



BUILDING PROGRAM STANDARDS

I. GENERAL STANDARDS

General Notes

The Building Program Standards noted herein represent programmatic information necessary to design and construct the tenant space for State of Illinois agencies and offices under the leasing authority of the Department of Central Management Services (“CMS”) in accordance with the needs of the State entity occupying the space (“Using Agency”). As programmatic information, the standards noted herein are not all inclusive, and are not a substitute for specifications or construction documents from which the tenant space will be constructed. The standards noted herein provide general performance guidelines to quality and standards required for the delivery of an interior and exterior environment conducive to the programs, services and activities under the purview of the Using Agency.

If the Building Program Standards found here conflict with the requests found in the Request for Information (“RFI”) or Tenant Space Configuration (“TSC”) (collectively, the “Procurement Documents”) or the resulting lease (“Lease”), the Building Program Standards will defer to the other documents. Building Program Standards must conform to requirements set out in the TSC, Lease, and all applicable laws and building codes.

All construction must be done by mechanics or workmen skilled in their respective trades, must be done in a workmanlike manner and present an industry standard appearance acceptable to the Using Agency.

Office Space Standards for Sustainable Practices

The following requirements shall be met to conform to CMS policy governing the spatial performance of leased properties:

For existing facilities or facilities newly acquired through transfer, purchase or lease with rentable area greater than or equal to 10,000 square feet, and where the tenant improvements to a lease exceed the current annual base rental cost, the following performance requirements shall apply. For existing facilities or facilities newly acquired through transfer, purchase or lease with rentable area less than 10,000 square feet, and where the tenant improvements to a lease exceed the current annual base rental cost, the following performance requirements shall apply to the maximum extent feasible.

1. The area per person performance benchmark shall be 275 rentable square feet.
2. The following interior spaces shall not be included in the rentable area of the facility for the purpose of measuring the performance of office space:
 - a. public and client services waiting areas used for direct client services or public access to services provided within the interior office spaces
 - b. public and client restrooms provided for use in addition to employee restrooms
 - c. public and client service records and active work files associated with service delivery
 - d. other public and client service areas related to direct, on-site service delivery (i.e., public self-help resource areas, public education areas, observation rooms, storage of goods for distribution to clients, the general public or non-employee use)

3. Economic performance and economic feasibility shall take precedence over spatial performance and sustainable practices.
4. Preference for re-use of existing space and minimum re-configuration to reduce the use of virgin materials for improvements and alterations shall be exercised over strict conformity with performance requirements where economic feasibility can be demonstrated.
5. For existing facilities, adding population to maximize density and efficient space utilization will take precedence over re-configuration of space, reduction of space or elimination of space where economic feasibility can be demonstrated.
6. For existing facilities, converting private office space above the maximum allowable private office space allocation into shared office space will take precedence over re-configuration of space or elimination of space where economic feasibility can be demonstrated.

II. SITE WORK

Parking Lot

When providing parking spaces as set out in the Procurement Documents or Lease, they should be contiguous with the building or in a parking structure or surface lot(s) in close proximity to the leased property. Parking areas shall be lighted and striped. Lessor shall identify the location of proposed parking in the quantity noted. Within the required number of parking spaces, provide sufficient accessible parking spaces on an accessible route to the main building entrance in compliance with the Americans with Disabilities Act (“ADA”). Parking provided is for clients and fleet cars only.

The parking lot designated for this building is to be completely paved by asphaltic cement, concrete or approved equal. Paving to be done in a manner that will provide efficient drainage.

Sustainable Site Improvements

Site utilities, building services and connections shall conform with standards of the local, municipal building code.

Site lighting shall provide at least minimum illumination of the parking area, building access routes and entrances and shall be designed to avoid light pollution.

Sustainable Site Landscaping

Landscaping shall conform to the standard prescribed by the municipality, or in absence of local standards, shall conform to acceptable standards of adjacent properties as determined by the Using Agency and CMS.

In leases where the Using Agency occupies first floor tenant space, an entire freestanding building, or other location where landscaping is integral with the design of Using Agency’s occupancy, the site shall be landscaped for low maintenance and water conservation with native plant species and non-invasive varieties of non-native species adapted to the local growing conditions.

Sustainable Landscape Management Practice

Landscape management practices shall prevent pollution by avoiding or minimizing the need for chemical fertilizers and pesticides, prohibiting the use of 2, 4-D and organophosphates, while promoting the use of composting and recycling of biomass wastes.

Sustainable Site and Landscaping Products

To the maximum extent feasible, products used for exterior applications such as wheel stops, benches, tables, planters and so forth, shall be products manufactured fully from recycled materials or containing a substantial recycled content. For information on landscaping products with recycled content, see EPA's Comprehensive Procurement Guidelines for landscaping products at www.epa.gov/cpg/products.htm.

III. CONCRETE

Concrete construction shall conform to the standards of the prevailing, local building code. New and existing structural concrete shall be determined to have structural integrity by a licensed structural engineer.

IV. MASONRY

Masonry construction shall conform to the standards of the prevailing, local building code. New and existing structural masonry shall be determined to have structural integrity by a licensed structural engineer. Masonry shall be cleaned, waterproofed and free from structural cracking.

V. METALS

Steel and other metal construction shall conform to the standards of the prevailing, local building code. New and existing structural steel shall be determined to have structural integrity by a licensed structural engineer.

VI. WOOD AND PLASTICS

Sustainable Millwork

All base and wall cabinets are to be finished wood grain or plastic laminate as selected by Using Agency. Recovered wood doors and cabinets are acceptable for use following re-finishing. Free standing cabinets are to be finished on all four (4) sides.

Countertops and 4" high backsplashes are to be fully wrapped in plastic laminate finish. Height of all new counters shall not exceed 34" above the finish floor.

Fiberboards that contain formaldehyde-free glues are recommended for use as backing materials for countertops. Such materials may be finished in plastic laminate only on exposed surfaces.

In restrooms containing more than one lavatory, install drop-in lavatories in plastic laminate countertops with 4" high matching backsplashes. Top of countertop to be no higher than 34" above the finish floor.

Provide 30" wide x 29" high x 19" deep clear open area below counters for wheelchair users.

Sustainable Wood Products

In all new installation of wood products, to the maximum extent feasible, use independently certified forest products grown in proximity to the lease location to reduce the environmental impact of transportation and to promote renewable practices in forest management. For information on certified wood products, see the Forest Stewardship Council at www.fscus.org or the Certified Forest Products Council at www.certifiedwood.org or the American Tree Farm System Certification at www.treefarmssystem.org.

New wood products incorporated into the tenant improvement work shall not contain wood from endangered species as listed by the Convention on International Trade and Endangered Species (CITES). See www.certifiedwood.org/Resources/CITES/CITESContent.html.

Particle board, strawboard and plywood materials shall comply with HUD Standards for VOC emissions (particle board: 0.2 ppm of formaldehyde, plywood: 0.3 ppm of formaldehyde).

VII. THERMAL AND MOISTURE PROTECTION

ENERGY STAR Energy-Efficiency Requirements

Properties to be newly constructed, renovated, altered or remodeled as a condition of leasing space to the State, where the State is the sole tenant of 95% or more of the building, will be designed to achieve an EPA rating of 75 or higher. The Lessor's professional service provider will file a Statement of Energy Design Intent generated from Target Finder, with the USEPA for any such occupancy if the building is one of the space types handled by EPA's energy performance rating system. ENERGY STAR Building Certification shall be achieved within 14 months of reaching 95% occupancy if the building is one of the space types handled by EPA's energy performance rating system.

Properties to be newly constructed, renovated, altered or remodeled as a condition of leasing space to the State, where the State is NOT the sole tenant of 95% or more of the building, shall be designed using the same criteria as if to achieve an EPA rating of 75 or higher.

Any real property leased to the State, at a minimum, shall have the building's annual energy use benchmarked (rated) against its peers using Portfolio Manager at <http://www.energystar.gov/index.cfm?c=evaluate> performance.bus portfolio manager within 14 months of reaching 95% occupancy of the leased property. The Lessor shall provide the rating where the Lessor provides for payment of utilities under the terms of the Lease. The Lessor agrees to provide information required to complete the rating process where the State provides payment of utilities.

Provide annual energy consumption calculations and cost for all utilities (including natural gas, electricity and water). Provide meter and account numbers relating to the leased property for CMS' energy reporting database.

Exterior walls are to have a cumulative thermal resistance value of R-19 when constructed new. For existing walls, the thermal resistance value shall be noted in the proposal. Roofs or upper ceilings are to have a thermal resistance value of R-31.

Energy conservation measures are to be provided in accordance with the prevailing, local building code where more stringent requirements are stated.

Insulation Products

No insulation in the tenant improvement work shall be material manufactured using chlorofluorocarbons (CFCs), nor shall CFCs be used in the installation of the product. All insulation containing fibrous materials exposed to air flow (e.g. plenum applications) must be rated for that exposure or be encapsulated.

Unless a written waiver is granted by CMS due to extreme economic hardship and lack of availability of sufficient product to particular locations, fiberglass batt insulation shall be certified as formaldehyde-free.

Sealants and Adhesives

All adhesives, including without limitation, adhesives for carpet, carpet tile, plastic laminate, wallcoverings, wood adhesives or sealants, shall have VOC content below 20 grams per liter (unless otherwise noted in this document) and meet the requirements of the manufacturer of the products adhered or sealed. All adhesives and sealants shall be formaldehyde-free and free from heavy metal content.

Exterior sealants shall have a 20-year guaranteed life expectancy.

Waterproof all subterranean walls.

All applied fireproofing materials on exposed structural members shall be certified as non-hazardous materials.

Roofing System

All new roof systems shall have a 20-year life expectancy and be guaranteed by the roofing manufacturer in writing. A shorter term life expectancy will be considered if the roofing manufacturer offers renewable guarantees on a minimum of 5-year terms. The roof/ceiling system shall have a minimum, cumulative thermal rating of R-31. For existing roofs, the remaining life expectancy and warranty period shall be noted in the proposal.

For flat roofs directly above tenant space occupied by the Using Agency, a liquid membrane system shall be applied to the built-up roofing systems to reduce heat absorption comparable to ELMS 50 biobased roofing product manufactured by Environmental Liquid Membrane System.

Exterior sealants shall have a 20-year guarantee.

Provide sprayed on fireproofing on exposed structural steel members or install ceiling assemblies to satisfy all applicable codes.

VIII. DOORS AND WINDOWS

Doors & Frames

For interior doors and exterior doors where a keyed lockset is required, provide commercial Grade 1 door hardware. Provide a master key system for all exterior and interior doors of the tenant space.

Where the main entrance to the tenant space is an exterior entrance to a building, install entrance doors with an accessible airlock vestibule at the main entrance.

All exits and access to exits, including corridors that may be used by the State or those entering the building to do business with the Using Agency shall comply with the requirements of the National Fire Protection Association Standards No. 101. Exit arrangements must be approved by the local building permit issuing authority. "Employees Only" and emergency exit doors to be equipped with door closers and panic hardware that allows for key operation from exterior and hand operation from interior to control traffic flow.

Interior building standard doors and frames shall be hollow metal door frames with 3' wide, 1 3/4" thick, 6'-8" high solid core wood or hollow metal doors, or approve equal.

Doors to restrooms to be equipped with metal hand push plate on one side of door and metal hand pull on opposite side of door unless privacy lockset is required. Kick plates shall be provided on the entry doors to the restrooms.

Fire rated doors to be installed where required to meet all applicable codes. Any variations to be approved by the local building permit issuing authority.

Door Hardware

Main entrance doors, including each set of doors in series, and Public Restroom Doors shall be equipped with an automatic door opener with push button operators on each side.

Exterior doors and interior doors where required by the local building code (for rated corridors), shall be equipped with conventional arm door closers (delay action) and shall open out of the building or space. Weatherstrip all exterior doors and provide an accessible threshold.

For interior doors and exterior doors where a keyed lockset is required, provide commercial Grade 1 door hardware with functions noted in the Tenant Space Configuration. Locksets to be Schlage Primus system or approved equal unless nature of existing building does not allow for such installation. Provide a master key system for all exterior and interior doors of the tenant space.

For all doors used for egress, provide commercial grade panic devices.

Provide accessible lever door handles throughout the facility.

Please also see Access Control System Requirements under Section XVI Electrical

Reception Area Window

Furnish and install a 3' wide x 18" deep counter-type plastic laminate work area projecting 12" into the public area with a cutout for a non-ricochet deal tray (Creative Industries' 1611-NR Deal Tray) and a receptionist window above. Top of counter and tray to be 34" above the finish floor. Refer to the Tenant Space Configuration for specifics on window glass, if any.

IX. FINISHES

Sustainable Practices for Interior Wall Systems

Enclosing walls will be organized to conform with the module of a continuous ceiling grid to the maximum extent feasible. Enclosing walls will not extend above the ceiling line except where required by prevailing code, or to isolate space where indoor air quality conditions prevail.

Enclosing walls will contain sound attenuation or insulation materials as a standard practice. Enclosing walls will not be full height where feasible to promote air circulation and light passage.

Enclosing walls will use transparent or translucent materials where economically feasible and appropriate given privacy considerations. Enclosing walls will not be used for lounge or break areas, kitchenettes, vending areas and similar spaces unless required by local building codes for fire safety reasons.

Use lockable storage cabinets in lieu of walled storage and supply areas to the maximum extent feasible.

Standard Construction Interior Wall Systems

Standard Construction techniques are only to be used in lieu of Sustainable Practices for Interior Wall Systems where economic feasibility can clearly demonstrate standard construction is more cost effective compared to the demolition and re-construction required to use Sustainable Practices for Interior Wall Systems.

Furnish and install building standard sound walls and partition walls having 3 5/8” metal studs at 16” O.C., 2” sound attenuation blankets and/or additional materials to achieve industry standard sound ratings for spaces noted in the Tenant Space Configuration (for sound walls), and appropriate gypsum wallboard thickness for sound, fire and moisture applications. Full height walls (to the structure above) as required for fire separation and building standard sound walls are to be constructed in accordance with the local, municipal building code. Alternative building standard sound wall systems must be approved by CMS and the Using Agency prior to commencement of tenant improvements.

All inside walls to be painted smooth drywall, painted masonry or approved equivalent. All pipes and mechanical lines are to be enclosed within wall construction.

All partitioning materials including core materials shall consist of noncombustible materials having a flame spread of 25 or less and a smoke development of 50 or less when testing in accordance with the American Society for Testing Materials (ASTM) Standard E-84, or current edition unless local building code requirements are more stringent.

Sustainable Carpeting including Backing & Adhesive Products

Where carpeting is installed during the initial tenant build-out or by subsequent amendment to the Lease, the building standard carpeting for this tenant area shall contain post-consumer recycled content and shall conform to the Carpet and Rug Institute/Indoor Air Quality (CRI/IAQ) Carpet Test Green Label Guidelines pursuant to Executive Order Number 11 (2001) accordance with the following requirements.

Definition of Post-Consumer Recycled Content:

Content derived from carpet products following their initial useful life, diverted from the waste stream, and through manufacturing processes, converted to form the contents, in whole or in part, of new products with useful lives to re-enter the commerce stream.

Post-consumer recycled content is expressed as a certain, consistent percentage of the total content of a product such as carpet, or percentage of the total content of a component of a product such as fibers or backing material. Recycled content expressed by statements such as “up to 60% recycled content” or “recycled content subject to availability” are not acceptable. Product recycled content must not vary in running line products. Recycled content products should have equal or better performance and cost no more than comparable virgin content products.

Definition of Post-Industrial Content:

Post-industrial content is a substance that, without a process change or other modification to incorporate it into a product with useful life, would enter the waste stream (for disposal) as a material without a useful life. Normal by-products in product manufacturing, which are normally reused within the original manufacturing process, or waste by-products that would not normally enter the waste stream do not constitute post-consumer or post-industrial recycled content per FTC guidelines 16 CFR section 260.7 (e) example 1.

Recycling Requirements:

Existing carpet products to be removed from the premises shall not enter the waste stream and, shall not be disposed of as landfill material or be incinerated for any purpose. Existing carpet products shall be 100% recycled back into carpet, or other new products with useful lives to re-enter the commerce stream, an infinite number of times. Recyclability of carpet products may include any active commercial process, which will return post-consumer (used) carpet to new carpet products or other new products with useful lives such as highway derivatives, automobile parts, and building construction materials.

New carpet products must meet FTC guidelines for recyclability and be 100% recyclable in a fully established, currently operational recycling program per 16 CFR section 260.7 (d). A claim of recyclability cannot be made for a product or any portion of a product that is incinerated, even if incineration is used to produce heat and power (e.g. waste-to-energy) per FTC guidelines 16 CFR section 260.7 (d) example 3. Manufacturer to provide a statement signed by an officer of the company verifying that all environmental marketing claims are consistent with FTC's Guides for the Use of Environmental Marketing Claims, 16 CFR section 260.

Manufacturer must have a collection and recovery system for carpet products purchased under this agreement and a fully established, currently operational recycling program per FTC guides Section 260.7(d). Manufacturer must provide written guarantee that 100% of recovered products will be recycled and that no portion of the products will be landfilled or incinerated. Manufacturer must be able to recover and recycle materials compatible with products in its recycling program. Recycling process, collection, recovery and re-use of materials, must be available for viewing and verifiable by an independent, neutral, third-party organization. Claiming a product is recyclable based on future expectation of technology, equipment, process or availability of that product as feedstock is not acceptable. Manufacturer must have product take back / buyback program capable of providing customer with financial incentive to return carpet for recycling. Manufacturer to provide recyclable bags with shipment so that cardboard and plastic packaging can be collected and recycled. Note: See CMS Website (<http://www.state.il.us/cms/green/Suppliers.htm>) for list of Green Label Carpeting suppliers for recycling.

Alternative Recycling Requirements:

To encourage the innovative development of 100% sustainable carpet products, and recognizing the harvesting of such products as an input resource will not occur until sufficient product has penetrated the market and exceeded its useful life, an alternative means of determining recycled content is appropriate. For the manufacturers of 100% sustainable carpet products where recycled content in the product comes from the consumer waste stream of that same product, where fiber is recycled into new face fiber and backing material is recycled into new backing material to sustain the product line, whether fed by waste from the same product line or carpet products outside that product line, the use of consumer waste stream materials as an energy input to the 100% sustainable carpet product shall be considered a recycled content where there is a documented 20% or more reduction in the non-renewable energy input to the sustainable carpet product resulting from the use of consumer waste stream materials when compared to 100% energy input from non-renewable energy sources. Manufacturer shall issue a recycling certificate stating the method used to calculate recycled content and the calculated non-renewable energy input savings as a percentage of total energy input at the time of completion of the 100% sustainable carpet product.

Broadloom: Tufted and Woven

Fiber/Yarn:

Carpet material shall be 100% commercial filament nylon 6.0 or 6.6. The minimum denier per filament of fibers to be 18dpf. Fibers and yarns are to be first quality in accordance with normally accepted industry standard practices. Yarns must be of minimum 3-ply if air entangled or a minimum 2-ply if twisted yarns are used. Both methods are acceptable. Twisted yarns must be heatset to ensure resilience and durability.

Non-heatset twisted yarns are not acceptable. Yarn size can vary from 2400 denier up to 6000 denier. Gauge and product type will dictate the sizes that manufacturers must use. Yarns will contain anti-stain and anti-soil treatments that meet minimum testing requirements of the industry.

Dye Methods:

Acceptable dye methods include: Solution Dye, Yarn Dye, and a combination of both. Yarn Dye to include Skein Dye, and Space Dye systems.

Tufted Constructions:

Acceptable products may range from 1/10 gauge to 1/13 gauge. This will ensure that dense commercial fabrics are used. Pile heights may vary from .125 inches to .230 inches and stitch rates are to be a minimum of 8.0 stitches per inch.

Woven Constructions:

Acceptable products may range from 5 pitch to 10 pitch. This will ensure that dense commercial wovens are used. Pile heights may vary from .144 inches to .230 inches and row counts (stitches rates) are to be a minimum of 6.5 rows per inch.

Modular Products:

Where carpet tiles are provided, cut by the die cut method only. Tufted construction modular products shall have a minimum face weight of 20 oz. per square yard with acceptable gauges from 1/10 to 1/13. Where woven modular products are provided, carpet material shall have a minimum face weight of 24 oz. per square yard with construction and yarn requirements as noted for “woven constructions”. Stitch rates and row counts (woven only), should be in a range from 8.0 to 11.5, depending on the weight and the gauge of the specific product. Modular products to have broadloom coordinates to keep the areas where modular products are used to a minimum in lieu of less expensive broadloom products.

Warranty & Performance Criteria:

Manufacturer to provide a written warranty environmental guarantee that 100% of carpeting returned to Manufacturer for recycling will be recycled and that no portion of the carpet will be landfilled or incinerated as a disposal method.

Warranties to be sole source responsibility of the Manufacturer. Second source warranties and warranties that involve parties other than the carpet manufacturers are unacceptable. If the product fails to perform as warranted when properly installed and maintained, the affected area will be repaired and/or replaced at the discretion of the Manufacturer. Chair pads must not be required for carpet warranty coverage.

Static: Acceptable Static Propensity for all products types should be less than or equal to the normally accepted commercial standard of 3.5 KV. Static protection must be permanent with a static control filament included in the fibers. Warranty period - Lifetime.

Loss of Backing Resiliency: Warranty period - Lifetime.

Wear, Delamination, Zippering & Edge Ravel: Warranty period - 15 years Lifetime.

Colorfastness, Stain Resistance, Soil Resistance: Warranty period - 10 years Lifetime.

Atmospheric Contaminants (Ozone, Nitrous Oxides, etc.) – Warranty period - 5 years Lifetime.

Tuft Bind – 15 lbs. minimum average.

Lessor shall furnish CMS a copy of any and all warranties upon request. All warranties shall be transferable to the State.

Recycled Content:

To insure carpet is diverted from the waste stream including landfills for the production of the product, and the amount of virgin, non-renewable natural resources used in the product is reduced, carpet product shall have a minimum weighted average of 20% post-consumer recycled content. Recycled content must be reported as a percentage by weight of a specific component of the carpet product [e.g. face yarn or backing material] and by total weight of the product. Example: A 30 oz. face weight product with 6 oz. of post-consumer recycled content in the nylon face yarn would have 20% post-consumer recycled content for the face weight component and a lesser percentage for total weight of the product.

Product must carry a product label, or be accompanied by a letter from the manufacturer certifying, the percentage of post-consumer recycled content of a specific component of the carpet product and percentage of post-consumer recycled content by total weight of the carpet product. Manufacturer's claim of recycled content shall be substantiated by compliance with FTC Guides 16CFR Part 260(e).

Fly ash is not considered recycled content for the purposes herein.

Alternative Recycled Content:

For the manufacturers of 100% sustainable carpet products where recycled content in the product comes from the consumer waste stream of that same product, where fiber is recycled into new face fiber and backing material is recycled into new backing material to sustain the product line, whether fed by waste from the same product line or carpet products outside that product line, the use of consumer waste stream materials as an energy input to the 100% sustainable carpet product shall be considered a recycled content where there is a documented 20% or more reduction in the non-renewable energy input to the sustainable carpet product resulting from the use of consumer waste stream materials when compared to 100% energy input from non-renewable energy sources.

Manufacturer shall issue a recycling certificate stating the method used to calculate recycled content and the calculated non-renewable energy input savings as a percentage of total energy input at the time of completion of the 100% sustainable carpet product.

Indoor Air Quality (IAQ):

Product, inclusive of floor covering adhesive, must meet CRI's IAQ requirements. Environmental chamber testing per ASTM-5116. Emission Rates determined at 24 hours. Product, inclusive of adhesive system, must meet VOC Green Label/Green Label Plus program guidelines. The current criteria for the program are based on maximum emission factors as follows:

- 0.5 mg/sq. meter per hour of Total Volatile Organic Compound (TVOC);
- 0.05 mg/ sq. meter per hour of formaldehyde;
- 0.4 mg/sq. meter per hour of styrene; and
- 0.05 mg/sq. meter per hour of 4-Phenyl cyclohexene (4-PC)

Submit Indoor Air Quality test report showing CRI Green Label/Green Label Plus ID Number for carpet, inclusive of adhesive. If results for carpet testing are not inclusive of adhesive, submit separate IAQ test reports for carpet and adhesive. Product as installed to be securely attached to the floor in compliance

with Americans with Disabilities Act (ADA), Section 4.5.3. Floor preparation shall be in accordance manufacturer's written recommendation for specific floor system type.

Other Sustainable Flooring

Where noted in the Tenant Space Configuration, provide resilient flooring. Green Building Practice recommended resilient flooring choices include cork, natural linoleum, recycled-content rubber or chlorine-free polymer resin tile. Colors to be chosen by the Using Agency.

Standard floor finish for Toilet Rooms shall be unglazed ceramic tile or recycled glass tile including ceramic cove base, bullnosing and other finish tiles. Colors to be chosen by the Using Agency.

Standard floor finish for Janitor Closets shall be resilient flooring or sealed concrete. Colors to be chosen by the Using Agency.

Furnish and install rubber or recycled-content rubber baseboard in all areas, except, furnish and install ceramic base in ceramic wall and floor areas. Vinyl baseboard is not acceptable.

Walk-off Mats

All entryways to the building and to the tenant space when accessed directly from the exterior shall have sufficiently large walk-off Mats to reduce dust, dirt and particulate Matter from entering the tenant space. Where provided by the Lessor, regular cleaning services shall be included in the provision of walk-off Mats.

Ceiling

Building standard ceilings shall be mineral and acoustical tile or lay in panels with texture or patterned surface with 2x2 or 2x4 mechanical grid system with exposed "T" bars or equal. Ceiling tiles or panels shall contain recycled content. Ceilings shall have a minimum noise reduction coefficient (NRC) of 0.60 and a minimum Sound Transmission Class (STC) of 0.40 in all areas where sound walls are not used to isolate specific spaces from other spaces. Provide proper ceiling finish to achieve fire rating as required by the local building code. All pipes, drains, and ducts to be concealed in ceiling whenever possible to present a clean and unencumbered appearance.

Where noted in the Tenant Space Configuration, ceilings shall be plaster or gypsum wallboard (taped, sanded and painted).

General ceiling height should be at or above 9'-0", but not higher than 12'-0" from the floor to the lowest obstruction, including lighting fixtures unless noted otherwise in the Tenant Space Configuration [historic landmarks not included].

Lighting fixtures will be lay-in type for suspended acoustical ceiling applications and flush mounted fixtures of similar design for gypsum wallboard applications.

Flame spread for all ceilings, including any acoustical treatment shall consist of noncombustible materials having a flame spread of 25 or less and a smoke development of 50 or less, when tested in accordance with the American Society for Testing Materials Standard (ASTM) E-84, or current edition.

Sustainable Painting and Decorating

Paint for general interior and exterior applications shall be water-based, zero- or low-VOC latex paint and primer. Water-based paints shall not be formulated with aromatic hydrocarbons, formaldehyde,

halogenated solvents, mercury or mercury compounds, or tinted with pigments of lead, cadmium, chromium VI, antimony and their oxides.

All new or existing permanent walls shall be painted prior to occupancy. All walls shall be prepared and painted with latex Polomyx paint in at least a four-color mix or lessee approved equal. Paint shall be a solvent-free, water-based, and non-VOC emitting paint. Preparation and application, including recommended primers and recommended number of coats for full coverage of previous finish, shall be completed in accordance with manufacturer's written recommendations.

If solvent-based paints are required for exterior use, the VOC levels shall not exceed 150 grams/liter. Solvent-based paints shall not be formulated with more than 1% aromatic hydrocarbons by weight.

Paint for door and window frames, steel doors, and other such building components shall have a minimum of two finish coats of paint unless stipulated otherwise.

The use of water-based stains and transparent finishes for the use of wood finishes shall be provided with less than 100 grams/liter for stain or transparent finishes.

Immediately after occupancy, Lessor will refinish marred walls during weekends, holidays or non-business hours subject to the approval of the Using Agency.

Color selections shall be made by the Using Agency.

Unless noted otherwise in proposal, Toilet Rooms shall have painted wall finish above unglazed ceramic tile or recycled glass tile finish.

Video Conference Rooms to be finished with Sears "Cathedral Gray #03094905528" or equivalent low-VOC paint.

Wallcoverings

No vinyl wallcoverings shall be used in the tenant space due to the off-gassing of toxic (chlorine) fumes when heat is applied or due to decomposition of material. In lieu of vinyl wallcoverings, where noted in the Tenant Space Configuration, use non-toxic textiles adhered with low-VOC adhesives.

Display Advertising

When the premises are for the exclusive use of the Using Agency, the air space above the premises shall not be used in any manner except as necessary for the operation and maintenance of the premises. No signboards or advertising of any nature shall be constructed on or over the premises, without the written consent of CMS.

Building Signage

Furnish and install outside sign on the building or lawn readable from 500' distance with language as set out in the Procurement Documents or Lease. For multi-story occupancies, the name of the Using Agency and the location in the building shall be displayed in the main elevator lobby on the building directory.

Provide room designation signage for all Special Facilities Spaces conforming to the requirements for accessible signage including raised letters and Braille. Mount signage at 60" above the finish floor on the wall adjacent to the latch side of each door to Special Facilities Spaces.

X. SPECIALTIES

Provide Koala Bear Kare Baby Changing Stations (or approved equivalent) as noted in the Tenant Space Configuration. FDA approved high impact plastic, wall mounted unit to contain a safety strap and fold out from the wall with access on three sides for ease of diaper changing and disposal. Unit sized is 37” high, 21-1/2” wide with 6-1/2” closed extension and 34” horizontal extension when open. Place signage indicating availability of unit at each location on the access door or wall adjacent to access door.

Provide Koala Bear Child Protection Seats (or approved equivalent) as noted in the Tenant Space Configuration. Units shall be mounted in stalls on building partition [not toilet partition] wall adjacent to water closet and be fully retractable when not in use. Place signage indicating availability of unit at each location on the access door or wall adjacent to access door.

XI. EQUIPMENT

Provide manufacturer’s standard written warranties (transferable to CMS upon occupancy) for all equipment construed as the personal property of CMS.

Provide UL “recommended marking” on electrical components of purchased equipment.

Comply with the National Electrical Code and with NFPA-96 for exhaust system equipment.

Comply with all applicable health code requirements including requirements of the Illinois Department of Public Health.

All necessary electrical outlets as recommended by the manufacturer of purchased equipment shall be furnished.

XII. FURNISHINGS

General Note

Furnishings noted as “supplied by the Using Agency” in the Tenant Space Configuration will be purchased and installed by the Using Agency unless noted otherwise.

Window Treatment

All exterior and interior windows shall be equipped with window coverings. Blinds to be new narrow slat, horizontal metal alloy with plastic or baked-on finish, or approved equal. Colors to be selected by the Using Agency.

Movable Wall System

Furnish and install movable, acoustical curtain wall system to divide Large Conference Room when noted in the Tenant Space Configuration. Provide minimum sound transmission coefficient, STC 50-55, for movable acoustical curtain wall system to maintain privacy on each side of movable wall.

Where sustainable practices are used and demountable wall systems define interior space, movable wall system shall be compatible with the demountable wall system.

Metal Shelving

Furnish and install standard metal shelving units anchored to the wall in the quantities noted in the Tenant Space Configuration. Units to measure 15” deep and 72” high with adjustable shelves placed at 16” on center vertically.

XIII. SPECIAL CONSTRUCTION

Exterior building features to include projected overhang at public and employee entrances.

XIV. CONVEYING SYSTEMS

Vertical Circulation Systems

Provide all necessary accessible conveying systems to provide vertical accessibility throughout the facility and for access to facility entrance from exterior public areas where necessary.

All elevator cabs shall be equipped with an emergency telephone and the Using Agency shall be given a 24-hour emergency telephone number by the Lessor.

XV. MECHANICAL

Potable Water Supply

Furnish and install all necessary equipment for hot and cold potable water to meet the requirements noted in the Tenant Space Configuration.

Furnish and install electric water coolers as noted in the Tenant Space Configuration below.

Electric Water Coolers

Furnish and install electrical water coolers per the Illinois Plumbing Code. Provide cold water lines, waste and vent lines and electrical connections. Water fountains shall have an upfront spout and control. It shall be hand operated. Each water fountain must be in compliance with accessibility standards.

Solder and flux in joining potable water supply piping shall not contain more than 0.2 percent lead and domestic water pipe or pipe fittings shall not contain more than 8 percent lead.

Although the Illinois Plumbing Code allows bottled drinking water stations to substitute for drinking fountains, the Using Agency will not accept bottled water dispensers.

Toilet Facilities

Furnish and install all necessary plumbing fixtures as required by the Illinois Plumbing Code, American Standard, or equal.

Toilet partitions, when newly installed, shall be made from recovered materials or 100% recycled-content materials including plastic products. Colors to be chosen by the Using Agency. Provide one (1) coat hook on the inside face of each toilet partition door.

Provide self-closing type faucets for all lavatories in all public restrooms with .5 gallons per minute flow restrictors in accordance with ASME/ANSI A112.18.1M-1989 and the Illinois Plumbing Code.

Stainless steel shelves and plate glass mirrors shall be furnished and installed above each lavatory.

In all rest rooms, install toilet tissue dispensers and electric hand dryers. Furnish all necessary toilet room accessories in accordance with the Tenant Space Configuration.

Furnish and install accessible raised letter and Braille signs to designate MEN and WOMEN toilets. Mount signage at 60" on the wall adjacent to the latch side of restroom doors.

Standard floor finish for Toilet Rooms shall be unglazed ceramic tile or recycled glass tile including ceramic cove base, bullnosing and other finish tiles. Colors to be chosen by the Using Agency.

Toilet Room wall finishes shall be unglazed ceramic tile or recycled glass tile to a height of 6'-0" above the floor with painted wall and ceiling finish above 6'-0".

Standard ceiling finish for Toilet Rooms shall be plaster or gypsum wallboard (taped, sanded and painted).

Install electric exhaust fans in each Toilet Room vented to outside of building.

Where the Lessor provides paper products for Janitorial Services, the Lessor shall select paper and paper products (i.e. bathroom tissue and paper towels) with recycled content.

Janitor Closets

In the janitor's closet install one (1) janitor sink with hot and cold water outlet. Floor basins are preferred.

Standard floor finish for Janitor Closets shall be resilient flooring.

Standard ceiling finish for Janitor Closets shall be plaster or gypsum wallboard (taped, sanded and painted).

Install shelves 24" on center between shelves and 24" deep along one wall of janitor closet.

Sustainable Practices for Heating, Cooling and Ventilation Systems (with Janitorial & Pest Control)

Uniform air distribution throughout the tenant space will take precedence over compartmentalization of interior space when interior space is newly planned or altered using Sustainable Practices noted herein. The uniform air distribution design should offer a flexible environment for the configuration or re-configuration of enclosed spaces. Typically, enclosed spaces will conform in size and configuration to the module of the uniform, continuous ceiling grid. Some enclosed spaces will require enclosure to the structure above, but the typical enclosed space will terminate at or below the continuous ceiling grid when interior space is newly planned or altered.

Furnish and install all necessary equipment to provide all tenant areas with heating and cooling control so as to achieve a 72° Fahrenheit temperature, plus or minus 5° Fahrenheit. Said equipment to be designed so that outside fresh air is introduced in adequate quantity to maintain humidity of 35% to 55% of summer outside air conditions. Also see Indoor Air Quality below. All work to be performed in strict accord with all applicable local, state, and national codes.

Install programmable thermostats with covers and locks to protect them from damage and tampering. Thermostats shall have separate programming for heating and cooling modes with four weekday time settings and four weekend time settings for seven days per week capability. All H.V.A.C. equipment to

be rated 85% or better efficiency except rooftop units shall be rated at 80% efficiency or better. Zoned HVAC systems are acceptable.

Areas having excessive heat gain or heat loss or affected by solar radiation at different times of the day, shall be independently controlled so that the interior temperature conditions stipulated can be maintained without drafts and air-conditioning equipment noises. Where noted in the Tenant Space Configuration, areas containing heat generating equipment shall be designed to maintain a constant temperature of 67°F for optimal functioning of equipment. Walls, penetrations of walls for HVAC and other features of the enclosing walls shall be designed to isolate constant temperature rooms from other tempered spaces for most energy efficient manner of providing constant temperature. File Server Rooms shall have independent HVAC unit (zone) and controls to maintain constant temperature. Concealed package air conditioning equipment may be used to meet localized spot cooling of tenant special equipment.

Exhaust ventilation shall be provided as required for all areas noted in the Tenant Space Configuration. Provide separate heating, cooling and ventilation zones for large meeting areas such as Conference Rooms and rooms with internal cooling loads exceeding 5 tons. Heating, air-conditioning and ventilation facilities (including air changes per hour) shall be designed, installed and function as required by current standards and recommendations of the American Standard of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) and National Fire Protection Association (NFPA) Standards 90A and 91, except for the temperature variations indicated above.

HVAC Use During Construction

The permanent HVAC System may be used to move both supply and return air during the construction process only if the following conditions are met: (1) a complete air filtration system with 60 percent efficiency filters in installed and properly maintained; (2) no permanent diffusers are used; (3) no plenum-type return air system is employed; (4) the HVAC duct system is adequately sealed to prevent the spread of airborne particulate and other contaminants; and, (5) following the building “flush-out”, all duct systems are vacuumed with portable HEPA vacuums and documented clean in accordance with the National Air Duct Cleaners Association Specifications.

Ductwork Re-use and Cleaning

Any ductwork to be re-used and or to remain in place shall be cleaned and tested and demonstrated to be clean in accordance with the standards set forth by the National Air Duct Cleaners Association. Cleaning is to occur immediately prior to occupancy by the State to avoid contamination from construction dust and other airborne particulates.

Ductwork Insulation

All ductwork insulation must conform to the same insulation standards required in Division 7 herein.

Indoor Air Quality/Ventilation

Circulation of outside or recirculated filtered air per minute per occupant shall be in accordance with any and all current applicable standards including ASHRAE Standard 62, Ventilation for Acceptable Indoor Air Quality. During working hours in periods of heating and cooling, ventilation shall be provided in accordance with ASHRAE Standard 62.

Air filtration shall be provided and maintained with filters having a minimum efficiency rating as determined by ASHRAE Standard 52. Pre-filters shall be 30 percent to 35 percent efficient. Final filters shall be 80 percent to 85 percent efficient for particles at 3 microns.

The Lessor shall conduct HVAC system balancing after any HVAC system alterations during the term of the lease and make a reasonable attempt to schedule construction, including interior finish replacement, outside normal business hours.

For leased space in excess of 25,000 square feet or where the State is required to pay utility costs, an automatic air or water economizer cycle must be provided to all air handling equipment. The tenant space shall have a fully functional building automation system (BAS) capable of control, regulation, and monitoring of all environmental conditioning equipment. The BAS shall be fully supported by a service and maintenance agreement.

The Lessor shall control contaminants at the source and/or operate the tenant space and building in such a manner that the carbon monoxide (CO) levels do not exceed 9 parts per million (ppm) time-weighted average (TWA); carbon dioxide (CO₂) levels do not exceed 1000 ppm (TWA); and formaldehyde levels do not exceed 0.1 ppm (TWA) for office use.

The Lessor shall only apply insecticides, paints, glues, adhesives and heating, ventilating and air conditioning (HVAC) system cleaning compounds with highly volatile or irritating organic compounds outside working hours. Adequate ventilation shall be used during and after use of such compounds.

The Lessor shall provide the State with Materials Safety Data Sheets (MSDS) for the following products prior to their use during the term of the lease: adhesives, caulking, sealants, insulating materials, fireproofing or firestopping materials, paints, carpets, floor and wall patching or leveling materials, lubricants, clear finish for wood surfaces, janitorial cleaning products, pesticides, rodenticides and herbicides. The State reserves the right to review such products used by the Lessor with the State's leased space, common building areas and ventilation systems and zones serving the leased space, and the area above suspended ceilings and engineering space in the same ventilation zone as the lease space.

Janitorial Cleaning Products

The Lessor shall select, or cause to be selected, janitorial cleaning products and equipment that are packaged ecologically, considered environmentally beneficial and/or recycled products that are phosphate-free, non-corrosive, non-flammable and fully biodegradable, and have little or no harsh chemicals and irritating fumes.

Integrated Pest Management Services

To minimize potential exposure to pesticides and rodenticides (except use in bait and trap stations) in the indoor environment, Integrated Pest Management practices shall be used in the tenant space. At a minimum, the Lessor shall provide the following services for Integrated Pest Management:

- (1) an initial inspection of the tenant space to identify problem areas, equipment, structural features and management practices that could contribute to pest infestations, and written recommendations to reduce potential pest infestations;
- (2) written methods and procedures to assess pest population levels, monitoring stations and inspection schedules;
- (3) written description of site-specific pest control methods and least-hazardous methods to be used to respond to pest populations exceeding established thresholds including bait and trap stations;
- (4) written recommendations for maintenance and sanitation measures required to prevent future pest infestations;
- (5) written Notice, subject to Lessee approval, for the application of pesticides or other chemicals when necessary to control an existing pest infestation including delivery of Material Safety Data Sheets to Lessee; and,

(6) the prohibition of routine scheduled spraying of chemical substances as a pest management practice.

Note: Step (4) will provide maintenance and sanitation measures that should be incorporated into janitorial requirements. See sample Janitorial Services, attached hereto as Appendix J.

Fire Alarm System [also see the Security System Requirements below]

When required by the applicable, municipal building code, provide a fire alarm and automatic detection system with lockable fire alarm initiation devices and fire control panel. The Lessor is responsible for furnishing and installing a dedicated telephone line and any other necessary components for direct tie-in of the fire alarm system to the local Fire Station for response monitoring.

In cases where applicable, municipal or prevailing building codes do not require a fire alarm and automatic detection system, but the building or structure is of such size, arrangement or occupancy that a fire may not itself provide adequate warning to occupants, Lessor shall furnish, install and maintain an operable employee alarm system that has a distinctive signal to warn employees of fire or other emergencies in compliance with section 1910.165 of OSHA as administered by the Illinois Department of Labor under the Health and Safety Act [820 ILCS 225] and Safety Inspection and Education Act [820 ILCS 220].

Signaling devices of any fire alarm system and/or employee alarm system shall be both visual and audible.

Fire Extinguishers

Furnish, install and maintain fire extinguishers as required and approved by the National Board of Fire Underwriters in accordance with rules promulgated by the Illinois Department of Labor pursuant to the Health and Safety Act [820 ILCS 225] and Safety Inspection and Education Act [820 ILCS 220]. Make all necessary adjustments and maintain the premises to conform to the laws, regulations and ordinance of the local, municipal building code.

XVI. ELECTRICAL

Electrical & Telecommunications Requirements

Furnish and install a complete electrical system to provide the needs of the tenant areas as indicated in the Tenant Space Configuration and to conform to the local building code.

Provide general purpose electrical outlets, dedicated electrical outlets, telephone outlets and computer outlets (voice/data outlets) in accordance with the Tenant Space Configuration.

The provision of electrical outlets for each person should be based upon a minimum of 10 Amps per person with Personal Computers requiring 7 Amps each and printers requiring 10 Amps each.

The Lessor shall provide conduit, raceways or other approved cable distribution system from patch panels and electrical panels to all electrical, voice and data outlets, and all necessary material and labor for service entrance to the building and all panels. Provide conduit and boxes for voice and data outlets. Voice and data wiring shall be placed in a single box unless otherwise noted as a separate computer outlet or telephone outlet. CMS and the Using Agency will contract separately for termination (pulling wires & installing face plates/outlet covers) of voice and data wiring.

Sustainable Natural Daylighting Practices

Natural daylighting will be preserved for the maximum portion of the interior office environment

Enclosed office space will not be located along perimeter window areas to the maximum extent feasible when planning new interior space, or altering existing space.

Sustainable Building Standard Lighting Requirements

Uniform energy efficient lighting throughout the tenant space will take precedence over compartmentalization of interior spaces. The uniform interior lighting design should offer a flexible environment for the configuration or re-configuration of enclosed spaces.

General lighting levels shall be the minimum recommended lighting level for the function performed with task lighting to supplement where necessary.

Interior building standard lighting shall be energy efficient fluorescent, 2'x4' or 2'x2' lay-in fixtures. Existing lay-in fixtures are not required to be replaced where energy efficient lamps and ballasts may be retrofitted into the existing fixtures.

Energy efficient fixtures may incorporate reflectors and shall have a reduced number of lamps compared to standard four lamp fluorescent fixtures.

Fixtures shall be designed or retrofitted for use of energy-efficient lamps and energy-efficient ballasts.

Energy efficient lamps shall be 32-watt T-8 lamps. LED lighting technology may be proposed as an alternative.

Provide energy efficient, electronic ballasts with sound rating A, UL/CMB listed, low-energy, high-power factor type, Class P with internal capacitor protection.

Provide the illumination levels noted in the Tenant Space Configuration measured at thirty inches (30") above the floor height in staff work areas. For general office work, 50 f.c. shall be the illumination level unless noted otherwise. For corridors, 20 f.c. shall be the minimum illumination level unless noted otherwise, and non-work areas shall have a minimum illumination level of 10 f.c.

Deep-cell lens shall be used in conjunction with energy-efficient fixtures as recommended by lighting fixture manufacturer except in areas with gypsum wallboard or plaster ceilings where prismatic lenses are acceptable.

Energy Star labeled compact fluorescent light bulbs as defined by the Energy Star Program of the United States Environmental Protection Agency may be used where noted in Tenant Space Requirement, and must be used to replace any incandescent lamps within the Tenant Space.

Provide lighted exit signs as required by the local, municipal building code. Illuminated exit signs shall be Light Emitting Diodes (LED) type unless local, municipal building code will not accept such signs as comparable to standard (incandescent) lighted exit signs.

Used light bulbs shall be properly disposed at a certified hazardous waste recycling facility.

Special Lighting Control Requirements

Provide motion activated lighting sensors in all Storage Spaces noted in the Tenant Space Configuration, Conference Rooms, Employee Break Room, Employee Restrooms, Public Toilets and the File Server Room including any and all LAN closets.

Emergency Lighting Requirements

Furnish and install twin bulb automatic emergency battery pack lights to meet all applicable codes and the Illinois Department of Labor regulations under the Health and Safety Act [820 ILCS 225] and Safety Inspection and Education Act [820 ILCS 220].

All light fixtures are to be maintained by the Lessor, including ballasts unless noted otherwise in the proposal. Fluorescent lamps and other light bulbs shall be furnished by Janitorial Services Contractor after initial installation unless noted otherwise in the proposal.

Exterior & Parking Area Lighting

Exterior and Parking Areas, vehicle driveways, pedestrian walkways and building perimeter shall have a minimum illumination level of 1 foot-candle and be designed based on Illumination Engineering Society standards. Exterior illumination and indoor parking illumination shall be sufficient to accommodate security monitoring by closed circuit television cameras. Indoor parking areas shall have a minimum illumination level of 10 f.c.

Uninterruptible Power Supply

Provide 1kVA Uninterruptible Power Supply with thirty-minute battery pack. Certain equipment is identified herein, but additional connections to the UPS may be required.

Uninterruptible Power Supply equipment including batteries will be isolated and shall be properly designed for the presence of hazardous materials.

Provide capability for remote systems monitoring for the UPS in addition to automatic and manual transfer to the uninterruptible power supply.

Access Control System Requirements – Required for Consolidated Agencies Only

Provide a Hirsch Keyless Entry System that manages access to each EXTERIOR access location, each INTERIOR door leading FROM the Public Waiting Area TO employee work areas, and all server/switch rooms within the enclosed occupied space by the using agency. Provide secure walls to fully enclose the lobby and/or the elevator of the floor(s) occupied by the using agency. Provide security and access control on perimeter doors not attached to the Hirsch system by installing push bars with alarm hardware, doors shall be posted as “Emergency Exit Only”.

The Lessor shall include the cost of electrifying the keyless entry system in the cost of electrical work included in the proposed cost associated with the initial tenant build-out. Lessor to provide electrification and any conduit or connection necessary for electrical and telecommunications (voice & data) feeds at each designated lock site. Provide all wire as required by the security system manufacturer to make the system fully operational. Wiring requirements are 22/6 and 18/4 stranded, twisted, shielded in pairs. (This access control system shall be provided IN ADDITION to the requirements in the Door Hardware Section of Division Eight – Doors and Windows AND any specific requirements as noted in the Tenant Space Configuration.)

The access control system shall be installed in strict accordance with the security system manufacturer’s written requirements. System installation shall conform to all applicable requirements of the National Electrical Code as a minimum. System installation shall comply with all of the requirements of any and all local municipal codes and local building permit issuing authority requirements.

Security System and Fire Alarm System Requirements (Fire Alarm System only if required by municipal code)

The Lessor shall provide a complete and fully operational electronic security system to protect the leased property. This system shall protect only the property of the Using Agency, and not be combined with any other system in the building. The components of such alarm system shall be as follows:

The security system shall be provided by a central station alarm company that regularly engages in providing alarm monitoring services. The central station alarm company installation personnel shall be factory trained by the system manufacturer in the installation and service of the security system. The central station alarm company shall respond to calls for service of the system within four (4) hours after notification.

The Lessor shall provide a complete and fully operational central station alarm that shall provide an immediate response to the premises for all alarm trouble calls on this system. The central station alarm company shall immediately notify the local fire department for all alarms from a sprinkler system.

The security system shall provide monitoring for intrusion detection and fire alarm. The system shall include an electronic microprocessor-based control panel, intrusion detecting devices, fire alarm monitoring and detecting devices, automatic notification of a central station monitoring company and local alarm siren.

The control panel shall be electronic, microprocessor based, non-volatile memory, have internal batteries and charger sized to provide 48 hours of system use with 20 minutes of alarm siren activation, and housed in a locking, tamper resistant steel enclosure. The electronic control shall be field programmable for the following function: transmit a fire alarm signal to the control station, transmit an intrusion alarm to the central station after an adjustable (up to 30 seconds) time delay to allow for disarming of the intrusion detection subsystem, 4-digit code to disarm the intrusion detection subsystem, transmit a "system disarmed" signal to the central station, 4-digit code to arm the intrusion detection subsystem, transmit a "system armed" signal to the central station, 4-digit code to indicate "duress or hostage" situation and to disarm the system, transmit a "duress" signal to the central station.

Whenever a fire alarm signal is registered or an intrusion signal is registered, an alarm siren shall sound to indicate the need to evacuate the premises. Whenever any part of this system malfunctions, a trouble bell shall sound, and a trouble signal shall be transmitted to the central station. Alarm and signal transmission to the central station shall be leased telephone line. As a backup to transmit alarm signals, provide a long range radio transmitter. Locate and mount the antenna in accordance with the central station company requirements.

Provide 10-digit key pads with red "armed" LED and green "disarmed" LED indicating lights. The key pads shall be used to arm, disarm, and enter the duress codes into the system. Provide two keypad stations, one at the employee entrance and one at the main entrance. The keypads shall be located within the protected space.

The intrusion detection subsystem shall consist of the following items:

Magnetic door switches on each leaf of each exterior door. The door switches shall be recessed into the door frame and door whenever possible;

Foil tape breakglass sensors shall be provided on all exterior windows and all windows in exterior doors;

Infrared motion sensors shall be provided in every room that is 400 square feet and larger. The infrared motion sensors shall be located such that all aisles and corridors have full coverage and all other spaces have a minimum of 85% coverage.

The fire alarm subsystem shall consist of the following:

Where a sprinkler system is installed, provide alarm monitoring of the water flow switch and trouble monitoring of the gate valve supervisory (tamper) switch;

Where a sprinkler system is not installed, provide photoelectric type smoke detectors in each and every room. The smoke detectors shall meet and be installed in accordance with NFPA-72E requirements.

Provide one interior alarm siren with a minimum sound rating of 120dB at 10 feet. The siren shall alarm for all intrusion detection alarms and for the fire alarm.

Provide a 4-inch bell to indicate any trouble condition in this system. A bell silence switch shall be located inside the control panel. The trouble bell shall be located near the control panel and in a location that will be heard by the normal building occupants. Provide a nameplate at the bell "Security System - Trouble Alarm".

Provide all wire and cable as required by the security system manufacturer to make the system fully operational. All wire and cable shall be installed in conduit or surface metal raceway. Open wiring is NOT permitted.

All wiring shall be installed in metal conduit concealed in the wall and above the ceiling. In rooms without ceilings, the conduit may be run exposed but must be fastened directly to the structure above. In walls where it is not possible to install the wiring concealed, the wiring may be installed in a two-piece surface metal raceway such as Wiremold Company #200 or #500. Each and every location where surface metal raceway is installed shall be approved in writing by the Using Agency.

The security system shall be installed in strict accordance with the security system manufacturer's written requirements.

System installation shall conform to all applicable requirements of the National Electrical Code as a minimum. System installation shall comply with all of the requirements of any and all local municipal codes and local building permit issuing authority requirements.