GENERAL REQUIREMENTS - SPECIFICATIONS

FOR

INTERIOR FINISHOUT CONSTRUCTION

Flex Building

ISSUED September 16, 1996
REVISED – April 21, 2008

by

JACKSON·SHAW

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DIVISION 1

GENERAL CONDITIONS OF THE CONTRACT

The General Conditions of the contract for construction, American Institute of Architects Document A107, current edition shall apply to all work in this document.

PERMITS AND FEES:

The General Contractor and its' mechanical, electrical, or plumbing subcontractors shall be responsible for obtaining all required building permits, and shall include the cost of all necessary fees, permits, inspections, testing, cleaning, etc. in the contract for construction.

TEMPORARY UTILITIES:

During initial construction phase, the electrical subcontractor shall connect to the low voltage house panel (coordinate with Jackson-Shaw Company) and provide suitable temporary power required for all trades. The General Contractor is responsible for establishing temporary electric and gas service to the tenant space. General Contractor shall include an allowance in its bid for the estimated cost of electric and gas consumption from the date the temporary services are established, to the date of substantial completion. Upon substantial completion, the General Contractor shall coordinate with Tenant to transfer service into Tenant's name. The GC is responsible for requesting a meter reading from the utility provider at the date of substantial completion and furnishing a copy of utility company reading to Landlord. Should actual costs be less than the allowance, GC shall credit the difference to Landlord. Should actual costs exceed the allowance, Tenant shall be responsible for all additional utility charges.

SUBSTITUTIONS:

Where products are specified by manufacturer, brand name, and/or model number, the GC and its' subs shall base their bids upon, and provide those items, as specified. Jackson-Shaw Company will consider substitutions for materials in place of those specified, in order to save time or cost, provided the same quality is maintained. Jackson-Shaw Company must approve all specified products and/or substitutions via product submittals prior to ordering material(s). The GC shall identify all long lead items in its bid.

COORDINATION:

The contractor shall coordinate all work with the following entities: all local, municipal, state and federal agencies having jurisdiction over the project; all separate contractors and/or agents of the Tenant authorized by Jackson-Shaw Company, and Jackson-Shaw Company. The contractor shall be responsible for the coordination of all work necessary for the completion of the project in accordance with the plans and specifications, including the connection of equipment and installation of materials supplied by others, unless clarified by bid submittals, with monetary stipulations.

CHANGES OR ADDITIONAL WORK:

The General Contractor or it's subs are not to make changes or perform additional work without written authorization from Jackson-Shaw Company. If requested by the Tenant, the GC shall refer Tenant to the Project Manager at Jackson-Shaw Company.

CLEANUP:

The General Contractor shall provide a suitable construction dumpster for the duration of the project, no exceptions. All contractors are responsible, individually or collectively, for cleaning on a day-to-day basis. Failure to abide by this provision will result in Jackson-Shaw Company contracting the cleaning and pro-rating the cost to the General Contractor.

Immediately prior to substantial completion and delivery of project, the General Contractor shall clean the entire project suitable for occupancy, including, but not limited to: replace any broken glass, remove stains, spots, marks and dirt from finished surfaces; and thoroughly clean all hardware. Wash all storefronts (interior and exterior,) other glass, and mirrors. Clean all kitchen cabinets and bathroom fixtures. Vacuum new carpets, vacuum and steam clean any pre-existing carpets, clean mini-blinds, water mop and wax tile floors, and sweep warehouse and/or other concrete floors. Broom sweep and magnet sweep all exterior sidewalks, parking areas, and truck court to remove all construction debris, including screws, nails, knock-outs, rebar, etc. Legally dispose of all waste materials.

PROJECT RECORD DOCUMENTS:

Maintain at the site a complete set of clean and legible copies of the City-approved drawings. Stamp each sheet to indicate “As-Built” or "Project Record Documents". Accurately and legibly mark the location of any and all field changes with red contrasting pen. Record on each of the architectural drawings and each of the mechanical, electrical, and plumbing drawings, the proximity of underground, above ground, above ceiling, and/or otherwise concealed equipment or utilities including but not limited to, pipes, lines, shut-off, isolation, mixing, or other valves, cleanouts, drains, conduits, sweeps, boxes, controls, field changes of dimension or detail, substitutions of materials, and any other matters not on the original construction documents. Do not scale drawings. Written dimensions take precedence. Larger scale drawings take precedence over smaller scale drawings. General Contractor shall insure all subcontractors receive complete sets of the construction documents. Subcontractor shall examine construction documents fully upon receipt and notify GC and Jackson-Shaw Company of any discrepancies or omissions prior to the commencement of work. Upon substantial completion of work, the GC shall obtain from each of the MEP subcontractors, a complete set of "As-Built" prints clearly and accurately showing in contrasting red ink any additions, modifications, changes, or deviations from the original plans, and shall provide Jackson-Shaw Company one complete set of "As-Built" documents including all architectural and MEP drawings bearing original Architectural or Engineer’s seal.

CUTTING AND PATCHING OF EXISTING WORK:

No work shall be permitted where cutting and/or patching is required that will affect the appearance, weather tightness, and/or structural integrity of existing building components or surfaces without prior submission to and approval by Jackson-Shaw Company of fully detailed plans and specifications describing the proposed work. In order to preserve any applicable shell building warranties, Jackson-Shaw Company reserves the right to require employment of the original shell subcontractor to perform cutting and/or patching of any critical surface. Such work shall be included in the scope and detail of tenant improvement work at Tenant’s sole cost and expense.

MODIFICATIONS TO BUILDING EXTERIOR:

All new or remodel construction affecting the exterior of the building shall be accomplished so that any new finished surface matches similar corresponding original finished surfaces, including, but not limited to, rustications, panel chamfers, metals, glass, textures, paints, and caulking, unless specifically directed otherwise on the plans and approved in writing by Jackson-Shaw Company.

COMPLIANCE WITH CODES:

The General Contractor and it's subcontractors shall be responsible for providing and installing materials complying with the most current adopted editions of all local, state, and federal codes, ordinances, standards, or regulations, including but not limited to: mechanical, electrical, plumbing, fire, accessibility, energy, and building codes of all authorities having jurisdiction. Projects consisting of design-build mechanical, electrical, and plumbing systems shall be designed to comply with all local, state, and federal codes, ordinances, standards, and regulations of all authorities having jurisdiction. The General Contractor shall include the cost of all construction elements required by the AHJ necessary to comply with said codes, ordinances, standards, or regulations in its' bid.

All new construction is required to comply with the guidelines of the American's with Disabilities Act (ADA), and Texas Accessibility Standards (TAS) of the Architectural Barriers Act, Article 9102, Texas Civil Statutes. The architect of record is responsible for submitting the construction documents to a Texas Department of Licensing and Regulation (T.D.L.R.) Registered Accessibility Specialist (RAS) designated by Jackson-Shaw Company. Architect shall develop and submit plans, and/or written documentation, to the RAS and Owner detailing corrective measures to remedy any items identified during plan review as not documented, unacceptable or non-compliant. Tenant shall not install, cause, or create, any construction, appurtenance, fixture, or feature that violates current ADA/TAS codes.

GENERAL NOTES:

1. In case of conflict between the specifications and drawings, the drawings shall govern.

2. The term "provide" where used on the drawings is intended to make clear that the item pointed out is to be furnished and installed by the General Contractor and is not an existing item.

3. The phrase "by Tenant" shall mean that the item called for on the drawings shall be furnished, delivered, and installed by Tenant at their sole cost and expense, and is excluded from the contract for construction.

4. The phrase "furnished by Tenant" shall mean that the item called for on the drawings shall be furnished and delivered by the Tenant and installed by the General Contractor. Only the cost of installation is included in the contract for construction.

5. Contractor shall visit site to become familiar with and verify all existing conditions prior to submission of bid. Owner shall not be responsible for any gaps, errors, or omissions in contractor's bid due to contractor's failure to field verify existing conditions.

6. The General Contractor, the Jackson-Shaw Project Manager, and the Tenant, shall meet prior to commencement of construction to review and discuss hours of operation, noise and odor controls, materials staging, project schedule, MSDS records, project OSHA safety program, utility interruptions, fire alarm system interruptions, jobsite rules, debris removal, security, and any other situations unique to the building.

7. The General Contractor shall complete all open items provided on a "punch list" within 15 days of receipt of the certificate of occupancy. The punch list walkthrough is to be performed by the Jackson-Shaw Company Project Manager, Tenant, and a representative of General Contractor. At Owner's sole discretion, any item remaining unfinished after 30 days may be completed with retainage funds.

8. For a period of one year from the date of substantial completion the General Contractor shall be fully and solely responsible for removal, replacement and repair as directed of damaged or defective material or workmanship connected with the contract.

9. Shell building structures, relocated items, or any other items noted as “existing to remain” shall be amply protected throughout the period of construction, and shall be restored to original condition and thoroughly cleaned prior to substantial completion. At Owner’s sole discretion, any existing items damaged or displaced during the tenant improvement project that are not satisfactorily repaired or replaced upon substantial completion will be addressed by Owner. The cost of repair or replacement shall be deducted from retainage funds.

10. Work by Owner or by separate contractor: The term "N.I.C." (not in contract) as used in contract documents, shall be by others.

11. Insurance: General Contractor and all parties furnishing services to Jackson-Shaw Company or any of its subsidiary or affiliate companies must provide Jackson-Shaw Company with evidence of minimum insurance requirements as defined in Exhibit “G” of the contract, and in accordance with Article 17 of AIA document A107.

12. All materials and equipment shall be new and of specified quality, installed IAW manufacturer’s directions.

13. During the entire project the function and integrity of all existing exits, fire exits, fire rated enclosures, exit lighting, fire protective devices, sprinklers and alarms shall be continuously preserved and maintained.

14. Employees of the GC and each subcontractor shall conduct themselves in a professional and responsible manner at all times**.** The security of our properties and the safety of Jackson-Shaw Company employees, our Tenants, their clients or guests, contractor personnel, and visitors to the property are of foremost concern to Jackson-Shaw. Any personnel involved in gross insubordination, fighting, malicious or violent acts, threats, vandalism, or offensive profanity are subject to immediate removal from the property by the appropriate authorities and potential prosecution.

15. Parking for all subcontractor personnel shall be limited exclusively to those areas designated by the JSC Project Manager at the rear of the building.

16. Jackson-Shaw Properties are SMOKE FREE facilities. Smokers shall limit their use of tobacco to designated parking areas behind the building and away from any occupied tenant space. Smoking is PROHIBITED on the roof or within ANY portion of the building, including restrooms, fire sprinkler, mechanical or electrical closets. Any contractor personnel observed smoking inside the building or on the roof in violation of this policy is subject to immediate removal from the property.

17. The General Contractor shall provide, and all construction personnel shall exclusively use, temporary toilet facilities which shall be emptied and cleaned on a routine schedule to maintain a sanitary condition. Coordinate location of temporary facilities with JSC Project Manager.

18. No interior plumbing system, including breakroom / kitchen sinks, utility room basins, rest room lavatories, or other shall be used for cleaning of paint brushes or for the disposal of any chemicals or waste. No exceptions.

ABBREVIATIONS:

To avoid confusion, shop drawings shall limit the use of abbreviations to the following list or other commonly accepted acronyms. Abbreviations used on plans shall have the following meanings:

A/C	Air Condition(ed)(ing) or Alternating Current
ADA/TAS	Americans with Disabilities Act / Texas Accessibility Standards
AFF	Above Finish Floor
AHJ	Authority Having Jurisdiction
AT	Acoustic Tile
CAB	Cabinet
CH	Clear Height
CLG, CLNG	Ceiling
CNTR	Counter
CNTRTP	Countertop
CONC	Concrete
C	Carpet
CT	Ceramic Tile
D	Deep
DN	Down
DR	Door
ELEC, ELECT	Electric(al)
EMT	Electrical Metallic Tubing
EWC	Electric Water Cooler
EWOC	Equal Width on Center
FC	Footcandles
FD	Floor Drain
FF	Finish Floor
FG	Fixed Glass
FLR	Floor
FLUOR	Fluorescent
FIXT	Fixture
G BD	Gypsum Board
GL	Glass
H	High
HB	Hose Bibb
HR	Hour
HT	Heat
HWH	Hot Water Heater
HVAC	Heating, Ventilation & Air Conditioning
IAW	In Accordance With
INCAND	Incandescent
LF	Linear Feet
LT	Light
MFG	Manufacturer, Manufacturing
MO	Masonry Opening
MTD	Mounted
MTL	Metal
NIC	Not In Contract
NTS	Not To Scale
OH	Overhead
OPNG	Opening
Ø	Phase Symbol
REF	Refer; Reference
REQ, REQ'D	Require(d)
REFR	Refrigerator
RI	Rough In
RM	Room
RO	Rough Opening
R/S	Rod w/Shelf Above
SF	Square Feet
SG	Sliding Glass
SHWR	Shower
STD	Standard (as specified)
T,B,&P	Tape, Bed, and Paint
UON	Unless Otherwise Noted
VCGB	Vinyl Covered Gypsum Board
VCT	Vinyl Composition Tile
W	Wide
WH, WHSE	Warehouse
WWM	Welded Wire Mesh

DIVISION 2

SITE WORK

Coordinate with Jackson-Shaw Company in order to facilitate work on, protection of, or restoration to, all exterior grounds, lawn sprinkler systems, and landscape components damaged or disturbed as a result of tenant improvement work. The General Contractor is responsible for restoring all exterior site elements to their original condition at the completion of each tenant improvement project, and shall include in its' bid, the cost for any such restoration caused by the scope and detail of the project, whether or not specifically shown on the plans.

DIVISION 3

CONCRETE

GENERAL:

Concrete flatwork shall conform to original specifications for the building shell, but in no case shall any concrete flatwork be less than 5" thick, with #3 rebar 18" o.c.e.w. both directions, on chairs, 3,000 psi concrete @ 28 days, over a machine compacted subgrade of 95% standard Proctor density.

TILTWALL PANELS:

Portions of existing tiltwall panels to be removed for installation of new fire exit doors, windows, overhead doors, or any other purpose, shall be reviewed with a structural engineer designated by Jackson-Shaw Company. All structural review costs shall be included as part of the tenant improvement project at Tenant's sole cost and expense. In all cases, panel shall be cleanly saw cut, straight, square, plumb, and true, from the outside of the panel. Contractor shall cut or grind chamfers into the outside edges of any new openings to match chamfer width, profile, and degree of other typical openings. Where integrally cast punch openings exist, cut edges shall align with and follow the base of any existing reveal or rustication collocated with the perimeter of the opening. The bottom of new overhead door openings shall be wrapped with a 3'-0" tall x 3/16" thick bent plate jamb protector, overlapped 2" on the exterior and interior panel faces, primed and finished with enamel paint to match panel. All raw concrete surfaces, or any surrounding surface affected by the work of the new opening, shall be refinished to match the appearance, texture, and color of the original panel.

"In-fills" or enclosures of existing overhead doors, windows, or other panel openings shall be accomplished to provide a structurally sound, permanently water tight, completely finished installation. Suitable materials include CMU block with engineered stucco or EIFS overlay finish, or a composite wall system of exterior grade ½" thick cement board on 14 gauge structural metal studs with an engineered stucco overlay finish. In all cases, each enclosure shall be textured and painted to match adjacent panel surfaces.

Corecuts through tiltwall panels for electrical conduits, phone line conduits, or other penetrations shall be neatly executed. Any concrete spalling resulting from core drilling operations shall be cleanly and neatly patched and painted as noted above. All coring residue shall be thoroughly rinsed and removed from interior and exterior surface of panels. Caulk all penetrations with two-part chemically curing polyurethane sealant in color(s) to match existing wall finish. Approved caulks include Sonneborn NP2, Vulkem 922, or Tremco Dymeric 511. No silicone allowed.

BUILDING SLABS:

Portions of existing interior slab to be removed for plumbing or electrical trenches, or any other purpose, shall be cleanly and neatly sawed with a wet cut electric concrete saw for removal. Where trenches are scheduled near existing demising walls, the contractor is to take suitable precautions to prevent any water or slurry from contacting the demising wall. Contractor will be held financially responsible for the repair or replacement of any damage to existing demising walls or equipment, fixtures, and furnishings of adjacent Tenants due to the contractor's failure to exercise necessary precautions to contain water or slurry. All concrete spoils are to be hauled off-site for legal disposal. Trenches shall be backfilled with soils from original excavation and re-compacted to 95% modified proctor density. Concrete used to fill in "leave outs" in the slab shall conform to minimum specifications as noted in "Concrete - General" above. Such

leave outs to be doweled to existing slab with #3 steel rebar extending a minimum of 8" into existing concrete, staggered 18" o.c.e.w at alternating sides of the existing slab. Rebar is to be epoxy grouted to existing slab with Sonnocrete® Epogel™ or approved equal, except where new concrete crosses or adjoins slab control joints, where reinforcing steel shall be 3/4" smooth and greased rebar doweled per spacing details noted above. GC shall insure the proper restoration of the vapor barrier membrane disturbed during trench excavation. Replacement vapor barrier must provide the equivalent of the original vapor seal, including installation of new 10 mil poly sheeting, overlapped, and taped at all seams. All sawcutting, core drilling, or hammer drilling in occupied buildings is to be scheduled after-hours or on weekends, unless specific approval is obtained in writing from the Jackson-Shaw Company Project Manager.

DIVISION 5

METALS

STRUCTURAL STEEL FRAMING:

Any additions or alterations to existing structural steel frame system shall be fully detailed by a registered structural engineer designated by Jackson-Shaw Company, and submitted to JSC Project Manager for approval. All structural review costs necessitated by Tenant's planned use of the premises shall be at Tenant's sole cost and expense.

HANDRAILS, RAILINGS, FENCES, or AWNINGS:

All new handrails, railings, fences, or awnings shall be fabricated, installed and painted to match existing units. Where no existing structures are present, design and finish details shall be solely at Landlord's discretion.

STAIRS:

The Architect of Record is responsible for field verifying existing shell building exits and related site conditions for the potential addition of any supplemental fire exit doors required to meet egress codes due to Tenant's floorplan configuration. Should plan review by the local authority having jurisdiction require the addition of any new exits, concrete landings, stairs, handrails, etc., such new construction shall be a part of the scope and detail of the tenant improvement and shall be at Tenant's sole cost and expense. All new exterior exits must meet ADA/TAS requirements and must match existing building standard design and materials.

DIVISION 6

WOOD / PLASTICS

MILLWORK

Upper and lower cabinets shall be custom fabricated, shop-built, and comply with applicable requirements of "Architectural Woodwork Quality Standards" as published by the "Architectural Woodwork Institute" (AWI), unless otherwise noted. All cabinetry is to be fabricated of ANSI A208.1, Grade M-2, high-density particleboard, or architectural cabinet-grade plywood. All millwork shall have a NEMA LD 3 High-

Pressure Decorative Laminate exterior finish by Wilsonart, Nevamar, or equal, and a Thermoset Decorative Interior Overlay of thermally fused white melamine. Each base cabinet shall have a 4-inch backsplash. Where sinks are installed, an undercounter p-lam clad recessed and removable ADA/TAS sloped panel shall be installed i.a.w. ADA/TAS dimensions. All cabinetry shall be installed complete, including solid backing. Fire retardant wood blocking shall be included where required for all units bearing on a wall. A finished vanity shall be included in each restroom unless wall hung lavatories are specified. Vanities shall including an undercounter ADA/TAS panel as described above. All backsplashes and countertops shall be sealed with caulk to match laminate surface. The quality standard for millwork fabrication shall comply with AWI Section 400 and its' Division 400B. The quality standard for millwork installation shall comply with AWI Section 1700. Install all woodwork plumb, level, true, and straight with no distortions. Shim as required with concealed shims.

HARDWARE

Hardware Standard shall comply with ANSI/BHMA A156.9 "American National Standard for Cabinet Hardware". Wire Pulls shall be Stanley 4483 1/2 in color to match Office door hardware, U.O.N. on the construction drawings. Concealed Casework Hinges shall be Blum Model 125, concealed 125 degree opening, or equal. Drawer guides shall be KV 8300 medium duty, precision steel ball bearing, or equal. Shelf Supports shall be KV No. 80 standards with No 180 brackets, color Anochrome, U.O.N on the construction drawings. Closet Rods shall be KV No. 660SS Tubing and No. 734 / 735 CHR Flanges, stainless steel polished chrome finish.

DIVISION 7

THERMAL AND MOISTURE PROTECTION

INSULATION:

Thermal: provide 3-1/2" thick (R-11) Owens-Corning Fiberglass ® or equivalent roll or batt blankets in all office partitions separating air conditioned from non air conditioned spaces, and 6" thick (R-19) unfaced blankets above ceilings over all air conditioned space, except air conditioned warehouse space where pin-weld insulation shall be used.

Acoustic: provide 3-1/2” thick high-density fiberglass or rock wool unfaced blankets in all restroom walls including chase walls, in partition walls between office and warehouse areas built using 3-5/8” studs (6” thick blankets in partition walls built using 6” studs,) and in any other partition walls specifically scheduled on the construction drawings to receive insulation. Provide 6” thick high-density fiberglass or rock wool unfaced blankets in all demising walls separating office areas and adjacent lease spaces, and in demising walls separating air conditioned warehouse areas and adjacent lease spaces.

Exterior walls: provide 2” thick (R-8) Owens-Corning or equivalent masonry wall insulation or 3" thick (R-11) Owens Corning Fiberglass ® blankets at all sheetrock furout walls. Provide foil backed blankets or laminated foil/polyester film vapor retarder barriers as required by code of the local A.H.J.

Insulation Height: Insulation of office partitions shall be installed to ceiling height, U.O.N. on the construction drawings. Insulation of partition walls separating air conditioned office space from air conditioned warehouse space shall be installed to deck. Insulation of demising walls adjacent to office use areas shall be installed to ceiling height, U.O.N on the construction drawings, and to deck in all air conditioned warehouse areas.

Pin weld insulation: Provide pinweld insulation at deck in all air conditioned warehouse spaces. All insulation shall be roll type white vinyl faced (R-19) thermal rating, U.O.N. on the construction drawings. Insulation shall be installed using welded stick-pins spaced no more than 24" e.w.o.c. attached to the bottom of the roof deck, and shall be affixed in a clean and neat manner between bar joists, with no loose ends, edges, gaps, or excessive sags between attachment pins. All rolls or batts are to be installed parallel to main joists, with edges wrapped. No taped edges allowed.

MEMBRANE ROOFING:

For asphalt based multi-ply built-up or APP modified bitumen membrane roofs, all rooftop penetrations for condensate lines, electrical conduits, gas lines, or similar shall be accomplished utilizing shop fabricated galvanized metal pitch pans with mechanically attached galvanized metal goose neck hoods IAW original roof material manufacturer's construction details. Pitch pans and hoods shall be furnished by mechanical contractor and installed by roofing contractor. Fill pans with Sonneborne SL-1 self-leveling sealant or approved equal, prior to installing hoods. For single-ply E.P.D.M., T.P.O., other type membranes, rooftop penetrations shall be accomplished strictly in accordance with roof manufacturer's penetration specifications and detail drawings.

All condensate lines, gas lines, electrical conduits, or similar shall be supported on "Micro Industries" plastic pillow block pipestands, IAW manufacturer's specifications for size, spacing, and strapping. On built-up or APP modified bitumen membranes, for pipes larger than 2" o.d. the roofing contractor shall install permanently adhered walkpad material or APP modified bitumen pads under each pillow block support.

Penetrations through or attachments to HVAC, skylight, or other curbs for condensate lines, electrical conduits, j-boxes, coaxial cables, or any other device(s) are strictly prohibited.

All vent stack caps, storm collars, plumbing jacks, HVAC cabinet penetrations, or other rooftop equipment requiring caulking shall be sealed with two-part chemically curing polyurethane sealant. Approved caulks include Sonneborn NP2, Vulkem 922, or Tremco Dymeric 511. No silicone allowed.

In order to maintain Owner's warranty/bond on roof system, GC shall employ only the roofing contractor specifically designated by Jackson-Shaw Company to perform all roof membrane work required by the scope and detail of the tenant improvement project. GC shall include the cost of the bonded roofer's work in its bid.

At the substantial completion of the job, the Jackson-Shaw Company Project Manager will conduct an inspection of the roof with a designated representative from the General Contractor in order to produce a punch list of roof items.

DIVISION 8

DOORS AND WINDOWS

EXTERIOR PERSONNEL DOORS / FRAMES / HARDWARE:

Exterior doors: 20 ga., full flush, 1-3/4" thick hollow metal with fibrous honeycomb core, vertical edges welded @ 6" o.c. Maximum, filed and ground smooth. Match dimensions, finish, and hardware of existing personnel doors, including but not limited to thresholds, weatherstripping, closers, locksets, hinges, drip shields, and door sweeps.

Exterior frames: 18 ga. With 2" faces and 5/8" stops formed intervals corners mitered, welded and ground smooth. Provide rubber insert silencers, four 14 ga. wall anchors and one adjustable floor anchor per jamb. Ship frame with removable angle spreader to prevent distortion or warping of frame.

Hardware: Match shell building personnel door hardware. Architect and GC to field verify prior to bid.

Caulk all mating surfaces or joints of exterior thresholds, sills, frames, drip shields, and door sweeps with two-part chemically curing polyurethane sealant in color(s) to match existing finishes as applicable. Approved examples include Sonneborn NP2, Vulkem 922, or Tremco Dymeric 511. No silicone allowed.

OVERHEAD DOORS:

TYPE 1 DOORS, AREA LESS THAN 120 s.f.:
Any new door(s) shall match existing shell building overhead doors. If no other overhead doors are installed, all new doors shall be Series 424 by The Overhead Door Corporation - steel sectional overhead door with 24 gauge galvanized steel, flush profile door section design, torsion spring type counterbalancing mechanism, case hardened steel single rollers, vertical lift, manual push up type operation, slide bar, single side locking device (operable from inside and outside). Head and jamb aluminum flanged vinyl rubber weatherstripping and compressible neoprene rubber astragal on bottom of door are required. Head and jamb weatherstripping shall be mechanically attached to tiltwall panel utilizing Rawl Zamac Nailin ®, ¼" x 1", mushroom head with stainless steel nail. Absolutely no powder driven or plastic nail-in fasteners are to be used. Flanges of all weatherstripping are to be caulked I.A.W. products noted above for personnel doors. All hardware is to be heavy duty made from non-corrosive metal and provided with non-corrosive fasteners as required for door type. Tracks to be manufacturer's standard 24 gauge galvanized steel. Overhead doors to be finished with factory baked enamel coating to match existing doors, or installed in primer condition and painted with two coats of Sherwin Williams Industrial Enamel to match building exterior color.

TYPE 2 DOORS, AREA 120 s.f. AND LARGER:
As specified for type 1 doors, substituting manual gear reduction drive chain hoist for manual push up type operation.

The General Contractor shall furnish and install one complete set of dock bumpers at each dock high door serving the demised lease space. Dock bumpers shall be rite hite 6" projection, #RH 612 - 18, size 12" x 18" x 6" laminated rubber, or approved equal, attached IAW manufacturer's specifications, U.O.N.

ENTRANCES AND STOREFRONT:

Acceptable manufacturers: Kawneer, PPG, Vistawall, Howmet, or approved equal.

Framing system: All new storefront systems to match manufacturer, dimensions, color, and finish of existing storefront system. Verify manufacturer with Jackson-Shaw Project Manager. Provide horizontal safety bar 36" above floor, where required by code U.O.N.

Entrance doors: anodized aluminum to match existing. Furnish door complete with maximum security rim cylinder, thumb-turn, latchbolt, pivot hinges, push bar, pull handle, overhead exposed heavy duty hydraulic door closer, exterior drip shield, exterior neoprene door sweep, and 1/2" high x 4" wide aluminum threshold imbedded in caulking as specified below.

Glazing: Match existing 1/4" thick single glazed or 1" thick insulated double glazed tinted quality float glass, tempered where required by code or the consumer product safety commission *"Architectural*

Glazing Standard". Where tempered glazing is used, glazing shall be installed without tong marks. Manufacturer's labels are to be exposed.
Caulking: Caulk all mating surfaces or joints of new thresholds, sills, frames, drip shields, and door sweeps with two-part chemically curing polyurethane sealant in color(s) to match existing system caulk. Approved examples include Sonneborn NP2, Vulkem 922, or Tremco Dymeric 511. No silicone allowed.

INTERIOR DOORS / FRAMES / HARDWARE:

Interior doors will be 3'-0" x 7' -0" solid core wood, U.O.N.. Frames shall be Timely® knockdown steel frames, or approved equal, with snap-on trim, in Black (SC103) finish, U.O.N. on construction drawings. The doors shall be 1-3/4 inch, factory pre-finished, plain-sliced Red Oak, Clear finish, as supplied by Buell, Weyerhauser, Mohawk, Marshfield, or approved equal. The doors shall include all hardware and be bored with a 2-3/4" back-set. The hardware shall be Schlage "AL" series, Saturn handle lever design in the BHMA 626 / US26D finish with matching Hager hinges, U.O.N. on construction drawings. All multi-occupant restrooms shall receive heavy-duty hydraulic door closers installed inside the restroom, push/pull handles, and kick plates to match other finish hardware, U.O.N.. All single occupant restrooms shall receive privacy set hardware, U.O.N.. Passage sets shall be used on all other interior doors, U.O.N. on construction drawings. One and one-half pairs of butts (1 1/2) shall be included for each door.

All walls shall be protected with BHMA 626 / US26D floor mounted door stops. Single doors shall be manufactured with book matched veneers. Pair doors shall be manufactured with pair matched veneers. No door shall have more than three matched veneer panels. Undercut doors as required to prevent rubbing on floorcovering. Provide overlapping center astragal on all interior double doors.

Furnish 20 minute rated interior wood doors, frames, and hardware, equipped with teardrop smoke seals and heavy duty closers, bearing U.L. Label of proper designation where one (1) hour walls are required by code.

FINISH HARDWARE:

Latchsets, Locksets, etc.: Schlage "AL" series, Saturn handle lever design with BHMA 626 / US26D finish, U.O.N. on construction drawings.

Closers: provide heavy-duty door closers as required, finish to match leverset hardware. Provide heavy-duty closers on restroom doors and doors between a/c and non-a/c spaces, or any fire rated corridor. Closers shall be properly sized in accordance with manufacturer's sizing tables.

Hinges: Hager 1279 x 4-1/2 x 4-1/2 x usp, ball bearing type for doors with closers or fire-rated doors in corridors, non-removable pin type for exterior.

Door stops: where possible, provide floor mounted door stops, Trimco W1210 Wrought Lo Dome Stop. Where floor stops are not feasible, use wall mounted door stops, Trimco 12770WV, Wrought with concave rubber insert. Finish: Satin Chrome or Stainless Steel plated to match leverset hardware.

Keying: All exterior and any interior locksets shall be coded and/or keyed to a Grand Master key, with all exterior doors keyed to a submaster key. In addition, any interior locksets shall be individually keyed. All hardware to be delivered to Jackson-Shaw Company Project Manager properly tested. Obtain final verification from JSC Project Manager of any changes in keying requirements prior to purchasing hardware.

Any specialized exit hardware (panic devices, motion sensors, request to exit switches, door relays, etc.) required due to plan review by the local AHJ, or as a result of tenant's installation of access control

security systems (magnetic locks, electric strikes, etc.) are excluded from the scope and detail of the tenant improvement and shall be priced separately upon receipt of plan review comments, or included in the tenant's contract with it's independent security vendor, U.O.N on the plans.

WINDOW TREATMENTS:

Install JSC project-standard Levelor Riviera® series 1" slat metal horizontal mini blinds at all exterior storefront windows. Color of miniblinds shall match window mullions, U.O.N. on construction drawings.

DIVISION 9

FINISHES

DRYWALL:

Demising walls shall be built full-height to the deck. Demising Walls less than 30'-0" to deck shall be constructed from a MINIMUM of 6" (six-inch) Punched Cee galvanized metal studs and 5/8" fire rated gypsum board with integral expansion joints placed a MAXIMUM of 40'-0" o.c. The longest dimension of the sheetrock panels shall be oriented horizontally. Sheetrock end joints shall be staggered from the end joints of panels on subsequent rows so that no two joints coincide. The minimum gauge, spacing, and structural properties for Demising Walls, as determined by clear span wall height, shall be calculated from the material manufacturer's technical data and load tables, in accordance with AISI (American Iron & Steel Institute) and ASTM (American Society for Testing and Materials) standards, to withstand a minimum interior 5 psf transverse and axial wind load. The demising wall shall receive 5/8" thick fire rated gypsum board on both sides, U.O.N. All joints shall be fire taped on the tenant improvement side only, unless both sides are required to be fire taped IAW local code, and finish taped and bed below ceiling. GC shall verify fire code requirements prior to bid. Gyp board edges shall be cut into flutes at the deck and sealed with fire caulk. All joints between the edge of the sheetrock panels and the deck, floor, and walls shall be fire or smoke caulked for fire-proofing, noise, and odor control. If two layers of sheetrock on one or both sides of the demising wall are required by code, or are indicated on the plans, the overlapping sheets shall be staggered 1/2 of a board so no two joints coincide.

Office / Warehouse separation walls shall be built full-height to deck. Separation walls less than 22'-0" to deck shall be constructed from a MINIMUM of 3-5/8" (three and five/eighths inch) punched cee galvanized metal studs, MINIMUM 16 gauge, spaced a MAXIMUM of 16" on center, and 5/8" fire rated gypsum board with the longest dimension of the boards oriented horizontally. Sheetrock end joints shall be staggered from the end joints of panels on subsequent rows so that no two joints coincide. The studs on the Office side of the wall may be left exposed in the attic space beginning one-foot above ceiling height, if permissible by code. If drywall is not carried to deck within the attic space, metal stud kicker bracing shall be added on the attic side a maximum of 8'-0" on center between the wall studs and the structural steel above to provide additional wall support. Separation walls taller than 22'-0" to deck shall be constructed the same as Demising Wall details noted above.

Office partition walls shall be built below grid, U.O.N., and receive gypsum board on 3-5/8" punched cee galvanized metal studs, 25 gauge or heavier, spaced a maximum of 24 inches on center, U.O.N. Gypsum board panels shall be installed such that no end joint coincides with the corners of doorways or window openings. Finishes shall be as noted in the following section "Tape, Bed, and Paint."

Restroom walls shall be constructed similar to office partition walls EXCEPT all restroom walls shall break the grid and extend 1'-0" above ceiling height, with unfinished gypsum board applied on both sides of the

partition above the grid. All restroom walls shall be insulated with high density sound bats per Division 7 requirements.
Chase wall shall be constructed similar to restroom walls EXCEPT these walls shall receive double studs, the inside wall being independent of the outside wall. The chase wall shall be a total of 9 inches in width. The subcontractor shall include full height and width moisture resistant greenboard and a minimum 4'-0" high wainscot of Fiberglass Reinforced Plastic (FRP) backing, by Marlite, Structoglass, or approved equal, U.O.N. on all wet walls and all wall area within the toilet partition enclosure.

Furring walls shall be constructed similarly to office partition walls, EXCEPT furring walls shall extend 6" above ceiling height to facilitate attachment of perimeter wall angles for the ceiling grid. All furring walls shall be thermally insulated per Division 7 requirements, and shall have one layer of 5/8" fire rated gypsum board applied to the inside face of the metal studs. Fur-outs around punch window openings shall incorporate a gyp board sill.

All existing or new structural columns, interior roof downspouts, fire sprinkler pipes, large utility conduits, above ground plumbing pipes, or other similar interior building elements shall have furouts constructed around the element in accordance with the requirements for furring walls previously noted. Insulation may be omitted at interior structural column furouts.

All Demising walls, Warehouse Separation walls, Office partition walls, Chase walls, and Furout walls shall be insulated as detailed in Division 7 "Insulation".

Any wall ending at the storefront glazing shall butt against and align with the centerline of a mullion and shall be terminated with an architectural aluminum end-cap to match the color of the window mullion. The joint between the end cap and window mullion shall be sealed with a neoprene gasket or as otherwise specified.

At interior walls, provide factory primed and field painted metal access panels at any existing or new mechanical, plumbing, fire sprinkler, hydraulic, or pneumatic, valve, control, or mechanism that would be located behind or inside a wall and would not otherwise be readily accessible.

Provide non-combustible 2" x 4" wood blocking in walls for cabinets, shelving and related millwork, and any other wall hung items, regardless of whether such blocking is indicated on the plans.

ALL WALLS IN EXCESS OF 30' SHALL RECEIVE AN EXPANSION JOINT AT EACH 30' MARK. *NO EXCEPTIONS.*

ACOUSTICAL CEILINGS:

The contractor shall supply and install a continuous grid flat white, metal, exposed Donn DX ceiling grid system, or approved equal, suspended at 10'-0" AFF, U.O.N. The ceiling grid shall receive 24" x 48" x 5/8" Armstrong - *"Minaboard"* ® 755 Fissured Pattern, or approved equal, and shall be fire rated where required by code. All ceiling grid (new and existing) is to be repaired and leveled to a consistent height before installation of ceiling tiles. Six (6) inches of (R-19) roll or batt blanket insulation shall be installed on top of the ceiling board U.O.N.. For buildings with attics that function as return air plenums, contractor shall install sufficient eggcrate material to prevent excessive vacuum pressure and noise from HVAC system. Where gypsum board ceilings are indicated on the plans, the contractor shall construct the ceiling utilizing Unpunched Stud Joists or Unpunched Wide Joists as required, with the minimum size, gauge, spacing, and structural properties, determined by load carrying capacities and joist clear span distances, as calculated from the material manufacturer's technical data and load tables, in accordance with AISI (American Iron & Steel Institute) and ASTM (American Society for Testing and Materials) standards.

FLOOR COVERINGS:

All slab areas scheduled to receive non-permeable floor membranes or finishes shall be tested by a certified independent laboratory for excessive concrete vapor emission and alkalinity. Testing method shall be by anhydrous calcium chloride emissions test kits measured at a minimum of two test sites wherein the total covered area is under 2000 s.f. All testing is to be performed IAW industry standards and practices, including climatizing the space for 72 hours at a temperature of between 70° to 76° f. Lab shall measure one additional test site for each 2000 s.f. above that of the initial 2000 s.f. In all cases, the General Contractor shall furnish a copy of the test results to the Jackson-Shaw Company Project Manager prior to application of floor coverings, no exceptions. Should test results indicate acceptable moisture emissions and alkalinity levels, the installing subcontractor shall provide written acknowledgement of acceptance of the substrate as suitable for installation of the floor covering per the manufacturer's recommended installation procedures. Should test results indicate higher than industry recommended levels for specific non-permeable floor finishes or coverings, GC shall provide pricing to apply a concrete sealer designed to reduce vapor emissions to a level suitable for installation of the specified floor finishes. Additional sealer, if required, shall be at Tenant's sole cost and expense. Lessor shall not be held responsible for moisture related floor failure as a result of tenant's design, construction, or use of the premises.

Carpet shall be **$15 sy,** direct glue down textured level loop, constructed of 100% type 6,6 continuous filament solution dyed Nylon ®, or better. Colors as selected by Tenant. Industry standard floor preparation shall be included by the contractor for all flooring installations. JSC Project-Standards provide for a single color carpet throughout the space. Selection of more than one color, inlay carpet borders, carpet patterns, etc. shall be at additional expense to Tenant. Vinyl Composition Tile (VCT) shall be Armstrong Standard Excelon® 3/32" tile, or approved equal, U.O.N. JSC Project-Standards provide for a single monolithic color selection in any room scheduled to receive VCT. Individual rooms may receive different colors of VCT as selected by Tenant. However, VCT borders, inlays, or ANY VCT flooring pattern shall be at additional expense to Tenant. Wall base at all carpeted areas shall be 4" carpet base. Wall base in all other areas scheduled to receive VCT, stained concrete or painted floor coatings, shall be four-inch rubber cove base, except restrooms which shall receive 6" rubber cove base per code, as manufactured by Armstrong, Roppe, or approved equal, with colors as selected by Tenant and specified in the finish schedule. Unfinished warehouse walls shall not receive wall base, U.O.N on the construction drawings. No rubber cove base joint shall coincide with a wall panel joint. Flooring contractor shall wrap inside corners (do not cut) with a minimum base length of 8". Where specialty floor coverings such as ceramic tile, slate tile, etc. are scheduled, the wall base shall match the floor covering. The installation of all flooring shall be according to accepted industry practices and is subject to approval by the Owner. Black vinyl transition strips shall be included at all flooring transitions.

TAPE, BED, AND PAINT:

The contractor shall, when required by code, tape and bed all firewalls, all fire-rated drywall ceilings, and fire rated walls above acoustical ceilings. On walls receiving T,B,&P, paint shall be Sherwin Williams latex eggshell enamel with medium roller texture U.O.N. on the construction drawings. Submit samples of all specified finishes, including 12" x 12" samples of paint colors on gypsum board for approval by Owner or Tenant. The JSC Project-Standard includes a single paint color throughout the space, with two accent color paint choices for any rooms as requested and designated by Tenant. Specialty finishes or textures such as Zolotone type paints, Faux finishes, sand, stiple, spatter drag, or other type textures, etc., or any other non project-standard wall finishes or construction, such as vinyl wall covering, ceramic tile, glass block, or other specialties, are excluded from the project. Should specialty finishes or construction be required, they shall be at additional expense to Tenant. The architect shall note gypsum board surface finishes on the construction drawings. Tenant shall choose paint colors from Jackson-Shaw Project-Standard finish sample boards provided by JSC. All taping and bedding shall be floated (minimum 2

beds and additional bed if needed) with a minimum 14" bed width. The contractor shall provide a sufficient number of coats to provide uniform color, texture, and sheen over the entire painted area, but in no case less than a minimum of (1) primer coat and (2) paint coats. Spray application of primer or paint coats on interior partitions is strictly prohibited. Warehouse walls shall be fire taped only, unless specifically noted otherwise on the plans. If field applied Vinyl Wall Covering is noted on the plans, VWC shall be equal to Genon Wallcoverings, "Tahoe", Type I, 15.0 oz., Class A, or as otherwise specified on the construction drawings. Contractor shall furnish and install all VWC where indicated on the plans. All joints and screw-holes shall be bedded and sanded to provide a smooth surface for application of VWC. Contractor is responsible for any wall or joint sealing, priming, sizing, adhesive application, or other wall preparation as required on any walls scheduled to receive VWC.

All exterior exposed piping, electrical panels, etc. shall be painted with Sherwin Williams Industrial Enamel paint, minimum (1) primer coat and (2) paint coats), to match finish color of building. All core cut penetrations to be caulked with approved polyurethane sealant to match building finish.

All exterior wall surfaces affected or damaged by work of the tenant improvement project shall be repaired and repainted using the same finish materials, products, and colors as applied during original shell construction. Obtain exterior finish schedule from the JSC Project Manager prior to exterior work.

FLOOR SEALER:

The contractor shall apply a concrete sealer, Lapidolith® or approved equal, on all concrete floors that are to remain exposed. Minimum application of 3 coats is required, and shall be applied IAW manufacturer's approved application recommendations. The contractor shall prepare the floor, including sanding, patching, filling, cleaning, and de-greasing entire surface as required, prior to application of sealer.

DIVISION 10

SPECIALTIES

TOILET PARTITIONS:

All toilet partitions and urinal screens shall be steel baked enamel, by Knickerbocker, Global, or approved equal. Color shall be selected by Tenant from a color chart of readily available project standard colors, (white, grey, sand, or almond), unless specifically noted otherwise on the plans. All toilet partitions shall be floor-mounted style with overhead brace, U.O.N.. Each stall door shall be equipped with a bumper, coat hook, and door pull, except ADA stall doors which open against a gyp board partition wall. Where this condition exists, install door pull on door and install bumper and coat hook on the adjacent gyp board partition wall.

TOILET ACCESSORIES:

A satin finish, double roll toilet paper holder by Bobrick, B-274 or equal shall be included by each toilet. Handicap bars shall be Bobrick B-6206 series, satin finish, concealed mounting with set-screws, sized, located, and attached to meet ADA/TAS requirements. Unless noted otherwise on the plans, provide single occupant restrooms with one wall-mounted satin framed ¼" tempered glass mirror, Bobrick B-2908 series or approved equal, above the sink. Mirror shall be equal to width of the vanity. Install at height to comply with ADA/TAS mounting dimensions. For multi-occupant restrooms, provide one unframed mirror with ¼" tempered glass, Bobrick B-2908 series, or approved equal. Mirror shall be sized to span full-width above lavatory counter. Install at height to comply with ADA/TAS mounting dimensions. GC to

field-verify width and height prior to installation. Each women's restroom stall shall receive a sanitary napkin disposal unit, Bobrick B-354 series (multi-use) or Bobrick B-353 series (single use). All multi-occupant restroom sinks shall be equipped with lavatory mounted top-filling liquid soap dispensers, Bobrick B-8226 series, with 6" nose pieces. Dispensers shall be positioned to discharge beyond the sink rim into the sink. Each multi-occupant restroom shall receive one (1) semi recessed, ADA/TAS compliant, wall mounted roll type combined paper towel dispenser with integral waste container, Bobrick B-3961 or equal, U.O.N. Each single occupant restroom shall receive one (1) fully recessed, ADA/TAS compliant, wall mounted roll type paper towel dispenser, Bobrick B-3861 or equal, U.O.N. Each single occupant restroom shall be equipped with one (1) surface mounted ADA/TAS compliant soap dispenser, AJ Washroom Accessories U144 or equal, U.O.N.

***SIGNS*:**

An ADA/TAS compliant sign, incorporating Braille characters, and in a color to be selected by the project architect or JSC Project Manager, shall be included at each restroom designating it to be a men's or women's restroom. Contractor shall install temporary suite numbers as required on all exterior doors during the project for project identification for City inspection purposes. Notify JSC Property Manager during final inspection phase for installation of permanent exterior suite numbers to be applied at the main front and rear entrances, and any additional doors as specified by the AHJ. Interior room signage, except restrooms as previously noted, and all exterior signage is excluded from tenant improvement contract. Tenant shall refer to the Lease Agreement for information concerning sign criteria.

DIVISION 15

MECHANICAL

WAREHOUSE HEATING:

A gas fired unit heater, as manufactured by Lennox, Modine, or Reznor, shall be vented through the roof and suspended by allthread from 2-1/2" angle iron welded to the top chord of two (2) adjacent bar joists. The unit shall have an individual thermostat mounted on nearest sheetrock wall or support column at height required to meet ADA/TAS compliance. Units shall be of sufficient capacity and number to maintain minimum 40 degree temperature differential inside when the outside temperature is 10 degrees, provided the doors to the space are kept closed and the unit is left operating in cold weather.

Should space plan configuration require the in-place abandonment of existing unit heaters, contractor shall insure electric is disconnected and capped at the unit, and gas service is disconnected and capped at the supply line or pressure regulator on roof.

Should space plan configuration require the removal of any unit, contractor shall insure all vent pipes are removed, deck is patched, and roof insulation/membrane is patched to match original. Employ roofing contractor designated by Jackson-Shaw Company to perform membrane repairs in order to maintain warranty or bond.

OFFICE HVAC:

Roof top equipment must be located a minimum of 30' from any edge of the building and behind any equipment screen (if provided), and at or within 5'-0" of a structural column. Structure is not designed to support more than 1500 pounds at a structural column, or more than 500 pounds along any joist line between main girders. Contractor is encouraged to use units with weights not in excess of the maximum

structural design load. No units exceeding these weight limits will be considered by Jackson-Shaw Company without structural calculations, weights, and a description of proposed modifications. No roof top units in excess of 15 tons cooling capacity are to be installed without specific written approval from Owner. GC to verify shell record drawings to determine the existence of any special roof loading zones. Structural steel angle supports (minimum 3" x 3" x ¼") to be welded between top chord of adjacent joists at each deck penetration for curb placement. In all cases, approval of equipment location and installation shall be obtained from JSC Project Manager prior to installation. This requirement will be rigidly adhered to. The contractor shall be responsible for equipment removal, structural restoration, and reinstallation of the equipment should he not have authority to proceed. All support wires or straps to be attached to top chord of joists. Absolutely no system components may be suspended from the deck, bottom chord of the structural steel, joist cross bracing or joist bridging supports.

Equip areas designed to be air conditioned with gas / electric packaged Roof Top Units (RTUs) where gas service is available at the building, and electric cool / electric heat RTUs where gas service is not available at the building. All mechanical units shall include standard factory equipment and features, and shall be High-Efficiency energy efficient models as defined by "ASHRAE" 90.1. Each unit shall include an automatic economizer where such is required by code. Any unit of 3 tons cooling capacity or larger shall be *3* phase and furnished in the highest available voltage. Approved HVAC equipment includes units manufactured by Carrier, Trane, or Lennox. Substitutions must be approved by the JSC Project Manager in writing, no exceptions. All HVAC equipment shall be controlled by individual programmable solid-state electronic thermostats staged to match unit. Thermostats shall be Carrier Model 33CS220-01, or approved equal. Split systems are prohibited unless specific written approval is received from the Jackson-Shaw Company Project Manager. In the event installation of a split system is approved, each condenser unit shall be installed on a field fabricated fire-retardant wood curb, with a galvanized and painted metal cap, per construction detail provided by JSC. Curbs shall be flashed into the roof system per "Roof Membrane" section. All roof-top HVAC systems shall be design engineered per specifications of the latest "ASHRAE" standard for office occupancy, and shall maintain a minimum cooling differential of 25 degrees at 100 fdb and 78 degree fwb outside ambient temperature during summer, and minimum 68 degrees farhenheit at 10 degrees outside ambient temperature during winter. All compressors are to have time delay relays to prevent short cycling.

HVAC system design shall be based upon individual RTUs equipped with insulated ducted supply lines and centralized vertically ducted returns, U.O.N. Where feasible, typical return ducts shall be located directly underneath of, or in close proximity to, the unit. Dedicated units shall be designed with their own ducted supply and return systems. Remote rooms shall be equipped with ceiling mounted flex duct cross-over returns into central corridor areas where feasible. No over-the-wall plenum box returns are permitted. Insulated flex duct may be used to connect return air registers provided sufficient length is installed to prevent noise transmission through the duct between adjacent rooms. Insulated flex duct may also be used for connection of branch lines to supply outlet devices.

Mount units on curbs as manufactured and provided by HVAC equipment manufacturer, level and plumb. Any approved split system condensers shall be mounted on a field fabricated curbs as previously noted.

All duct work shall be galvanized rigid sheet metal, square or round cross section, and externally insulated. All flex duct shall be insulated type with a maximum length of 8'. Spiral wound architectural duct shall be used in all areas having an open-to-deck or high ceiling floorplan where any ductwork is visible from floor level. Duct fabrication from Insulboard or any similar materials is prohibited. All installations shall meet the requirements of SMACNA for pressure application and Federal, State, and Local Energy codes for insulation thermal R-values. All branch ducts to be equipped with manually adjustable dampers.

All condensate piping shall be Type I copper above the deck and may be Schedule 40 PVC below deck and shall be installed IAW membrane roofing notes. Condensate lines shall penetrate deck adjacent to

each individual RTU and within a maximum of 3'-0" of the side of the curb support. All condensate line penetrations shall be coordinated between the mechanical, plumbing, and roofing subcontractors to be located on the downslope side of the roof. All penetration enclosures shall be IAW details noted in Division 7 "Membrane Roofing". Condensation lines may be manifolded together below deck into an appropriately up-sized main copper or PVC line. All lines below deck shall be insulated with 1" thick "Armstrong" AP Armaflex II® with 25/50 rating. All seams shall be taped and sealed with waterproof tape. All condensate piping shall be routed to nearest janitorial closet and spill into corner of floor level mop sink or a dedicated hub drain. All condensation drain lines shall have an in-line breather "T" vent installed adjacent to the RTU outlet fitting.

Install adequate facilities for balancing air-flow to provide even distribution of conditioned air, and to maintain uniform space comfort conditions. Balancing of entire system shall be done by an NEBB certified engineer. Submit stamped and sealed written report to the Jackson-Shaw Company Project Manager with the project closeout documents.

Heat loads: The HVAC subcontractor shall verify, prior to final design, all external and internal heat loads, including but not limited to: solar gain from exterior glass windows and concrete walls, total anticipated occupant loads, above standard lighting levels, computers and/or specialty equipment to be used by Tenant as noted on plans.

Mechanical contractor shall design, furnish, and install a complete HVAC system. Mechanical drawings bearing an engineer's seal will be required by Jackson-Shaw Company, whether required by the AHJ or not. The cost of same shall be included in the contractor's bid.

Mechanical contractor shall field verify location of existing fire sprinkler system components to insure intended placement of duct work, condensate lines, or other system apparatus does not cause obstruction of fire sprinkler heads or their discharge pattern. Contractor shall coordinate location of ducts, lines, etc. with Jackson-Shaw Company to mitigate potential obstructions and impact on insurance sprinkler credits.

All ductwork or condensate line support wires or straps, or allthread trapeze supports, are to be attached to top chord of joists. ***Absolutely no system components may be suspended from the deck, bottom chord of the structural steel, joist cross bracing, or joist bridging supports.***

TOILET EXHAUST FANS:

Acceptable manufacturers: Nutone or approved equal. Provide exhaust fans in each restroom, sized and installed per code; wire independently from lights to separate on/off switch. Duct exhaust through roof. Install a minimum of 4 (four) vent duct support straps, attached in an "x" pattern, from the ductwork to adjacent joist members or other structural members above.

SUPPLY GRILLS AND DIFFUSERS:

As manufactured by Metal Aire, Titus, Krueger, Price, or approved equal, gloss white finish, O.U.N on construction drawings. In each room, install 24" by 24" high volume lay-in diffusers, or 3" x required length lay-in slot diffusers as necessary based upon HVAC airflow distribution design. Throat sizes shall be designed to deliver a minimum of 350 cfm per ton of cooling load.

RETURN GRILLS:

As manufactured by Metal Aire, Titus, Krueger, Price, or approved equal, white plastic lay-in eggcrate style, sized as required to meet HVAC airflow return design.

CONTROLS:

Office area programmable thermostats shall be placed on the wall at appropriate height to meet ADA requirements, and in accordance with location specified on mechanical drawing. Locate thermostats a sufficient distance from return grills and any heat producing appliances, equipment, or fixtures to avoid the potential for false free air temperature readings. Locations shall not conflict with manufacturer's installation specifications or recommendations. Provide complete low voltage solid state control system for each rooftop unit. Mercury or bi-metallic thermostats may be used for warehouse heating only. Place warehouse thermostats on wall or nearest structural column at height to meet ADA requirements. Stage each thermostat to match its respective rooftop unit and heating system.

FILTERS:

Standard throw-away type filters mounted inside RTU cabinet, or within ceiling return air grills that are easily accessible for replacement. Mechanical subcontractor shall furnish and install temporary blanket filter material affixed to the face of all ducted return inlets prior to starting units. Blanket filters shall be maintained throughout construction, and removed immediately prior to final clean of the space. Used filters shall be removed from each RTU cabinet and new filters installed immediately prior to occupancy by tenant. Failure to do so will result in Jackson-Shaw Company performing this work and charging the General Contractor for labor and materials. No exceptions**.**

PLUMBING:

BASIC MATERIALS:

Water: piping to be type l copper with connections soldered. Valves in copper piping shall be gate valves or quarter-turn Teflon® ball valves as manufactured by Nibco, Stockham, or equal. Locations of shut-off, isolation, or service valves shall be in an easily accessible area, and clearly marked on the construction documents for future reference. Rigidly secure all water pipes in chases with individual or manifold clamp blocks. Attach pipes to the back side of the studs where feasible. Insulate all water piping above ceiling tiles and in exterior walls with 1" Armaflex® insulation, or approved equal. All water supply lines, with the exception of trap primer lines, shall be installed overhead above slab. NO EXCEPTIONS.

Sanitary sewer: install complete underground system per code, connected to shell building sanitary sewer main. Install a minimum of one in-wall cleanout (with chrome cover) per restroom or one in-wall cleanout for back-to-back restrooms. Install one floor drain per restroom, complete with stainless steel or brass cover plate and trap primer. Locate floor drain below toilet partition stall wall separating ADA/TAS stall with nearest adjacent standard stall. Flush top of cover plate with floor covering.

Gas lines: visit site to become familiar with utility locations and service to determine if high, medium, or low pressure service exists. Provide regulators as required by local codes and ordinances. For high and medium pressure systems, locate regulators in lines on roof adjacent to each individual Unit Heater or HVAC RTU as required by code. Coordinate with appropriate utility company. Install black schedule 40 black steel pipe with wrought iron fittings above grade. Protective coated black steel or ASTM D2513 poly pipe below grade per utility and code requirements. All gas lines to be routed above roof deck, primed and painted with enamel paint to match exterior building color (including all lines on roof), and

installed and supported on “Micro Industries” plastic pillow block pipe stands IAW Division 7 “Thermal and Moisture Protection”.

Plumbing contractor shall field verify location of existing fire sprinkler system components to insure intended placement of gas, water, sewer, condensate lines, or other system apparatus does not cause obstruction of fire sprinkler heads or their discharge pattern. Contractor shall coordinate location of pipes, lines, etc. with Jackson-Shaw Company to mitigate potential obstructions and impact on insurance sprinkler credits.

Each tenant will receive a hose bib. Detail to be included in the construction drawings. Location to be determined by Jackson-Shaw.

***PLUMBING FIXTURES*:**

Acceptable manufacturers: Kohler, American Standard, Eljer, or approved equal. Office restroom lavatories shall be vanity mounted, Kohler #K-2906-1 19" x 17" white, 4"cc or equal. Warehouse restroom lavatories shall be wall hung, Kohler #K-2032 20" x 18" white, 4"cc or equal. Executive restroom lavatories shall be vanity mounted, Kohler #K-2906-1, 19" x 17" white, 4"cc or equal. Lavatory faucets shall be 4"cc with handicapped paddles to comply with ADA/TAS code. Millwork for vanity-mounted fixtures shall have a removable ADA/TAS sloped p-lam clad panel attached under counter with z-clips. Wall hung lavatories without vitreous china shrouds shall have under sink protective pipe covers, white lav-guard by Truebro, or approved equal. Water closets shall be manufactured by Kohler, model #K-4302, or approved equal, floor mounted, flush valve type, color white. Closet seats to be Kohler #K-4670-C white or equal. Urinals shall be Kohler #K-4972-T white or equal. Flush valves to be Sloan #186.11 or equal. Breakroom sinks to be Kohler #K-3246-3, 33" x 22" x 6" self-rimming stainless steel, or equal. Bar sinks shall be Kohler #K-3349-2, 15" x 15" self-rimming stainless steel or equal. Mop sinks shall be Kohler #K-6710 28" x 28" white with sink faucet and hose K-8928 with ADA/TAS lever handles. Water heaters shall be instant hot “point-of-use” type, or glass-lined electric as manufactured by Ruud, Rheme or State, U.O.N. Size shall be designed to provide a rapidly available adequate hot water supply to each intended faucet outlet or device. Install mounted on prefab plastic pedestal. Include a catch pan plumbed to sanitary sewer system drain. Depending on size of unit, location shall be as required within Janitor's closet or within millwork base cabinetry if no Janitor’s closet is available. Recirculation pumps are permissible and are required if tank is located in Janitor’s closet. Electric water coolers shall be Halsey-Taylor #WM-8A for offices over 2,500 square feet. Halsey-Taylor #WM-4A for offices less than 2,500 square feet, or approved equals. Color to be selected by Tenant from manufacturer’s standard available colors. Water coolers shall be high-low dual units and comply with all applicable ADA/TAS codes.

If used, wall mounted fixtures shall be placed on partitions which have been reinforced with fixture chairs, carriers, or other heavy-duty reinforcement which has been approved by Jackson-Shaw Company. Wall hung fixtures shall be securely fastened to the wall.

Furnish, install, and connect, complete with working trim, a plumbing fixture at each location so indicated by a symbol. Provide chrome escutcheons on all pipes passing through walls. Install all fixtures plumb, level and flush to finished surface. Caulk the edge of the joint between the fixture and surface with silicone or butyl type waterproof caulking.

Furnish all valves as indicated, or as may be required for the proper control of the various apparatus and pipelines installed under this section, so that any fixtures may be cut off for repair without interfering or interruption of the service to the rest of the building. Water heater valves shall be labeled and readily accessible from floor level.

At no time shall anything be attached to the roof deck, bottom chord of the structural steel, joist cross bracing, or joist bridging supports.

TENANTS SUPPLYING THEIR OWN FIXTURES ARE RESPONSIBLE FOR THOSE FIXTURES MEETING ADA REQUIREMENTS. ANY DISCREPANCIES WILL BE REPLACED AT TENANTS EXPENSE.

FIRE SPRINKLER SYSTEM:

Design and construction of revisions to the shell building fire sprinkler system necessitated by the scope and detail of individual Tenant Improvement projects shall be performed by a qualified and licensed sprinkler company. As required by Tenant's use of the premises, all sprinkler systems installed in warehouses shall conform to insurance services office requirements for a **class 4 occupancy per NFPA 231c, and NFPA 13 ordinary or light hazard for office areas.** Tenant shall be responsible for providing occupancy and use information, rack layout, rack type, rack height, and shelving types, and identify commodities to be stored for submittal to the Fire Marshal of the Authority Having Jurisdiction. The AHJ is responsible for determining classification of Tenant's occupancy, use, and commodities storage. Modifications to the shell fire sprinkler system to accommodate Tenant's occupancy, use, and/or storage requirements are determined solely by the AHJ. Tenant acknowledges that any required modifications to the shell fire sprinkler system shall be solely at Tenant's expense. All areas within the lease space with a ceiling height of 16'-0" or less shall have additional main lateral lines added to the existing shell system to preclude branch line drops exceeding 4'-0" in length. Revised system will be approved by Fire Marshal and receive proper credit of the insurance carrier. Building sprinkler credit must remain in effect at all times. Sprinkler heads shall be quick response, white, semi-recessed style with white trim rings, and shall be approximately centered on ceiling tiles where possible. **Where FDC valves or fire hose stations are required within finished office space by the AHJ, such valves or fire hose equipment shall be enclosed within recessed fire hose cabinets.** No "in rack" sprinklers are provided unless specifically noted on plans. Schedule work so central building systems do not remain turned off over night or weekends. Turn system back on immediately after modifications are complete; verify that system is working properly prior to leaving at the end of a work day. The General Contractor shall notify the Jackson-Shaw Property Manager when systems are to be drained, put on test, etc. in order to avoid false fire alarms. Under no circumstance is the fire sprinkler contractor to contact the monitoring company directly unless authority has been provided by the JSC Project Manager or Property Manager.

Fire sprinkler contractor shall attach a hose of sufficient size and length to the main drain to direct the discharge of stored water within the sprinkler system to the nearest exterior storm water drain. Failure to abide by this procedure will result in the contractor bearing all responsibility to remove rust stains created during the drain down from all paved surfaces.

At no time shall anything be attached to the roof deck, bottom chord of the structural steel, joist cross bracing, or joist bridging supports.

DIVISION 16

ELECTRICAL

SERVICE:

The electrical contractor shall design, furnish, and install a complete electrical system IAW the latest edition of the NEC and all local codes of the AHJ. Electrical drawings bearing an engineer's seal will be

required by Jackson-Shaw. The cost of these plans shall be included in the contractor's bid. Provide electrical service to the leased premises, as specified. Distribution and connection thereof to be furnished by contractor U.O.N.

Switchboards, panel boards, conductors, and related electrical service equipment, shall be sized to allow for future circuit additions without exceeding 80% of the rated main breaker value based on the following criteria:

1. For services up to 600 amps, allow 25% expansion capacity.
2. For services between 601 and 1000 amps, allow 10% expansion capacity.
3. For services over 1000 amps, consult with owner prior to design of service.

PANELS:

Locate all office/warehouse panels on exterior tilt wall panel in warehouse at location designated by the Jackson-Shaw Company Project Manager. New panels are to be as manufactured by Square D, Eaton / Cutler-Hammer, or approved equal. Identify all panels with appropriate high and low voltage panel numbers. Label individual circuit breakers and indicate equipment or light circuit they control. Under no circumstance is the electrical subcontractor to "piggyback" existing breakers by removing an existing single pole breaker switch and replacing it with two thinner breaker switches. Identify all junction box covers with circuit numbers. Main service panels shall be panel board construction with bolt-in breakers and equipped with main disconnect switch. Installation of sub-panels (approval must be received by Jackson-Shaw company prior to submittal of proposal or installation) can be house panel construction with *"Stab-lok"* ® -style breakers for ease of replacement in highly technical areas without shutting main service power off. The General Contractor and its' electrical subcontractor are to obtain approval from the JSC Project Manager for proposed location of exterior disconnects, meter bases, and conduit routing prior to installation. The electrical subcontractor is responsible for verifying that existing main transformer is adequately sized for proposed service. Should the main transformer need to be upgraded, notify JSC Project Manager immediately. Electrical contractor shall submit engineered drawings to JSC Project Manager for approval prior to starting construction. Temporary power shall be provided (use house panel) by electrician for use by all other trades. Electrical contractor to notify Project Manager one (1) week in advance of proposed shut down of electrical service to building in order to make final connections in Tap Can. Under no circumstance is the connection to be made "hot". All building shut downs to be scheduled after-hours or during a weekend unless building is vacant and no other tenants are affected by shut down. Electrical contractor to verify that primary transformer does not feed any other buildings in area.

CONDUIT AND WIRING:

Route rigid steel conduit or E.M.T. run in neat, straight, symmetrical lines parallel to building walls. Make bends at 90 degrees. Route main service conduits for Tenant space commencing at the building main exterior wireway, up the tiltwall panel to an LB Connector penetration through the exterior wall, thence overhead to the electrical closet or designated location for transformers and panels within the warehouse area. All conduit and E.M.T. is to be routed above the bottom chord of joists. Diagonal runs will not be allowed unless specifically approved in writing by the JSC Project Manager. No more than 360 degrees of bend between pull points shall occur in any rigid conduit run without the installation of an in-line intermediate pull box. Under no circumstances is exposed "flex" conduit to be installed in warehouse areas. Flexible aluminum conduit is acceptable above office ceilings and inside of sheetrock walls. Wire conductors shall be soft-drawn annealed copper, meeting the specifications of NEMA WC5, and shall comply with all applicable building codes. Electrical contractor shall field verify location of existing fire sprinkler system components to insure intended placement of conduits, wiring, fixtures, or other system apparatus does not cause obstruction of fire sprinkler heads or their discharge pattern. Contractor shall

coordinate location of conduits, wiring, fixtures, etc. With Jackson-Shaw Company to mitigate potential obstructions and impact on insurance sprinkler credits.

CONVENIENCE OUTLETS:

No more than five (5) outlets per 20 ampere circuit. Conduit can be flexible aluminum Alflex®, if allowed by code and local ordinance. Device plates shall be nylon, color as selected by Tenant or as otherwise noted on plans. Switches shall be toggle-style. Where required by code, switches shall be paddle-style, Leviton *"Decora"* ® or approved equal. Install a minimum of three 20 amp general receptacles in each reception area, private office, file room, copy room, mail room, office storage room, janitors closet, breakroom, computer / telephone / equipment room, or similar use rooms, U.O.N. Install a minimum of four 20 amp general receptacles in each conference room, meeting room, or classroom, U.O.N. Install a minimum of one 20 amp general receptacle at 25' o.c. spacing along all corridor walls and open office walls, and at 40' o.c. spacing within all warehouse areas. Circuits to water heaters, dishwashers, microwaves, commercial coffee dispensers, drinking fountains, telephone backboards and security systems/fire alarms shall be dedicated. Where shown on plan, circuits to copy machines and vending machines shall be dedicated.

At no time shall anything be attached to the roof deck, bottom chord of the structural steel, joist cross bracing, or joist bridging supports.

TELEPHONE SYSTEM:

On non-insulated walls, provide plaster ring and pull string for each telephone outlet indicated on plans (use nylon pull wire with 200# test.) On insulated walls use 1/2" rigid conduit from metal wall box to stub out above ceiling. Install a minimum of one AC grade smooth 4' x 8' fire retardant plywood sheet mounted on wall (smooth side out), in location noted on plans, for equipment mounting. All fasteners to be mounted flush with board, and board shall be primed one coat and finished with two coats of paint. Install one 110 volt, 20 amp, dedicated outlet for telephone equipment at the terminal board or telephone main equipment location. Where telephone and electrical outlets appear back to back, outlet boxes are to be staggered to reduce noise transmission.

Contractor to provide and install appropriate exterior grade conduit outlet body on main telephone service demarcation panel and 2” empty conduit with pull string from the demarcation panel to the telephone board within the lease space. Route up exterior wall and penetrate the tiltwall panel with an exterior grade LB connector. Additionally, installation of a spare 2” conduit with pull strings shall be required to any vacant lease space adjacent to the space under construction should access to the exterior demarcation panel be restricted by finish-out of the space under construction. Where this condition exists, contractor shall provide and install a spare 2” conduit across the space under construction from an exterior LB connector to a 12” x 12” x 4” screw cover pull box affixed to the opposite side of demising wall. No more than 360 degrees of bend between pull points shall occur in any rigid conduit run without the installation of an in-line intermediate conduit or pull box. Tiltwall penetration and installation of all conduit for phone line service shall be made above bottom chord of joists and weatherproofed according to Division 3 “Concrete”. Contractor shall paint all exterior conduits to match exterior building finish.

Lessor has provided the necessary infrastructure (i.e. Underground conduits, reserved wall space for exterior demarcation panel(s), etc.) for telephone/data communications installation to the shell building. Tenant is solely responsible to apply for and obtain telephone/data communications service from the utility provider of its choice.

WAREHOUSE LIGHTING:

Unless otherwise required by code, for buildings with clear heights 0f 20'-0" or less, provide a minimum of one (1) 2-lamp, 8'-0" industrial fluorescent strip fixture equipped with high-gloss baked white enamel reflector, Lithonia series "l", lamp type 96t8, or approved equal, per 250 square feet, or one (1) 250 watt metal halide HID "low bay" fixture, GE series "Unimount", or approved equal, per 400 sf. For buildings with clear heights greater than 20'-0", provide a minimum of one (1) 400 watt metal halide HID "high-bay" fixture, GE series "Uniglow", or approved equal, per 400 sf. Or, install fixtures IAW quantities, locations, and types as indicated on the plans and IAW all Federal, State, and Local energy codes. Mount fluorescent fixtures on short chains attached to bottom chord of joist, or secure directly to bottom of joists. Include new high efficiency lamps for each fixture. Installation of, and electric supply to, low bay and high bay fixtures shall be from conduit mounted to a junction box securely attached to unistrut fastened to top chord of adjacent joists. Feed electrical from *"re-loc"* flexible conduit, or 8" rubber cord from j-box to fixture, depending on code. Provide adequate number of switches for "banking" warehouse lighting into multiple circuits not to exceed 2000 sf per circuit. Circuit banked sections of lighting in checkerboard pattern on separate switches to comply with Federal, State, or Local energy codes. Breakers are not to be used to switch lights on/off in panel. Provide 3-way switches so that warehouse lighting can be controlled inside facility at rear entry and next to warehouse/office door.

OFFICE LIGHTING:

Provide 2' x 4' recessed fluorescent 3-tube Troffer fixtures with acrylic prismatic lenses, U.O.N. Approved manufacturers: GE, Lithonia, or Metalux, with Wattmiser ® cool white tubes and energy saving electronic ballasts. Non-exposed conduit to fluorescent fixtures shall be flexible aluminum-clad MC light cable. Design to provide an average of 65 footcandles at 3'-0" aff, (disregarding natural daylight.) Unless otherwise required by code, for rooms with single entry, provide a minimum of one light switch. For rooms with more than one entrance, provide 3-way switching at primary and secondary doors. Large rooms over 4000 s.f. shall have light fixtures "banked" into a minimum of two circuits, or as otherwise noted on reflected ceiling plans. Banked sections shall also be circuited with a checkerboard pattern on dual switches to comply with energy codes. If incandescent recessed downlights are specified on plans, they shall be properly supported by factory-bridge frames secured to ceiling grid in a uniform level position. Provide and install red led lamp exit lights, Lithonia LQM series Quantum Standard ® or approved equal, in quantities and locations as specified by codes of the AHJ.

FIRE/SMOKE ALARMS:

An appropriate fire and/or smoke alarm system shall be installed by the General Contractor where required by code of the AHJ. Install in accordance with all federal, state, and local laws and ordinances, including ADA/TAS code. Alarm system shall be interfaced to the shell building fire alarm system and be capable of automatically warning all occupants of the tenant space in the event of fire. Tenant is responsible for all costs associated with fire/smoke alarms required by code(s) of the A.H.J.

General Contractor shall furnish all fire extinguishers required by the fire code of the AHJ. Extinguishers shall be of size, extinguishing agent, quantity, and location as directed by the Fire Marshall. GC to include fire extinguisher cabinets only if required by the A.H.J., or if specifically indicated on plans. If cabinets are required by the AHJ, they shall be of semi-recessed type. **It is the General Contractors responsibility to know if the Fire Marshall will require any additional cabinets, hoses, pipe painting, etc. in warehouse/storage areas.**

SECURITY/ACCESS CONTROL SYSTEMS:

Tenant is responsible for installation and expense of any security or access control systems (magnetic locks, electric strikes, etc.), cost of supplemental fire alarm systems required by the AHJ due to installation of access control hardware or systems, cost of upgrades or interfaces to base building fire alarm control panel (FACP), cost of any specialized exit hardware (panic devices, motion sensors, request to exit switches, door relays, etc.) as a result of tenant's installation of security or access control systems. Where supplemental fire alarm systems or specialized exit hardware is specifically noted on the plan(s) due to tenant's installation of security or access control systems, then the General Contractor shall include the cost of fire alarm system and exit hardware in its' bid. Further, if access control systems are scheduled and shown on the construction drawings, the General Contractor shall provide a plaster ring and pull string at each interior door location, and a concealed conduit and exterior grade weatherproof outlet box at each exterior door noted to receive an access control device, and otherwise where specifically indicated on the construction drawings. All access control systems must be interfaced to the shell fire alarm panel. The Fire Marshal has sole jurisdiction and responsibility for access control and fire alarm system plan review and inspection. Each magnetic lock, electronic strike, or other access control device shall de-energize and allow doors to open upon activation of fire alarm. Any delays to the project schedule, occupancy date, or financial impact on Owner's contract for construction as a result of installation, inspection, or certification of Tenant's security or access control systems shall be at the sole cost and expense of Tenant.

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