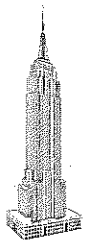




EMPIRE STATE BUILDING

350 FIFTH AVENUE
SUITE 300
NEW YORK, NY 10118
TEL: 212 736 3100
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EMPIRE STATE BUILDING

STANDARDS, SPECIFICATIONS & GUIDELINES FOR TENANT ALTERATIONS & CONSTRUCTION

MAY 14, 2009

**EMPIRE STATE BUILDING
STANDARDS, SPECIFICATIONS AND GUIDELINES
FOR TENANT ALTERATIONS AND CONSTRUCTION**

MARCH 27, 2009

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EMPIRE STATE BUILDING DEPARTMENTS

Director of Operation Timothy J. Clancy
Assistant Director of Operation..... Joseph D. Clerici
Director of Security Edward Levy
Construction Department Jones Lang LaSalle Management Group
Chief Engineer..... Karl Tremmel
Assistant Chief Engineer Jim Rose
Chief Carpenter Mohamed Metwaly
Chief Plumber..... Mario Graziano
Elevator/Platform ManagerAuguste Ruthven
Locksmith..... Mohamed Metwaly
Tenant ServicesRosemary Vasquez & Tricia Silva

CONTACT INFORMATION

Empire State Building Co., LLC
350 Fifth Avenue, Suite 300
New York, NY 10118
Phone: 212-736-3100
Fax: 212-967-6167

EMPIRE STATE BUILDING PROCEDURES FOR CONSTRUCTION WORK

CONSTRUCTION WORK

Type of work including demolition, new partitions, doors, ceilings, HVAC, electrical, plumbing, painting, carpeting, VCT, wood flooring, installing shelves & cabinets, assembling furniture & workstations and installation of phone lines/ data lines within the suite. DSL, Internet cable or phone line installed to suite require tenant letter & a sketch sent to Chris Blackman (Suite 300).
See Page 3.

PROCEDURES FOR OBTAINING APPROVAL FOR DOING CONSTRUCTION WORK

Tenants must submit (2) two copies of drawings, plans or sketches with an introduction letter to the Construction Dept. Drawings must be dated, indicate suite # and have drawings # i.e. A-1, A-2, E-1 or at least SK-1, SK-2, etc. Drawings will be routed through Construction Dept. for review and approval. (1) Drawing will be returned with a Tenant Approval Letter with comments. Prior to construction being approved to start and contractor passes being issued requirements within the Tenant Approval Letter must be completed.

EXAMPLE

1. List of union contractors being used by tenant.
2. Contractor insurance certificates (See attached sample). It is tenants responsibility to check insurance with sample sent for accuracy. Please make sure that the certificate holder and additional insured's are listed exactly as they are in the sample. Also include the tenant name and suite #.
3. Permits if required
4. ACP-5 if required
5. Riser connection fee paid if required

ALL DOCUMENTS SENT TO

Assistant Director of Operations Joseph D. Clerici – (212) 736-3100 ext. 3317/ Fax (212) 967-6167,
jcleric@esbnyc.com

Assistant to Construction Manager – Charlene Merchant ext. 3322, cmerchant@esbnyc.com

Empire State Building Co., LLC, 350 Fifth Avenue, Suite 300, New York, NY 10118

APPROVED CONTRACTORS

List of approved contractors can be sent to tenant or picked up upon request at suite 300.

PERMIT APPLICATIONS

1. Send to Assistant Director of Operations Joseph D. Clerici for signature by General Manager.
2. Example of information on permits (See sample in appendix)
3. Example of indemnification letter for landmark expedited review and owner certification permit applications (see sample in appendix).

CONTRACTOR PASSES

Please provide a list of contractors' names; the list should include names of employees that will be working in the building. This should be submitted to the Construction Department, attention Charlene Merchant so that passes can be made.

You can then send your employees to pick up the passes at the Loading Dock of the Empire State Building.

There they must present to the guard an Official Government ID with picture in order to receive their issued pass. At this time the guard will take a photo of the employee to match his/her pass. If they do not have proper ID they will be turned away.

If weekend work is required the employees are to report to the Building Rep's office on the lower level to pick up passes.

Contractor passes will be issued when all requirements are met. Submit fax with suite #, tenant name, contractor's name, employee names, all passes will be sent to the loading dock. It is the tenant's responsibility to confirm with the Construction Dept. the receipt of fax.

Whenever a tenant hires any union contractor for any purpose to do work in their suite they must notify the Construction Dept. in writing listing contractor(s) that they are going to hire, brief description of work and provide their insurance certificate.

AFTER HOURS FREIGHT USE

If a tenant requires after hours freight services for construction work. They must first reserve an elevator with Auguste Ruthven at ext. 3356. When reservation is completed they must put the date in writing to the Construction Dept. listing the contractor(s) names, suite# and start and completion time. Tenants must confirm by phone that fax was received by the Construction Dept.

AFTER HOURS AND WEEKEND CONSTRUCTION WORK

If work has been approved either tenant or contractor can schedule after hours or weekend work in their suite with the Construction Dept. only. This request can be done by phone (no voicemail), fax, or email. If done by fax verbal confirmation that a fax was received is required, Construction Dept. will notify security in writing that work will be done in the tenant suite. Failure to adhere to this policy will force security to require the contractor to stop working and leave the building immediately.

DEMOLITION WORK

All demolition work and noisy work is to be performed between the hours of 5:00PM and 8:00AM. Demolition work requires the contractor to call the Watch Engineer at (212) 736-3100 ext.3261 or Building Reps. at (212) 736-3100 ext. 3357 to have the smoke detectors shut down on that floor. When work is completed the Building Management must be notified to turn smoke detectors back on.

INSTALLATION OF PHONE LINES, T1, FIBER, DSL, OR INTERNET CABLE TO SUITE

Notify Chris Blackman at Suite 300 - (212) 736-3100 ext. 3313/Fax (212) 643-1514

1. Tenant must submit on letterhead suite# description of work, electrical contractors name. Letter must also state that if any holes are made in the corridor ceilings or walls that tenant agrees to hire a union contractor to patch holes and paint area to restore to original condition. List of approved contractor will be faxed to tenant upon request.
2. Submit sketch of floor plan indicating wire run from starting point to termination in tenant suite.
3. Submit ACP-5 report for all work done above or in ceilings.
4. If the installation requires contractor to run wire through occupied suites the tenant requesting the installation must schedule this work in advance with Chris Blackman not the Tenants. Chris Blackman will meet with the Tenant to see where routed lines will be placed. If a tenant denies access during normal hours then tenant must schedule work for after hours. Chris Blackman will request a letter from the tenant specifying a date and time when the contractor can enter their suite to perform the work. The tenant who occupies the space must also state in the letter that they do not hold the Empire State Building responsible for any damage or theft nor do they require a security guard posted at the suite while the work is being done. If they require a security guard posted the Empire State Building will provide a guard and the tenant requesting the work must put it in writing that they will pay the Empire State Building for this service.

EMPIRE STATE BUILDING GENERAL CONDITIONS

1. GENERAL PLANS & SPECS SUBMITTED FOR APPROVAL

- (a) The General Conditions of the Contract of the American Institute of Architects, current edition, shall form a part of this specification, whether attached hereto or not, and the Contractor shall be governed by all the applicable provisions thereof, in performance of work and operations under this specification. All work herein required shall be done in strict accordance with all codes having jurisdiction and with the fire insurance underwriters' requirements.

2. TYPE OF BUILDING

The existing landmark building is principally used for office space and was erected in 1931. Its construction utilizes structural steel columns and beams, with a concrete floor arch and brick and metal exterior walls, which is of fireproof construction.

3. VERIFICATION

The Contractor will be held to have examined the premises including entrance and exit facilities for materials, elevator limitations, hours permitted by the building for the transportation of equipment, and satisfied himself as to conditions and work shown on the plans of the designer which would in any manner affect the work under this contract and its completion date, and no later claim for extra compensations for work which could have been foreseen by such examination or investigation, shall be recognized. The Contractor shall take all necessary measures for his work, at the site, and shall verify all dimensions given on the drawings of the work and the referenced drawings.

4. DAMAGE OF LOSS OF EQUIPMENT

Any loss of, damage to, any equipment or materials supplied by the Contractor or by the building for this installations shall be the sole responsibility of this Contractor, until such time as completed job has been approved and accepted by the Owner, and whether or not loss or damage should occur no claim may be made against the Owner, nor shall completion dates be effected by such loss or damage.

5. INSURANCE

- (a) Contractors, sub-contractors vendors, etc. Shall maintain such insurance as will protect himself and/or the Owner from direct, assumed and contingent liability for claims for damages, for personal injuries, including death, and for damage to property, which may arise from operations under this contract whether such operation be by himself or any sub-contractor or anyone directly or indirectly employed by either of them.

Certificate of such Insurance shall be filed in amounts stipulated with the Owner as follows:

Bodily Injury	\$3,000,000
Property Damage	\$3,000,000
Umbrella Coverage	\$5,000,000
All Exterior Work (i.e. Roofing, Antenna Replacement etc.)	\$10,000,000

Copies of Insurance shall be filed at the Empire State Building Co., L.L.C. office, room 3210

- (b) The Contractor shall maintain Workmen's Compensation Insurance file with the City of New York and the Owner certificates thereof.
- (c) The Contractor shall also require that each of his sub-contractors shall carry proper and adequate policies covering Workmen's Compensation and Public Liability as well as all liability assumed under the contractor covering the Contractor and the Owner and shall be submitted to the Empire State Building.
- (d) Original policies taken out in the name of the sub-contractor shall be delivered by the Contractor at the time the contract is signed.
- (e) Should any person or person or property be damaged, or injured including injuries causing or resulting in death, by the Contractor, or be any sub-contractor, or by any person or person employed under them in the course of the performance by them of this agreement or otherwise, resulting from any action or operation under this agreement, whether by negligence or otherwise, said Contractor shall alone be liable, responsible and answerable there for and does hereby agree to and with the said Owner to hold harmless and indemnify the Owner of and from all claims, suits, actions, costs, counsel fees, expenses, damages, judgments or decrees by reason thereof.
- (f) Additional Certificate Holders:

Empire State Building Company, L.L.C.
Empire State Building Associates, L.L.C.
Empire State Land Associates, Inc.
Empire State Land Associates, L.L.C.

It will be the responsibility of the contractor to ensure that an up to date insurance certificate is on file with the Empire State Building. Contractors, vendors, etc. will not be permitted to work without proper insurance certificate.

6. DELIVERY

Delivery of all materials to building must be made at the Loading Platform, 25 West 33rd Street, to basement via sidewalk elevators, then hauled through corridor to four freight elevators serving the building.

All material must be delivered directly to space under alterations. No storage or staging of materials is allowed in public corridors or elevator lobbies; storage is not available in building for materials, scaffolding or construction equipment.

Arrange the handling of material into and out of the building so as not to cause any interruption of the building's normal functions. All of the above shall be carefully checked to determine management schedules.

To schedule delivery of materials and use of freight elevators, contact Mr. Auguste Ruthven in Room 300 telephone number 212-736-3100 ext. 3356. Use of elevators after regular hours will be charged at prevailing rates. Rates will also be provided should elevator mechanics are needed for any delivery.

7. PERMITS AND CERTIFICATES OF APPROVAL

The contractor shall obtain and pay for all permits necessary for the installation of the work and for all certificates of inspection and approval required by the authorities having jurisdiction. No work is to proceed without a Building Department Permit including Landmark approvals and electrical and plumbing permits (copies of which must be given to this office). Appropriate ACP-5 or ACP-7 must also be filed.

8. CLEANING

- (a) Construction premises are to be kept clean so as to present a safe working environment. Public corridors must be kept clean at all times of any construction, material, debris and dust. All masonry rubble is to be removed immediately upon completion of demolition. General Contractor is to protect existing air conditioning supply and return grilles to prevent dust and debris from entering building air conditioning system. Floor mats are to be placed by contractor inside the space by the entrance door. Floor mats are to be changed on a regular basis by contractor.
- (b) all exits, ways of approach, and ways of travel in the street shall continuously be maintained free from all obstructions in case of fire or any other emergencies.

If contractors do not maintain clean hallways, Empire State Building will provide the necessary labor and material to perform this work on their behalf. Charges will be applied to the contractor or tenant at prevailing wages.

9. CONSTRUCTION

- (a) All contractors must obtain approval from the Landlord before any work can proceed. It is recommended that all bidders also check with the appropriate Department Heads (i.e. Chief Engineer, Chief Electrician, Construction Manager) for various building rules, standards, etc., prior to submitting bids. A list of all sub-contractors must be submitted for approval to the Landlord prior to the commencement of work.
- (b) All contractors shall employ men representing the appropriate trade union for the work involved consistent with rules and regulations of the New York City central Labor Council.
- (c) All work must comply with building standard rules and regulations and current Building Fire Codes. All plans for such work shall be presented to the Landlord for approval, prior to the start of any work.
- (d) Upon completion of electrical work, Contractor shall obtain certificates of approval from Fire Underwriters and Department W.S.G.E. and file copy of same with Empire State Building Company, Room 300.

- (e) All cutting of walls and ceilings, demolition or any other noisy work must be done other than regular working hours. This work must be scheduled with the building office prior to commencement of work. No work of any kind is to be performed after normal business hours, including weekends and holidays, without the written permission of the Owner.
- (f) All work to be performed for tenants must be authorized by tenant in writing, regardless of the presence of an architect and/or general contractor, prior to the start of the work. Two (2) complete sets of plans and specifications shall be submitted to the Landlord for review and approval prior to Building Department filing. The approval takes approximately ten (10) to fifteen (15) working days depending on the size of the project.

Empire State Building approval under no circumstances replaces NYC Building Department, NYC Fire Department, NYC Electrical Department, or any other Federal, State, or City Agency. All permits must be submitted to Empire State Building Management Office prior to commencement of project.

All work in any of the Observatory areas or area used by tourists, such as Visitors' Center located on the 2nd Floor, G-Bank Elevators, 80th Floor, 86th Floor, Tower Car 1 & 2, 102nd Floor, etc. are to be performed on overtime (2:00 a.m. – 7:00 a.m.) basis as not to disturb any of the tourists. All elevators must be protected by the use of masonite and/or plywood on the floors and walls of cars.

10. GENERAL

- (a) All construction materials are to be brought to the job in proper containers and must be stored in the tenant's work area. No materials are to be stored in public areas, i.e., freight lobbies, loading platforms, public corridors, other vacancies, etc.
- (b) All dollies, hand trucks, jacks, etc. shall be in good condition; iron wheels are not permitted in the building. Overflow or leakage from containers will not be tolerated.
- (c) All carpeted areas that will be affected by the moving of equipment or containers should be protected so as not to damage the carpet.
- (d) Contractors shall maintain a complete set of current contract documents at the job site during all phases of construction and must submit a complete and up to date set of drawings to the building construction department.
- (e) All fire exits shall be kept clear and accessible at all times. Any type of debris will not be permitted.
- (f) Fire extinguishers must be on the job during construction.

City permits, fire watch (by persons carrying Form 820-Certificate of Qualification and Fitness) and protective blankets are required for all burning and welding. Written approval from Empire State Building Construction Department is required prior to any burning or welding.

Contractors must request an Empire State Building Engineer to be present in the vicinity of the welding area on an overtime basis. A minimum of four (4) hours will be charged to the contractor for this service.

- (g) Workmen will be assigned to the concourse level restrooms.
- (h) Whether it was missing or damaged before construction all missing fireproofing on steel must be replaced. Contact the Empire State Building Construction Department for inspection and approval before installing ceilings. Contractors may perform a detailed field inspection prior to bid submission.
- (i) Prior to removing and building standard materials (i.e. doors, bucks, hardware, metal partitions and lighting fixtures), a proper release must be secured from the building manager. Please check with the Construction Department and Security Department.
- (j) No unused ductwork, conduit, piping or any other material may be abandoned in hung ceiling, but must be removed from same.
- (k) All work that might inconvenience or disturb other tenants should be performed before normal business hours. No demolition, drilling, or high intensity noise work will be allowed between 8:00 a.m. and 5:00 p.m. Monday through Friday. The landlord reserves the right to stop work at any time.
- (l) No intercoms, television cameras (CCTV), etc. in public corridors are permitted. Depending on the type and appearance of the intercom system, prior written approval from the landlord will be required.
- (m) New windows are not to be painted under any circumstances. Painting up to but not including the metal finishing molding is permitted. Tenant will be responsible for the labor and material required to restore window to original condition.
- (n) Do not paint the windows. They are landmark status. It will be the tenant's responsibility to remove any paint on the windows, at their cost.
- (o) The tenant is advised to direct his contractor to reinstall or repair existing smoke detectors and public address systems should they be disturbed in the course of construction, in accordance with legal requirements and building standards.
- (p) In the event a window needs to be converted to a fresh air intake, the modification to the fresh air intake windows are to be done to manufacturer's specifications—color is to match the new building standard windows. **Pantone # PPGUC43355**. Landmark approval is required for this work.
- (q) In addition, Bottom Sash Balancers will be relocated to just below the duct so that the fasteners can be accessed and the bottom sash can open for cleaning.
- (r) Shop drawings from the manufactures are available in the building office and must be returned.

Tenant Room Numbers - Multi-Tenanted Floors

Only the Empire State Building Director of Leasing assigns room numbers to tenants.

All decorative wood flooring must meet the requirements of the New York City Building Code.

All raised floors must have B.S.A. or K.E.A. approval and copy of same sent to Empire State Building Construction Department.

PROTECTION BY TENANT CONTRACTOR

All radiator enclosures, induction units, and openings in return air ducts—as well as openings into public areas—shall be protected against dust. All radiator enclosures shall be vacuumed and cleaned after construction.

Shoe wiping mats will be installed within the tenant's premises at all openings between construction and public areas and kept clean.

All walls, floors, mail chutes and stair doors, or any other part of the building premises subject to construction traffic, shall be properly protected. Any damage due to construction will be the responsibility of the Contractor.

This contractor is responsible to protect the corridor floor with masonite and plastic taped down over the masonite, and the corridor walls are to be protected with corrugated cardboard from the entrance of the suite to the freight elevators. This protection will remain in place from the start until the final completion of the project. Walk off mats are required at each entrance to the suite.

TENANT

Will contact Tenant Services or the Freight Supervisor at (Tele. 736-3100) for the use of freight elevators. There will be a charge to the tenant for this service after normal business hours, weekends, and holidays. An additional charge to tenants will be applied should elevator mechanics be required. Payment at prevailing wages is required prior to proceeding with work.

Will be charged for special cleaning services throughout any areas affected by the tenant's construction work.

Tenant must submit for approval to Construction Department for door signage.

Where necessary, as directed, all electric power must be disconnected before starting demolition. Temporary lighting must be installed by a building approved, licensed electrical contractor. All fire alarm cables and devices must be protected. In certain cases fire department cables and devices must be temporarily removed and pulled back for protection during demolition, then re-installed. This work must be authorized by Empire State Building Construction Department and paid for by the tenants. A licensed electrician must perform this work in coordination with the building fire alarm vendor (Firecom 718-899-6100) and Empire State Building Fire Safety Director.

All construction debris and excess material must be removed from the job and carted away from the building. Contact the Building Construction Manager or Tenant Services regarding removal of hardware.

Materials, tools, and equipment shall not be stored on windowsills or radiator enclosures. All removed thermostats and affiliated controls must be returned to Landlord.

CONSTRUCTION CLEAN UP

The individual contractors and trades are responsible for cleaning up after themselves, which includes removal of debris from the work area, floor, and loading areas. Carpeting contractors are NOT excluded from this requirement. All contractors including carpet contractors must provide their own container for clean up.

All base building equipment in the project areas shall be cleaned (mail chutes, fire alarms, converted enclosures, etc.) and all contractor work (walls, doors, bucks, and hardware, etc.) shall also be cleaned by the contractor prior to leaving the job site.

SUPERVISION

The General Contractor shall have a competent superintendent on the premises at all times when work is in progress.

The job shall be kept clean and orderly.

The General Contractor shall be responsible for maintaining cleanliness of the work area and the areas involved in the delivery of his materials.

The General Contractor shall protect peripheral air-conditioning units, windows, and other remaining equipment, or installations, and shall clean them to the satisfaction of the Building Manager at the completion of the job.

All windows shall be closed each day before leaving the work area. Tenant/contractor will be charged a fee to close windows and be responsible for any damage caused by windows left open. Windows are not to be removed from their frames for any reason. Windows are not to be forced open. Contractors **are not permitted to pry** windows open with any tool or object. Contractors are to report any problem they experience during window operation to the Empire State Building Tenant Services Department and Construction Manager.

Construction personnel must carry proper identification at all times. Contractor passes can be obtained from the Building Construction Department located in Suite 300.

DEMOLITION

Notify Empire State Building Construction Department at least 48 hours before demolition is to start.

The tenant must notify the Construction Department at **Telephone Number: 212-736-3100**

The floors must remain in a state of safe conditions with regard to fire safety for personnel working on the floors. All fire stairs, alarms, speakers, etc., must remain accessible and operable at all times, and without any debris.

Venetian blinds are to be removed before demolition.

Induction unit enclosures and return air stubs are to be covered before demolition and vacuumed clean after construction. All entrance doors to the space are to be sealed and taped.

Existing plumbing fixtures such as drinking fountains, sprinklers, sinks, etc. must be removed and water supply shut off to prevent flooding in case of damage during demolition. Plumbing Contractor must precede demolition.

Where demolition is to take place in the areas of the building with fire safety equipment such as alarms, speakers, smoke detectors, floor warden station, etc., prior to the start of demolition the Electrical Contractor shall protect the fire alarm system so it will remain operational. It may be necessary for contractors to remove all devices and pull all wiring prior to demolition. All devices and wiring must be re-installed and all work must be filed and approved by the Fire Department and Empire State Building. Work is to be paid for and coordinated by the contractor with the building fire alarm company.

Public areas such as elevator lobbies, public halls, and service halls shall be protected at all times during construction.

All Building Standard doors scheduled for removal (if requested by the building) must be returned to the Empire State Building Carpenter/Locksmith Department with all hardware intact, including jamb mounted strike plates, complete hinges, door checks with arms, and locks. This also includes bathroom stall hardware and fixtures.

All Asbestos Containing Material doors are to be properly identified and removed in accordance with Local Law 76 at contractor's cost.

Contractor shall come back as required for removal of ductwork and electrical conduit.

It is the responsibility of the tenant's approved asbestos investigator to identify all asbestos containing material that may be disturbed by their construction work and to report findings, in writing, to the Empire State Building Construction Department.

Any telephone panel access doors, alcuit filter doors, or any other access doors must be left in place or returned to the appropriate department.

DOORS, HARDWARE, SIGNAGE

Doors and bucks shall be properly fire rated (B Rating) with Board of Standards and Appeals labels and shall match existing doors and bucks in appearance and quality. Frames (bucks) shall be welded type, 16 gauge. Doors shall be welded or folded edge type, 18 gauge. All wood entrance doors must be B Rated.

Use of knock-down door frames is not permitted for entrance ways. Prior approval of the Landlord is to be obtained for interior installation.

All materials must comply with NYC Building Code and Fire Code.

Signage

Please contact Joseph Fleischer from New Style Signs at 212-242-7848 for a price quote. The base cost for the stainless steel 12"x 12" tenant entrance door sign is \$196.62 which will include standard border engraving, suite number and 1 line for company name. Additional lines will cost \$10.00. The cost for the sign does not include sales tax, shipping costs or installation. The tenant entrance door signs can only be purchased from New Style Signs.

Checks and Hardware (Door Knobs, Locks and Keys) Installation

All public corridor entrance door hardware is to be building standard Corbin heavy-duty Mortise lockset 2000 series on all public corridor doors on multi-tenanted floors.

All tenants having double wood or double 2" x 1/8" metal flush metal entrance doors in public corridors must have astricals. All hardware-must accommodate 6 pin Corbin jumbo Cylinders. Key card locks may be placed on doors only if the door may be independently operated with building standards keyways. Restoration of the entry way is to be a tenant expense. A letter of agreement is to be drawn up for Landlord's damaged doors, walls, etc.

Building Standard Hardware.

NOTE: (1)-3'x7' x 1-3/4" Pre-Finish Solid Core Wood Walnut Veneer Fire-Rated 90 minutes "B" labeled doors and (1)2'x7'x1 3/4" in-active leaf. Under cut of door to be no more than 3/8" above finished saddle. Saddle to be 1/2" thick and 1-3'x7'x1 3/4 entrance door same spec as double entry door. **NEW PRE-FINISHED ENTRY WOOD DOOR MUST BE FABRICATED BY: DOOR STOP AT 718-599-5112.** Entry wood doors to have hardware cutouts from factory/shop for mail slot, hardware etc. w/8"H internal solid top rail for surface door closer installation. Finish wood doors to match control sample. Finish wood door edge to have same wood veneer finish.

The following entry door(s) hardware shall be furnished and installed by the general contractor:

- A. "LCN" 4040 series heavy duty door closer, pull side non-hold open with metal cover w/stainless steel finish, US26D. Must include back plate and thru- bolts.
- B. "STANLEY" FBB168 Series 4-1/2" x 4-1/2" full bearing Mortis 3 Knuckles hinges.
- C. "CORBIN RUSSWIN" ML2000 Series Mortise Lockset, Item No. ML2051-MR. Lever handle: Citation, Escutcheon Plate: CSM, Cylinder 6-Pin Jumbo Master Cylinder w/ Cylinder Collar. Keyway: Corbin Russwin, 57B-2 from 85th to 41st floors. Corbin Russwin, 57A-1 from 40th to lobby floors.
- D. "IVES" Mail Slot #620 Spring Loaded front plate open back plate with #601 sleeve.

- E. "IVES" #FS17 floor mounted dome doorstep.
- F. "IVES" #RS64 Grey rubber door silencers.
- G. "PEMKO" #171B Stainless Steel Door Saddle.
- H. "IVES" #FB457UL US26D Top/Bottom Manual Flush Bolts. (For in-active Leaf.)
- I. 1/8" thk. Full HT. Wood laminated metal door astragal. (For in-active leaf.)
- J. "CORBIN" Mortise Lockset strike plate.
- K. "Door Button & Chime-'Nutone' wired chime kit w/one lighted button. Model CD 115WHBULK. Color: White. Mount chime kit 3" below finished ceiling. Install recessed lighted button at handle side of door. Provide round chrome lighted doorbell button 48" A.F. F.

NOTE: All door hardware finishes including door closer, mail slot & saddle are to be stainless steel, US26D. Submit door & hardware schedule & specifications (cut sheets) for review & approval prior to ordering.

Electric strikes must be Trine Number 8005.

In all cases of new tenants or existing tenants taking additional space, Empire State Building Operations Department will furnish cylinders for Building Operations Standard locks only, keying schedules and keys as authorized by Empire State Building Operations Department as requested by tenant.

All magnetic entrance door locks must be tied into class 'E' fire alarm system.

Recovering Building Equipment, Hardware, Doors and Door Checks

All Building Standard door checks, hardware, lock strikes, and bearing hinges must be carefully removed and returned to the Empire State Building Carpenter and/or Locksmith Shops when construction work begins if the hardware is not to be reused.

METAL DOORS AND FRAMES TN MASONRY OR GYPSUM WALLBOARD PARTITIONS

Hollow metal doors to be full flush design, 18 gauge minimum, properly reinforced for Building Standard finish hardware. Metal frames to be 18 gauge flush design, with 1 3/4" trim and 1/2" back bends of welded design for masonry partitions, of K.D. design for Gypsum wallboard partitions. Frames for use in masonry partitions to have three (3) loose tees per jamb. Frames for use in Gypsum wallboard partitions to have securing straps at base, interlocking joints at head, and jambs and tightening screws. All frames to have throats that are tightly compatible with wall construction of enclosing walls and place frames prior to construction of enclosing walls and ceiling. Set frames accurately into position, plumbed, aligned and braced securely until permanent anchors are set.

After wall construction is completed, remove temporary braces and spreaders, leaving surfaces smooth and undamaged. At in-place construction, set frames and secure to adjacent construction with suitable anchorage devices.

INSTALLATION OF NEW MASONRY WALL

Furnish and install masonry demising wall where indicated. Construction of wall to *be as follows*:

- Courses to be lightweight hollow load bearing cinder masonry units having a nominal face dimension of 18" high by required depth. Overall thickness of block to be determined by New York City Code or as specified.
- Mortar to be Type "M", hi-strength mix (1 bag portland cement, 1 bag masonry cement, and not more than 6 cu. ft. sand by volume). Use only sufficient water to produce a mortar which is spreadable and of a workable consistency. Discard and do not use mortar which is unused after 1 1/2 hours following initial mixing.
- Lay only dry masonry units. Set units plumb, true to line, and with level courses accurately spaced. Provide a running bond with vertical joints located at center of masonry units in the alternate course below. Where walls abut columns, corrugated metal ties are to be fastened to column in a secure manner. Existing finished plaster of both columns and underside of slab above to be scarified to provide proper bond of new mortar adjoining surface. Wall to be fasten to slab or beam every 2'-0" along the length of the run.
- Apply brown coat to block. Bring out to grounds, straightened to a true surface, and leave sufficiently rough to assure adequate bond of finish coat. Do not finish coat until brown coat is dry.
- Apply finish plaster true and even, leaving the finished surface free from tool marks and other blemishes. In addition to other protection, protect adjacent surfaces from the accidental application of plaster. In addition to other requirements for cleaning, immediately upon completion of this portion of the work visually inspect adjacent surfaces and remove all traces of spilled and splashed plaster.
- All mechanical and electrical services such as pipes, etc. must be sleeved. The space between the pipe and the sleeve in a fire rated wall, or floor, must be fire stopped using an approved UL material that complies with NYC Building Code and Fire Code. All ductwork penetrating a fire rated wall or floor must have a new fusible link fire damper installed by the contractor.
- If ductwork is passing through a corridor wall, a new fire and smoke damper must be installed by this contractor and connected to the building's fire alarm system.

INSTALLATION OF NEW DRYWALL DEMISING WALL

Furnish and install Gypsum wallboard demising wall where indicated. Construction of wall to be as follows:

- Metal studs to be standard punched steel either hot-dipped galvanized or factory pre-painted. Width of studs to be appropriate with overall wall height and shall be on 16" centers. Gypsum wallboard to be Type III, 5/8" thick, 2 layers each side with all joints staggered. Wallboard to be fastened to studs with screws spaced not more than 12" O.C.
- Demised walls are to be completely sealed around their perimeter and any penetrations.
- Joint treatment to be applied in a thin uniform layer. Spread compound not less than 3" at joints, center the reinforcing tape in joint, and embed tape in the compound. After this treatment has dried, apply a second coat of compound to joints - spreading in a thin uniform coat to not less than 6" wide at joints and feather edges. Sandpaper between coats as required. Apply a final coat of finishing compound of joints and feather out to 12" width. When thoroughly dry, sandpaper to obtain a uniformly smooth surface taking care not to scuff the paper surface of the wallboard.
- All mechanical and electrical services such as pipes, etc. must be sleeved. The space between the pipe and the sleeve in a fire rated wall or floor must be fire stopped by using an approved UL material that complies with NYC Building Code and Fire Code. All ductwork penetrating a fire rated wall or floor must have a new fire and smoke damper installed by the contractor.
- Some smoke dampers may have to be connected to the building fire alarm system. This will be the responsibility of the tenant or contractor.

DRYWALL

1. Stud size shall be 3 5/8". Stud spacing shall be 24" centers normally but may vary depending on certain conditions. 12' high plus at 16" centers.
2. Studs shall run from floor to slab above or secured to black iron of hung ceilings (only at A/C units). Double studs are required at both jambs of door frames. Do not fasten studs to ceiling grid work.
3. A header runner is required at top of door frames.
4. Studs at door jambs and on tops of door frames must be screwed to runners at tops and bottoms, both sides.
5. Wallboard shall be 5/8" in thickness and 4'0" wide by lengths required to form, a wall area without horizontal joints. Long edges shall be tapered on the face side.
6. Wallboard shall extend above finished ceilings be a minimum of 6" if it does not extend to the slab above.
7. Two diagonal braces to slab above are required at door openings and on long runs of straight partitions; every 12' if wall does not go to slab.
8. Wallboard joints shall be staggered above door openings, i.e. joints cannot be opposite each other on the same stud at the door head.
9. Wallboard at door jambs shall be screwed to each stud of the double stud arrangement with screws on 8" centers on each stud.

10. Compartmentation shall be accomplished in accordance with focal Law #5 of 1973 or as revised there after.
11. Corner beads shall be installed before ceiling wall molding is installed.
12. Include accommodation in drywall work for all electrical work, fixtures, and similar items furnished and installed by others. The necessary cutting, fitting and back-up reinforcing for these items shall be part of the work of this contractor and shall be performed as hereinafter specified where required. Cut-out openings, required for electric, switches, outlet boxes, etc. shall be made with cutting tools especially designed for the purpose. Openings shall be made in exact shapes and sized required. Pre-cut drywall tape templates for switch and outlet boxes shall be utilized. Also include cut-outs above ceilings for ducts, dampers and return air as required.
13. Also include patching at switch and outlet plates.
14. Drywall studs shall be channel type and shall be fabricated of roll formed 25 gauge galvanized steel designed for screw attachment of wallboards. A minimum of two (2) holes shall be punched in the end of each stud extending to the floor, one located approximately 12" from each stud end to facilitate the installation of electric wiring. Vertical studs shall be in lengths required to extend between floors and concrete fireproof beams and/or arches above in one piece. Studs shall be equal t DWS channel members as manufactured by U.S. Gypsum or screw studs as manufactures by National Gypsum. Partitions shall not be fastened or braced to ductwork.
15. Wallboards shall be fastened in place at intervals of 12" throughout the field of the board at 8" intervals staggered along vertical abutting edges. Fasten wallboard to floor with a screw located midway between vertical studs. Screws shall not be driven through wallboard into portion of each stud flange located directly behind a runner flange.
16. All ends and edges of wallboards shall be supported on framing members.
17. On all rated partitions, joints and all openings 1/4" or less above hung ceilings are to be taped and spackled as required by New York City Building Code. Openings of 1/4" or more will require a "duxseal" compound to close the hole.
18. No partition should block access to any windows, radiator enclosures, or access doors (phone, plumbing, steam, or A/C). If it is absolutely necessary for a partition to be constructed in front of a window or radiator enclosure a finished opening must be constructed to maintain access to the window and/or radiator enclosure. As follows per floor:

81st floor & up	5'-2"
6th to 80th floor	4'-11"
5th floor	5'-2"
4th floor	5'-2"
3rd floor	5'-8"

Measurements are from the inside face of the bottom window sash frame

19. Window pockets are to be installed for all new and existing ceilings.

NOTE: The tenant is advised to direct his contractor to reinstall or repair existing smoke detectors and public address systems should they be disturbed in the course of construction, in accordance with legal requirements and building standards.

FINISHED OPENINGS IN MASONRY PARTITIONS

Archways or trimmed openings in masonry partitions to have a steel lintel installed at head. Size to be as follows:

4'- 0" Wide or Less	3 ½"x3 ½" x 5/16" Angle
5'- 0" Wide or Less	3 ½"x3 ½" x 5/16" Angle
6'- 0" Wide or Less	4"x3 ½" x 5/16" Angle

CUTTING OPENINGS INTO EXISTING MASONRY PARTITIONS

Performing cutting and demolition by methods which will prevent damage to other portions of the work and provide proper surfaces to receive installation of repair and/or new work.

Perform fitting and adjusting of products (i.e. frames etc.) to provide finished installation consistent with surrounding walls.

HUNG CEILINGS

1. General

All applicable items as set forth in "General Conditions" to be included as part of this specification.

2. Hangers

All hangers to be hung from reinforcing mesh in slab above. Hangers are not to be hung from any mechanical equipment. All drilling for hangers shall be done before 8a.m. or after 6 p.m.. Shooting of fasteners into arch shall not be permitted. Hangers shall be a minimum of 1" x 1/8" flat black iron or 1/4" galvanized rod, hung on maximum of 4' - 0" centers.

3. Carriers

Carriers shall be fastened to hangers by either approved "nut and bolt" method or "caddy fastener" (as manufactured by Erico Products, Inc.). Carrier shall be a minimum of 1 1/2" C.R. steel channels, .475 pounds/Ft., either black iron or galvanized finish, hung on maximum of 4' - 0" centers.

4. Exposed Ceiling Bars

Exposed ceiling bars shall be 1-9/16" "Zee" .024 GA. with a baked white enamel finish, as manufactured by National Rolling Mills or equal. Where bars butt, they shall be joined together with splice plates. Bars to be fastened to carrier with approved clips or Armstrong exposed tee system. ML series in white #7502-Main Beam.

#7302-Main Beam
15/16"#7323-2'Tee
15/16"#7341-4'Tee

#7502-Main Beam
9/16" #7520-2' Tee
9/16" #7540-4' Tee
9/16" Fine Line White Grid

5. Wall Moldings

Wall moldings for accessible type ceilings shall be 1" x 1" angle moldings, baked white finish, .020 gauge or Armstrong to match grid or 2" box molding in white.

6. Ceiling Tiles

(a) The following are the Building Standard Ceiling tiles. If the tenant chooses anything other than the Building Standard tiles or ceiling grid, the tenant assumes the responsibility to supply the replacements as needed regardless of the cause of damage.

Celotex: #MT454-2x2'
Armstrong: #564, #589-2'x2', #536A-2'x2', #763D-2'x4', #755B-2'x4', #770-2'x2'
U.S.G.: #707-2'x2'

(b) All shaftway access doors must be 2HR fire rated. Locations are to be review by the engineering department for the final approval.

(c) Include accommodation in ceiling pattern for light fixtures, diffusers, registers, grilles, access doors, etc. wherever mineral acoustic tile ceilings are installed.

(d) Hung ceilings cannot finish against a window or window sash pocket. They must end at the window opening, and the plenum must be closed with a sheetrock fascia.

NOTE: The tenant is advised to direct his contractor to reinstall existing smoke detectors and public address systems should they be disturbed in the course of construction, in accordance with legal requirements and building standards.

WOODWORK

All materials and installation shall conform to the current Building Codes including Directive #20 of 1971.

Contractor shall submit for Landlord's review shop drawings showing proposed supports for cabinets, panels, shelves, heavy sliding doors, etc. Shop drawings must show grounds required to slab above and means of fastening of these grounds and to these grounds for supported cabinet work.

If deemed necessary, grounds will be reviewed by the structural engineer for excessive loads at tenant's expense.

All wood to be fireproof and meet the requirements of New York City Building Code. Copy of fireproof certificates must be submitted to Landlord for their records.

All woodwork, trim work, built ins, desks, credenzas, or any other woodwork or furniture shall be installed in such a manner as not to block access to or be attached to any windows, sash pockets, or radiator enclosures, phone, plumbing, or steam access doors. These items must be easily removable by the tenant.

SOLAR SHADES AND DRAPES

Shades must be building standard as follows:

- Perimeter window solar shade (for all windows, U.O.N.)
- Manufacturer: DFB (Drapery for Business), SOL-R-Control
- Style: Series 2100 – 10%, Openness with valance
- Color: White (building standard)
- Operation: Manual
- Contact: Judy Szak (718) 729-8310

Drapery and curtain rods shall be installed in the window pocket or attached to grounds fastened to the ceiling purloins. They shall not be supported by the ceiling splines.

Drapes and curtains shall not interfere with the operation of the air-conditioning system or radiator enclosures, and then installation of same must not damage window trim.

FLOORING

Existing flooring shall be removed unless it is being utilized and the concrete slab flash patched prior to the installation of new floor covering.

Carpet padding is not permitted.

EMPIRE STATE BUILDING
STANDARD ELECTRICAL SPECIFICATIONS

1. **ELECTRICAL PERMIT:** Prior to start of work a permit to perform electrical work shall be filed with the City of New York Department of Buildings and an office copy of permit shall be submitted to Empire State Building Chief Electrician. When the B.E.C. sends permit number to contractor the permit shall promptly be displayed on job and forwarded to Empire State Building Chief Electrician and Construction Manager.

Electrical contractor to contact Empire State Building Chief Electrician before starting any work to receive the Landlord's requirement for installation.

2. **EXISTING H R CONDUITS:** All existing home run conductors shall be pulled out and conduits to be routed and pulled clean with a mandrill for reuse. Special attention to voltage drop in lengthy branch circuit runs shall be given. All conductors shall be suitable sized to be within voltage drop guides and conductor de rating charts as per NYC Department of Buildings Electrical Code. All unused home run conductors that cannot be pulled out in space shall be disconnected from panel board branch circuit connections, taped and tagged as to their location in the space and shaped neatly in the gutter space of the panel and made safe. ALL conduits in electric closets and ALL new home run conduits to tenant space shall be in Electrical Metallic Tubing (EMT).
3. **TAGGING AND MARKING:** All wires are to be tagged with circuit numbers to at least *the first home run junction box in the space*. **Neutral conductors** shall be tagged with corresponding circuit numbers in distribution panels and first home run box in space.
4. **PANEL DIRECTORY:** Panel board branch circuits shall be labeled as to space, room number, and purpose—"Space 503, Circuit #5, Lighting Outer Office"—by electrical contractor. This work will be done to the satisfaction of the Landlord.
5. **DISTRIBUTION PANELS/BREAKERS:** All panels, wire cable, bus, lugs or other type of wire fittings are to be copper only, no substitutions (and must be N.Y.C. Electrical Code approved). Distribution panels must be hinged cover in cover type with bolt in breakers. Distribution panes must be hinged cover in cover.
6. **PANEL LOCATIONS** All distribution panels must be in existing Building Electrical Closets and any alteration to distribution panels must be approved by Landlord and done at the contractor's expense. All existing loads must be maintained and reconnected. All shut downs must be requested in writing TEN working days prior to work. Any in-house electrical labor required for the shut down will be charged to the contractor.
7. **DEVICES:** All receptacles shall be Hubbel 5262(3) wire grounded and 2152 Style Line or Leviton Equal. All devices to be a special "Specification Grade".
8. **OLD WIRING:** Any non-used outlets shall be abandoned, existing wires pulled out, and continuation of circuitry if needed to maintain other spaces shall be in scope of work.
9. **DEMOLITION/FIRE ALARM PROCEDURE:** Where demolition is to take place in the area of the building fire safety equipment such as alarms, speakers, smoke detectors, floor warden stations, etc., the building engineering department must be notified five (5) working days prior to start of demolition so that equipment may be protected or removed (by contractor if necessary).

10. **SAW CUT/CHOPPING:** No outlets or switches shall be chopped into any core walls (shafts, stairs, elevators, etc.) or under surface raceways, including but not limited to wiremold, conduit, etc., and they must be approved prior to installation. This chopping must be saw cut during off hours. All floor outlets and power and telephone conduits to have the first 2" saw cut then to be chopped into the deck will be a minimum of ¾" Rigid Steel conduit. Before cutting slab, contact Empire State Building Construction and Electrical Departments for approval. Floor Duct must be approved by Empire State Building. Poke through between floors for wiring method is restricted and must be approved by Empire State Building. Surface of floor shall be saw cut in all cases. All noisy chopping work must be done on overtime basis.
11. **SITE VISITS:** All contractors must survey all areas especially the existing building electrical closets to determine the exact scope of work prior to bid submission. It will be the contractor's responsibility to balance and refurbish affected electrical panels to the Landlord's standards.
12. **WELDING CONNECTION/FIRE ALARM PROCEDURE:** If electric welding is performed, electrical contractor with building electricians (as standbys) shall connect to the building electric panel a fused disconnect switch, and cable shall be furnished by contractors. Torch welding and cutting may require fire watch.
13. **MAINTAINING OTHER CIRCUITRY:** All circuitry running through space feeding other spaces must be maintained and reconnected as needed.
14. **CONDUIT METHOD:** EMT shall be used in accessible suspended ceilings and shall be run from room to room with a minimum of one junction box in suspended ceiling in each room. From the ceiling junction box or boxes a *minimum amount* of BX or flexible metallic conduit may be run in the ceiling into hollow sheetrock walls or steel partitions.
15. **OTHER CIRCUITRY:** All circuitry in a demised premises shall be exclusive for that premises and not tied into circuitry of an adjoining space or public corridor prior to start of work.
16. **FIELD AND BUILDING CONDITIONS:** The contractor will be held to have examined the premises, including entrance and exit facilities for materials, elevator limitations, and hours permitted by the building for the transportation or equipment, and satisfied himself as to conditions and work shown on the plans of the designer which would in any manner affect the work under this contract and it's completion date; and no later claim for extra compensation for work which could have been foreseen by such examination or investigation, shall be recognized. The contractor shall take all necessary measurements for his work at the site and shall verify all dimensions given on the drawings of the work and the reference drawing.
17. **DEBRIS REMOVAL:** Electrical contractor shall be responsible for the removal of all debris, unused or discarded electrical equipment, and the overall cleanliness of the electrical closet and work area.
18. **OTHER CONDITIONS:** All items not covered in this specification shall be addressed in the Empire State Building General Conditions Specifications.
19. **CODE COMPLIANCE:** All electrical work shall be governed by all codes having jurisdiction in the City of New York. It will be the responsibility of the electrical contractor to ensure that all work complies with NYC Building Code, NYC Fire Code, NYC Electrical Code, National Electrical Code, LL16, LL%, ADA and all other Federal, State, and City agencies and all other local agencies.
20. **RESTRICTIONS:** No tenant intercoms, television cameras, etc. in public corridors are permitted.

21. **RESTRICTIONS:** The use of T-Staircase airshaft or any other staircase for cable or conduit runs is not permitted.
22. **REQUIREMENTS:** Electrical contractor is to contact Building Office before starting any work to receive the Landlord's requirement for installation.
23. **BUILDING CHIEF ELECTRICIAN AND ASSISTANT** Contact Chief Electrician or Foreman **AT THE START OF PROJECT** and schedule regular intervals of inspection of open work by our staff and after completion of job to inspect electrical closet for proper identification of circuits, meters, reinstallation of panel covers, and overall electrical installation.
24. **AS BUILTS:** One auto-CAD disk and two copies of an as-built marked-up drawing showing conduit runs and circuiting must be given to the Construction and Electrical Department at the completion of job.
25. **FIRE STOPPING:** All penetration through fire rated surfaces (walls, floors, etc.) must be fire stopped in accordance with New York City Building Code and Fire Code. Fire Stopping of all electrical services is the responsibility of the electrical contractor and must be DL approved.
26. **WIRE SPECIFICATION:** All fire alarm, signal and computer wiring is to be plenum rated.
27. **DAMAGE TO EXISTING EQUIP:** The tenant is advised to direct his contractor to reinstall or repair existing smoke detectors and public address systems, should they be disturbed in the course construction, in accordance with all legal requirements and building standards.
28. **TEMPORARY LIGHT & POWER:** When temporary light and power is required, the electrical contractor must file separately for temporary light and power. The following wording must be included on the same temporary light and power application: "Disconnect and remove existing electrical wiring and equipment". After completion of work all temporary light wiring and streamers shall be disconnected and removed.
29. **PREMIUM TIME FOR THIS BY EC** at no additional cost to ESB, unless otherwise predetermined by ESB.
30. **SUBMITTALS:** One line diagram of all distribution panels and panel schedules must be submitted prior to start of work. Connected load and number of circuits must be noted. A schematic wiring diagram shall be submitted to Chief Electrician for approval, showing number of circuits, number of fixtures, and receptacles per circuit designations. Approximately 8 outlets per circuit to be wired to insure adequate circuitry and avoid lightly loaded circuits.
31. **EMERGENCY LIGHTING:** All battery emergency light fixtures and fixtures with battery back up ballasts including exit signs to be wired as follows. Emergency lights to be connected to only separate emergency circuits with no normal lighting fixtures connected with them. This is to simplify mandatory testing of emergency lighting. Circuits to be marked as such in panels.
32. **EXIT FIXTURES:** Exit signs are to be 120 volt LED signs manufactured by Copper Lighting/Atlite: **Marathon Series LED Edge light with 8" red letters, white trim and white background.**
33. **PHASE BALANCING:** Phase balancing- Ampere readings of main switch feeding riser to be taken to determine branch circuit connections to distribution panels to ensure equal balancing of riser. Balancing to be within 20% between phases.
34. **LICENSING AND UNION:** All electrical contractors must be actively licensed in the City of New York and Local 3 Members.
35. **LAMP SPEC:** Building Standard Lamps are Philips F32T8-741- 48" 25 Watt with New York City Approved electronic energy saving Ballasts. All Fixtures to be New York City Approved.

36. **RETAINAGE:** The Empire State Building will have the option to hold at least a 10% retainer until a Certificate of Final Inspection is received.
37. **BID SITE SURVEY:** All contractors must survey all areas especially the existing building electrical closets to determine the exact scope of work prior to bid submission. Any panel replacement or relocation within building electrical closets will be the responsibility of the electrical contractor/tenant.
38. **ADDITIONAL POWER:** Additional power requirements beyond lease agreement will require a riser connection fee to be paid prior to the start of ANY construction. The fee is \$150.00 per amp per phase for tenants from the 1st floor to the 78th floor.

EMPIRE STATE BUILDING
STANDARD ELECTRICAL TELEPHONE COMPUTER SPECIFICATIONS

SECTION T

1. All telephone conduit shall be ¾" minimum.

Electrical closets are not to be used to install telephone or cable equipment or associated cables and should be clean of all debris at all times.

All telephone wiring shall be in accordance with New York City Electrical Code.

2. On all plans, show all existing electric and telephone outlets and indicate whether they are to be reused, replaced, or removed
3. Telephone outlets to indicate number of instruments or outlets to serve more than one unit. Also advise if wall type is to be used (add mounting height). No exposed wiring is permitted.
4. All low voltage wiring for telephones and computer systems (including co-axial cables, buzzer systems and electrically controlled door locks) shall use teflon coated cables, plenum rated or if not teflon coated, must be in conduit.
5. A minimum of CAT 5E or 6 is to be used for Empire State Building computer cables.

The use of the T-Staircase airshaft or any other staircase for cable or conduits runs is not permitted.

All penetrations must be sealed and fire rated by the electrical contractor in all demised walls, electrical closet walls, etc.

EMPIRE STATE BUILDING **STANDARD PLUMBING SPECIFICATIONS**

Pantry Plumbing

Tenant must install new hot and cold water piping from the wet column to the new pantry sink. Tenant must install ball shut-off valves in wet column and shut-off valves under sink in cabinet. New drain line and vent line must also be installed.

Testing and Balancing

This contractor shall complete all tests required by all rules, regulations, etc., of all New York City authorities having jurisdiction and shall prepare, completed and file all forms, tabulations, plans, etc., pertinent thereto with the referenced authorities, and shall accomplish such work with personnel of proper caliber, in particular, professional engineers, where so required, entirely at his expense.

Materials

Materials to comply with all codes with proper M.E. A. numbers for use permit.

PIPE SERVICES

Medium (15 to 40 psi) or high pressure steam system (to 225 psi):

- To 2 in.: Steel, Schedule 80, ASTM A 53
- 2 1/2 in. to 10 in.: Steel, Schedule 40, ASTM A 53, Grades A or B
- Low Pressure Steam System: Steel, Schedule 40, ASTM A 120 or A 53
- High Pressure condensate Return System: Steel, Schedule 80, ASTM A 53, Grades A or B
- Medium Pressure Condensate Return System:
 - To 2 in.: Steel, Schedule 80, ASTM A 120 or A 53
 - 2 1/2 in. and larger: Steel, Schedule 40, ASTM A 53, Grades A or B
- Low Pressure Condensate Return System: Steel, Schedule 40, ASTM A 120 or A 53, Grades A or B.
- Hot Water System: Steel, Schedule 40, ASTM A 120 or A 53, Grades A or B
- Secondary Hot Water System (below 100 psi): Steel, Schedule 40, ASTM A 120 or A 53, Grades A or B
- Secondary Hot Water System (below 100 psi):
 - To 2 in.: Steel, Schedule 80 ASTM A 120 or A 53
 - 2 1/2 in. and larger: Steel, Schedule 40, ASTM A 53, Grades A or B
 - 12 in. and larger: Steel Wall Thickness .375 std. wall, ASTM A 53, Grades A or B
- Chilled Water System:
 - To 2 in.: Steel, Schedule 80, ASTM A 120 or A 53
 - 2 in. and larger: Steel, Extra Heavy (as called for in Empire State Building Standard HVAC Specifications) wall thickness, ASTM A 53, Grades A or B
- Secondary Water System (above 100 psi):
 - To 2 in.: Steel, Schedule 80, ASTM A 120 or A 53

- 2 1/2 in to 10 in.: Steel, Schedule 40, ASTM A 53, Grades A or B
- 12 in. and larger: Steel, Wall Thickness .375 std. wall, ASTM A 53, Grades A or B
- Condenser Water System:
 - To 2 in.: Steel, Schedule 80, ASTM A 120 or A 4/53, Grades A or B
- Cooling Coil Drain System (pan condensate): Copper Type L
- Cooling Coil Intermediate Drain System (pan condensate): Copper, Schedule TP-IPS, ASTM B
- Treatment Chemical Feed System: As specified for system piping to which connected.
- Refrigerant Relief System Centrifugal Refrigeration Units: Steel, Schedule 40, ASTM 120 or A 53.
- Refrigerant Relief System (all other units): Copper, Schedule L. ASTM B 88.
- Miscellaneous Atmospheric Vents: Galvanized Steel, Schedule 40, ASTM A 120 or A 53.
- Piping Under Sheet Metal U-Covers in Floor Fill: Steel, Schedule 80, ASTM A 53, Grades A or B.
- All waste and vent lines within column or passing through other tenants premises may be no-hub pipe.
- All tie-ins to stacks must be made with galvanized drainage fittings and victavlic couplings.
- For all new restrooms and showers, tenant must install floor drain.
- All plumbing work must be performed by NYC Licensed Plumber.

SERVICE – ADDITIONAL

Service	Material	Type	<u>Weight</u>
Domestic Water (or)	copper brass	hard 85% red .	Type K or L Standard
Drains	copper	hard	Type K or L
Vents and Relief	steel	black	Schedule 40
Compressed Air	copper	hard	Type K
Refrigerant (or) (or)	copper iron steel	hard wrought black	Type K or L Schedule 40 Schedule 40

Note that all pipe shall be suitable reinforced at all anchor points.

All steel piping for secondary water, chilled water and condensing water service shall be seamless.

*Refrigerant fittings on copper pipe must be wrought copper. All welded fittings should be long turn.

FITTINGS AND VALVES

General

- The entire system shall be supplied with valves so located, arranged, and operated as to give complete regulating control of all air and water in the pipes and other apparatus.
- All valves to be so constructed that they can be packed while in operation whether entirely open or closed.
- All valves must be readily accessible.
- The general for installation of valves is that no branch pipe leave or enter its header or apparatus without a valve. The valving shall be as approved and as directed by the engineer. All valves for City water work shall be of the glove type up to and including 1 1/2" and of the gate type 2" and over except on drains for risers and like where glove valves shall be used throughout.
- All valves to be tagged with brass tags with their control stamped on, or a numbered and framed valve chart under glass provided and hung in the Unit Room.
- All valves are to be Jenkins Gate or Watts Ball valves.

Chilled Water

- Flanges to be welded neck or slip-on forged steel of 300 pound class.
- Valves, checks, plug cocks, and strainers are to be 125 WSP as required.
- All fittings which are cast with flanges are to be extra heavy steel, all welded fittings to be extra heavy steel.
- Fittings on screwed piping shall be 125 WSP, 250 WSP, or heavier as required.
- Each cooling unit, as shown on the plans, shall be provided with plug cock in addition to the stop valves. These plug cocks shall be used to regulate the quantity of water flowing through the cooling units and as a means of balancing the system.

Steam

- All steam traps shall have a valve and union on each side, whether shown on drawings or not.
- All valves and fittings on low-pressure steam 0-15 pound shall be standard weight cast iron, 125-150 pound class. Valves shall have brass seats, discs, and stems.
- All valves on low-pressure steam returns shall be brass and all fittings shall be standard weight cast iron. Valves shall have bronze seats, discs, and stems.

Water

- All valves 2 in. and under, no matter what service, shall be brass, either standard or extra heavy, depending on weight of pipe on which they are being installed or on working pressure.

Welding

- All welding shall be done in accordance with the latest accepted practice and codes applicable to the particular service and shall be performed only by welders who have been tested and qualified in accordance with the requirements of the A.S.A. Code for welding.
- Piping 1 1/2 in. and smaller shall have screwed joints. Piping 2 in. to 3 in. may be welded. All piping 4 in. and larger shall be welded. Provided certified fire watch. Welders must have certificate of fitness from Fire Department. All welding activities must be pre-approved by Empire State Building Construction Department and Engineering Department. An Empire State Building Engineer must be requested by contractor to attend all welding operations. A minimum of 4 hours will be charged to the contractor or tenant.

Hangers and Anchors

- Furnish and install suitable and substantial hangers and supports for all horizontal lines. Hangers and supports shall be Grinnell or as approved. Main lines and other large or heavy pipes shall be carried by pipe hangers supports by beam clamps of approved design wherever possible. Horizontal piping shall be supported in accordance with the following schedule:

<u>Pipe Size</u>	<u>Maximum Hanger Spacing</u>	<u>Minimum Rod Size</u>
1 in. and smaller	6 ft 0 in.	3/8 in.
1/4 in. to 2 in.	9 ft 0 in.	3/8 in.
2 1/2 in. to 4 in.	10 ft 0 in.	1/2 in.
6 in. and larger	12 ft. 0 in.	1/2 in.

- All supports must comply with manufacturers' requirements and NYC Building Code.
- Unless otherwise indicated or specified, all horizontal piping shall be supported on pipe stands with base flanges and adjustable top yokes. Piping close to walls shall be supported on heavy forged wrought iron adjustable hangers of approved design
- Hangers for pipe subject to expansion shall be provided with approved rollers.
- All hangers shall provide for two inches of vertical adjustment. Insulated piping with roller shall be supported on hangers by means of heavy metal sleeves of ample area or by pipe covering protective saddles equal to Crane Company, Type A or B, as approved.
- All vertical piping shall be anchored wherever necessary to prevent undue strains being thrown on offsets and branches and wherever shown or noted. Anchors shall consist of heavy forged wrought iron clamps securely bolted or welded to pipes; all extension ends shall bear on building construction, and wherever they are close to beams, shall be bent

under top flanges.

- Vertical pipes in shafts shall, as far as possible, be supported on structural steel pipe stands. Where this is impossible, and as approved, they shall be anchored as above specified except that anchors shall be welded to pipes after they have been bolted and adjusted. Where more than one vertical pipe is installed in a shaft in close proximity to other vertical piping, roller guides shall be provided for all piping at every other floor level. Guides and spacers shall be installed in heavy framework of structural iron securely bolted in place of approved design.
- No piping shall be supported by means of wire, rope, wood, or any other makeshift device including other services in the ceiling such as ductwork, conduits, etc.
- Contractor shall be responsible for proper location of all concrete inserts and anchor rods.
- Furnish any additional structural steel that may be required for proper installation of hangers, anchors, guides, and supports.

EMPIRE STATE BUILDING
GENERAL PAINTING SPECIFICATIONS

1. Provide all necessary labor and material to properly prepare and paint all walls, ceilings, doors, and trim in premises.
2. Cost to include all preparations, scraping, spackling, sanding, etc.
3. All ceilings to be painted a minimum of one coat flat color.
4. All walls to be painted to cover.
5. All wall covering is to be removed. (rental displays only)
6. All paint to be Benjamin Moore.
7. Contractor to remove his material, used cans, etc. at end of job.
8. Contractor to protect existing flooring and all other surfaces not to receive paint.
9. All painters to be member of District Council #9.
10. All painting to be done in first-class manner.
11. All trim to be painted in semi-gloss; trim to include old radiator enclosures, radiator tops, metal doors and bucks. (All newly installed red (Pantone # PPGUC43355) color window frames and trim is not to be painted, including aluminum cladding at the sides of the windows.)
12. Contractor to inspect premises prior to submission of bid.
13. Outside of entrance door and frame to be repainted. Frame Color: **Green Pratt Lambert # 1481 Oil Base**
14. All old air conditioning grilles and diffusers to be painted aluminum unless otherwise specified.
15. Contractor must cover duplex receptacles, switches, and thermostats prior to painting. All devices are to be protected from paint penetration and paint scrapings.
16. All exposed services such as standpipes in staircase must be painted in color code that matches industry standards. Standpipes and valves are to be painted red. All new exposed sprinkler piping and accessories must be primed and painted with 2 coats of oil paint to match existing standpipe.
17. Contractor to report to Empire State Building Operations Office in Room 3210 and receive contractor passes prior to the start of any work.

New windows are not to be painted under any circumstances. Painting up to but not including the metal finishing moldings. Tenant is responsible for labor and material required to restore window to original condition. These windows have been approved by New York City Landmark Commission.

Excessive paint on Entrance or Interior doors and frames that keep the doors from properly functioning must be removed prior to any additional coats of paint being applied.

STRUCTURAL AND MISCELLANEOUS IRON

- Floor loading and all steel shop drawings and work shall be subject to the approval of the Landlord's structural engineer and his fee paid by Tenant.
- No equipment shall be suspended from the reinforcing mesh or rods in the concrete arch.

- Fire watch shall be provided by tenant or his contractor during the welding and burning operations. Welders are to have a certificate of fitness from Fire Department. The tenant is responsible for any cost associated with the monitoring of the Local Law 5 Class E Fire System during welding operations. The tenant must request permission in writing prior to any such operation. The tenant/contractor must request an Empire State Building Engineer to attend during the welding operation. A minimum of four (4) hours will be charged to the tenant/contractor.
- Any bolted or welded connection to building steel, which includes the hanging of HVAC units, must be approved by the Landlord's structural engineer. Fire proofing of any exposed steel is the contractor's responsibility.
- Where welding is required, this contractor shall furnish a "fused disconnect switch" for connection to the building electric panel by the electrical contractor. Include sufficient cable to connect the welding machine to be equipped with proper disconnect switch (as required by O.S.H.A.) and Firewatch. Work required on overtime basis by in-house electricians will be charged to the contractor.
- Initial submission of shop drawing will indicate all field dimensions and will indicate location with respect to existing conditions that may require deviation from structural engineer's design.
- A controlled inspection of all structural or miscellaneous iron must be performed by a licensed structural engineer with a P.E. from the State of New York and must be filed with New York City Building Department.

STANDARD SPECIFICATIONS COVERING
SUMMER AIR CONDITIONING & WINTER VENTILATION
FOR THE OFFICE SPACE OF THE EMPIRE STATE BUILDING

1.

(a) During the summer season the air conditioning installation shall accomplish the following:

1. Cool the premises.
2. Dehumidify the premises.
3. Filter the premises.
4. Clean the air.
5. Provide summer and winter ventilation.

(b) The air conditioning system has been designed so that all equipment to be installed by this contractor will maintain a temperature and humidity in the conditioned spaces according to the following:

1. Under the maximum load conditions, the equipment shall produce within the conditioned space a temperature of 78 degrees Fahrenheit dry bulb, with a simultaneous relative humidity of 50 percent when the outside temperature is 95 degrees Fahrenheit dry bulb and 75 degrees Fahrenheit wet bulb. The relative humidity shall be maintained at approximately 50 percent within the limits of the control system.
2. Chilled water system, complete including all pipe, valves, and apparatuses, shall be designed for 260 psi working pressure and shall be tested on completion of the work for 150 percent of working pressure.
3. The adaptability of "off-season" ventilation of this system of summer air conditioning shall include 3-way control valve positioned to flow water through coil on shutdown and control wiring arrangement, including "hand-off automatic" switch.
4. The minimum lock shield valve settings are determined by the minimum flows required during the winter season in order to prevent freeze-up. The contractor shall not set any lock shield valve below these given flows. These settings shall take precedence over any requirement for summer comfort cooling, which have been specified lower than the amount stipulated hereinafter for some unit conditions.

2. **STORAGE AND PROTECTION**

(a) All materials shall be brought into the building and distributed at such times and in such a manner as will least interfere with the normal building operations and as will meet with the approval of the Management. Materials shall be stored where directed or in spaces allotted for storage of materials.

- (b) All work liable to be damaged shall be properly protected. Provide necessary coverings and protection to prevent dirt, dust, and debris from damaging fixtures, office furniture, and stock, and perform all cutting before 8:00 a.m. or after 6:00 p.m. on regular business days or at times designated by the management.
- (c) The Contractor shall be responsible for all damage to existing work in the building caused by his workmen and installations, and shall make good all such damage without expense to the owner.
- (d) Scaffolding erected in office areas and corridors shall be removed when not in use.
- (e) No workmen shall be allowed in any portions of the building other than the designated work area.

3. CUTTING AND PATCHING

- (a) All cutting and patching of existing or new construction will be done under another section of this work, except the cutting done for the piping trade and other small or incidental cutting.
- (b) This contractor shall mark all required cutting exactly and clearly on the surface to be cut and no cutting shall be asked to be done in an excessive manner, nor shall cutting be done which may in any way weaken the structure or any construction.
- (c) All patching will be done under another section of the work.

4. DESCRIPTION OF WORK

The work in general shall include, but not be limited to, furnishing of all labor, materials, services, and supervision except that specifically stated to be purchased by the Owner, required to complete the following:

- (a) A complete system of comfort cooling air conditioning, for summer only and arranged for winter ventilation with the entire premises of the above-mentioned tenant space, finished and left in proper operating order to provide design conditions.
- (b) Air handling unit installation of the units as purchased and delivered to the Loading Platform of the building by the Owner, which units shall be suspended at the designated locations of the space from the structural steel members of the floor construction, from which shall be extended the air supply ductwork as well as the air return ductwork including all required supply outlets, return inlets, dampers, and complete control systems. The contractor shall perform all cutting necessary to hang the unit from ceiling in accordance with Build Detail Drawing.
- (c) The units, part of the ductwork and piping, generally, shall be enclosed by a removable-type hung ceiling having an acoustic tile surface. This ductwork shall be standard type with external seams. All ductwork is to comply with SMACNA and ASHREA Standards.

NOTE: Minimum bottom elevation of duct is to be 8' - 3 1/2" A.F.F. on standard 11' - 6" floor to floor. All ducts to be kept as high as possible at all times; where such elevations of ducts cannot be accomplished at all times or where such elevations of ducts cannot be

accomplished due to field conditions, the contractor shall make such height conditions known to the management prior to installations and make installations based on his approval. Minimum hung ceiling heights shall be 7' - 11" A.F.F.

- (d) The ductwork, in part, shall also extend beyond the area of ceiling enclosure, in which case the ductwork shall flush seam type without insulation.
- (e) Fire/smoke dampers shall be installed in ductwork penetrating fire rated walls and floors and may have to be tied into Building Fire Alarm System. Dampers must shut down the fan whenever they sense smoke or heat from a fire condition. All installation must comply with NYC Fire Code and Building Code.
- (f) Receiving of all parts of all air handling units which shall include:
 - (1) Transportation from storage area in sub-basement to point of installation.
 - (2) Responsibility for loss or damage to any parts of unit while in Contractor's possession, that is from receipt of unit until system is turned over to Owner after acceptance.
- (g) Plenums at units.
- (h) Automatic dampers at each unit location on each:

Fresh air intake at window location for group and elsewhere as indicated in the specifications or as shown on the drawings.

- (i) Manual dampers at each unit location on each:
 - (1) Fresh air duct at unit plenum and fresh air intake location.
 - (2) Return duct at plenum.
- (j) Electrical outlet access doors through ductwork (top and bottom) where new ductwork installation makes "blank plated" and "home run" outlets in ceiling of floor arch inaccessible.
- (k) The maximum pipe size of indirect branch "take off" from drain pan of air unit shall be 1 1/4" type L Copper, "U" or run through traps for units shall be placed at column points to preserve ceiling height, where unit trap may be installed with ten lineal feet of unit pan. Clean out shall be arranged within 24" of unit pan. Indirect main (serving several units or distant from plumbing fixture) shall be as indicated on the individual drawing of the particular job. Size and length of U-traps are to comply with manufactures specifications.
- (l) Funnel wastes at wet column where designated or as may be directed in strict accordance with code requirements. This is to be provided by the contractor.
- (m) The extension of the chilled water flow and return piping mains from the existing building vertical risers or existing building horizontal mains to the unit location of the floor and in general as designated on the drawings, properly covered and supported as well as being provided with valved and capped outlets for future extension to other areas of the floor. Piping shall be all welded and properly pitched and insulated, all with due consideration given to ceiling furring to be installed and the finished headroom

clearances to be provided below the hung ceilings and equipment within the areas. See Paragraph (c) of this Article.

- (n) All flush seam type exposed ductwork where ductwork is to be exposed to view.
- (o) All standard standing seam ductwork where enclosed within furred or hung ceilings, insulated as indicated.
- (p) All registers, grilles, and diffusers.
- (q) All controls, air valves, and grids.
- (r) All fire dampers and fire/smoke required by code.
- (s) All ductwork supports attached from the floor arch construction or building steel. The probing for wires shall be performed by Sheet Metal contractor.
- (t) All automatic controls, including 3-way water valve to pass water through coil on deactivation of control energy. Automatic fresh air damper to open when any one, or all, units in the particular fresh air intake group run and close airtight when unit or units are stopped. All required interlocks and connections to activate control system when unit is started and deactivate control system when unit is stopped. Lock shield valve setting, properly approved by the Owner. (Refer to Design Condition).
- (u) All ductwork specialists, including flexible connections, mechanical access doors, etc.
- (v) All relief units consisting of one register face and one grille face with collar between, or as shown otherwise.
- (w) All required steel for unit hanging. Units shall be provided and installed with horizontal structural steel "shaped" of approved section for each unit and securely bolted to units. The steel shall extend beyond the unit on both sides and be provided with rod hangers and shall be securely anchored to the steel beams of the floor construction above by welding or using steel clamps. At the points of each hanger, adequate vibration insulation shall be provided and attached within the rod, so that no unit movement, vibration, nor sound shall be transmitted into the structure or into either of the floor space areas above or below the unit location. All units shall be hung so as to provide electrical and motor maintenance as well—as piping and ductwork clearances—around unit. This unit hanging construction layout shall be approved by the Owner and a structural engineer before fabrication and hanging.
- (x) This contractor shall also provide and install all incidental steel supports or concrete foundations which are required for this installation.
- (y) The unit piping (at each unit location) shall include strainers type Sarco removable cap via cap screw and complete with brass water type strainers manual shutoff valves, unions, 3-way control valve, traps, vent and drain piping (adequately valved), manual air relief valves, by-pass, etc.
- (z) Where chilled water piping take-off occurs from horizontal mains, additional shut-off gate valves shall be provided within the normal corridor area in the flow and return take-off unit.

NOTE: All parts of chilled water system shall be for 260 psi design working pressure as indicated under "Design conditions".

- (aa) Contractor shall provide all required wiring diagrams to the contractor performing the electrical installation and wiring, and this contractor shall be responsible for the

proper operation of equipment and controls installed specifically for the work of the contract.

- (bb) All cutting of building surfaces for the passage of piping. All patching shall be done by the mechanical contractor as required.
- (cc) Contractor shall provide and install all items of material or incidental equipment which is required above and beyond the units specified by the building in order to produce their proper function within the overall system.
- (dd) All testing and balancing of the chilled water and supply air, providing two (2) copies of all readings to the Owner for approval. Tests and balancing shall be re-run and re-submitted when required by the Owner.
- (ee) All relocation of mechanical items or systems of the building occurring within the area of new installation. Approval of the Owner shall be obtained by Contractors in writing prior to any such relocation.
- (ff) Where relocation of existing portions of mechanical system may be required no interruption of service will be permitted. Work may need to be completed after normal business hours at the sole cost of the contractor.
- (gg) All piping and ductwork connections to air handling units shall be arranged with union and flanged connections to permit ease of future unit removal for repair.
- (hh) Condensate line should be completely removed when changing out the unit.

5. CONSTRUCTION NOTES

- (a) The drawings and specification are intended to be complementary. Any materials, equipment, or work shown on the drawings but not specified, or vice-versa, or that is reasonably implied, usually included or necessary for the proper execution and completion of this trade or branch of work shall be furnished and installed as if both shown and specified (at no extra cost to contract).
- (b) All work shall be executed in accordance with the true intent and meaning of the drawings, and specifications and shall conform to applicable details shown on the plans.
- (c) The piping must be erected with proper provision for expansion and contraction and vibration isolation, and shall be run so as to avoid passing through ductwork or directly under electric light outlets or extending beyond furring lines, as determined by the plans.
- (d) The piping must be installed in a neat manner with all lines parallel or at right angles to walls or columns. High points in chilled water piping shall be avoided, and, where required, vents shall be installed.
- (e) In placing pipes through sleeves near walls, partitions, or in chases, care must be taken to provide sufficient space for pipe covering and fire stopping. All services penetrating firewalls, floors, shafts, etc. must be fire stopped as required by NYC Building Code and Fire Department.
- (f) During construction, cap the ends or outlets of all piping to prevent its becoming clogged with sand and dirt. Before final connections are made to main distribution riser piping, the horizontal piping shall be thoroughly blown out and all foreign matter removed from the system.

- (g) It is the intention that all ductwork in the finished areas shall be run parallel to the beams and girders, wherever possible, to enable them to be contained in the furring. All exposed ductwork shall be held tight to adjacent partitions and/or ceiling surfaces. Where shown and where necessary to run ductwork under girders, the ducts shall be kept tight against same. All outlet openings and open ends of all ducts shall be kept closed with sheet metal caps during construction. All exterior and interior seams shall be of the flush type. (See details on drawings).
- (h) All registers, grilles and diffusers shall be set over sponge rubber or felt washers to insure airtightness between the sheet metal duct and the register, grille or diffuser. Plaster frame shall be provided wherever same are located in furring.

6. MATERIALS

- (a) All materials shall be the best of their respective kinds, suitable for the conditions and duties to be imposed.
- (b) The approval of the Owner must be obtained on all materials or appliances furnished, and when any specific material, process or method of construction, or manufactured article is specified by the trade name or the name of any particular patentee, manufacturer, or dealer, it shall be taken as intending to mean the article and materials of equal quality, finish, and durability.
- (c) All trimmings, equipment, fittings, etc., shall be in strict conformity with the specification requirements and must be approved by Empire State Building prior to ordering.
- (d) It is expressly provided that all materials and equipment shall comply, with all requirements of local authorities and the underwriters and shall be provided with the necessary auxiliary or incidental piping, trimmings, valves, and electric controls as may be necessary to make same complete.

(e) Piping

(1) Chilled water supply and return horizontal distribution piping mains shall be:

- a. Standard weight black steel pipe on Floors 21 through 41 and Floors 67 through 85 with welding fittings, all designed to handle operating pressure of 250 psi.
- b. Extra heavy weight black steel pipe on Floors 6 through 20 and Floors 42 through 66 with welding fittings, all designed to handle operating pressure of 400 psi.

(2) All valves and removable parts shall be flanged. Piping shall be as approved.

(3) Low points of all piping mains shall be provided with 1/2 inch drain valves and high points provided with manual air vents.

(4) Chilled water piping within the vicinity of the air handling units including all valves and fittings connected thereto, shall be extra heavy black steel pipe and extra heavy screw type fittings.

Note: Entire chilled water circuit shall be 260 psi working pressure, from take-off at horizontal mains to and including the unit coils and all valves.

(5) Drain piping shall be Type L Copper with screwed clean out fitting at all 90° turns.

(f) Valves

(1) Gate valves shall be used for shut-off purposes, and globe valves and lock shields shall be used for controlling flow unless otherwise specified. All valves shall be designed for packing under pressure. All valves shall be designed for a working pressure of the floor group shown below and hydrostatically tested at 200 percent of the working pressure. All valves must be approved. Valves up to 2 inches in size shall be bronze body and over 2 inches in size shall be iron body bronze mounted. All valves shall be installed similar to those existing on chilled water building riser piping.

(2) Gate valves 2 inches and smaller shall be bronze, screw type as follows:

<u>Zone</u>	<u>Floors (Inc.)</u>	<u>Working Pressure</u>	<u>Gate Valve Jenkins Fig. 4's</u>
Top	53 to 85	200# Water	370
Middle	7 to 41	200# Water	370
Top	42 to 52	260# Water	670
Middle	6	210# Water	670
Bottom	Basement to 5	60# Water	370

(3) Gate valves larger than 2 inches in size shall be iron body, flanged typed as follows:

<u>Zone</u>	<u>Floors (Inc.)</u>	<u>Working Pressure</u>	<u>Gate Valve Jenkins Fig. #'s</u>
Top	63 to 85	150# Water	651-A
Middle	18 to 41	150# Water	651-A
Top	42 to 62	260# Water	253
Middle	6 to 17	210# Water	253
Bottom	Basement to 5	60# Water	651-A

(4) The above tabulation showing the gate valves and their working pressures to be used on the respective floors, shall represent similarly the design working pressure of all other mechanical valves employed in the piping systems. Automatic (three-way) chilled water valves shall be extra heavy— 42nd to 71st

floors of Top Zone and 6th to 25th floors of Middle Zone, inclusive, for pressure of 260# and other floors of building shall be standard for working pressure of 100# water.

(g) Hangers and Supports

Hangers and supports shall be of approved design to keep piping in proper alignment and prevent transmission of injurious thrusts and vibration. All hangers and supports shall be of clevis, pipe roll, and pipe clamp types, and shall be capable of screw adjustment after piping is erected. Hangers shall be spaced not more than ten (10') feet apart and approved, minimum length 8" sheet metal saddles placed at each hanger where insulation covers horizontal piping.

(h) Strainers

Strainer shall be provided ahead of each automatic valve or other devices subject to damage by foreign matter in the piping. Strainers shall be Same) removable cap via cap screws and Brass metal screen with 1/8" perforated holes, suitable for pressures involved, or as approved.

(i) Escutcheons

Escutcheons shall be provided at all exposed finished surfaces where such surfaces are pieced by sleeves. Escutcheons shall be two piece metal to fit around insulation or around pipe if uninsulated. Halves of escutcheons shall be fastened with flat head screws.

(j) Thermometers

Thermometers sockets (test wells) shall be provided in the chilled water supply piping and return piping at each chilled this contract unless specifically called for on drawings. Test wells (and thermometers when called for, shall be as manufactured by "Weksler Instrument Corp." or other approved). Wells shall be separable socket, brass, 3/4 N. P. T. to receive a type AA5a thermometer.

(k) Sheet Metal Work

(1) All sheet metal work, except for outside air intakes, shall be constructed of galvanized sheet steel, uniform in thickness. Each sheet shall have the trade name, manufacturer's name and gauge or metal stamped or otherwise marked thereon. All ductwork must comply with SMACNA and ASHRAE codes and standards. Metal ducts shall be of the following gauges:

<u>Largest Dimensions</u>	<u>Minimum U.S. Gauge</u>
Up to 12 inches	26
13 inches to 30 inches	24
31 inches to 54 inches	22
55 inches to 84 inches	20
85 inches and over	18

- (2) Where copper or other material is called under this work, the gauges shall be acceptable by the American Society of Heating and Air Conditioning Engineers.
- (3) Where specified on the drawings, Contractor shall provide sheet metal "filler" carefully installed between the ductwork and the adjoining ceiling and/or building partition surface. All filler pieces shall be constructed in true relation to the plane of the ductwork side or bottom, forming a workmanlike even surface with duct.
- (4) Minimum bottom elevation is to be 8' - 3 1/2" A. F. F. on standard 11' - 6" floor to floor, to obtain a hung ceiling of 7' 11" or better.
- (5) Sheet metal contractor is to change duct dimensions to keep the above elevations where required in order to maintain these heights at no additional cost to the customer.
- (6) Where as a result of the flattening of the ductwork the aspect ratio exceeds 6 to 1, sheet metal is to furnish an internal divider for the entire length of the duct.
- (7) The first 15' of discharge ducts are to be internally lined with 1" Armeflex as manufactured by Armstrong. All other ductwork is to be externally lined with 1" foil faced fiberglass insulation.
- (8) Air entering edge of sound liner is to be secured with metal nosepiece.
- (9) Internal acoustic lining thickness is 1".
- (10) Sheet metal contractor is to provide double thickness duct turns at all square throat elbows.
- (11) Where space conditions permit, radius elbows must be submitted, provided a full 1 1/2 duct width centerline radius is possible.
- (12) All ducts must be installed in strict accordance with all New York City Building Department rules as well as in accordance with A. S. H. R. A. E. recommendations.
- (13) All access doors in insulated ducts to be double thickness insulated type.
- (14) Provide approved fire dampers and access doors as shown and as required by existing regulations.
- (15) All ducts must be hung from re-enforcing wires, or in manner approved by the Department of Buildings. In no case shall duct be hung from ceiling or other services.
- (16) All ductwork within the limits of "Public Corridor" (whether tenant occupied at present or not) and connecting ductwork branches into tenant spaces shall be equipped with fire/smoke and tied to building Class "E" system dampers on line of corridor division from tenant spaces.
- (17) All automatic dampers to be opposed blade type.
- (18) Provide access in all ductwork to all automatic dampers and electrical outlets.

- (19) Units to be suspended from steel with spring vibration isolation hangers.
- (20) All ductwork to be "Standard" flush seam type where exposed.
- (21) Contractors to verify in field all space and field conditions affecting ducts, units, etc.

(l) Registers, Grilles and Diffusers

Building standard shall be:

- (1) General contractor to furnish and install all new ceiling or side all supply and return air registers.
- (2) Ceiling air diffuser "Paragon" 2'x2' 20GA plaque air diffuser, baked white enamel finish.
- (3) Ceiling return-air grille: "Anemostat" 2'x2' 20GA steel return grille, AC3LD with 45 degree deflection, parallel to long dimension, baked white enamel.
- (4) Side wall 1'x2' steel air diffusers: "Anemostat" S2H 20GA, baked white enamel finish.
- (5) Side wall return-air grille: "Anemostat" 1'x2' S3H 20GA steel return grille, with 45 degree deflection, baked white enamel.

(m) Access Doors

- (1) Provide and install access doors in sheet metal casings and ductwork to permit access to all operating doors. All access doors shall be of sheet metal and fastened using approved methods.
- (2) This Contractor shall provide exact size and location of all ceiling access doors to be provided and installed under the General Construction portion of this work.
- (3) This Contractor shall provide access through ductwork to each electrical outlet made inaccessible through the new ductwork installation.

(n) Flexible Connections

Provide flexible connections in ductwork at connections between ductwork and air conditioning units and at other locations indicated on the drawings. Flexible connections shall be made of airtight flameproof material, such as vinyl-covered fiberglass. These connections shall be securely clamped closely fitted to insure minimum air leakage. No flex connections are permitted on branch ducts to air diffusers.

(o) Fresh Air Louvers and Back Boxes

Back boxes, frame, removable bird screen, louvers and adjacent ductwork shall be constructed of stainless steel. Back boxes shall be pitched and provided with adequate means of drainage to the exterior. Contractor shall obtain approval of detail shop drawing of entire fresh air intake method prior to fabrication. (See standard detail

revised 1961). The same general details and materials are to be used where ductwork is being exhausted through window opening. The altering of the Building window sash to accommodate ductwork is part of this contract. (Details are available in Building Construction Office).

(p) Dampers

Provide and install all dampers indicated on the drawings and ad required for proper balancing of the system, also fire dampers as required by Code and al automatic motor operated dampers.

(q) Duct Lining

The Building Standard internal Duct lining shall be AP-Armaflex-SA as manufactured by Armstrong. No substitutions will be accepted.

Automatic motor operated dampers shall be provided at fresh air intakes interlocked with the air conditioning units to open and close automatically with the starting of the unit. All supply ductwork shall have adjustable rod type splitter dampers installed at takeoff points. Return ductwork shall have volume dampers for balancing.

7. AUTOMATIC CONTROLS

- *(a) Provide and install a complete Alerton DDC system of controls for each unit of the air conditioning system. The system shall be complete with all wiring and valves, automatic water valves, automatic dampers with operating motors room thermostats, relays, and other control devices required to give the performance specified herein.
- *(b) All air handling units shall be arranged so as to have their starting and stopping controlled by means of a DDC system, installed for each new unit, which shall start the unit when the time schedules.
- (c) The system shall be arranged so that when any fan motor is started, the common automatic fresh air damper of its group—located adjacent to the fresh air intake—will open and the 3-way chilled water automatic valve shall provide proper quantity of water flow through the cooling coil to provide design conditions of wet bulb with the space, and the automatic return air damper shall operate on control of its individual room thermostat serving the particular unit and its system. On units installed after December 4, 1961, the system shall be arranged so that when any fan motor is started the common automatic fresh air damper of its group, located adjacent to the fresh air intake, will open and the 3-way chilled water automatic valve shall provide proper quantity of water flow through the cooling coil to provide conditions of dry bulb within space.
- *(d) The unit thermostat shall be the heating cooling type. Changeover from heating action to cooling action shall be accomplished by changing the control supply air pressure at the central plant. The unit thermostat shall control the setting of the 3-way water valve which shall modulate to permit chilled water flow to bypass the

cooling coil to maintain the design conditions. Upon shutdown of the unit, the 3-way valve shall return to position, permitting the water flow to be through the unit coil and so closing the water bypass port. During winter ventilation operation automatic 3-way valve shall remain open to coil.

- * (e) Each system shall be provided with a smoke detector in the discharge duct. This smoke detector shall be compatible with the Building Class "E" fire detection system and the system reprogrammed for this device. Upon activation the detector will send a signal to both the Class "E" system and the Building DDC system to shut down the unit. All work must be completed by this contractor in conjunction with the Building Fire Alarm Vendor. Fees for the Fire Alarm vendor will be paid for by this contractor. All filing, permits, programming, engineering, material, labor, supervision, etc. will be included in this contract and paid for by this contractor.
- (f) Each system shall be equipped with a freeze stat capable of shutting down the supply fan to the particular unit at a predetermined low temperature; this is to be reinstated on a rise in temperature at the bulb. The freeze protection thermostat shall have its sensing element located immediately at the fan discharge. The bulb shall be located on the same side of the air handling unit as the fresh air duct entering the unit. The set point of this permit coil freezing and also will not stop fan operation throughout normal summer peak condition.
- (g) Each unit shall be provided with a manual bypass switch (normally open) to permit the mechanic to operate the unit motor beyond the limits of automatic control switch. This switch shall be provided within metal box with hasp arrangement to permit the building to lock box closed with a padlock.
- * (h) The above control system as described shall be Alerton DDC system and shall include all incidental control equipment, diagrams, programs and operational data required to produce control of the best quality as prescribed by the control manufacturer and approved by the Owner.
- (i) Suitable control panel, as required, shall be provided for each air conditioning unit. Panels shall be installed adjacent to the respective unit and shall contain the control equipment and indicating devices for the unit. Necessary relays shall be furnished and installed as required for successful operation of the system.
- * (j) The contractor shall submit, for approval, manufacturer's control drawings and detail specifications showing the operating cycles, types of apparatus that will be used, and the function of each device. Written approval shall be obtained before any work is begun on the control system.
- * (k) The contractor shall run the communication lines to Building system located in the "I" tower leaving a 10' coil of wire. Final connection to be made to system by building. There are to be at least 2 communication lines on each floor: one from the north and one from the south.
- (l) The control system shall be guaranteed against original defects for five (5) years following completion of the work and shall be provided with completion service and kept in proper operating adjustment during the guaranteed period, without cost to the Owner.
- * (m) The control system shall be Alerton, or as approved.

- *(n) An outdoor air temperature sensor shall be installed to modulate the outdoor air damper to a minimum position at a predetermined set point. The sensing element shall be located in the outdoor air duct immediately before the outdoor air dampers.

8. INSULATION

- (a) All piping and equipment hereinafter specified, or wherever required for proper and efficient operation, shall be completely insulated, including valve bodies, heads, projections, flanges, unions, and hangers as may be required. Pipe and equipment shall be installed as follows:

(1) Sheet Metal Work

Exposed fresh air intakes, rectangular air conditioning supply and return ducts, casings and fans in all areas. The first 15' of discharge ducts are to be internally lined with 1" Armeflex as manufactured by Armstrong. All other ductwork is to be externally lined with 1" foil faced fiberglass insulation.

If seventy percent (70%) of the ducts in the space will be modified then the entire ductwork has to be insulated.

- Product: 6 lb. density foil faced vapor seal board.
- Thickness: Fresh air intake, casings, supply, and return fans - 1 ½". Supply and return ducts - 1".

Application and Finish - Boards to be impaled over mechanical pins and secured with washers. Joints and punctures to be sealed with aluminum tape. Galvanized tin edges to be used at all edges on all duct casing and fans up to 6' - 0" A.F.F. 8oz, canvas shall be imbedded in a flood coat of 30-36 and finished with a coat of 30-36.

Concealed air conditioning supply ducts not acoustically lined. Top two floors of each primary air riser, air conditioning return ducts in areas, blast heating and fresh air intakes.

- Product: 1 lb. density fibrous glass flexible insulation faced on side with reinforced aluminum foil.
- Thickness: All services - 1"

Application: - Insulation to be wired on with #9 copper wire. All joints sealed with aluminum tape or factory furnished flange, sealed with 81-99.

(2) Condensate Discharge

- Product: Fibrous glass pipe covering.
- Thickness: Exposed – ½"
Concealed – ½"

Exposed Piping - Finish and Application - Pipe covering to have factory applied 8 oz. canvas pasted in place with B. Foster 30-36 Sealfas and painted one coat of 30-36.

Concealed Piping - Finish and Application - Pipe covering to have factory applied fire retardant jacket stapled with outward staples and banded in place.

Fittings, Valves and Flanges - Exposed and Concealed - All fittings shall be built up with two layers fiberglass behind all fittings, finished with plastic jacket pinned in place and taped to adjacent insulation.

Piping Subject to Freezing - An additional 1" thickness of insulation shall be applied.

(3) Chilled Water Lines

- Product: Fibrous glass pipe covering with fire retardant dual temperature jacket.
Thickness: Chilled water - 5" and over - ½"
Chilled water - under 5" a 1"

Exposed Piping - Finish and Application - Pipe covering to have factory applied 8 oz. canvas. Longitudinal and circumferential laps of dual temperature jacket sealed with B. Foster 81-99. Canvas laps to be pasted with 30-36 and entire surface given one coat 30-36.

Concealed Piping - Finish and Application - Longitudinal and circumferential laps sealed with 30-36 and banded in place. No staples shall be used.

Fittings Valves and Flanges - Exposed - All fittings to be insulated with molded or mitered segments, wired in place with #19 copper clad wire, and given a skim coat of asbestos cement. When dry, fittings to have a 6 oz. canvas imbedded in a flood coat of 30-36 and finished with a final coat of 30-36.

Fittings, Valves, and Flanges - Concealed - Fittings under 4" to be wrapped with #1 density fibrous glass flexible insulation with thickness of adjacent insulation, secured with glass tying cord. Molded fittings on sizes 4" and over. Finish to be B. Foster 60-25 C. I. mastic reinforced with open weave glass cloth.

- (4) Supports for Insulation on Piping Sheet metal sleeve or saddles of 8" length minimum shall be used on all piping.

On piping 3" or larger, Kaylor or Foam Glass pieces shall be placed at all intervals where hangers are placed.

- (5) Supply Ducts

The first fifteen (15) feet of supply duct off of all fans shall have 1' hard board fiberglass insulation with vapor barrier. It is to be pinned to the ductwork over 12" on centers. All seams to be sealed with fiberglass reinforced tape.

- (b) All outside air intake ductwork to be covered in 1" thick hard board fiberglass insulation from louver to mixing box. Boards to be attached with pins on 12" centers and seams to be sealed with reinforced tape,
- (c) All insulating materials required for the apparatus, piping, and other minor items shall be furnished and installed under this contract and shall be of John-Manville, Ehret, Pittsburgh Corning, Owens Corning, or as approved manufacture, and the execution of the work shall be by the insulation manufactures or their approved contractor, in strict accordance with the best practices of the trade and the intent of these specifications.
- (d) Fresh air, supply and return air ductwork within the "normal" corridor area of each floor shall be insulated with 1" thickness vermiculite plaster over wire mesh, unless otherwise specified. Finished surfaces of vermiculite shall be smooth to receive paint similar to adjacent plastered areas where duct is exposed to view. Fresh air ductwork within tenant area (beyond normal public corridor) shall be insulated and covered as herein specified for supply air ductwork.

9. PAINTING

- (a) Generally, all painting will be done by others, except as hereinafter specified. All surfaces, of whatever nature, shall be thoroughly cleaned to remove all dirt, grease, scale or rust.
- (b) All equipment shall be furnished with factory finish standard with the manufacturer.

10. MATERIAL FURNISHED BY OWNER (if stated in specs).

- *(a) These units, generally, include the unit casing, fans, coils, blank-off, filter section, filters, electric motor, drive, guard, motor mounting, motor starter with interlocks and disconnects with push button in cover, and remote stop-star station with pilot. All other equipment must be supplied by the contractor.
- (b) Although the above generally describes the units as being purchased by the Owner, the Contractor may examine a copy of the approved shop drawings of each unit at

the office of the Owner and, therefore, the Contractor shall have no further claim for additional payment after contract date for the cost of material, miscellaneous-equipment, or labor which may not have been understood by the Contractor.

(c) Specific items adjacent to or connected to the air handling units to be provided and installed by the Contractor include:

- (1) Plenums
- (2) Vibration isolation and hangers and/or foundations
- (3) Flexible connections
- (4) All controls
- (5) All dampers

(d) The Contractor shall handle and transport all air units, hang and properly connect all air units purchased by the Owner, and be responsible for loss or damage to all units or their parts while in the Contractor's possession.

11. RECORD DRAWINGS

Tenant to provide 1 copy of AS Built drawings for all work. Must provide auto CAD disk with latest version of auto CAD.

12. TESTS

- (a) Upon completion of the several portions of the work, all piping, the various pieces of apparatus, and equipment installed under this contract shall be tested as herein noted and before being concealed. The Contractor shall notify the Owner of his readiness for inspection and tests.
- (b) All new piping shall be thoroughly blown out for the purpose of removing dirt and grease. This shall be continued for as long a period of time as is necessary to thoroughly clean the installations. The contractor shall make good any defects in the equipment as may result from the presence of any foreign matter.
- (c) All piping carrying water shall be tested to twice the hydrostatic working pressure. All leaks (if any) must be repaired by contractor
- (d) The Contractor shall demonstrate that all equipment and apparatus fulfill the requirements of the specifications, and he shall operate all fans and air equipment for a sufficient period to adjust all dampers and controls, and shall provide the Owner with a complete log and report indicating air quantities and velocities throughout each of the systems.

13. DRAWINGS

The Contractor shall prepare complete detail and shop drawings of the equipment and /or ductwork to be furnished by him. Four (4) drawings shall be submitted to the Owner for his approval immediately after award of contract. The required copies of same shall be provided for distribution to other trades concerned in the installation of the work. No work is to proceed without approved shop drawings.

14. ACCEPTANCE

The operation of the equipment by the Owner does not constitute an acceptance of the work. The final acceptance is to be made after the Contractor has adjusted his equipment, demonstrated that it fulfills the requirements of the plans and specification, and has furnished all the required certificates.

15. Floor mounted A/C units must be set on 4" thick concrete pads.

Watertight seamless galvanized drip pan 4" high must be placed under A/C unit. Leak detectors must be tied into the building DDC system. Copper drainpipe gravity feed must be installed in drain pan and drain to the floor drain. No condensate pumps permitted.

16. Hot water heaters: see item #15 this page.

17. INSURANCE REQUIREMENTS: INDEMNITY

- (a) The successful bidder, prior to initiating services, will produce or cause to be produced satisfactory certificates of insurance (which specifically stipulates that he contractor is engaged in asbestos disposal, removal and abatement activities) reflecting the following coverage's and conditions.
- (b) Workers Compensation Insurance and New York Disability Insurance Benefits in statutory limits covering each person engaged in performing services and employed by the successful bidder.
- (c) Comprehensive general liability insurance (including broad form commercial liability endorsement) and asbestos abatement/removal/disposal liability insurance against all claims and liabilities for injuries to persons, including injuries resulting in death, and damage to, or loss or destruction of property, and personnel injury caused by or resulting from any act or omission of the contractor or its personnel in connection with the services rendered by this agreement in an amount not less than \$10,000,000 combined single limit for each policy; policies to be maintained on an occurrence basis and to include defense cost in the limit.
- (d) Comprehensive automobile liability insurance against all claims and liabilities for injuries to persons including injuries resulting in death, and damage to or loss or destruction of property, in not less that \$2,000,000 combined single limit; the policies to contain for non-coverage for non-ownership and hired car coverage.
- (e) An all-risk policy in an amount of not less that \$5,000,000 safeguarding the contractor against all risk or damage to and loss or destruction of property delivered to its care by or

on behalf of a consultant, including but not limited to the transportation of contaminated waste.

- (f) Professional liability insurance (with asbestos consulting endorsement), occurrence forms with limit of liability of \$5,000,000.
- (g) The successful bidder agrees to be bound by the provisions of the indemnity Agreement attached hereto and made part hereof and to execute and deliver said Agreement in duplicate to Empire State Building Co., L.L.C. (or another party designated by Owner) prior to commencing any work or services; however, any failure of the successful bidder to so execute and deliver such Indemnity Agreement shall not affect or diminish the successful bidder's obligations hereunder.
- (h)
 - (1) All insurance required hereunder shall be from insurance carriers acceptable to Owner and authorized to do business in the State of New York and shall name Contractor and Owner's Additional Insured: Owner, Owners managing agent, and/or Owner's designees, and their respective officers, partners, agents, employees, stockholders, and any other person or entity having an interest in the building or the property.
 - (2) All insurance policies shall provide that in the event of cancellation written notice of such cancellation shall be given to Owner at least thirty days prior to the effective date of such cancellation. In addition, wherever appropriate the consultant shall be listed as either an Additional Insured or Loss Payee.

Additional Insured List:

Empire State Building Company, L.L.C.
Empire State Building Associates, L.L.C.
Empire State Land Associates, Inc.
Empire State Land Associates, L.L.C.

- (i) If further understood and agreed that the successful bidder as an independent contractor will assume complete and sole responsibility for the actions, conduct, and consequences caused by the Contractor's agent or employees at all times.

**APPENDIX – INSURANCE SAMPLE, PERMIT INFORMATION,
ENTRANCE DOOR SIGN SPEC, & DRAWINGS**

CERTIFICATE OF INSURANCE

6/30/06

ISSUE DATE(MM/DD/YY)

PRODUCER <p style="text-align: center;">SAMPLE</p>	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.	
SAMPLE SAMPLE	COMPANIES AFFORDING COVERAGE	
	COMPANY LETTER	A ABC Insurance Company
	COMPANY LETTER	B DEF Insurance Company
INSURED	COMPANY LETTER	C XYZ Insurance Company _____
	COMPANY LETTER	D
	COMPANY LETTER	E

COVERAGES
 THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED TO PAY CLAIMS.

Co Ltr	Type of Insurance	Policy Number	Policy Effective Date (MM/DD/YY)	Policy Expiration Date (MM/DD/YY)	Limits
A	General Liability				General Aggregate \$ 2,000,000
	<input checked="" type="checkbox"/> Commercial General Liability				Prod.-Comp/Op Agg \$ 1,000,000
	<input type="checkbox"/> Claims made <input checked="" type="checkbox"/> Occurrence				Pers. & Adv. injury \$ 1,000,000
	<input type="checkbox"/> Owners & Contractor's Prot.				Each Occurrence \$ 1,000,000
	<input checked="" type="checkbox"/> Limits apply on a per project basis				Fire Damage(any one fire) \$ 1,000,000
					Med. Expense (any one person) \$ 10,000
A	Automobile Liability				Combined Single Limit \$ 1,000,000
	<input type="checkbox"/> Any Auto				Bodily Injury (Per Person) \$
	<input type="checkbox"/> All Owned Autos				Bodily Injury (Per Accident) \$
	<input checked="" type="checkbox"/> Scheduled Autos				Property Damage \$
	<input checked="" type="checkbox"/> Non-Owned Autos				
	<input type="checkbox"/> Garage Liability				
B	Excess Liability				Each Occurrence \$ 5,000,000
	<input checked="" type="checkbox"/> Umbrella Form				Aggregate \$ 5,000,000
	<input type="checkbox"/> Other than Umbrella Form				
C	Workers' Compensation and Employers' Liability				Statutory Limits
					Each Accident \$
					Disease - Policy Limit \$
					Disease - Each Employee \$
	Other				

Description of Operations/Locations/Vehicles/Special Items As respects project _____

the following are included as additional insureds: Empire State Building Company L.L.C., Empire State Building Associates L.L.C. Empire State Building Company Inc. and Empire State Land Associates L.L.C.

CERTIFICATE HOLDER

Empire State Building Company L.L.C
 350 Fifth Avenue
 New York, N.Y. 10118

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES

AUTHORIZED REPRESENTATIVE

EMPIRE STATE BUILDING COMPANY L.L.C.

350 Fifth Avenue, Suite 300
New York, New York 10118

May 30, 2007

John Jones d/b/a John Jones, Architect
350 Fifth Avenue
New York, New York 10118

Ladies and Gentlemen:

In connection with that certain proposed lease between Empire State Building Company L.L.C., as landlord ("Landlord"), and John Jones d/b/a John Jones, Architect, as tenant ("Tenant"), covering Rooms XXXX on the XXth floor of the Empire State Building, 350 Fifth Avenue, New York, New York, Tenant has requested that Landlord execute and deliver the professional and owner certification (the "Professional and Owner Certification") attached hereto and made a part hereof, so that Tenant, as the architect of record for the initial alteration work under said proposed lease, may self-certify to the Department of Buildings. Landlord is willing to execute and deliver the Professional and Owner Certification, provided that Tenant agrees to the indemnity hereinafter set forth.

Accordingly, Landlord hereby agrees to execute and deliver the Professional and Owner Certification, simultaneously with the execution and delivery of this letter agreement by Landlord and Tenant, and Tenant hereby agrees to defend, indemnify and hold harmless Landlord, its agents, officers, directors, shareholders, partners, members, managers, principals, employees and tenants in common (whether disclosed or undisclosed) (hereinafter referred to as the "Landlord parties") from and against any and all claims, demands, liability, losses, damages, costs and expenses (including, without limitation, reasonably attorneys' fees and disbursements) arising from or in connection with the execution and delivery by Landlord of the Professional and Owner Certification, as well as any other application or certification to the Department of Buildings or any other governmental authority having jurisdiction over said premises and/or said initial alteration work.

The provisions of this letter agreement shall be binding upon the parties hereto and their respective legal representatives, successors and permitted assigns.

If the foregoing accurately sets forth our agreement, please sign and return to the undersigned the enclosed counterparts of this letter agreement.

Very truly yours,

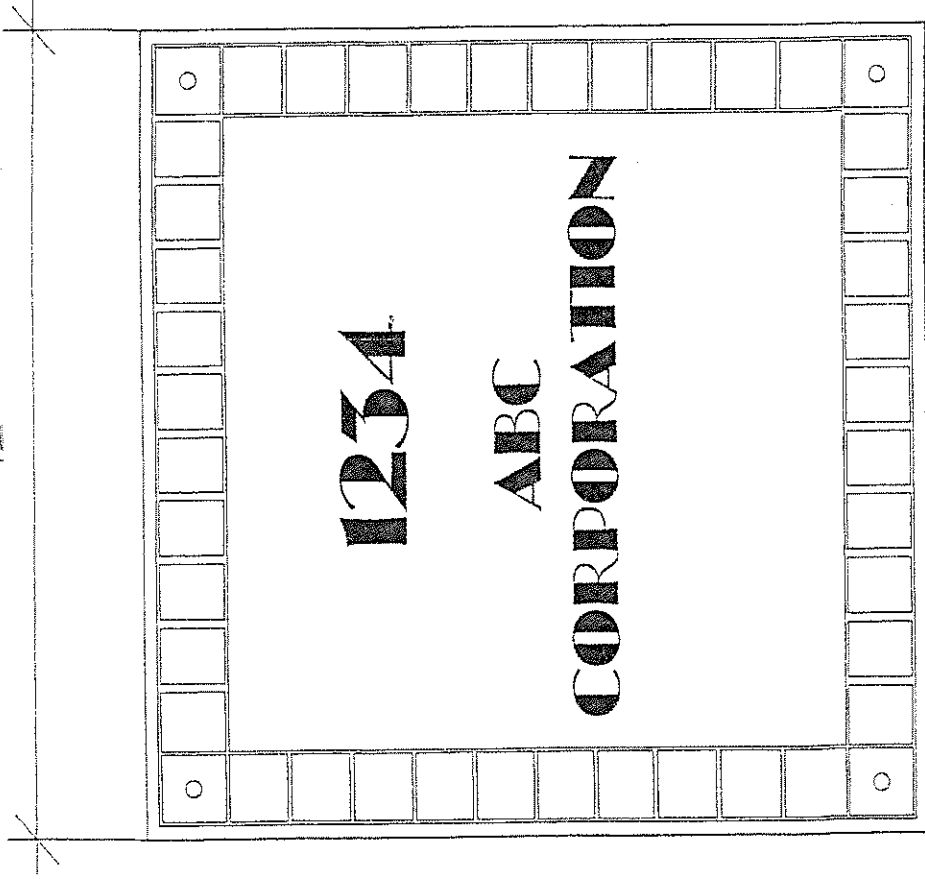
EMPIRE STATE BUILDING COMPANY L.L.C.

By: _____
James T. Connors, General Manager

ACCEPTED AND AGREED:

John Jones

12"



12"

CLIENT

EMPIRE STATE BUILDING
 350 FIFTH AVENUE
 SIGNAGE BUILDING STANDARD
 PERMANENT SIGNAGE

DRAWN BY

VS

SCALE

NTS

JOB NUMBER

2600

CHECKED BY

EVS

DATE

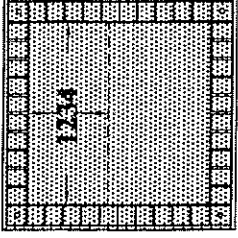
08/16/06

DRAWING NO.

BS-11

SUITE NUMBER

The suite number will always be a 4 digit number. The point size of the suite number will be 218 Ultra Modern Bold.



The area for the suite number will be the 10" x 4" section at the top of the sign (see diagram).

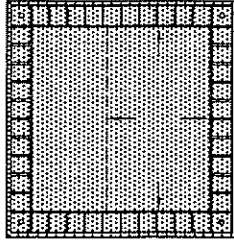
The layout of the suite number will be centered left and right of the 10" width as well as centered top to bottom within the 4" height (see diagram).

COMPANY NAME

The area for the company name will be the bottom 10" x 6" section (see diagram). Due to company names differing in length, we have set forth the following.

COMPANY NAMES
REQUIRING 1 LINE

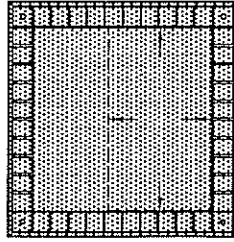
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100 to 120 pt Ultra Modern
Bold.



ACME

COMPANY NAMES
REQUIRING 2 LINES

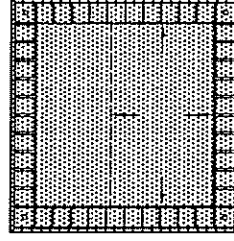
A point size ranging between
88 to 97 pt Ultra Modern Bold,
leading 95 to 105 pt



ABC
CORPORATION

COMPANY NAMES
REQUIRING 2 LINES

A point size ranging between
53 to 65 pt Ultra Modern Bold,
leading 62 to 72 pt



JOHNSON ANDERSON,
WASHINGTON,
SCHWARTZ AND
KETTLEMAN, INC.

Copy to be centered left and right and top to bottom within the bottom 10" x 6" area allotted for the company name. Each sign will have a hole in each corner to be hung using matching stainless steel screws.

CLIENT

EMPIRE STATE BUILDING
350 FIFTH AVENUE
SIGNAGE BUILDING STANDARD
PERMANENT SIGNAGE

DRAWN BY

VS

CHECKED BY

EVS

SCALE

NTS

DATE

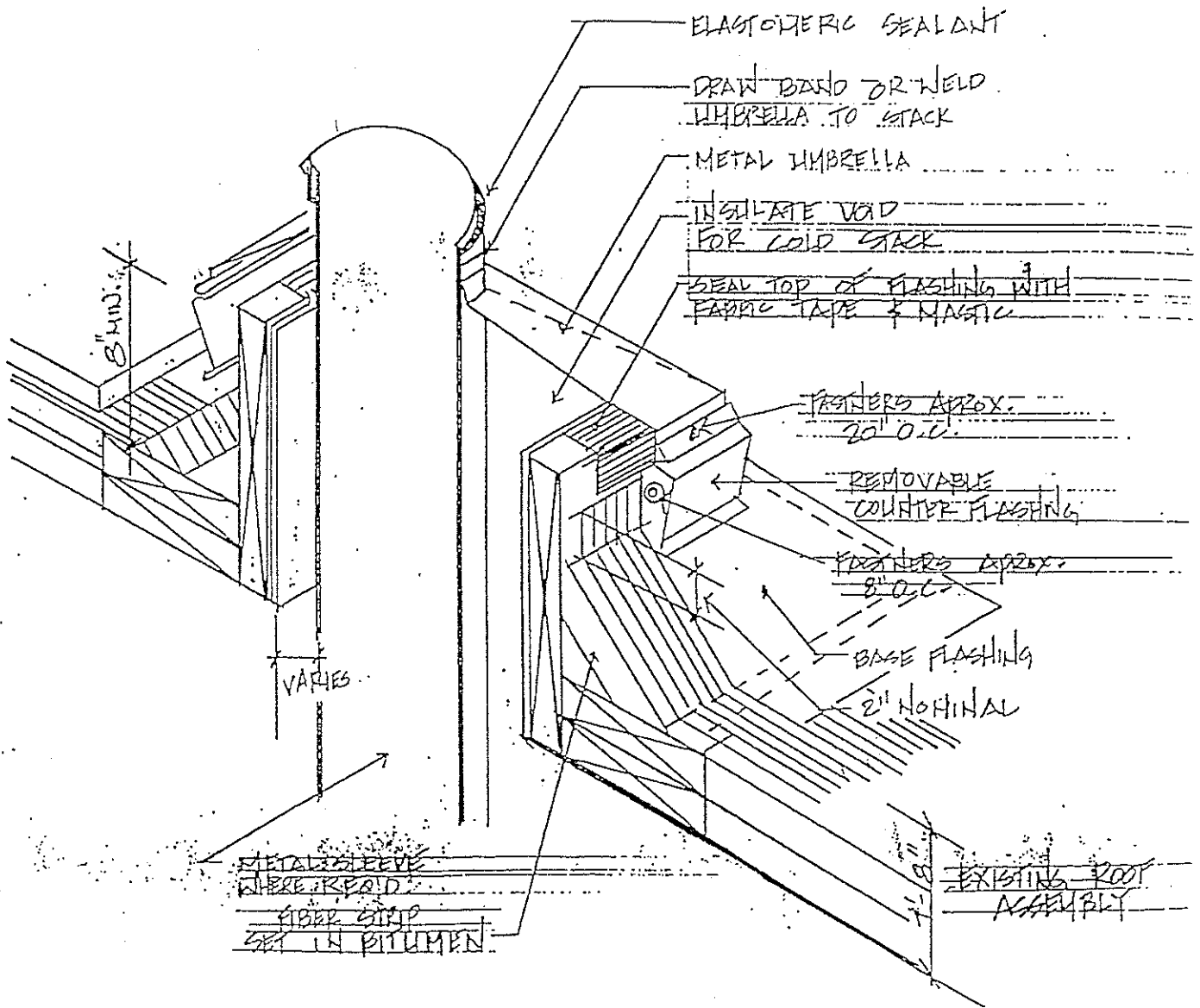
09/11/07

JOB NUMBER

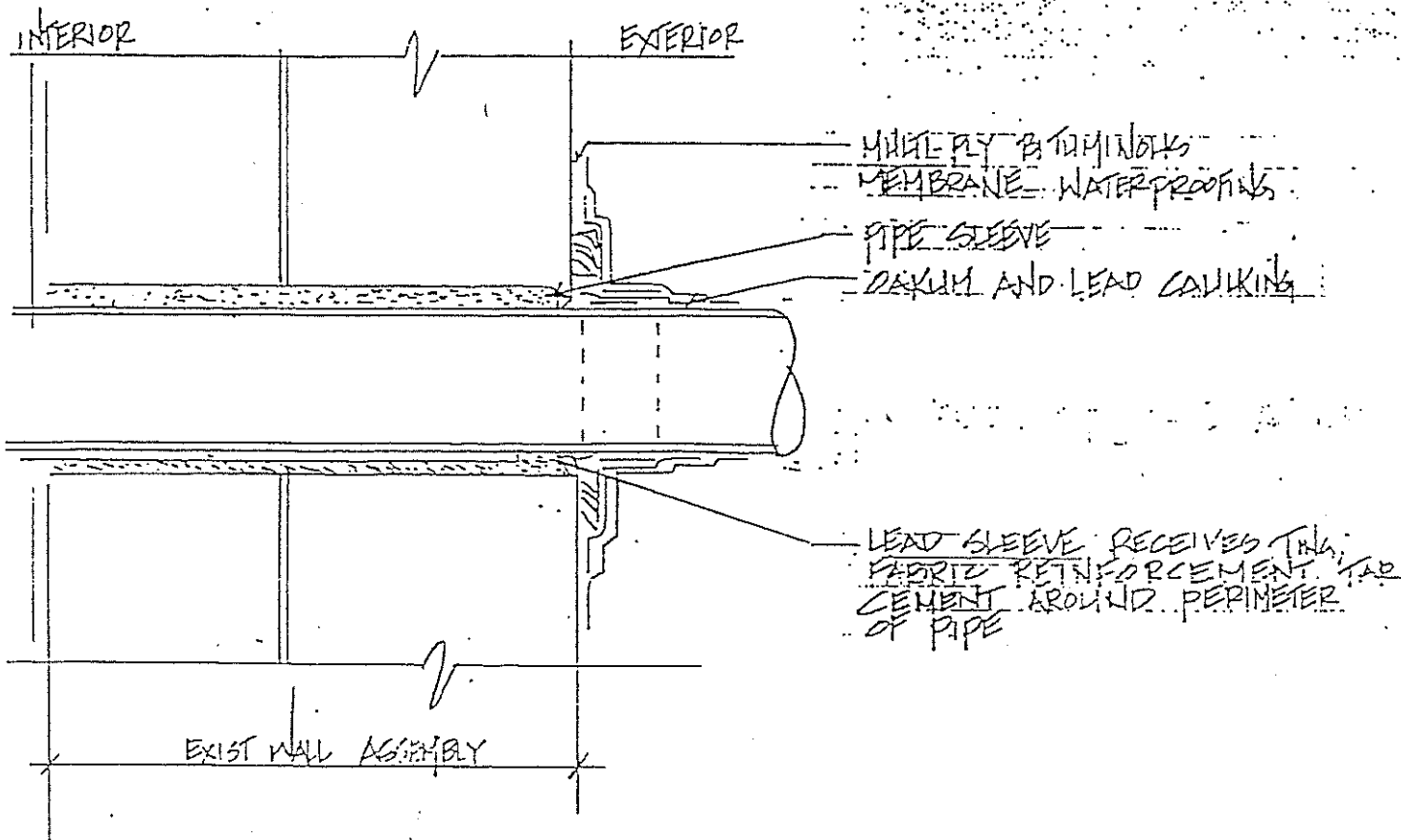
2600

DRAWING NO.

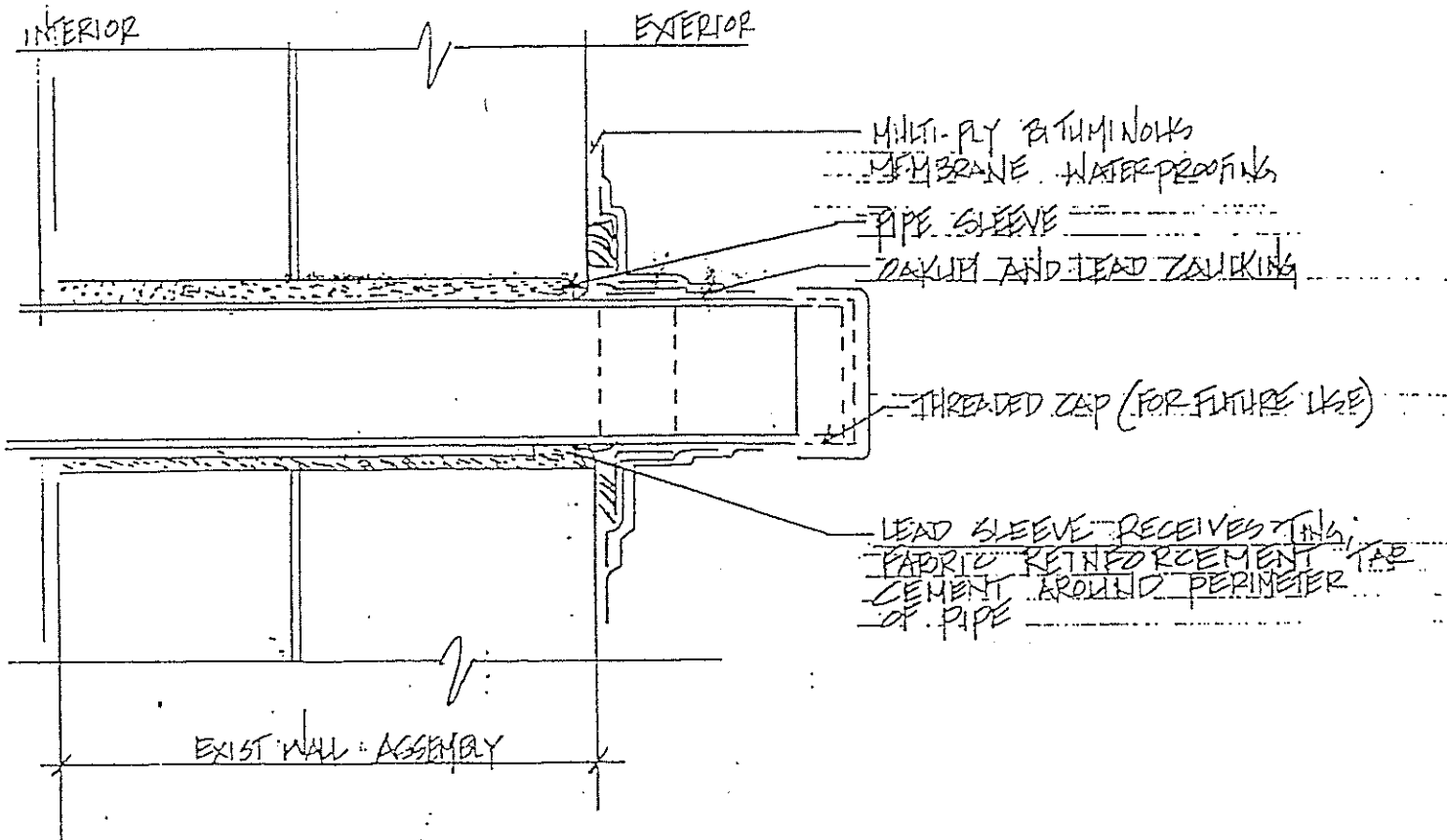
BS-12



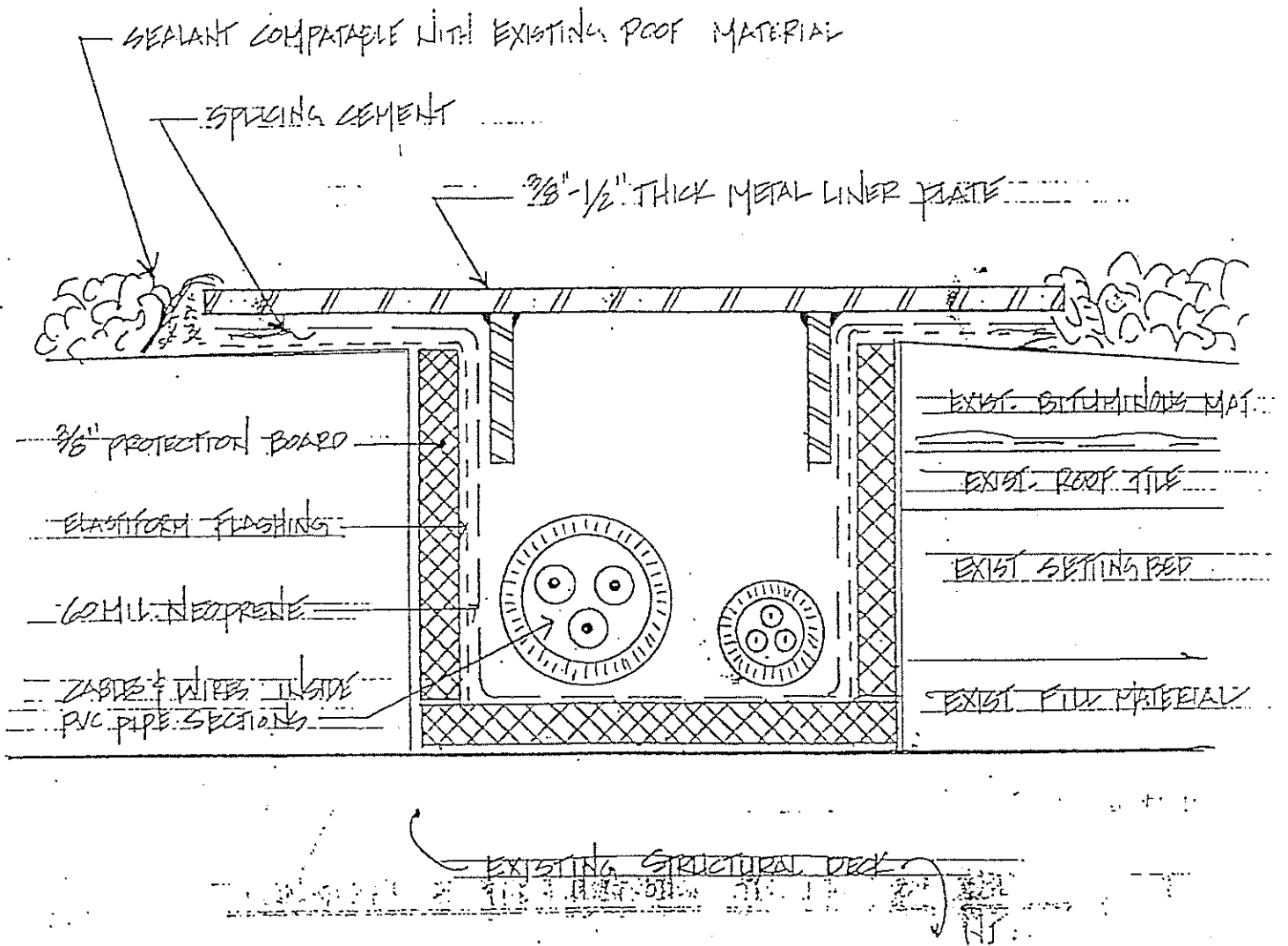
EMPIRE STATE BUILDING		
OFFICE OF CONSTRUCTION MANAGER		
ROOF/DECK PENETRATION		
FOR ANTENNA ROUTING & MOUNT		
DATE 5-5-92	SCALE N.T.S.	DWN. BY RA



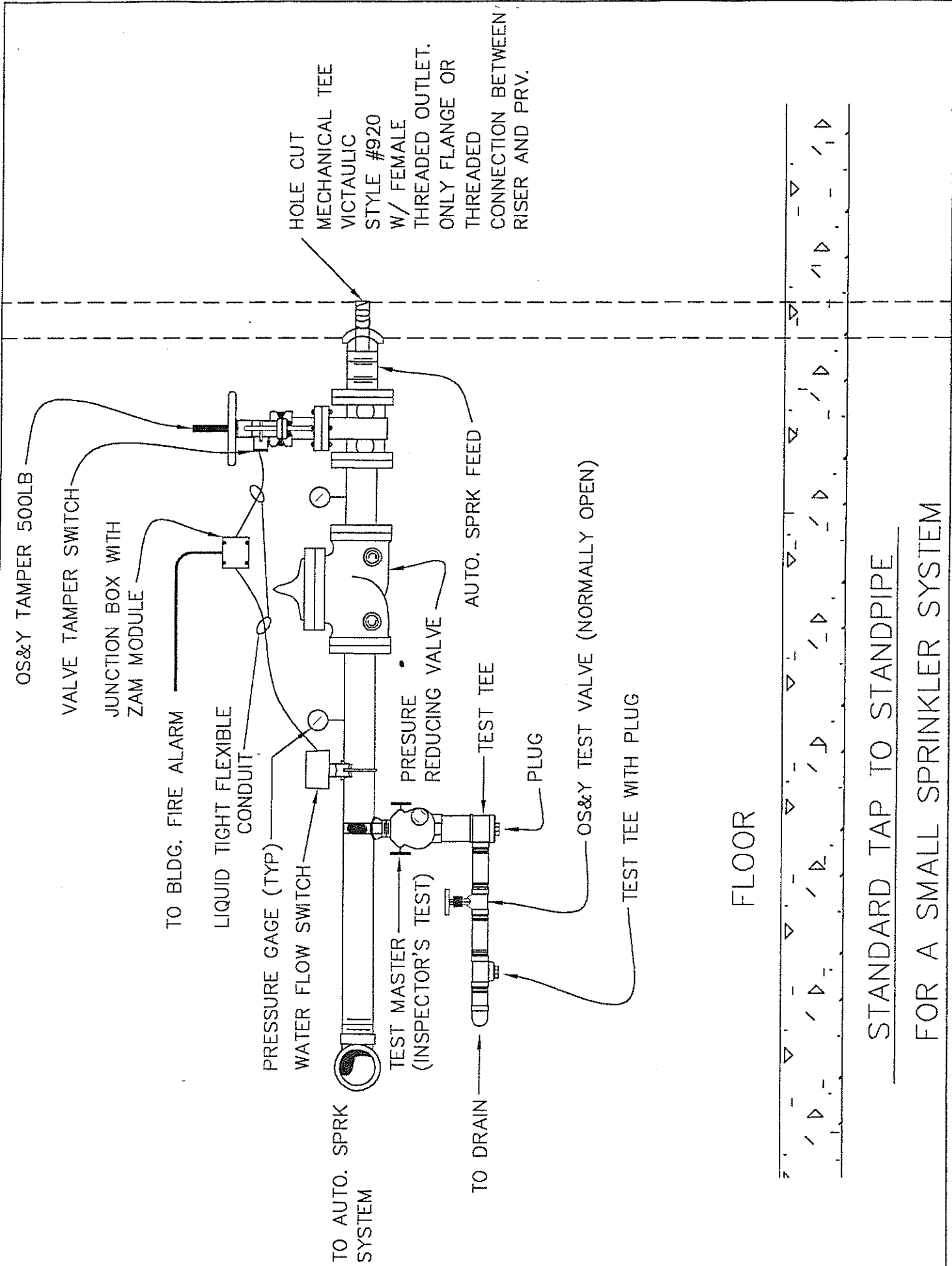
EMPIRE STATE BUILDING		
OFFICE OF CONSTRUCTION MANAGER		
EXTERIOR WALL PENETRATION FOR		
ANTENNA CABLE ROUTING		
DATE: 11-1-92	SCALE: 1/4" = 1'-0"	DWN. BY: RA.

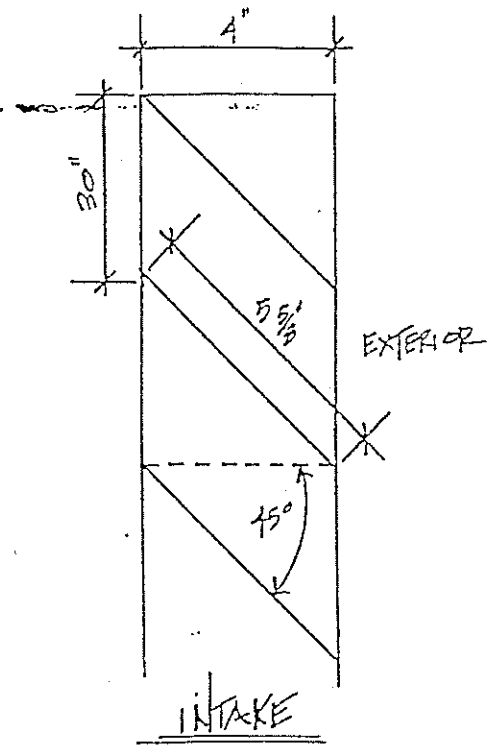


EMPIRE STATE BUILDING		
OFFICE OF CONSTRUCTION MANAGER		
EXTERIOR WALL PENETRATION FOR		
ANTENNA CABLE (FUTURE)		
DATE 5-10-92	SCALE N.T.S.	DWN. BY RA.



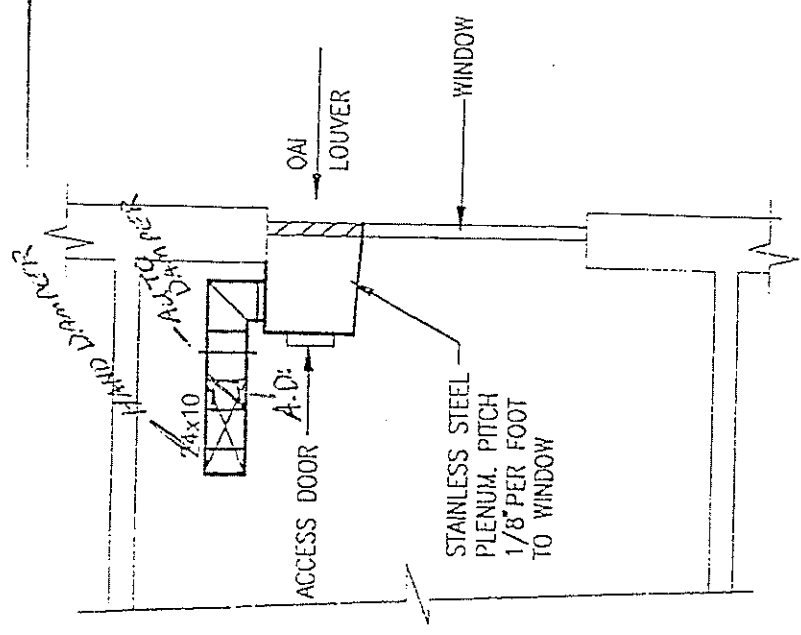
EMPIRE STATE BUILDING		
OFFICE OF CONSTRUCTION MANAGER		
WATERPROOF TRENCH (TROUGH)		
THROUGH ROOF DECK		
DATE 5-5-92	SCALE NTG	DWN. BY RA





EMPIRE STATE BUILDING		
OFFICE OF CONSTRUCTION MANAGER		
DETAIL		
OUTSIDE AIR LOUVER		
DATE 4-30-92	SCALE N.T.S.	DWN. BY RA.

SK-1

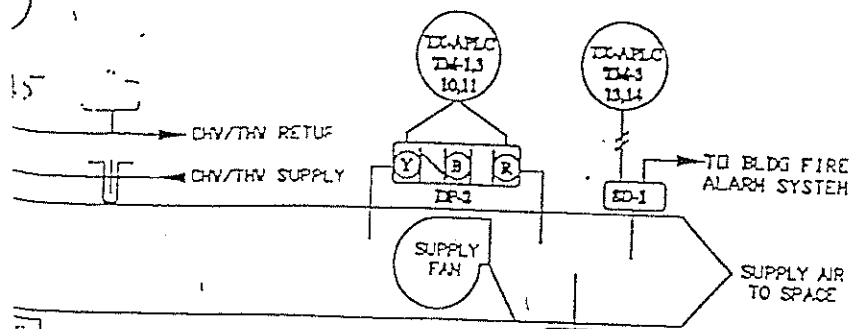


B
M-3

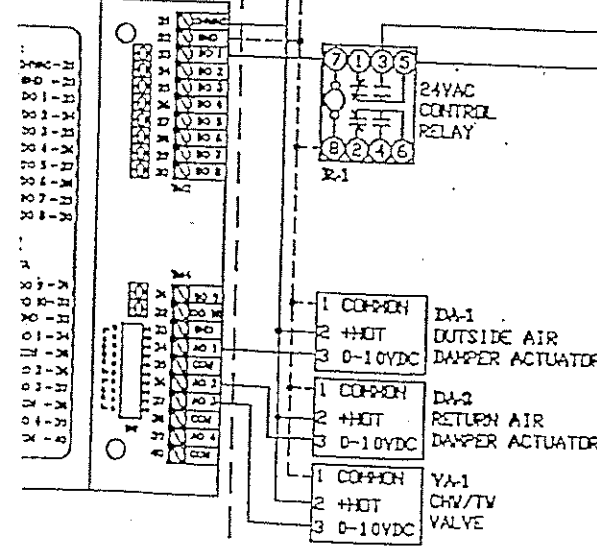
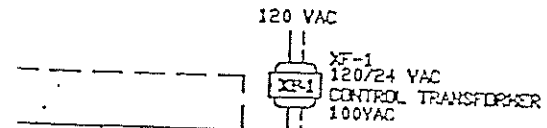
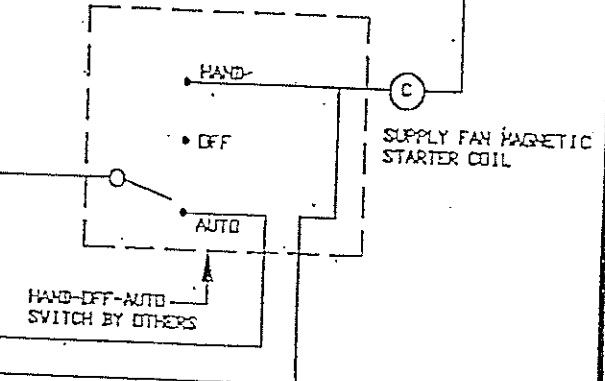
SECTION

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

FLC
3



SUPPLY FAN CONTROL WIRING



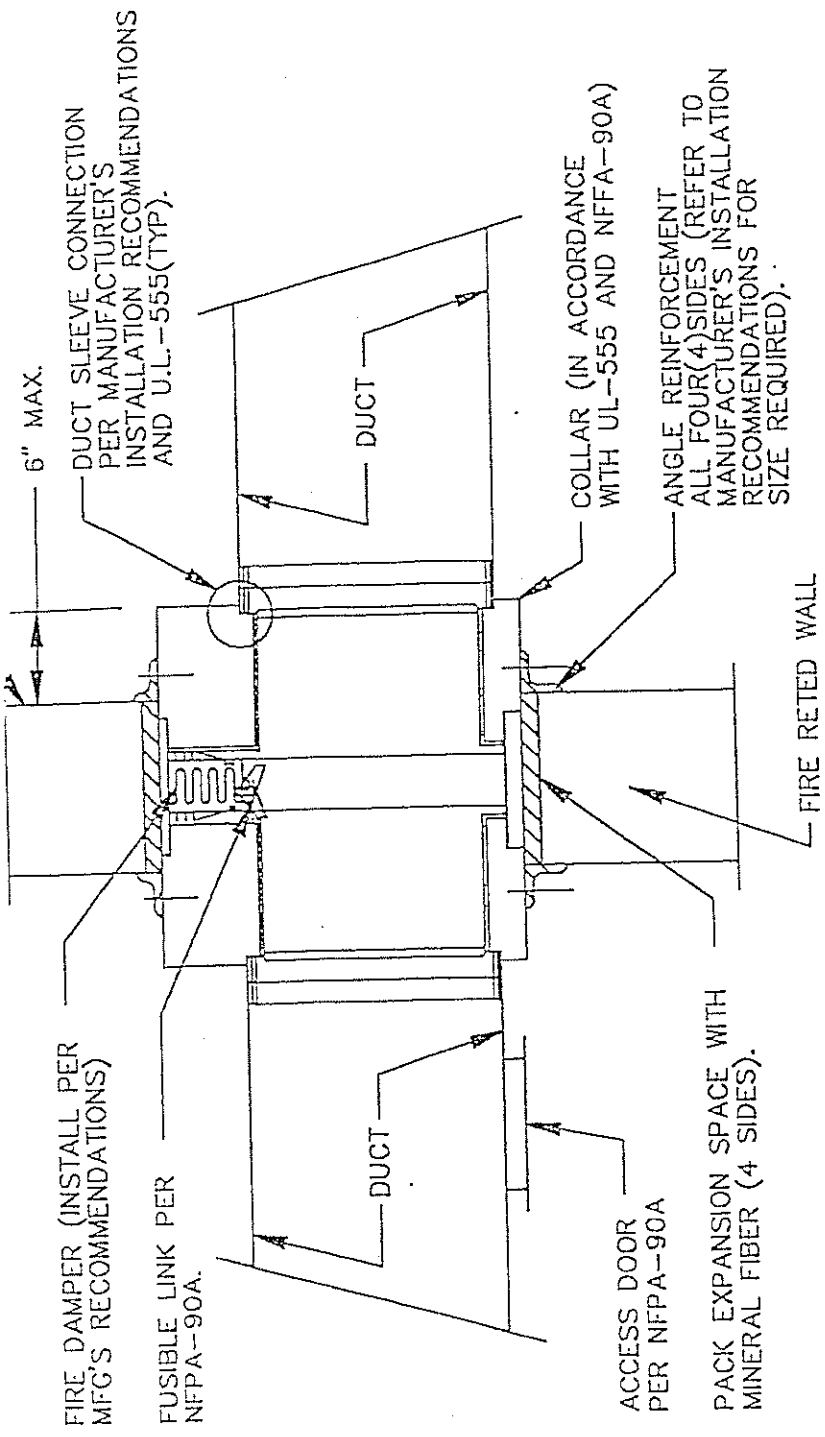
BILL OF MATERIAL

ITEM	QTY.	DESCRIPTION	PART NUMBER
DA-1, 2	2	Mod., Spring Return Damper Actuators	AF24-SR AL
DP-1, 2	2	Differential Pressure Switch	Kele P32AC-2
HC-1	1	12X10X4' Hinged Cover Enclosure	Kele HC12104P
LL-1	1	Heating/Cooling Coil Low Limit Alarm	JCI A70HA-1
R-1	1	DPDT Relay	CHRON LY2H-24VAC
SD-1	1	Relay Base	CHRON PTFDBA-E
TS-1	1	Smoke Detector Alarm	By Others
TS-3	1	Microset Space Sensor	Alerton TS-1050
TS-2, 4	1	Backplate	Alerton AC-1050
TS-5, 4	2	Mixed Air Sensor	Kele ST-FZ22-12
TS-5, 1	2	10' Duct Sensor	Alerton TS-2010
TS-DA	2/1	Well Sensor	Kele ST-U22B
TX-APLC	1	10' Duct Sensor	Alerton TS-2010
VA-1	1	Logic Controller	Alerton TX-APLC
XF-1	1	Control Valve By Others	
	1	120/24VAC 100VA Transformer	Kele 691-X1

SK-2

EC-1
12X10X4' ENCLOSURE

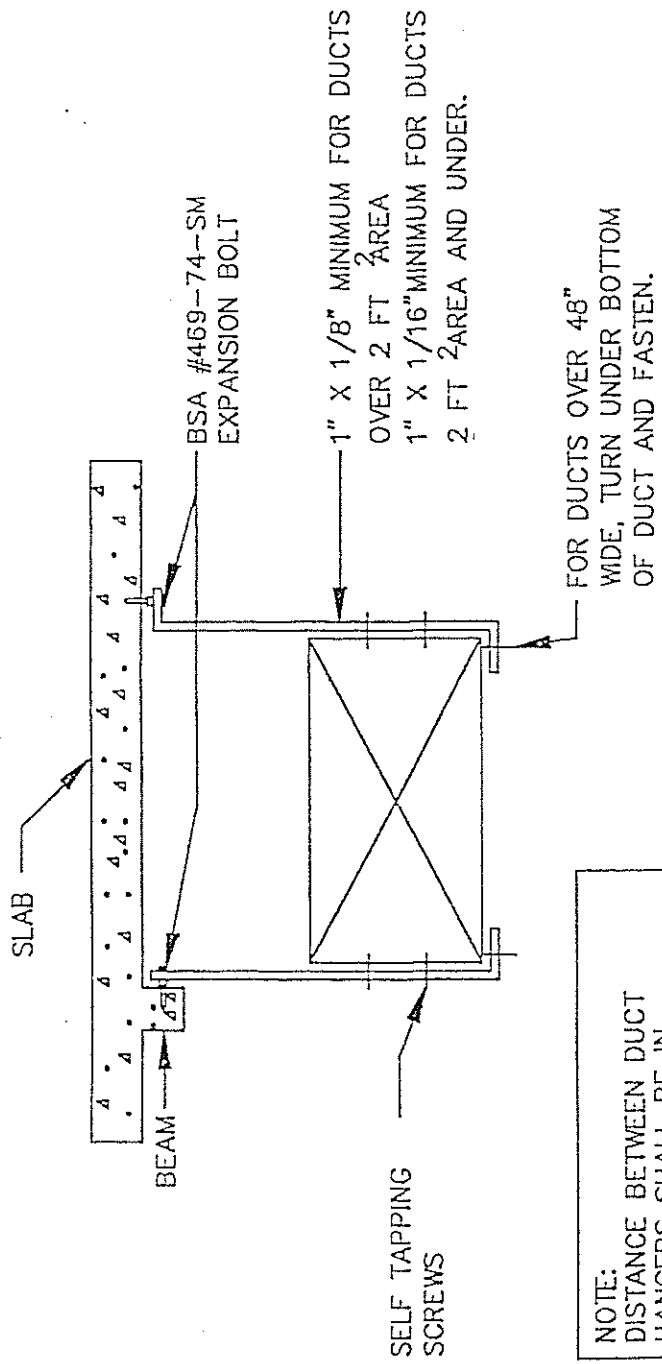
EMPIRE STATE BUILDING New York City, New York TYPICAL AEU	ENG./DR. JAC/DHC
	Rev.
	Date 09/13/97
	Dwg 1



NOTE:
 ALL FIRE DAMPERS SHALL BE U. L. LABELLED AND APPROVED.
 THE FIRE DAMPER MANUFACTURER'S INSTALLATION DETAILS
 AND INSTRUCTIONS AS TESTED AND APPROVED BY U. L. MUST
 BE USED IN LIEU OF THE ABOVE DETAILS WHERE APPLICABLE.
 FIRE DAMPERS INSTALLED IN HORIZONTAL POSITION SHALL BE
 APPROVED TYPE SPRING LOADED.
 IN NEW YORK CITY, FIRE DAMPER SHALL HAVE A B. S. A. APPROVAL NUMBER.

TYPICAL FIRE DAMPER DETAIL

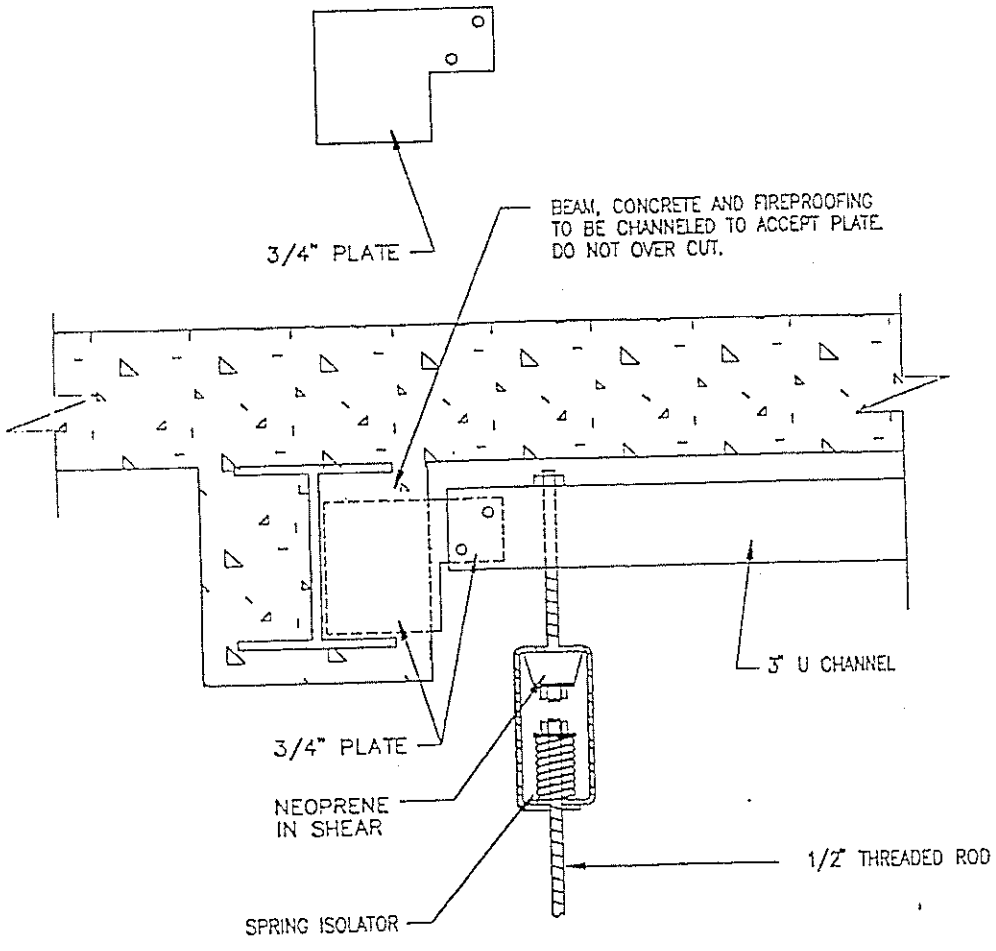
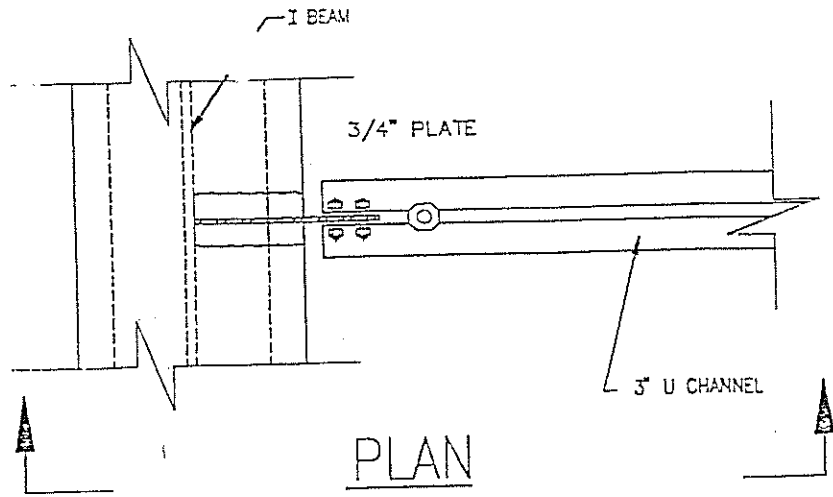
N.T.S.



NOTE:
DISTANCE BETWEEN DUCT
HANGERS SHALL BE IN
ACCORDANCE WITH RS-13-1
OF THE N.Y.C. BLDG. CODE.

METHOD OF HANGING
DUCTWORK DETAIL

N.T.S.



SECTION

NOTE, THIS DETAIL IS TO BE USED AS A GUIDE ONLY. ACTUAL STRUCTURAL DETAILS AND FABRICATION SHALL BE AS REQUIRED BY THE EMPIRE STATE BUILDING'S STRUCTURAL ENGINEER'S REQUIREMENTS.

TYPICAL A/C UNIT HANGER
 DETAIL

N.T.S.

INSULATION ON BEELINE ONLY
 FEMALE/MALE STEEL SWIVEL (STEAM, COND. OR H.W. ONLY) HANGER, BEELINE # B4-46 OR EQUAL

LOCKNUT

VIBRATION ISOLATORS WHERE SPECIFIED OR INDICATED. PROVIDE LOCKNUTS

GALV. THREADED HANGER ROD, SIZE AS INDICATED

NUT, (2) WASHERS & LOCKNUT AT HANGER CONNECTION

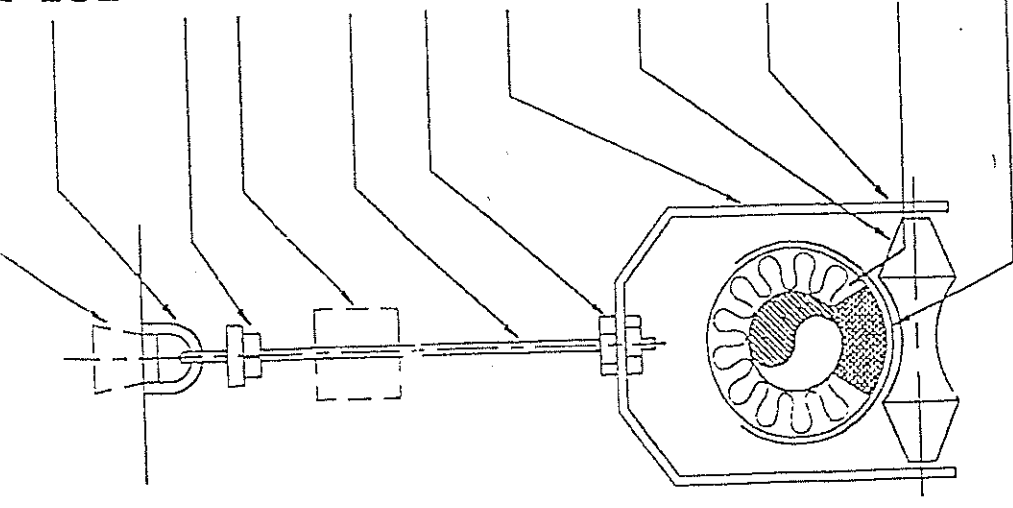
WROUGHT STEEL ROLLER SUPPORT SIZED FOR INSULATION (STEAM, CONDENSATE OR HOT WATER PIPING) C. & P. FIG. 140 OR EQUAL

ADJUSTABLE STEEL BAND HANGER SIZED FOR INSULATION (COLD WATER PIPING UP TO 2 1/2" SIZE) BEELINE # 3174 OR EQUAL

WROUGHT STEEL CLEVIS HANGER SIZED FOR INSULATION (COLD WATER PIPING 3" & LARGER) C. & P. FIG. 100 OR EQUAL

RIGID INSULATION SECTION & # 16 GA. GALV. SLEEVE AT EACH INSUL. PIPE SUPPORT (PIPING UP TO 2 1/2" SIZE)

WELDED SADDLE AT EACH INSUL. PIPE SUPPORT (PIPING 3" & LARGER)

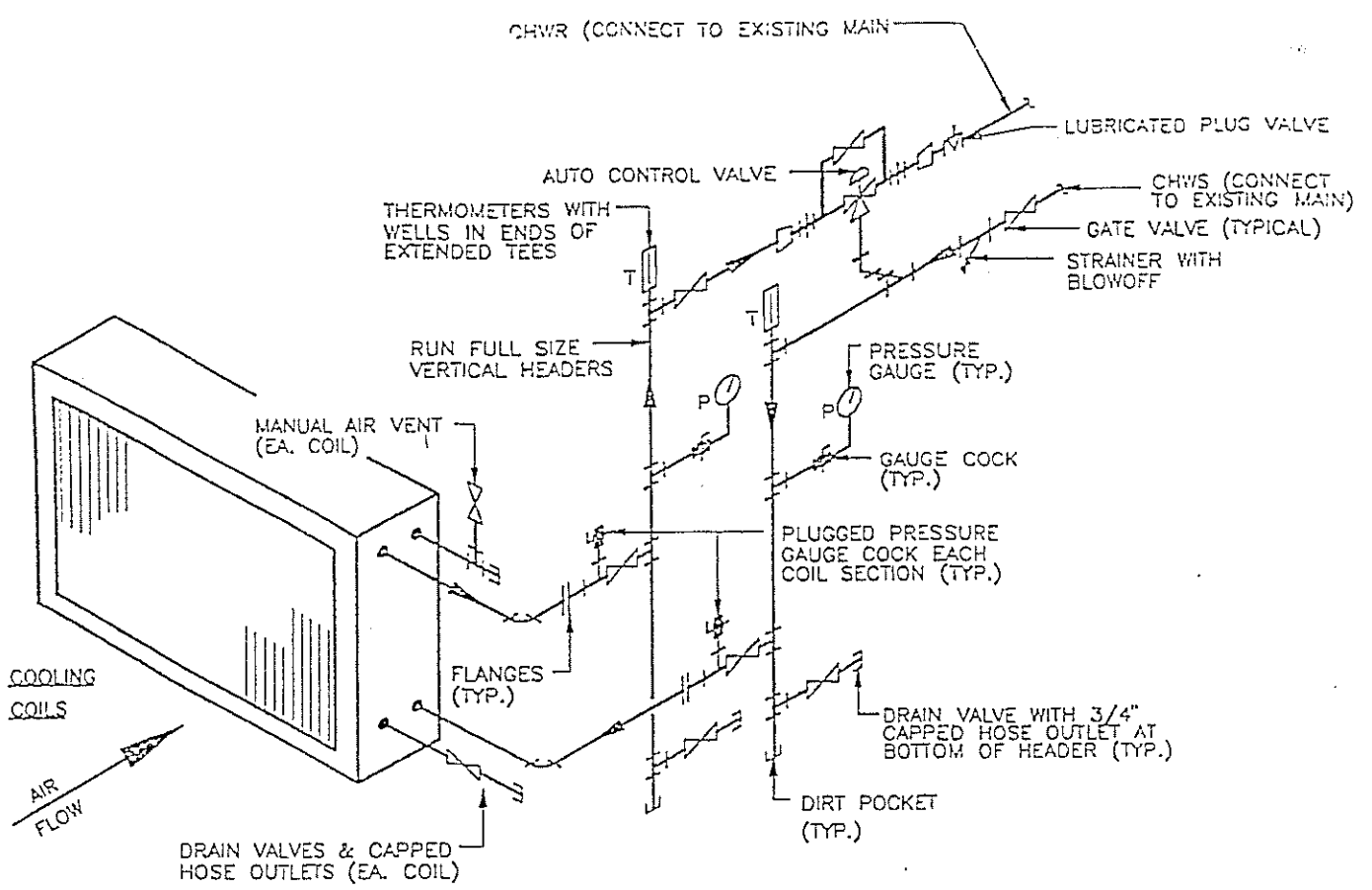


ROD SIZE SCHEDULE:

MIN. ROD DIA.	MAX. PIPE SIZE	MAX. SUPPORT SPACING
3/8"	UP TO 2"	10 FT.
1/2"	2" TO 3"	12 FT.
5/8"	4" TO 6"	14 FT.
3/4"	8"	19 FT.

TYPICAL PIPE HANGING DETAIL

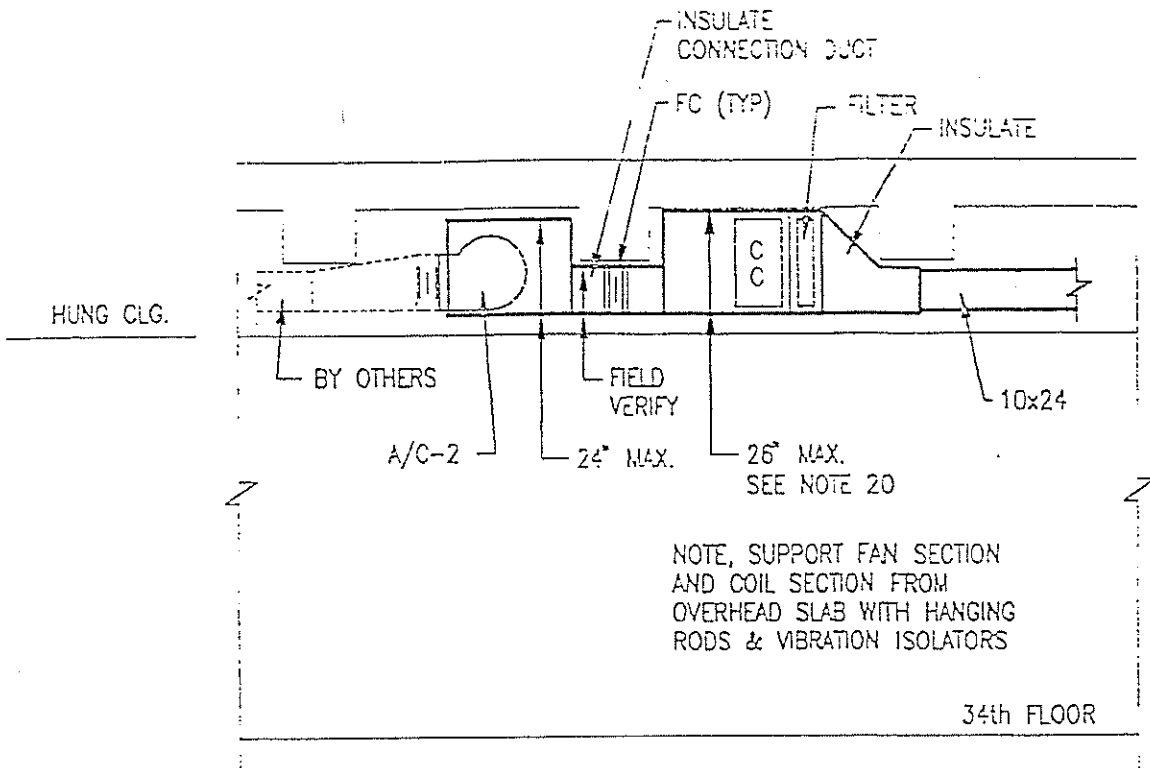
N.I.S.



1. ALL VERTICAL HEADERS TO RUN FULL SIZE OF BRANCH CONNECTION ON CHW MAINS
2. ALL HORIZONTAL RUNOUTS BETWEEN COIL AND VERTICAL HEADERS SHALL BE COIL CONNECTION SIZE.

COOLING COIL PIPING SCHEMATIC DETAIL

N.T.S.



SECTION

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

