DESIGN REQUIREMENTS

PART 1 – GENERAL

1.01 GENERAL

A. All work is to comply with the New York City Building Code.

B. The intent is for new materials to be "off the shelf" as much as possible to expedite construction and turn-over of Pre-kindergarten spaces to the Department of Education (DOE).

C. All designs, plans, details, specifications, and other construction documents prepared by the Designer must be approved by the SCA prior to construction.

1.02 PRE-KINDERGARTEN CLASSROOM DESIGN

A. Use: Pre-kindergarten classrooms will be appropriate for full-day sessions.

B. Design: The proportions of these classrooms may range from square to double-square. (They accommodate separate activity groups as opposed to a block of seating rows.) Appropriately sized coat cubbies are provided for each child, typically within the classroom or, if classroom space is very constrained, in the adjacent corridor (this option saves classroom floor and wall area.) Classrooms will also include sinks to facilitate art and science, as well as clean-up activities.

C. Supplemental/Associated Spaces and Adjacencies: Pre-kindergarten classrooms are required to have access to dedicated toilet rooms. Ideally, toilets are directly accessible from within the classroom, but corridor access is acceptable when the toilet rooms exist and are appropriate.

D. Location and Access: Classrooms for Pre-K children are ideally located on the 1st floor, but a high Basement with windows is permitted if approved by DOH. Basements less than 3'0" below grade are acceptable and do not require DOH approval. If windows are not possible, a skylight is an acceptable alternative to

provide natural light to the classroom spaces. Skylights should be provided with shading devices. If windows or a skylight is not feasible, borrowed light from adjacent spaces utilizing transom windows can be used. Pre-K classrooms should not be higher than the third floor. The Pre-K program should have easy or direct access to an exterior playground. The outdoor play area can be on-grade or on a protected roof, and in unusual cases may even be slightly remote if approved by DOE.

E. Classroom spaces on grade to be insulated to R10 if possible.

F. Freestanding columns in the classroom are to have padding to a height of 4-foot.

1.03 SIGNAGE

A. Provide building Signage, exterior and interior that identifies the building as a NYC Public School Pre-K Center. Signage must identify each room/or space on each floor. The signage will follow a clear organization so that it facilitates way-finding.

B. The signage system must take into consideration how the users, staff and visitors will navigate the exterior and interior of the building to arrive at their destination. The signage system should be simple, easy to understand, and should have the ability to be easily installed and changed. The font type, size, mounting heights, distances from door frames, placement on door frames and their intended visibility shall be consistently applied throughout the building for each sign type. The signage system shall meet all relevant regulatory requirements including building code, ICC/ANSI A117.1-2009 and the New York City Fire Department (FDNY) for mounting heights, type, size and location.

C. Exterior signs are to be painted aluminum. Interior signs are to be zinc.

1.04 RESCUE AREAS

A. If Pre-K spaces are on a floor that is not accessible to grade and the building has a code compliant elevator:

1. In sprinklered buildings, provide Fire Rescue Areas;

2. In non-sprinklered buildings, provide Areas of Rescue Assistance or **utilize Horizontal Exit with Fire Rescue Area as per DR 1.3.3.1.**

1.05 EXERCISE ROOM (OR "PLAYROOM")

A. Sites with more than 5 Classrooms and/or with no outdoor play area shall have an indoor exercise room (playroom).

1. All playrooms, if feasible given space constraints, to have a toilet room directly accessible, but outside of the "clean rectangle" of play space. If this is not feasible, locate the corridor toilet room proximate (next to or across the corridor).

2. All playrooms, if feasible given space constraints, are to include a sink counter recessed outside of the "clean rectangle" of play space. This will provide flexibility for future use. If this is not feasible, locate the sink counter in a small pantry-type room proximate (next to or across the corridor).

3. For sites with no outdoor recreation area, if possible, one of the classrooms should have the toilet room and sink counter recessed outside of the "clean rectangle" of clear area. (This will provide flexibility for future use, in case one of the classrooms might be used as an additional Playroom.)

4. If outdoor recreation space is provided, it is preferable if the play*room can be provided with either windows or skylights (to provide flexibility for possible classroom space).*

B. Walls and any freestanding columns of the Playroom are to have padding to a height of 4-foot.

C. Play equipment will be moveable, so if possible, Playroom shall include a shallow storage closet that will allow kids to take out the play items and put them away.

1.06 KITCHENS (WARMING PANTRY)

A. For buildings with elevators, there will be only one OSFNS Warming Pantry located on the lowest classroom floor.

B. For buildings with no elevators, there will be an OSFNS Warming Pantry located on each classroom floor.

C. Provide Warming Pantry of size indicated in POR. Each Warming Pantry is to include the following: (see table below for quantities; note that a multi-story building without an elevator may have more than one Pantry, and each will be equipped with the following)

1. Dunnage racks and/or mobile storage units for storing consumables (i.e., paper and plastic, etc.).

2. Milk chests for milk and the breakfast bags for the next day

3. Electric warming cabinets to warm the food that needs it, which will come in disposable "catering trays"

4. Mobile stainless steel prep table

5. 2-tier stainless steel utility carts for taking the food to the classrooms

Equipment for Each Warming Kitchen/Pantry:	Number of Classrooms served by Pantry:														
	1- 2	3	4	5	6	7	8	9	10	11	12	13	14	15	15+
Large Milk Chests	1	2	2	2	2	3	3	3	4	4	4	5	5	5	6
Mobile Heated/Warming Cabinets	1	2	2	2	2	3	3	3	3	4	4	4	5	5	5
Mobile Shelving	-	1	1	2	2	3	3	4	4	5	5	6	6	6	6

Units															
Dunnage Racks	1	2	3	3	4	5	6	7	8	8	8	10	10	10	10
Mobile prep table	-	1	1	1	1	1	1	1	1	2	2	2	2	2	2
2-Tier Stainless Steel Utility Carts	1	2	2	2	2	2	3	3	3	4	4	4	4	5	5
Mobile pan rack/Baker's Rack	-	1	1	1	1	1	1	1	1	2	2	2	2	2	2

D. All finishes in the Warming Pantry must be washable (fiber reinforced panels -FRP-on the walls is fine; solid ceiling required, light fixtures must have lens covers lest a lamp above breaks).

E. One Locker Room (unisex) shall be provided for pre-K Centers with less than 100 students and two locker rooms (male and female) for Pre-K centers with more than 100 students.

F. For projects with student capacity of more than 300, provide a more typical kitchen with therm and hold units. Coordinate with office of School Foods.

G. Refer to Part 4 for P&D items to be provided in warming pantry.

END OF PART 1

PART 2 – SITE

2.01 EXTERIOR PLAY YARD

A. On-grade Playgrounds: Provide resilient safety surface under and surrounding play equipment. For small areas (under 1500 square feet), cover the entire surface with resilient safety surface.

B. Play Roofs: Cover the entire surface with resilient safety surface. Since permanently anchored play equipment is not to be provided, provide moveable play equipment. If possible, include a storage closet for the moveable play equipment.

2.02 FENCING AND CURBS

A. The Early Childhood Playground for the Pre-K Center must be separated from the public way or adjacent properties by an 8’ high chain link fence.

B. Play Roofs shall have a 10’ high chain link fence (height per code) at the roof edge. Since there will be no ball playing, a higher fence is not required.

2.03 RAMPS AND STAIRS

A. Existing ramps and stairs must be code compliant. An additional handrail at a lower height of approximately 1’-10” above tread shall be added.

B. New ramps and stairs shall comply with the following:

1. As required, ramps and stairs shall comply with ADA Accessibility Guidelines

2. New Ramps and stairs shall be poured concrete with non-slip finishes.

3. New handrails shall be set in sleeves or secured to guardrails or building wall.

4. Heights and spacing of handrails and guardrails per code. Provide an additional handrail 1’-10” above the tread.

5. New handrails and guards are to be 1¼" to 2" diameter painted steel or aluminum.

END OF PART 2

PART 3 – BUILDING SYSTEMS – ARCHITECTURAL AND STRUCTURAL

3.01 DESIGN LOADS/PARAMETERS

A. Floor Live Load: Live loads shall conform to requirements of the NYC Building Code. A valid C of O for School or Daycare, for the space proposed, will by definition, meet the live load requirement. If a new or amended C of O is needed, the design live load for classrooms must meet the requirements for the Code under which it is filed. **The** 1968 Code required 40 psf min for classrooms and 100 psf for corridors; **the 2014** Code requires 40 psf for classrooms and 100 psf for corridors on the first floor and 80 psf for corridors on upper floors.

3.02 WINDOW PROTECTIVES AND ACCESSORIES

A. Insect screens shall be installed on exterior face of all windows in the classrooms and the warming pantry.

B. Window shades shall be vinyl fabric roller type shades. Window shades shall be provided in all rooms of instruction, offices, storerooms and exercise room.

C. Provide window limit stops to restrict opening of lower vents or sashes to 5”. Limit stops are not required on upper sashes.

D. Provide window guards if warranted by potential for vandalism and intrusion at the specific site.

E. *Any windows that are directly adjacent to the sidewalk are to receive a translucent adhesive finish (on the exterior side) to a minimum of 6 ft. above grade.*

F. If new window openings are required to be created, they should be limited to no greater than 4’-0” wide, where possible, so as not to require fireproofing of the lintel that support masonry.

3.03 EXTERIOR DOORS

A. All exit doors (except the main entrance) are to utilize hardware set 50 of Section 08710.

3.04 INTERIOR PARTITIONS

A. For new demising walls between classrooms and/or offices use metal stud partitions with two layers of 5/8" type "x" mold and moisture resistant gypsum wallboard on each side and finished with paint.

B. Existing concrete block masonry units that are exposed within the building shall be filled and finished with paint.

C. Existing plaster walls are to be properly prepared by the removal of loose or cracked plaster, patched and finished with paint.

D. Walls of the Pre-K toilet rooms are to have a ceramic tile wainscot, if not full height tile.

E. All partitions shall be firestopped as required by code, and all elements of partitions shall extend to underside of slab to maintain acoustical separation. New finishes, such as paint or Ceramic Tile, shall extend to 6" above hung ceiling where provided.

F. Provide vertical control joints 30'-0" o.c. min. in all new interior partitions (preferably in line with door frames where feasible.

3.05 INTERIOR DOORS

A. Corridor doors and doors within rooms (e.g. Pre-kindergarten toilets and inner offices, etc.) may be wood doors.

B. Doors to warming Kitchen/Pantry and spaces within the warming pantry (e.g. closet, kitchen help locker rooms, etc.) shall be painted hollow metal.

C. All doors to classrooms shall have a vision panel and/or a glazed sidelight to provide visibility into the classroom. All new classroom doors are to be provided with a 12" wide x 30" high vision panel at heights appropriate for a Pre-K Center. To block vision during "lock down" drills, door vision panels require a sliding opaque screen mounted on the room side of the door and glazed sidelites require a chain

and clutch operated opaque screen on the classroom side.

3.06 CORRIDORS

A. Corridor widths shall be minimum 6’-0” clear. The preferred width is 7’to 8’, depending on the site if space permits.

B. Provide Fire Extinguishers per Code; one per 3000 square feet (non-sprinkled buildings), 6000 square feet for sprinkled buildings) of building area, spaced approximately 75’ apart, including one within 25’ of each stair.

3.07 INTERIOR STAIRS

A. Existing stairs must be code compliant. An additional handrail at a lower height of approximately 1’-10” above tread shall be added.

B. Handrails are to be 1¼” to 2” diameter painted steel.

3.08 CEILINGS

A. New ceilings are to be lay-in acoustical tile.

B. Existing gypsum board or plaster ceilings are to be finished with paint.

C. Warming pantry and other food prep areas are to be metal pan (non-perforated) or other washable surface complying with Health Code requirements.

D. Ceilings suspension system is to be in accordance with NYC code.

3.09 FLOORS

A. All new flooring for classrooms, corridors and offices is to be VCT tile.

B. Ceramic tile in bathrooms.

C. Quarry tile in warming pantry.

3.10 DRY MARKER BOARDS and DISPLAY BOARDS

A. See 1/4" Room Layout for locations and sizes of and Display Boards within rooms.

1. Mounting heights of Dry Marker boards shall be 2'-3" to the bottom of trough.

2. Mounting heights of Display Boards shall be 2'-3" to bottom of frame.

B. Provide minimum one (1) 4'-0"H x 8"-0"L Display Board for each classroom to be located in corridor.

3.11 INTERACTIVE WHITEBOARDS

A. Interactive Monitors are to be provided in classrooms. Provide the power outlet and metal grounds at locations indicated on the RPS. **If space permits, they are also to be installed in the principal's office.**

B. The Interactive Monitors will be supplied by the SCA and will be installed on the front classroom wall by the General Contractor.

C. Interactive Monitors will be fixed height "LCD Promethean" boards with 70" diagonal. Mounting height will be 2'-5" to bottom of board.

3.12 CASEWORK

A. All casework shall have a wood finish except for sink counters where laminate cladding must be used.

3.13 FURNITURE

A. All new classroom furniture and millwork shall be White Birch or match existing wood.

B. Furniture shall be provided as per the RPS

C. Lobby Furniture: Glazed display cabinets and/or glazed display boards shall be recessed in new walls and surface mounted when installed on existing walls.

END OF PART 3

PART 4 – PLUMBING AND DRAINAGE

4.01 GENERAL

A. Perform all work including testing as required by applicable Codes.

B. New Classroom shall be provided with:

1. Single toilet room with one floor-mounted water closet.

2. Sink (with faucet and soap dispenser) with mounting height of 29” from finished floor to rim of fixture to be provided in each classroom (not required in corridors).

3. Bottle filler (piped to sanitary drainage system) will be provided in each classroom. Piping to new fixtures, including cold water supply, is to be provided as per manufacturers’ suggestions and regulatory requirements.

C. Additional student toilets

Additional student toilets to meet code-mandated fixture count shall be located off the corridor, preferably near the nurse’s office. If building has existing and functional plumbing fixtures or toilet rooms, these may remain and do not need to be replaced.

D. Staff Toilets

1. For adult staff, provide unisex toilet(s) with lavatory based on the required number as listed in Table 403.1 of the 2014 Plumbing Code for Business Occupancy. Place at least one bathroom, near the entrance that shall also include a diaper changing table for use by visitors. The POR will indicate if a bathroom is to be provided for the principal’s office, which is based on the number of classrooms in the building.

2. New toilets to be barrier free and comply with ANSI A117.1 requirements.

E. Warming pantry(ies) if required per POR shall be provided with:

1. Barrier-free hand sink

2. One double compartment pot sink fitted with grease trap. Grease traps will be above slab/below sink; sink drain pipes will have both handle restrictor and washer restrictors.

F. Drinking fountains

1. Provide drinking fountains with bubblers in the school lobby and/or corridor to meet code requirements (At each location, one child height, one accessible standing height and one accessible wheelchair height).

4.02 DOMESTIC COLD WATER

A. Provide complete distribution piping to all fixtures/equipment. Provide wall hydrant at exterior play yard.

B. Ensure adequate water pressure at flush valves.

4.03 DOMESTIC HOT WATER, HOT WATER CIRCULATING

A. Provide complete distribution piping to all fixtures/equipment inclusive of hangers, supports, insulation, shutoff valves, water hammer arrestors, etc. Provide 90˚F for domestic use and 140˚F for the Warming Pantry.

B. Where required, install new heat pump water heater and provide mixing valves to the 90˚F water.

4.04 SANITARY DRAINAGE/VENT PIPING

A. Provide basic gravity flow piping systems and vents including floor drains, grease traps, soil, waste and vent piping from all fixtures/equipment and vent stack extensions through roof.

B. Provide drainage to ensure no standing water at play yard.

4.05 PLUMBING FIXTURES

A. Provide appropriate water saving fixtures for all Toilet Rooms, Classrooms, Warming Pantries, Janitor Closets, etc.

B. Each new plumbing fixture or an existing fixture with new faucet that must comply with ADA requirements shall be provided with a thermostatic mixing valve.

C. All toilet and warming pantry lavatory/hand sink fixtures to be hard-wired automatic flush and/or faucet.

D. Faucets for classroom sink, sinks in janitor's closets and pot sink in the warming pantry to be manually operated faucet.

4.06 EQUIPMENT FURNISHED UNDER OTHER SECTIONS

A. Provide piping for warming pantry equipment and heating, ventilating equipment provided for the project. Piping shall include all hot, cold, waste and vent services. Piping shall be a complete installation in all respects including pipe, fittings, valves, unions, traps, strainers, specialties and other miscellaneous items to make piping systems and equipment fully operational.

END OF PART 4

PART 5 - HEATING, VENTILATION AND AIR CONDITIONING

5.01 GENERAL

A. The HVAC system to be utilized will be dependent on what utilities are available from the landlord for leased buildings and what utilities are available from local utility companies for new DOE owned buildings. Refer to the 3K/Pre-K HVAC System Selection Matrix that describes the options to be considered based on what utilities are available and the building configuration.

B. All occupied areas are to be air-conditioned. Spaces served by an existing central air conditioning system are acceptable. If the existing building is not air conditioned, new air conditioning shall be provided by one of the options listed in the 3K/Pre-K HVAC System Selection Matrix.

C. Unless a building has an all-air heating system, heating for the building spaces shall be achieved by under the window perimeter steam/or hot water fin-tube radiation or convectors. Options are to use heat pumps with auxiliary electric heating or electric baseboard in cases where hot water/steam are not available. (Refer to the 3K/Pre-K HVAC System Selection Matrix). Other systems may be used with SCA approval.

D. Spaces above a garage or other unheated spaces are to be insulated to R20 (typically under the slab). In addition, classroom and offices shall be provided with either of the following radiant floor systems:

1. Hydronic system, if hot water is available and sufficient height configuration for the required self-leveling underlayment.

2. Electric mat system, if hot water system is not available or if height restraints exist. Self-leveling underlayment typically to be 1/2” to 3/4”.

Temperature of the radiant floor system is to be set to 70˚F.

E. Provide a local network per Table 6.4.3.10.1 of Appendix CA (ASHRAE 90.1-2016) of the 2020 NYCECC if any of the noted thresholds are exceeded. Schools located in Leased Spaces shall not be connected to the Central Host Control Station (CHCS) at Two Metro Tech and shall utilize Section 15971, Temperature Control System (BACnet DDC with Local BACnet Network), for the controls. DOE owned new schools shall be connected to CHCS and shall utilize Section 15970, Temperature Control System (BACnet BMS/DDC with School Operating Console), for the controls.

5.02 VENTILATION REQUIREMENTS

A. Ventilation for the building shall be in accordance with the New York City Mechanical Code.

B. Occupied spaces shall be provided with outdoor air by mechanical means.

5.03 CLIMATE CONTROL

A. If the existing building is not equipped with an all air system, every occupied space shall be provided with hot water/steam control valves or electric heat pumps with auxiliary electric heating capacity or electric baseboard and temperature sensors for individual room temperature control. (Refer to the 3K/Pre-K HVAC System Selection Matrix). If the existing steam radiation units are equipped with only shut-off valves, the use of steam self-contained control valves will be acceptable since a network is not required for steam systems per Table 6.4.3.10.1 of Appendix CA (ASHRAE 90.1-2016) of the 2020 NYCECC. Schools requiring networks shall utilize digital control valves according to Section 15970 (for DOE owned buildings) or Section 15971 (for Leased Spaces) as noted above.

B. The steam perimeter heating convectors for the Corridor, Stairs, Toilets, Janitor’s Sink Closet and Entrance Vestibule/Main Entrance shall have steam self-contained control valves.

C. Designer is to provide at least 24,000 BTUH cooling capacity for the Main Telecom Room equipment loads for

the UPKs with a split system unit. The room size and number of racks is less than that required for a typical school. Designer is to also additionally provide capacity for transmission, infiltration, ventilation, lights, people and solar loads.

5.04 SPACE STANDARDS

A. Stairs

1. Stairwells (if applicable) shall be heated similar to classrooms.

2. Stairwells do not have to be air conditioned.

B. Warming Pantry

1. If less than 300 students (typical), mobile heated carts are utilized. The general HVAC system serving the Warming Pantry shall be sized to remove the heat/moisture from the mobile carts.

2. A more typical kitchen with fixed Therm and Hold units are provided for schools with 300 or more students. Therm and Hold Kitchens utilize commercial electric warming cabinets with flat trays that hold aluminum food trays for food cooked off-site. Provide commercial Type II condensate hoods ducted to outdoors for the fixed commercial Therm and Hold units.

3. A fire suppression system (Ansul) is not required for a warming pantry.

C. Toilets & Janitor’s Closets

1. If the existing toilet rooms or janitor sink closets are being renovated and do not have mechanical exhaust, provide a roof/or ceiling mounted exhaust. Makeup air for the exhaust system shall be provided by transfer ducts with grilles or door undercuts.

5.05 FIRE PROTECTION

A. A sprinkler system shall not be provided unless required by code.

END OF PART 5

PART 6 - ELECTRICAL SYSTEMS

6.01 ELECTRICAL SERVICE

A. Provide sufficient electrical service to power lighting, receptacles and equipment, including air conditioning for all occupied spaces.

B. Ensure drawings show power wiring for automatic plumbing fixtures.

6.02 LIGHTING

A. The average illumination levels in spaces are to be as follows:

1. 35 foot-candles at 30" above the finished floor for classrooms.

2. 20 foot-candles at 18" above the finished floor for corridors.

3. **35** foot-candles at 30" above the finished floor for offices.

B. Existing fixtures that can meet the illumination levels may remain but have to be cleaned and re-lamped. However, any fixtures that have T-12 lamps must be removed in their entirety and new fixtures installed.

C. New lighting is to be high efficiency LED for the classrooms, offices and corridors provided with acrylic diffusers.

D. Existing fixtures to remain can be controlled by lighting switches within the controlled space. If new fixtures are installed, controls to comply with the energy code.

E. Emergency/exit lighting must be provided for all educational spaces including stairs and corridors. Existing battery operated emergency/exit lighting must comply with code.

F. Occupant controls shall be hard-wired type where walls and ceilings are being demolished and installed new.

Wireless occupant controls are to be utilized where only minor work is being done to the space.

6.03 WIRING DEVICES

A. Provide convenience and maintenance receptacles for all areas in the spaces to satisfy operational requirements.

1. Two quad outlet are required at the teacher wall of a classroom (one below the IWB and the other at the teacher desk location). All outlets in classrooms shall be the safety type with surge suppression feature provided at the panel.

2. Maximum 50’ spacing for outlets in a corridor.

3. Provide receptacles and outlets for all required equipment (HVAC, P&D, Warming Pantry, etc.).

B. Provide outlets on window wall for future window air conditioning units if building does not have a central cooling system.

6.04 TELEPHONE CABLING SYSTEM

A. Provide new telephone cabling system. PBX and telephone instruments to be provided by the Department of Education. Telephone lock boxes shall be included.

6.05 LOCAL AREA NETWORK CABLING SYSTEM

A. Provide wired or wireless local area network (LAN) system for administrative and instructional use.

6.06 SOUND INTERCOMMUNICATION AND TEACHER ACTIVATED SECURITY SYSTEM/CLOCKS

A. A Sound, Intercom and Teacher Activated Security System (Sound System) shall be provided for the educational spaces with the following functions:

1. Public Address system for general announcements.

2. Two-way communication system between two stations and between station and any speaker.

3. Privacy system to prevent eaves-dropping through classroom speaker.

4. Tone generation for emergency call from classrooms to central station.

5. Secondary clock to be independent and not part of PA system.

6. Speakers in corridors and toilets accessible from the corridor.

6.08 FIRE ALARM SYSTEM FOR EDUCATIONAL SPACES

A. A code compliant, FDNY approved fire alarm system has to be in place or a new system has to be installed for all educational spaces.

B. A simplified FA system is to be used if the HVAC system does not have a system where an override for the fan shut down is required.

C. A Fire Department ERS system will not be required if the building will have a fire alarm system connected to central station.

6.09 LIGHTNING PROTECTION

A. Stand-alone lease buildings: Lightning protection is not required to be provided.

B. Stand-alone new buildings to be owned by the Department of Education: The lightning protection system shall be designed such that it will attain a UL Master Label Certificate.

6.10 IPDVS SYSTEM

A. Exterior cameras shall be provided to monitor entrances and exits and play yards if needed.

B. Interior cameras to monitor corridors and stairs as needed.

C. One camera to be provided inside the MDF room (or at the cabinet for DIIT small school).

6.11 AUXILIARY SYSTEMS

A. Bells to be added at front door and warming pantry door, if applicable.

6.12 TELECOMMUNICATION ROOMS

A. Schools with less than 40 students are considered a DIIT Small School. Provide the required rack in a supervisory or custodial space.

B. Schools with 40 or more students are considered a DIIT medium school and are to have a separate communications room of 150 SF as indicated in the POR.

END OF PART 6

END OF DESIGN REQUIREMENTS