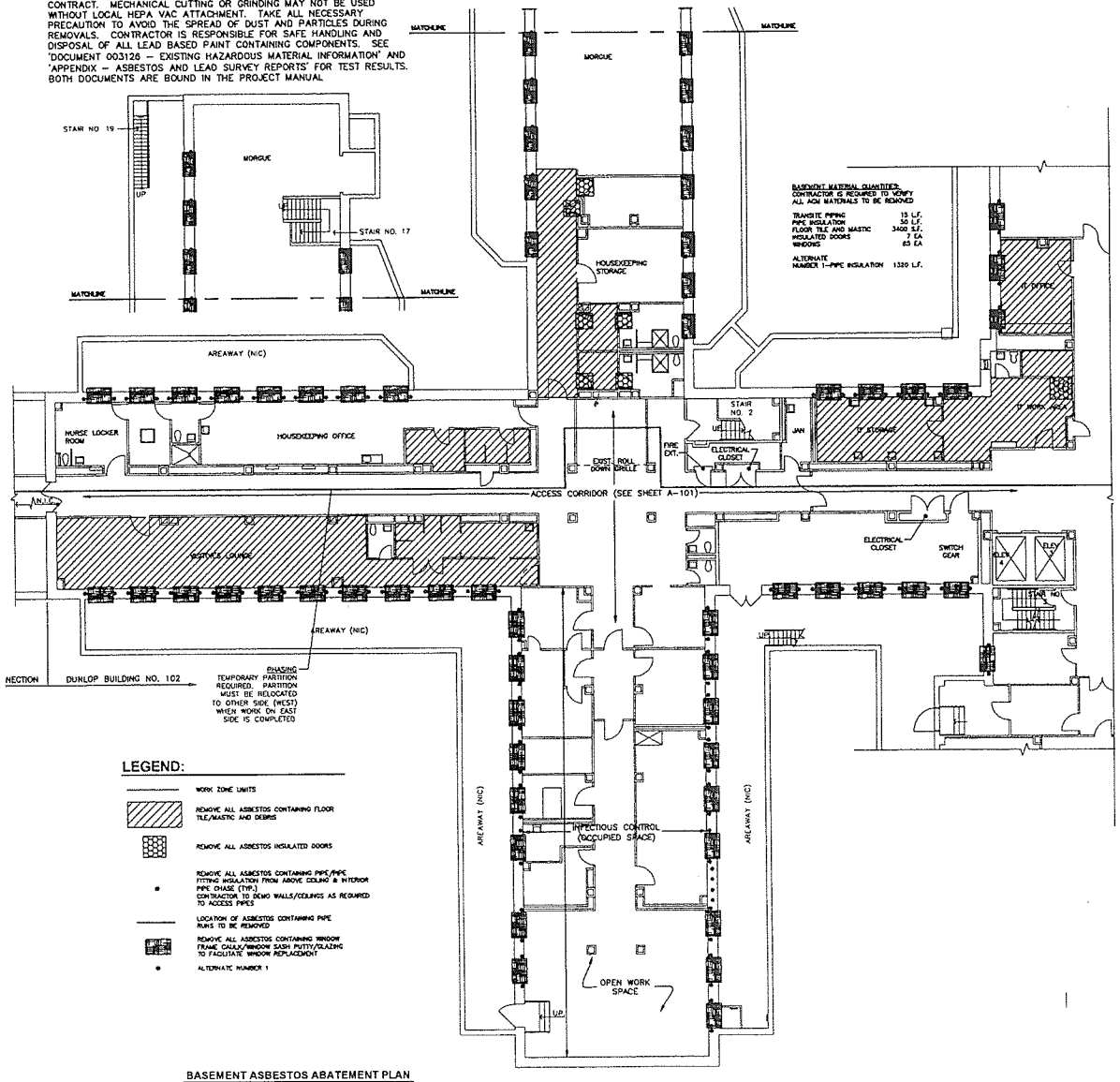
Kevin J. McGill, CIEC – NYS Certified Designer # 01-16245

GENERAL ASBESTOS ABATEMENT NOTES (APPLICABLE TO ALL DRAWINGS H-101 THRU H-117):

1. REFER TO: "SPECIFICATION SECTION – 028213 ASBESTOS ABATEMENT." THIS PROJECT INVOLVES THE REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING MATERIAL (ACM) FROM MANHATTAN PSYCHIATRIC CENTER. DUNLOP BUILDING NO. 102, SIDE 'A'. THE FOLLOWING ITEMS TESTED POSITIVE FOR ACM:
   - 9"x9" BLACK FLOOR TILE AND MASTIC
   - 9"x9" BROWN FLOOR TILE AND MASTIC
   - 12"x12" BEIGE FLOOR TILE AND MASTIC
   - 12"x12" BROWN FLOOR TILE AND MASTIC
   - 9"x18" BLACK FLOOR TILE AND MASTIC
   - FIRE DOOR INSULATION
   - AIR CELL PIPE INSULATION
   - PIPE INSULATION
   - PIPE JOINT INSULATION
   - WINDOW FRAME CAULK
   - WINDOW PUTTY (GLAZING)
   - SINK UNDERCOATING
2. SEE 'DOCUMENT 003126 – EXISTING HAZARDOUS MATERIAL INFORMATION' AND 'APPENDIX – ASBESTOS AND LEAD SURVEY REPORTS' FOR TEST RESULTS. BOTH DOCUMENTS ARE BOUND IN THE PROJECT MANUAL.
3. THE DRAWING DOES NOT SHOW MOVABLE OBJECTS WITHIN THE WORK ZONES. THE CONTRACTOR IS ALONE RESPONSIBLE FOR DETERMINING THE ACTUAL ABATEMENT QUANTITIES AND COORDINATING THE RELOCATION OF ANY ITEMS WITH THE DIRECTOR'S REPRESENTATIVE.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALL ASBESTOS CONTAINING MATERIAL QUANTITIES, SIZES, LENGTHS AND CONFIGURATIONS. QUANTITIES LISTED ON DRAWINGS H-101 THROUGH H-117 ARE ESTIMATES AND ARE FOR REFERENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL ACM (ASBESTOS CONTAINING MATERIALS) SHOWN/INDICATED ON THESE DRAWINGS TO BE REMOVED WHETHER THESE QUANTITIES ARE GREATER THAN OR LESS THAN THE QUANTITIES LISTED ON DRAWINGS H-101 THROUGH H-117.
5. THE CONTRACTOR IS RESPONSIBLE FOR USING "STANDARD OF CARE" WHEN APPLYING OR REMOVING TAPE, SPRAY ADHESIVE OF ANY OTHER TYPE OF BONDING MATERIAL FROM THE WALLS, FLOOR, CEILING AND OTHER ELEMENTS THROUGHOUT THE BUILDING. IF DAMAGE IS SUSTAINED TO AN AREA(S) DURING THE WORK PROCEDURE, THE CONTRACTOR IS RESPONSIBLE FOR RETURNING THE AREA(S) BACK TO ITS ORIGINAL CONDITION UNLESS OTHERWISE NOTED.
6. ANY CRITICAL ELECTRICAL RUNS THROUGH SHALL REMAIN ACTIVE DURING THE ENTIRE ABATEMENT PROCESS.
7. SHUTDOWN AND ISOLATE EXISTING MECHANICAL EQUIPMENT TO PREVENT CONTAMINATION AND ASBESTOS DISPERSAL TO OTHER AREAS OF THE BUILDING. PROVIDE TEMPORARY COVERINGS OVER ALL APPLICABLE GRILLS, DIFFUSERS, AND OPEN ENDS OF DUCTS. COORDINATE ALL SHUTDOWNS WITH THE DIRECTOR'S REPRESENTATIVE.
8. HEPA EXHAUST UNITS SHALL BE PLACED IN THE WORK ZONE IN ORDER TO ACHIEVE CORRECT NEGATIVE PRESSURE AS REQUIRED UNDER NYS INDUSTRIAL CODE RULE 56. HEPA EXHAUST CHUTES SHALL BE CONTINUED TO OUTSIDE OF THE BUILDING THROUGH COMMUNICABLE OPENINGS. OPENINGS SHALL BE MODIFIED TO PROVIDE ACCESS FOR THE HEPA EXHAUST DUCTS. SECURELY ATTACH HEPA EXHAUST DUCTS TO PLYWOOD INSERTS. THE CONTRACTOR SHALL RETURN ALL OPENINGS TO THEIR ORIGINAL CONDITION AFTER COMPLETION OF THE PROJECT.
9. ASBESTOS PIPE INSULATION CONCEALED IN WALLS SHALL NOT BE DISTURBED UNLESS OTHERWISE NOTED FOR REMOVAL IN THE CONTRACT DOCUMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE SUSTAINED TO THESE MATERIALS.
10. ALL SCHEDULED ABATEMENT WORK SHALL BE COORDINATED WITH THE DIRECTOR'S REPRESENTATIVE. FOLLOW RULES AND REGULATIONS OF NYS ICR 56, EPA, OSHA AND OTHER APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS DURING THE ENTIRE PROJECT. SEE SPECIFICATION SECTION 13281 FOR DETAILS.
11. CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION CONFERENCE AND PROVIDE A DETAILED ABATEMENT WORK PLAN FOR REVIEW AND APPROVAL BY THE DIRECTOR'S REPRESENTATIVE.
12. LOCATION OF DECON UNITS (WASTE AND PERSONNEL) SHALL BE COORDINATED WITH THE FACILITY AND THE DIRECTOR'S REPRESENTATIVE.
13. PROVIDE TO THE DIRECTOR'S REPRESENTATIVE ALL WASTE TRANSPORTER PERMITS, WASTE DISPOSAL RECEIPTS AND THE CONTRACTORS POST ABATEMENT REPORT.
14. ANY REMOVALS WORK OR ANY OTHER WORK IN THESE AREAS SHALL COMMENCE ONLY AFTER THE ABATEMENT WORK IS COMPLETED AND ONLY AFTER THE NECESSARY CLEARANCES ARE OBTAINED.
15. ALL GENERAL ASBESTOS ABATEMENT NOTES APPLY TO ALL H-DRAWINGS.
16. STAIRS AND RISERS PIPING AT ALL EXISTING STAIRS, WHERE APPLICABLE: ALL ACM PIPE INSULATION CONTAINED IN EXISTING VERTICAL SHAFTS ADJACENT TO EXISTING STAIRS SHALL BE ABATED FROM FLOOR SIDE TO MAINTAIN INTEGRITY OF STAIR WALLS.

HANDLING OF LEAD CONTAINING MATERIALS:

1. REFER TO: "SPECIFICATION SECTION – 028304 HANDLING OF LEAD CONTAINING MATERIALS".
2. EXISTING PAINTED SURFACES HAVE BEEN DETERMINED TO CONTAIN LEAD. FLAME CUTTING OF PAINTED SURFACES IS NOT ALLOWED UNDER THIS CONTRACT. MECHANICAL CUTTING OR GRINDING MAY NOT BE USED WITHOUT LOCAL HEPA VAC ATTACHMENT. TAKE ALL NECESSARY PRECAUTION TO AVOID THE SPREAD OF DUST AND PARTICLES DURING REMOVALS. CONTRACTOR IS RESPONSIBLE FOR SAFE HANDLING AND DISPOSAL OF ALL LEAD BASED PAINT CONTAINING COMPONENTS. SEE 'DOCUMENT 003126 – EXISTING HAZARDOUS MATERIAL INFORMATION' AND 'APPENDIX – ASBESTOS AND LEAD SURVEY REPORTS' FOR TEST RESULTS. BOTH DOCUMENTS ARE BOUND IN THE PROJECT MANUAL.



BASEMENT ASBESTOS ABATEMENT PLAN
3/32" = 1'-0"

CONSULTANT

KEY PLAN

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS A MISDEMEANOR.

CONTRACT:
CONSTRUCTION

TITLE:
ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS
DUNLAP BUILDING NO. 102, A-SIDE

LOCATION:
MANHATTAN PSYCHIATRIC CENTER
600 E. 125th STREET
WARDS ISLAND, NY 10035

CLIENT:
OFFICE OF MENTAL HEALTH

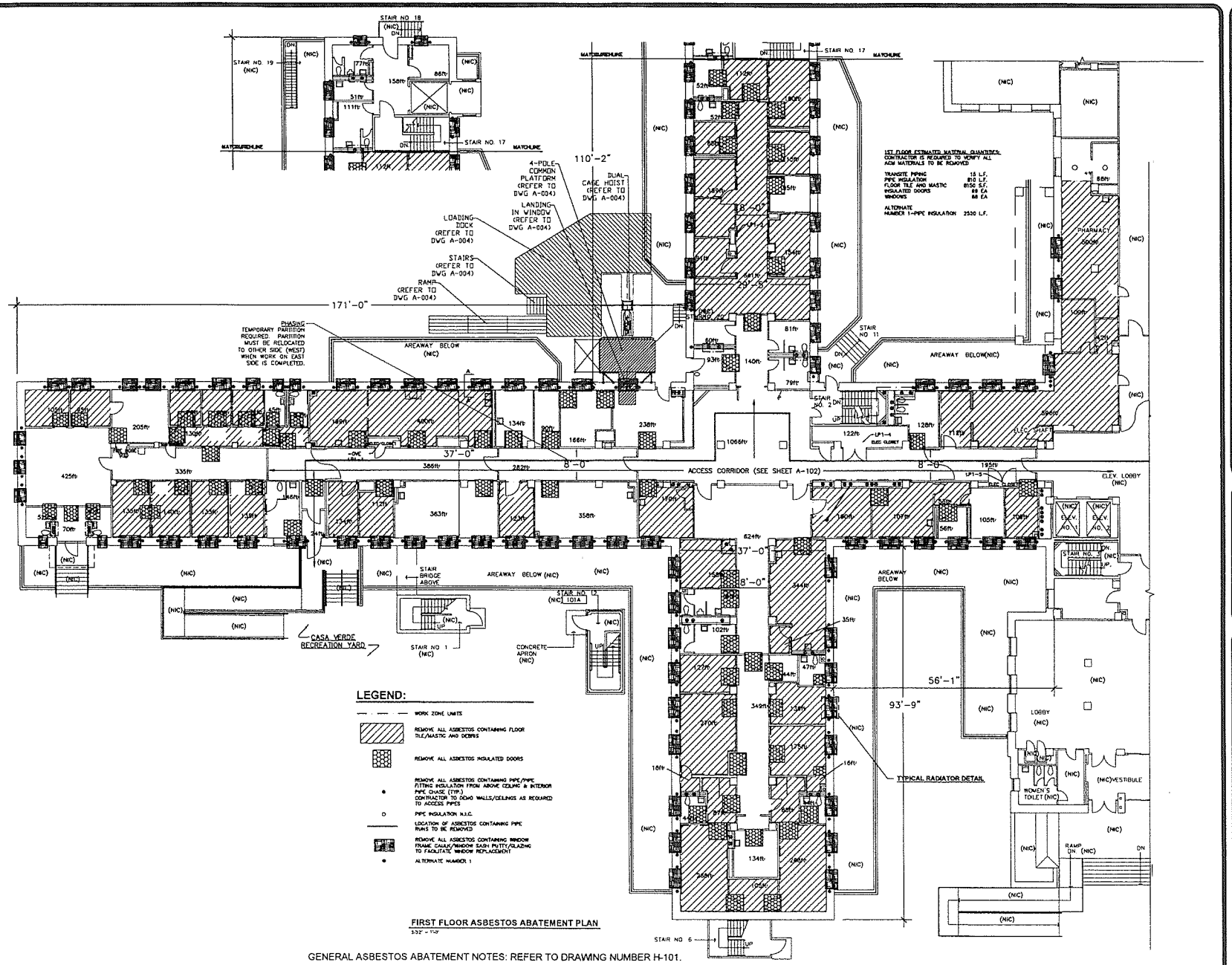
MARK	DATE	DESCRIPTION
100% – 3rd	5/26/12	100% SUBMISSION 3rd
100% – 2nd	08/18/2010	100% SUBMISSION 2nd
100% – 1st	08/16/2006	100% SUBMISSION 1st
50%	6/1/2006	50% SUBMISSION
DD	XX/XX/XXXX	DESIGN DEVELOPMENT
SD	XX/XX/XXXX	SCHEMATIC DESIGN
	XX/XX/XXXX	IFD DOCUMENT

PROJECT NUMBER:	Q0763 – C
DESIGNED BY:	DWM
DRAWN BY:	SL
FIELD CHECK:	OGS
APPROVED:	XXXXX

SHEET TITLE:
BASEMENT ASBESTOS ABATEMENT PLAN, GENERAL ASBESTOS ABATEMENT NOTES AND LEAD NOTES

DRAWING NUMBER:
H-101

SHEET 10 OF 50



1ST FLOOR ESTIMATED MATERIAL QUANTITIES:
CONTRACTOR IS REQUIRED TO VERIFY ALL ACM MATERIALS TO BE REMOVED

TRANSITE PIPING	15 L.F.
PIPE INSULATION	810 L.F.
FLOOR TILE AND MASTIC	8150 S.F.
INSULATED DOORS	88 EA
WINDOWS	88 EA
ALTERNATE NUMBER 1-PIPE INSULATION	2530 L.F.

FIRST FLOOR ASBESTOS ABATEMENT PLAN
3/32" = 1'-0"

GENERAL ASBESTOS ABATEMENT NOTES: REFER TO DRAWING NUMBER H-101.

CONSULTANT

KEY PLAN

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS "A" MISDEMEANOR.

CONTRACT:
CONSTRUCTION

TITLE:
ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS
DUNLAP BUILDING NO. 102, A-SIDE

LOCATION:
MANHATTAN PSYCHIATRIC CENTER
600 E. 125th STREET
WARDS ISLAND, NY 10035

CLIENT:
OFFICE OF MENTAL HEALTH

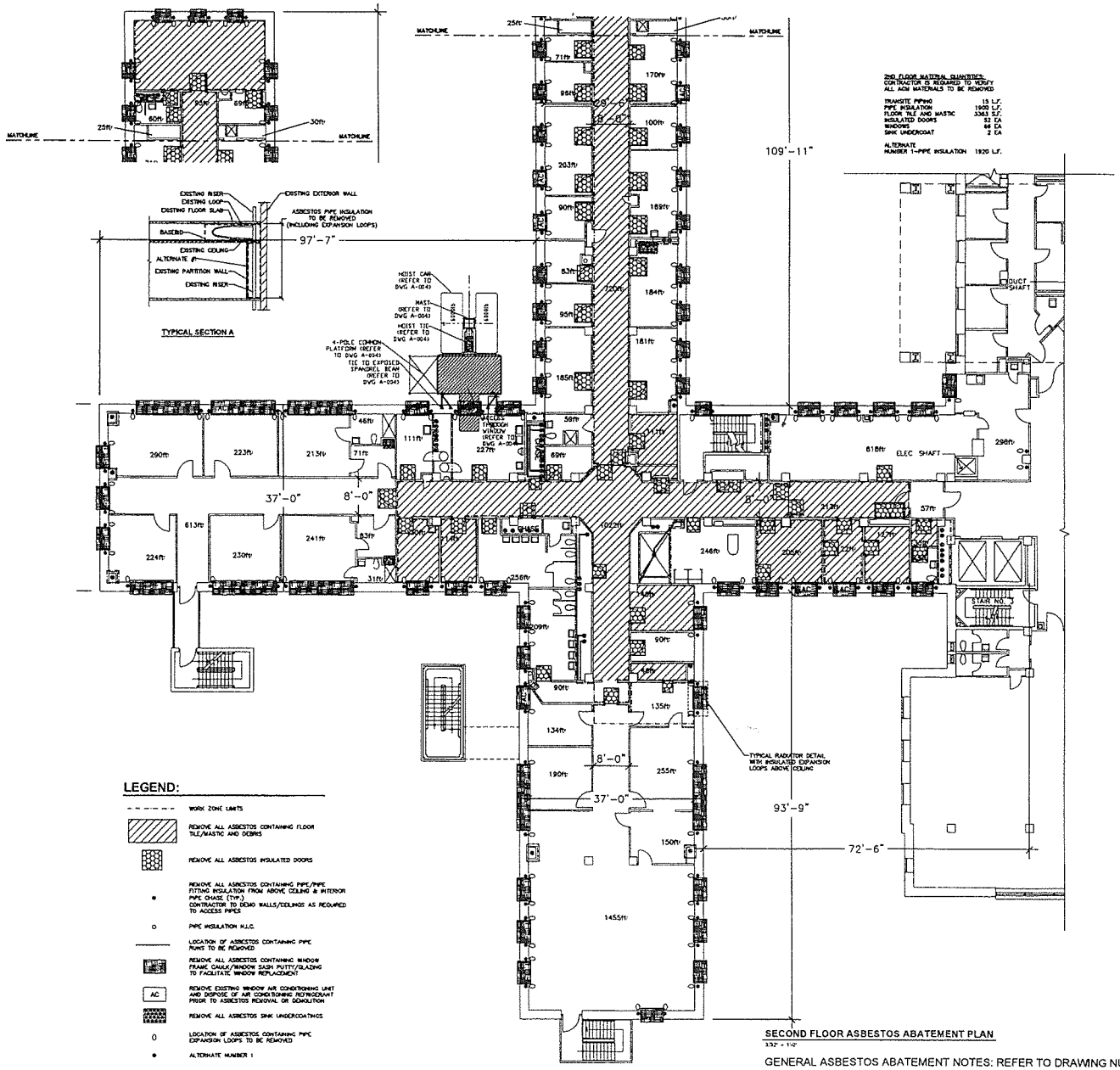
MARK	DATE	DESCRIPTION
100% - 3rd	3/26/12	100% SUBMISSION 3rd
100% - 2nd	08/18/2010	100% SUBMISSION 2nd
100% - 1st	08/16/2006	100% SUBMISSION 1st
50%	6/7/2006	50% SUBMISSION
DD	XX/XX/XXXX	DESIGN DEVELOPMENT
SD	XX/XX/XXXX	SCHEMATIC DESIGN
	XX/XX/XXXX	BID DOCUMENT

PROJECT NUMBER: 00763 - C
DESIGNED BY: DMM
DRAWN BY: SL
FIELD CHECK: DGS
APPROVED: XXXXX

SHEET TITLE:
FIRST FLOOR ASBESTOS ABATEMENT PLAN

DRAWING NUMBER:
H-102

SHEET 11 OF 50



2ND FLOOR MATERIAL QUANTITIES:
CONTRACTOR IS REQUIRED TO VERIFY ALL ACM MATERIALS TO BE REMOVED

TRANSITE PIPING	15 L.F.
PIPE INSULATION	1920 L.F.
FLOOR TILE AND MASTIC	3363 S.F.
INSULATED DOORS	32 EA
WINDOWS	66 EA
SINK UNDERCOAT	2 EA

ALTERNATE
NUMBER 1—PIPE INSULATION 1920 L.F.

SECOND FLOOR ASBESTOS ABATEMENT PLAN
3/32" = 1'-0"

GENERAL ASBESTOS ABATEMENT NOTES: REFER TO DRAWING NUMBER H-101.

CONSULTANT

KEY PLAN

TRUE NORTH

PROJECT NORTH

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS A MISDEMEANOR.

CONTRACT:
CONSTRUCTION

TITLE:
ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS
DUNLAP BUILDING NO. 102, A-SIDE

LOCATION:
MANHATTAN PSYCHIATRIC CENTER
600 E. 125th STREET
WARDS ISLAND, NY 10035

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
100% - 3rd	3/26/12	100% SUBMISSION 3rd
100% - 2nd	06/18/2010	100% SUBMISSION 2nd
100% - 1st	08/16/2006	100% SUBMISSION 1st
50%	6/7/2006	50% SUBMISSION
DD	XX/XX/XXXX	DESIGN DEVELOPMENT
SD	XX/XX/XXXX	SCHEMATIC DESIGN
	XX/XX/XXXX	P/O DOCUMENT

PROJECT NUMBER: Q0763 - C

DESIGNED BY: DWM

DRAWN BY: SL

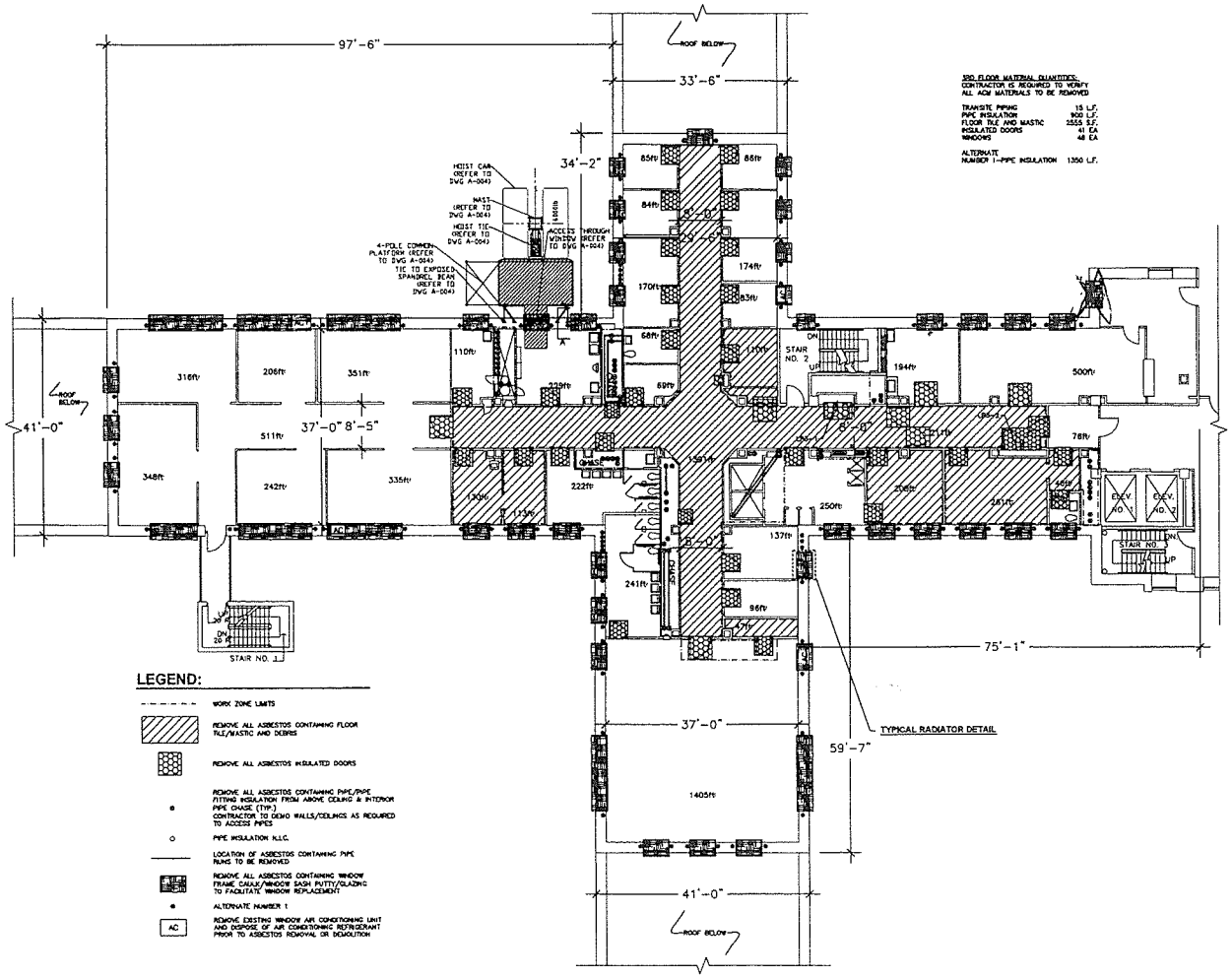
FIELD CHECK: OGS

APPROVED: XXXXX

SHEET TITLE:
SECOND FLOOR ASBESTOS ABATEMENT PLAN

DRAWING NUMBER:
H-103

SHEET: 12 OF 50



THIRD FLOOR ASBESTOS ABATEMENT PLAN
3/32" = 1'-0"

GENERAL ASBESTOS ABATEMENT NOTES: REFER TO DRAWING NUMBER H-101.

CONSULTANT

KEY PLAN

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS "A" MISDEMEANOR.

CONTRACT:
CONSTRUCTION

TITLE:
ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS
DUNLAP BUILDING NO. 102, A-SIDE

LOCATION:
MANHATTAN PSYCHIATRIC CENTER
600 E. 125th STREET
WARDS ISLAND, NY 10035

CLIENT:
OFFICE OF MENTAL HEALTH

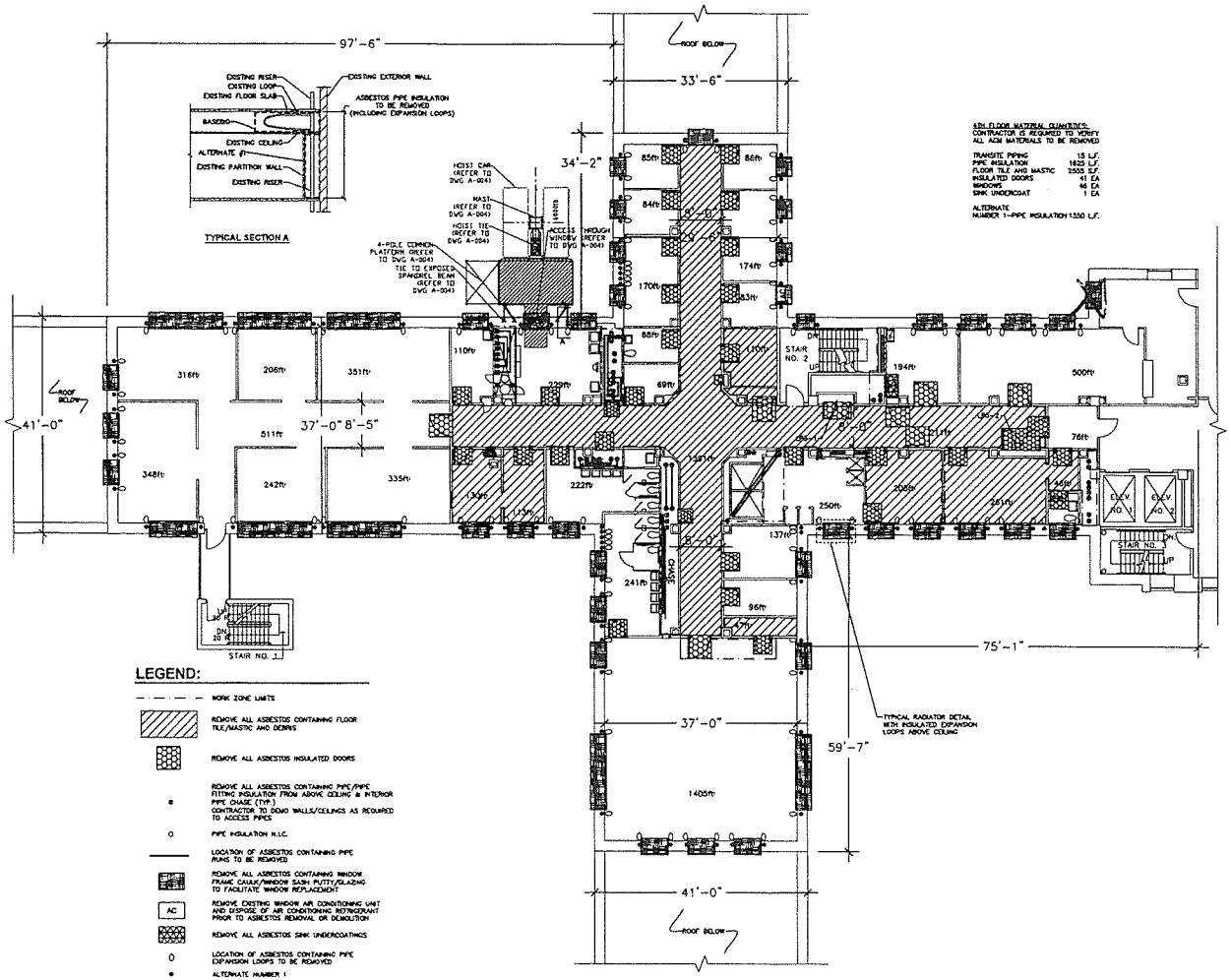
MARK	DATE	DESCRIPTION
100% - 3rd	3/26/12	100% SUBMISSION 3rd
100% - 2nd	06/18/2010	100% SUBMISSION 2nd
100% - 1st	08/16/2006	100% SUBMISSION 1st
50%	6/7/2006	50% SUBMISSION
DD	XX/XX/XXXX	DESIGN DEVELOPMENT
SD	XX/XX/XXXX	SCHEMATIC DESIGN
	XX/XX/XXXX	BID DOCUMENT

PROJECT NUMBER:	Q0763 - C
DESIGNED BY:	DMN
DRAWN BY:	SL
FIELD CHECK:	OGS
APPROVED:	XXXXX

SHEET TITLE:
THIRD FLOOR ASBESTOS ABATEMENT PLAN

DRAWING NUMBER:
H-104

SHEET 13 of 50



LEGEND:

- WORK ZONE LIMITS
- REMOVE ALL ASBESTOS CONTAINING FLOOR TILE/MASTIC AND DEBRIS
- REMOVE ALL ASBESTOS INSULATED DOORS
- REMOVE ALL ASBESTOS CONTAINING PIPE/PIPE FITTING INSULATION FROM ABOVE CEILING & INTERIOR PIPE CHASE (TYP.) CONTRACTOR TO DEMO WALLS/CEILINGS AS REQUIRED TO ACCESS PIPES
- PIPE INSULATION N.I.C.
- LOCATION OF ASBESTOS CONTAINING PIPE RUNS TO BE REMOVED
- REMOVE ALL ASBESTOS CONTAINING WINDOW FRAME CAULK/WINDOW SASH PUTTY/GLAZING TO FACILITATE WINDOW REPLACEMENT
- AC — REMOVE EXISTING WINDOW AIR CONDITIONING UNIT AND DISPOSE OF AIR CONDITIONING REFRIGERANT PRIOR TO ASBESTOS REMOVAL OR DEMOLITION
- REMOVE ALL ASBESTOS SINK UNDERCOATINGS
- LOCATION OF ASBESTOS CONTAINING PIPE EXPANSION LOOPS TO BE REMOVED
- ALTERNATE NUMBER 1

FOURTH FLOOR ASBESTOS ABATEMENT PLAN
3/32" = 1'-0"

GENERAL ASBESTOS ABATEMENT NOTES: REFER TO DRAWING NUMBER H-101.

4th FLOOR MATERIAL QUANTITIES:
CONTRACTOR IS REQUIRED TO VERIFY ALL ACM MATERIALS TO BE REMOVED

TRANSITE PIPING	15 L.F.
PIPE INSULATION	1625 L.F.
FLOOR TILE AND MASTIC	2505 S.F.
INSULATED DOORS	41 EA
WINDOWS	46 EA
SINK UNDERCOAT	1 EA

ALTERNATE
NUMBER 1–PIPE INSULATION 1350 L.F.

CONSULTANT

KEY PLAN

TRUE NORTH

PROJECT NORTH

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS "A" MISDEMEANOR.

CONTRACT:
CONSTRUCTION

TITLE:
ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS
DUNLAP BUILDING NO. 102, A-SIDE

LOCATION:
MANHATTAN PSYCHIATRIC CENTER
600 E. 125th STREET
WARDS ISLAND, NY 10035

CLIENT:
OFFICE OF MENTAL HEALTH

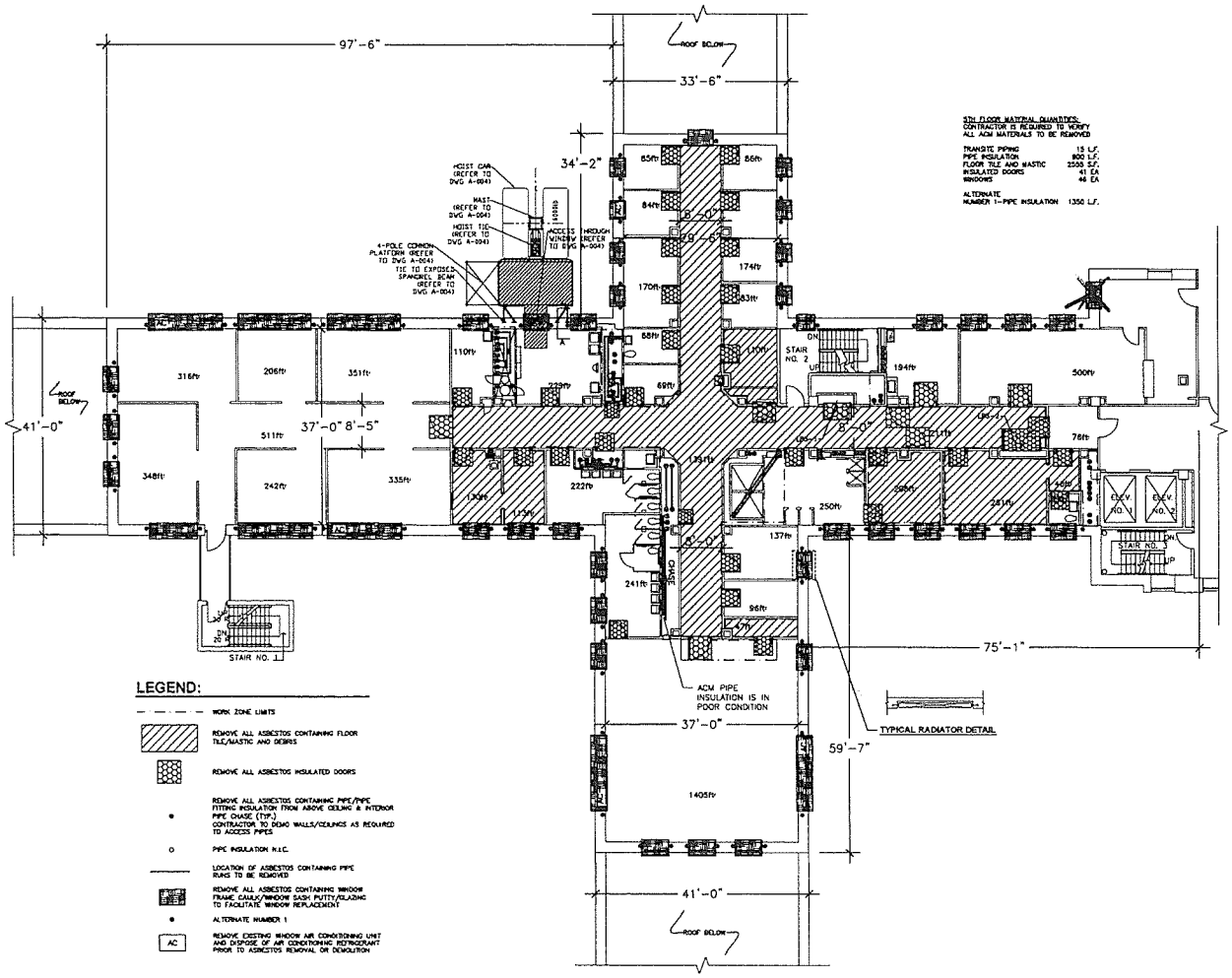
MARK	DATE	DESCRIPTION
100% – 3rd	3/26/12	100% SUBMISSION 3rd
100% – 2nd	08/18/2010	100% SUBMISSION 2nd
100% – 1st	05/16/2006	100% SUBMISSION 1st
50%	6/7/2006	50% SUBMISSION
DD	XX/XX/XXXX	DESIGN DEVELOPMENT
SD	XX/XX/XXXX	SCHEMATIC DESIGN
	XX/XX/XXXX	BID DOCUMENT

PROJECT NUMBER:	Q0763 – C
DESIGNED BY:	DWM
DRAWN BY:	SL
FIELD CHECK:	DCS
APPROVED:	XXXXX

SHEET TITLE:
FOURTH FLOOR ASBESTOS ABATEMENT PLAN

DRAWING NUMBER:
H–105

SHEET 14 OF 50



FIFTH FLOOR ASBESTOS ABATEMENT PLAN
1/32" = 1'-0"

GENERAL ASBESTOS ABATEMENT NOTES: REFER TO DRAWING NUMBER H-101.

CONSULTANT

KEY PLAN

TRUE NORTH

PROJECT NORTH

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS "A" MISDEMEANOR.

CONTRACT:
CONSTRUCTION

TITLE:
ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS
DUNLAP BUILDING NO. 102, A-SIDE

LOCATION:
MANHATTAN PSYCHIATRIC CENTER
600 E. 125th STREET
WARDS ISLAND, NY 10035

CLIENT:
OFFICE OF MENTAL HEALTH

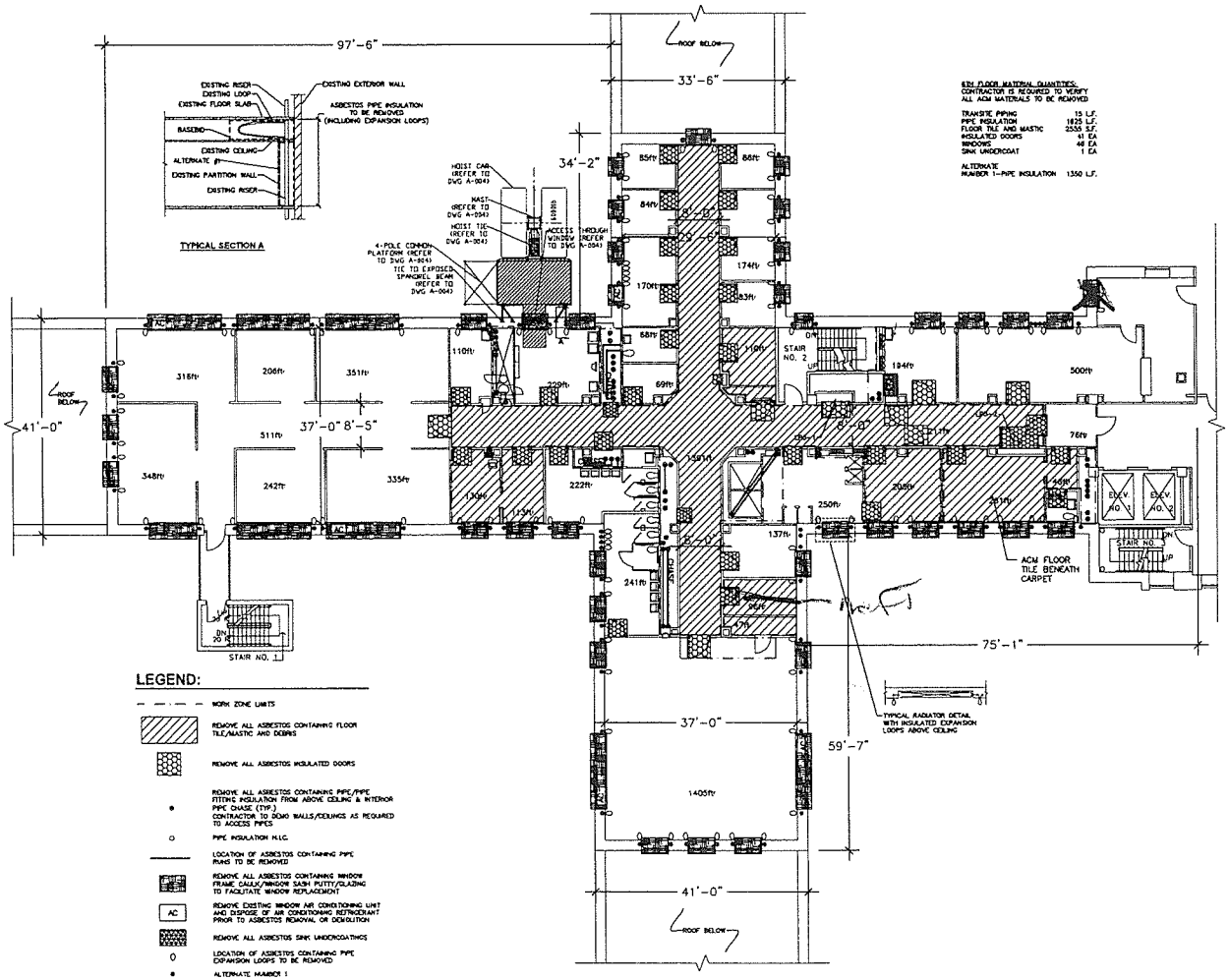
MARK	DATE	DESCRIPTION
100% - 3rd	3/28/12	100% SUBMISSION 3rd
100% - 2nd	08/18/2010	100% SUBMISSION 2nd
100% - 1st	08/18/2006	100% SUBMISSION 1st
50%	6/7/2006	50% SUBMISSION
DD	XX/XX/XXXX	DESIGN DEVELOPMENT
SD	XX/XX/XXXX	SCHEMATIC DESIGN
	XX/XX/XXXX	BID DOCUMENT

PROJECT NUMBER: Q0763 - C
DESIGNED BY: DWW
DRAWN BY: SL
FIELD CHECK: OGS
APPROVED: XXXXX

SHEET TITLE:
FIFTH FLOOR ASBESTOS ABATEMENT PLAN

DRAWING NUMBER:
H-106

SHEET 15 of 50



6TH FLOOR MATERIAL QUANTITIES:
CONTRACTOR IS REQUIRED TO VERIFY ALL ACM MATERIALS TO BE REMOVED

TRANSITE PIPING	15 L.F.
PIPE INSULATION	1825 L.F.
FLOOR TILE AND MASTIC	2555 S.F.
INSULATED DOORS	41 EA
WINDOWS	46 EA
SINK UNDERCOAT	1 EA

ALTERNATE
NUMBER 1–PIPE INSULATION 1350 L.F.

LEGEND:

- WORK ZONE LIMITS
- REMOVE ALL ASBESTOS CONTAINING FLOOR TILE/MASTIC AND DEBRIS
- REMOVE ALL ASBESTOS INSULATED DOORS
- ● REMOVE ALL ASBESTOS CONTAINING PIPE/PIPE FITTING INSULATION FROM ABOVE CEILING & INTERIOR PIPE CHASE (TYP.) CONTRACTOR TO BOXIO WALLS/CEILINGS AS REQUIRED TO ACCESS PIPES
- ○ PIPE INSULATION H.L.C.
- LOCATION OF ASBESTOS CONTAINING PIPE RUNS TO BE REMOVED
- REMOVE ALL ASBESTOS CONTAINING WINDOW FRAME CAULK/WINDOW SASH PUTTY/GLAZING TO FACILITATE WINDOW REPLACEMENT
- AC REMOVE EXISTING WINDOW AIR CONDITIONING UNIT AND DISPOSE OF AIR CONDITIONING REFRIGERANT PRIOR TO ASBESTOS REMOVAL OR DEMOLITION
- REMOVE ALL ASBESTOS SINK UNDERCOATINGS
- 0 LOCATION OF ASBESTOS CONTAINING PIPE EXPANSION LOOPS TO BE REMOVED
- ● ALTERNATE NUMBER 1

SIXTH FLOOR ASBESTOS ABATEMENT PLAN

3/32" = 1'-0"

GENERAL ASBESTOS ABATEMENT NOTES: REFER TO DRAWING NUMBER H-101.

CONSULTANT

KEY PLAN

TRUE NORTH

PROJECT NORTH

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS A MISDEMEANOR.

CONTRACT:
CONSTRUCTION

TITLE:
ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS
DUNLAP BUILDING NO. 102, A-SIDE

LOCATION:
MANHATTAN PSYCHIATRIC CENTER
600 E. 125th STREET
WARDS ISLAND, NY 10035

CLIENT:
OFFICE OF MENTAL HEALTH

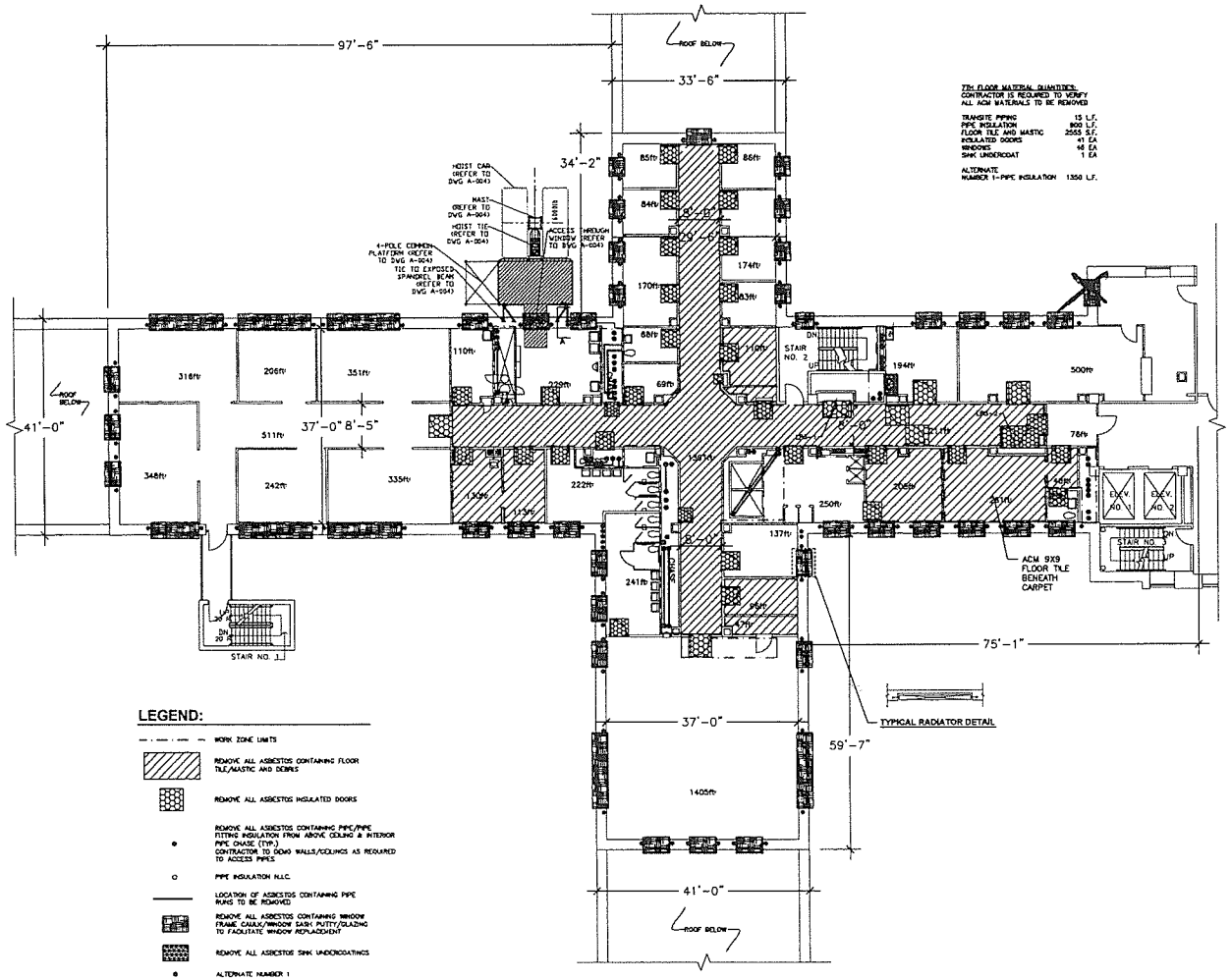
MARK	DATE	DESCRIPTION
100% – 3rd	3/26/12	100% SUBMISSION 3rd
100% – 2nd	08/18/2010	100% SUBMISSION 2nd
100% – 1st	08/16/2006	100% SUBMISSION 1st
50%	6/7/2006	50% SUBMISSION
DD	XX/XX/XXXX	DESIGN DEVELOPMENT
SD	XX/XX/XXXX	SCHEMATIC DESIGN
	XX/XX/XXXX	BID DOCUMENT

PROJECT NUMBER:	Q0763 – C
DESIGNED BY:	DMW
DRAWN BY:	SL
FIELD CHECK:	DGS
APPROVED:	XXXXX

SHEET TITLE:
SIXTH FLOOR ASBESTOS ABATEMENT PLAN

DRAWING NUMBER:
H–107

SHEET 16 OF 50



LEGEND:

- WORK ZONE LIMITS
- REMOVE ALL ASBESTOS CONTAINING FLOOR TILE/MASTIC AND DEBRIS
- REMOVE ALL ASBESTOS INSULATED DOORS
- REMOVE ALL ASBESTOS CONTAINING PIPE/PIPE FITTING INSULATION FROM ABOVE CEILING & INTERIOR PIPE CHASE (TYP.) CONTRACTOR TO DEMO WALLS/CEILINGS AS REQUIRED TO ACCESS PIPES
- PIPE INSULATION N.L.C.
- LOCATION OF ASBESTOS CONTAINING PIPE RUNS TO BE REMOVED
- REMOVE ALL ASBESTOS CONTAINING WINDOW FRAME CAULK/WINDOW SASH PUTTY/GLAZING TO FACILITATE WINDOW REPLACEMENT
- REMOVE ALL ASBESTOS SINK UNDERCOATINGS
- ALTERNATE NUMBER 1

7TH FLOOR MATERIAL QUANTITIES:
CONTRACTOR IS REQUIRED TO VERIFY ALL ACM MATERIALS TO BE REMOVED

TRANSITE PIPING	15 L.F.
PIPE INSULATION	900 L.F.
FLOOR TILE AND MASTIC	2555 S.F.
INSULATED DOORS	41 EA
WINDOWS	46 EA
SINK UNDERCOAT	1 EA
ALTERNATE NUMBER 1-PIPE INSULATION	1350 L.F.

SEVENTH FLOOR ASBESTOS ABATEMENT PLAN

3/32" = 1'-0"

GENERAL ASBESTOS ABATEMENT NOTES: REFER TO DRAWING NUMBER H-101.

CONSULTANT

KEY PLAN

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS "A" MISDEMEANOR.

CONTRACT: CONSTRUCTION

TITLE: ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS DUNLAP BUILDING NO. 102, A-SIDE

LOCATION: MANHATTAN PSYCHIATRIC CENTER 600 E. 125th STREET WARDS ISLAND, NY 10035

CLIENT: OFFICE OF MENTAL HEALTH

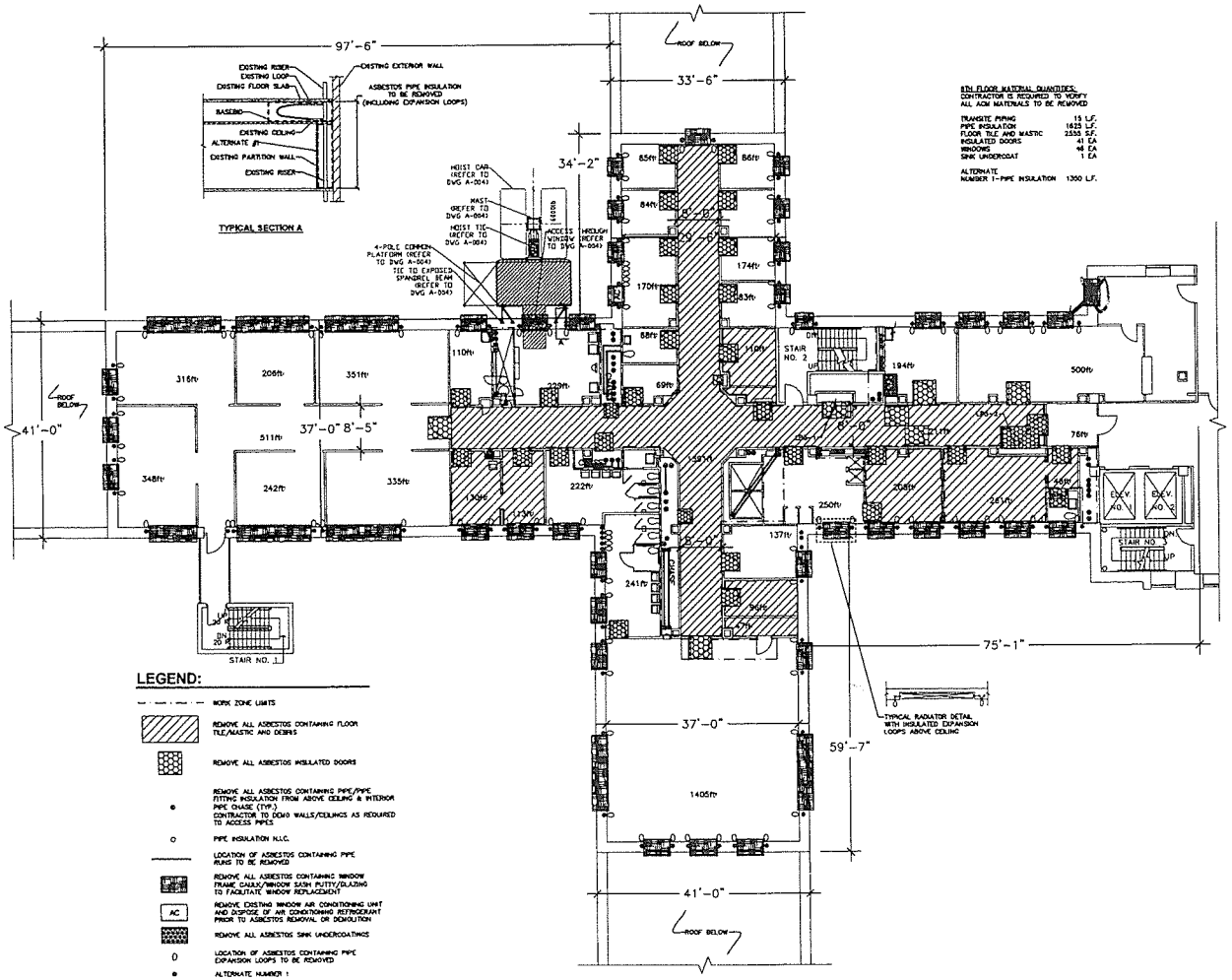
MARK	DATE	DESCRIPTION
100% - 3rd	3/26/12	100% SUBMISSION 3rd
100% - 2nd	08/18/2010	100% SUBMISSION 2nd
100% - 1st	03/16/2006	100% SUBMISSION 1st
50%	6/7/2006	50% SUBMISSION
DD	XX/XX/XXXX	DESIGN DEVELOPMENT
SD	XX/XX/XXXX	SCHEMATIC DESIGN
	XX/XX/XXXX	BID DOCUMENT

PROJECT NUMBER:	Q0763 - C
DESIGNED BY:	DMM
DRAWN BY:	SL
FIELD CHECK:	OGS
APPROVED:	XXXXX

SHEET TITLE: SEVENTH FLOOR ASBESTOS ABATEMENT PLAN

DRAWING NUMBER: H-108

SHEET 17 OF 50



8TH FLOOR MATERIAL QUANTITIES:
CONTRACTOR IS REQUIRED TO VERIFY ALL ACM MATERIALS TO BE REMOVED

TRANSITE PIPING	15 L.F.
PIPE INSULATION	1625 L.F.
FLOOR TILE AND MASTIC	2555 S.F.
INSULATED DOORS	41 EA
WINDOWS	46 EA
SINK UNDERCOAT	1 EA
ALTERNATE NUMBER 1-PIPE INSULATION	1300 L.F.

LEGEND:

- WORK ZONE LIMITS
- REMOVE ALL ASBESTOS CONTAINING FLOOR TILE/MASTIC AND DEBRIS
- REMOVE ALL ASBESTOS INSULATED DOORS
- REMOVE ALL ASBESTOS CONTAINING PIPE/PIPE FITTING INSULATION FROM ABOVE CEILING & INTERIOR PIPE CHASE (TYP.) CONTRACTOR TO DEMO WALLS/CEILINGS AS REQUIRED TO ACCESS PIPES
- PIPE INSULATION N.I.C.
- LOCATION OF ASBESTOS CONTAINING PIPE RUNS TO BE REMOVED
- REMOVE ALL ASBESTOS CONTAINING WINDOW FRAME CAULK/WINDOW SASH PUTTY/GLAZING TO FACILITATE WINDOW REPLACEMENT
- AC — REMOVE EXISTING WINDOW AIR CONDITIONING UNIT AND DISPOSE OF AIR CONDITIONING REFRIGERANT PRIOR TO ASBESTOS REMOVAL OR DEMOLITION
- REMOVE ALL ASBESTOS SINK UNDERCOATINGS
- 0 — LOCATION OF ASBESTOS CONTAINING PIPE EXPANSION LOOPS TO BE REMOVED
- ALTERNATE NUMBER 1

EIGHTH FLOOR ASBESTOS ABATEMENT PLAN

1/32" = 1'-0"

GENERAL ASBESTOS ABATEMENT NOTES: REFER TO DRAWING NUMBER H-101.

CONSULTANT

KEY PLAN

TRUE NORTH

PROJECT NORTH

WARNING:

THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS "A" MISDEMEANOR.

CONTRACT: CONSTRUCTION

TITLE: ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS DUNLAP BUILDING NO. 102, A-SIDE

LOCATION: MANHATTAN PSYCHIATRIC CENTER 600 E. 125th STREET WARDS ISLAND, NY 10035

CLIENT: OFFICE OF MENTAL HEALTH

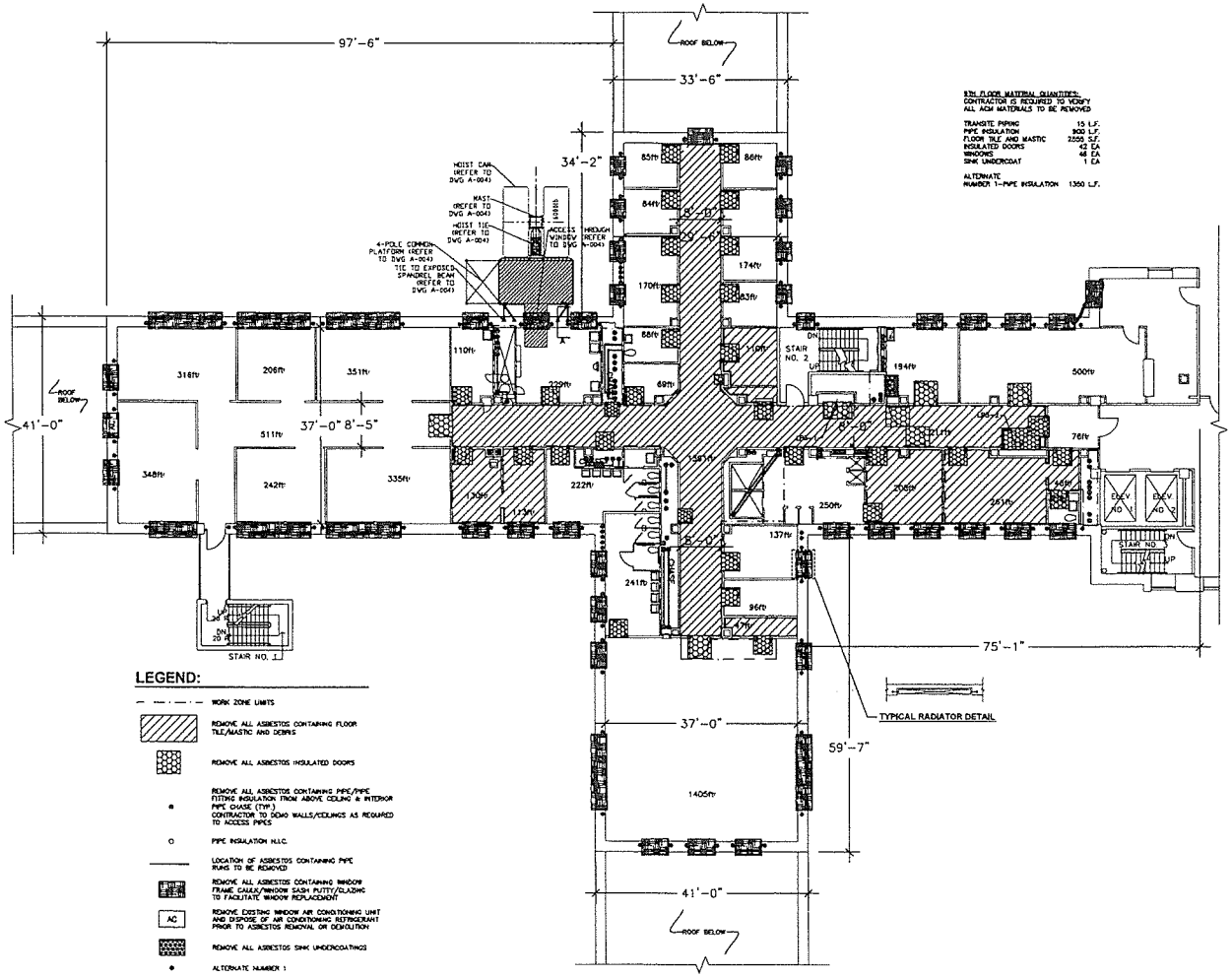
MARK	DATE	DESCRIPTION
100% – 3rd	3/26/12	100% SUBMISSION 3rd
100% – 2nd	08/18/2010	100% SUBMISSION 2nd
100% – 1st	08/16/2006	100% SUBMISSION 1st
50%	6/7/2006	50% SUBMISSION
DD	XX/XX/XXXX	DESIGN DEVELOPMENT
SD	XX/XX/XXXX	SCHEMATIC DESIGN
	XX/XX/XXXX	BID DOCUMENT

PROJECT NUMBER:	Q0763 – C
DESIGNED BY:	DMM
DRAWN BY:	SL
FIELD CHECK:	DGS
APPROVED:	XXXXX

SHEET TITLE: EIGHTH FLOOR ASBESTOS ABATEMENT PLAN

DRAWING NUMBER: H–109

SHEET 18 OF 50



NINTH FLOOR MATERIAL QUANTITIES:
CONTRACTOR IS REQUIRED TO VERIFY ALL ACM MATERIALS TO BE REMOVED

TRANSITE PIPING	15 L.F.
PIPE INSULATION	900 L.F.
FLOOR TILE AND MASTIC	2550 S.F.
INSULATED DOORS	43 EA
WINDOWS	48 EA
SINK UNDERCOAT	1 EA
ALTERNATE NUMBER 1–PIPE INSULATION	1350 L.F.

LEGEND:

- WORK ZONE LIMITS
- REMOVE ALL ASBESTOS CONTAINING FLOOR TILE/MASTIC AND DEBRIS
- REMOVE ALL ASBESTOS INSULATED DOORS
- REMOVE ALL ASBESTOS CONTAINING PIPE/PIPE FITTING INSULATION FROM ABOVE CEILING & INTERIOR PIPE CHASE (TYP.) CONTRACTOR TO DEMO WALLS/CEILINGS AS REQUIRED TO ACCESS PIPES
- PIPE INSULATION N.L.C.
- LOCATION OF ASBESTOS CONTAINING PIPE RUNS TO BE REMOVED
- REMOVE ALL ASBESTOS CONTAINING WINDOW FRAME CAULK/WINDOW SASH PUTTY/GLAZING TO FACILITATE WINDOW REPLACEMENT
- AC — REMOVE EXISTING WINDOW AIR CONDITIONING UNIT AND DISPOSE OF AIR CONDITIONING REFRIGERANT PRIOR TO ASBESTOS REMOVAL OR DEMOLITION
- REMOVE ALL ASBESTOS SINK UNDERCOATINGS
- ALTERNATE NUMBER 1

NINTH FLOOR ASBESTOS ABATEMENT PLAN
3/32" = 1'-0"

GENERAL ASBESTOS ABATEMENT NOTES: REFER TO DRAWING NUMBER H-101.

CONSULTANT

KEY PLAN

PROJECT NORTH

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS "A" MISDEMEANOR.

CONTRACT: CONSTRUCTION

TITLE: ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS DUNLAP BUILDING NO. 102, A-SIDE

LOCATION: MANHATTAN PSYCHIATRIC CENTER
600 E. 125th STREET
WARDS ISLAND, NY 10035

CLIENT: OFFICE OF MENTAL HEALTH

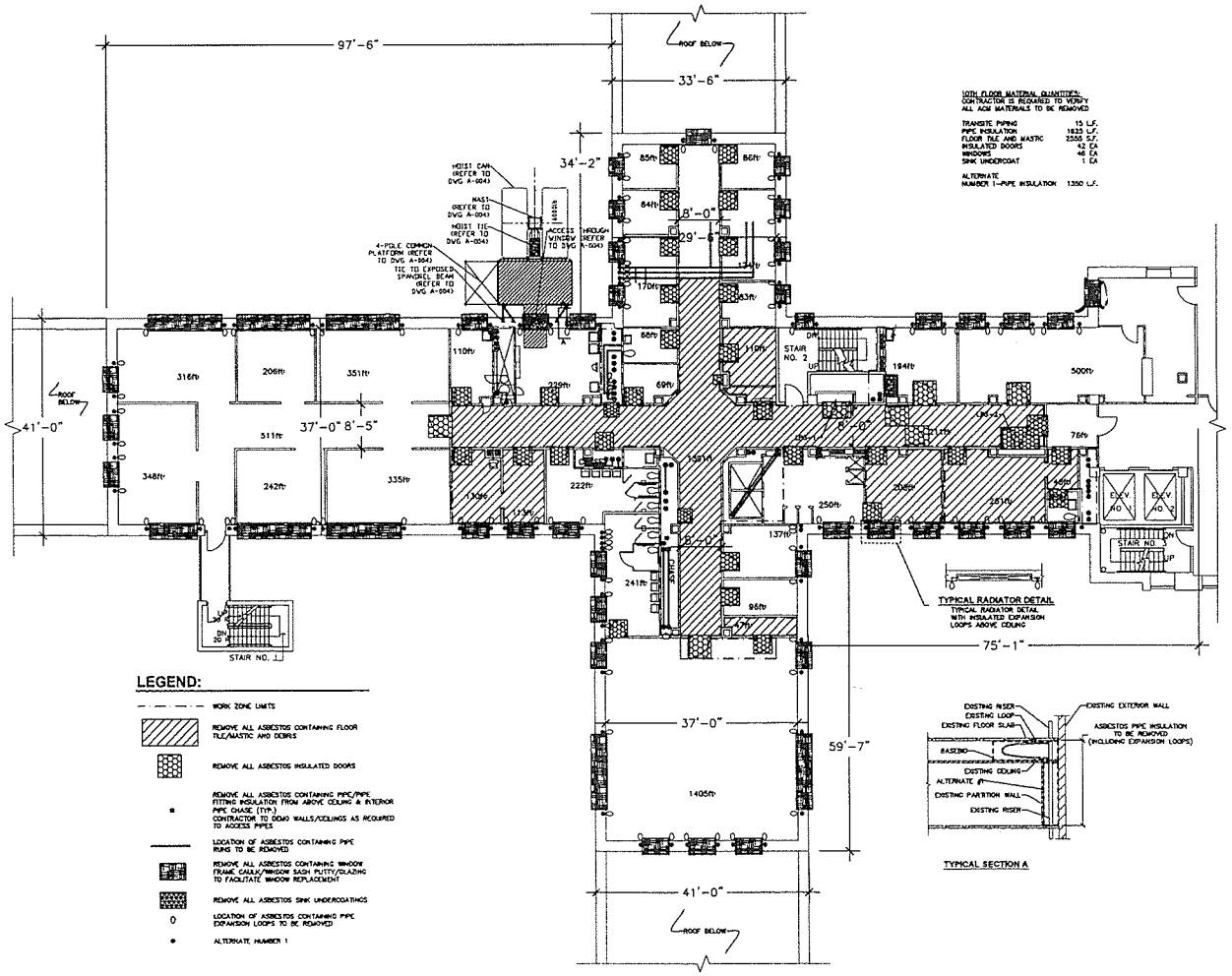
MARK	DATE	DESCRIPTION
100% – 3rd	3/28/12	100% SUBMISSION 3rd
100% – 2nd	06/18/2010	100% SUBMISSION 2nd
100% – 1st	08/16/2006	100% SUBMISSION 1st
50%	6/7/2006	50% SUBMISSION
DD	XX/XX/XXXX	DESIGN DEVELOPMENT
SD	XX/XX/XXXX	SCHEMATIC DESIGN
	XX/XX/XXXX	IFD DOCUMENT

PROJECT NUMBER:	Q0763 – C
DESIGNED BY:	DWW
DRAWN BY:	SL
FIELD CHECK:	DGS
APPROVED:	XXXXX

SHEET TITLE: NINTH FLOOR ASBESTOS ABATEMENT PLAN

DRAWING NUMBER: H–110

SHEET 19 OF 50



10TH FLOOR MATERIAL QUANTITIES:
CONTRACTOR IS REQUIRED TO VERIFY ALL ACM MATERIALS TO BE REMOVED

TRANSITE PIPING	15 L.F.
PIPE INSULATION	1835 L.F.
FLOOR TILE AND MASTIC	2555 S.F.
INSULATED DOORS	42 EA
WINDOWS	46 EA
SINK UNDERCOAT	1 EA
ALTERNATE NUMBER 1–PIPE INSULATION	1350 L.F.

LEGEND:

- WORK ZONE LIMITS
- REMOVE ALL ASBESTOS CONTAINING FLOOR TILE/MASTIC AND DEBRIS
- REMOVE ALL ASBESTOS INSULATED DOORS
- REMOVE ALL ASBESTOS CONTAINING PIPE/PIPE FITTING INSULATION FROM ABOVE CEILING & INTERIOR PIPE CHASE (TYP.) CONTRACTOR TO DEMO WALLS/CEILINGS AS REQUIRED TO ACCESS PIPES
- LOCATION OF ASBESTOS CONTAINING PIPE RUNS TO BE REMOVED
- REMOVE ALL ASBESTOS CONTAINING WINDOW FRAME CAULK/WINDOW SASH PUTTY/GLAZING TO FACILITATE WINDOW REPLACEMENT
- REMOVE ALL ASBESTOS SINK UNDERCOATINGS
- 0 LOCATION OF ASBESTOS CONTAINING PIPE EXPANSION LOOPS TO BE REMOVED
- ALTERNATE NUMBER 1

TENTH FLOOR ASBESTOS ABATEMENT PLAN
3/32" = 1'-0"

GENERAL ASBESTOS ABATEMENT NOTES: REFER TO DRAWING NUMBER H-101.

CONSULTANT

KEY PLAN

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS "A" MISDEMEANOR.

CONTRACT: CONSTRUCTION

TITLE: ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS DUNLAP BUILDING NO. 102, A-SIDE

LOCATION: MANHATTAN PSYCHIATRIC CENTER 600 E. 125th STREET WARDS ISLAND, NY 10035

CLIENT: OFFICE OF MENTAL HEALTH

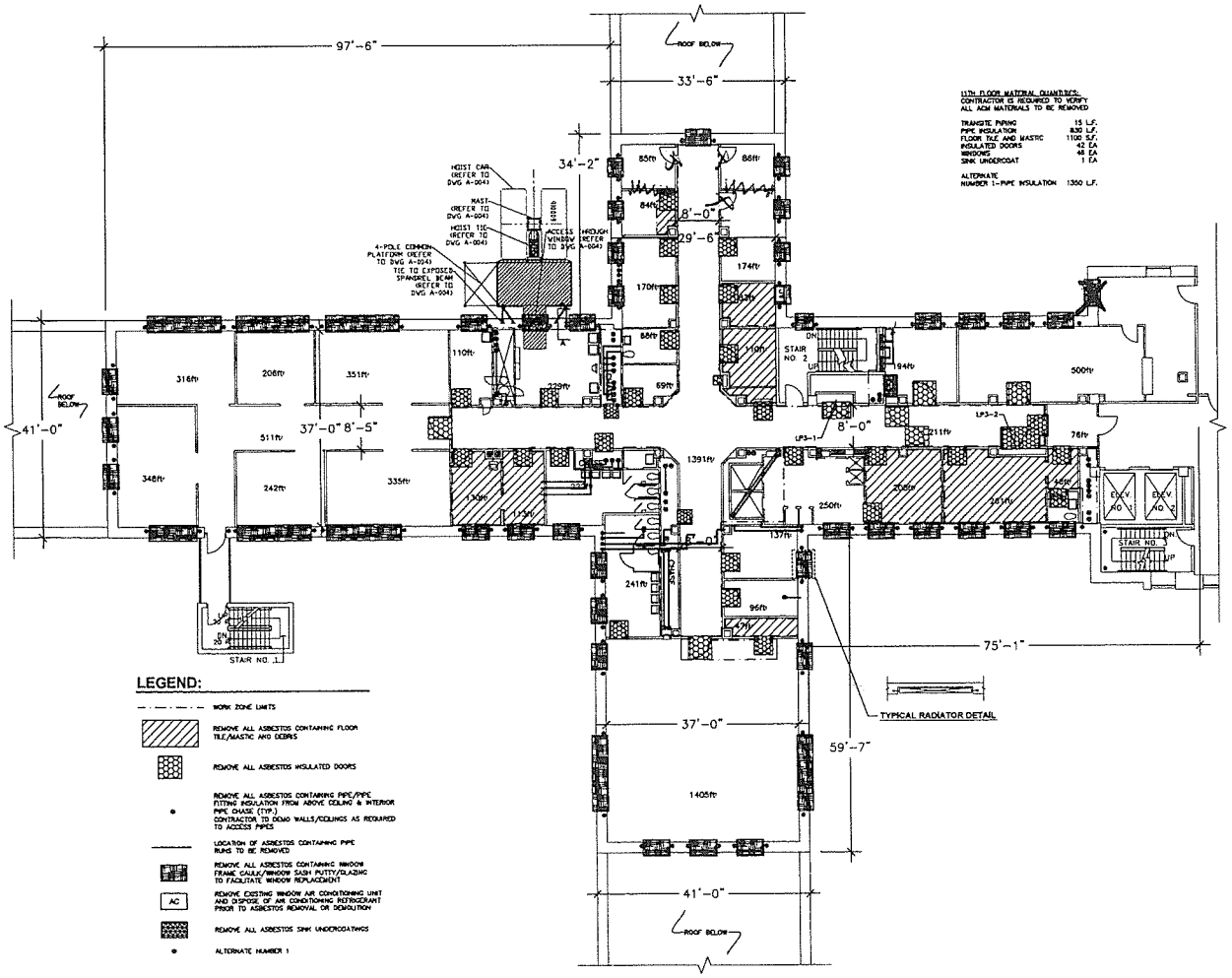
MARK	DATE	DESCRIPTION
100% – 3rd	3/26/12	100% SUBMISSION 3rd
100% – 2nd	08/18/2010	100% SUBMISSION 2nd
100% – 1st	08/18/2006	100% SUBMISSION 1st
50%	6/7/2006	50% SUBMISSION
DD	XX/XX/XXXX	DESIGN DEVELOPMENT
SD	XX/XX/XXXX	SCHEMATIC DESIGN
	XX/XX/XXXX	BID DOCUMENT

PROJECT NUMBER:	00763 – C
DESIGNED BY:	DRM
DRAWN BY:	SL
FIELD CHECK:	DCS
APPROVED:	XXXXX

SHEET TITLE: TENTH FLOOR ASBESTOS ABATEMENT PLAN

DRAWING NUMBER: H–111

SHEET 20 OF 50



11Th FLOOR MATERIAL QUANTITIES:
CONTRACTOR IS REQUIRED TO VERIFY ALL ACM MATERIALS TO BE REMOVED

TRANSITE PIPING	15 L.F.
PIPE INSULATION	830 L.F.
FLOOR TILE AND MASTIC	1100 S.F.
INSULATED DOORS	42 EA
WINDOWS	48 EA
SINK UNDERCOAT	1 EA
ALTERNATE NUMBER 1-PIPE INSULATION	1350 L.F.

LEGEND:

- WORK ZONE LIMITS
- REMOVE ALL ASBESTOS CONTAINING FLOOR TILE/MASTIC AND DEBRIS
- REMOVE ALL ASBESTOS INSULATED DOORS
- REMOVE ALL ASBESTOS CONTAINING PIPE/PIPE FITTING INSULATION FROM ABOVE CEILING & INTERIOR PIPE CHASE (TYP.) CONTRACTOR TO DEMO WALLS/CEILINGS AS REQUIRED TO ACCESS PIPES
- LOCATION OF ASBESTOS CONTAINING PIPE RUNS TO BE REMOVED
- REMOVE ALL ASBESTOS CONTAINING WINDOW FRAME CAULK/WINDOW SASH PUTTY/GLAZING TO FACILITATE WINDOW REPLACEMENT
- AC — REMOVE EXISTING WINDOW AIR CONDITIONING UNIT AND DISPOSE OF AIR CONDITIONING REFRIGERANT PRIOR TO ASBESTOS REMOVAL OR DEMOLITION
- REMOVE ALL ASBESTOS SINK UNDERCOATINGS
- ALTERNATE NUMBER 1

ELEVENTH FLOOR ASBESTOS ABATEMENT PLAN
3/32" = 1'-0"

GENERAL ASBESTOS ABATEMENT NOTES: REFER TO DRAWING NUMBER H-101.

CONSULTANT

KEY PLAN

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS A MISDEMEANOR.

CONTRACT: CONSTRUCTION

TITLE: ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS DUNLAP BUILDING NO. 102, A-SIDE

LOCATION: MANHATTAN PSYCHIATRIC CENTER 600 E. 125th STREET WARDS ISLAND, NY 10035

CLIENT: OFFICE OF MENTAL HEALTH

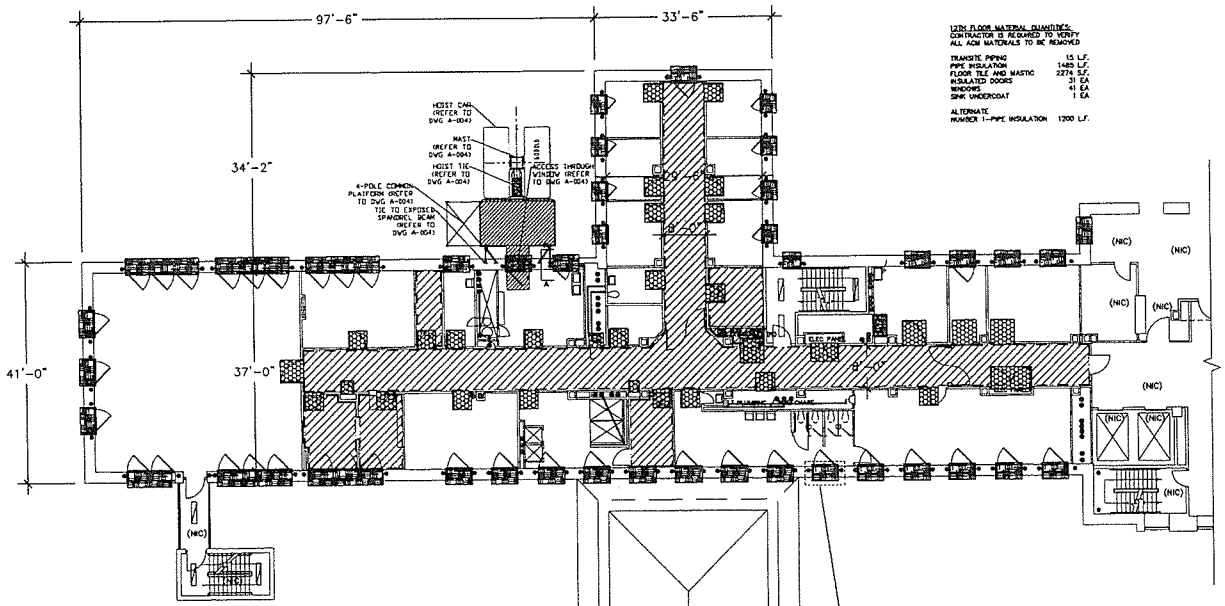
MARK	DATE	DESCRIPTION
100% – 3rd	3/26/12	100% SUBMISSION 3rd
100% – 2nd	08/18/2010	100% SUBMISSION 2nd
100% – 1st	08/18/2006	100% SUBMISSION 1st
50%	6/1/2006	50% SUBMISSION
DD	XX/XX/XXXX	DESIGN DEVELOPMENT
SD	XX/XX/XXXX	SCHEMATIC DESIGN
	XX/XX/XXXX	IFD DOCUMENT

PROJECT NUMBER:	Q0763 – C
DESIGNED BY:	DWM
DRAWN BY:	SL
FIELD CHECK:	OGS
APPROVED:	XXXXX

SHEET TITLE: ELEVENTH FLOOR ASBESTOS ABATEMENT PLAN

DRAWING NUMBER: H-112

SHEET 21 OF 50



12TH FLOOR MATERIAL QUANTITIES:
CONTRACTOR IS REQUIRED TO VERIFY ALL ACM MATERIALS TO BE REMOVED

TRANSITE PIPING	15 L.F.
PIPE INSULATION	1485 L.F.
FLOOR TILE AND MASTIC	2274 S.F.
INSULATED DOORS	31 EA
WINDOWS	41 EA
SINK UNDERCOAT	1 EA

ALTERNATE
NUMBER 1—PIPE INSULATION 1200 L.F.

LEGEND:

- WORK ZONE LIMITS
- REMOVE ALL ASBESTOS CONTAINING FLOOR TILE/MASTIC AND DEBRIS
- REMOVE ALL ASBESTOS INSULATED DOORS
- REMOVE ALL ASBESTOS CONTAINING PIPE/PIPE FITTING INSULATION FROM ABOVE CEILING & INTERIOR PIPE CHASE (TYP.) CONTRACTOR TO DEMO WALLS/CEILINGS AS REQUIRED TO ACCESS PIPES
- LOCATION OF ASBESTOS CONTAINING PIPE RUNS TO BE REMOVED
- REMOVE ALL ASBESTOS CONTAINING WINDOW FRAME CAULK/WINDOW SASH PUTTY/GLAZING TO FACILITATE WINDOW REPLACEMENT
- REMOVE ALL ASBESTOS SINK UNDERCOATINGS
- ALTERNATE NUMBER 1

TYPICAL RADIATOR DETAIL
TYPICAL RADIATOR DETAIL WITH INSULATED EXPANSION LOOPS ABOVE CEILING

Should have exp. loops this floor

TWELFTH FLOOR ASBESTOS ABATEMENT PLAN
3/32" = 1'-0"

GENERAL ASBESTOS ABATEMENT NOTES: REFER TO DRAWING NUMBER H-101.

CONSULTANT

KEY PLAN

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS "A" MISDEMEANOR.

CONTRACT:
CONSTRUCTION

TITLE:
ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS
DUNLAP BUILDING NO. 102, A-SIDE

LOCATION:
MANHATTAN PSYCHIATRIC CENTER
600 E. 125th STREET
WARDS ISLAND, NY 10035

CLIENT:
OFFICE OF MENTAL HEALTH

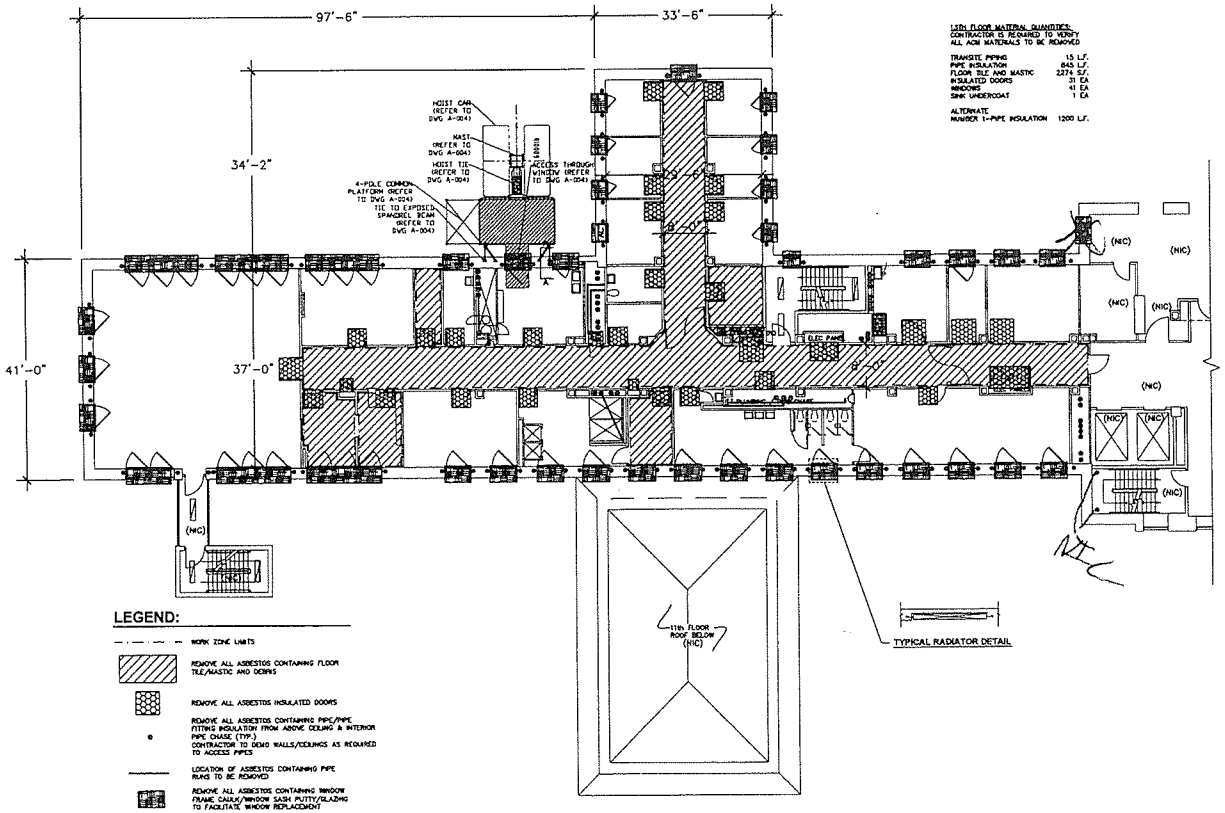
MARK	DATE	DESCRIPTION
100% - 3rd	3/26/12	100% SUBMISSION 3rd
100% - 2nd	08/18/2010	100% SUBMISSION 2nd
100% - 1st	08/16/2006	100% SUBMISSION 1st
50%	5/7/2006	50% SUBMISSION
DD	XX/XX/XXXX	DESIGN DEVELOPMENT
SD	XX/XX/XXXX	SCHEMATIC DESIGN
	XX/XX/XXXX	DD DOCUMENT

PROJECT NUMBER:	Q0763 - C
DESIGNED BY:	DWM
DRAWN BY:	SL
FIELD CHECK:	DCS
APPROVED:	KXXXX

SHEET TITLE:
TWELFTH FLOOR ASBESTOS ABATEMENT PLAN

DRAWING NUMBER:
H-113

SHEET 22 OF 50



LEGEND:

- WORK ZONE LIMITS
- REMOVE ALL ASBESTOS CONTAINING FLOOR TILE/MASTIC AND DEBRIS
- REMOVE ALL ASBESTOS INSULATED DOORS
- REMOVE ALL ASBESTOS CONTAINING PIPE/PIPE FITTING INSULATION FROM ABOVE CEILING & INTERIOR PIPE CHASE (TYP.) CONTRACTOR TO DEMO WALLS/CEILINGS AS REQUIRED TO ACCESS PIPES
- LOCATION OF ASBESTOS CONTAINING PIPE RUNS TO BE REMOVED
- REMOVE ALL ASBESTOS CONTAINING WINDOW FRAME CAULK/WINDOW SASH PUTTY/GLAZING TO FACILITATE WINDOW REPLACEMENT
- AC — REMOVE EXISTING WINDOW AIR CONDITIONING UNIT AND DISPOSE OF AIR CONDITIONING REFRIGERANT PRIOR TO ASBESTOS REMOVAL OR DEMOLITION
- REMOVE ALL ASBESTOS SINK UNDERCOATINGS
- ALTERNATE NUMBER 1

THIRTEENTH FLOOR ASBESTOS ABATEMENT PLAN
3/32" = 1'-0"

GENERAL ASBESTOS ABATEMENT NOTES: REFER TO DRAWING NUMBER H-101.

CONSULTANT

KEY PLAN

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS "A" MISDEMEANOR.

CONTRACT:
CONSTRUCTION

TITLE:
ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS
DUNLAP BUILDING NO. 102, A-SIDE

LOCATION:
MANHATTAN PSYCHIATRIC CENTER
600 E. 125th STREET
WARDS ISLAND, NY 10035

CLIENT:
OFFICE OF MENTAL HEALTH

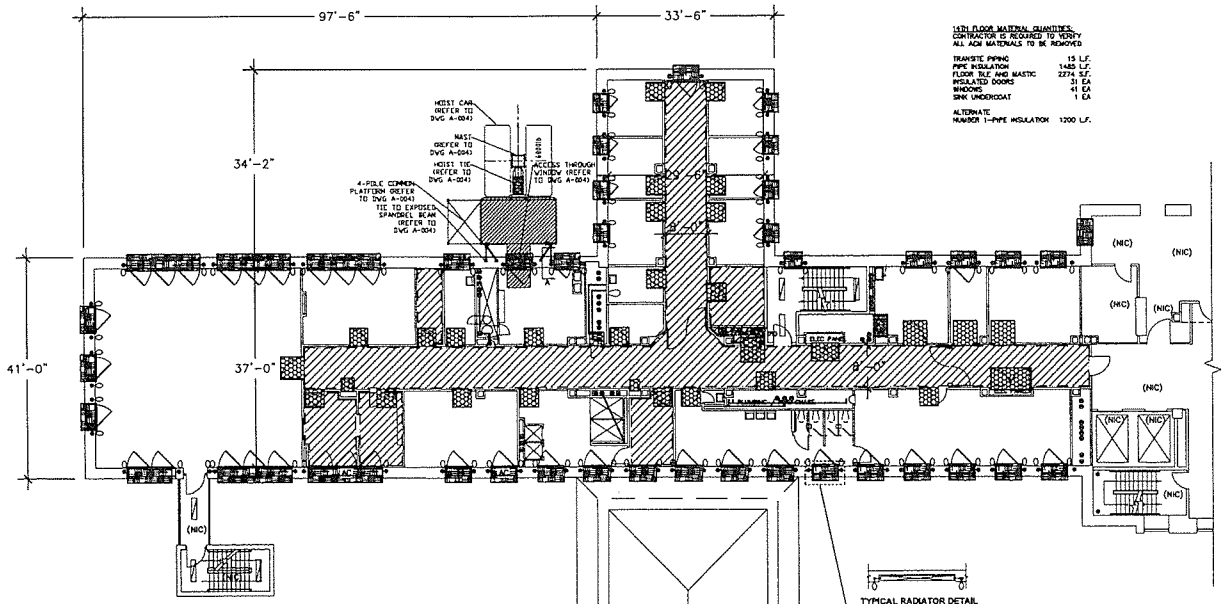
MARK	DATE	DESCRIPTION
100% - 3rd	3/26/12	100% SUBMISSION 3rd
100% - 2nd	08/18/2010	100% SUBMISSION 2nd
100% - 1st	08/16/2006	100% SUBMISSION 1st
50%	6/7/2006	50% SUBMISSION
DD	xx/xx/xxxx	DESIGN DEVELOPMENT
SD	xx/xx/xxxx	SCHEMATIC DESIGN
	xx/xx/xxxx	IND DOCUMENT

PROJECT NUMBER: Q0763 - C
DESIGNED BY: DMW
DRAWN BY: SL
FIELD CHECK: DCS
APPROVED: XXXXX

SHEET TITLE:
THIRTEENTH FLOOR ASBESTOS ABATEMENT PLAN

DRAWING NUMBER:
H-114

SHEET 23 OF 50

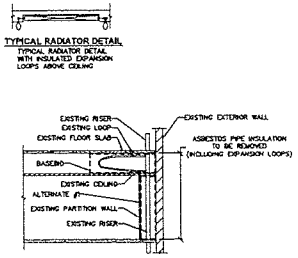


14TH FLOOR MATERIAL QUANTITIES:
CONTRACTOR IS REQUIRED TO VERIFY ALL ACM MATERIALS TO BE REMOVED

TRANSITE PIPING	15 L.F.
PIPE INSULATION	1485 L.F.
FLOOR TILE AND MASTIC	2274 S.F.
INSULATED DOORS	31 EA
WINDOWS	41 EA
SINK UNDERCOAT	1 EA
ALTERNATE NUMBER 1—PIPE INSULATION	1200 L.F.

LEGEND:

- WORK ZONE LIMITS
- REMOVE ALL ASBESTOS CONTAINING FLOOR TILE/MASTIC AND DEBRIS
- REMOVE ALL ASBESTOS INSULATED DOORS
- REMOVE ALL ASBESTOS CONTAINING PIPE/PIPE FITTING INSULATION FROM ABOVE CEILING & INTERIOR PIPE CHASE (TYP.) CONTRACTOR TO DEMO WALLS/CEILINGS AS REQUIRED TO ACCESS PIPES
- LOCATION OF ASBESTOS CONTAINING PIPE RUNS TO BE REMOVED
- REMOVE ALL ASBESTOS CONTAINING WINDOW FRAME CAULK/WINDOW SASH PUTTY/GLAZING TO FACILITATE WINDOW REPLACEMENT
- AC — REMOVE EXISTING WINDOW AIR CONDITIONING UNIT AND DISPOSE OF AIR CONDITIONING REFRIGERANT PRIOR TO ASBESTOS REMOVAL OR DEMOLITION
- REMOVE ALL ASBESTOS SINK UNDERCOATINGS
- 0 — LOCATION OF ASBESTOS CONTAINING PIPE EXPANSION LOOPS TO BE REMOVED
- ● — ALTERNATE NUMBER 1



TYPICAL SECTION A

TYPICAL RADIATOR DETAIL
TYPICAL RADIATOR DETAIL WITH INSULATED EXPANSION LOOPS ABOVE CEILING

FOURTEENTH FLOOR ASBESTOS ABATEMENT PLAN
SCALE: 1"=1'-0"

GENERAL ASBESTOS ABATEMENT NOTES: REFER TO DRAWING NUMBER H-101.

CONSULTANT

KEY PLAN

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS "A" MISDEMEANOR.

CONTRACT:
CONSTRUCTION

TITLE:
ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS
DUNLAP BUILDING NO. 102, A-SIDE

LOCATION:
MANHATTAN PSYCHIATRIC CENTER
600 E. 125th STREET
WARDS ISLAND, NY 10035

CLIENT:
OFFICE OF MENTAL HEALTH

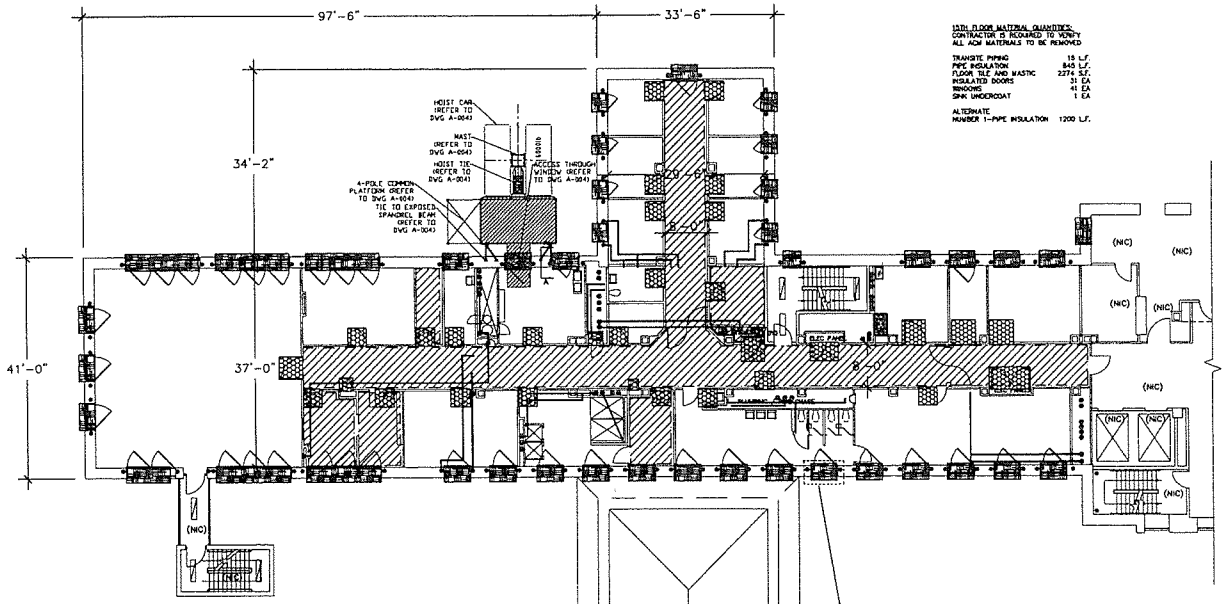
MARK	DATE	DESCRIPTION
100% - 3rd	3/26/12	100% SUBMISSION 3rd
100% - 2nd	08/18/2010	100% SUBMISSION 2nd
100% - 1st	08/16/2006	100% SUBMISSION 1st
50%	5/2/2006	50% SUBMISSION
DD	XX/XX/XXXX	DESIGN DEVELOPMENT
SD	XX/XX/XXXX	SCHEMATIC DESIGN
	XX/XX/XXXX	IND DOCUMENT

PROJECT NUMBER:	Q0763 – C
DESIGNED BY:	DMM
DRAWN BY:	SL
FIELD CHECK:	DGS
APPROVED:	XXXXX

SHEET TITLE:
FOURTEENTH FLOOR ASBESTOS ABATEMENT PLAN

DRAWING NUMBER:
H–115

SHEET 24 of 50



15TH FLOOR MATERIAL QUANTITIES:
CONTRACTOR IS REQUIRED TO VERIFY ALL ACM MATERIALS TO BE REMOVED

TRANSITE PIPING	15 L.F.
PIPE INSULATION	845 L.F.
FLOOR TILE AND MASTIC	2274 S.F.
INSULATED DOORS	31 EA
WINDOWS	41 EA
SINK UNDERCOAT	1 EA

ALTERNATE
NUMBER 1–PIPE INSULATION 1200 L.F.

LEGEND:

- WORK ZONE LIMITS
- REMOVE ALL ASBESTOS CONTAINING FLOOR TILE/MASTIC AND DEBRIS
- REMOVE ALL ASBESTOS INSULATED DOORS
- REMOVE ALL ASBESTOS CONTAINING PIPE/PIPE FITTING INSULATION FROM ABOVE CEILING & INTERIOR PIPE CHASE (TYP.) CONTRACTOR TO DEMO WALLS/CEILINGS AS REQUIRED TO ACCESS PIPES
- LOCATION OF ASBESTOS CONTAINING PIPE RUNS TO BE REMOVED
- REMOVE ALL ASBESTOS CONTAINING WINDOW FRAME CAULK/WINDOW SASH PUTTY/GLAZING TO FACILITATE WINDOW REPLACEMENT
- REMOVE ALL ASBESTOS SINK UNDERCOATINGS
- ALTERNATE NUMBER 1

TYPICAL RADIATOR DETAIL

FIFTEENTH FLOOR ASBESTOS ABATEMENT PLAN
3/32" = 1'-0"

GENERAL ASBESTOS ABATEMENT NOTES: REFER TO DRAWING NUMBER H-101.

CONSULTANT

KEY PLAN

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS "A" MISDEMEANOR.

CONTRACT:
CONSTRUCTION

TITLE:
ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS
DUNLAP BUILDING NO 102, A-SIDE

LOCATION:
MANHATTAN PSYCHIATRIC CENTER
600 E. 125th STREET
WARDS ISLAND, NY 10035

CLIENT:
OFFICE OF MENTAL HEALTH

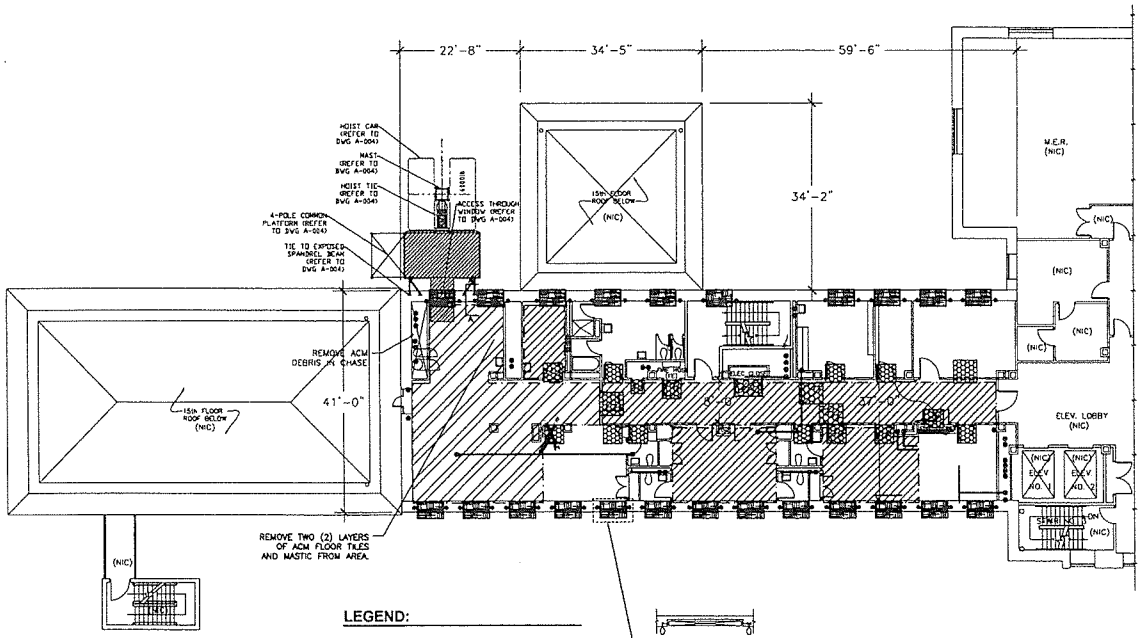
MARK	DATE	DESCRIPTION
100% - 3rd	3/26/12	100% SUBMISSION 3rd
100% - 2nd	08/18/2010	100% SUBMISSION 2nd
100% - 1st	08/18/2006	100% SUBMISSION 1st
50%	6/7/2006	50% SUBMISSION
DD	XX/XX/XXXX	DESIGN DEVELOPMENT
SD	XX/XX/XXXX	SCHEMATIC DESIGN
	XX/XX/XXXX	BID DOCUMENT

PROJECT NUMBER:	Q0763 – C
DESIGNED BY:	DWM
DRAWN BY:	SL
FIELD CHECK:	DGS
APPROVED:	XXXXX

SHEET TITLE:
FIFTEENTH FLOOR ASBESTOS ABATEMENT PLAN

DRAWING NUMBER:
H–116

SHEET 25 OF 50



LEGEND:

- WORK ZONE LIMITS
- REMOVE ALL ASBESTOS CONTAINING FLOOR TILE/MASTIC AND DEBRIS
- REMOVE TWO LAYERS OF ASBESTOS CONTAINING FLOOR TILE/MASTIC AND DEBRIS
- REMOVE ALL ASBESTOS INSULATED DOORS
- REMOVE ALL ASBESTOS CONTAINING PIPE/PIPE FITTING INSULATION FROM ABOVE CEILING & INTERIOR PIPE CHASE (TYP.) CONTRACTOR TO DEMO WALLS/CEILINGS AS REQUIRED TO ACCESS PIPES
- PIPE INSULATION N.I.C.
- LOCATION OF ASBESTOS CONTAINING PIPE RUNS TO BE REMOVED
- REMOVE ALL ASBESTOS CONTAINING WINDOW FRAME CAULK/WINDOW SASH PUTTY/GLAZING TO FACILITATE WINDOW REPLACEMENT
- ALTERNATE NUMBER 1

TYPICAL RADIATOR DETAIL

TYPICAL RADIATOR DETAIL WITH INSULATED EXPANSION LOOPS ABOVE CEILING

16th FLOOR MATERIAL QUANTITIES:
CONTRACTOR IS REQUIRED TO VERIFY ALL ACM MATERIALS TO BE REMOVED

TRANSITE PIPING	45 L.F.
PIPE INSULATION	655 L.F.
FLOOR TILE AND MASTIC	1500 S.F.
INSULATED DOORS	20 EA
WINDOWS	24 EA
ALTERNATE NUMBER 1—PIPE INSULATION	720 L.F.

SIXTEENTH FLOOR ASBESTOS ABATEMENT PLAN

3/32" = 1'-0"

GENERAL ASBESTOS ABATEMENT NOTES: REFER TO DRAWING NUMBER H-101.

CONSULTANT

KEY PLAN

PROJECT NORTH

WARNING:

THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS "A" MISDEMEANOR.

CONTRACT:
CONSTRUCTION

TITLE:
ASBESTOS REMOVAL, DEMOLITION, AND REPLACE WINDOWS
DUNLAP BUILDING NO. 102, A-SIDE

LOCATION:
MANHATTAN PSYCHIATRIC CENTER
600 E. 125th STREET
WARDS ISLAND, NY 10035

CLIENT:
OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
100% – 3rd	3/26/12	100% SUBMISSION 3rd
100% – 2nd	08/18/2010	100% SUBMISSION 2nd
100% – 1st	08/15/2008	100% SUBMISSION 1st
50%	5/7/2006	50% SUBMISSION
DD	XX/XX/XXXX	DESIGN DEVELOPMENT
SD	XX/XX/XXXX	SCHEMATIC DESIGN
	XX/XX/XXXX	BID DOCUMENT

PROJECT NUMBER:	Q0763 – C
DESIGNED BY:	DWW
DRAWN BY:	SL
FIELD CHECK:	DCS
APPROVED:	XXXXX

SHEET TITLE:
SIXTEENTH FLOOR ASBESTOS ABATEMENT PLAN

DRAWING NUMBER:
H–117

SHEET 26 of 50

GILSANZ • MURRAY • STEFICEK • LLP
129 W. 27th Street 5thFl. New York, NY 10001
Tel: (212) 254-0030 Fax: (212) 477-5978

Window Testing Report

Date of Issue:	August 18, 2012
Date of Test:	August 08, 2012
Project / No.:	Manhattan Psychiatric Center – Wards Island, NY / Project No. 12273
GMS Personnel:	Jerry Smith
Reference Docs:	Miami Wall Systems Inc. archived shop drawings, circa 1992
	GMS Sketches dated 6/20/2012 – Proposed Window Details
Attachments:	Attachment A – Test Photos

Background Information:

This report describes the procedures and results for the continued testing performed on the stored window units intended for the Manhattan Psychiatric Center. The windows were manufactured by Miami Wall Systems, Inc. in the mid 1990s and have been in trailer storage at Wards Island since that time.

The laboratory testing is being conducted as part of a condition and performance study of the window units. This is a continuation of the testing conducted on 7/06/2012 (see GMS report dated 7/27/2012). Of interest in this series of tests is the windows' resistance to air and water infiltration as well as its structural performance.

The initial 7/06/2012 laboratory testing followed an informal study (6/6/2012) at Thomas Manufacturing Inc. in Hillside New Jersey. In that informal test, a pressure differential was applied across the window while a spray of water was applied with a hose. The window in that test was installed in a wooden buck using what is understood to be the original installation details. Although the manufacturing facility was not equipped to measure air flow, it was clear that a substantial flow of air was passing through the window especially at the starter sill and that the air flow was drawing water along with it. The informal test of the window was considered a failure. This led to recommendations to modify the installation conditions at the starter sill (tank) and jamb. GMS sketches (see previous report) presented a concept for a modified sill starter and jamb receptor.

The previous tests at MT Group conducted on 7/06 utilized a sill starter and jamb receptor fashioned from Thomas Manufacturing extrusions. The results indicated air leakage of 0.15 cfm/sf for the window unit itself and 0.59 cfm/sf total leakage for the window and perimeter installation. These leakage values do not meet the criteria for architectural (AW Grade) windows. The water infiltration test on 7/06 was deemed a failure at 6 psf.

Following the 7/06 test, the window was taken back to the Thomas Manufacturing facility and reinstalled with a different sill starter and jamb receptor. These perimeter components were fashioned from modified extrusions from Thomas Manufacturing window products. The sill starter and jamb receptor assemblies were narrowed by removing a strip from the center of

the extrusions and waterproofed using silicone products. A major difference between the assembly in the 7/6 test and the 8/8 test relates to the weep arrangement. In the latest test the size of the two weep holes was reduced to ¼" diameter (**See Photo No. 2**) and an interior baffle was included to restrict air flow while allowing water accumulated in the sill starter to drain. It is our understanding that the vent window gasket had also been examined by Thomas personnel to assure that it was well seated and adjusted to minimize the gap at the miter joints.

In this test, the maintenance keys to the vent were not available to allow examination of the interior conditions.

Similar to the previous 7/6 test, the window was installed in a wood frame (buck) using the modified sill starter and jamb receptor components at Thomas Manufacturing, Inc.'s plant and transported to MT Group's laboratory in Farmingdale, New York (**See Photo Nos. 1 - 5 & 12**).

The pressure chamber, test apparatus and data collection were the same setup as the previous 7/6 test (**See Photo Nos. 1, 6, 7**). For the water test, spray bars were placed to apply 5 gal/min/sf to the window. Observations of the interior side of the window were made from the back side of the specimen through the plexiglass wall. The unit measurements are:

Overall Specimen	-Width 54 in x Height 75 in	➔ Area =28.12 sf,
Vent Window	- Approx 4 ft x 4 ft	➔ Perimeter "Crack" = 16 lf

The tests followed the basic procedures/intent indicated in the following Standards:

ASTM E 283 – Standard Test Method for Determining Rate of ***Air Leakage*** Through Exterior Windows…
ASTM E 331 – Standard Test Method for ***Water Penetration*** of Exterior Windows, Skylights,…
ASTM E 330 – Standard Test Method for ***Structural Performance*** of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

This report has been prepared by GMS in order to document our observations as witness to the testing. This GMS report is not intended to replace the "official" report prepared by the AAMA certified laboratory.

The following individuals were present with the writer at the MT Group facility during the test program:

Mr. John McCullough	TDX
Mr. George Lukowiak	Thomas Manufacturing
Mr. Wes Nedzialek	Thomas Manufacturing
Mr. Wayne Breighner	MT Group

Testing: The testing observed by GMS consisted of air penetration, water penetration and structural performance.

Test Step	Results
Chamber Calibration:	This is performed on the "bagged" assembly to gauge the amount of air leakage that can be attributed exclusively to the chamber construction. The (unreported) "tare" or baseline value is deducted from subsequent gross air leakage to ascertain the net leakage attributed to the window.
1. Air Infiltration Testing: (Weeps Only)	Per ASTM E 283 @ 6.24 psf. For this test, the tape covering the weeps was removed to obtain a leakage value specifically for the drainage holes. Total leakage = 2.30 cfm Leakage per Area = 0.08 cfm/sf Leakage per Crack Perim. = 0.14 cfm/lf *This air leakage is for information and does not relate to a test criterion. The data indicates that the air flow through the weep system alone is below any AAMA limit for the overall window.*
2. Air Infiltration Testing: (Vent Perimeter)	Per ASTM E 283 @ 6.24 psf. For this test, the bag over the vent perimeter was removed. Total leakage = 2.60 cfm Leakage per Area = 0.09 cfm/sf Leakage per Crack Perim. = 0.16 cfm/lf *The air leakage at the vent perimeter is measurable but low.*
3. Air Infiltration Testing: (Overall)	Per ASTM E 283 @ 6.24 psf. For this test, the tape covering the window perimeter was removed. Total leakage = 2.62 cfm Leakage per Area = 0.09 cfm/sf Leakage per Crack Perim. = 0.16 cfm/lf *The overall air leakage is 0.09 cfm/sf which is less than the most stringent (AW Grade) AAMA Performance Grade requirement of 0.10 cfm/sf.*

4. Static Pressure Water Penetration: (6 psf)	Per ASTM E 331 @ 6 psf, 5 gph/ft^2 for 15 minutes. (The 6 psf criteria is the current OGS specification requirement.) The writer, other attendees and personnel from the MT Group observed the interior face of the specimen from the back side of the transparent pressure partition. *No water was observed for the duration of the test. (Water did drain from the sill starter weeps when the pressure was released- **See Photo No. 8**).* **➔ PASS at 6 psf**
5. Static Pressure Water Penetration: (10 psf)	Per ASTM E 331 @ 10 psf, 5 gph/ft^2 for 15 minutes. After the specimen was drained, the test was conducted at the increased pressure of 10 psf. *Water did accumulate at the juncture of the sill starter and the window unit (**See Photo No. 9**) but did not break the plane of the interior face of the sill starter. Pursuant to the ASTM E331 definition of water penetration, the specimen passed this test. (Water drained from the weeps when the pressure was released- **See Photo No. 11**).* **➔ PASS at 10 psf**
6. Static Pressure Water Penetration: (12 psf)	Per ASTM E 331 @ 12 psf, 5 gph/ft^2 for 15 minutes. After the specimen was drained, the test was conducted at the increased pressure of 12 psf. At 10 minutes into the test, water streamed down the interior face of the starter sill. **➔ FAIL at 12 psf**
7. Structural Performance: (150% Proof Load at 40 psf Design Pressure)	Per ASTM E 330. Here the specimen was exposed to a pressure at 1.5 times the design pressure. The current specification indicates a design pressure of 40 psf. The test pressure of 60 psf was applied first as a positive (inward) pressure against the window then as a negative (outward pressure). Deflection was not measured during the test but permanent set was evaluated with a straight edge before and after the test.

	(Note that in the structural static pressure tests, the window itself was being evaluated. The starter sill and jamb receptor fashioned for the air and water evaluation were restrained by the wood blocking (**See Photo No. 12**) during the positive pressure portion of the structural test.) No permanent deformation was detected. ➔ **PASS**
8. Structural Performance: (150% Proof Load at 60 psf Design Pressure)	Per ASTM E 330. Similar to Test No. 7, the specimen was exposed to a pressure at 1.5 times the design pressure. In anticipation of increasing the design pressure for the program to 60 psf a proof test pressure of 90 psf was applied (positive and negative). (See Note under Test No. 7.) No permanent deformation was detected. ➔ **PASS**

Conclusion:

The window in the modified assembly meets the current air infiltration requirements of an AW performance grade window.

The window in the modified assembly met the current OGS specified pressure for water infiltration. The 6 psf requirement is low in comparison to current industry standards of 12 psf for architectural grade windows. The window as modified did pass (barely) water infiltration for 10 psf. This is respectable performance for the time that this window was manufactured.

The window units performed well in the structural performance proof test associated with design pressures of 40 psf and 60 psf.

Issued By:		Jerry Smith	(GMS)
Issued To:	(via e-mail)	John McCullough	(TDX)
		George Lukowiak	(Thomas Manufacturing)
		Wayne Breighner	(MT Group)
		Joseph Blanchfield	(GMS)

O:\Projects\2012\273 Manhattan Psych Windows\Adm\Reports\2012_0808 MTI Testing\Man_Psych 080812 Lab Test Observations 2012_0818.doc

Photo No. 1 – Window in wood buck clamped to pressure wall for testing.

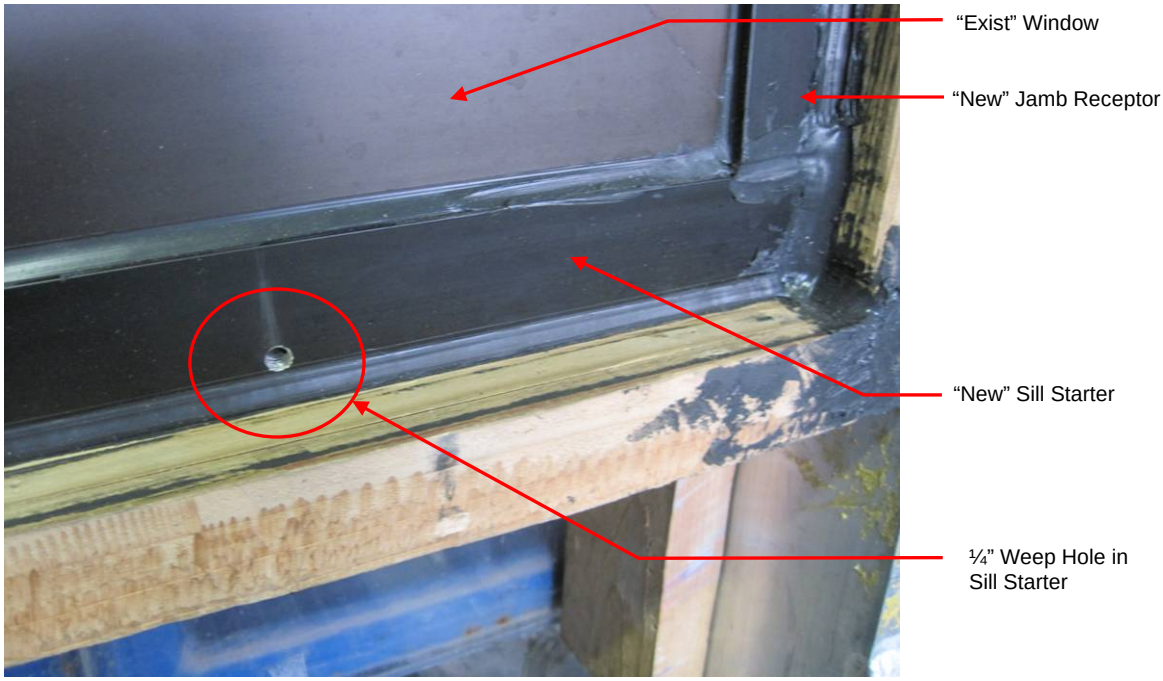
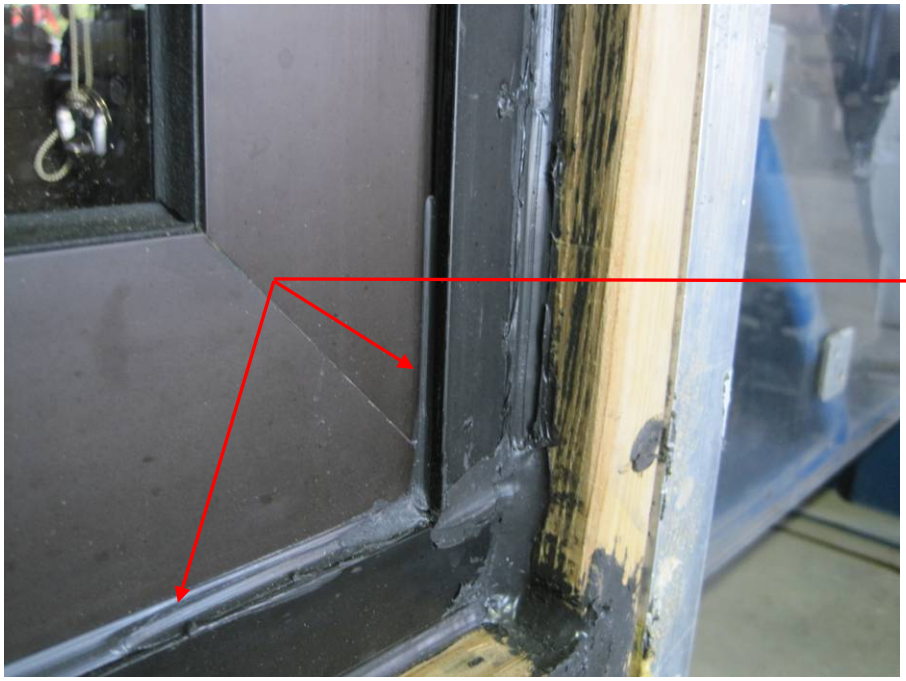
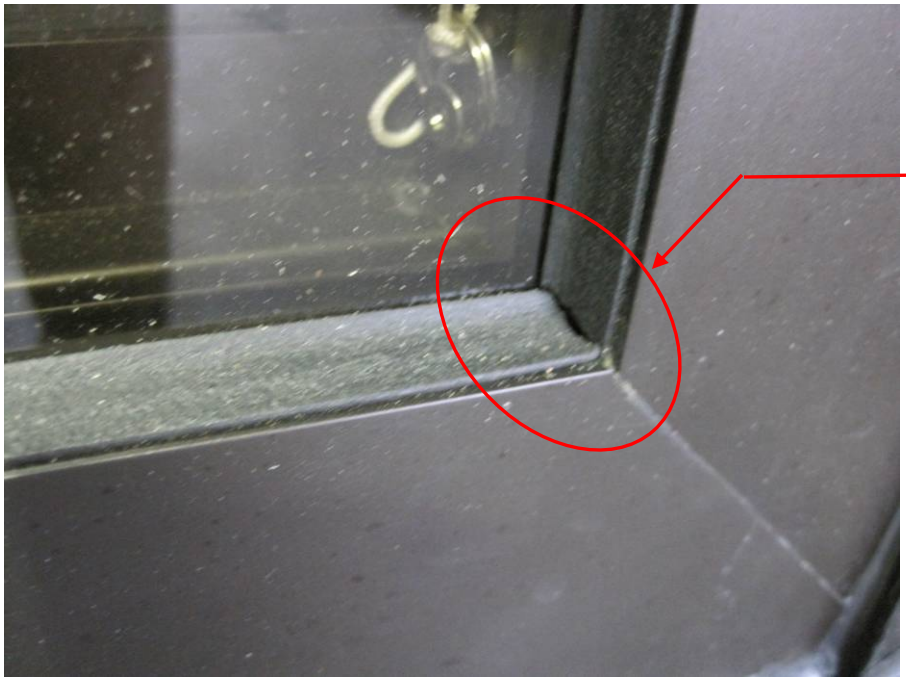


Photo No. 2 – ¼" diameter weep hole in new starter sill.



Sealant between "exist" window and new sill starter and jamb receptor components.

Photo No. 3 – Sill Starter, jamb receptor interface



Miter joint in window gasket

Photo No. 4 – Vent window gasket. Miter joint at corner

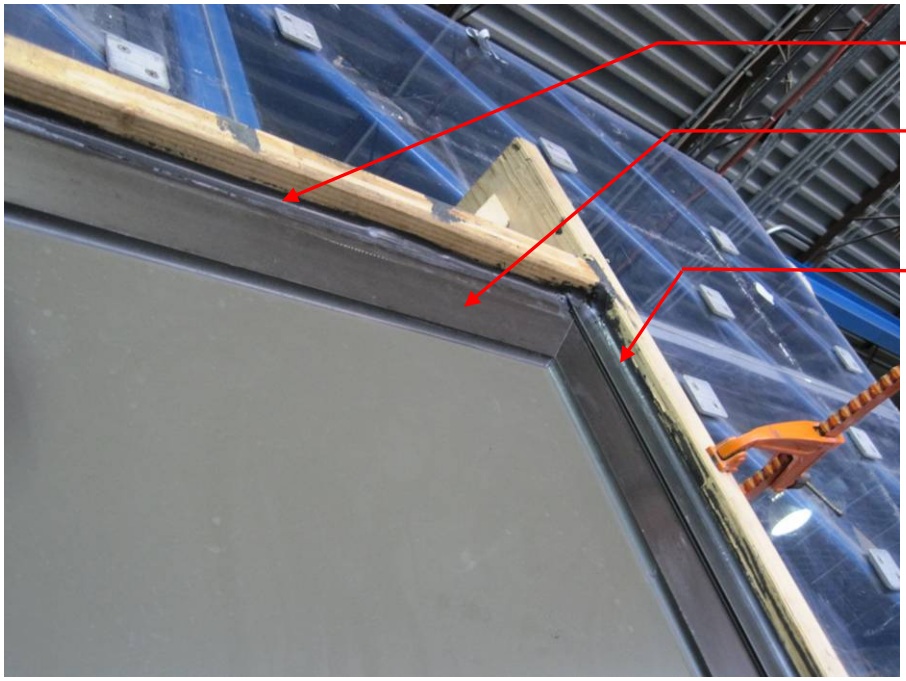
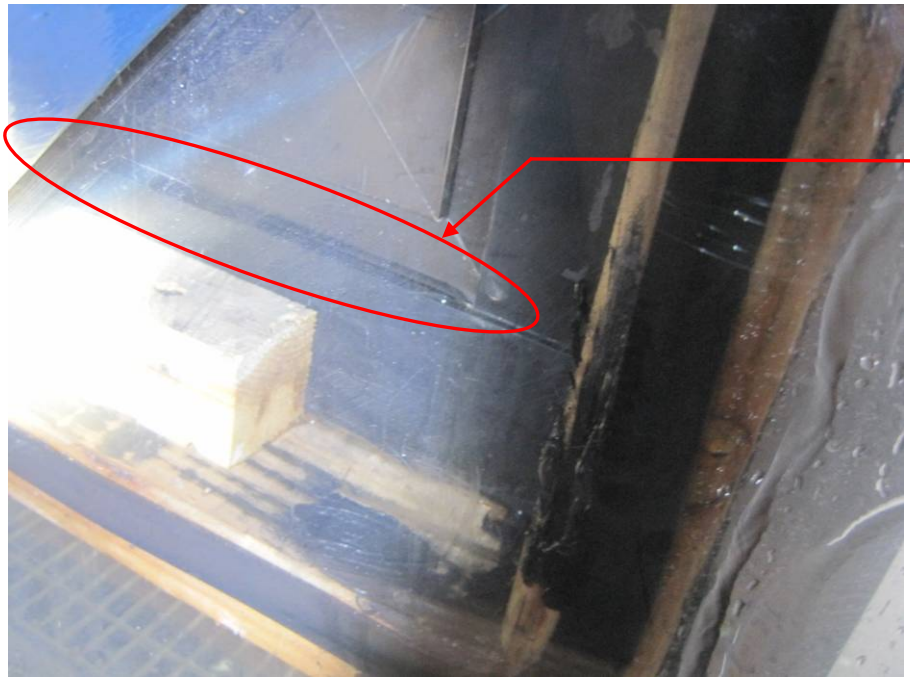


Photo No. 5 – Head and Jamb of the installed window in the wood buck.

Photo No. 6 – Screen for the computerized data collection system.

Photo No. 7 – Back side of the test wall apparatus

Photo No. 8 – Sill starter drainage following the initial water penetration test.



Water that does not break the innermost plane of the window frame assembly is not considered a failure according to the ASTM E331.

Photo No. 9 – Water on the sill starter ledge during the 10 psf water penetration test.

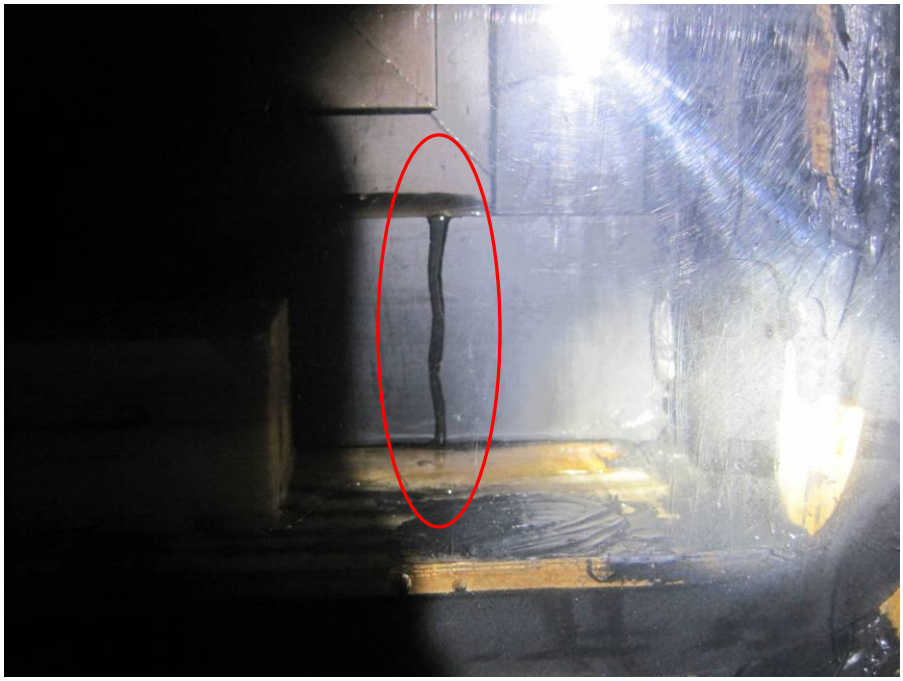


Photo No. 10 – Water infiltration beyond the interior plane of the window frame constituting failure during the 12 psf water penetration test.

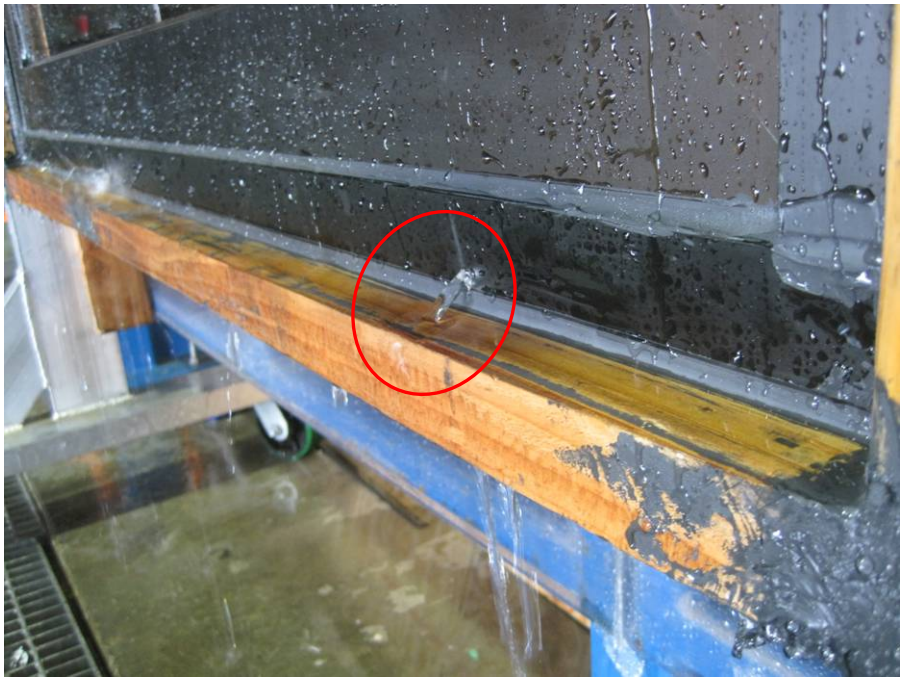
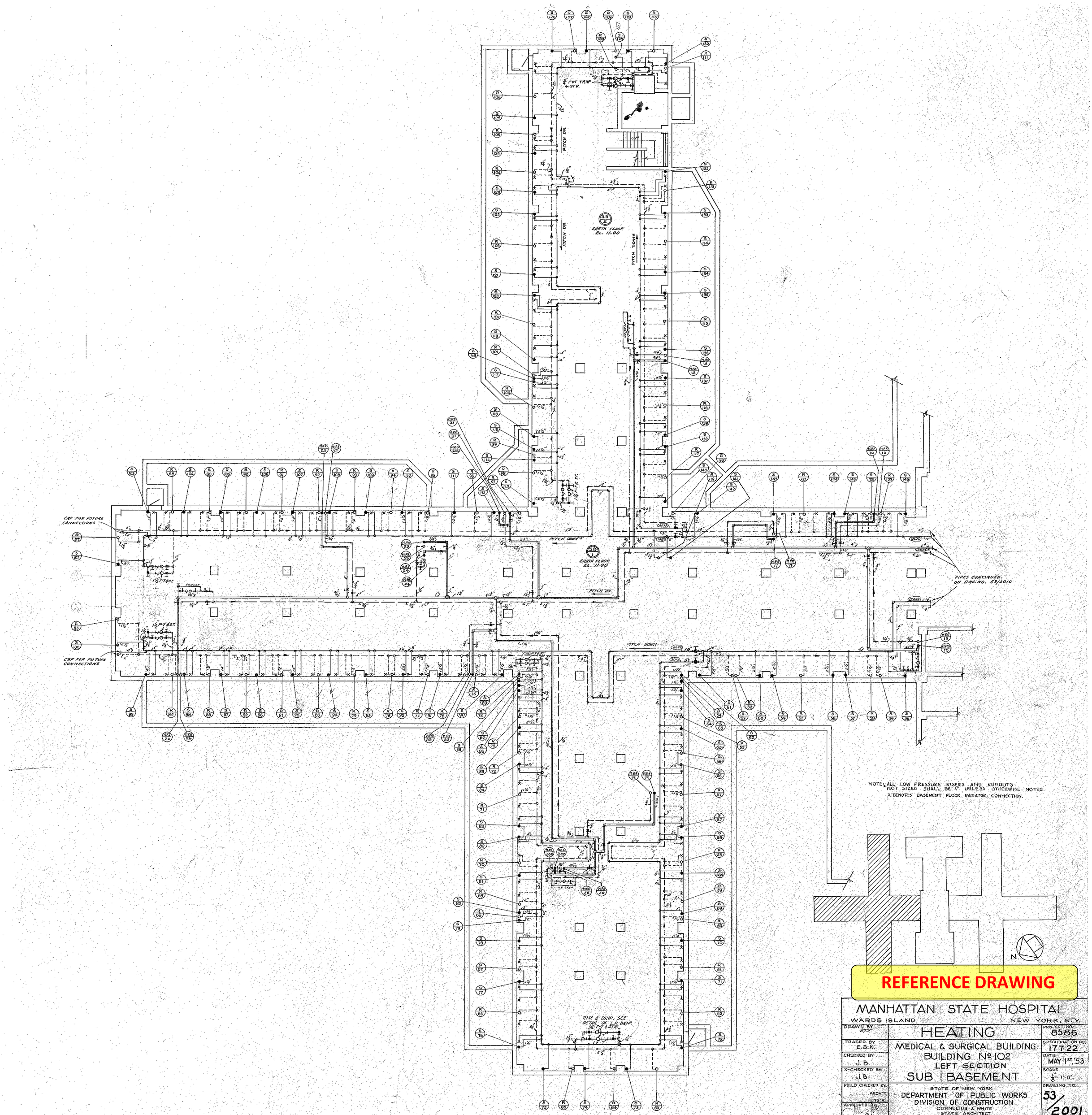


Photo No. 11 – Drainage from weeps following a water penetration test.

Photo No. 12 – Blocking on the interior side of the buck. The structural test was intended to evaluate the window unit, not the simulation of extruded sill starter and jamb receptor.

Photo No. 13 – Examination of framing for permanent deformation using straight edge following structural test.

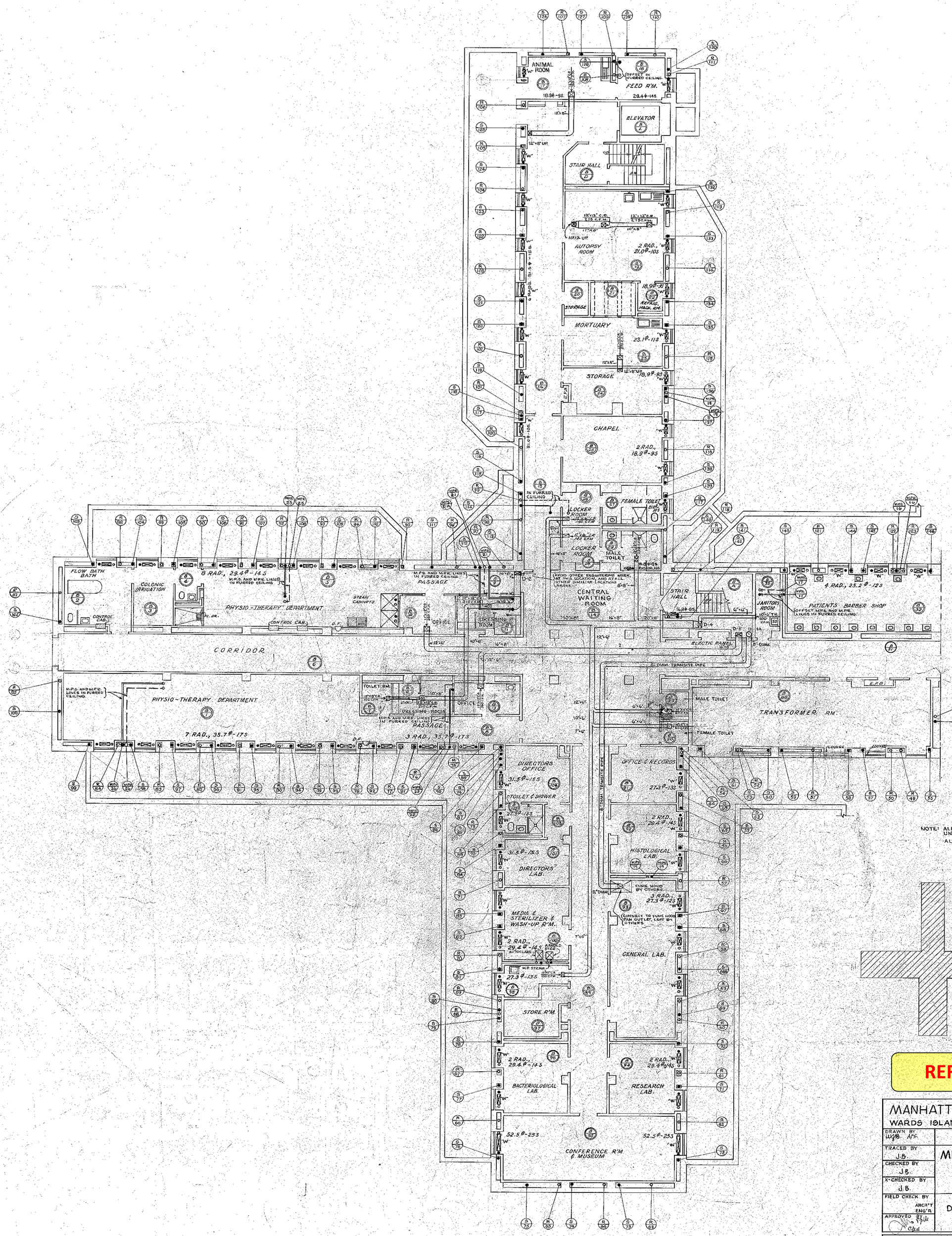


REFERENCE DRAWING

MANHATTAN STATE HOSPITAL
WARDS ISLAND — NEW YORK, N.Y.

DRAWN BY W.T.P.	HEATING	PROJECT NO. 8586
TRACED BY E.B.K.	MEDICAL & SURGICAL BUILDING BUILDING No 102 LEFT SECTION	SPECIFICATION NO. 17T22
CHECKED BY J.B.		DATE MAY 1ST '53
X-CHECKED BY J.B.	SUB BASEMENT	SCALE 1/8" = 1'-0"
FIELD CHECKED BY ARCH'T ENG'R	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION CORNELIUS J. WHITE STATE ARCHITECT	DRAWING NO. 53/2001
APPROVED BY		

APPROVED — LETTER NO. 14305
DATE — JUNE 2, 1953



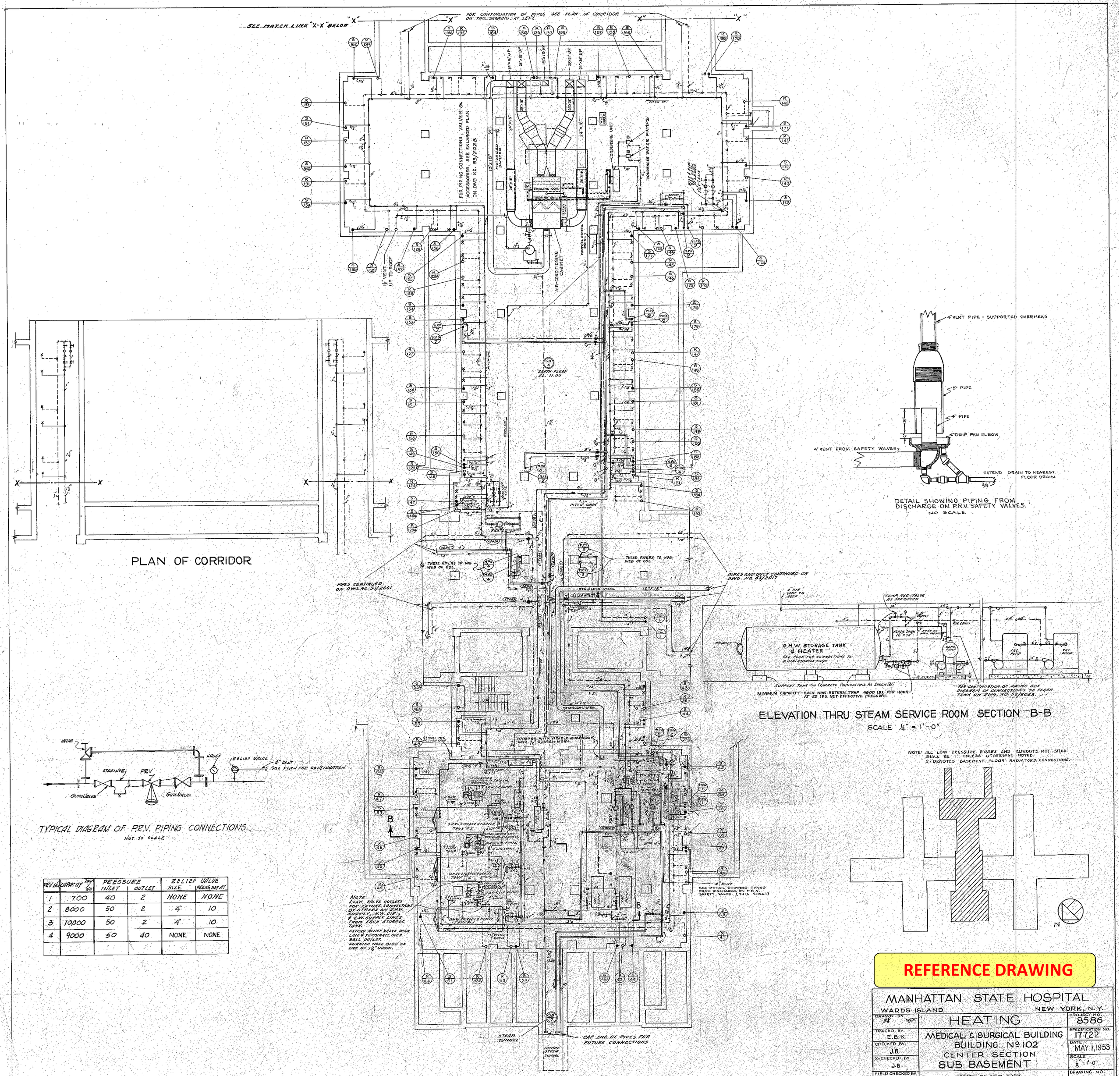
NOTE: ALL RADIATORS SHALL BE 5 TUBE-22" HIGH, UNLESS OTHERWISE NOTED.
ALL RADIATORS MARKED "W" SHALL BE WALL HUNG.

REFERENCE DRAWING

MANHATTAN STATE HOSPITAL WARDS ISLAND NEW YORK, N.Y.		
DRAWN BY W.J.B. A.F.	HEATING	PROJECT NO. 8586
TRACED BY J.B.	MEDICAL & SURGICAL BUILDING BUILDING Nº 102 LEFT SECTION	SPECIFICATION NO. 17722
CHECKED BY J.B.		DATE MAY 1ST, '53
X-CHECKED BY J.B.	BASEMENT	SCALE 1/8" = 1'-0"
FIELD CHECK BY ARCH'T ENG'R.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION CORNELIUS J. WHITE STATE ARCHITECT	DRAWING NO. 53/2002
APPROVED BY		

APPROVED BY LETTER NO. 14305
DATE JUNE 2, 1953

SHEET SIZE 36"x96"=9#'



PLAN OF CORRIDOR

TYPICAL DIAGRAM OF P.R.V. PIPING CONNECTIONS
NOT TO SCALE

DETAIL SHOWING PIPING FROM DISCHARGE ON P.R.V. SAFETY VALVES.
NO SCALE

ELEVATION THRU STEAM SERVICE ROOM SECTION B-B
SCALE ¼" = 1'-0"

P.R.V. No.	CAPACITY LBS/HR	PRESSURE INLET	PRESSURE OUTLET	RELIEF VALVE SIZE	RELIEF VALVE PRESS. SET AT
1	700	40	2	NONE	NONE
2	8000	50	2	4"	10
3	10000	50	2	4"	10
4	9000	50	40	NONE	NONE

REFERENCE DRAWING

MANHATTAN STATE HOSPITAL
WARDS ISLAND — NEW YORK, N.Y.

HEATING

MEDICAL & SURGICAL BUILDING
BUILDING No. 102
CENTER SECTION
SUB BASEMENT

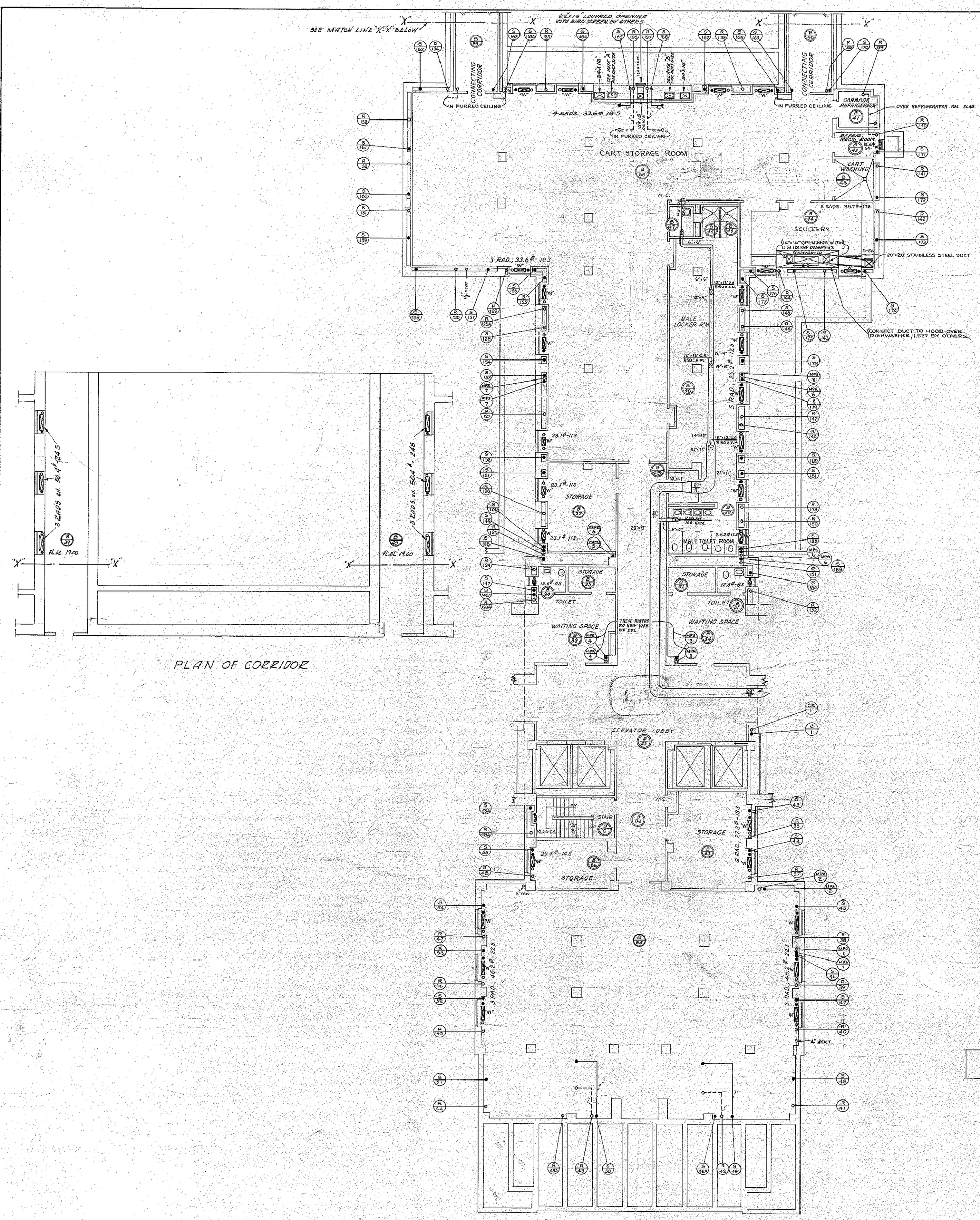
STATE OF NEW YORK
DEPARTMENT OF PUBLIC WORKS
DIVISION OF CONSTRUCTION
CORNELIUS J. WHITE
STATE ARCHITECT

DRAWN BY: W.E.K.
TRACED BY: E.B.K.
CHECKED BY: J.B.
X-CHECKED BY: J.B.
FIELD CHECKED BY: ARCH'T. ENG'R
APPROVED BY: C.J.W.

PROJECT NO. 8586
SPECIFICATION NO. 17722
DATE MAY 1, 1953
SCALE ⅛" = 1'-0"
DRAWING NO. 53/2010

APPROVED LETTER NO. 14306
DATE JUNE 2, 1953

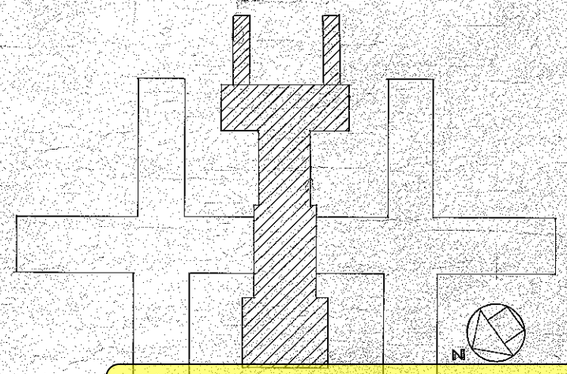
SHEET SIZE 36"x36" = 9 ft²



NOTE "A"
28"X18" ACOUSTIC LINED DUCT TAPERS TO A 26"X16" DUCT
SEE SECTION B-B OF DRAWING NO. 53/2028

NOTE "B"
28"X21" ACOUSTIC LINED DUCT TAPERS TO A 26"X19" DUCT
SEE SECTION B-B OF DRAWING NO. 53/2028

NOTE: ALL RADIATORS SHALL BE 5 TUBE - 22" HIGH, UNLESS OTHERWISE NOTED.
ALL RADIATORS MARKED "W" SHALL BE WALL HUNG.

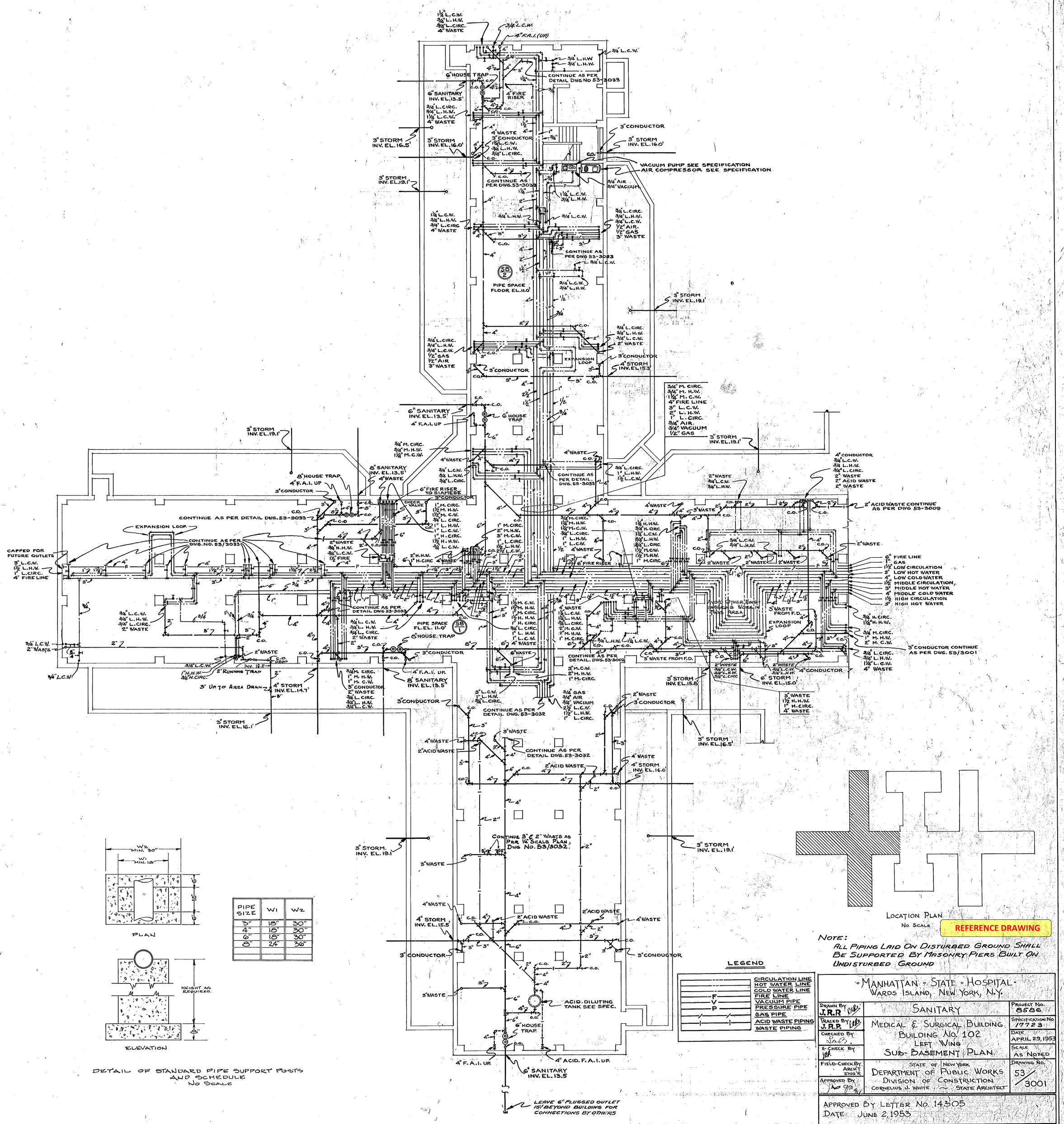


REFERENCE DRAWING

MANHATTAN STATE HOSPITAL WARDS ISLAND NEW YORK, N.Y.		
DRAWN BY W.J.B. A.E.G.	HEATING	PROJECT NO. 8586
TRACED BY E.B.K.	MEDICAL & SURGICAL BUILDING BUILDING No. 102 CENTER SECTION BASEMENT	SPECIFICATION NO. 17722
CHECKED BY J.B.		DATE MAY 1st '53
X-CHECKED BY J.B.		SCALE 1/8" = 1'-0"
FIELD CHECK BY ARCH'T ENG'R	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION CORNELIUS J. WHITE STATE ARCHITECT	DRAWING NO. 53/2011
APPROVED BY		

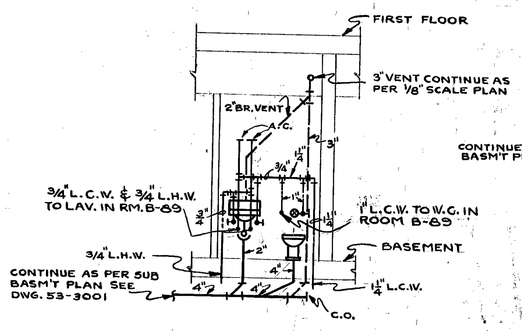
APPROVED BY LETTER NO. 14305
DATE JUNE 2, 1953

SHEET SIZE 36"x36" - 9 sh.

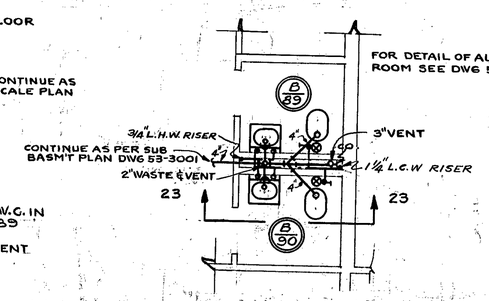


PIPE SIZE	W1	W2
3"	18"	30"
4"	18"	30"
6"	18"	30"
8"	24"	36"

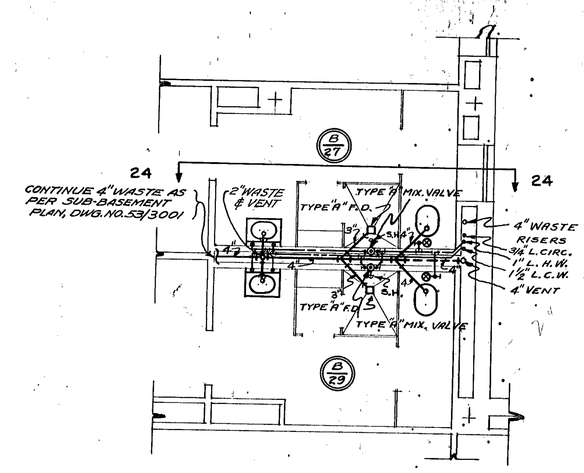
DETAIL OF STANDARD PIPE SUPPORT POSTS AND SCHEDULE
NO SCALE



SECTION 23-23

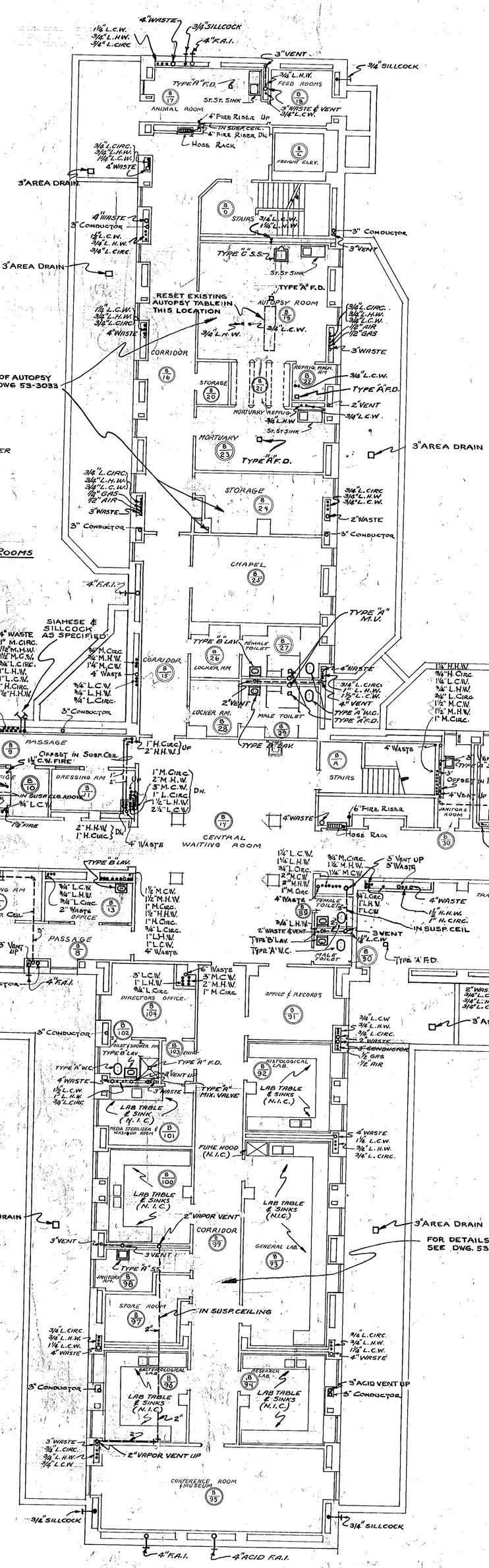


DETAIL OF MALE & FEMALE TOILET ROOMS
ROOM No's B-89 & B-90
SCALE 1/4" = 1'-0"

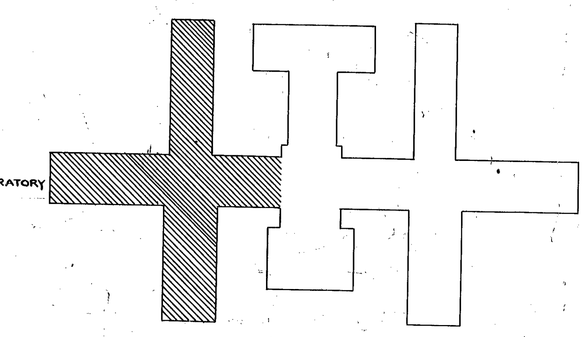


DETAIL OF MALE & FEMALE TOILET ROOMS
ROOM No's B-27 & B-29
SCALE = 1/4" = 1'-0"

FOR ELAVATION 24-24 SEE DWG. 53-3003



BASEMENT PLAN
SCALE 1/8" = 1'-0"



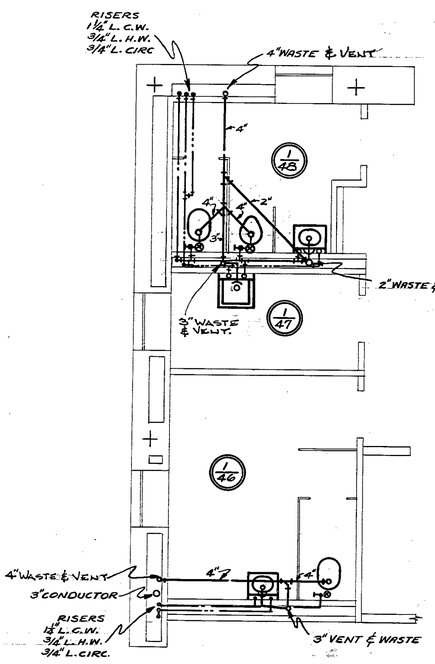
LOCATION PLAN
No SCALE

REFERENCE DRAWING

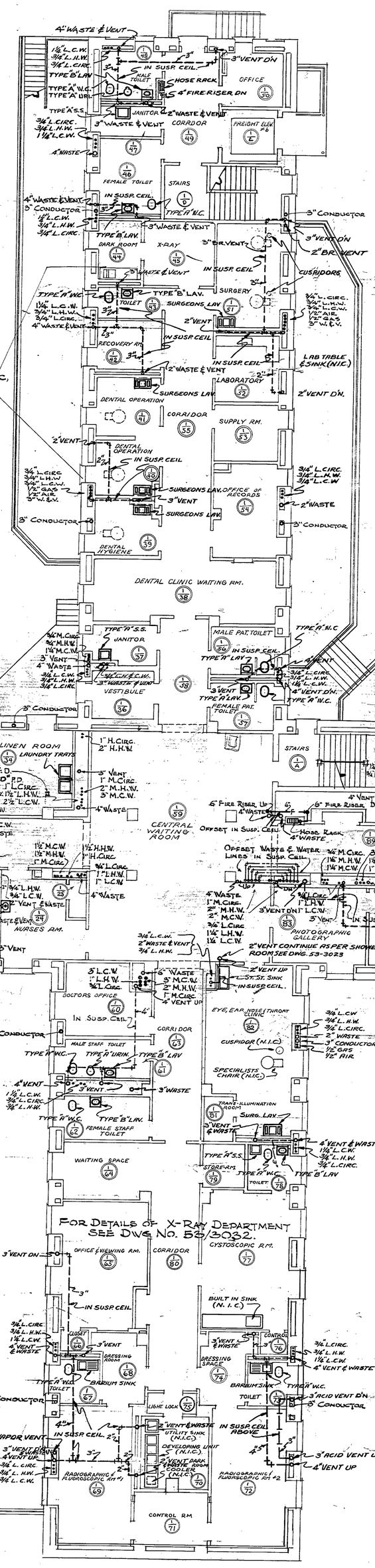
NOTE:
N. I. C. NOT IN CONTRACT

MANHATTAN · STATE · HOSPITAL · WARDS ISLAND, NEW YORK, N.Y.		
DRAWN BY	SANITARY	PROJECT No. 8586
TRACED BY	MEDICAL & SURGICAL BUILDING BUILDING No. 102 LEFT SECTION. BASEMENT PLAN	SPECIFICATION No. 17723
CHECKED BY		DATE APRIL 29, 1953
X-CHECK BY		SCALE AS NOTED
FIELD-CHECK BY ARCH. ENG.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION CORNELIUS J. WHITE ~ STATE ARCHITECT.	DRAWING No. 53/3002
APPROVED BY		

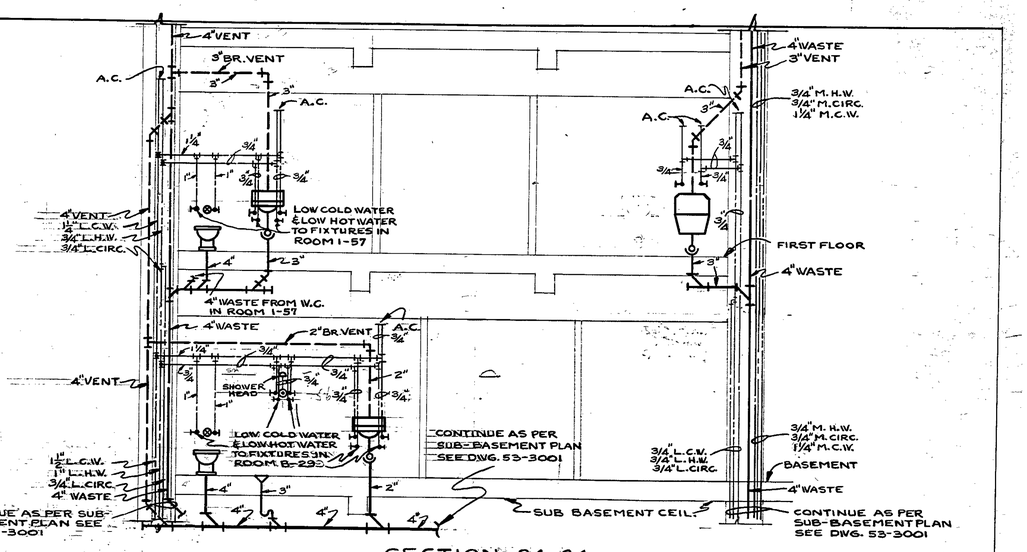
APPROVED BY LETTER No. 14305
DATE JUNE 2, 1953.



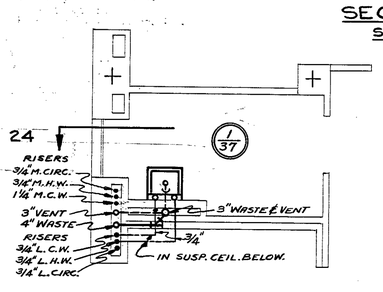
DETAIL OF MALE & FEMALE TOILET ROOMS & JANITORS ROOM
ROOM NO'S 1-48, 1-47, & 1-46
SCALE 1/4" = 1'-0"



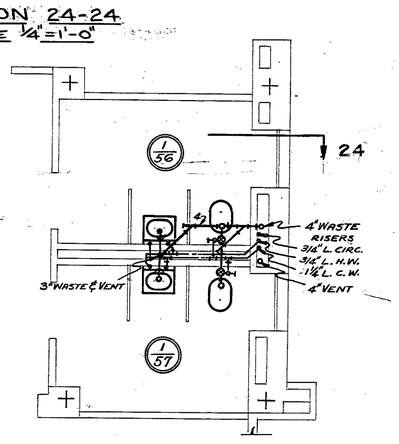
1ST FLOOR PLAN
SCALE 1/8" = 1'-0"



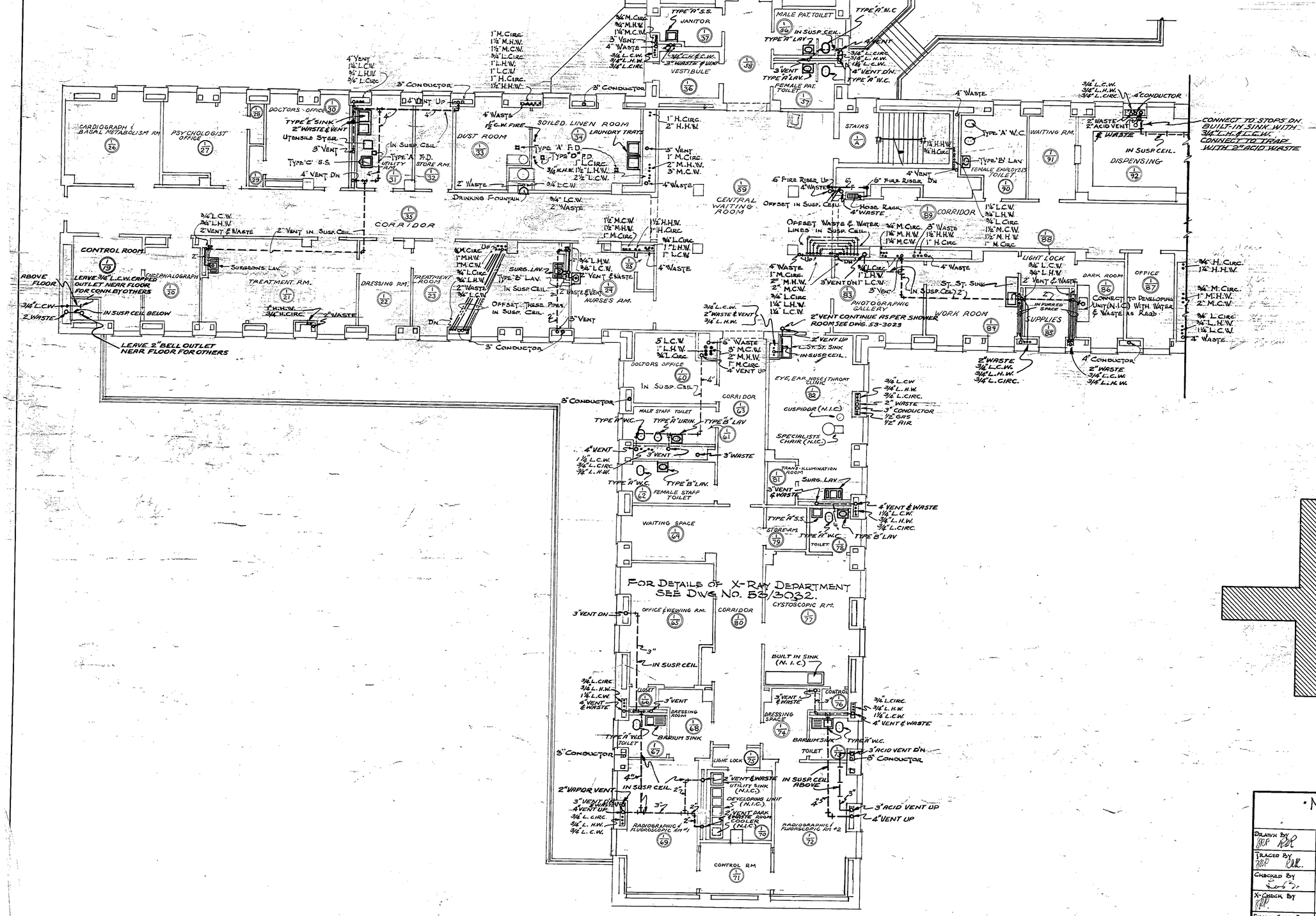
SECTION 24-24
SCALE 1/4" = 1'-0"



DETAIL OF JANITORS ROOM
ROOM NO 1-37
SCALE 1/4" = 1'-0"



DETAIL OF MALE & FEMALE PATIENTS TOILETS
ROOM NO'S 1-56 & 1-57
SCALE = 1/4" = 1'-0"



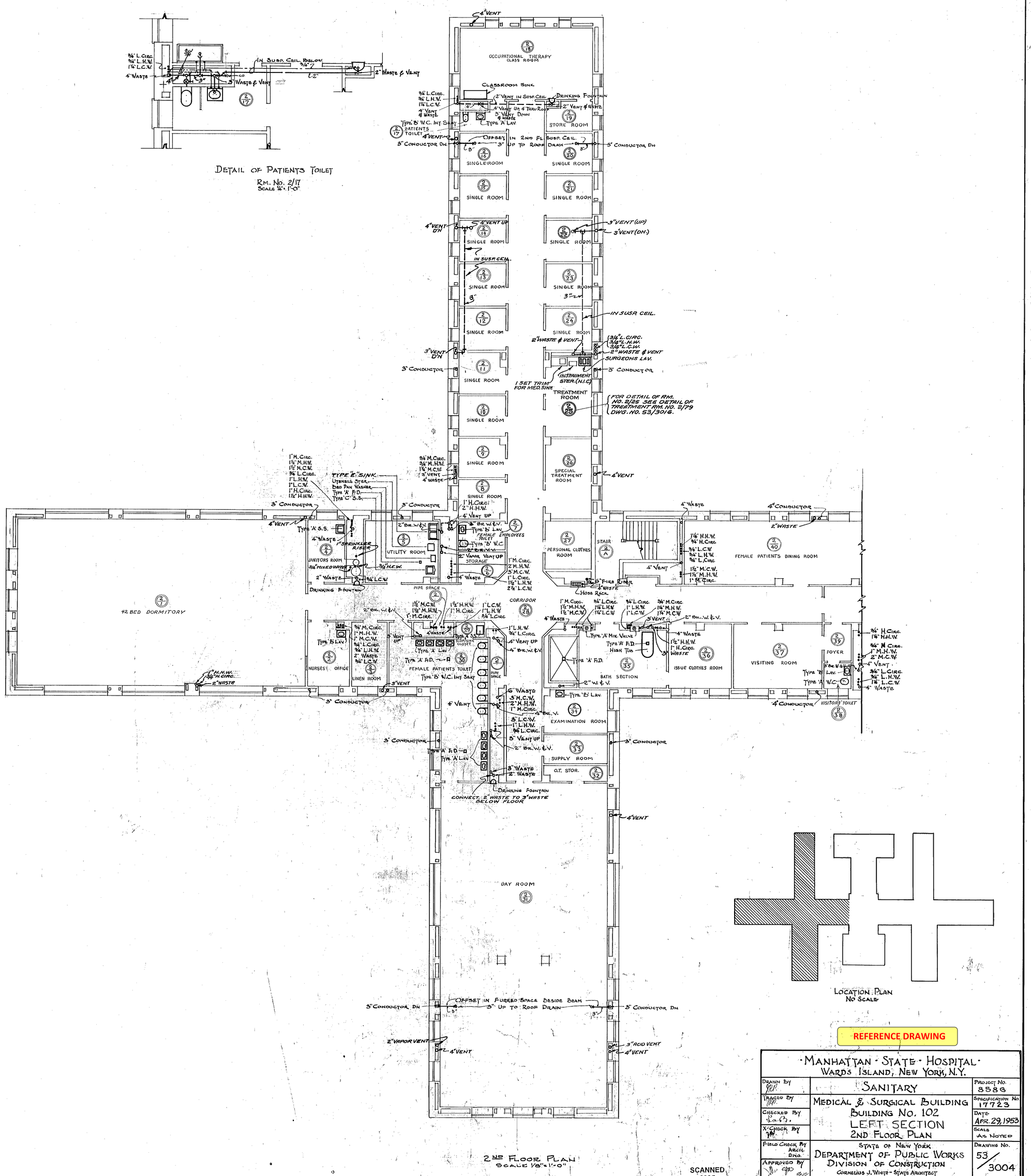
LOCATION PLAN
NO SCALE

REFERENCE DRAWING

Drawn By	MANHATTAN STATE HOSPITAL WARDS ISLAND, NEW YORK, N.Y.	
Traced By	SANITARY	Project No. 3586
Checked By	MEDICAL & SURGICAL BUILDING BUILDING NO. 102 LEFT SECTION 1ST FLOOR PLAN	Specification No. 17723
X-Check By		Date APR. 29 1958
Field Check By Arch. Eng.		Scale AS NOTED
Approved By	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION CORNELIUS J. WHITE ~ STATE ARCHITECT	Drawing No. 53/3003

APPROVED BY LETTER NO. 14305
DATE JUNE 2, 1953.

SCANNED
2005

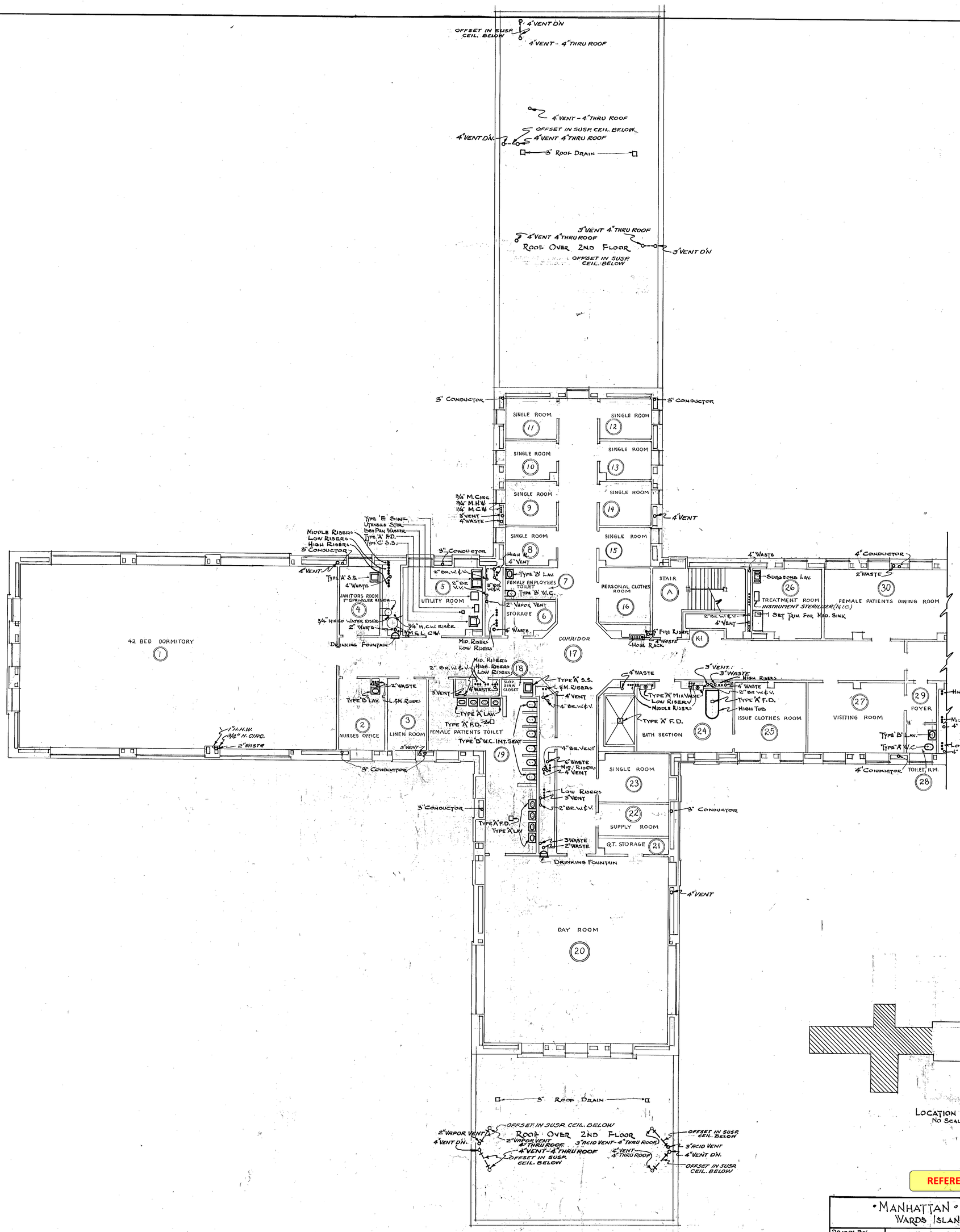


REFERENCE DRAWING

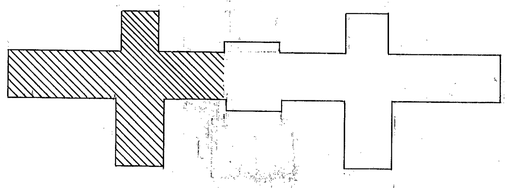
SCANNED 2005

	MANHATTAN STATE HOSPITAL WARDS ISLAND, NEW YORK, N.Y.	
DRAWN BY	SANITARY	PROJECT NO. 8586
TRACED BY	MEDICAL & SURGICAL BUILDING BUILDING NO. 102 LEFT SECTION 2ND FLOOR PLAN	SPECIFICATION NO. 17723
CHECKED BY		DATE APR. 29, 1953
X-CHECK BY		SCALE AS NOTED
FIELD CHECK BY ARCH. ENG.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION CORNELIUS J. WHITE - STATE ARCHITECT	DRAWING NO. 53/3004
APPROVED BY		

APPROVED BY LETTER NO. 14305
DATE JUNE 2, 1953



TYPICAL FLOOR PLAN 3RD THRU 10TH FL. INCL.
SCALE: 1/8" = 1'-0"

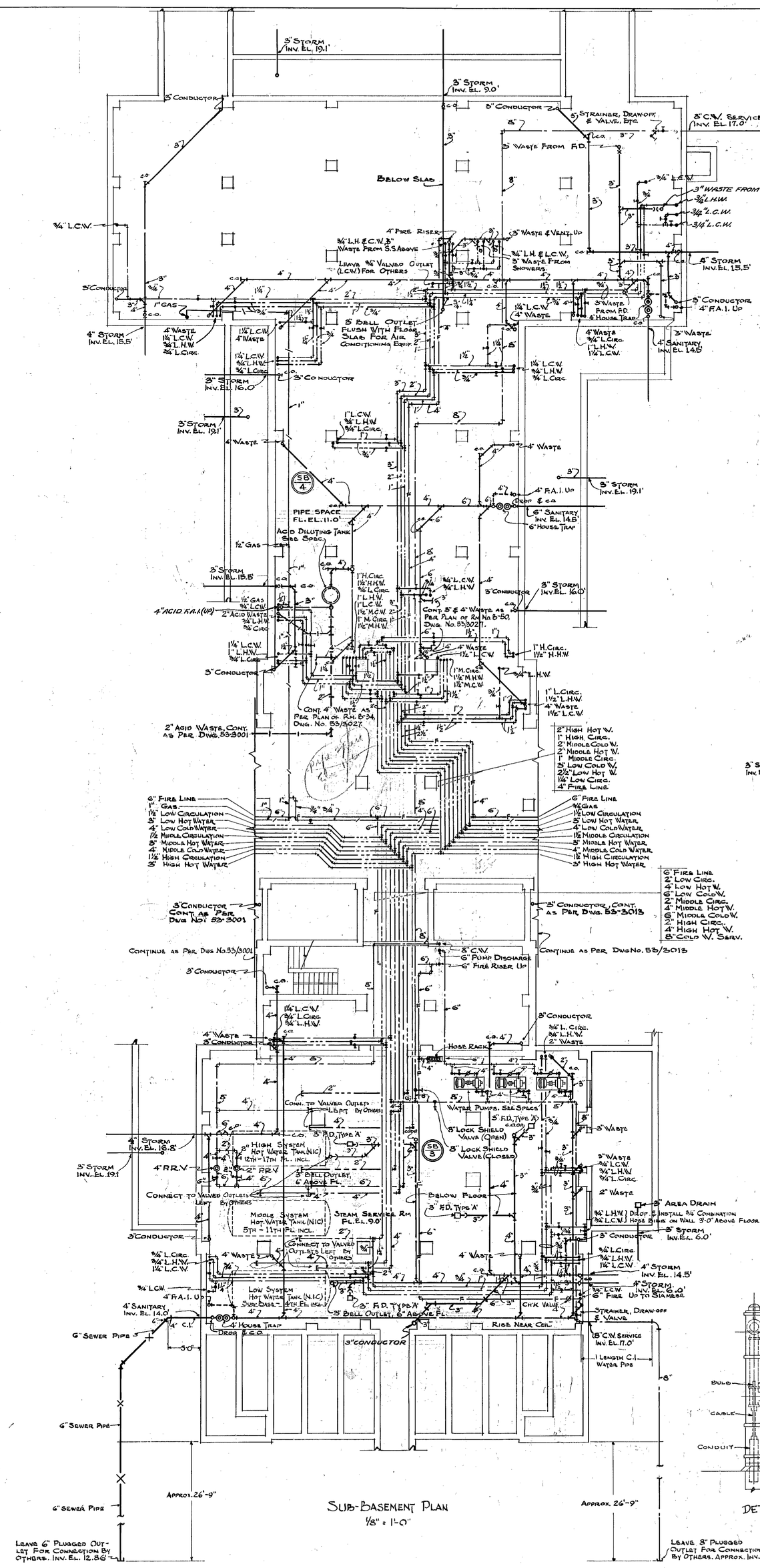


LOCATION PLAN
NO SCALE

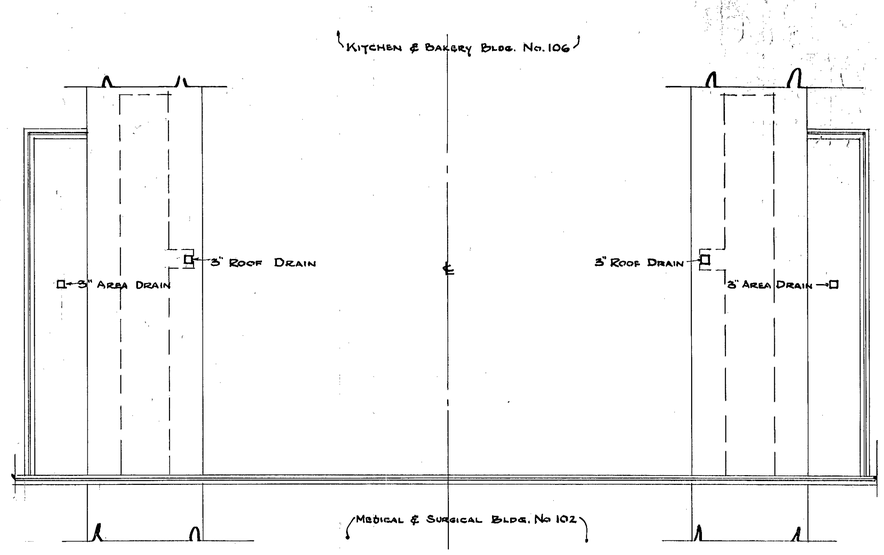
REFERENCE DRAWING

SCANNED
2005

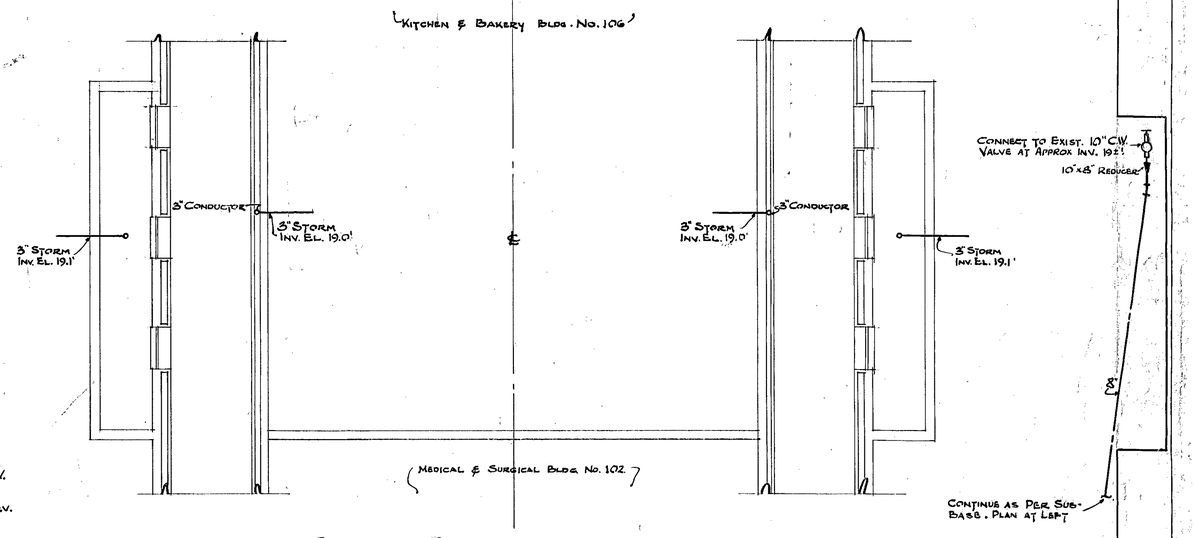
• MANHATTAN • STATE • HOSPITAL • WARDS ISLAND, NEW YORK, N.Y.		
DRAWN BY G.R.P.	SANITARY	PROJECT NO 8586
TRACED BY J.L.P.	MEDICAL & SURGICAL BUILDING BUILDING NO. 102 LEFT SECTION 3RD THRU. 10TH FLOOR PLANS, INCL.	SPECIFICATION 17723
CHECKED BY L.C.B.		DATE APRIL 29, 1953
X-CHECK BY J.W.K.		SCALE AS NOTED
FIELD CHECK BY ARCH. ENG.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION CORNELIUS J. WHITE – STATE ARCHITECT	DRAWING NO. 53/3005
APPROVED BY		
APPROVED BY LETTER NO. 14305 DATE JUNE 2, 1953		



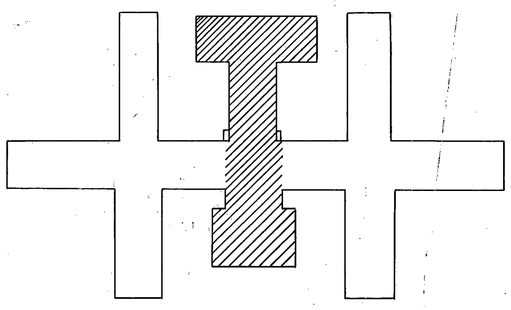
SUB-BASEMENT PLAN
1/8" = 1'-0"



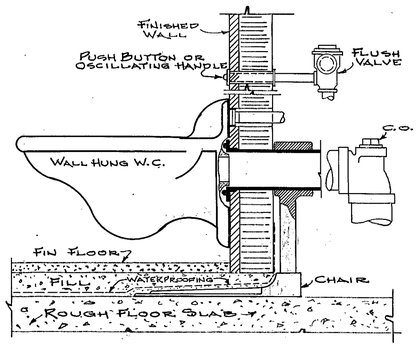
ROOF PLAN OF CONNECTING CORRIDORS
1/8" = 1'-0"



BASEMENT PLAN OF CONNECTING CORRIDORS.
1/8" = 1'-0"

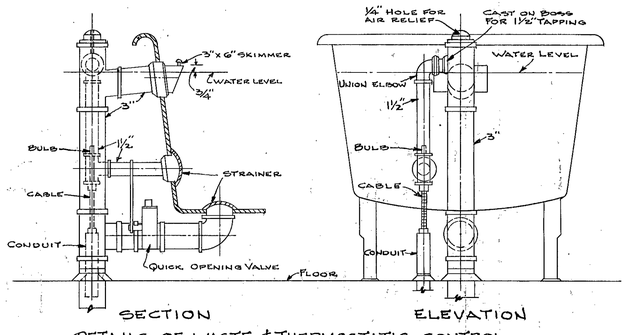


LOCATION PLAN
NO SCALE



TYPICAL SUPPORT FOR TYPE "B" WATER CLOSET
NO SCALE

REFERENCE DRAWING



SECTION — ELEVATION

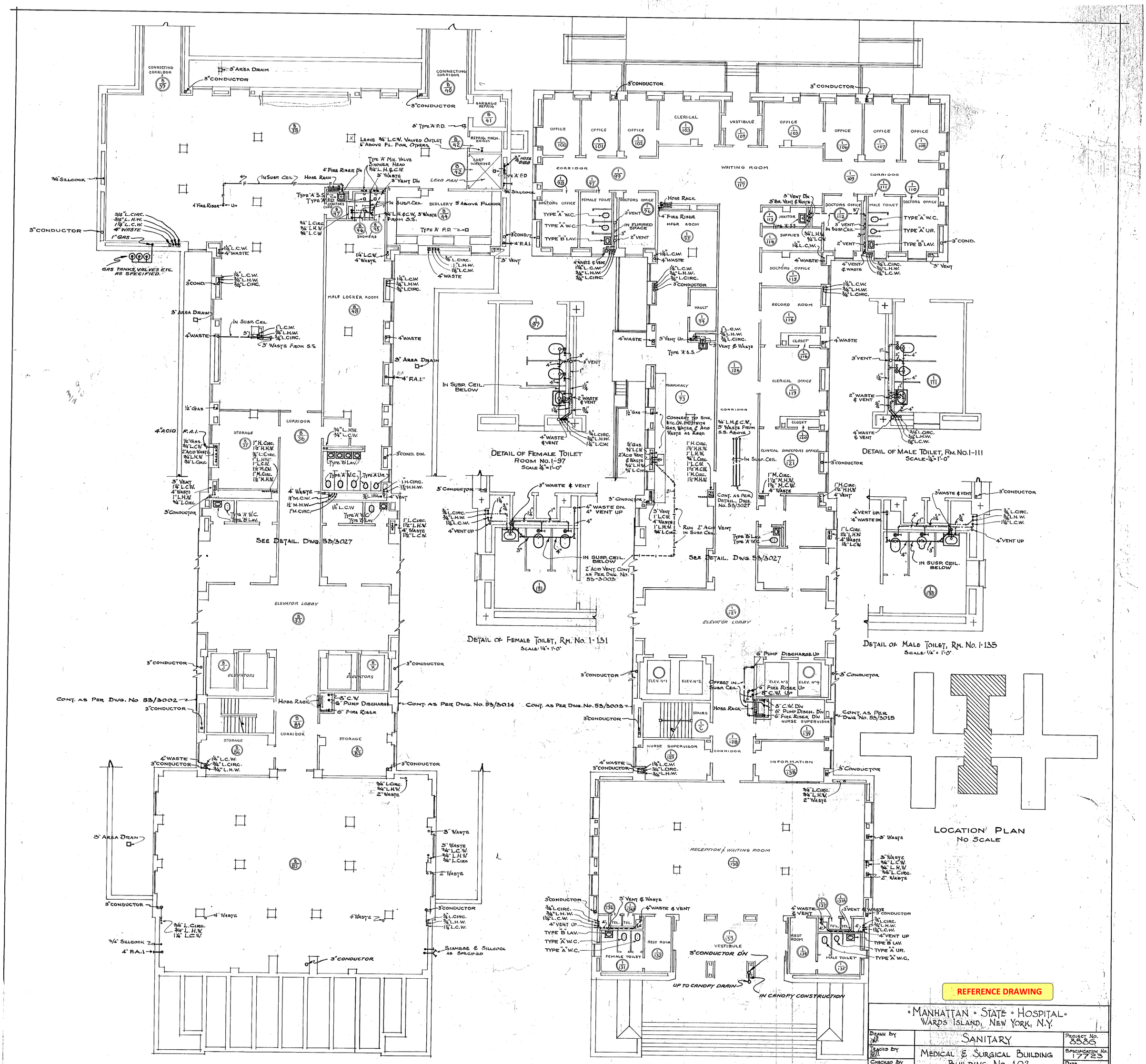
DETAILS OF WASTE & THERMOSTATIC CONTROL FOR CONTINUOUS FLOW BATHS
NO SCALE

NOTES: 1. ALL PIPING LAID ON DISTURBED GROUND SHALL BE SUPPORTED BY MASONRY PIERS BUILT ON UNDISTURBED GROUND.
2. C.O.D.P. = DECK-PLATE CLEAN OUT.

SCANNED 2005

MANHATTAN STATE HOSPITAL WARDS ISLAND, NEW YORK, N.Y.		
DRAWN BY MM Jen	SANITARY	PROJECT NO. 8536
TRACED BY MM	MEDICAL & SURGICAL BUILDING BUILDING NO. 102 CENTER SECTION SUB-BASEMENT PLAN	SPECIFICATION NO. 17723
CHECKED BY L.G.		DATE APRIL 29, 1953
X-CHECK BY		SCALE AS NOTED
FIELD-CHECK BY ARCH'T ENG'R.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION CORNELIUS J. WHITE STATE ARCHITECT	DRAWING NO. 53/3009
APPROVED BY		

APPROVED BY LETTER NO. 14305
DATE JUNE 2, 1953



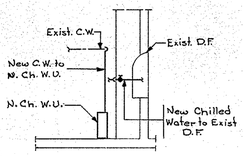
REFERENCE DRAWING

MANHATTAN STATE HOSPITAL
WARDS ISLAND, NEW YORK, N.Y.

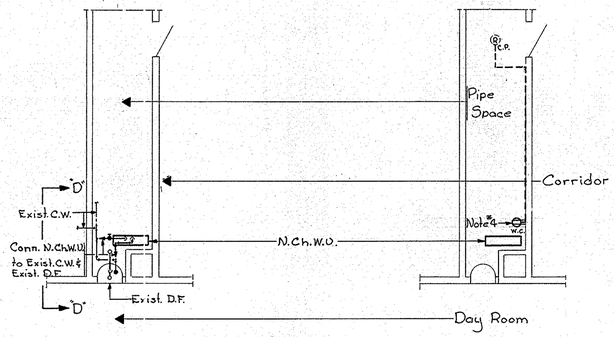
DRAWN BY	SANITARY	PROJECT No. 8586
TRACED BY	MEDICAL & SURGICAL BUILDING BUILDING No. 102 CENTER SECTION BASEMENT & 1ST FLOOR PLANS	SPECIFICATION No. 17723
CHECKED BY		DATE APRIL 29, 1953
X-CHECK BY		SCALE AS NOTED.
FIELD-CHECK BY ARCH. ENG.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION CORNELIUS J. WHITE ~ STATE ARCHITECT	DRAWING No. 53/3010
APPROVED BY		

APPROVED BY LETTER No. 14305
DATE JUNE 2, 1953

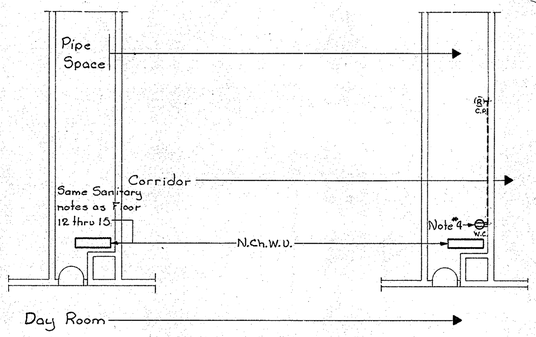
TYPE - A



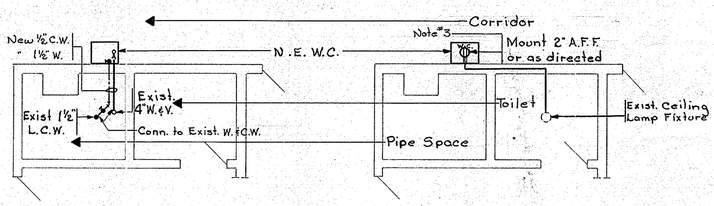
Section "D"-"D"



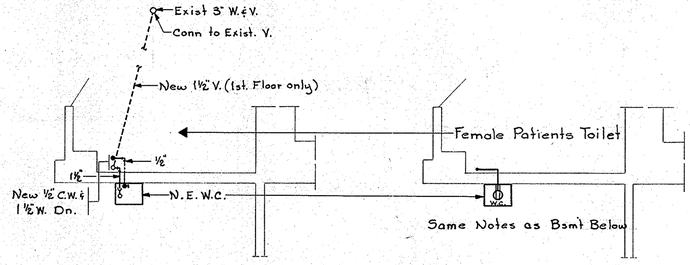
FLOORS 12 THRU 15
LEFT SECTION OPPOSITE HAND



FLOORS 2 THRU 11
RIGHT SECTION OPPOSITE HAND

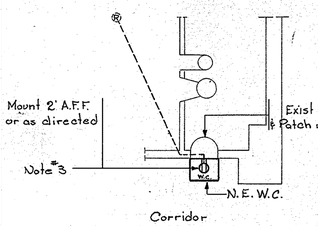


FLOOR 1

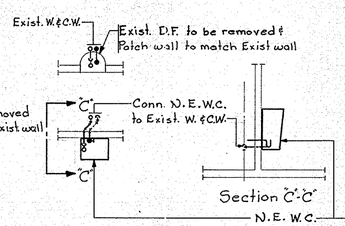


FLOOR 1

LEFT SECTION OPPOSITE HAND

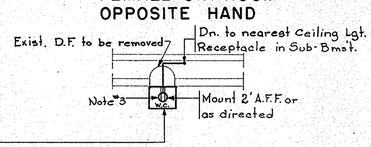


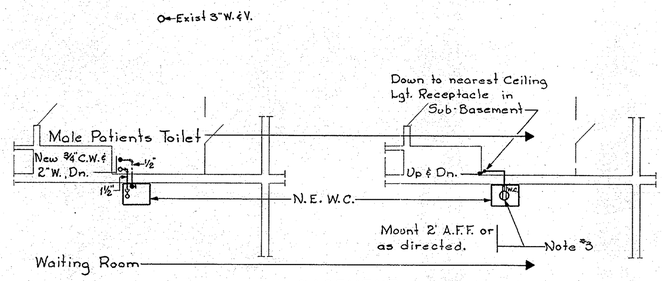
FLOOR 16
Sanitary Details same as Basement, Right Wing



BASEMENT
MALE O.T. ROOM

FEMALE O.T. ROOM
OPPOSITE HAND





BASEMENT

FLOOR	WING	ROOM	TYPE
B	R	M O.T.	B
B	R	F O.T.	↑
B	L	Wait. Room	
1	R	Corr.	Ditto
1	L	Wait. Room	↓
1	Out-Patients	"	B
2	L	Day Room	A
2	R	↑	↑
3	L		
3	R		
4	L		
4	R		
5	L		
5	R		
6	L		
6	R		
7	L		
7	R		
8	L		
8	R	Ditto	Ditto
9	L		
9	R		
10	L		
10	R		
11	L		
11	R		
12	L		
12	R		
13	L		
13	R		
14	L		
14	R		
15	L	↓	↓
15	R	Day Room	A
16	L	Corr.	B
16	R	"	B

LEGEND
R - Right
L - Left
O.T. - Occupational Therapy
Corr. - Corridor
F - Female
M - Male

Sanitary Note
All C.W. pipes to W.C. are to be ½" &
All W. " " " " " " 1½" -
except as noted.

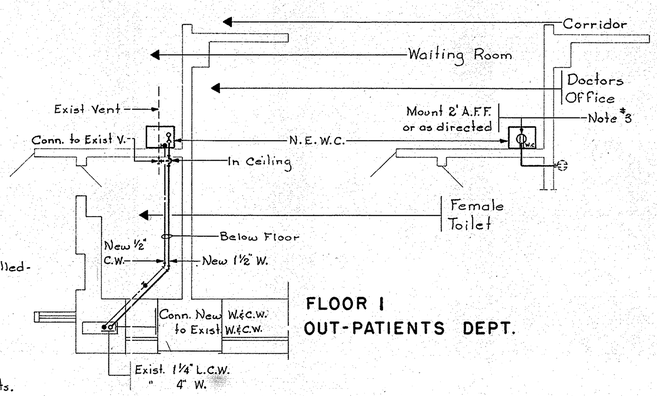
TYPE - B

ELECTRIC
SYMBOLS & ABBREVIATIONS

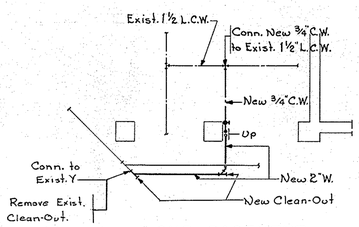
- Single Convenience Outlet (for Water Chiller).
- Existing Duplex Convenience Outlet.
- Existing Wall Lamp Receptacle, with Chain Pull.
- Existing Ceiling Lamp Receptacle.

C.P. — Chain Pull
N.E.W.C. — New Electric Water Cooler; N.Ch.W.U. — New Chilled-Water Unit.
D.F. — Drinking Fountain
A.F.F. — Above Finished Floor.

NOTES
1. All wiring shall be in Exposed Rigid Conduit.
2. Extend Conduit Runs From Existing Outlets shown and Connect to Existing Branch Circuits.
3. Convenience Outlets in Flush Mounted Steel Outlet Box.
4. Convenience Outlet in Exposed Condulet.
5. All wiring shall be #12 Wire.



FLOOR 1
OUT-PATIENTS DEPT.



SUB-BASEMENT
Scale ⅛"=1'-0"

SANITARY | ELECTRIC | SANITARY | ELECTRIC

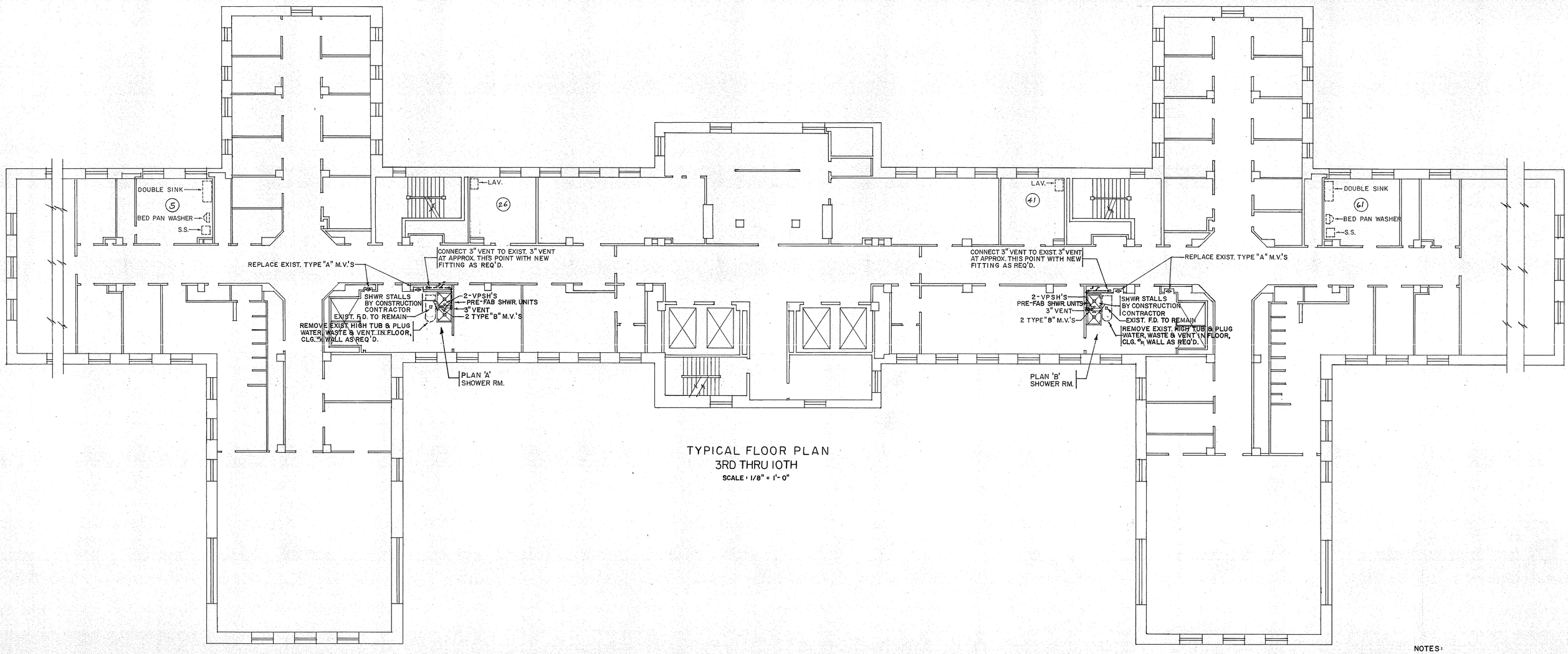
RIGHT WING | LEFT WING

REFERENCE DRAWING

MANHATTAN STATE HOSPITAL
WARDS ISLAND ; NEW YORK, N.Y.

DRAWN BY San. R.C.D. Ele. [illegible]	SANITARY & ELECTRIC	PROJECT NO. 18864
TRACED BY R.C.D.	INSTALLATION OF REFRIGERATED DRINKING FOUNTAINS, ETC. MEDICAL-SURGICAL BLDG. #102	SPECIFICATION NO. 188645
CHECKED BY San. H.C. Ele. [illegible]		DATE Jan 13, 1964
X-CHECKED BY San. Ele.	PLANS & SCHEDULES	Scale ⅛"=1'-0" except as shown
FIELD CHECKED BY [illegible] 12/5/63	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF ARCHITECTURE	Drawing No. 63/3043
APPROVED BY [illegible]	CHARLES S. KAWECKI STATE ARCHITECT	

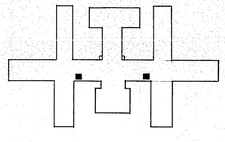
APPROVED #668
DATE 1/6/64



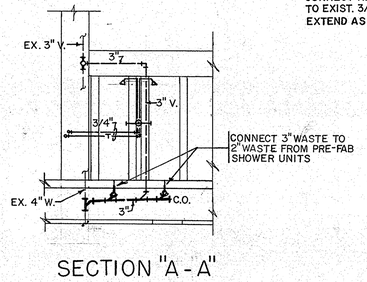
TYPICAL FLOOR PLAN
3RD THRU 10TH
SCALE: 1/8" = 1'-0"

NOTES:

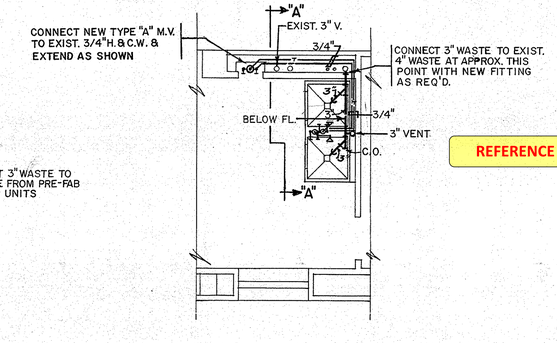
1. RMS. 5 & 61 - TREATMENT RMS. ON ALL FLOORS.
2. RM. 26 - UTILITY RM. ON 6TH FL. ONLY.
3. RM. 41 - UTILITY RMS. ON 4TH, 6TH & 7TH FLOORS.
4. REMOVE EXIST. DOUBLE SINK, BED PAN WASHER & SERVICE SINK, & PLUG WATER, WASTE & VENT PIPING IN FLOOR, CEILING OR WALL AS REQ'D. IN ROOMS NO. 5 & 61.
5. REMOVE EXIST. LAV'S & PLUG WATER, WASTE & VENT PIPING IN FLOOR, CEILING OR WALL AS REQ'D. IN ROOMS NO. 26 & 41.



KEY PLAN
NO SCALE



SECTION "A - A"
SCALE: 1/4" = 1'-0"



TYPICAL SHOWER RM.-PLAN 'A'
(PLAN 'B' SIMILAR BUT OPPOSITE HAND)
SCALE: 1/4" = 1'-0"

REFERENCE DRAWING

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE AND SHALL ASSUME ALL RESPONSIBILITY FOR THE ACCURACY OF HIS FINDINGS IN COORDINATING THE WORK OF HIS CONTRACT.

DUNLAP PSYCHIATRIC HOSPITAL AT
MANHATTAN STATE HOSPITAL
WARDS ISLAND NEW YORK

ALTERATIONS & IMPROVEMENTS TO VARIOUS AREAS THRUOUT BUILDING NO. 102

SANITARY

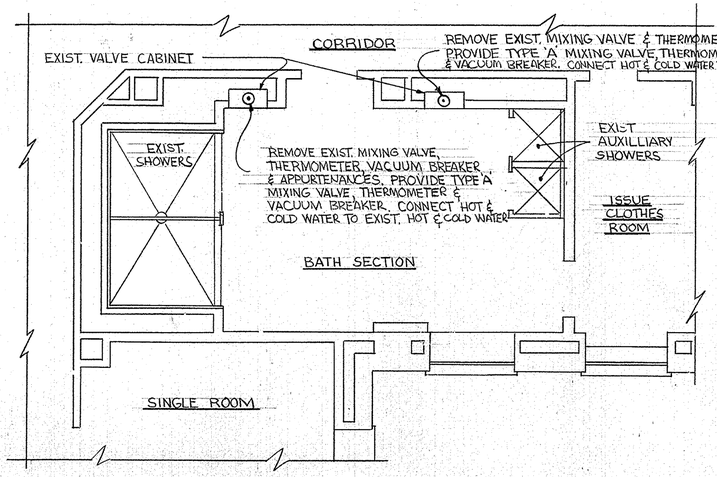
TYPICAL FLOOR PLAN
3RD THRU 10TH FLOORS
AND DETAILS

STATE OF NEW YORK — EXECUTIVE DEPARTMENT
OFFICE OF GENERAL SERVICES
BUILDING DESIGN AND CONSTRUCTION
A. C. O'HARA COMMISSIONER
A. C. BREVETTI STATE ARCHITECT

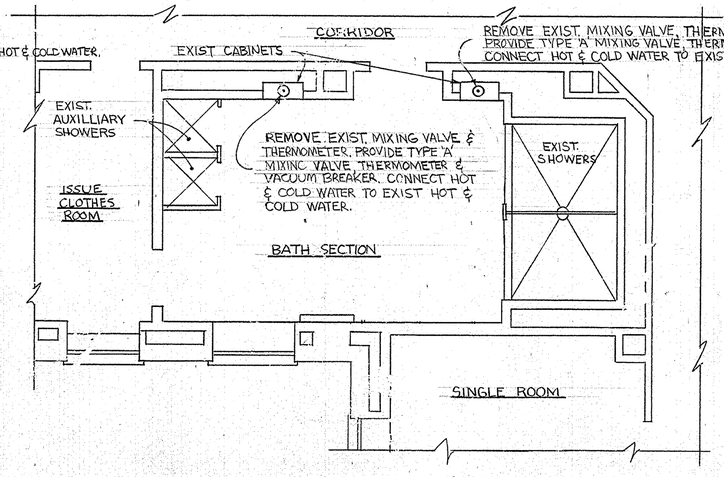
DRAWN BY	DATE	SCALE	APPROVED BY
KRIEK	AUG. 9, 1972	AS NOTED	
TRACED BY	CHECKED BY	STRUCTURAL CHECK	FIELD CHECK
KRIEK	SHERIDAN		H.P. GREENE 8/4/71

APPROVED BY: H.M.H.F.I.C.
DATED: AUG. 10, 1971 LETTER NO. 003265

PROJECT NO. 24371
SPECIFICATION NO. 24371-S
DRAWING NO. 71/3046



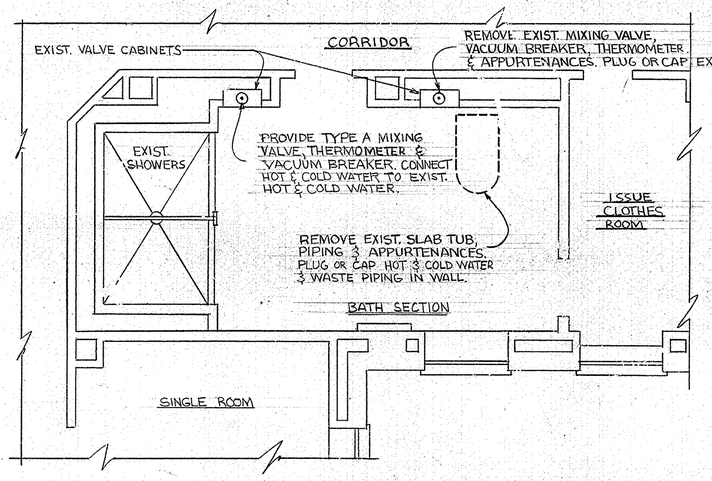
(NORTH SIDE)



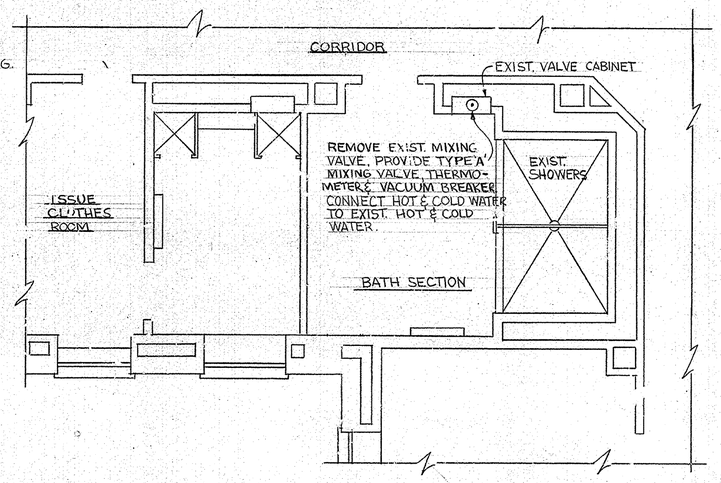
(SOUTH SIDE)

BATH SECTIONS - FLOORS 2 TO 10 INCL.
SECOND FLOOR NORTH SIDE ONLY

SCALE 0' 4'



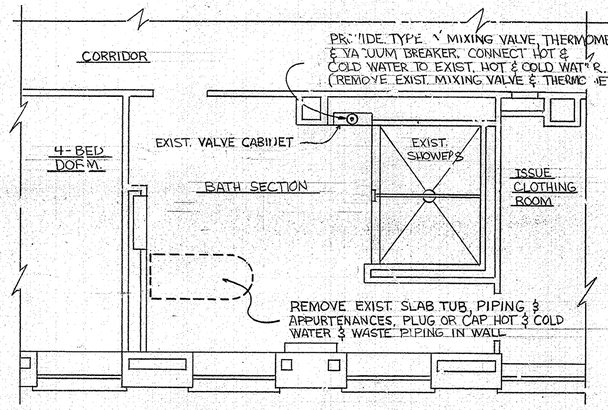
(NORTH SIDE)



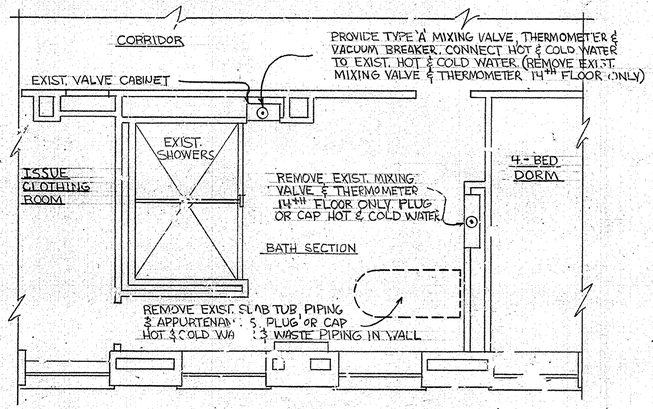
(SOUTH SIDE)

BATH SECTIONS - 11TH FLOOR

SCALE 0' 4'



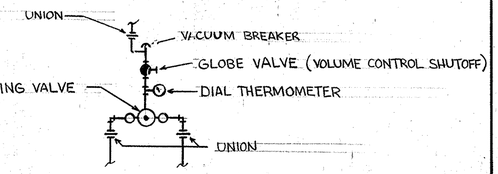
(NORTH SIDE)



(SOUTH SIDE)

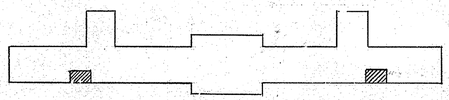
BATH SECTIONS - FLOORS 12 TO 15 INCL

SCALE 0' 4'



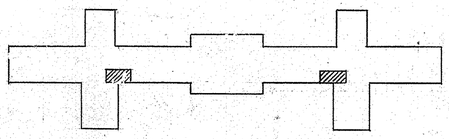
TYPICAL INSTALLATION OF MIXING VALVES

NO SCALE



WORK AREAS - FLOORS 12 TO 15 INCL.

NO SCALE



WORK AREAS - FLOORS 2 TO 11 INCL.

NO SCALE

N

REFERENCE DRAWING

NOTES:

1. PROVIDE ALL PIPING REQUIRED FOR THE INSTALLATION OF MIXING VALVES, THERMOMETERS, VACUUM BREAKERS. AT 15 VARIOUS LOCATIONS. RECONNECT EXIST. HAND HELD SHOWERS

LICENSED PROFESSIONAL ENGINEER BRIAN C. GAUL 42612 STATE OF NEW YORK

WARNING: THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF ARTICLE 145 OF THE NEW YORK STATE EDUCATION LAW AND IS A CLASS A MISDEMEANOR.

FACILITIES DEVELOPMENT CORPORATION

DEPARTMENT OF MENTAL HYGIENE
OFFICE OF MENTAL HEALTH

PLUMBING

INSTALLATION OF DRESSING CUBICLES
BUILDING NO. 102

MANHATTAN PSYCHIATRIC CENTER
WARDS ISLAND NEW YORK

PART FLOOR PLANS

STATE OF NEW YORK – EXECUTIVE DEPARTMENT
OFFICE OF GENERAL SERVICES

COMMISSIONER JOHN C. EGAN	DESIGN AND CONSTRUCTION DIRECTOR HARRY STEVENS, JR., P.E.
	DIVISION OF DESIGN DIRECTOR ALBERT C. BREVETTI, A.I.A.
ARCHITECTURAL BUREAU CHIEF	ENGINEERING BUREAU CHIEF

DRAWN BY	DATE	SCALE	APPROVED
JIM ERNO	4-16-81	AS NOTED	
TRACED BY	CHECKED BY	STRUCTURAL CHECK	FIELD CHECK
J.E.			J. EDWARDS

APPROVED BY OFFICE OF MENTAL HEALTH

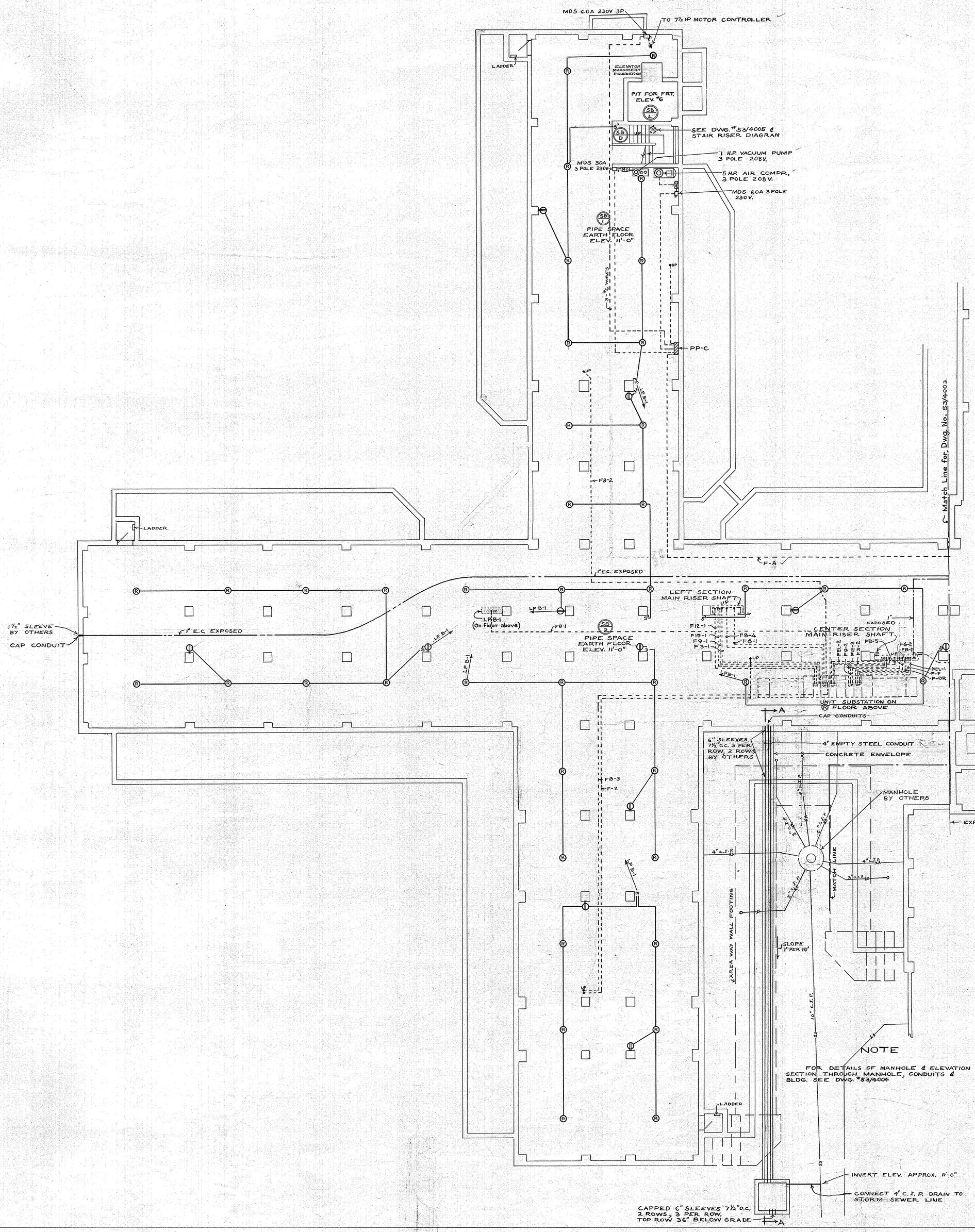
DATE APRIL 16, 1981 LETTER NO. 239083

PROJECT NO. 81027-P

DRAWING NO. 80/3048

FORMERLY MENTAL HEALTH FACILITIES IMPROVEMENT CORPORATION

BRUNING 4c-131 39132-1

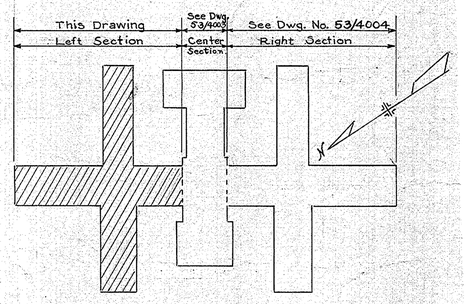


~SYMBOLS~

- FLUORESCENT FIXTURE & CEILING OUTLET
- HOOD LIGHT AS SPECIFIED
- DUPLEX CONVENIENCE OUTLET
- HOME RUN TO LIGHTING, POWER OR SWITCH PANEL NUMBER OF ARROW HEADS INDICATES NO. OF CIRCUITS
- M – INDICATES FIXTURE TYPE; 1-150 (1) - INDICATES NO. OF LAMPS & (150) - LAMP WATTAGE; a – INDICATES SWITCH CONTROL
- NURSE'S CALL INDICATING LIGHT
- NIGHT LIGHT
- INDICATES EXPLOSIVE AREA
- UNIT COOLER
- MOTOR DISCONNECT SWITCH
- RADIO OUTLET – 8'-0" AFF
- TELEVISION OUTLET – 8'-0" AFF
- SPECIAL PURPOSE OUTLET 3 POLE, 2 WIRE, 20A, 250V.
- HOSE CABINET LIGHT
- VOLUME CONTROL & PROGRAM SELECTOR SWITCH
- VOLUME CONTROL & PROGRAM SELECTOR SWITCH IN LOCKED CABINET
- GROUND INDICATING LAMP & BELL
- GROUND INDICATING LAMP
- INDICATES DIRECTION OF FIXTURE LENS ARROW. IN CORRIDORS POINT TOWARD CORRIDOR LENGTH.
- •E EXTEND & CONNECT TO EQUIPMENT. EXACT LOCATION OF THIS POINT SHALL BE AS DIRECTED AT TIME OF INSTALLATION.
- ROOM WITH SUSPENDED CEILING
- ROOM WITH NON SUSPENDED CEILING (OR PART SUSPENDED CEILING AS SHOWN)
- WATCHMAN'S STATION
- EXPLOSION-PROOF RECEPTACLE 30A, 3P, 2W, 230 VOLT
- WALL TELEPHONE FOR DIET KITCHEN SYSTEM
- ELECTRIC CLOCK OUTLET
- MOTOR STARTING SWITCH
- SAFETY SWITCH
- CENTRAL SOUND LOUDSPEAKER
- PUBLIC PAY PHONE
- OFFICE INTERCOMMUNICATING SYSTEM OUTLET
- EQUIVILENT TO
- SPECIAL PURPOSE OUTLET
- COMBINATION WALL BRACKET & CONV. OUTLET

~ABBREVIATIONS~

ASPF	AMPERE SINGLE POLE FRAME
ADPF	AMPERE DOUBLE POLE FRAME
ATPF	AMPERE THREE POLE FRAME
ATE	AMPERE TRIP ELEMENT
MCB	MAIN CIRCUIT BREAKER
BCB	BRANCH CIRCUIT BREAKER
P	PILOT LIGHT
MSS	MOTOR STARTING SWITCH
MDS	MOTOR DISCONNECT SWITCH
ST	SINGLE THROW
SS	SAFETY SWITCH
G.I.	GROUND INDICATING



KEY PLAN
NO SCALE

REFERENCE DRAWING

NOTE

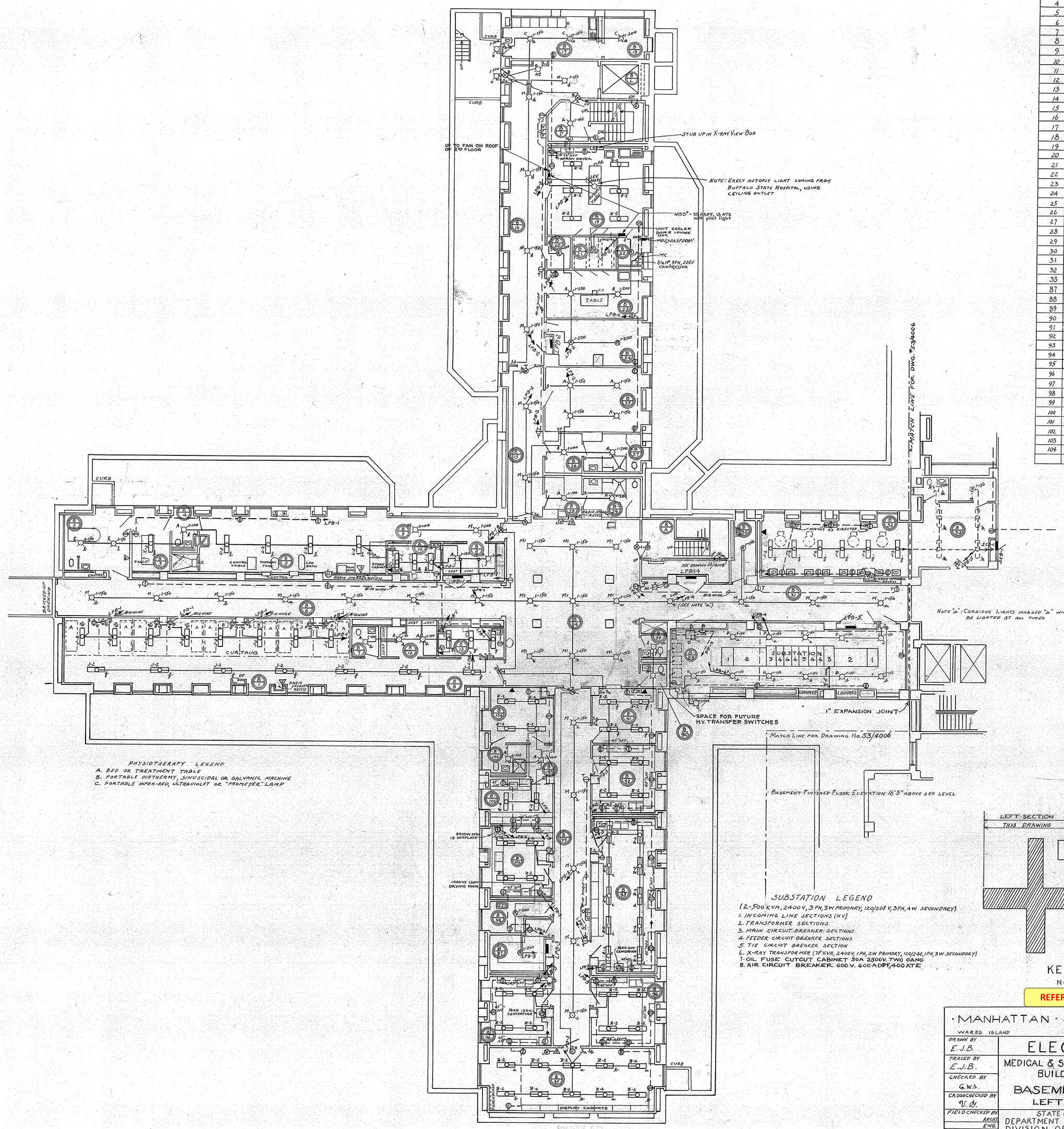
FOR DETAILS OF MANHOLE & ELEVATION SECTION THROUGH MANHOLE, CONDUITS & BLDG. SEE DWG. #53/4004

MANHATTAN · STATE · HOSPITAL ·
WARDS ISLAND — NEW YORK, N.Y.

DRAWN BY V.A.	ELECTRIC	PROJECT NO. 8586
TRACED BY E.J.B.	MEDICAL & SURGICAL BUILDING BUILDING No 102	SPECIFICATION NO. 17724
CHECKED BY G.W.S.	SUB-BASEMENT PLAN LEFT SECTION	DATE APRIL 30 1953
CROSSCHECKED BY V.A.		SCALE 1/8" = 1'-0"
FIELD CHECKED BY ARCHT. / ENG.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION	DRAWING NO. 53/4002
APPROVED BY	CORNELIUS J. WHITE STATE ARCHITECT	

APPROVED: BY LETTER #14305
DATE: JUNE 2, 1953

SHEET SIZE 40" x 36" = 10. SQ. FT.

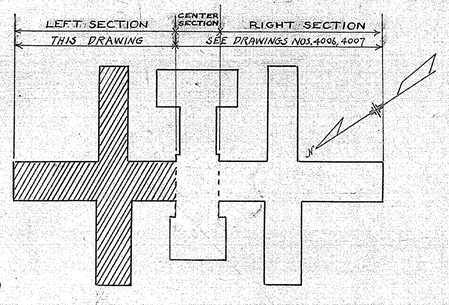


PHYSIOTHERAPY LEGEND
A. BED OR TREATMENT TABLE
B. PORTABLE DIATHERMY, SINUSOIDAL OR GALVANIC MACHINE
C. PORTABLE INFRA-RED, ULTRAVIOLET OR "FROMEYER" LAMP

SUBSTATION LEGEND
(2-500 KVA, 2400 V, 3 PH, 3W PRIMARY, 120/208 V, 3PH, 4W SECONDARY)
1. INCOMING LINE SECTIONS (H.V.)
2. TRANSFORMER SECTIONS
3. MAIN CIRCUIT BREAKER SECTIONS
4. FEEDER CIRCUIT BREAKER SECTIONS
5. TIE CIRCUIT BREAKER SECTION
6. X-RAY TRANSFORMER (75 KVA, 2400 V, 1 PH, 2W PRIMARY, 120/240, 1PH, 3W SECONDARY)
7. OIL FUSE CUTOUT CABINET 50A 2500V. TWO GANG
8. AIR CIRCUIT BREAKER 600 V. 600 ADPT, 400 ATE

ROOM SCHEDULE

SPACE NUMBER	SPACE DESIGNATION
1	PHYSIOTHERAPY
2	FLOW BATH
3	COLONIC IRRIGATION
4	TOILET
5	HYDROTHERAPY
6	CORRIDOR
7	TOILET
8	PASSAGE
9	PASSAGE
10	OFFICE
11	DRESSING ROOM
12	DRESSING ROOM
13	OFFICE
14	CENTRAL WAITING ROOM
15	CORRIDOR
16	CORRIDOR
17	ANIMAL ROOM
18	FEED ROOM
19	AUTOPSY ROOM
20	STORAGE
21	MORTUARY REFRIGERATOR
22	REFRIGERATOR MACHINE ROOM
23	MORTUARY
24	STORAGE
25	CHAPEL
26	FEMALE LOCKER
27	FEMALE TOILET
28	MALE LOCKER
29	MALE TOILET
30	JANITOR
31	CORRIDOR
32	PATIENTS BARBER SHOP
33	PATIENTS WAITING SPACE
87	(OMITTED)
88	TRANSFORMER ROOM
89	FEMALE TOILET
90	MALE TOILET
91	OFFICE & RECORDS
92	HISTOLOGICAL LAB.
93	GENERAL LAB.
94	RESEARCH LAB.
95	CONFERENCE ROOM
96	BACTERIOLOGICAL LAB.
97	STOREROOM
98	JANITOR
99	CORRIDOR
100	MEDIA-STERILIZER & WASHUP ROOM
101	DIRECTORS LAB.
102	DIRECTORS TOILET
103	DIRECTORS ENTRY
104	DIRECTORS OFFICE



KEY PLAN
NO SCALE

REFERENCE DRAWING

· MANHATTAN · STATE · HOSPITAL ·
WARDS ISLAND — NEW YORK, N.Y.

DRAWN BY E.J.B.	ELECTRIC	PROJECT NO. 8586
TRACED BY E.J.B.	MEDICAL & SURGICAL BUILDING BUILDING No. 102	SPECIFICATION NO. 17724
CHECKED BY G.W.S.	BASEMENT PLAN LEFT SECTION	DATE APRIL 30, 1953
CROSSCHECKED BY V.D.		SCALE 1/8" = 1'-0"
FIELD CHECKED BY ARCH. ENG.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION	DRAWING NO. 53/4005
APPROVED BY	CORNELIUS J. WHITE STATE ARCHITECT	

APPROVED: BY LETTER #14305
DATE: JUNE 2, 1953

SHEET 40"X36" = 10 SQ. FT.

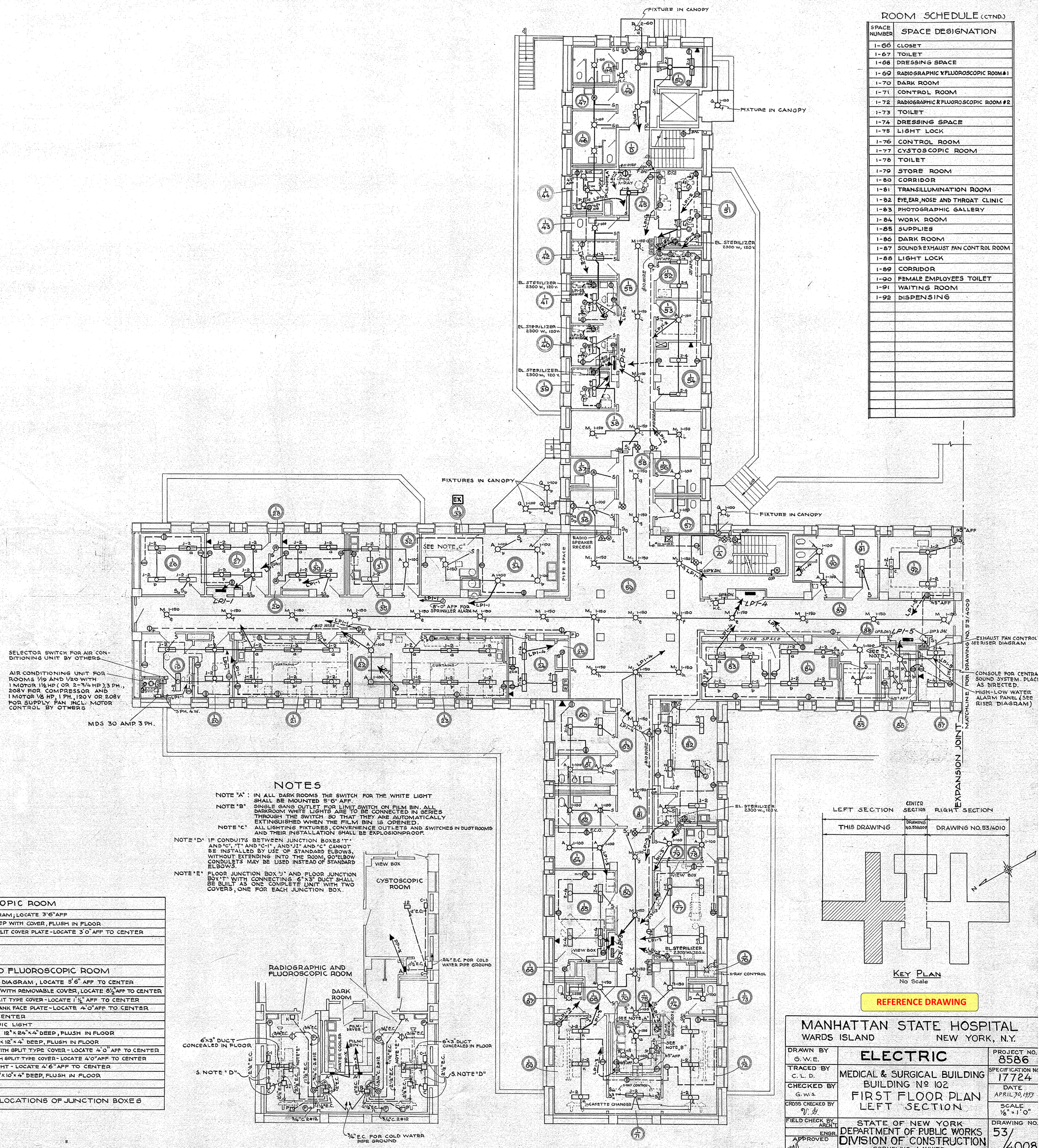
BLDG. 102

ROOM SCHEDULE

SPACE NUMBER	SPACE DESIGNATION
1-19	CONTROL ROOM
1-20	ENCEPHALOGRAPH ROOM
1-21	TREATMENT ROOM
1-22	DRESSING ROOM
1-23	TREATMENT ROOM
1-24	NURSES ROOM
1-25	CLOSET
1-26	CARDIOGRAPH & METABOLISM
1-27	PSYCHOLOGYST
1-28	CLOSET
1-29	CLOSET
1-30	DOCTORS OFFICE
1-31	UTILITY ROOM
1-32	STORE ROOM
1-33	DUST ROOM
1-34	SOILED LINEN ROOM
1-35	CORRIDOR
1-36	VESTIBULE
1-37	JANITOR
1-38	DENTAL CLINIC WAITING ROOM
1-39	DENTAL HYGIENE
1-40	DENTAL OPERATING
1-41	DENTAL OPERATING
1-42	RECOVERY ROOM
1-43	TOILET
1-44	DARK ROOM
1-45	X-RAY ROOM
1-46	FEMALE TOILET
1-47	JANITOR
1-48	MALE TOILET
1-49	CORRIDOR
1-50	OFFICE
1-51	SURGERY
1-52	LABORATORY
1-53	SUPPLY ROOM
1-54	OFFICE AND RECORDS
1-55	CORRIDOR
1-56	MALE PATIENTS TOILET
1-57	FEMALE PATIENTS TOILET
1-58	CORRIDOR
1-59	CENTRAL WAITING ROOM
1-60	DOCTORS OFFICE
1-61	MALE STAFF TOILET
1-62	FEMALE STAFF TOILET
1-63	CORRIDOR
1-64	WAITING SPACE
1-65	OFFICE AND VIEWING ROOM

ROOM SCHEDULE (CTND.)

SPACE NUMBER	SPACE DESIGNATION
1-66	CLOSET
1-67	TOILET
1-68	DRESSING SPACE
1-69	RADIOGRAPHIC & FLUOROSCOPIC ROOM #1
1-70	DARK ROOM
1-71	CONTROL ROOM
1-72	RADIOGRAPHIC & FLUOROSCOPIC ROOM #2
1-73	TOILET
1-74	DRESSING SPACE
1-75	LIGHT LOCK
1-76	CONTROL ROOM
1-77	CYSTOSCOPIC ROOM
1-78	TOILET
1-79	STORE ROOM
1-80	CORRIDOR
1-81	TRANSILLUMINATION ROOM
1-82	EYE, EAR, NOSE AND THROAT CLINIC
1-83	PHOTOGRAPHIC GALLERY
1-84	WORK ROOM
1-85	SUPPLIES
1-86	DARK ROOM
1-87	SOUND & EXHAUST FAN CONTROL ROOM
1-88	LIGHT LOCK
1-89	CORRIDOR
1-90	FEMALE EMPLOYEE'S TOILET
1-91	WAITING ROOM
1-92	DISPENSING



NOTES

NOTE "A": IN ALL DARK ROOMS THE SWITCH FOR THE WHITE LIGHT SHALL BE MOUNTED 5'6" AFF.

NOTE "B" SINGLE GANG OUTLET FOR LIMIT SWITCH ON FILM BIN. ALL DARKROOM WHITE LIGHTS ARE TO BE CONNECTED IN SERIES THROUGH THE SWITCH SO THAT THEY ARE AUTOMATICALLY EXTINGUISHED WHEN THE FILM BIN IS OPENED.

NOTE "C" ALL LIGHTING FIXTURES, CONVENIENCE OUTLETS AND SWITCHES IN DUSTROOMS AND THEIR INSTALLATION SHALL BE EXPLOSIONPROOF.

NOTE "D" IF CONDUITS BETWEEN JUNCTION BOXES "T" AND "C", "T" AND "C-1", AND "JI" AND "C" CANNOT BE INSTALLED BY USE OF STANDARD ELBOWS, WITHOUT EXTENDING INTO THE ROOM, 90° ELBOW CONDULETS MAY BE USED INSTEAD OF STANDARD ELBOWS.

NOTE "E" FLOOR JUNCTION BOX "U" AND FLOOR JUNCTION BOX "T" WITH CONNECTING 6"×3" DUCT SHALL BE BUILT AS ONE COMPLETE UNIT WITH TWO COVERS, ONE FOR EACH JUNCTION BOX.

KEY PLAN
No Scale

REFERENCE DRAWING

LEGEND CYSTOSCOPIC ROOM

A	POWER SAFETY SWITCH AS NOTED ON RISER DIAGRAM; LOCATE 3'6" AFF
J2	FLOOR JUNCTION BOX, WATERPROOF TYPE 12"×9"×4" DEEP WITH COVER, FLUSH IN FLOOR
C-1	WALL JUNCTION BOX, PLUSH TYPE, 6"×6"×4" DEEP WITH SPLIT COVER PLATE - LOCATE 3'0" AFF TO CENTER

LEGEND RADIOGRAPHIC AND FLUOROSCOPIC ROOM

A	POWER SAFETY SWITCH AS NOTED ON RISER DIAGRAM, LOCATE 5'6" AFF TO CENTER
B	WALL JUNCTION BOX, FLUSH TYPE 12"×24"×4" DEEP WITH REMOVABLE COVER, LOCATE 8½" AFF TO CENTER
C, C-1	WALL JUNCTION BOX, FLUSH TYPE 8"×10"×4" WITH SPLIT TYPE COVER - LOCATE 1'1½" AFF TO CENTER
D	TWO GANG FLUSH TYPE WALL OUTLET WITH BLANK FACE PLATE - LOCATE 4'0" AFF TO CENTER
F	AISLE LIGHT FIXTURE - LOCATE 1'1½" AFF TO CENTER
I	4" CEILING OUTLET FOR FUTURE FLUOROSCOPIC LIGHT
J*	FLOOR JUNCTION BOX, WATERPROOF TYPE 12"×24"×4" DEEP, FLUSH IN FLOOR
JI	FLOOR JUNCTION BOX, WATERPROOF TYPE 12"×12"×4" DEEP, FLUSH IN FLOOR
K	WALL JUNCTION BOX, FLUSH TYPE, 8"×8"×4" DEEP WITH SPLIT TYPE COVER - LOCATE 4'0" AFF TO CENTER
P	WALL JUNCTION BOX, FLUSH TYPE, 8"×8"×4" DEEP WITH SPLIT TYPE COVER - LOCATE 4'0" AFF TO CENTER
S*	TWO GANG OUTLET WITH SWITCH AND PILOT LIGHT - LOCATE 4'6" AFF TO CENTER
T*	FLOOR JUNCTION BOX, WATERPROOF TYPE 8"×10"×4" DEEP, FLUSH IN FLOOR

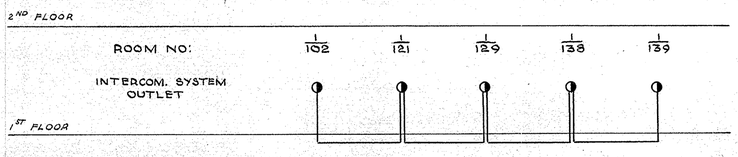
NOTE: FOR EXACT DIMENSIONS AND EXACT LOCATIONS OF JUNCTION BOXES SEE SHOP DRAWINGS.

* S. NOTE "E"

MANHATTAN STATE HOSPITAL

WARDS ISLAND — NEW YORK, N.Y.

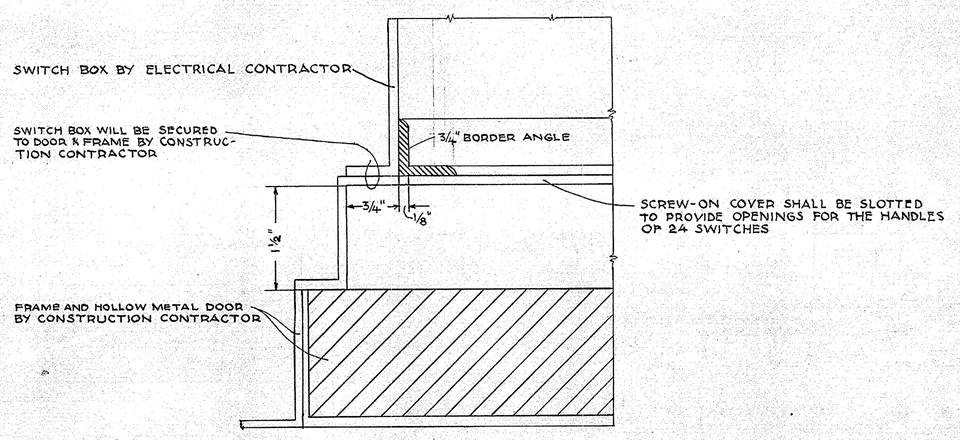
DRAWN BY G.W.E.	ELECTRIC	PROJECT NO. 8586
TRACED BY C.L.D.	MEDICAL & SURGICAL BUILDING BUILDING No 102	SPECIFICATION NO. 17724
CHECKED BY G.W.S.	FIRST FLOOR PLAN LEFT SECTION	DATE APRIL 30, 1953
CROSS CHECKED BY V.G.		SCALE ⅛" = 1'0"
FIELD CHECK BY ARCH'T	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS	DRAWING NO. 53/4008
ENGR. APPROVED	DIVISION OF CONSTRUCTION CORNELIUS J. WHITE	



SCHEMATIC DIAGRAM OF OFFICE INTERCOMMUNICATING CONDUIT SYSTEM

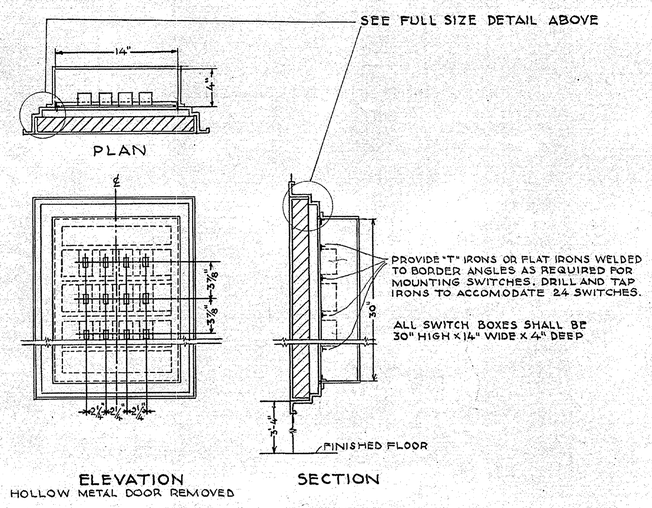
NO SCALE

NOTE: ALL CONDUITS 3/4" E.C.
MOUNTING HEIGHT OF INTERCOM. SYSTEM OUTLETS 1'6"



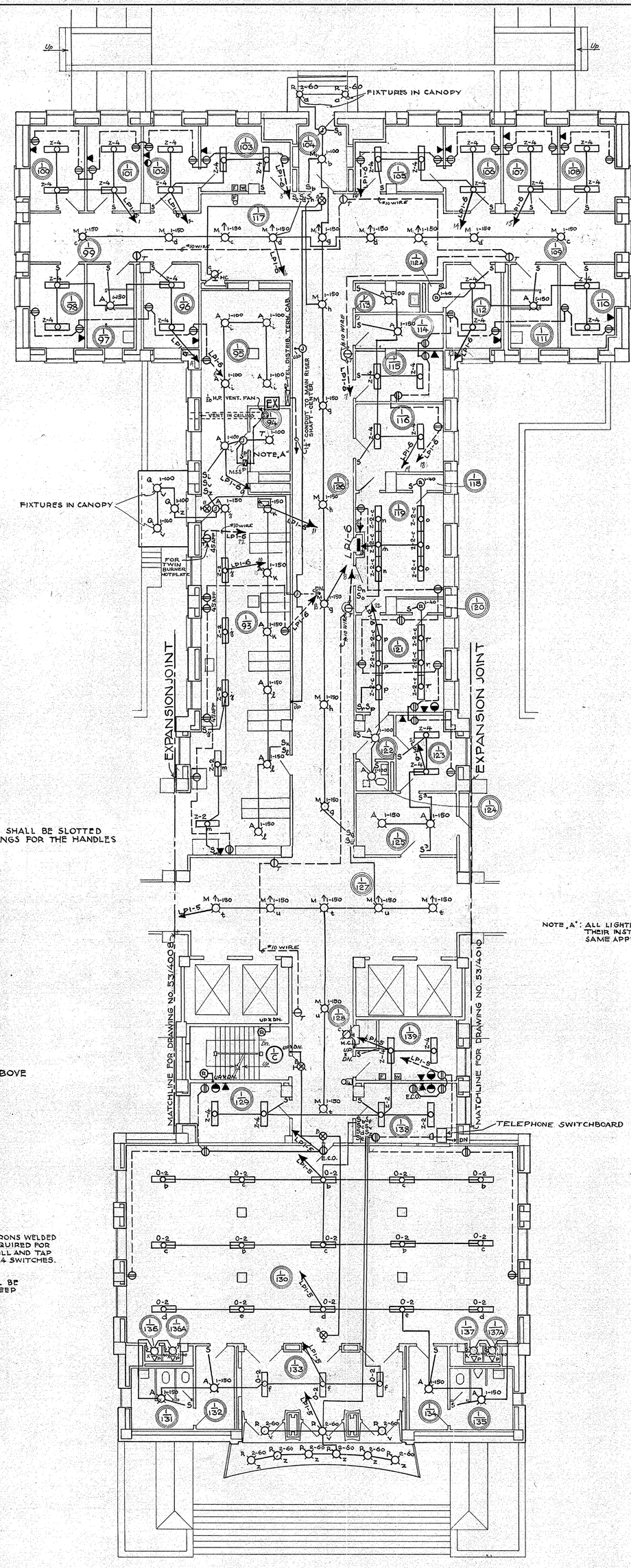
DETAIL OF SWITCH CABINET AT DOOR FRAME

FULL SIZE



TYPICAL SWITCH CENTER

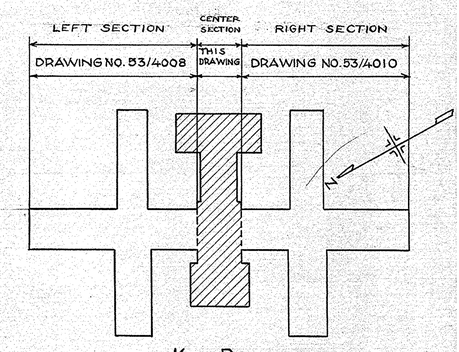
SCALE 1 1/2" = 1'-0"



NOTE "A": ALL LIGHTING FIXTURES IN ALCOHOL VAULT AND THEIR INSTALLATION SHALL BE EXPLOSIONPROOF. SAME APPLIES TO VENT. FAN MOTOR.

ROOM SCHEDULE

SPACE NUMBER	SPACE DESIGNATION
1-93	PHARMACY MANUFACTURING
1-94	ALCOHOL VAULT
1-95	PHARMACY STORAGE
1-96	DOCTORS OFFICE
1-97	FEMALE TOILET
1-98	DOCTORS OFFICE
1-99	CORRIDOR
1-100	OFFICE
1-101	OFFICE
1-102	OFFICE
1-103	CLERICAL OFFICE
1-104	VESTIBULE
1-105	OFFICE
1-106	OFFICE
1-107	OFFICE
1-108	OFFICE
1-109	CORRIDOR
1-110	DOCTORS OFFICE
1-111	MALE TOILET
1-112	DOCTORS OFFICE
1-113	JANITOR
1-114	SUPPLIES
1-115	DOCTORS OFFICE
1-116	RECORD ROOM
1-117	WAITING ROOM
1-118	CLOSET
1-119	CLERICAL OFFICE
1-120	CLOSET
1-121	CLINICAL DIRECTORS OFFICE
1-122	ENTRY
1-123	SECRETARYS OFFICE
1-124	TOILET
1-125	WAITING ROOM
1-126	CORRIDOR
1-127	ELEVATOR LOBBY
1-128	CORRIDOR
1-129	NURSE SUPERVISOR
1-130	RECEPTION & WAITING ROOM
1-131	FEMALE TOILET
1-132	REST ROOM
1-133	VESTIBULE
1-134	REST ROOM
1-135	MALE TOILET
1-136	TELEPHONE BOOTH
1-136A	TELEPHONE BOOTH
1-137	TELEPHONE BOOTH
1-137A	TELEPHONE BOOTH
1-138	INFORMATION
1-139	NURSE SUPERVISOR



KEY PLAN
No Scale

REFERENCE DRAWING

MANHATTAN STATE HOSPITAL
WARDS ISLAND — NEW YORK, N.Y.

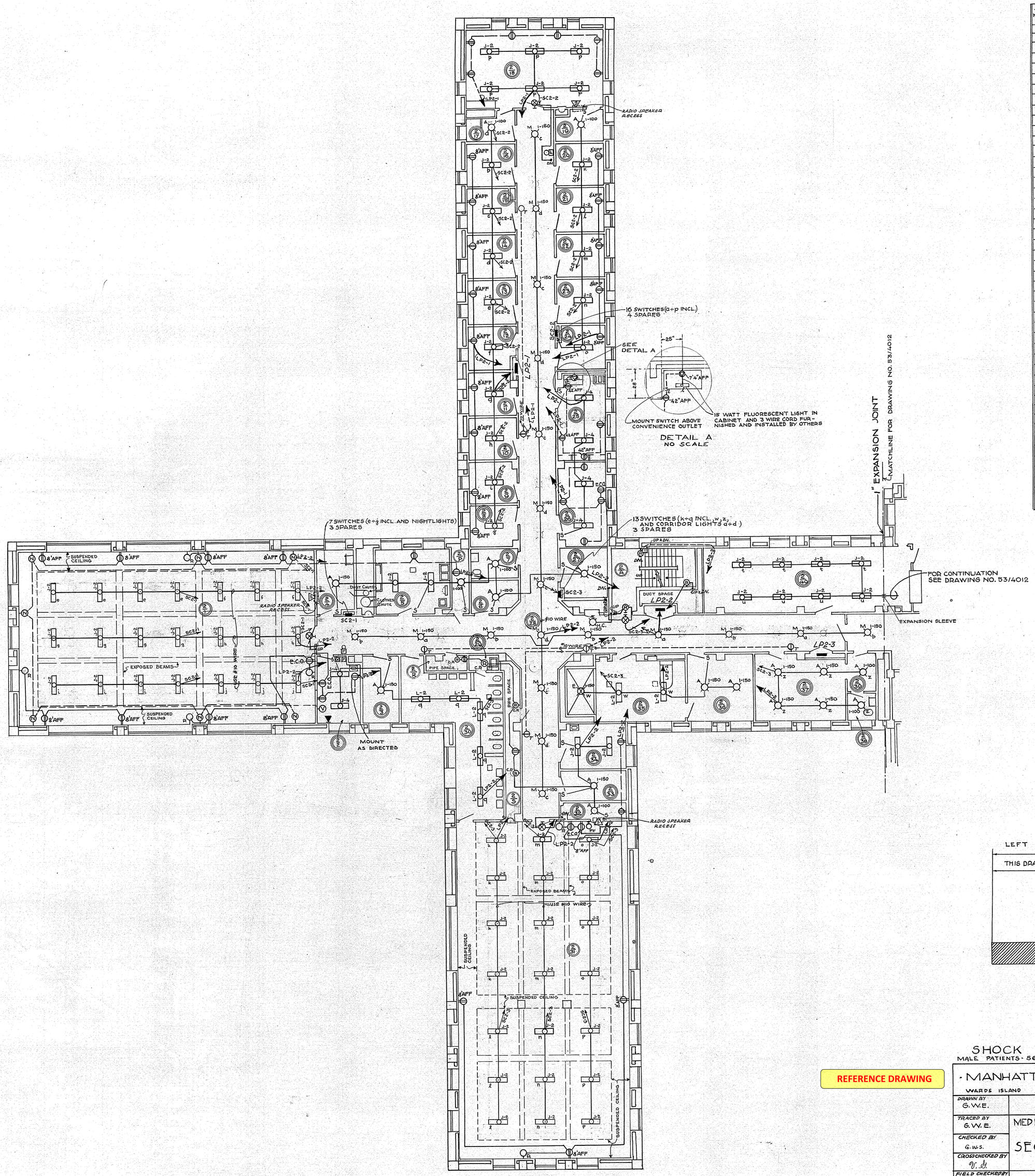
DRAWN BY G.W.E.	ELECTRIC	PROJECT NO. 8586
TRACED BY C.L.D.	MEDICAL & SURGICAL BUILDING BUILDING No 102	SPECIFICATION NO. 17724
CHECKED BY G.W.S.	FIRST FLOOR PLAN CENTER SECTION	DATE APRIL 30, 1953
CROSS CHECKED BY V.G.		SCALE 1/8" = 1'0"
FIELD CHECK BY ARCH'T. ENGR.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION CORNELIUS J. WHITE STATE ARCHITECT	DRAWING NO. 53/4009
APPROVED		

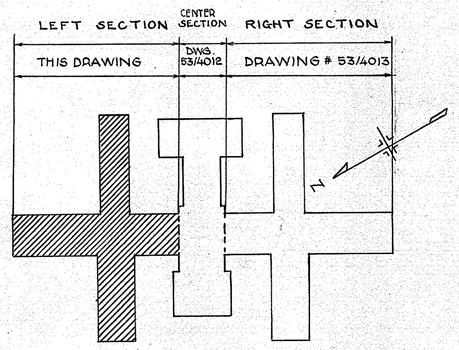
APPROVED: BY LETTER # 14305
DATE: JUNE 2, 1953

SHEET SIZE 40" x 36" = 10.00 SQ.FT.

ROOM SCHEDULE

SPACE NUMBER	SPACE DESIGNATION
2-1	42 BED DORMITORY
2-2	NURSES OFFICE
2-3	LINEN ROOM
2-4	JANITOR'S ROOM
2-5	UTILITY ROOM
2-6	STORAGE
2-7	FEMALE EMPLOYEES TOILET
2-8	SINGLE ROOM
2-9	SINGLE ROOM
2-10	SINGLE ROOM
2-11	SINGLE ROOM
2-12	SINGLE ROOM
2-13	SINGLE ROOM
2-14	SINGLE ROOM
2-15	SINGLE ROOM
2-16	SINGLE ROOM
2-17	PATIENTS TOILET
2-18	OCCUPATIONAL THERAPY CLASSR.
2-19	STORE ROOM
2-20	SINGLE ROOM
2-21	SINGLE ROOM
2-22	SINGLE ROOM
2-23	SINGLE ROOM
2-24	SINGLE ROOM
2-25	TREATMENT ROOM
2-26	SPECIAL TREATMENT ROOM
2-27	PERSONAL CLOTHES ROOM
2-28	CORRIDOR
2-29	SLOP SINK CLOSET
2-30	FEMALE PATIENTS TOILET
2-31	DAY ROOM
2-32	O.T. STORAGE
2-33	SUPPLY ROOM
2-34	EXAMINATION ROOM
2-35	BATH SECTION
2-36	ISSUE CLOTHES ROOM
2-37	VISITING ROOM
2-38	VISITORS TOILET
2-39	FOYER
2-40	FEMALE PATIENTS DINING ROOM





KEY PLAN
NO SCALE

SHOCK THERAPY PATIENTS

MALE PATIENTS - 56 BEDS FEMALE PATIENTS - 56 BEDS, TOTAL - 112

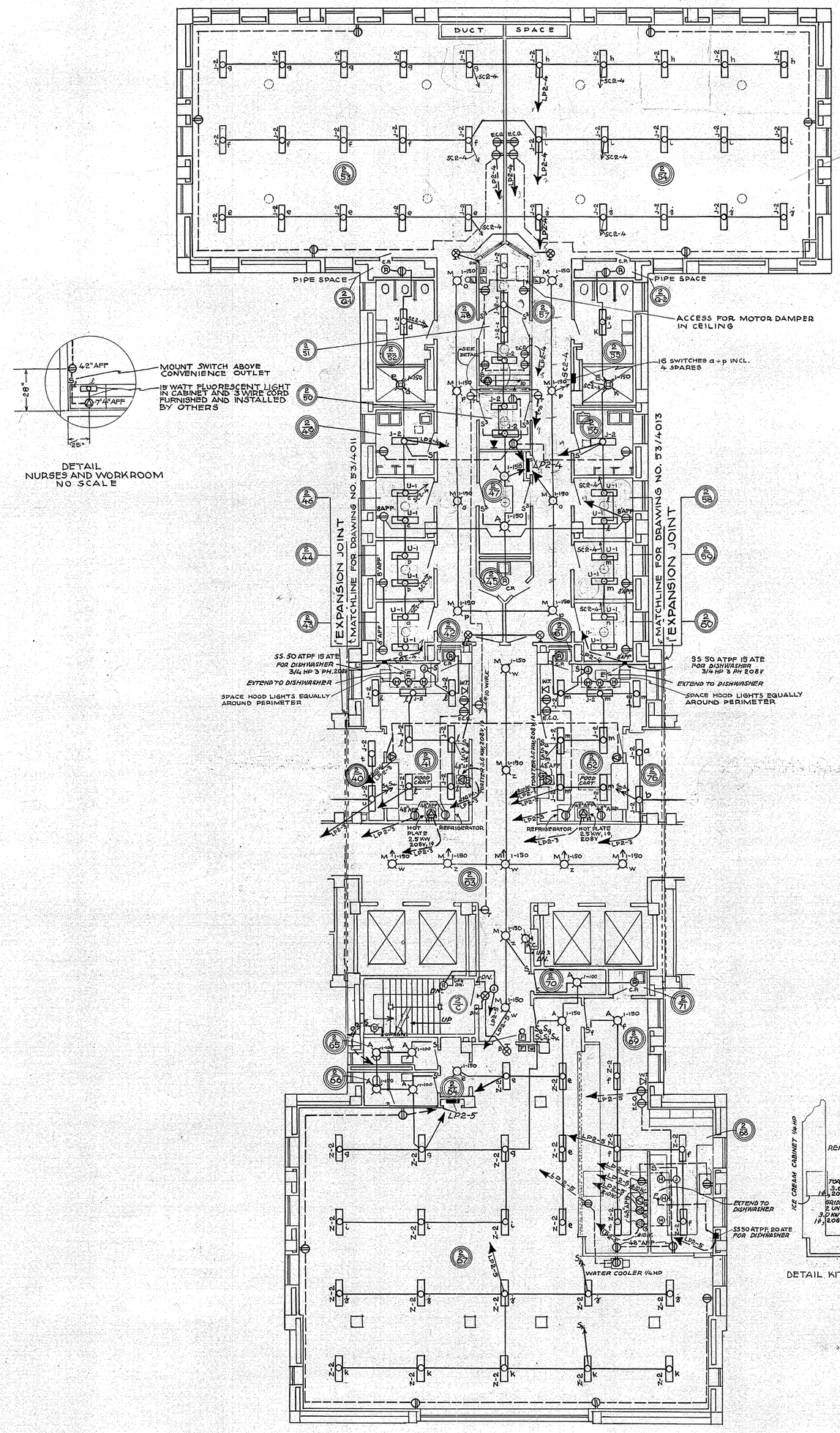
REFERENCE DRAWING

· MANHATTAN · STATE · HOSPITAL ·

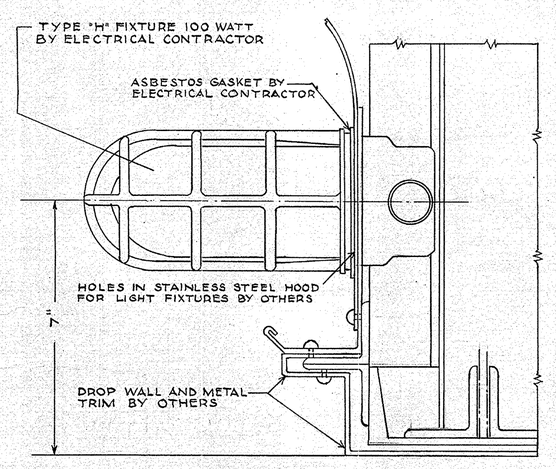
WARDS ISLAND — NEW YORK, N.Y.

DRAWN BY G.W.E.	ELECTRIC	PROJECT NO. 8586
TRACED BY G.W.E.	MEDICAL & SURGICAL BUILDING BUILDING No. 102	SPECIFICATION NO. 17724
CHECKED BY G.W.S.	SECOND FLOOR PLAN LEFT SECTION	DATE APRIL 30, 1953
CROSSCHECKED BY W.G.		SCALE 1/8" = 1'0"
FIELD CHECKED BY ARCH. ENG.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION	DRAWING NO. 53/4011
APPROVED BY	CORNELIUS J. WHITE STATE ARCHITECT	

APPROVED: BY LETTER #14305
DATE: JUNE 2, 1953

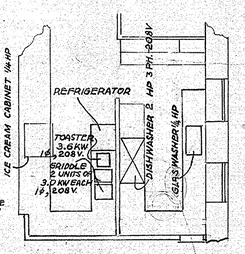


DETAIL
NURSES AND WORKROOM
NO SCALE



MOUNTING DETAIL OF HOOD LIGHT FIXTURE TYPE "H"

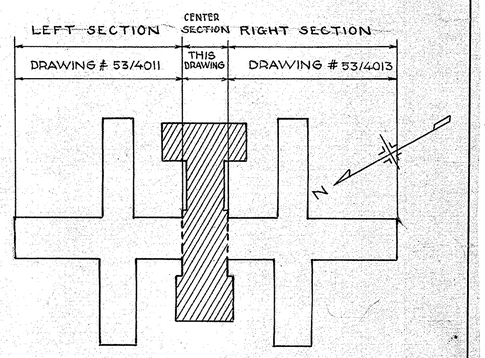
NO SCALE



DETAIL KITCHEN AND SERVING ROOM
NO SCALE

ROOM SCHEDULE

SPACE NUMBER	SPACE DESIGNATION
2-40	FEMALE PATIENTS DINING ROOM
2-41	SERVING ROOM
2-42	SLOP SINK CLOSET
2-43	SINGLE ROOM
2-44	SINGLE ROOM
2-45	SLOP SINK CLOSET
2-46	SINGLE ROOM
2-47	SUPPLY & LINEN ROOM
2-48	CORRIDOR
2-49	UTILITY ROOM
2-50	DOCTOR'S OFFICE
2-51	NURSES AND WORK ROOM
2-52	PATIENTS TOILET & SHOWER ROOM
2-53	FEMALE TREATMENT ROOM 25 BEDS
2-54	MALE TREATMENT ROOM 25 BEDS
2-55	PATIENTS TOILET & SHOWER ROOM
2-56	UTILITY ROOM
2-57	CORRIDOR
2-58	SINGLE ROOM
2-59	SINGLE ROOM
2-60	SINGLE ROOM
2-61	SLOP SINK CLOSET
2-62	SERVING ROOM
2-63	ELEVATOR LOBBY
2-64	FOYER
2-65	MALE EMPLOYEES TOILET
2-66	FEMALE EMPLOYEES TOILET
2-67	EMPLOYEES DINING ROOM
2-68	KITCHEN
2-69	SERVING ROOM
2-70	STRETCHER ROOM
2-71	SLOP SINK CLOSET
2-76	MALE PATIENTS DINING ROOM



KEY PLAN
NO SCALE

NOTES:
CORRIDOR LIGHTS MARKED "W" WILL BE ON AT ALL TIMES.

REFERENCE DRAWING

SHOCK THERAPY PATIENTS

MALE PATIENTS - 56 BEDS FEMALE PATIENTS - 56 BEDS, TOTAL-112

· MANHATTAN · STATE · HOSPITAL ·

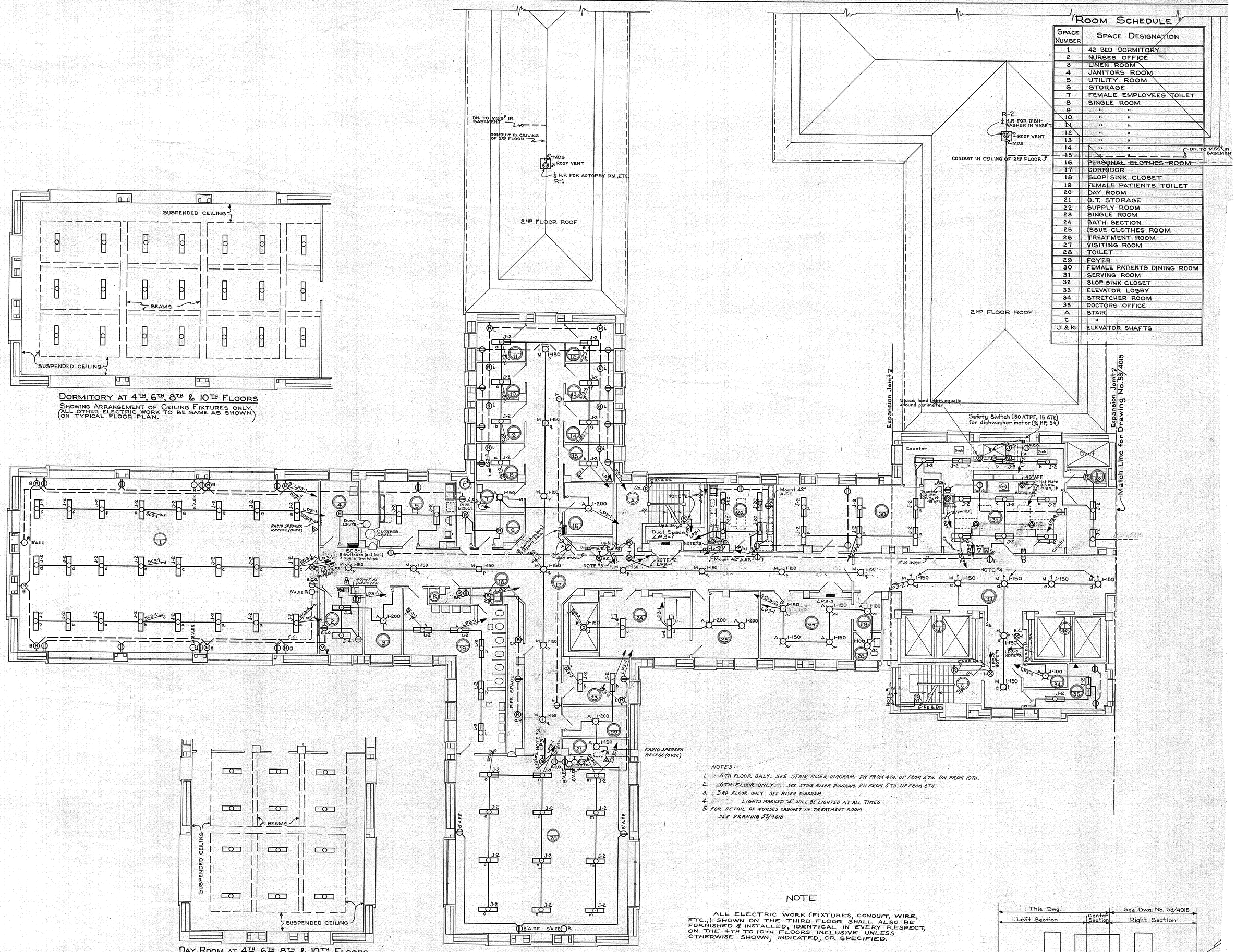
WARDS ISLAND NEW YORK, N.Y.

DRAWN BY G.W.E.	ELECTRIC	PROJECT NO. 8586
TRACED BY G.W.E.	MEDICAL & SURGICAL BUILDING BUILDING No. 102	SPECIFICATION NO. 17724
CHECKED BY G.W.S.	SECOND FLOOR PLAN CENTER SECTION	DATE APRIL 30, 1953
CROSSCHECKED BY		SCALE 1/8" = 1'-0"
FIELD CHECKED BY ARCHT. ENG.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION	DRAWING NO. 53/4012
APPROVED BY	CORNELIUS J. WHITE STATE ARCHITECT	

APPROVED: BY LETTER # 14305

DORMITORY AT 4TH, 6TH, 8TH & 10TH FLOORS

SHOWING ARRANGEMENT OF CEILING FIXTURES ONLY. (ALL OTHER ELECTRIC WORK TO BE SAME AS SHOWN ON TYPICAL FLOOR PLAN.



ROOM SCHEDULE

Space Number	Space Designation
1	42 BED DORMITORY
2	NURSES OFFICE
3	LINEN ROOM
4	JANITORS ROOM
5	UTILITY ROOM
6	STORAGE
7	FEMALE EMPLOYEES TOILET
8	SINGLE ROOM
9	" "
10	" "
11	" "
12	" "
13	" "
14	" "
15	" "
16	PERSONAL CLOTHES ROOM
17	CORRIDOR
18	SLOP SINK CLOSET
19	FEMALE PATIENTS TOILET
20	DAY ROOM
21	O.T. STORAGE
22	SUPPLY ROOM
23	SINGLE ROOM
24	BATH SECTION
25	ISSUE CLOTHES ROOM
26	TREATMENT ROOM
27	VISITING ROOM
28	TOILET
29	FOYER
30	FEMALE PATIENTS DINING ROOM
31	SERVING ROOM
32	SLOP SINK CLOSET
33	ELEVATOR LOBBY
34	STRETCHER ROOM
35	DOCTORS OFFICE
A	STAIR
C	"
J & K	ELEVATOR SHAFTS

DAY ROOM AT 4TH, 6TH, 8TH & 10TH FLOORS

SHOWING ARRANGEMENT OF CEILING FIXTURES ONLY. (ALL OTHER ELECTRIC WORK TO BE SAME AS SHOWN ON TYPICAL FLOOR PLAN.

THIRD FLOOR PLAN

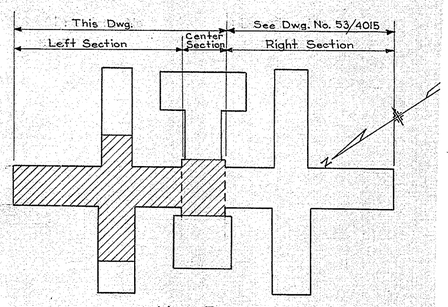
TYPICAL FOR 4TH TO 10TH FLOOR INCLUSIVE

NOTES:-

1. 5TH FLOOR ONLY. SEE STAIR RISER DIAGRAM. DN FROM 4TH. UP FROM 5TH. DN FROM 10TH.
2. 6TH FLOOR ONLY. SEE STAIR RISER DIAGRAM. DN FROM 5TH. UP FROM 6TH.
3. 3RD FLOOR ONLY. SEE RISER DIAGRAM
4. LIGHTS MARKED "d" WILL BE LIGHTED AT ALL TIMES
5. FOR DETAIL OF NURSES CABINET IN TREATMENT ROOM SEE DRAWING 53/4016

NOTE

ALL ELECTRIC WORK (FIXTURES, CONDUIT, WIRE, ETC.,) SHOWN ON THE THIRD FLOOR SHALL ALSO BE FURNISHED & INSTALLED, IDENTICAL IN EVERY RESPECT, ON THE 4TH TO 10TH FLOORS INCLUSIVE UNLESS OTHERWISE SHOWN, INDICATED, OR SPECIFIED.

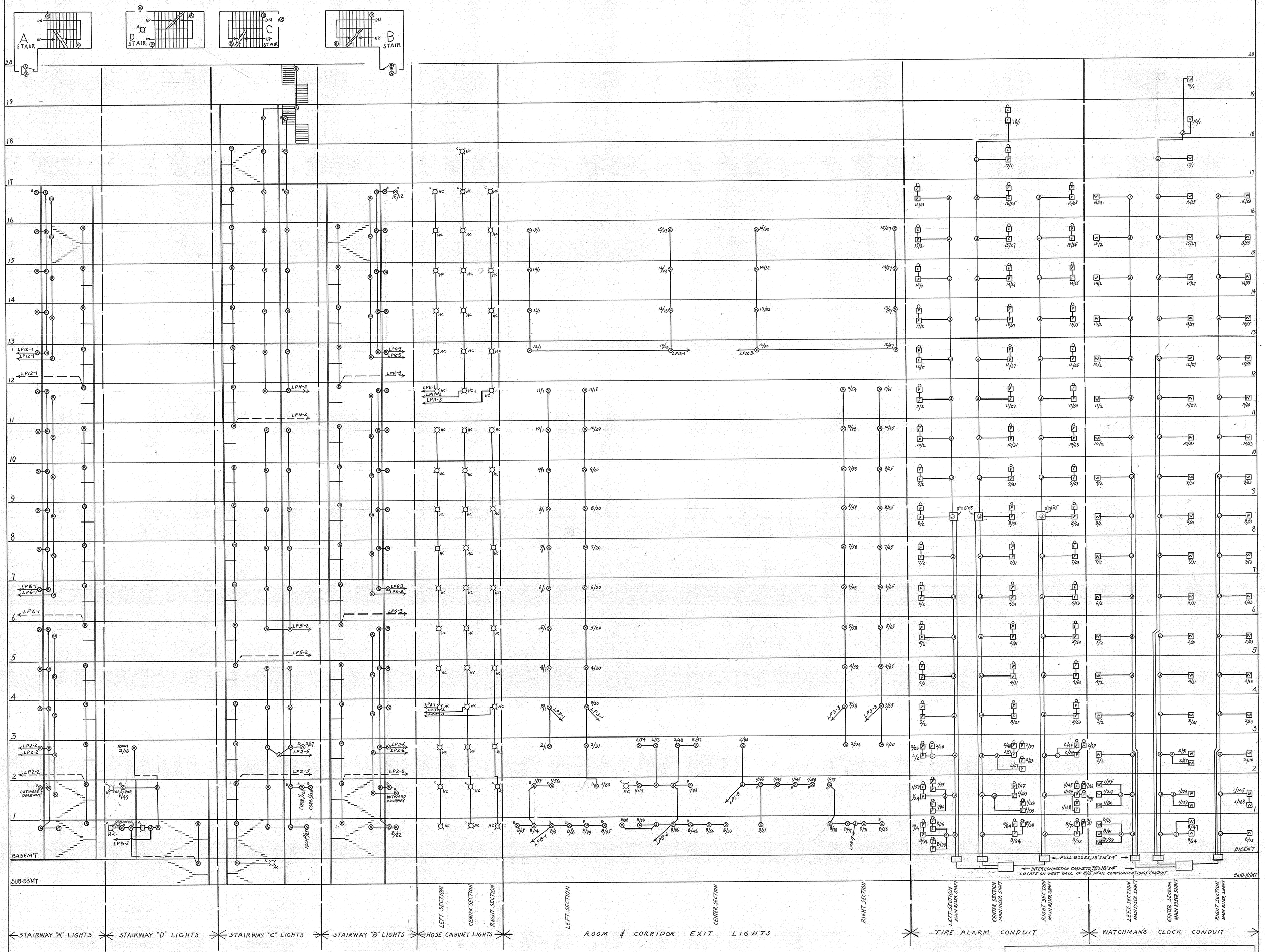


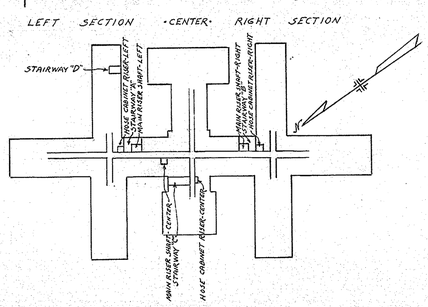
KEY PLAN
No Scale

REFERENCE DRAWING

MANHATTAN STATE HOSPITAL
WARDS ISLAND NEW YORK, N.Y.

DRAWN BY C.L.D.	ELECTRIC	PROJECT No 8586
TRACED BY C.L.D.	MEDICAL & SURGICAL BUILDING BUILDING No 102	SPECIFICATION No 17724
CHECKED BY G.W.S.	TYPICAL FLOOR PLAN-3RD TO 10TH INCL. LEFT & CENTER SECTIONS	DATE APRIL 30, 1932
CROSS CHECKED BY V.S.		SCALE 1/8" = 1'-0"
FIELD CHECK BY ARCH'T. ENG'R.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION CORNELIUS J. WHITE STATE ARCHITECT	DRAWING NO 53/4014
APPROVED		





REFERENCE DRAWING

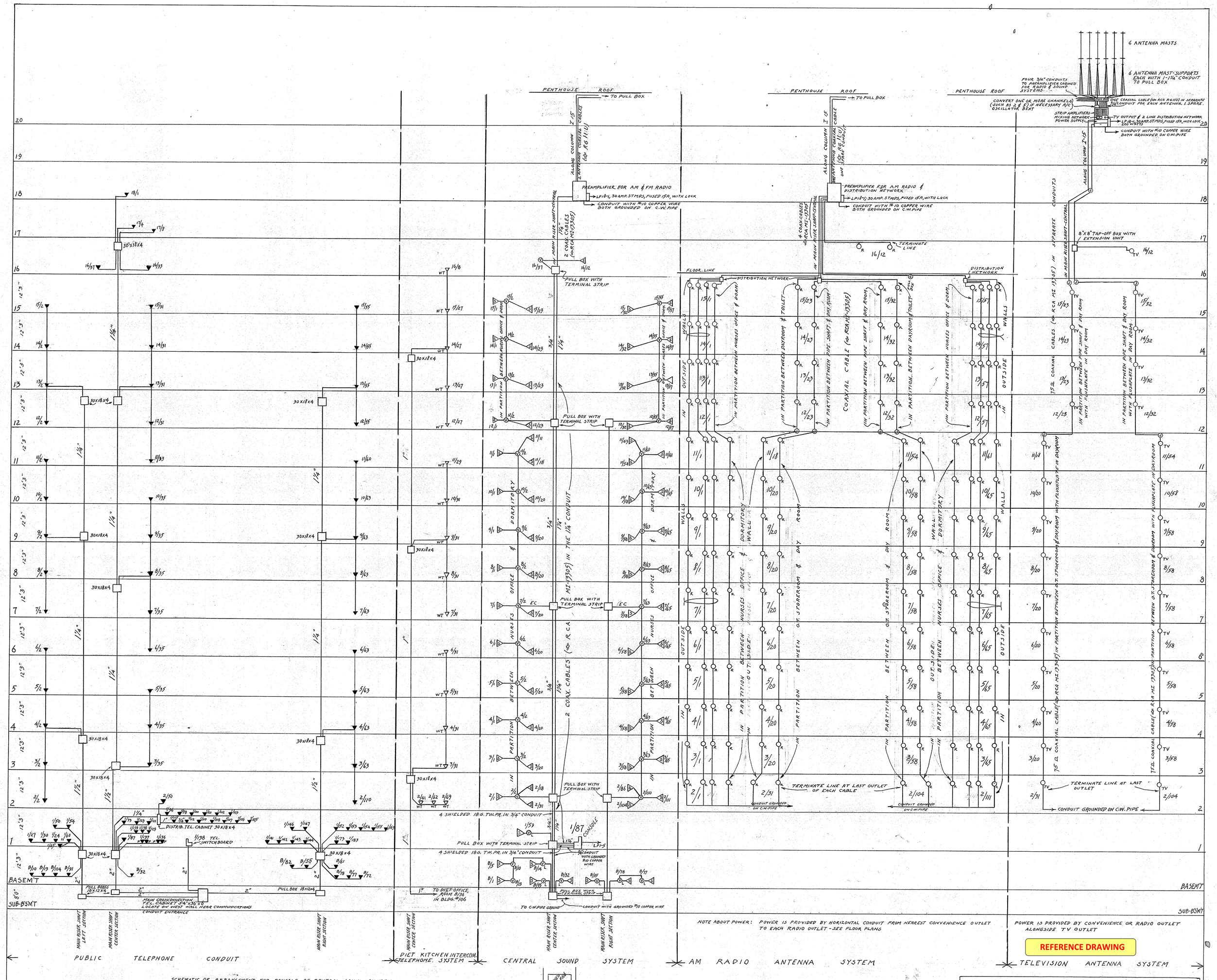
· MANHATTAN · STATE · HOSPITAL ·

WARDS ISLAND — NEW YORK, N.Y.

DRAWN BY E.J.B.	ELECTRIC	PROJECT NO. 8586
TRACED BY E.J.B.	MEDICAL & SURGICAL BUILDING BUILDING No. 102	SPECIFICATION NO. 17724
CHECKED BY G.W.S.	RISER DIAGRAMS FOR LIGHTS & SIGNALS	DATE APRIL 30, 1953
CROSSCHECKED BY W.S.		SCALE NO SCALE
FIELD CHECKED BY ARCHT. ENG.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION	DRAWING NO. 53/4022
APPROVED BY	CORNELIUS J. WHITE STATE ARCHITECT	

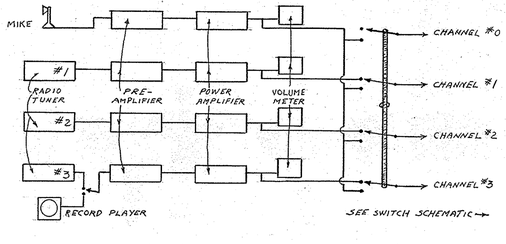
APPROVED: BY LETTER # 143055
DATE: JUNE 2, 1953

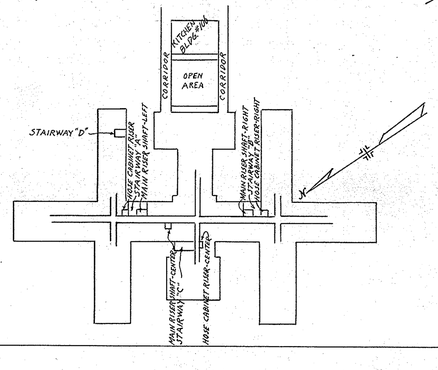
SHEET 48"X 36" = 10 SQ.FT.



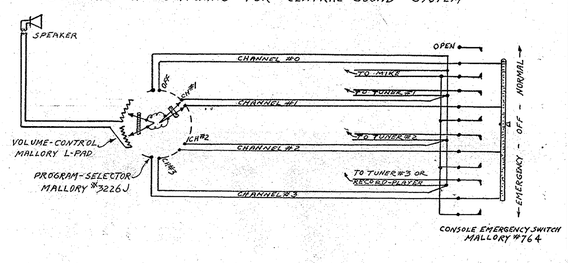
REFERENCE DRAWING

SCHEMATIC OF ARRANGEMENT FOR CONSOLE OF CENTRAL SOUND SYSTEM





SCHEMATIC OF SWITCHING FOR CENTRAL SOUND SYSTEM

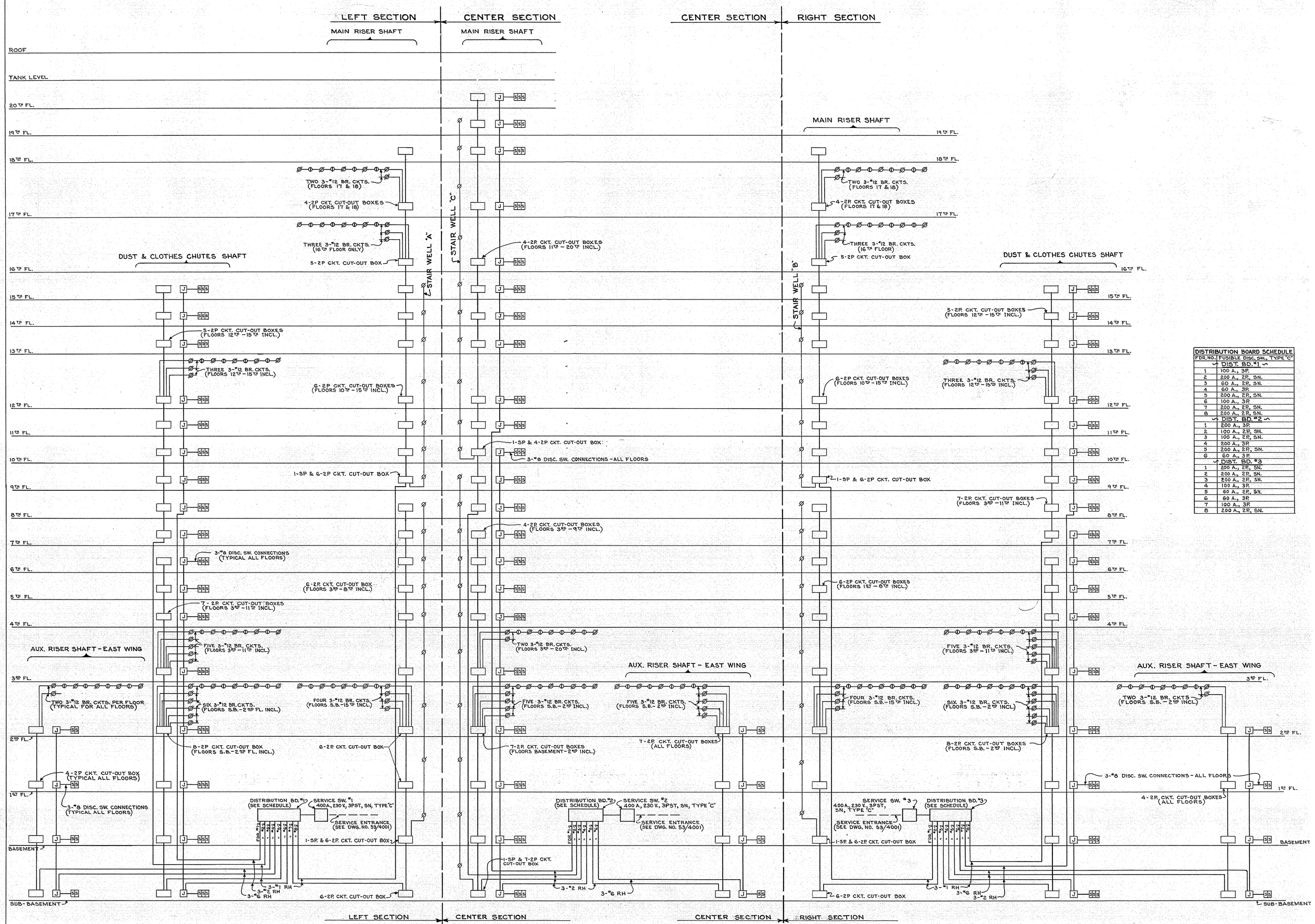


DRAWN BY E.J.B.	ELECTRIC	PROJECT NO. 8586
TRACED BY E.J.B.	MEDICAL & SURGICAL BUILDING BUILDING No. 102	SPECIFICATION NO. 17724
CHECKED BY G.W.S.	RISER DIAGRAMS FOR TELEPHONE, SOUND, RADIO & TV	DATE APRIL 30, 1953
CROSSCHECKED BY V.J.		SCALE NO SCALE
FIELD CHECKED BY ARCHT. ENG.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION	DRAWING No. 53/4023
APPROVED BY	CORNELIUS J. WHITE STATE ARCHITECT	

MANHATTAN · STATE · HOSPITAL
WARDS ISLAND — NEW YORK, N.Y.

APPROVED: BY LETTER #14305
DATE: JUNE 2, 1953

SHEET 40"X36" = 10 SQ.FT.

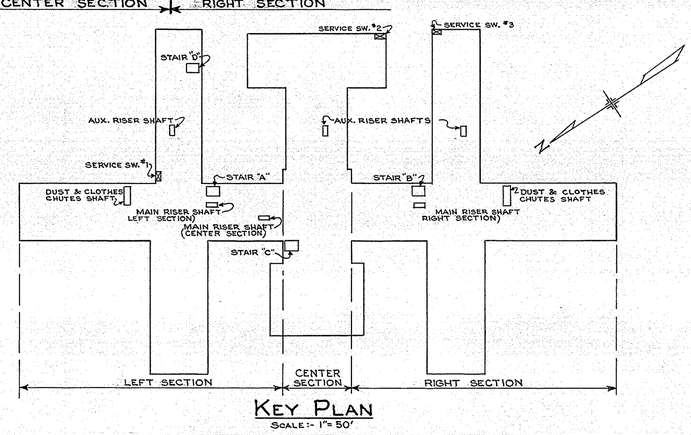


DISTRIBUTION BOARD SCHEDULE	
FDR. NO.	FUSIBLE DISC. SW., TYPE "C"
	DIST. BD. #1
1	100 A., 3P.
2	200 A., 2P., SN.
3	60 A., 2P., SN.
4	60 A., 3P.
5	200 A., 2P., SN.
6	100 A., 3P.
7	200 A., 2P., SN.
8	200 A., 2P., SN.
	DIST. BD. #2
1	200 A., 3P.
2	100 A., 2P., SN.
3	100 A., 2P., SN.
4	200 A., 3P.
5	200 A., 2P., SN.
6	60 A., 3P.
	DIST. BD. #3
1	200 A., 2P., SN.
2	200 A., 2P., SN.
3	200 A., 2P., SN.
4	100 A., 3P.
5	60 A., 2P., SN.
6	60 A., 3P.
7	100 A., 3P.
8	200 A., 2P., SN.

TEMPORARY LIGHT AND POWER RISER DIAGRAM

SYMBOLS

- CUT-OUT BOX (1φ LT. & PWR.)
- SINGLE, WEATHERPROOF, 120 V. SOCKET (1φ LT.-STAIR WELLS)
- DOUBLE, WEATHERPROOF, 120 V. SOCKETS (1φ - 1 LT. & 1 PWR. SOCKET)
- SINGLE, 20 A., 208 V., RECEPTACLE (1φ PWR.)
- J JUNCTION BOX (3φ PWR.)
- SS 1-60 A. & 1-30 A., 3P, FUSIBLE DISC. SWS. (3φ PWR.)
- SSS 1-60 A. & 2-30 A., 3P, FUSIBLE DISC. SWS. (3φ PWR.)



KEY PLAN

SCALE:- 1" = 50'

REFERENCE DRAWING

MANHATTAN STATE HOSPITAL

WARDS ISLAND — NEW YORK, N.Y.

DRAWN BY C.L.D.	ELECTRIC	PROJECT NO. 8586
TRACED BY C.L.D.	MEDICAL & SURGICAL BUILDING BUILDING № 102	SPECIFICATION NO. 17724
CHECKED BY G.W.S.	TEMPORARY LIGHT & POWER RISER DIAGRAM	DATE APRIL 30, 1963
CROSS CHECKED BY V.B.		SCALE AS SHOWN
FIELD CHECK BY ARCH'T. / ENGR.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION CORNELIUS J. WHITE STATE ARCHITECT	DRAWING NO. 53/4024
APPROVED		

APPROVED: BY LETTER # 14305

DATE: JUNE 2, 1963

SCHEDULE FOR POWER PANEL PP-F

POWER PANEL	SUPPLIED BY FEEDER	MAIN C.B.	BRANCH CIRCUIT BREAKER FRAME	TRIP	ACTIVE	SPARES	OTHER BREAKERS AND REMARKS
PP-F	F-F	600ATPF 300ATE	100ATPF	80 ATE	1	1	EXHAUST FAN 10 HP
			100ATPF	60 ATE	1	2	EXHAUST FAN 7½ HP
			100ATPF	60ATE	1	–	EXHAUST FAN 7½ HP
			225ATPF	125 ATE	1	–	CONTROL CENTER 18TH FLOOR

SCHEDULE FOR POWER PANEL PP-ORX

POWER PANEL	SUPPLIED BY FEEDER	MAIN C.B.	BRANCH CIRCUIT BREAKER FRAME	TRIP	ACTIVE	SPARES	OTHER BREAKERS AND REMARKS
PP-ORX	F-OR	100ADPF 70 ATE	30 ADPF	30 ATE	2	2	FOR X-RAY APPARATUS

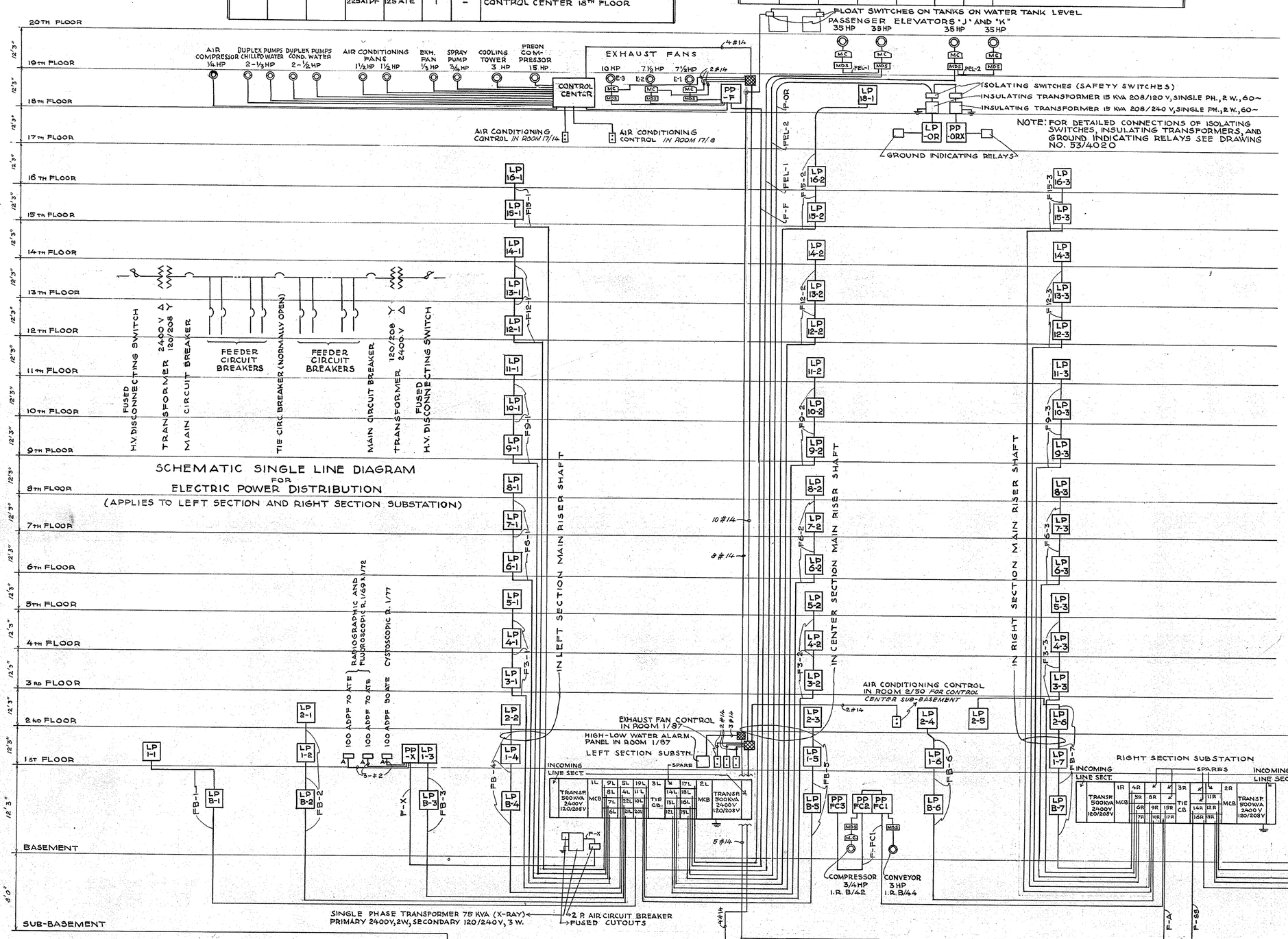
SCHEDULE FOR LOW VOLTAGE SWITCHGEAR SECTION AND FEEDERS

LEFT SECTION SUBSTATION

COMPT. NO.	3P-CIRCUIT BREAKER INTERRUPTING CAPACITY	RATING AMP	FEEDER DESIGNATION	CONDUCTORS NUMBER & SIZE	CONDUIT SIZE INCHES	SUPPLIES	FEEDER LOCATION
1L	50 000 A	1600	–	–	–	MAIN BUS	–
2L	50 000 A	1600	–	–	–	MAIN BUS	–
3L	50 000 A	1600	–	–	–	TIE BETWEEN BUSES	–
4L	25 000 A	200	FB-4	4-#1/0	2½	LPB-4, LP1-4, LP2-2	LEFT SECTION MAIN RISER SHAFT
5L	25 000 A	225	F3-1	4-#3/0	3	LP3-1, LP4-1, LP5-1	
6L	25 000 A	225	F6-1	4-#4/0	3	LP6-1, LP7-1, LP8-1	
7L	25 000 A	250	F9-1	4-300 MCM	3½	LP9-1, LP10-1, LP11-1	
8L	25 000 A	225	F12-1	4-300 MCM	3½	LP12-1, LP13-1, LP14-1	
9L	25 000 A	250	F15-1	4-#4/0	3	LP15-1, LP16-1	
10L	25 000 A	150	FB-5	4-#3	1	LPB-5, LP1-5, LP2-3	CENTER SECTION MAIN RISER SHAFT
11L	25 000 A	150	F3-2	4-#1/0	2½	LP3-2, LP4-2, LP5-2	
12L	25 000 A	150	F6-2	4-#2/0	2½	LP6-2, LP7-2, LP8-2	
13L	25 000 A	200	F9-2	4-#4/0	3	LP9-2, LP10-2, LP11-2	
14L	25 000 A	200	F12-2	4-250 MCM	3	LP12-2, LP13-2, LP14-2	
15L	25 000 A	175	F15-2	4-350 MCM	3½	LP15-2, LP16-2, LP18-1	
16L	25 000 A	175	F-OR	3-250 MCM	2½	LP-OR, PP-ORX	
17L	25 000 A	350	F-F	4-#4/0	3	PP-F	
18L	25 000 A	500	F-EL1	3-500 MCM & 1-#1/0	3½	MDS PASSGR. ELEVATORS "J"	
19L	25 000 A	500	F-EL2	3-500 MCM & 1-#1/0	3½	MDS PASSGR. ELEVATORS "K"	
20L	25 000 A	150	FB-1	4-#1/0	2½	LPB-1, LP1-1	S. KEY TO FEEDER LOCATION
21L	25 000 A	225	FB-2	4-#3/0	3	LPB-2, LP1-2, LP2-1	
22L	25 000 A	200	FB-3	4-#2/0	2½	LPB-3, LP1-3	
23L	25 000 A	–	–	–	–	SPARE	
–			F-X	2-300 MCM & 1-#3/0	2½	PP-X	

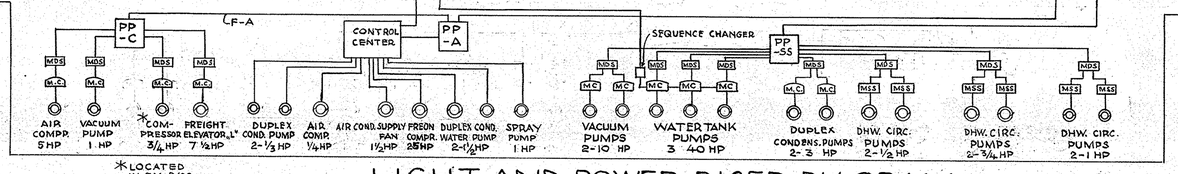
RIGHT SECTION SUBSTATION

1R	50 000 A	1600	–	–	–	MAIN BUS	–
2R	50 000 A	1600	–	–	–	MAIN BUS	–
3R	50 000 A	1600	–	–	–	TIE BETWEEN BUSES	–
4R	25 000 A	225	FB-7	4-#4/0	3	LPB-7, LP1-7, LP2-6, LP2-5	RIGHT SECTION MAIN RISER SHAFT
5R	25 000 A	200	F3-3	4-#3/0	3	LP3-3, LP4-3, LP5-3	
6R	25 000 A	225	F6-3	4-#4/0	3	LP6-3, LP7-3, LP8-3	
7R	25 000 A	250	F9-3	4-300 MCM	3½	LP9-3, LP10-3, LP11-3	
8R	25 000 A	200	F12-3	4-300 MCM	3½	LP12-3, LP13-3, LP14-3	
9R	25 000 A	175	F15-3	4-#4/0	3	LP15-3, LP16-3	
10R	25 000 A	225	FB-6	4-250 MCM	3	LPB-6, LP1-6, LP2-4	S. KEY TO FEEDER LOCATION
11R	25 000 A	125	FB-8	4-#1/0	2½	LPB-8, LP1-8, LP2-7	
12R	25 000 A	125	FB-9	4-#3	2	LPB-9, LP1-9	
13R	25 000 A	150	FB-10	4-#1/0	2½	LPB-10, LP1-10	
14R	25 000 A	500	F-SS	3-400 MCM	3½	PP-SS	
15R	25 000 A	250	F-A	4-3/0	3	PP-A, PP-C	
16R	25 000 A	500	F-R	4-500 MCM	4	PP-R, PP-OT	
17R	25 000 A	500	FFC1	4-500 MCM	4	PP-FC1, PP-FC2, PP-FC3	
18R÷23R	25 000 A	–	–	–	–	SPARES	



SCHEDULE F. POWER PANELS PP-X, PP-A, PP-SS, PP-C

POWER PANEL	SUPPLIED BY FEEDER	MAIN C.B.	BRANCH CIRCUIT BREAKER FRAME	TRIP	ACTIVE	SPARES	OTHER BREAKERS & REMARKS
PP-X	F-X	600ADPF 325 ATE	100 ADPF	90 ATE	2	1	
			100 ADPF	70 ATE	1	–	
PP-A	F-A	LUGS ONLY	225 ATPF	150 ATE	1	–	CONTROL CENTER SUB-BASEMENT
			50 ATPF	20 ATE	–	2	
			225 ATPF	125 ATE	1	–	
PP-SS	F-SS	600 ATPF 500 ATE	225 ATPF	225 ATE	3	–	
			100 ATPF	80 ATE	1	1	
			50 ATPF	25 ATE	1	1	
			50 ATPF	15 ATE	3	1	
PP-C	F-A	LUGS ONLY	100 ATPF	50 ATE	1	1	
			50 ATPF	40 ATE	1	1	
			50 ATPF	15 ATE	2	–	



LIGHT AND POWER RISER DIAGRAM

SCHEDULE FOR POWER PANELS PP-FC1, PP-FC2, PP-FC3, PP-OT, PP-R

POWER PANEL	SUPPLIED BY FEEDER	MAIN C.B.	BRANCH CIRCUIT BREAKER FRAME	TRIP	ACTIVE	SPARES	OTHER BREAKERS & REMARKS
PP-FC1	F-FC1	225 ATPF 150 ATE	50 ASPF	20 ATE	21	3	FOOD CARTS FOR 3 HP MOTOR IN ROOM B/44
			50 ATPF	30 ATE	1	1	
PP-FC2	F-FC1	225 ATPF 125 ATE	50 ASPF	20 ATE	24	4	FOOD CARTS FOR 3/4 HP MOTOR IN ROOM B/42
			50 ATPF	15 ATE	1	1	
PP-FC3	F-FC1	225 ATPF 175 ATE	50 ASPF	20 ATE	33	3	FOOD CARTS
PP-OT	SUBFEEDER F-OT	100 ATPF 90 ATE	50 ATPF	20 ATE	6	2	
PP-R	F-R	600 ATPF 375 ATE	100 ADPF	50 ATE	6	2	1-100 ATPF-90 ATE FOR SUBFEEDER TO PP-OT
			100 ATPF	80 ATE	2	1	
			100 ATPF	40 ATE	–	1	

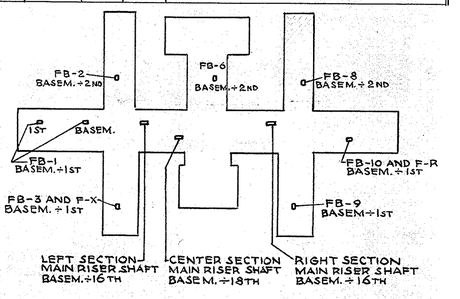
LIGHTING PANEL SCHEDULE

PANEL TOTAL NO. OF CIRCUITS	SUPPLIED BY FEEDER	MAIN C.B. FRAME & TRIP	BRANCH C.B. 50ASPF-15ATE ACTIVE	SPARES	OTHER BRANCH CIRCUIT BREAKERS AND REMARKS
LPB-1 26*	FB-1	100ATPF 90ATE	16	6	4-50 ASPF-20 ATE FOR SPECIAL OUTLETS IN ROOM 8/1 *INCL. 6 CTS. IN SUB-BASEMENT
LPB-2 16	FB-2	100ATPF 70ATE	12	4	
LPB-3 26	FB-3	100 ATPF 90 ATE	19	5	1-50 ADPF-30 ATE FOR HOTPLATE 5000W, 208V IN ROOM B/100 1-50 ADPF-30 ATE (SPARE)
LPB-4 12	FB-4	100 ATPF 50 ATE	7	5	
LPB-5 20	FB-5	100 ATPF 70 ATE	16	4	
LPB-6 26*	FB-6	100 ATPF 90 ATE	20	6	*INCL. 5 CTS. IN SUB-BASEMENT
LPB-7 12	FB-7	100 ATPF 50 ATE	8	4	
LPB-8 10	FB-8	100 ATPF 50 ATE	5	5	
LPB-9 24*	FB-9	100 ATPF 90 ATE	20	4	*INCL. 6 CTS. IN SUB-BASEMENT
LPB-10 10	FB-10	100 ATPF 50 ATE	6	4 (2)	
LP1-1 17	FB-1	100 ATPF 70 ATE	12	3	1-50 ATPF-20 ATE FOR AIR CONDITIONING UNIT 1½ HP 3 PH. 208V IN ROOM 1/19 1-50 ATPF-20 ATE (SPARE)
LP1-2 28	FB-2	225 ATPF 125 ATE	16	3	4-50 ASPF-30 ATE FOR STERILIZERS 2300 W. 120 V 1-50 ASPF-30 ATE (SPARE) 4-50 ADPF-20 ATE (SPARE)
LP 1-3 20	FB-3	100 ATPF 90 ATE	12	4	1-50 ASPF-20 ATE FOR FILMDRYER IN R. 1/70 1-50 ASPF-30 ATE F. STERILIZER 2500W 1φ IN R. 1/82 2-50 ADPF-20 ATE (SPARES)
LP 1-4 14	FB-4	100 ATPF 70 ATE	9	5	
LP 1-5 14	FB-5	100 ATPF 50 ATE	11	3	
LP 1-6 30	FB-6	225 ATPF 125 ATE	23	5	1-50 ADPF-30 ATE F. HOT PLATE 3000W, 1φ, 208V IN ROOM 1/93 1-50 ADPF-30 ATE (SPARE)
LP1-7 16	FB-7	100 ATPF 90 ATE	11	5	
LP1-8 16	FB-8	100 ATPF 70 ATE	11	5	
LP1-9 18	FB-9	100 ATPF 70 ATE	13	5	
LP1-10 24	FB-10	100 ATPF 90 ATE	20	4	

PANEL TOTAL NO. OF CIRCUITS	SUPPLIED BY FEEDER	MAIN C.B. FRAME & TRIP	BRANCH C.B. 50ASPF-15ATE ACTIVE	SPARES	OTHER BRANCH CIRCUIT BREAKERS AND REMARKS
LP 2-1 14	FB-2	100 ATPF 50 ATE	10	4	
LP 2-2 28	FB-4	100 ATPF 90 ATE	22	6	
LP2-3 17	FB-5	100 ATPF 90 ATE	6	4	2-50 ADPF-20 ATE F. HOTPLATES 2,5KW 208V (R 2/41 & 2/62) 3-50 ADPF-30 ATE F. TOASTERS 3,6 KW, 208V INCL. 1 SPARE 2-50 ASPF-20 ATE F. FOOD CARTS 1,5 KW, 120V
LP2-4 22	FB-6	100 ATPF 90 ATE	13	5	2-50 ATPF-15 ATE F. DISWASHERS ¾ HP, 3 PH. 208V IN ROOMS 2/41 AND 2/68 2-50 ADPF-20 ATE (SPARES)
LP2-5 22	FB-7	225 ATPF 100 ATE	12	5	1-50 ATPF-20 ATE F. DISWASHER 2 HP, 3 PH, 208V IN R. 2/68 3-50 ADPF-30 ATE F. GRIDDLES 3,0 KW 208V INCL. 1 SPARE 1-50 ATPF-30 ATE F. TOASTER 3,6 KW 208V IN ROOM 2/68
LP2-6 28	FB-7	225 ATPF 100 ATE	22	6	
LP2-7 14	FB-8	100 ATPF 50 ATE	10	4	
LP3-1 32	F3-1	225 ATPF 100 ATE	27	5	
LP3-2 15	F3-2	100 ATPF 70 ATE	6	3	IN ROOM 3/31: 1-50 ATPF-15 ATE F. DISWASHER ¾ HP 3 PH, 208V; 1-50 ADPF-20 ATE F. HOTPLATE 2,5 KW, 208V; 2-50 ADPF-30 ATE F. TOASTER 3,6 KW 208V INCL. 1 SPARE; 2-50 ASPF-20 ATE F. FOOD CARTS 1,5 KW 110V
LP3-3 34	F3-3	225 ATPF 100 ATE	28	6	
LP4-1 30	F3-1	100 ATPF 90 ATE	24	6	
LP 4-2 13	F3-2	100 ATPF 70 ATE	5	2	1-50 ATPF-15 ATE 2-50 ADPF-20 ATE 2-50 ASPF-30 ATE IN ROOM 4/31 FOR DISHWASHER, HOTPLATE, TOASTER, FOOD-CARTS AS UNDER LP3-2
LP 4-3 30	F3-3	100 ATPF 90 ATE	25	5	2-50 ASPF-20 ATE
LP5-1 30	F3-1	100 ATPF 90 ATE	24	6	
LP5-2 17	F3-2	100 ATPF 70 ATE	8	3	1-50 ATPF-15 ATE 1-50 ADPF-20 ATE 2-50 ADPF-30 ATE 2-50 ASPF-20 ATE IN ROOM 5/31 FOR DISHWASHER, HOTPLATE, TOASTER, FOOD-CARTS AS UNDER LP3-2
LP5-3 30	F3-3	100 ATPF 90 ATE	25	5	
LP6-1 32	F6-1	225 ATPF 100 ATE	27	5	
LP 6-2 13	F6-2	100 ATPF 70 ATE	5	2	1-50 ATPF-15 ATE 1-50 ADPF-20 ATE 2-50 ADPF-30 ATE 2-50 ASPF-20 ATE IN ROOM 6/31 FOR DISHWASHER, HOTPLATE, TOASTER, FOOD-CARTS AS UNDER LP3-2
LP 6-3 34	F6-3	225 ATPF 100 ATE	28	6	
LP 7-1 30	F6-1	100 ATPF 90 ATE	24	6	

PANEL TOTAL NO. OF CIRCUITS	SUPPLIED BY FEEDER	MAIN C.B. FRAME & TRIP	BRANCH C.B. 50ASPF-15ATE ACTIVE	SPARES	OTHER BRANCH CIRCUIT BREAKERS AND REMARKS
LP 7-2 13	F6-2	100 ATPF 70 ATE	5	2	1-50 ATPF-15 ATE 1-50 ADPF-20 ATE 2-50 ADPF-30 ATE 2-50 ASPF-20 ATE IN ROOM 7/31 FOR DISHWASHER, HOTPLATE, TOASTER, FOOD-CARTS AS UNDER LP3-2
LP7-3 30	F6-3	100 ATPF 90 ATE	25	5	
LP8-1 30	F6-1	100 ATPF 90 ATE	24	6	
LP 8-2 13	F6-2	100 ATPF 70 ATE	5	2	1-50 ATPF-15 ATE 1-50 ADPF-20 ATE 2-50 ADPF-30 ATE 2-50 ASPF-20 ATE IN ROOM 8/31 F. DISHWASHER, HOTPLATE, TOASTER, FOOD-CARTS AS UNDER LP3-2
LP 8-3 30	F6-3	100 ATPF 90 ATE	25	5	
LP 9-1 30	F9-1	100 ATPF 90 ATE	24	6	
LP 9-2 13	F9-2	100 ATPF 70 ATE	5	2	1-50 ATPF-15 ATE 1-50 ADPF-20 ATE 2-50 ADPF-30 ATE 2-50 ASPF-20 ATE IN ROOM 9/31 FOR DISHWASHER, HOTPLATE, TOASTER, FOOD-CARTS AS UNDER LP3-2
LP 9-3 30	F9-3	100 ATPF 90 ATE	25	5	
LP10-1 30	F9-1	100 ATPF 90 ATE	24	6	
LP10-2 13	F9-2	100 ATPF 70 ATE	5	2	1-50 ATPF-15 ATE 1-50 ADPF-20 ATE 2-50 ADPF-30 ATE 2-50 ASPF-20 ATE IN ROOM 10/31 F. DISHWASHER HOTPLATE, TOASTER, FOOD-CARTS AS UNDER LP3-2
LP10-3 30	F9-3	100 ATPF 90 ATE	25	5	
LP 11-1 34	F9-1	225 ATPF 125 ATE	29	5	
LP 11-2 19	F9-2	100 ATPF 90 ATE	10	3	1-50 ATPF-15 ATE 1-50 ADPF-20 ATE 2-50 ADPF-30 ATE 2-50 ASPF-20 ATE IN ROOM 11/29 F. DISHWASHER, HOTPLATE, TOASTER, FOOD-CARTS AS UNDER LP3-2
LP 11-3 40	F9-3	225 ATPF 150 ATE	33	7	
LP 12-1 26	F12-1	100 ATPF 90 ATE	21	5	
LP 12-2 15	F12-2	100 ATPF 70 ATE	6	3	1-50 ATPF-15 ATE 1-50 ADPF-20 ATE 2-50 ADPF-30 ATE 2-50 ASPF-20 ATE IN ROOM 12/27 F. DISHWASHER HOTPLATE, TOASTER, FOOD-CARTS AS UNDER LP3-2
LP 12-3 28	F12-3	100 ATPF 90 ATE	23	5	
LP13-1 22	F12-1	100 ATPF 90 ATE	18	4	
LP 13-2 17	F12-2	100 ATPF 90 ATE	7	4	1-50 ATPF-15 ATE 1-50 ADPF-20 ATE 2-50 ADPF-30 ATE 2-50 ASPF-20 ATE IN ROOM 13/27 F. DISHWASHER, HOTPLATE, TOASTER, FOOD-CARTS AS UNDER LP 3-2
LP 13-3 24	F12-3	100 ATPF 90 ATE	19	5	

PANEL TOTAL NO. OF CIRCUITS	SUPPLIED BY FEEDER	MAIN C.B. FRAME & TRIP	BRANCH C.B. 50ASPF-15ATE ACTIVE	SPARES	OTHER BRANCH CIRCUIT BREAKERS AND REMARKS
LP14-1 22	F12-1	100 ATPF 90 ATE	18	4	
LP14-2 15	F12-2	100 ATPF 70 ATE	6	3	1-50 ATPF-15 ATE 1-50 ADPF-20 ATE 2-50 ADPF-30 ATE 2-50 ASPF-20 ATE IN ROOM 14/27 F. DISHWASHER, HOTPLATE, TOASTER, FOOD-CARTS AS UNDER LP3-2
LP14-3 24	F12-3	100 ATPF 90 ATE	19	5	
LP15-1 22	F15-1	100 ATPF 90 ATE	18	4	
LP15-2 15	F15-2	100 ATPF 70 ATE	6	3	1-50 ATPF-15 ATE 1-50 ADPF-20 ATE 2-50 ADPF-30 ATE 2-50 ASPF-20 ATE IN ROOM 15/27 F. DISHWASHER, HOTPLATE, TOASTER, FOOD-CARTS AS UNDER LP3-2
LP15-3 24	F15-3	100 ATPF 90 ATE	19	5	
LP16-1 16	F15-1	100 ATPF 70 ATE	11	5	
LP16-2 17*	F15-2	100 ATPF 90 ATE	9	3	2-50 ADPF-30 ATE F. TOASTER 3,6 KW 208V INCL. 1 SPARE 1-50 ATPF-15 ATE F. DISHWASHER ¾ HP 3 PH. 208V 1-50 ADPF-20 ATE HOTPLATE 2,5 KW 208V 1-50 ASPF-20 ATE F. FOOD CART 1,5 KW 120V
LP16-3 18	F15-3	100 ATPF 70 ATE	13	5	*(NOTE REF. LP 16-2) INCLUDES 1 CIRCUIT FOR 120/24V TRANSFORMER F. NURSES ANNUNCIATOR STATION.
LP18-1 22**	F15-2	100 ATPF 90 ATE	18	4	**INCL. 10 CTS. IN 17TH FLOOR AND 3 CTS. IN 19TH FLOOR
LP-OR 20	F-OR	100 ADPF 70 ATE	ACTIVE BCB: 14-50 ADPF-15 ATE 1-50 ADPF-10 ATE F. BELL CT. S. DWG 53/4020 SPARES: 5-50 ADPF-15 ATE		



KEY TO FEEDER LOCATION

REFERENCE DRAWING

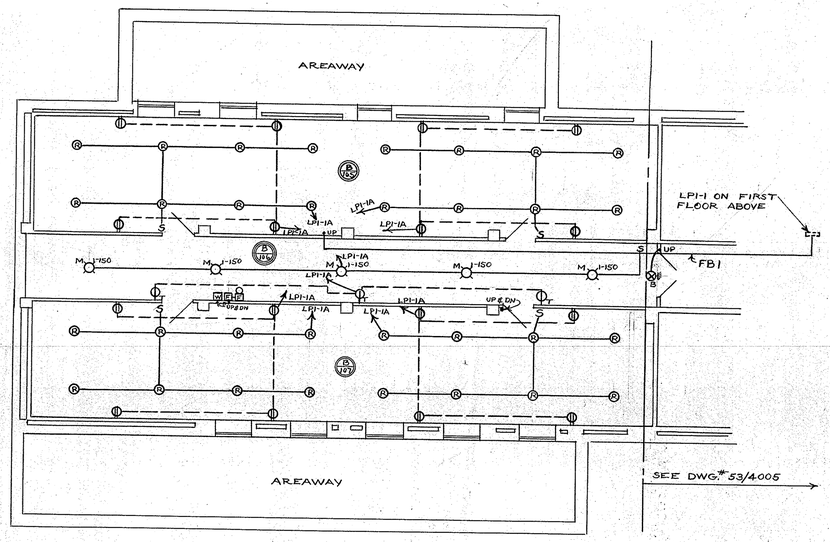
ABBREVIATIONS

MCB	MAIN CIRCUIT BREAKER
BCB	BRANCH CIRCUIT BREAKER
ASPF	AMPERE SINGLE POLE FRAME
ADPF	AMPERE DOUBLE POLE FRAME
ATPF	AMPERE TRIPLE POLE FRAME
ATE	AMPERE TRIP ELEMENT
LP	LIGHTING PANEL
PP	POWER PANEL
MDS	MOTOR DISCONNECT SWITCH
MSS	MOTOR STARTING SWITCH
E.C.	EMPTY CONDUIT

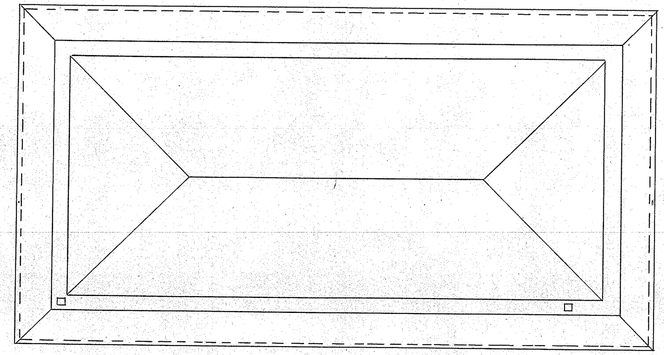
MANHATTAN STATE HOSPITAL
WARDS ISLAND — NEW YORK, N.Y.

DRAWN BY G.W.E.	ELECTRIC	PROJECT NO. 8586
TRACED BY G.W.E.	MEDICAL & SURGICAL BUILDING BUILDING No. 102	SPECIFICATION NO. 17724
CHECKED BY G.W.S.	LIGHT AND POWER RISER DIAGRAMS, SCHEDULES ETC.	DATE APRIL 30, 1953
CROSSCHECKED BY V.J.		SCALE NO SCALE
FIELD CHECKED BY ARCH. ENG.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION	DRAWING NO. 53/4025
APPROVED BY	CORNELIUS J. WHITE STATE ARCHITECT	

APPROVED: BY LETTER # 14305



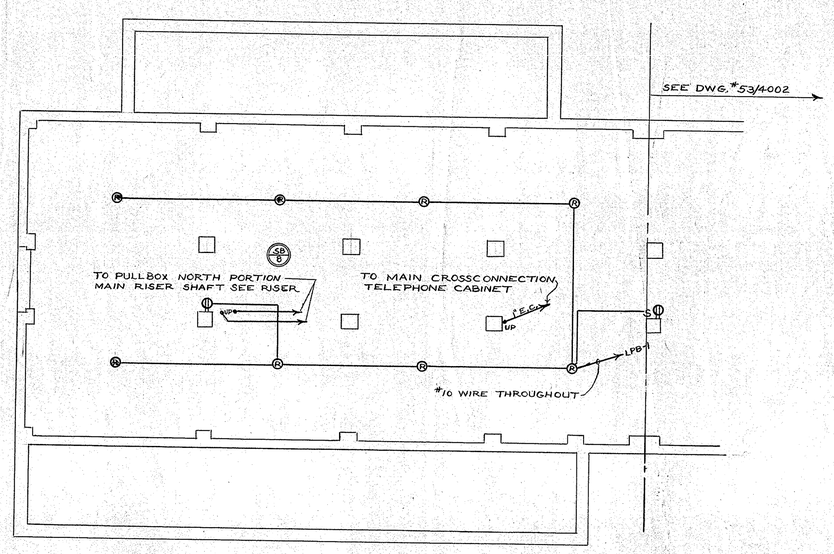
BASEMENT PLAN



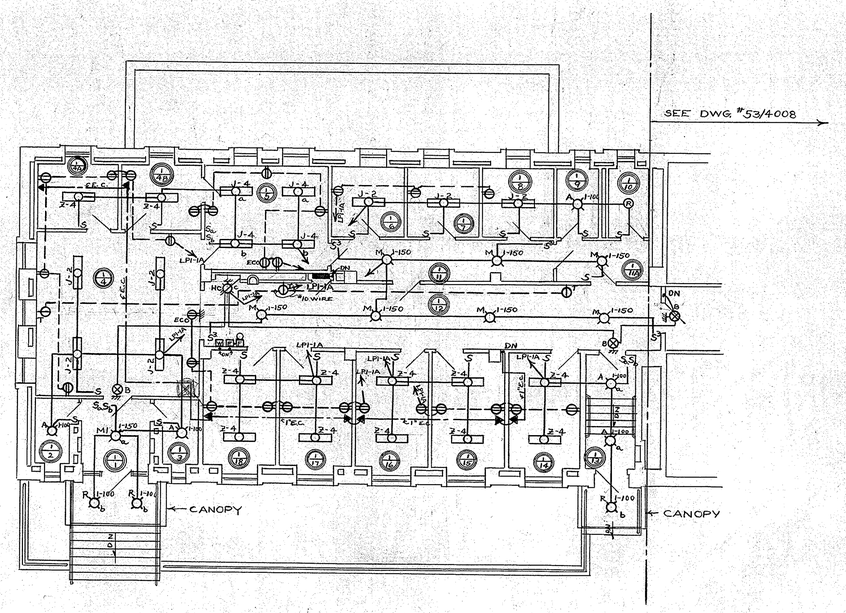
ROOF PLAN

ROOM SCHEDULE

FIRST FLOOR	
1	VESTIBULE
2	MALE TOILET
3	FEMALE TOILET
4	WAITING ROOM
4A	SOCIAL WORKER
4B	SOCIAL WORKER
5	SHOCK TREATMENT
6	RECOVERY ROOM
7	RECOVERY ROOM
8	RECOVERY ROOM
9	TOILET
10	JANITOR
11	PASSAGE
11A	PASSAGE
12	CORRIDOR
13	STAIR
14	DOCTOR'S OFFICE
15	DOCTOR'S OFFICE
16	DOCTOR'S OFFICE
17	DOCTOR'S OFFICE
18	DOCTOR'S OFFICE
BASEMENT	
105	STORAGE
106	CORRIDOR
107	STORAGE
SUB-BASEMENT	
8	PIPE SPACE



SUB-BASEMENT PLAN



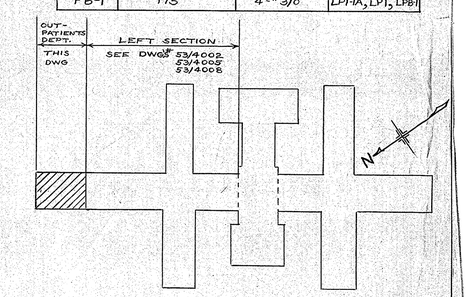
FIRST FLOOR PLAN

PANEL LPI-1A

TOTAL NO. OF CIRCUITS	SUPPLIED BY FEEDER	MAIN C.B.	BRANCH C.B. ACTIVE	BRANCH C.B. SPARES
32	FB1	225ATPF 100ATE	24	8

FEEDER DATA

FEEDER	3P CIRCUIT BKR. RATING AMP.	CONDUCTOR NO. & SIZE	SUPPLIES
FB-1	175	4-#3/0	LPI-1A, LPI, LPB1



KEY PLAN
NO SCALE

REFERENCE DRAWING

MANHATTAN STATE HOSPITAL
WARDS ISLAND — NEW YORK N.Y.

DRAWN BY V.G.	ELECTRIC	PROJECT NO. 8586
TRACED BY V.G.	MEDICAL & SURGICAL BUILDING BUILDING No. 102	SPECIFICATION No. 17724
CHECKED BY G.W.S.	ADDENDUM DRAWING FLOOR PLANS OUTPATIENTS DEPT.	DATE JULY 6, 1953
CROSS CHECKED BY V.G.		SCALE 1/8"=1'-0"
FIELD CHECKED BY ARCHT. / ENGR.	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF CONSTRUCTION CORNELIUS J. WHITE STATE ARCHITECT	DRAWING NO. 53/4026
APPROVED BY		

APPROVED BY LETTER #14305
DATE JUNE 2, 1953

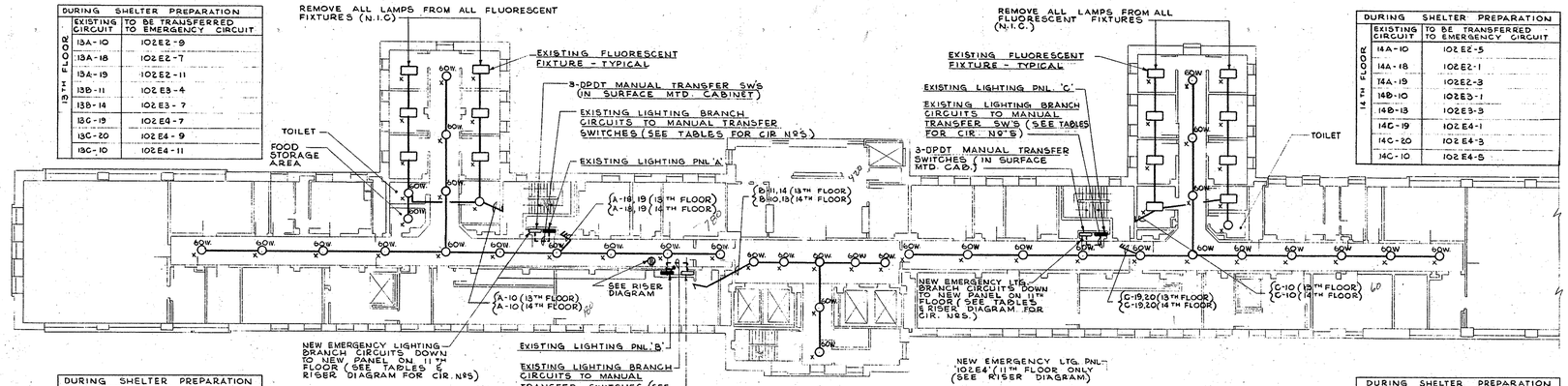
SHEET SIZE 42"x26"=7.6 SQ.FT.

PLAN OF FLOORS 13 & 14

SCALE: 1/16" = 1'-0"

DURING SHELTER PREPARATION		
	EXISTING CIRCUIT	TO BE TRANSFERRED TO EMERGENCY CIRCUIT
13TH FLOOR	13A-10	102E2-9
	13A-18	102E2-7
	13A-19	102E2-11
	13B-11	102E3-4
	13B-14	102E3-7
	13C-19	102E4-7
	13C-20	102E4-9
	13C-10	102E4-11

DURING SHELTER PREPARATION		
	EXISTING CIRCUIT	TO BE TRANSFERRED TO EMERGENCY CIRCUIT
14TH FLOOR	14A-10	102E2-5
	14A-18	102E2-1
	14A-19	102E2-3
	14B-10	102E3-1
	14B-13	102E3-3
	14C-19	102E4-1
	14C-20	102E4-3
	14C-10	102E4-5



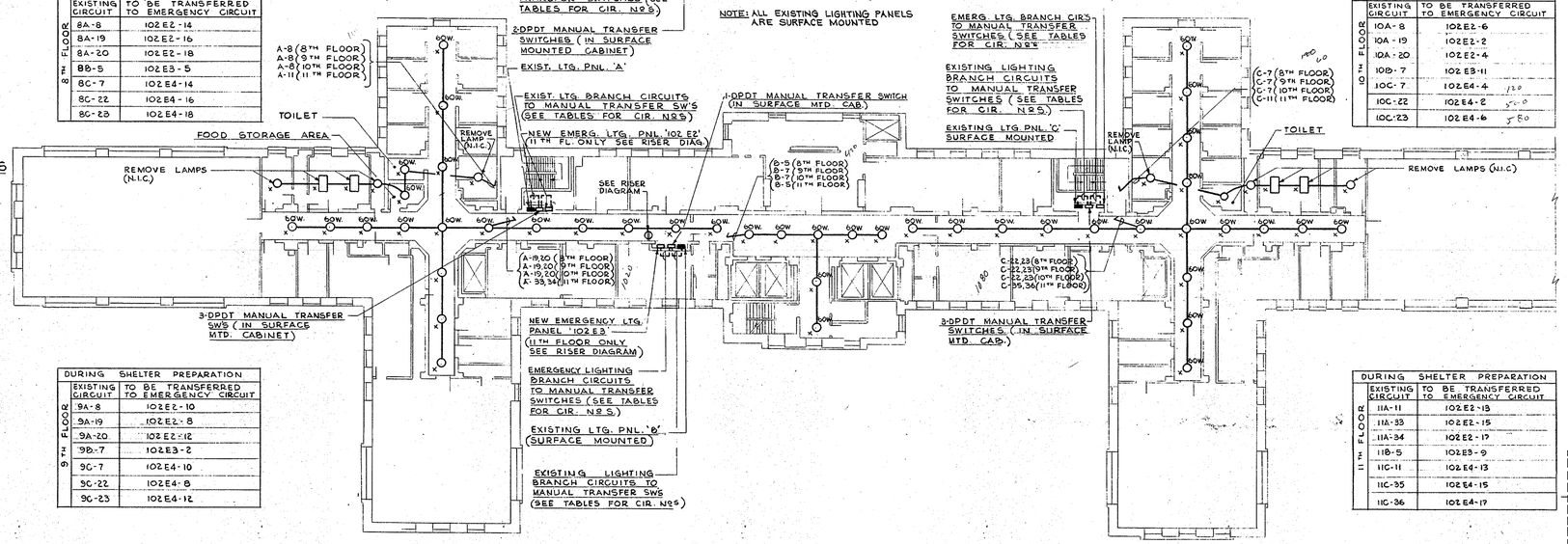
NOTE: ALL EXISTING LIGHTING PANELS ARE SURFACE MOUNTED

PLAN OF FLOORS 8,9,10 & 11

SCALE: 1/16" = 1'-0"

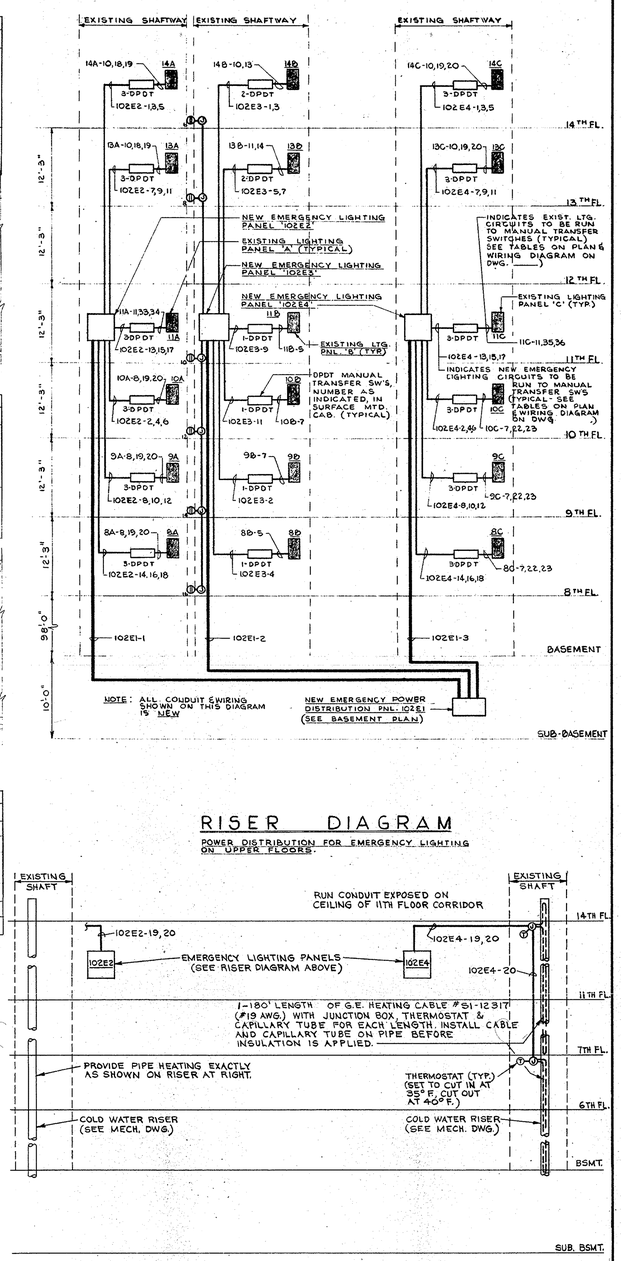
DURING SHELTER PREPARATION		
	EXISTING CIRCUIT	TO BE TRANSFERRED TO EMERGENCY CIRCUIT
8TH FLOOR	8A-8	102E2-14
	8A-19	102E2-16
	8A-20	102E2-18
	8B-5	102E3-5
	8C-7	102E4-14
	8C-22	102E4-16
	8C-23	102E4-18

DURING SHELTER PREPARATION		
	EXISTING CIRCUIT	TO BE TRANSFERRED TO EMERGENCY CIRCUIT
10TH FLOOR	10A-8	102E2-6
	10A-19	102E2-2
	10A-20	102E2-4
	10B-7	102E3-11
	10C-7	102E4-4
	10C-22	102E4-2
	10C-23	102E4-6



DURING SHELTER PREPARATION		
	EXISTING CIRCUIT	TO BE TRANSFERRED TO EMERGENCY CIRCUIT
9TH FLOOR	9A-8	102E2-10
	9A-19	102E2-8
	9A-20	102E2-12
	9B-7	102E3-2
	9C-7	102E4-10
	9C-22	102E4-8
	9C-23	102E4-12

DURING SHELTER PREPARATION		
	EXISTING CIRCUIT	TO BE TRANSFERRED TO EMERGENCY CIRCUIT
11TH FLOOR	11A-11	102E2-13
	11A-33	102E2-15
	11A-34	102E2-17
	11B-5	102E3-9
	11C-11	102E4-13
	11C-35	102E4-15
	11C-36	102E4-17

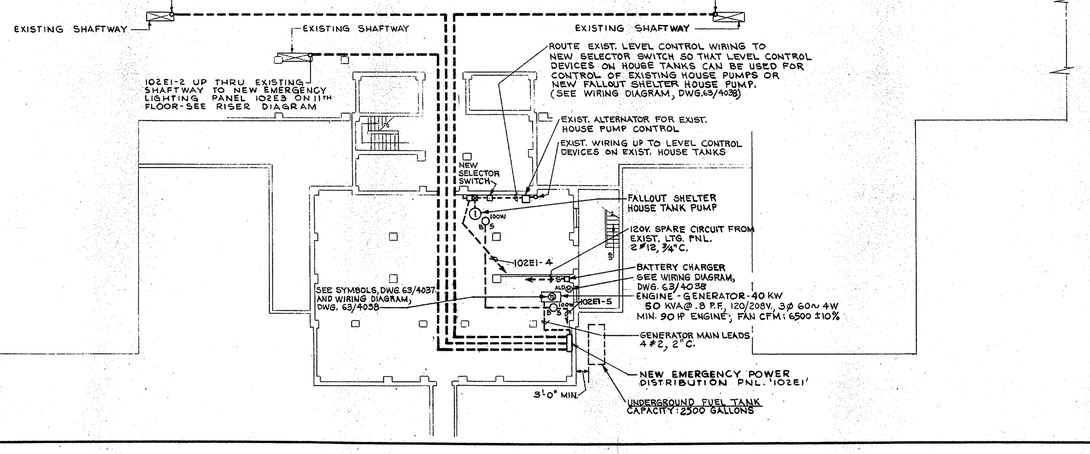


RISER DIAGRAM

POWER DISTRIBUTION FOR EMERGENCY LIGHTING ON UPPER FLOORS.

PLAN OF SUB-BASEMENT

SCALE: 1/16" = 1'-0"



REFERENCE DRAWING

RISER DIAGRAM

COLD WATER PIPE HEATING

MANHATTAN STATE HOSPITAL

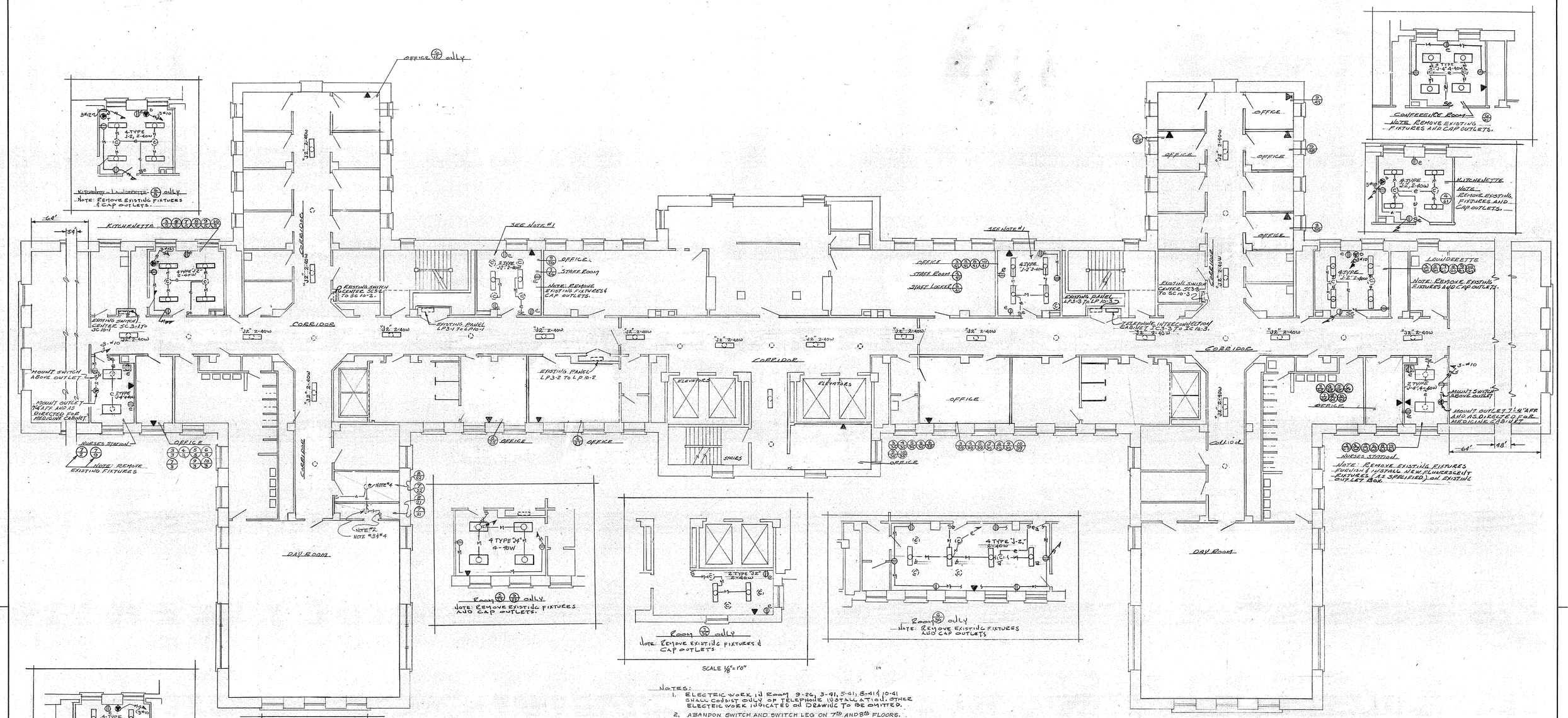
WARD'S ISLAND — NEW YORK

DRAWN BY CPS	ELECTRIC	PROJECT NO. 18280
TRACED BY CPS	FALLOUT PROTECTION BUILDING NO. 102	SPECIFICATION NO. 18280-E
DIMENSIONS CHECKED BY ROL	FLOOR PLANS	DATE MAY 24, 1963
CROSS CHECKED BY		SCALE 1/16" = 1'-0"
FIELD CHECK LETTER NO. 6889 DATE 2-20-63 W.H.Y. ENG.	PRAEGER-KAVANAGH-WATERBURY ENGINEERS-ARCHITECTS, NEW YORK, N.Y.	DRAWING NO. 63/4035
APPROVED BY	STATE OF NEW YORK DEPARTMENT OF PUBLIC WORKS DIVISION OF ARCHITECTURE J. BURCH McMORRAN SUPERINTENDENT CHARLES S. KAWECKI ACTING STATE ARCHITECT	

APPROVED BY P.F. DWYER DEPARTMENT OF MENTAL HYGIENE

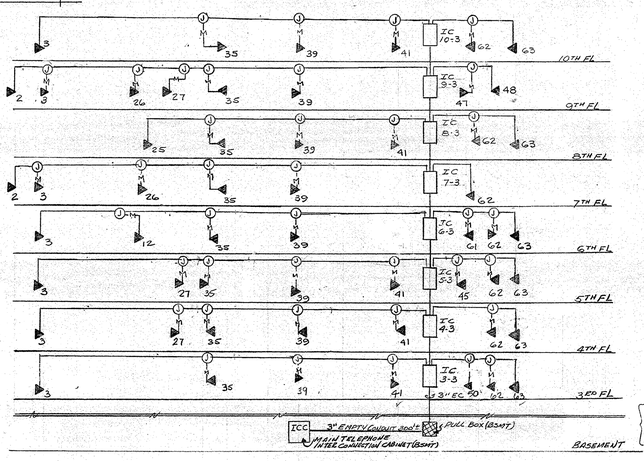
DATE 3-4-63 LETTER NO. 7780

VERIT STUDIOS, INC. BEACON 742



NOTES:

1. ELECTRIC WORK IN ROOM 9-26, 3-91, 5-41, 8-41 & 10-41 SHALL CONSIST ONLY OF TELEPHONE INSTALLATION. OTHER ELECTRIC WORK INDICATED ON DRAWING TO BE OMITTED.
2. ABANDON SWITCH AND SWITCH LEG ON 7TH AND 8TH FLOORS.
3. CONNECT FIXTURE TO SWITCH LEG OF ROOM NO. 22 ON 7TH AND 8TH FLOOR.
4. INSTALL 60 WATT LAMPS IN FIXTURES



DISTANCE BETWEEN BASEMENT AND 3RD FLOOR IS APPROXIMATELY 36'-0"

TELEPHONE RISER DIAGRAM
EMPTY CONDUIT & METAL RACEWAY
NOT TO SCALE

NOTES:
A- ALL VERTICAL RUNS BETWEEN TELEPHONE INTERCONNECTION CABINETS SHALL BE 3" EMPTY CONDUIT INSTALLED IN EXISTING PIPESHAFT.

SYMBOLS AND ABBREVIATIONS

- NEW FLUORESCENT FIXTURE ON EXISTING OUTLET.
- NEW INCANDESCENT FIXTURE
- CAP EXISTING OUTLET BOX, MAY BE USED AS JUNCTION BOX.
- T — SPECIAL PURPOSE OUTLET FOR TOASTER.
- D — SPECIAL PURPOSE OUTLET FOR DRYER.
- E — EXISTING OUTLET RETAIN.
- Se — EXISTING LOCAL SWITCH RETAIN
- NEW DUPLEX CONVENIENCE OUTLET.
- NEW INTERIOR TELEPHONE OUTLET.
- M — METAL MOLDING (SURFACE METAL RACEWAY)
- NEW FLUORESCENT FIXTURE ON NEW OUTLET
- EXISTING LIGHTING FIXTURE TO REMAIN
- e — EXISTING CONDUIT & WIRING TO REMAIN
- e — EXISTING HOME RUN TO REMAIN
- S — NEW LOCAL SWITCH
- H — SPECIAL PURPOSE OUTLET

REFERENCE DRAWING

CONTRACTORS NOTE
THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE AND ASSUME FULL RESPONSIBILITY FOR THE ACCURACY OF SAME.

DUNLAP PSYCH. HOSPITAL
AT MANHATTAN STATE HOSPITAL
WARDS ISLAND NEW YORK
ALTERATIONS AND IMPROVEMENTS TO AREAS THRUOUT BUILDING NO. 102

ELECTRIC

TYPICAL FLOOR PLAN AND DETAILS

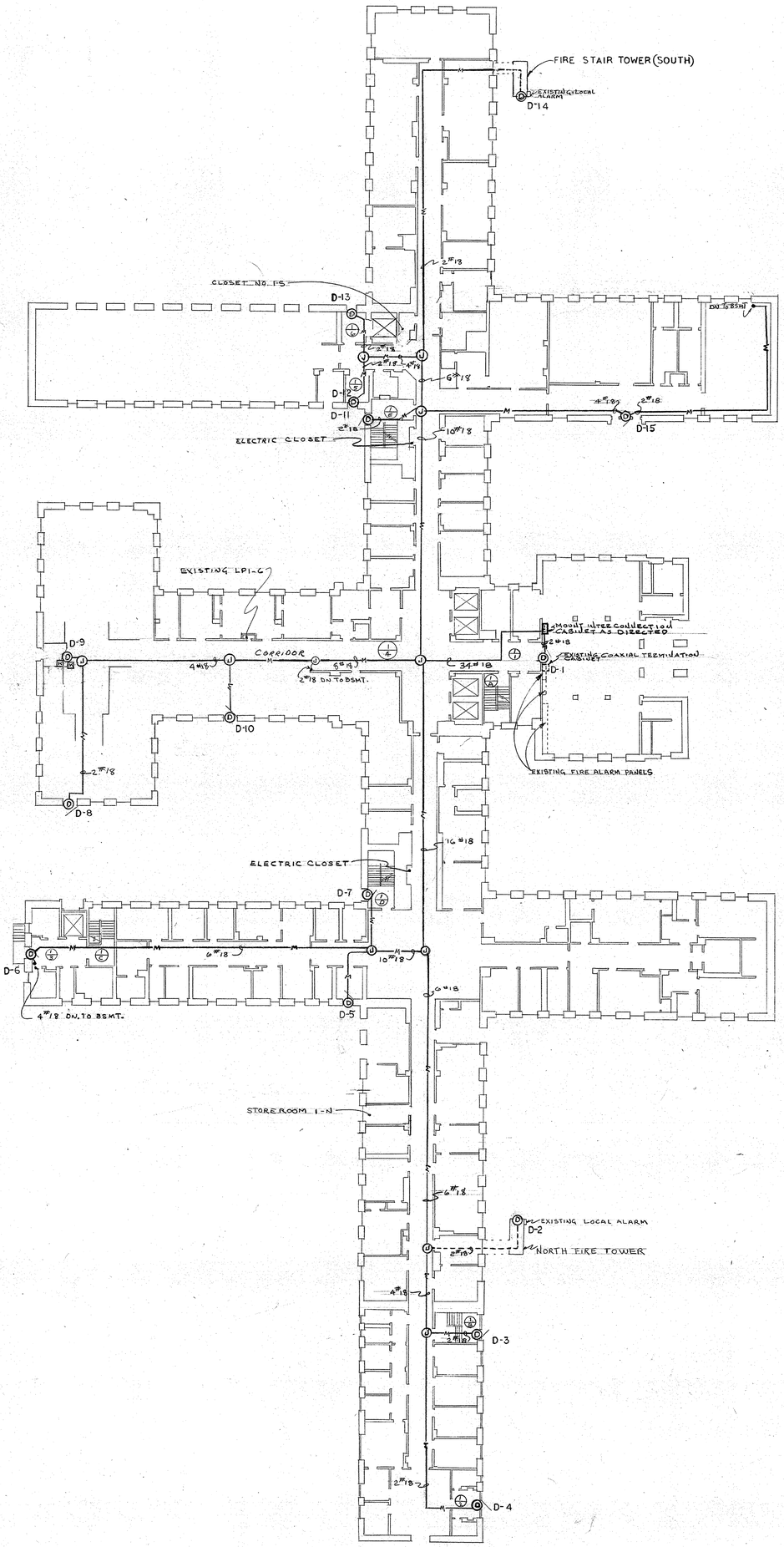
STATE OF NEW YORK – EXECUTIVE DEPARTMENT
OFFICE OF GENERAL SERVICES
DESIGN AND CONSTRUCTION

A. C. O'HARA — COMMISSIONER
ALBERT C. BREVETTI — CHIEF ARCHITECT

DRAWN BY	DATE	SCALE	APPROVED BY
E. F. OLIVER	DEC. 3, 1970	AS NOTED	
TRACED BY	CHECKED BY	STRUCTURAL CHECK	FIELD CHECK
E. F. OLIVER	N. KREAMER		AUG. 4, '71 H. P. ROTHENE

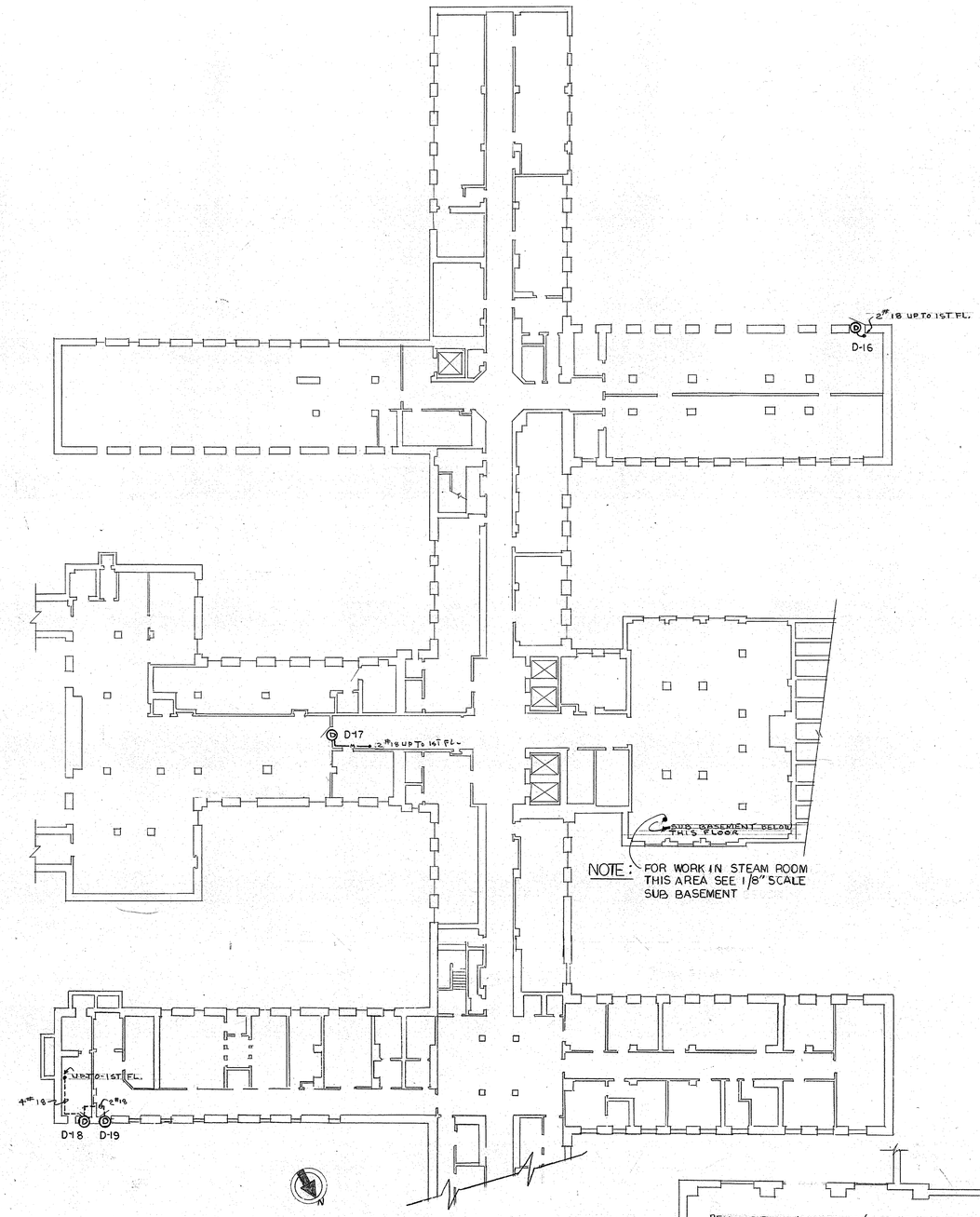
APPROVED BY H & M.H.F.I.C.
DATED AUG. 13, 1971 LETTER NO. 003265

PROJECT NO. 24371
SPECIFICATION NO. 24371-E
DRAWING NO. 70/4045



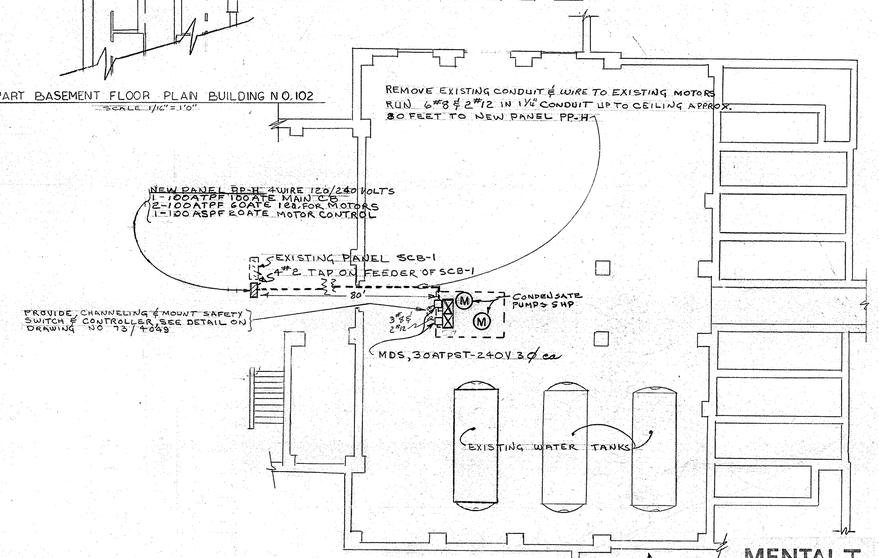
FIRST FLOOR PLAN BLDG. NO. 102

SCALE: 1/16" = 1'-0"



PART BASEMENT FLOOR PLAN BUILDING NO. 102

SCALE 1/16" = 1'-0"



STEAM ROOM
PART SUB BASEMENT PLAN

SCALE 1/8" = 1'-0"

REFERENCE DRAWING

NEW YORK STATE
FACILITIES DEVELOPMENT CORPORATION
DEPARTMENT OF MENTAL HYGIENE

MANHATTAN STATE HOSPITAL
WARDS ISLAND NEW YORK

ALTERATIONS AND IMPROVEMENTS TO HEATING SYSTEMS AND CONTROLS AT MEYER, DUNLAP AND KIRBY BUILDINGS NOS. 102, 103, 104 & 105

ELECTRIC

FLOOR PLANS
DUNLAP, BUILDING NO. 102

STATE OF NEW YORK—EXECUTIVE DEPARTMENT
OFFICE OF GENERAL SERVICES

COMMISSIONER
A. C. O'HARA

DIVISION OF DESIGN
DIRECTOR
ALBERT C. BREVETTI, A.I.A.

DESIGN AND CONSTRUCTION
DIRECTOR
HARRY STEVENS, JR.

DRAWN BY	DATE	SCALE	APPROVED BY
J. KINDLON	JAN. 2, 1974	AS SHOWN	
TRACED BY	CHECKED BY	STRUCTURAL CHECK	FIELD CHECK
J. KINDLON	W. KREAMER		LETTERS 1 & 2 G. SOPHIDES

APPROVED BY FACILITIES DEVELOPMENT CORPORATION

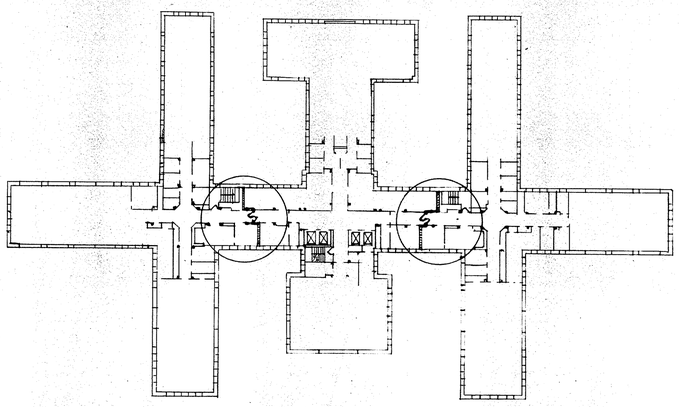
DATED JANUARY 2, 1974 LETTER NO. 00033

PROJECT NO. 25580

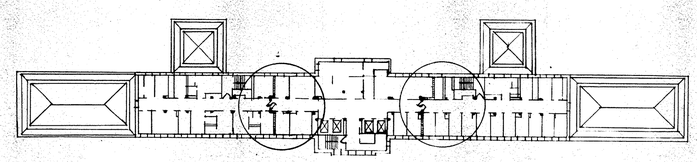
SPECIFICATION NO. 25580-E

DRAWING NO. 73/4048

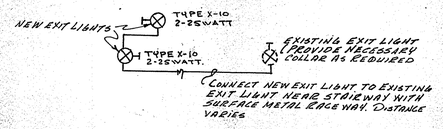
MENTAL HYGIENE FACILITIES IMPROVEMENT CORPORATION



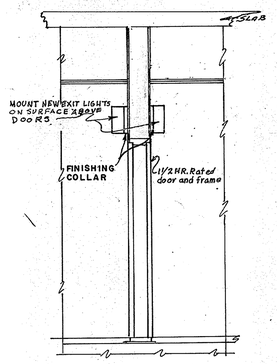
SECOND FLOOR PLAN
SCALE-1"=32'-0"



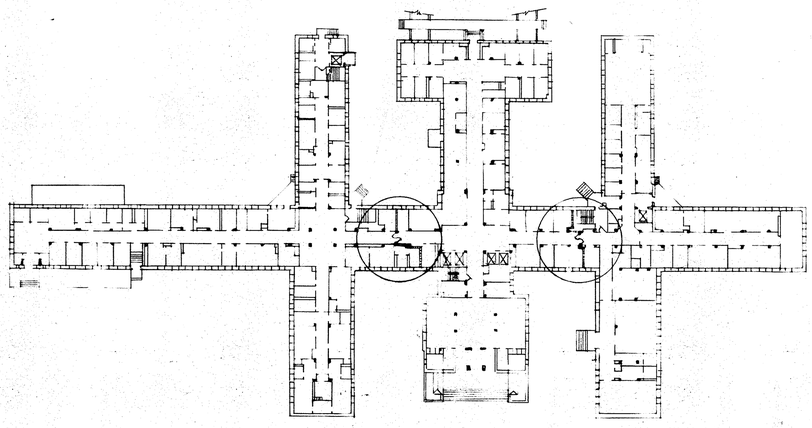
SIXTEENTH FLOOR PLAN
SCALE-1"=32'-0"



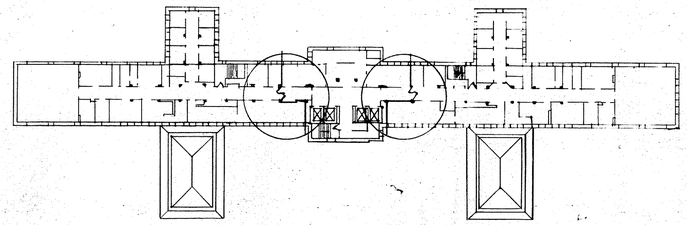
TYPICAL EXIT LIGHT CONNECTION
NOT TO SCALE



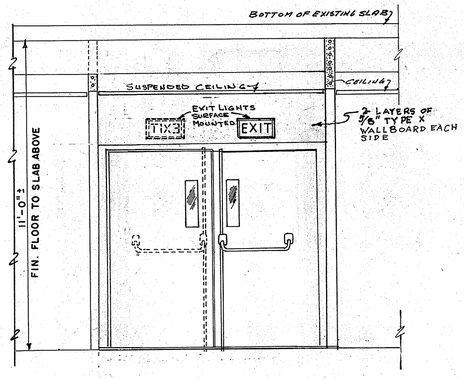
SECTION AT DOOR
SCALE-1/2"=1'-0"



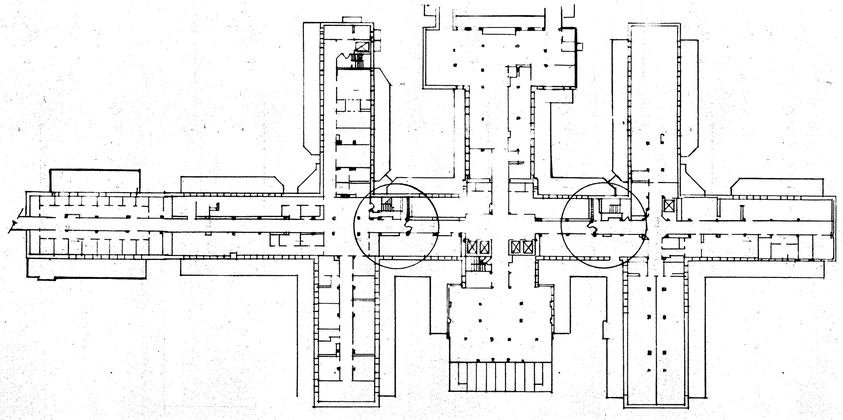
FIRST FLOOR PLAN
SCALE-1"=32'-0"



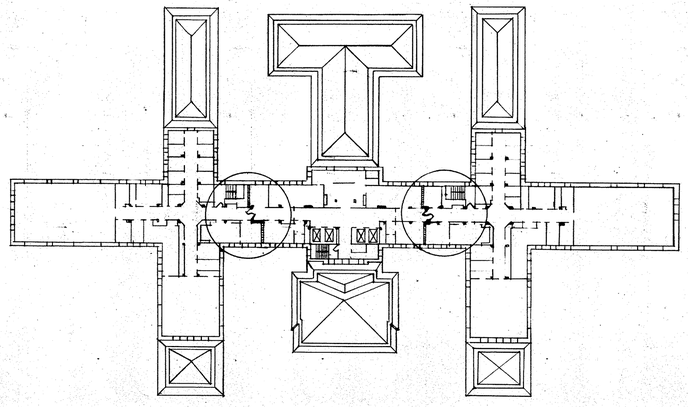
TWELFTH TO FIFTEENTH FLOOR
SCALE-1"=32'-0"



TYPICAL SECTION AT CORRIDOR SHOWING EXIT LIGHTS AT NEW CORRIDOR DOORS
SCALE-1/2"=1'-0"



BASEMENT PLAN
SCALE-1"=32'-0"



THIRD TO ELEVENTH FLOOR
PLAN INCL.
SCALE-1"=32'-0"

LAMP SCHEDULE		
NUMBER OF LAMPS	LAMP TYPE	FOR FIXTURE TYPE
136	A-25/99	TYPE X-10 EXIT LIGHTS

FORMERLY MENTAL HYGIENE
HEALTH FACILITIES IMPROVEMENT CORPORATION

REFERENCE DRAWING

FACILITIES DEVELOPMENT CORPORATION
DEPARTMENT OF MENTAL HYGIENE

ELECTRIC

EXTEND FIRE SEPARATIONS BUILDINGS NOS. 102, 103 AND 105 AND PROVIDE POSITIVE LATCHING VARIOUS PATIENT BUILDINGS.

MANHATTAN PSYCHIATRIC CENTER
WARDS ISLAND NEW YORK

BASEMENT THRU SIXTEENTH FLOORS INCL., BLDG. NO. 102 AND DETAILS.

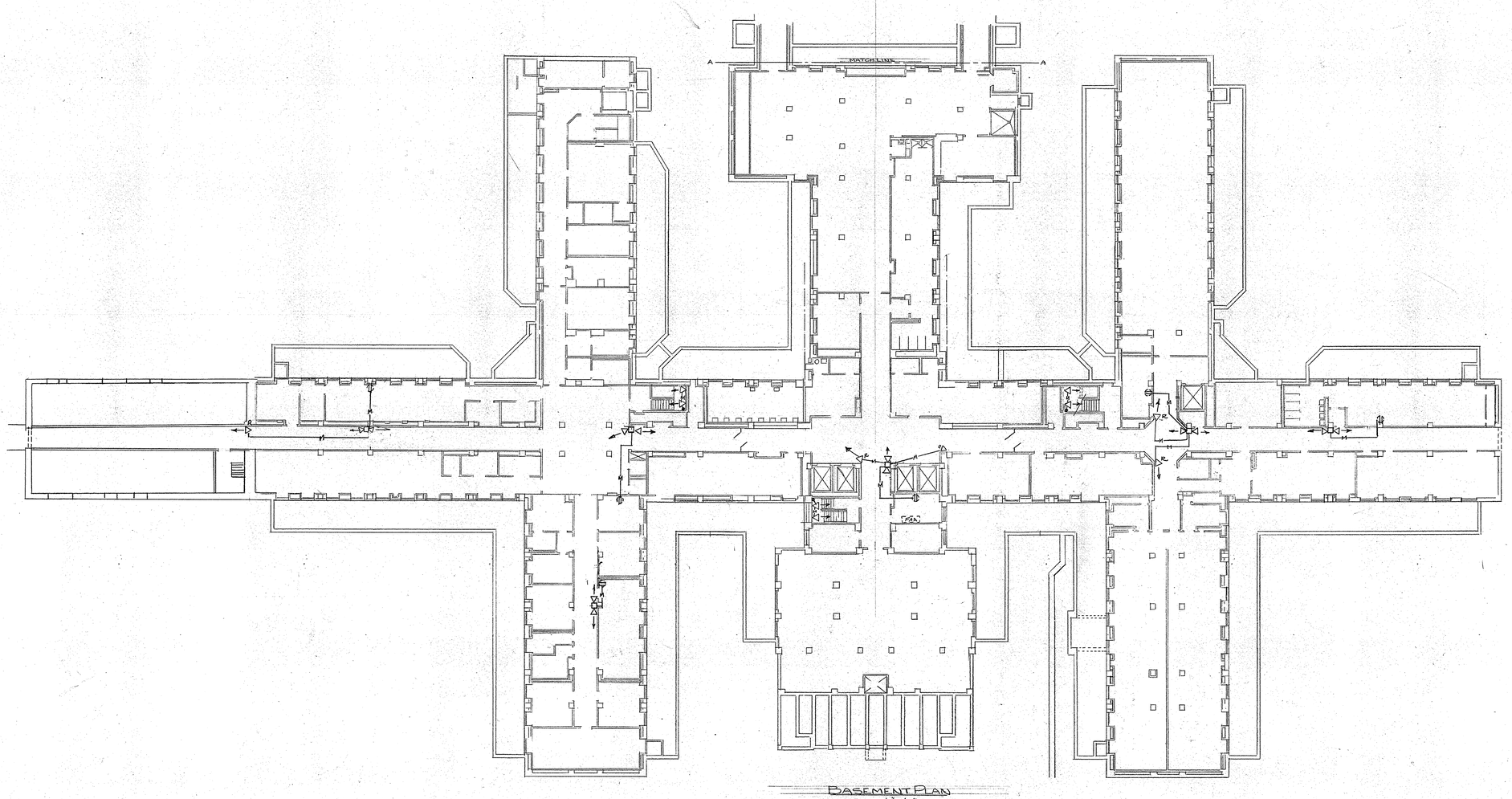
STATE OF NEW YORK EXECUTIVE DEPARTMENT
OFFICE OF GENERAL SERVICES

	COMMISSIONER JAMES C. O'SHEA
DIVISION OF DESIGN DIRECTOR ALBERT C. BREVETTI, A.I.A.	DESIGN AND CONSTRUCTION DIRECTOR HARRY STEVENS, JR., P.E.

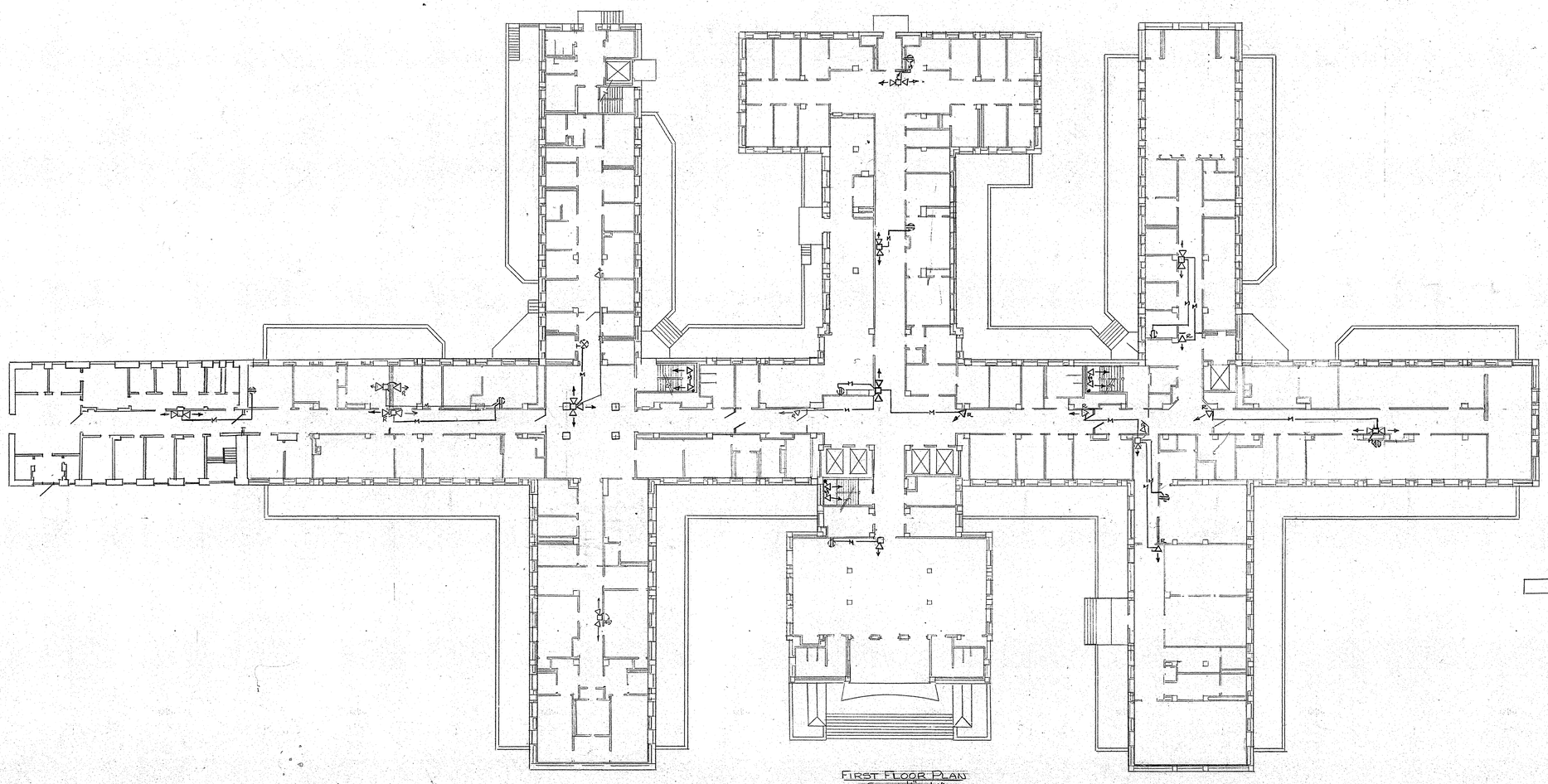
DRAWN BY	DATE	SCALE	APPROVED BY
E.F. OLIVER	July 8, 1975	AS NOTED	
TRACED BY	CHECKED BY	STRUCTURAL CHECK	FIELD CHECK
E.F. OLIVER	H.H. PAGE	—	E. LACO

APPROVED BY FACILITIES DEVELOPMENT CORPORATION
DATED July 8 1975 LETTER NO. 00 2235

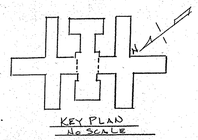
PROJECT NO. 27043-E
DRAWING NO. 75/4053



BASEMENT PLAN
SCALE 1/16"=1'-0"



FIRST FLOOR PLAN
SCALE 1/16"=1'-0"



KEY PLAN
NO SCALE

SYMBOLS AND ABBREVIATIONS

- EXISTING HOSE CABINET LIGHT.
- EXISTING CONVENIENCE OUTLET.
- JUNCTION BOX
- REMOTE LIGHTING HEAD ARROW INDICATES DIRECTION FACED.
- EMERGENY BATTERY UNIT (D) INDICATES NO OF ADJUSTABLE HEADS AND ARROWS INDICATE DIRECTION FACED.
- EXISTING HOSE CABINET LIGHT.
- CIRCUIT BREAKER
- EXISTING POWER PANEL
- SURFACE METAL RACEWAY (METAL MOLDING).
- EXPOSED CONDUIT
- EXISTING EXIT LIGHT
- EXISTING FIRE ALARM ANNUNCIATOR PANEL

NOTES

FOR STAIRWELL LIGHTS SEE RISER DIAGRAM DWG.NO. 77/4059

REFERENCE DRAWING

FACILITIES DEVELOPMENT CORPORATION
DEPARTMENT OF MENTAL HYGIENE

ELECTRIC

PROVIDE EMERGENCY LIGHTING BUILDING NO. 102.

MANHATTAN PSYCHIATRIC CENTER
WARDS ISLAND NEW YORK

BASEMENT AND FIRST FLOOR PLANS

STATE OF NEW YORK EXECUTIVE DEPARTMENT
OFFICE OF GENERAL SERVICES

COMMISSIONER JAMES C. O'SHEA

DIVISION OF DESIGN DIRECTOR ALBERT C BREVETTI, A.I.A.

DESIGN AND CONSTRUCTION DIRECTOR HARRY STEVENS, JR.,P.E.

DRAWN BY	DATE	SCALE	APPROVED BY
E FOLIVER	JUNE 9, 1978	1/16"=1'-0"	
TRACED BY	CHECKED BY	STRUCTURAL CHECK	FIELD CHECK
J. COFFEY	W. KREAMER		JUNE 26, 1978 H. GREENE

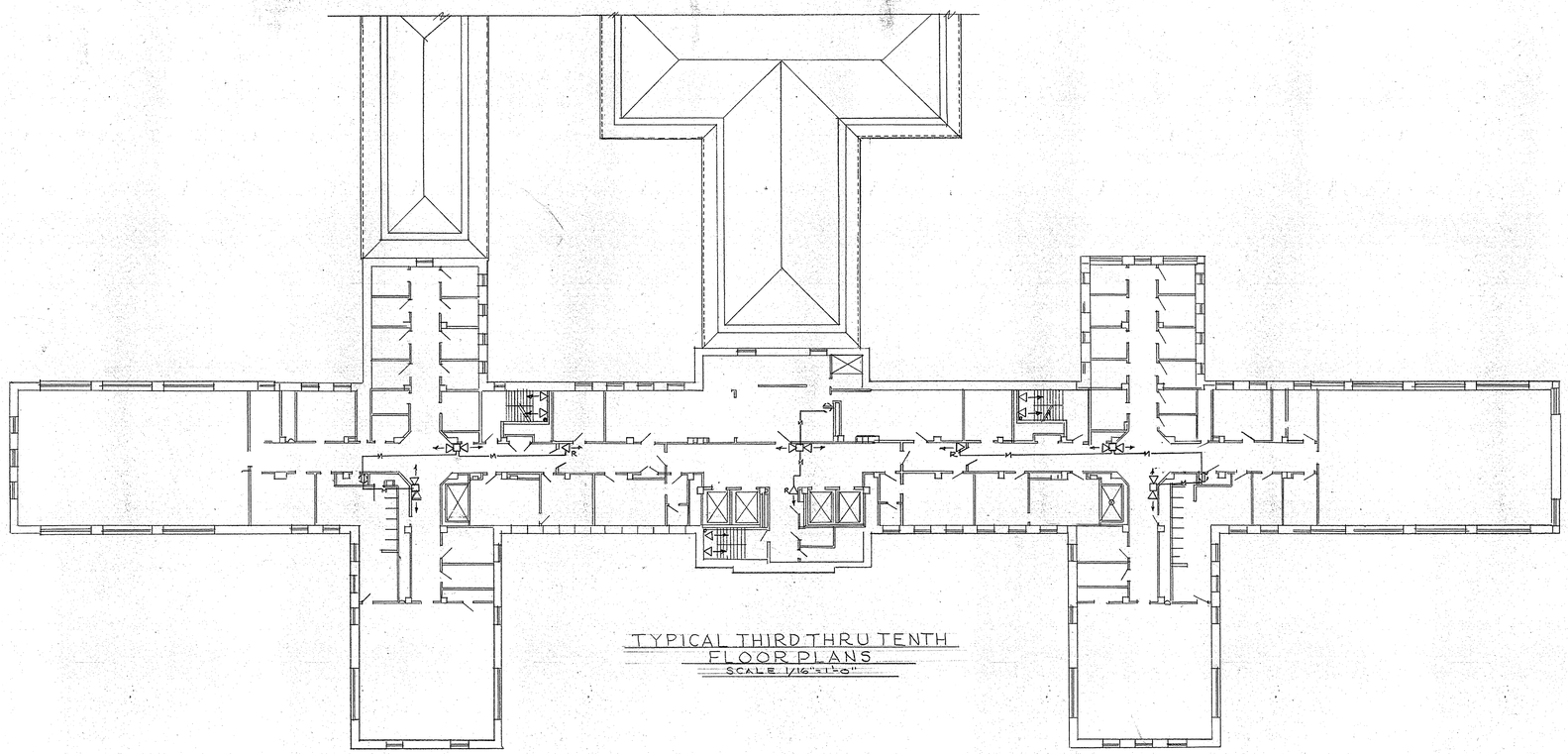
APPROVED BY FACILITIES DEVELOPMENT CORP.
DATED JUNE 9, 1978 LETTER NO. 023973

FORMERLY MENTAL HYGIENE FACILITIES IMPROVEMENT CORPORATION

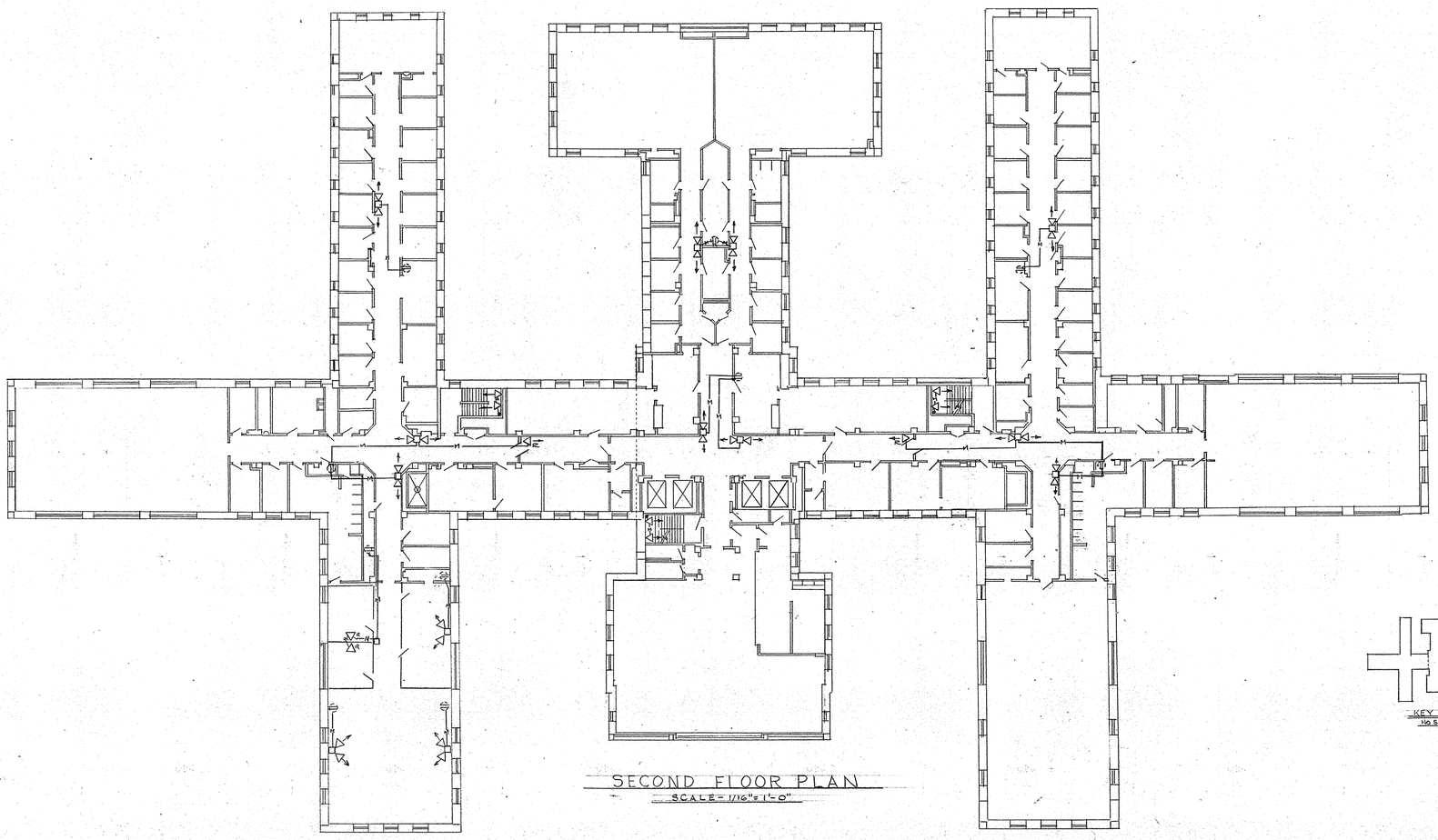
PROJECT NO. 29410-E

DRAWING NO. 77/4056

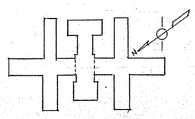
DRAWING 44511 31242



TYPICAL THIRD THRU TENTH
FLOOR PLANS
SCALE: 1/16"=1'-0"



SECOND FLOOR PLAN
SCALE- 1/16"=1'-0"



KEY PLAN
NO SCALE

NOTES

1 - LOCATE REMOTE INDICATION FOR ELECTROLYTE LEVEL AND BATTERY FAILURE AT FIRE ALARM ANNUNCIATOR PANEL ON FIRST FLOOR.

REFERENCE DRAWING

FACILITIES DEVELOPMENT CORPORATION
DEPARTMENT OF MENTAL HYGIENE

ELECTRIC

PROVIDE EMERGENCY LIGHTING BUILDING NO. 102.

MANHATTAN PSYCHIATRIC CENTER
WARDS ISLAND, NEW YORK

SECOND FLOOR PLAN AND TYPICAL THIRD THRU TENTH FLOOR PLAN.

STATE OF NEW YORK EXECUTIVE DEPARTMENT
OFFICE OF GENERAL SERVICES

COMMISSIONER
JAMES C. O'SHEA

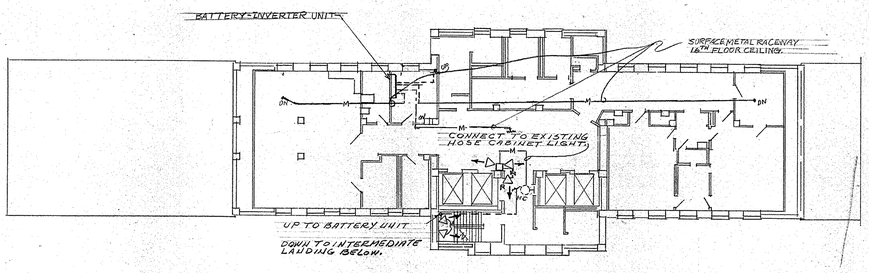
DIVISION OF DESIGN DIRECTOR ALBERT C BREVETTI, A.I.A.		DESIGN AND CONSTRUCTION DIRECTOR HARRY STEVENS, JR., P.E.	
DRAWN BY E.F. OLIVER	DATE JUNE 9, 1978	SCALE 1/16"=1'-0"	APPROVED BY VPP H. Stevens
TRACED BY E.F. OLIVER	CHECKED BY W. KRAMER	STRUCTURAL CHECK	FIELD CHECK JUNE 26, 1978 H. GREENE

APPROVED BY FACILITIES DEVELOPMENT CORP.
DATED JUNE 9, 1978 LETTER NO. 023473

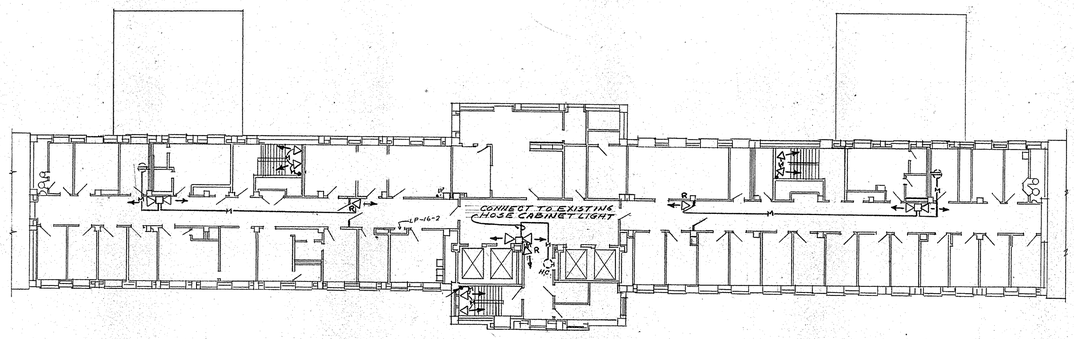
FORMERLY MENTAL HYGIENE FACILITIES "PROGRAM COMPLIANCE"

PROJECT NO.	DRAWING NO.
29410-E	77/4057

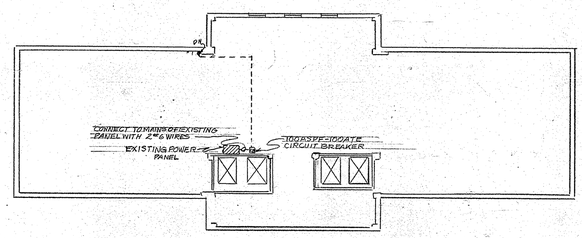
DRAWING 4511 3/3/42



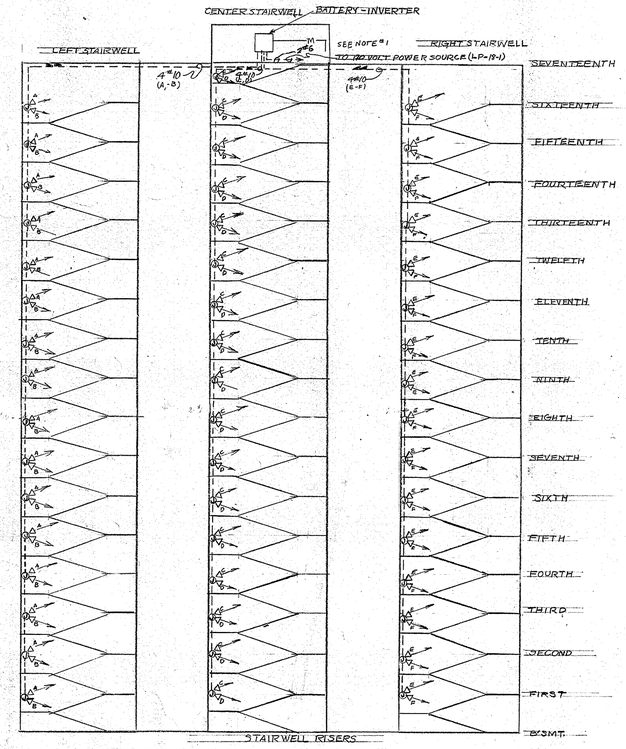
SEVENTEENTH FLOOR PLAN
SCALE 1/16"=1'-0"



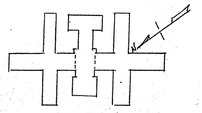
SIXTEENTH FLOOR PLAN
SCALE 1/16"=1'-0"



EIGHTEENTH FLOOR PLAN
SCALE 1/16"=1'-0"



STAIRWELL RISERS
ALL STAIRWELL LIGHTS 25WATT FLOOD
NO SCALE
NOTE-LIGHTS SHALL BE CIRCUITED AS SHOWN



KEY PLAN
NO SCALE

REFERENCE DRAWING

FACILITIES DEVELOPMENT CORPORATION
DEPARTMENT OF MENTAL HYGIENE

ELECTRIC

PROVIDE EMERGENCY LIGHTING BUILDING NO. 102.

MANHATTAN PSYCHIATRIC CENTER
WARDS ISLAND NEW YORK

SIXTEENTH AND SEVENTEENTH FLOOR PLANS.

STATE OF NEW YORK EXECUTIVE DEPARTMENT
OFFICE OF GENERAL SERVICES

COMMISSIONER JAMES C. O'SHEA

DIVISION OF DESIGN DIRECTOR ALBERT C BREVETTI, A.I.A.
DESIGN AND CONSTRUCTION DIRECTOR HARRY STEVENS, JR. P.E.

DRAWN BY	DATE	SCALE	APPROVED BY
E.F. OLIVER	JUNE 9, 1978	AS NOTED	JPP H. Stevens
TRACED BY	CHECKED BY	STRUCTURAL CHECK	FIELD CHECK
E.F. OLIVER	W. KREAMER		JUNE 26, 1978 H. GREENE

APPROVED BY FACILITIES DEVELOPMENT CORP.
DATED JUNE 9, 1978 LETTER NO. 02-3473

FORMERLY MENTAL HYGIENE FACILITIES IMPROVEMENT CORPORATION

PROJECT NO. 29410-E
DRAWING NO. 77/4059

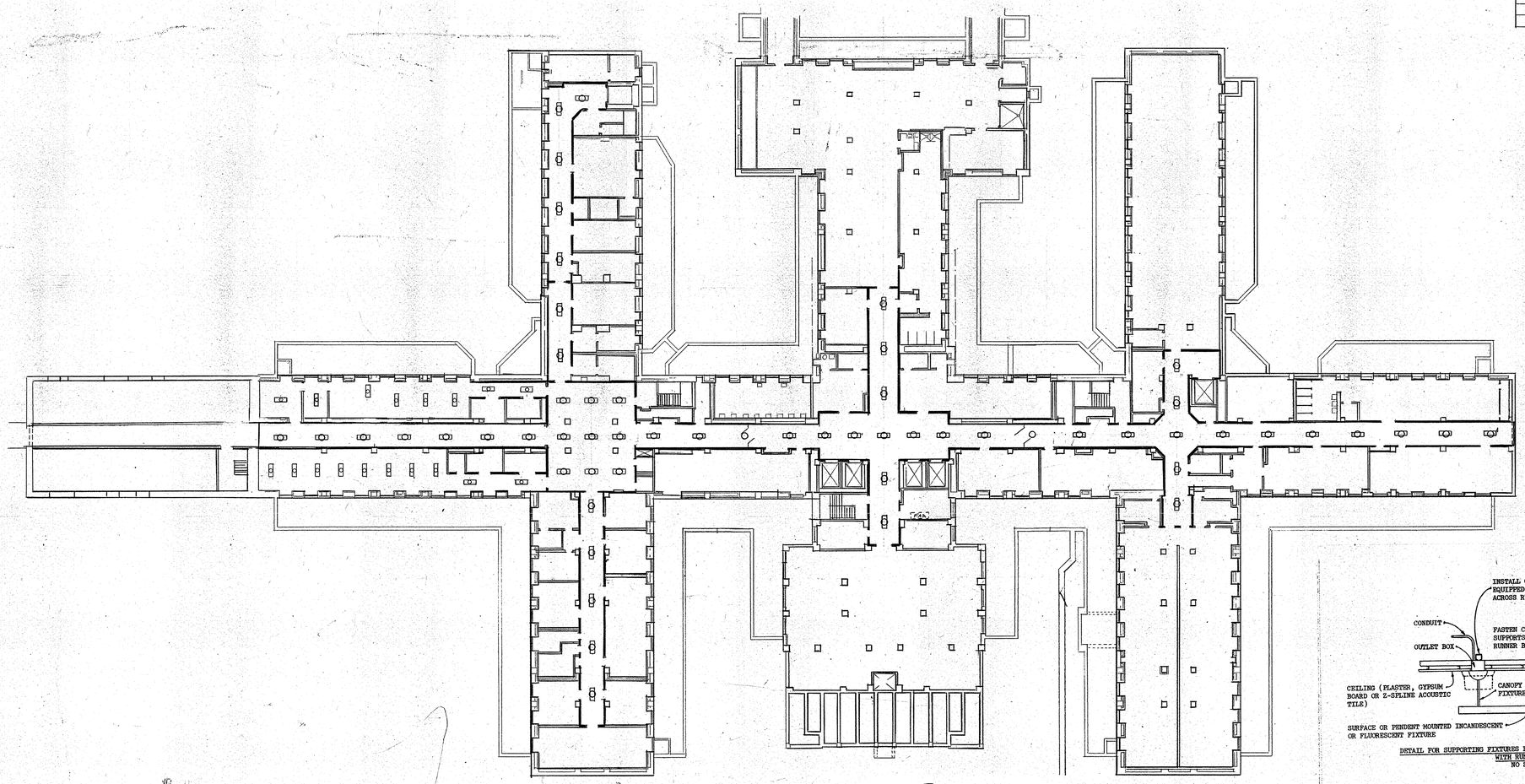
BRUNING 44-511-31242

LAMP SCHEDULE

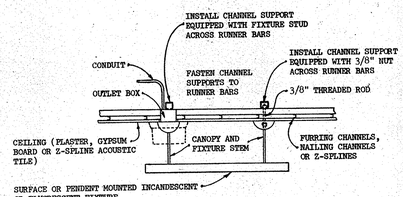
QUANTITY	TYPE	FOR FIXTURE
1172	F/40CW	BB

NOTES

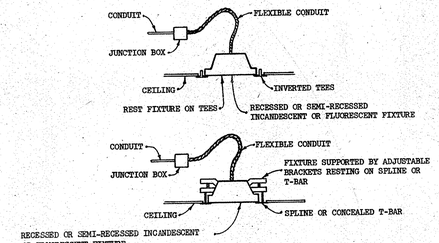
1. ALL FLUORESCENT FIXTURES TO BE BB, 2-40 WATT TYPE.



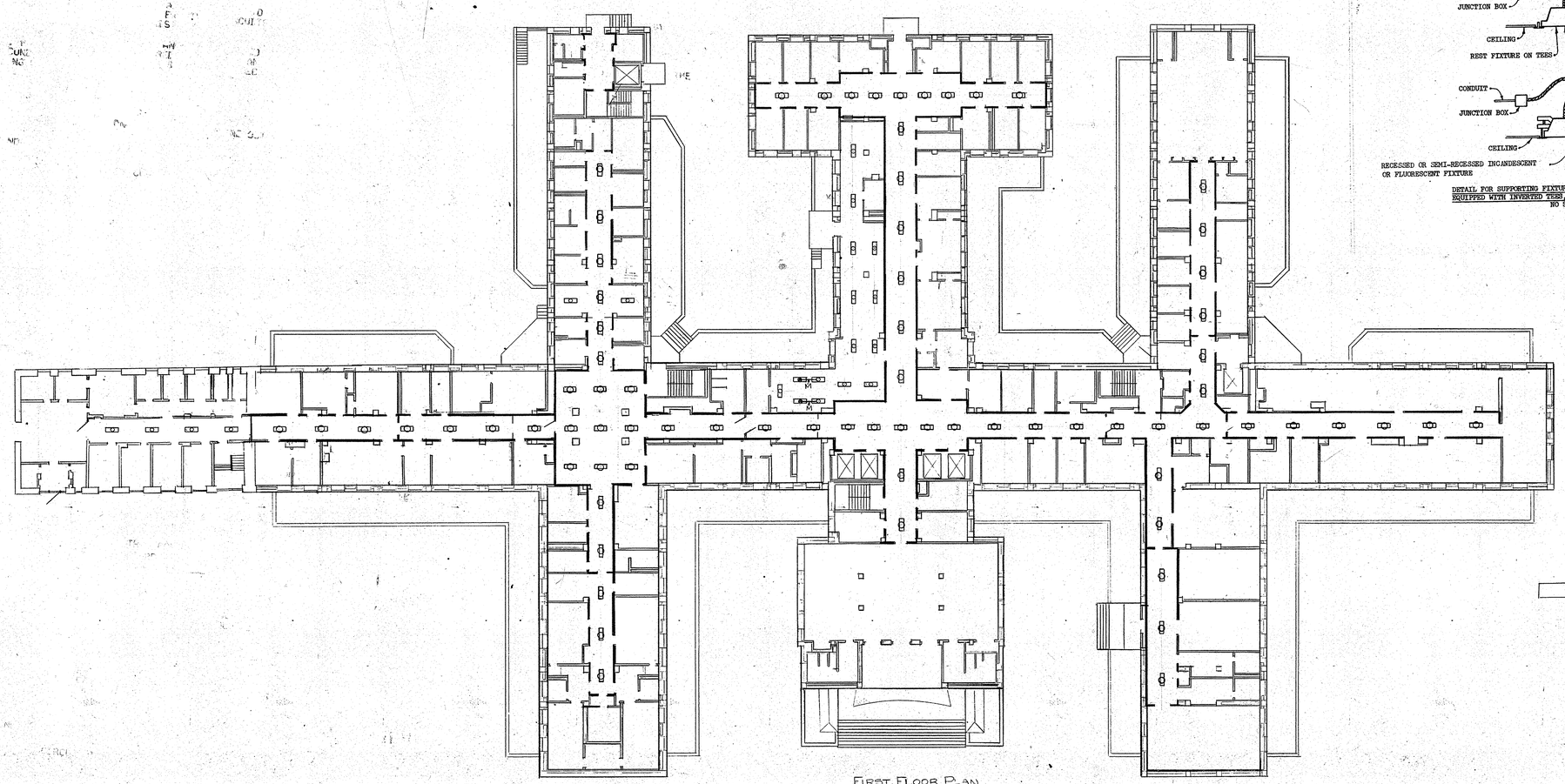
BASEMENT PLAN
0' 20'



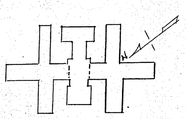
DETAIL FOR SUPPORTING FIXTURES FROM SUSPENDED CEILINGS EQUIPPED WITH RUNNER BARS
NO SCALE



DETAIL FOR SUPPORTING FIXTURES FROM SUSPENDED CEILINGS EQUIPPED WITH INVERTED TEES, SPLINES OR CONCEALED T-BARS
NO SCALE



FIRST FLOOR PLAN
0' 20'



KEY PLAN
NO SCALE

SYMBOLS AND ABBREVIATIONS

- REPLACE EXISTING FIXTURE WITH TYPE 'BB' 2/40
- REMOVE EXISTING FIXTURE, PROVIDE COVER
- —M— SURFACE METAL RACEWAY
- FLUORESCENT FIXTURE TYPE 'BB' 2/40

REFERENCE DRAWING

FACILITIES DEVELOPMENT CORPORATION
OFFICE OF MENTAL HEALTH
DEPARTMENT OF MENTAL HYGIENE

ELECTRIC

PROVIDE FLUORESCENT LIGHTING
DUNLAP BUILDING NO. 102

MANHATTAN PSYCHIATRIC CENTER
WARDS ISLAND NEW YORK

BASEMENT AND FIRST FLOOR PLANS

STATE OF NEW YORK EXECUTIVE DEPARTMENT
OFFICE OF GENERAL SERVICES

COMMISSIONER
JAMES C. O'SHEA

DIVISION OF DESIGN
DIRECTOR
ALBERT C. BREVETTI, A.I.A.

DESIGN AND CONSTRUCTION
DIRECTOR
HARRY STEVENS, JR. P.E.

DRAWN BY	DATE	SCALE	APPROVED BY
A. KIRMS	2/16/79	AS SHOWN	JPP / G.M.
TRACED BY	CHECKED BY	STRUCTURAL ENG.	FIELD CHIEF
A. KIRMS	W. KREAMER		3/29/79 D. SOPHIDES

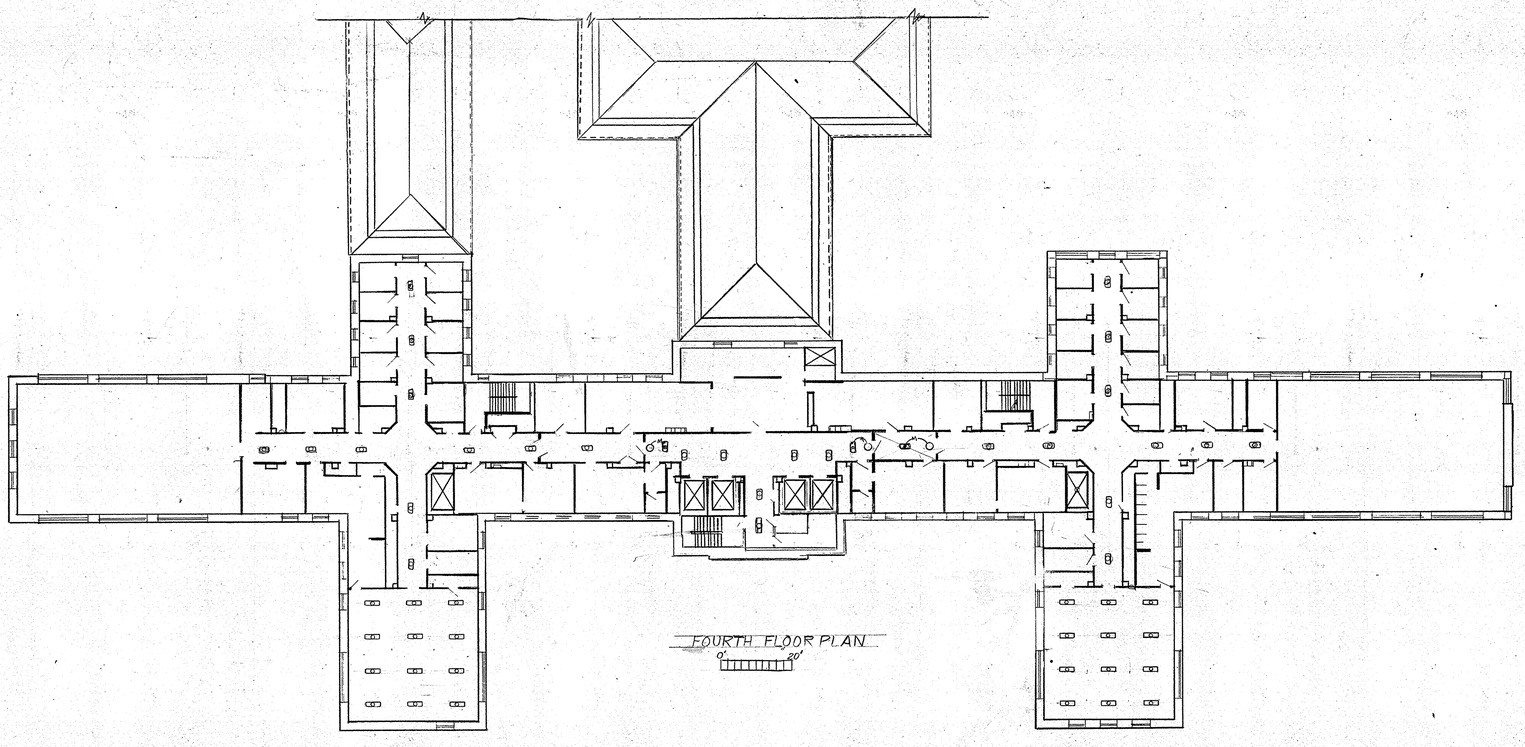
APPROVED BY FACILITIES DEVELOPMENT CORP.
DATED FEB. 16, 1979 LETTER NO. 027784

PROJECT NO. 29058

DRAWING NO. 79/4060

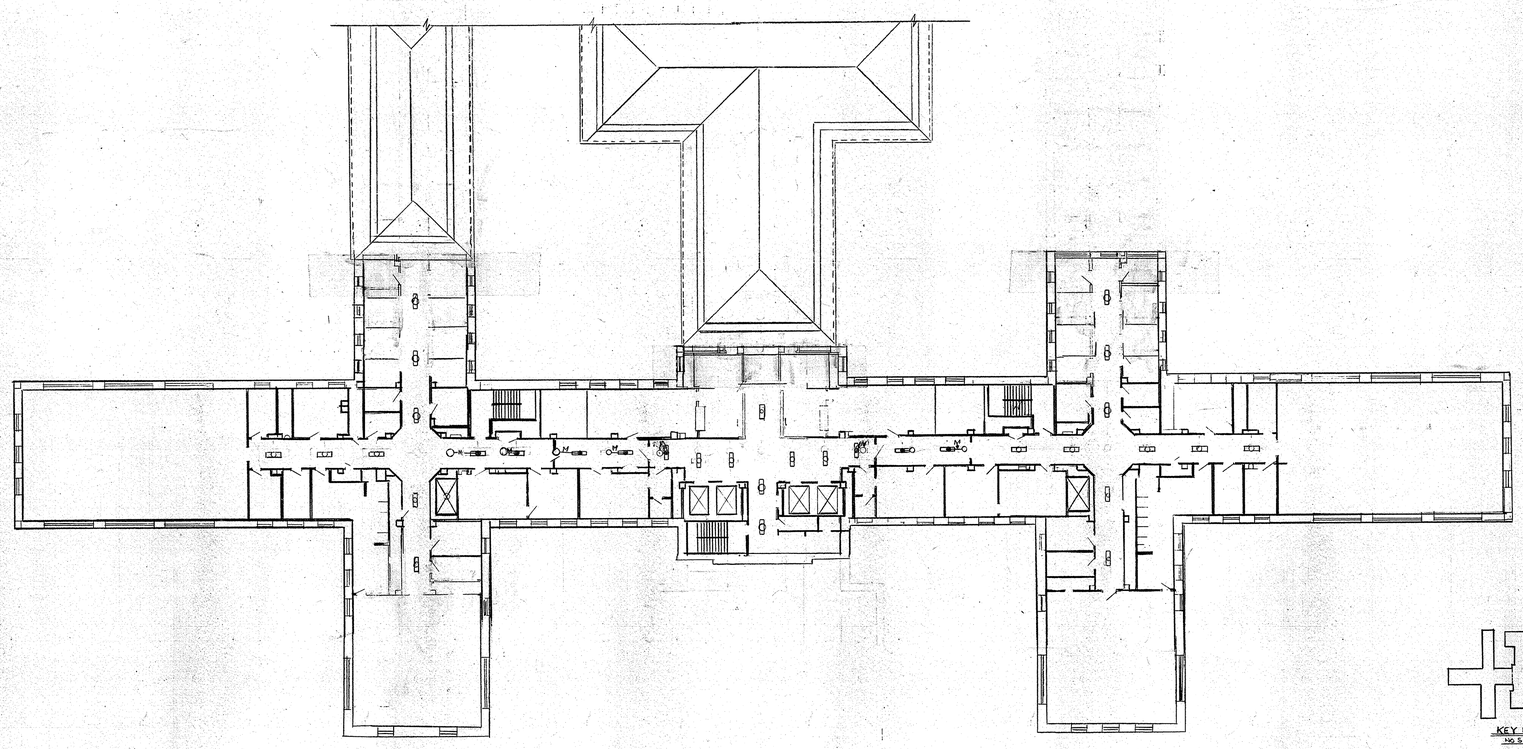
FORMERLY MENTAL HYGIENE FACILITIES IMPROVEMENT CORPORATION

REGISTERED PROFESSIONAL ENGINEER
STATE OF NEW YORK



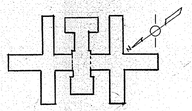
FOURTH FLOOR PLAN

0' 20'



THIRD FLOOR PLAN

0' 20'



KEY PLAN
NO SCALE

NOTES

1. SEE DRAWING NO. 79/4060 FOR NOTES, SYMBOLS AND ABBREVIATIONS.

REFERENCE DRAWING

FACILITIES DEVELOPMENT CORPORATION
OFFICE OF MENTAL HEALTH
DEPARTMENT OF MENTAL HYGIENE

ELECTRIC

PROVIDE FLUORESCENT LIGHTING
DUNLAP BUILDING NO. 102

MANHATTAN PSYCHIATRIC CENTER
WARDS ISLAND, NEW YORK

THIRD AND FOURTH
FLOOR PLANS

STATE OF NEW YORK EXECUTIVE DEPARTMENT
OFFICE OF GENERAL SERVICES

COMMISSIONER
JAMES C. O'SHEA

DIVISION OF DESIGN
DIRECTOR
ALBERT C. BREVETTI, A.I.A.

DESIGN AND CONSTRUCTION
DIRECTOR
HARRY STEVENS, JR. P.E.

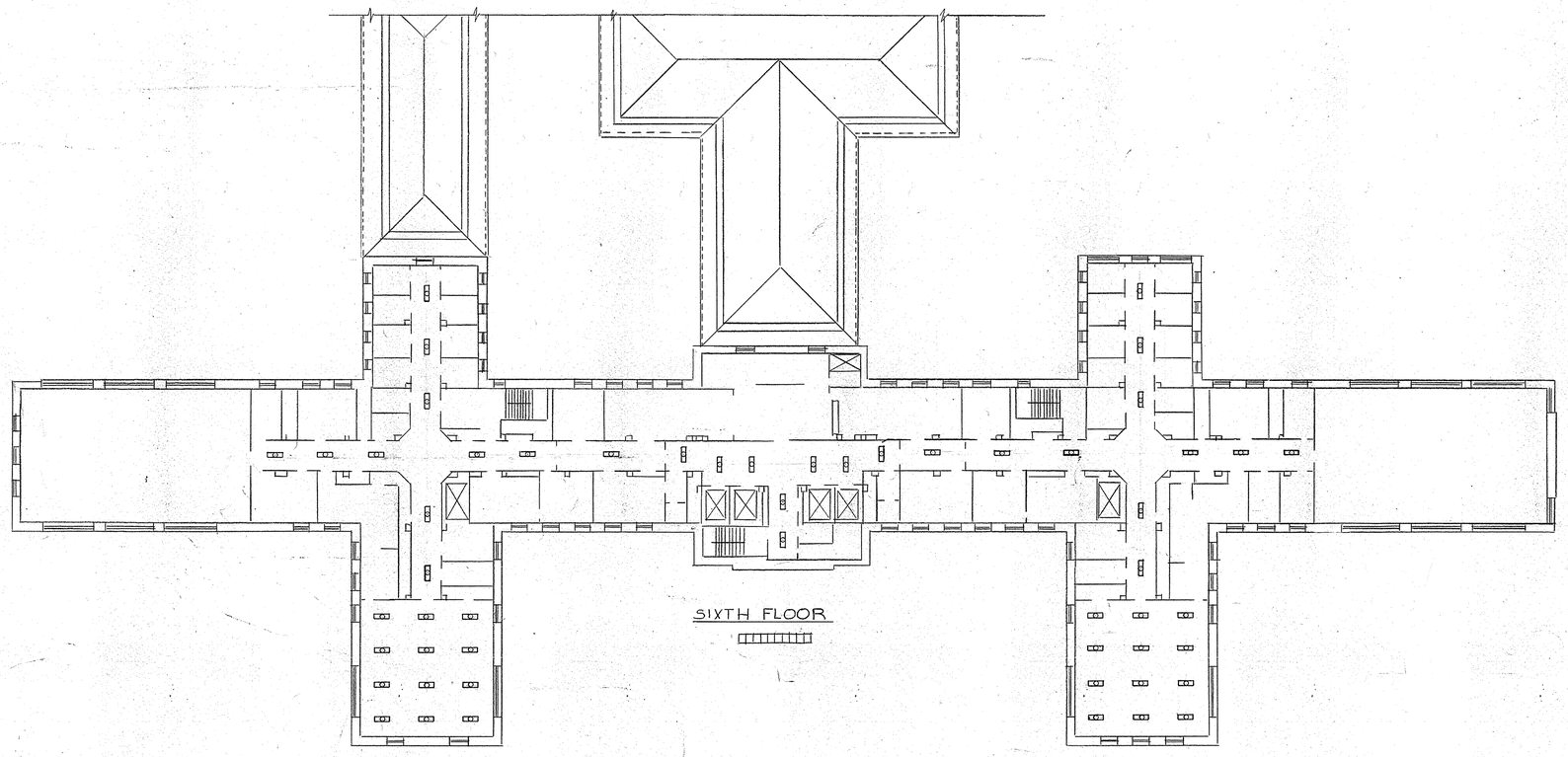
DRAWN BY	DATE	SCALE	APPROVED BY
A. KIRNSS	2/16/79	AS SHOWN	JPB GJM
TRACED BY	CHECKED BY	STRUCTURAL CHECK	FIELD CHECK
A. KIRNSS	W. KREAMER		5/29/79 D. SOPHIDES

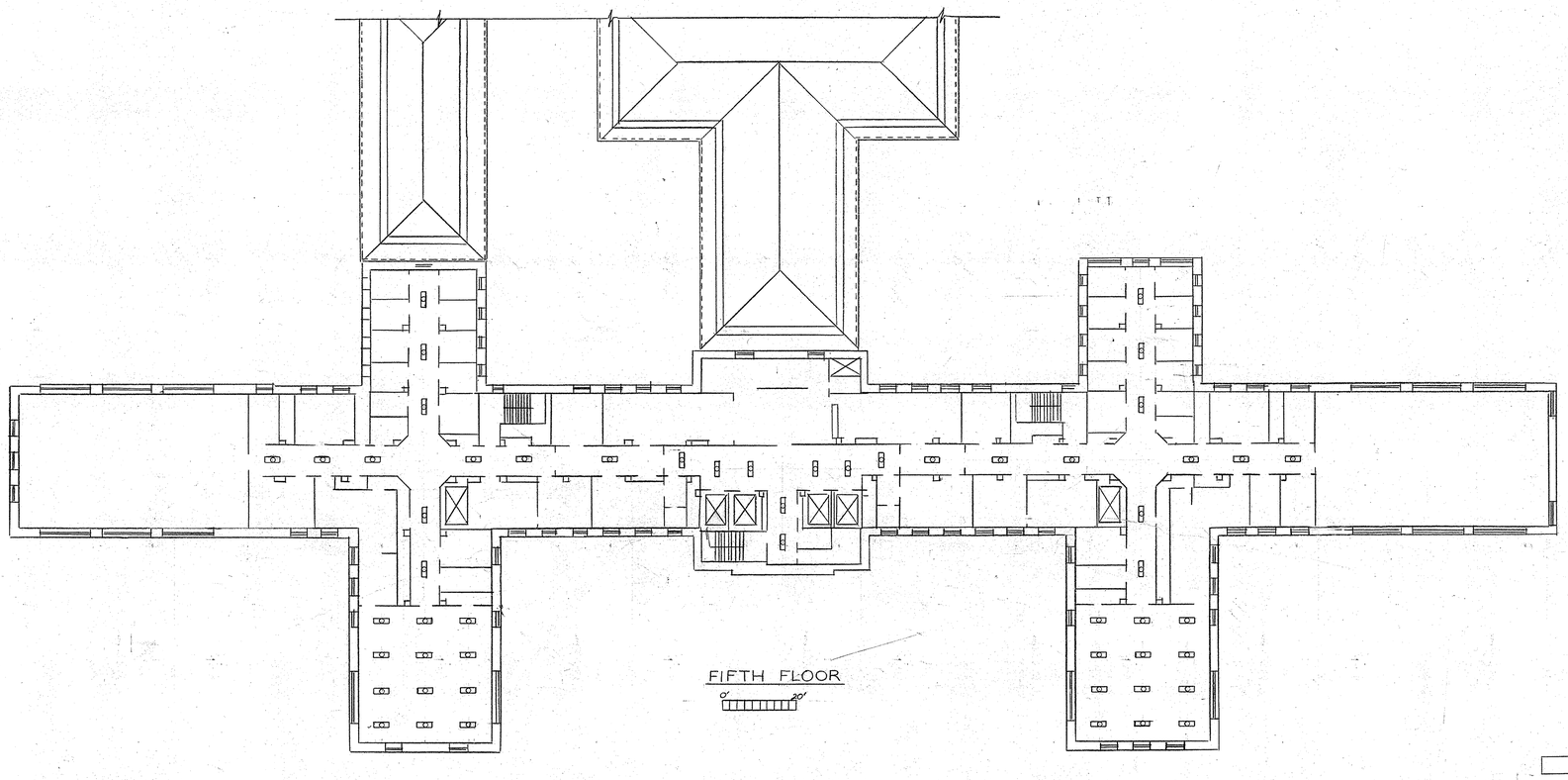
APPROVED BY FACILITIES DEVELOPMENT CORP.
DATED FEB. 16, 1979 LETTER NO. 027784

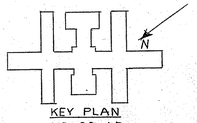
PROJECT NO.	DRAWING NO.
29058	79/4061

FORMERLY MENTAL HYGIENE FACILITIES IMPROVEMENT CORPORATION

BRUNING 46-511 3124S







KEY PLAN
NO SCALE

NOTES

1. SEE DRAWING NO. 79/4060 FOR NOTES, SYMBOLS, AND ABBREVIATIONS

REFERENCE DRAWING

FACILITIES DEVELOPMENT CORPORATION
OFFICE OF MENTAL HEALTH
DEPARTMENT OF MENTAL HYGIENE

ELECTRIC

PROVIDE FLUORESCENT LIGHTING
DUNLAP BUILDING NO. 102

MANHATTAN PSYCHIATRIC CENTER
WARDS ISLAND NEW YORK

FIFTH AND SIXTH
FLOOR PLANS

STATE OF NEW YORK EXECUTIVE DEPARTMENT
OFFICE OF GENERAL SERVICES

COMMISSIONER
JAMES C. O'SHEA

DIVISION OF DESIGN DIRECTOR ALBERT C. BREVETTI, A.I.A.		DESIGN AND CONSTRUCTION DIRECTOR HARRY STEVENS, JR., P.E.	
DRAWN BY A. KIRMSS	DATE 2/16/79	SCALE AS SHOWN	APPROVED BY VPP SJM
TRACED BY A. KIRMSS	CHECKED BY W. KREGMER	STRUCTURAL CHECK	FIELD CHECK 2/28/79 D. SOPHIDES

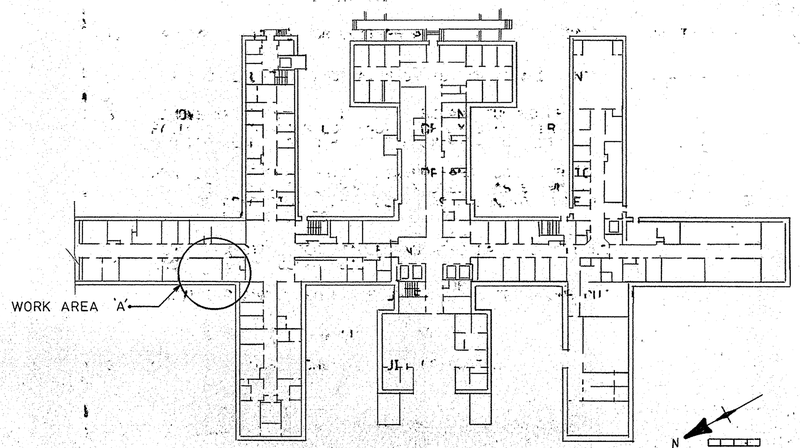
APPROVED BY FACILITIES DEVELOPMENT CORP.
DATED FEB. 16, 1979 LETTER NO. 027784

LICENSED PROFESSIONAL ENGINEER
WILLIAM P. ROSANDICH
STATE OF NEW YORK
23218

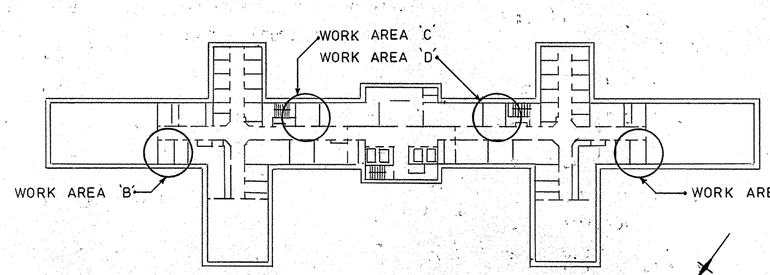
FORMERLY MENTAL HEALTH HYGIENE FACILITIES IMPROVEMENT CORPORATION

PROJECT NO.	DRAWING NO.
29058	79/4062

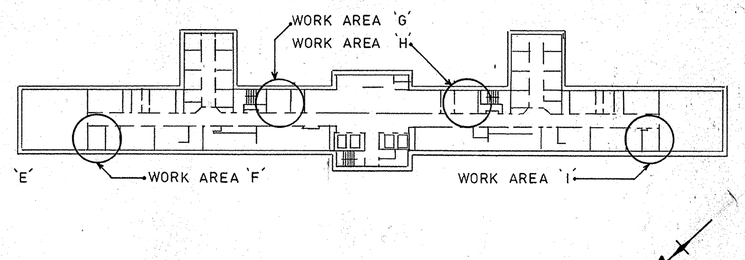
DRAWING 44511 12/42



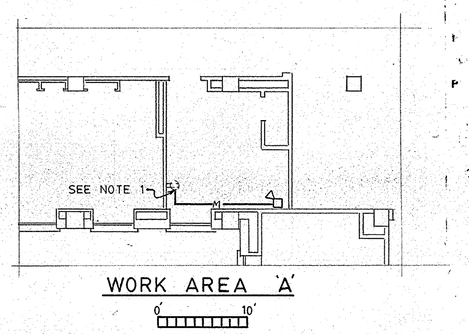
FIRST FLOOR PLAN



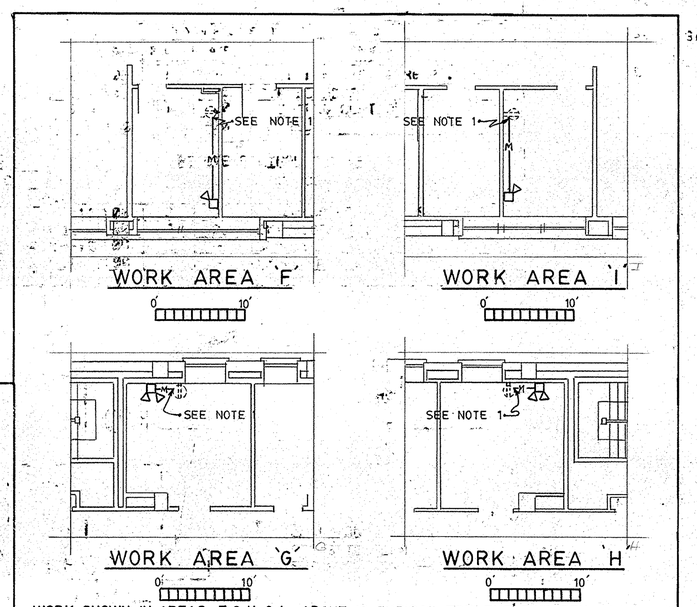
TYPICAL
THIRD THRU ELEVENTH FLOOR PLANS



TYPICAL
TWELFTH THRU FIFTEENTH FLOOR PLANS

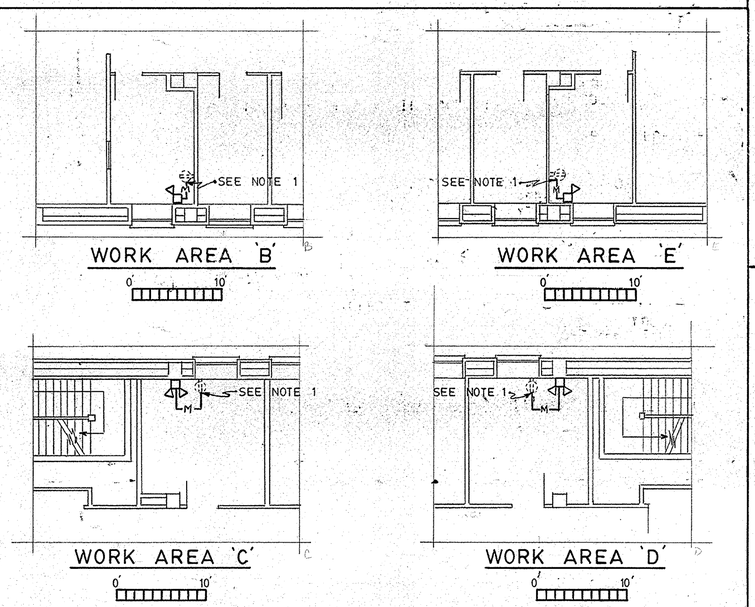


WORK AREA 'A'



WORK AREA 'F'
WORK AREA 'I'
WORK AREA 'G'
WORK AREA 'H'

WORK SHOWN IN AREAS F, G, H, & I ABOVE IS TYPICAL FOR THE TWELFTH, THIRTEENTH, FOURTEENTH AND FIFTEENTH FLOORS INCLUSIVE.



WORK AREA 'B'
WORK AREA 'E'
WORK AREA 'C'
WORK AREA 'D'

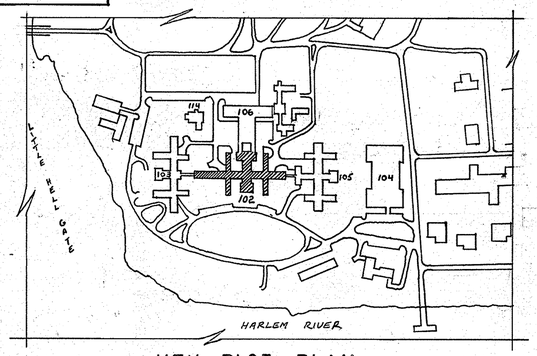
WORK SHOWN IN AREAS B, C, D, & E ABOVE IS TYPICAL FOR THE THIRD, FOURTH, FIFTH, SIXTH, SEVENTH, EIGHTH, NINTH, TENTH, AND ELEVENTH FLOORS INCLUSIVE.

SYMBOLS

- EMERGENCY LIGHTING UNIT (SINGLE HEAD) TYPE LA
- EMERGENCY LIGHTING UNIT (DOUBLE HEAD) TYPE LA
- —M— CONDUCTORS IN SURFACE METAL RACEWAY
- EXISTING DUPLEX RECEPTACLE

NOTES

1. CONNECT TO EXISTING DUPLEX RECEPTACLE
2. INSTALL EMERGENCY LIGHTING UNITS 8'-6" ABOVE FINISHED FLOOR UNLESS OTHERWISE DIRECTED.
3. VOLTAGE AND SYSTEM IS 115/208 VOLTS, 3 PHASE, 4 WIRE, 60 HERTZ A.C.



KEY PLOT PLAN
NO SCALE

REFERENCE DRAWING

WARNING: THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF ARTICLE 145 OF THE NEW YORK STATE EDUCATION LAW AND IS A CLASS A MISDEMEANOR.

FACILITIES DEVELOPMENT CORPORATION
OFFICE OF MENTAL HEALTH

ELECTRIC

PROVIDE EMERGENCY LIGHTING
BUILDING NO. 102

MANHATTAN PSYCHIATRIC CENTER
WARDS ISLAND NEW YORK

KEY PLOT PLAN
TYPICAL FLOOR PLANS
PART FLOOR PLANS
SYMBOLS

STATE OF NEW YORK EXECUTIVE DEPARTMENT
OFFICE OF GENERAL SERVICES

COMMISSIONER JOHN C. EGAN	DESIGN AND CONSTRUCTION DIRECTOR HARRY STEVENS, JR., P. E.
	DIVISION OF DESIGN DIRECTOR JAMES M. FORBES R.A.
ARCHITECTURAL BUREAU CHIEF	ENGINEERING BUREAU CHIEF GEORGE J. MICHON P. E.

DRAWN BY	DATE	SCALE	APPROVED
A. A. R.	6/4/82	AS NOTED	VFF GJM
TRACED BY	CHECKED BY	STRUCTURAL CHECK	FIELD CHECK
A. A. R.	W. KREAMER		5/18/82 J.N./I.B.

APPROVED BY FACILITIES DEVELOPMENT CORP.
DATED JUNE 4, 1982 LETTER NO. 042753

PROJECT NO.	DRAWING NO.
32806-E	81/4069