

## GENERAL CONSIDERATIONS

### 1. GENERAL

1. Included in this division are the following elements:
  1. Site
  2. Building
  3. Accessibility
  4. Environmental
2. Design Criteria includes:
  1. Facility Program containing the project specific program and design requirements including detailed space descriptions, special environmental considerations, equipment to be housed, and built-ins required.
  2. Design Criteria defines the special needs of MDC, including requirements clarifying or exceeding applicable codes to be used by the Architect/Engineer (A/E) when designing for MDC.
  3. Specifications are prepared to reflect Design Criteria requirements and are to be edited by the A/E to his/her specific project requirements in developing the design and construction documents. Additional specifications may be required to meet specific Design Criteria, Code, Agency Requirements, Manufacturer Recommendations, Good Design Practice, etc. The number of listed products and manufacturers may be edited to no less than three, but the inclusion of additional products or manufacturers requires MDC acceptance.
  4. FF&E lists contain the furniture and equipment supplied by MDC and FF&E room locations to assist in room layouts and utility connections.
  5. Coordinate with Project Manager revisions to room inventory.
3. Comply with:
  1. The Florida Building Code, latest applicable edition.
  2. Other applicable codes and standards.
  3. In renovations and remodelings, consult with the facilities manager, to consider retaining items having salvage value.

### 2. SITE

1. Site design shall address the relationships of site elements to the building, streets, and neighbors. Verify if traffic analysis is required.
2. Site design shall optimize the use of the available area to accommodate program requirements.
3. Orient and locate parking, service drives, drop-off zones, and bus loading zones to reduce the cost of connecting elements among program requirements without requiring pedestrians, disabled students, or disabled visitors to cross vehicular traffic lanes. Consider security measures. Secure site entry to prevent trespassing.

4. LEED certification prerequisites and performance benchmarks (credits) to qualify for and obtain LEED certification awards for selected new construction and major remodeling/renovation projects. Specific LEED certification level for each project to be determined by MDC:

- 1). Certified (26-32 points)
- 2). Silver (33-38 points)
- 3). Gold (39-51 points)
- 4). Platinum (52-69 points)

4. Site and building design shall include:

1. Faculty, administration, student, visitor and service parking areas shall comply with code requirements, agencies having jurisdiction and the following:
  1. Parking areas shall be fully curbed, with no wheel stops. Use poured-in-place concrete or reinforced extruded curbing.
  2. Locate parking areas to provide safe and direct access to an appropriate designated entry.
  3. Parking areas shall be separate and not be part of the road system. Provide efficient use of available land for parking areas with double loaded parking schemes, when possible, to reduce amount of paved areas and increase percentage of pervious soil.
  4. Protect vertical surfaces, fences, building elements, piping/conduit or the like, planted areas next to driveways, drop-off areas, etc., from vehicular traffic with concrete curbing, column guards, bollards, protective cages, or other effective means accepted by MDC and complying with applicable drainage requirements.
  5. Comply with stall size and striping requirements of the applicable FBC.
  6. Comply with the landscaping requirements of the applicable FBC.
  7. Provide separate staff parking from student parking areas.
2. Provide access to the facility from bus and car drop-off zones and from faculty, administration, staff, visitor, student, and accessible parking areas with concrete walkways. Size widths according to use, but not less than 6 feet wide. Provide similar access from the primary entry public way to the administration area. Access from a secondary public way to the facility may be required by MDC on a per condition basis.
3. An independent service drive, 2 lanes wide, shall access a fenced service yard containing a loading zone.
  1. Locate the service yard next to food service receiving, kitchen storage rooms, main mechanical and electrical rooms, and custodial receiving.
  2. The service yard shall contain parking for maintenance personnel and vehicles according to program requirements.
  3. Provide at least 2 or more dumpster locations for trash and garbage based on number of students and 1 dumpster location for recycling, all with concrete pads

and bollards.

- (1) Provide a drain and hose bib at service yard area.
  - (2) For preliminary planning, calculate 1 cubic yard for each 100 students while using 8 cubic yard dumpsters.
  - (3) Provide a 10' x 10' concrete pad for each dumpster.
  - (4) Verify dumpster requirements with MDC Energy and Recycling.
  - (5) Designate the food service dumpster location at least 40 feet from the receiving door.
  - (6) Provide easy access for refuse pickup.
  - (7) Provide doors without visibility.
4. Provide a loading zone in the service yard for delivery trucks. Provide a covered loading area, with a clear height to unload tractor trailers, at the custodial receiving and the food service area receiving doors. Provide safety barrier and removeable railings where required Allow for food to be unloaded without being exposed to the weather. Provide a hose bib and drain.
  5. Design the service yard to provide direct access to the flammable storage room or storage building and for movement of grounds maintenance equipment. Service yards shall be secured.
  6. Locate the service yard to reduce its effects on both the surrounding off-site properties and the on-site facilities. Major concerns are visual impact, noise, odors, and traffic and security. See Division 2 - Fences for service yard gates and visual screening at service yards.
  7. Allocate adequate space for service vehicles to access needed facilities and equipment, and to maneuver without creating a hazard to parked vehicles, stationary equipment, and buildings and light fixtures.
  8. Provide column protection, concrete curbs, or bollards to protect equipment, walls, fences, and roof overhangs.
4. The central chilled water plant (if required) shall be placed in an engineered driven location and not based on aesthetics alone. Minimize piping runs.
  5. See Division 2 for additional site design requirements.

### 3. BUILDING

1. Exterior and interior materials shall be durable, permanent, vandal resistant, easily maintained, and within the limits set by functional, code, and life cycle cost analysis requirements.
2. The design of the project shall address:
  1. Safety of the students, faculty, staff, and visitors.
  2. Enhancement of the instructional processes.
  3. Resistance to unauthorized intrusion.
  4. Zoning for different day and evening functions and circulation patterns.
  5. Life cycle cost effectiveness.

6. Accessibility according to FBC, program requirements, ADA, DCA, and other applicable codes.
  7. Ease of pedestrian and vehicular circulation within and around buildings.
  8. Efficient use of instructional spaces. Consider use of fixed seating in classrooms and other instructional spaces. Evaluate the benefit of higher occupancy against higher requirements for exiting and safety to life consideration. Submit analysis to MDC Project Manager and obtain approval prior to implementation.
3. Refer to FBC requirements for wind design at MDC additions and new construction. Verify EHPA requirements at facility.
  4. Good drainage and avoidance of ponding shall receive special consideration for entire facility design. Slope exterior horizontal surfaces to drain away from interior spaces and according to FBC, accessibility codes, and as follows:
    1. Provide a minimum slope of 1/4" per foot at, but not limited to, parapet tops, windowsills, tops of walls, and new flat roofs. As recommended by manufacturer
    2. Provide slopes and corresponding design and water proofing materials to eliminate ponding and maximize positive drainage.
    3. Provide not less than 1/8" per foot slope at, but not limited to:
      1. Exterior covered walkways, exterior corridors, exterior stair treads, landings, sidewalks, or other exterior walking surfaces.
      2. Parking lots, paved courts, receiving areas, passenger drop-offs, and any other paved areas.
      3. Flat re-roofing solutions.
  5. Provide appropriate waterproofing in accordance with good design practice and a review/evaluation of facility conditions by product manufacturers and recommendations for best resolution. Areas to evaluate shall include, but not be limited to;
    1. Elevated decks / benches
    2. Planters / benches
    3. Elevator machine rooms and other below ground areas
    4. Other areas where water intrusion may occur.
  6. Window System and Building Envelope Water Intrusion Inspection, Test, Reports and Certification.
    1. Prior to installation of building envelope components, GC or CM shall have sub-contractors, installers and manufacturers attend meeting with A/E and MDC Project Manager to review products and installation procedures. Attendees shall include representatives for doors, jambs and thresholds, windows, joints and sealants, stucco or other surface finish material, roof and parapets, waterproofing (where applicable) and others as applicable to ensuring a water tight building envelope is provided.
    2. After building all envelope components are completed, GC or CM shall conduct a Window-System and Building Envelope Inspection and Test. All building

envelope components shall be visually inspected for areas of incomplete work and potential water intrusion. An initial report shall be issued identifying these areas and action taken to correct. Therefore, all exterior areas of the building envelope shall be sprayed with high pressure water or other acceptable test method (simulating a thunderstorms and other south Florida weather conditions). Purpose of test is for the GC and CM to evaluate all areas of the building in which watertight building envelope. Advise A/E and MDC Project Manager with minimum of 48 hours notice of test date and time. GC shall issue a report specifically identifying all areas of water intrusion and corrective action to be taken for each area.

3. GC shall re-test all areas found deficient to confirm corrective work has resolved water intrusion. Re-testing of deficient areas and updated reports shall continue until all deficient areas have been corrected and water intrusion no longer occurs. GC shall issue final Window System and Building Envelope Report, certifying watertight condition of building.
7. Exterior and interior walking surfaces shall have texture or other slip resistant finishes.
8. At exterior doors, provide overhead (completely enclosed on top and sides if EHPA) weather protection with roof overhangs, concrete eyebrows, or recesses. Provide down slope away from building. Slope Minimum protection shall extend at least 6 inches along the wall beyond door jambs, projecting or recessed at least 3'-6" feet from face of the door, and not more than 2 feet above the head of the door.
9. Exterior doors shall be according to accessibility guidelines and connected to accessible walkways leading to a public way.
10. Corridors shall be based on FBC units of exit width and be at least 6 feet wide except as follows:
  1. Primary Corridors serving classrooms shall be at least 8 feet wide min.
  2. Secondary corridors serving administration (Interior office layout) shall be 6'-0" min. clearance.
  3. Hallways in service areas shall be at least 3'-8" inches wide.
11. Building design shall not allow unauthorized access to roofing surfaces from adjacent structures.
12. Custodial Closets:
  1. See Appendix for typical custodial closet layout with minimum dimensions.
  2. Locate custodial closets according to FBC and so that no more than 150 feet of travel is required from any point within the facility to reach a custodial closet.
  3. A heat detector, connected to the fire alarm system, or a single sprinkler head connected directly to the domestic water supply and meeting the requirements of NFPA 101 Chapter 7 shall be installed in each custodial closet.
13. Toilet Rooms:

1. Locate and size toilet rooms to be conveniently located near the proportionate number of persons at the different types of occupancy classifications and on each floor of the building or wing served.
2. Locate group student or public toilet rooms with access from interior secured corridors. Provide doorless entries to allow supervision for the safety of users and partitions to restrict sight lines.
3. Individual student, group student, or public toilet rooms accessible from exterior corridors requiring doors for security require M-DCC acceptance on a per condition basis. Toilet partitions and privacy screens are required.
4. Provide light switches only.

14. Acoustical Requirements.

1. A qualified acoustics professional, accepted by MDC, shall design program required spaces according to their acoustical requirements.
2. Use volume, geometry, ceiling materials, acoustical panels, wall treatment, and flooring materials as required for a cost-effective solution to optimize the intended function of the space.
3. Provide materials having performance characteristics according to the acoustical analysis requirements of each space. Substitutions or revisions during construction shall comply with original analysis or may be used when complying with a revised acoustical analysis of the space involved.
4. Spaces containing noise producing activities shall be sound insulated from above, below, and adjacent spaces. These spaces shall be laid out to avoid interference with other spaces as much as possible.
5. Operable partitions subdividing instructional spaces shall be STC rated equal to surrounding construction, but not less than STC 48. Operable partitions shall be avoided.
6. Folding doors subdividing administrative spaces shall be rated not less than STC 44.
7. Occupied spaces shall receive appropriate acoustic treatment to control undesirable noise within the spaces.
  1. Provide special attention to large spaces, including art labs, music suite, dining spaces, little theaters, multi-purpose rooms, gymnasiums, and mechanical equipment spaces.
  2. Locate acoustical treatment susceptible to damage at least 7'2" above finish floor or provide other means of protection.
8. Design to achieve room criterion (RC) curves for acceptable HVAC noise levels according to ASHRAE.
9. Definitions.
  1. STC: Sound Transmission Class (125 - 4000 Hz) Note: The lower the number the less effective the rating.
  2. NRC: Noise reduction coefficient (250, 500, 1000 and 2000 Hz) rating of sound absorption. Ratings in program requirements are minimums. The treatment of

the spaces shall reduce the reflection, flutter, and echo in the space.

3. RT: Reverberation time in seconds (500/1000 Hz) per national average requirement in mid-range frequencies.

10. Sound Ratings.

<u>SPACE DESCRIPTION OF ENVELOPE*</u>	<u>STC RATING</u>	<u>NRC</u>	<u>RT</u>
1. Classrooms and laboratories.	48		
2. Music. (1) Music rooms.	55-60		
3. Foreign Language Lbs (Little Theater- use)	52		
4. Mechanical equipment spaces.	55		
5. Offices.	45		

<u>SPACE DESCRIPTION OF ENVELOPE*</u>	<u>STC RATING</u>	<u>NRC</u>	<u>RT</u>
6. Teacher planning areas and offices.	52		
7. P.E. instructional spaces.	52		
8. Toilets (group and individual).	47		
9. Food prep, serving, and receiving skills labs.	47	0.6-0.75/0.6-0.8	
10. Dining Rooms.	48	0.6-0.75/0.6-0.8	
11. Storage.	48		

\* Or higher according to program requirements.

15. A/E specifications shall include the following:

1. Powder activated fasteners are not allowed for use. Powder fastening devices may be used only when the public, staff, or students are not in the immediate area. (With special approval from MDC Project Manager) Can't be used in P/C cost
2. Provide inserts, anchors, bolts, hangers, or other means to support ceilings, equipment, piping, or other items suspended from structure. Drill structure as needed to support equipment if inserts have been omitted from the concrete structure.

16. MDC authorization is required for torch cutting at existing facilities. At least one fire

extinguisher equipped person shall be within 10 feet of torch cutting and with full view of work area. The fire extinguisher shall have inspection and certification labels dated within the last 12 months.

#### 4. ACCESSIBILITY REQUIREMENTS

##### 1. Provide accessibility as required by:

1. FBC latest edition.
2. Facility Program requirements.
3. Americans with Disabilities Act and Accessibility Guidelines (ADA).
4. Other applicable codes.
5. The most stringent requirements of FBC, ADA, or other applicable accessibility codes for any specific item shall be used.

##### 2. Definitions:

1. "Adults" are defined as faculty, staff, parents, students above grades 6, and the general public using public educational facilities. Students housed in vocational/technical centers are also defined as "adults".

##### 3. Doors Accommodating Adults With Disabilities.

1. All doors shall have side lights.
2. Kickplates shall extend 18 inches above the floor.
3. Position doors with 24 inches of clear floor space on the pull side, adjacent to the latch of the door. The floor on both the interior and exterior sides of a single door shall be substantially level for a minimum of 60 inches in length.
4. Classroom and Instructional Areas.
  - (1) Side access sinks shall have a clear floor space of 48 inches wide by 36 inches deep. Forward access sinks shall have a clear floor space of 36 inches wide by 48 inches deep.
  - (2) If base cabinets are provided, the knee space opening shall have a minimum clear width of 36 inches under the sink and the finished floor shall extend under the counter to the wall. The counter and supporting structure shall have a maximum thickness of 2 inches over the required clear space.
  - (3) Soap dispensers, drinking fountains, and other accessories shall be mounted a maximum of 4 inches from the front edge of counter top mounted sinks.
  - (4) Lavatory faucet sets shall be side mounted and shall be set 6 inches back from the front edge of the counter top.
  - (5) Therapy areas shall have a minimum of 3 (such as hooks, eyebolts, beams, etc.) capable of supporting a 300 pound swing load, exclusive of the weight of the apparatus.

- (1) Each device shall be located at least 4 feet from any wall, window, door, or other permanent fixture.
- (2) Support structures shall be clearly identified from other portions of the ceiling that do not comply with said weight requirements.
- (3) Hooks or other devices used to attach equipment to these beams or support structures shall be permanently fixed.

#### 5. Therapy.

- (1) Any area designated as a physical therapy area, even if therapy is just one of its multipurpose functions, shall have a minimum of 30 percent of its floor surface as a resilient vinyl or composition tile.
- (2) At least one wall shall have mirrors, beginning a maximum of 6 inches above the floor and going to a minimum height of 72 inches above the floor.
  - (1) Minimum width of the mirror shall be 6 lineal feet.
  - (2) The mirror shall be tempered glass or stainless steel, firmly attached to the wall.

#### 6. Required Stairs.

- (1) Open risers are not allowed at interior or exterior stairs.
- (2) A warning strip shall be placed at the top and bottom landings for visual and tactile warnings. This strip shall be a minimum of 36 inches deep by the full stair width and shall consist of contrasting texture and color and/or materials.

### 5. ENVIRONMENTAL

1. Comply with Florida Statutes Chapter 235.3215, "Toxic Substances in Construction, Repair, or Maintenance of Public School Facilities".
2. MDC policy forbids the specification of any item harmful to building occupants and to the environment.
3. General Requirements.

#### 1. Asbestos:

- a. Materials containing asbestos are prohibited for use in any MDC project.
- b. Coordinate during the design phases with MDC Project Manager, to establish and decide the scope, extent of removal, abatement, time frame, and any related activities affecting remodeling or renovation projects.
- c. If asbestos is encountered, it shall be abated. Coordinate with MDC Project Manager.

2. Fiberglass or any other material used for insulation or sound reduction shall be separated by solid metal from the airstreams of ducts, outlets, air handlers, VAV boxes, sound traps or any other HVAC equipment or components.
3. Radon:
  - a. Comply with EPA Design and Installation using pressurized ventilation systems. Under written exception a Home Radon Reduction System - Sub-slab Depressurization Systems in Low Permeability Soils may be used
  - b. .
  - c. Comply with Florida Standard for Radon-resistant New Commercial Building Construction.
4. Lead.
  - a. Lead-based paints or primers are not allowed.
  - b. Lead-containing materials, such as solder, etc., are prohibited in potable water systems including piping, fixtures, and fittings. See Division 15.
  - c. Lead is not allowed in roofing components.
5. MDC's concern for recycling and other environmental matters applies to all products and their manufacturing processes. Do not specify materials or manufacturing process harmful to the environment.
  - a. MDC encourages the use of recycled materials and products. Specify such items wherever feasible.
  - b. Do not specify woods from endangered rain forests or other environmentally sensitive regions.
  - c. Do not specify materials capable of releasing formaldehyde, mercury, mineral spirits, or any other toxins, irritants, or volatile organic compounds (VOCs). Laminated plastics shall not contain toxic adhesives.

**END OF DIVISION**