HIGH SCHOOL GENERAL CONSIDERATIONS

New Construction, Remodeling and Renovations

I. PROGRAM PHILOSOPHY

Each school shall be properly designed and constructed to comply with all laws, regulations and codes having jurisdiction. The amenities of good design and quality construction should engender pride within the students, school staff and members of the community. Pride in the campus facility shall, in turn, reflect on the entire school program.

II. PROGRAM GOALS

NA

III. PROGRAM REQUIREMENTS AND INFORMATION

Project Scope of Work

Construct a new partial replacement High School on the existing Largo High School campus located at 410 Missouri Avenue, Largo, FL 33770. Demolish Buildings 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 13, 14, 16, 17 and 19, along with the Largo Central Elementary Buildings 1, 2, 3 and 4 on the existing sites of both schools, for which the district has school board and Department of Education approved survey recommendations. Building 8 (Auditorium) on Largo High School will remain on site and be remodeled. Building 12 will remain on site and be renovated, along with an addition to provide new male and female restrooms, custodial area and a mechanical room. Building 18 will remain on site and be renovated for the chorus program, along with a new addition for the band program. **Building 5 on Largo Central Elementary has not been approved by Department of Education for demolition and must remain on site. Building 5 must remain and be protected during demolition and new construction.** The new construction is intended to have 41 senior high classrooms, 6 senior high skills labs, 3 senior high science demonstrations, 5 senior high science labs, 8 resource rooms, 2 art senior high, 3 ESE (PT), 5 ESE (FT), 1 ESE Vocational (Personal Health & Fitness), 5 ESE resource, 1 PE dressing room (male), 1 PE dressing room (female), 1 PE locker room (male), 1 PE locker room (female), 1 PE shower (male), 1 PE shower (female), 1 PE drying areas (male), 1 PE drying area (female), 1 PE storage, 1 PE teacher shower (male), 1 PE teacher shower (female), 1 PE multipurpose room, 1 senior high gymnasium, 1 gymnasium seating, 1 PE laundry, 1 PE first aid, 1 PE training room, 1 PE weight room and 1 PE wrestling room (combined), 1 PE gymnasium & dance, 1 gymnasium storage, Lobby, concession and public restrooms, 1 practical business experience laboratory, design code (DC) 211, 1 business education lab (DC) 212, 1 family and consumer sciences (FACS) practical experience laboratory (DC) 231, 1 (FACS) medium education laboratory (DC) 233, 1 technology education (TE) small education laboratory (DC) 241, Industrial Education medium education laboratory (DC) 245 and 1 health occupations education, practical experience laboratory (DC) 251. Construct a new dining facility with kitchen, serving area, office, staff dining, cooler/freezer, storage, restrooms, prep areas, along with custodial area and media center spaces for Reading Room/stacks, CCTV production, group projects, media tech, textbooks and school store. Classrooms, teacher planning, tool storage for welding program, along with storage, classroom, flammable storage, mechanical and electrical rooms, teacher planning and auto mechanics garage space.

Introduction

The General Considerations as described in the following Educational Specification document are based upon the educational program requirements and are meant to provide the design professionals with both general and special architectural, mechanical, plumbing, and electrical, communications and site requirements to support the educational programs contained in this facility. These considerations are developed in two sections within the document: General Considerations contained herein and specific requirements contained in each educational program specification.

III. PROGRAM REQUIREMENTS AND INFORMATION – (continued)

The development of these requirements is meant to serve as a guide, with the understanding that the project design professionals will be responsible for the full development of these requirements as part of their scope of work. The guidance provided is not intended to conflict with State Requirements for Educational Facilities – 2012 (SREF), the Florida Building Code, the Florida Fire Prevention Code or other applicable codes. The design professional shall promptly bring all such conflicts to the attention of the Owner.

Site

1. Drainage/detention system as required and in compliance with Southwest Florida Water Management District (SWFWMD) shall be provided; including culvert opening protections.
2. Provide new stop, traffic, and persons with disabilities signs as required.
3. One aluminum flagpole and base located near the Administration Building shall be provided. The flagpole shall be specified to display two flags using a double halyard. Discuss option of reusing existing pole. The school will provide both an American and State of Florida flag.
4. Provide one fenced bike compound near entry to the school and located so that administrative personnel can oversee the compound.
5. Comply with Florida Building Code 423.10 Site Requirements.
6. Per PA/E Handbook including guidelines.

Landscape Requirements

1. Must be simple, functional and meet State codes for Florida-friendly landscaping as defined in Section 373.185, Florida Statutes. Provide site sodding as appropriate.
2. Per PA/E Handbook including guidelines.
3. Underground water-sprinkling system at all landscape areas, using reclaimed water. Irrigation must be on electric controls consistent with existing School Board controls.
4. Grade slope to drain away from building and not across walkways on School Board property.
5. When a project adds green spaces to an existing parking lot, remove all asphalt, base, sub-base and soil to a minimum depth of 36 inches. Fill with quality soil to give plant material and/or sod a good chance to survive before any planting occurs. Do not create green areas less than 12 inches in width. Provide concrete surface if a strip will be 12 inches or less, regardless of the length.

Building Regulations and Codes

The project described herein will have to follow certain regulations and codes having jurisdiction in school facility design and construction projects. The design professionals are directed to determine these requirements and include them in their scope of work. The following list is provided for reference, information and use. Each listing shall be verified and supplemented as required:

State Requirements for Educational Facilities – 2012 (SREF)
Florida Building Code
Florida Fire Prevention Code
Owner Standards and Design Criteria per PA/E Handbook
Drainage/Environmental Regulations
Accessibility as incorporated into the Florida Building Code
Energy Code as incorporated into the Florida Building Code

III. PROGRAM REQUIREMENTS AND INFORMATION – (continued)

Building Area Allowances

The facility as described herein may have to meet applicable codes and regulations with respect to area limitations and allowances as set forth in SREF, Florida Building Code and Florida Fire Prevention Code (NFPA 1 & 101). The design professionals are directed to determine these requirements and include them as part of their scope of work.

Signage

1. Per PA/E Handbook including guidelines
2. Provide a School Sign with an electronic marquee including power and network requirements. Schools may elect to purchase an electronic marquee from other funding. When this option is taken, conduits with pull strings shall be provided for power and network unless directed otherwise.
3. Per Florida Building Code and Florida Fire Prevention Code including but not limited to the following:
   a. Room name and room number – room numbers shall be FISH numbers as assigned by Educational Specification Specialist.
   b. Graphic diagram of primary and emergency evacuation routes from each space, occupied by six or more students.
   c. Emergency Rescue windows: "EMERGENCY RESCUE – KEEP AREA CLEAR"
   d. Signs necessary to meet accessibility requirements.
   e. Hazardous work and storage areas.
   f. Secondary means of egress/emergency egress openings: "EMERGENCY ESCAPE" or "EMERGENCY EGRESS – KEEP AREA CLEAR"
   g. Occupant capacity signs shall be mounted adjacent to the main entrance door in each instructional and assembly space with a capacity of 50 or more persons. Each sign shall legibly state as a minimum:

      "OCCUPANCY BY MORE THAN _____ PERSONS IS
      DANGEROUS AND UNLAWFUL,
      _____ FIRE OFFICIAL: _____ DATE"

4. Refer to FISH Document Drawing Set Submittal Requirements and Timeframe for required verification walkthrough of FISH drawings, building labeling and room labeling. Add this requirement to building closeout procedure.

IV. ORGANIZATION NOMENCLATURE

NA

V. INNOVATIONS, EXPERIMENTAL IDEAS, OTHER PLANNED USES

NA

VI. SQUARE FOOTAGE CHANGES EXPLANATION THAT VARIES FROM APPROVED FACILITIES LIST

NA

VII. PROGRAM FACILITIES LIST/SPACE CHART

NA

VIII. PROGRAM FURNITURE AND EQUIPMENT REQUEST FORM

Furniture, Fixtures and Equipment

1. Where feasible, furniture should be free-standing and easily movable, not built-in. Built-in furniture reduces flexibility. Selection of all furniture, fixtures and equipment shall be in association with Facilities Planning, Design and Construction.

2. General requirements for generic types of furniture, fixtures and equipment are identified for each space. More or less furniture may be required.

3. The project architect or design professional shall provide a detailed Furniture and Equipment Placement Plan and furnish detailed identifying data for all movable furniture, systems, fixtures, and equipment required for a complete and usable facility in conjunction with Facilities Planning, Design and Construction.

4. Refer to specific requirements in each educational program specification.

IX. SPECIAL CONSIDERATIONS

- Heating/Cooling/Ventilation

1. Design professionals are directed to heat, cool and/or ventilate all program spaces according to applicable codes and environmental requirements. HVAC Systems shall be designed to provide indoor air quality comfort and energy conservation required by SREF and in compliance with the Florida Building Code and Florida Fire Prevention Code.

The HVAC system needs to comply with the requirements of the District Design Guidelines, unless directed otherwise. Note: The system shall be designed to allow for future construction.

2. All spaces shall have the appropriate air changes according to space utilization, program activities and applicable code requirements.

3. Program spaces shall have specific exhaust ventilation if required per applicable codes and analysis by design professionals. Please refer to the educational program specification.

4. Design professionals are directed to provide appropriate heated and/or cooled air make-up to spaces having special exhaust ventilation according to applicable codes and climatic conditions.

5. Comply with applicable codes for segregation of and protection for hazardous materials and for special ventilation of flammable and/or caustic material storage units.

6. The design professionals are directed to coordinate the provisions stated in this section and any additional provisions with specific furniture and equipment requirements as these items are developed with the project.

7. Coordinate provisions stated in this section with SREF, the Florida Building Code, Florida Fire Prevention Code, Regulatory Agency Requirements and Owner Standards.

IX. SPECIAL CONSIDERATIONS

- Heating/Cooling/Ventilation (continued)

8. All exhaust fans on roofs shall be located over service areas only (no classroom, office, etc.)

9. Air handlers shall be mounted on a continuous rail and a housekeeping slab of sufficient thickness (height) to meet condensate drain requirements. Drain shall be located at the front of the housekeeping pad.

10. Sound-proofing shall be provided where air handlers are adjacent to occupied spaces.

11. Thermostats shall not be located near windows.

12. The design professional shall design for fire dampers at all rated walls per life safety plan requirements.

13. A pair of 3'-0" doors for a total opening of 6'-0" minimum shall be provided at air handler rooms to allow for servicing of unit.

14. Provide 6'-8" clear to horizontal piping/supports at access areas.

15. Ducted returns shall be provided from all occupied spaces and through rated walls (no undercuts). AHU's shall not be located in the ceiling without agreement of the Owner. If allowed, a condensate pan and drain shall be used.

16. Opposed blade dampers shall be provided at all supply registers.

17. All outside air dampers shall have access openings and be located to allow for regular periodical maintenance (regular lubrication) and repairs.

- Acoustics

1. The program spaces should accommodate acceptable acoustical noise levels and require a Sound Transmission Classification (STC) as specified herein or detailed in the educational program specification.

2. The following spaces shall have the Sound Transmission Class (STC) ratings as indicated:

Space	STC Rating
Labs	50
Rest Rooms	47
Offices	50
Secretarial Office	47
General Reception	47
Conference Room	50
Teacher Planning Areas	50
Work Room (copier, fax machine, etc.)	47

3. Design professionals are directed to consider both sound transmissions and sound conditions of each space to obtain optimal acoustic environment.

IX. SPECIAL CONSIDERATIONS (continued)

- Acoustics (continued)

  4. Minimize noise and vibration generated from heating, ventilating and air conditioning equipment as they relate to disturbance of activities within the program spaces requiring a quiet, vibration free environment. The sound isolation requirement (minimum) for all paths between mechanical rooms (source) and any space (receiver) shall be STC 50-60.

- Floor

  1. Refer to the individual educational program specifications descriptions for floor covering selections. Selection of all floor covering color, pattern and texture shall be under the direction of and in association with Office of the School Board Architect.

  2. Floor covering shall meet the fire resistance criteria established in SREF, Florida Building Code, Florida Fire Prevention Code and other applicable codes. The design professional shall include in the carpet specifications a requirement that the Contractor provide certification from an independent testing laboratory that the "very" carpet installed on the job meets the fire resistance criteria.

  3. Restroom floors shall meet Americans with Disabilities Act (ADA) skid resistance requirements. Refer to ADA Accessibility Guidelines (ADAAG) Appendix B, Appendix A4.5 Ground and Floor Surfaces. As well as Florida Accessibility Code for Building Construction, 2012 Edition.

- Walls

  1. The design professionals are directed to select wall construction consistent with programs to be housed considering sound transmission loss, maintenance, and wall hung furniture and equipment.

  2. Selection of all wall finish color, pattern and texture shall be under the direction of and in association with Facilities Planning, Design and Construction.

- Lighting

  1. Design professional shall provide multiple switches on lighting fixtures to allow flexibility of lighting levels. Lighting controls and fixtures in instructional spaces shall be installed so that light level may be effectively reduced to facilitate use of audio/visual equipment, projected visual aids, televisions or computer screens and to allow note taking while dimmed.

  2. In order to enhance the maintenance effort, the design professional will utilize standard electrical, lighting and hardware fixtures to the greatest extent practical throughout the project. Light fixtures should be selected to eliminate reflections/glare on Video Display Terminals and computer monitors.

  3. Design professionals are directed to provide uniform glare free illumination with distribution eliminating direct and seculars glare to provide illumination levels specified herein.

IX. SPECIAL CONSIDERATIONS

- Lighting (continued)

4. Laboratory lighting fixtures to be arranged in a manner to provide a minimum of twenty (20) Equivalent Spherical Illumination (ESI) foot-candles viewed in any direction.

5. The Visual Comfort Probability (VCP) for direct glare shall be greater than 70 according to standard testing procedures.

6. General illumination shall be designed and circuited to provide for minimum illumination in the event of failure of any single lighting unit and will not leave any occupied area or a means of egress in darkness.

7. Task illumination for markerboard, interactive (Smartboard) and other visual aids shall be designed to eliminate glare and shadow.

8. General illumination levels in instructional spaces other than laboratory shall be designed to the average raw foot-candle values recommended in the Illumination Engineering Society Handbook.

9. Sources of natural light in instructional spaces shall be provided with light control devices to allow the use of audio/visual equipment.

10. Ceiling mounted task lighting shall be provided where needed in laboratories and classrooms to facilitate note taking when lighting must be reduced to operate audio/visual display equipment.

11. Lighting controls will be positioned near the primary teaching position in all laboratories and classrooms.

12. Florida Building Code 2010 Energy Conservation, Section 505 Electrical Power and Lighting Systems (Mandatory). Refer to (19) Other Considerations.

- Windows

1. The design professionals are directed to provide natural light for instructional spaces according to SREF 2012, educational program requirements and design criteria consistent with Owner standards, environmental considerations and energy efficiency.

2. Windows in instructional spaces shall have light control devices for the operation of audio-visual equipment, computers and computer monitors, television receivers and projection equipment.

3. Instructional spaces and offices shall have vision panels to view the space from the circulation area according to Owner standards, program requirements, safety and security, and applicable codes.

4. Windows shall comply with Owner security requirements relative to alarm systems. Design professionals are directed to determine security and alarm system requirements as part of the design process.

IX. SPECIAL CONSIDERATIONS

- Windows (continued)

  5. Wire glass is prohibited except in a fire-rated door.

  6. All exterior glass shall be in compliance with the Florida Building Code and should be high performance glass to reduce glare and heat gain. Exterior glass shall be impact resistant and comply with the missile impact requirements.

  7. Blinds shall be provided at all exterior windows, except at main entrance(s).

- Doors

  In compliance with the Florida Building Code

- Plumbing

  1. The facility shall have water fountains per Owner standards and applicable codes in type, location and mounting. All plumbing shall be of lead free construction. In order to enhance the maintenance effort, the design professional will utilize standard plumbing and hardware fixtures to the greatest extent practical throughout the project. These standard fixtures should be compatible with those in existing Pinellas County School Board buildings.

  2. The facility shall have toilet, lavatory and related fixtures and trim per Owner standards and applicable codes. Note: Design the water and sanitary systems to allow for future construction.

  3. The facility shall have cold water supply to all lavatories except where specifically stated in the educational program specifications to provide hot and cold water supply according to Owner standards and applicable codes. Provide automatic shut-off controls at lavatories in all toilet rooms. Automatic shut-off controls shall allow faucet to run for at least 10 seconds.

  4. Design professionals are directed to review furniture and equipment requirements both in-contract and not-in-contract to determine water and waste considerations for inclusion in the design process.

  5. Drinking fountains shall be provided in the area near the toilet facilities. Use high-low accessible drinking fountains.

  6. All floors shall slope down to the floor drains in the toilet rooms. Americans with Disabilities Act (ADA) provisions must be accommodated.

  7. Provide hot and cold water at all custodial spaces and office service (kitchens). A water heater (30 gallon) and a mop sink shall be provided in custodial rooms. Refer to PA/E Handbook for additional requirements.

  8. Provide protective insulation at exposed lavatory piping.

  9. Provide hose bibs and floor drains in all group restrooms.

  10. Provide locking enclosures for exterior hose bibbs.

IX. SPECIAL CONSIDERATIONS

- Plumbing (continued)

  11. Provide hose bibs in all mechanical rooms.

  12. Provide trap primers and shock arresters.

  13. Provide insulation on all horizontal runs of storm lines.

  14. Clean domestic water system as required.

  15. Water lines shall be placed overhead wherever feasible.

  16. Provide custodial closets on each floor per SREF.

  17. Provide toilet rooms on each floor

  18. Because the state now mandates supplying another source of potable water during catastrophic times, Pinellas County Emergency Management in cooperation with Pinellas County Schools will provide bottled water and/or water tank truck at this facility. No work required for this project.

- Communications

  1. Per Educational Specifications for Technology Infrastructure
  2. Per District Design Guidelines.
  3. Provide wireless distribution and video over IP Broadcast system technology throughout the school.
  4. Flat screen monitors and plasma screens, or ceiling mounted, or short throw PLC projectors will be used in the classrooms along with interactive boards. Televisions and coaxial cable will **not** be used.

- Electrical

  1. Per Educational Specifications for Technology Infrastructure and S.R.E.F.

  2. The program spaces shall have electrical service according to educational program specifications, Owner standards and applicable codes. In order to enhance the maintenance effort, the design professional will utilize standard electrical and hardware fixtures to the greatest extent practical throughout the project. These standard fixtures should be compatible with those in existing Pinellas County School Board buildings. Please refer to educational program specification for detailed requirements not listed here. Note: The electrical service shall be designed to allow for future construction.

  3. GFI outlets shall be provided in accordance with applicable codes and Owner standards.

  4. Label panel boxes with permanent engraved labels.

  5. Label electrical outlets and data outlets.

IX. SPECIAL CONSIDERATIONS

- Electrical (continued)

6. Design professionals are directed to review thoroughly the data contained herein including both in-contract and not-in-contract furniture and equipment including existing furniture and equipment relative to providing specific electrical requirements.

7. Any floor outlets shall have brass cover plates.

8. Electrical outlets shall **not** be mounted back to back at common walls between spaces.

9. Provide electrical hand dryers in lieu of paper towel dispensers in all restrooms (both group and single). This includes student, staff and public restrooms.

10. Emergency lighting shall be provided according to applicable codes, security and safety requirements for the following areas:

    Interior Stairs and Corridors
    Normally Student Occupied Areas
    Flexible and/or Open Plan Facilities
    All Toilet Rooms
    Electrical Main Panel Room
    Emergency Generator Room, if any
    Elevator Machine Room
    Mechanical Rooms
    Areas designated as emergency shelter use

11. Emergency power shall be provided according to applicable codes, security and safety requirements for the following areas:

    Fire Alarm System
    Public Address System
    Security System
    Telephone System
    Fire Pumps, if any
    Emergency Lighting
    Exit Lights
    Elevator, when required by code
    Areas designated as emergency shelter use
    Freezer and Cooler

12. Emergency power tap shall be ahead of main disconnect

13. Surge suppression shall be designed as three tiers of protection, to address buildings, panels and appliances or equipment.

14. Provide building lightning protection and Transient Voltage Surge Suppression (T.V.S.S.) per the District Design Guidelines.

IX. SPECIAL CONSIDERATIONS

- Electrical (continued)

  15. Refer to PA/E Handbook and Educational Specifications for Technology Infrastructure for data and voice communication, video over IP Broadcast system, security system, relocatables and paging system requirements.

- Gas and Air

  Florida Building Code, Building
  Florida Building Code, Fuel Gas
  Florida Fire Prevention Code
  NFPA and other applicable codes

- Safety

  1. Per S.R.E.F.

  2. The facility shall comply with applicable codes, health and safety regulations. Design professionals are directed to determine the safety and security project requirements and implement those requirements as part of the design process.

  3. Facility shall have a fire alarm system according to applicable codes, regulations and Owner standards. Design professionals are directed to determine requirements and present design solution(s) as part of their scope of work. Whenever either an audible or visual fire alarm signaling device is required, a combination audible/visual device shall be installed. All fire/intrusion alarm systems shall be monitored 24 hours a day, seven days a week by a central station monitoring facility that meets NFPA 72 requirements. Assembly spaces with occupant loads of more than 300 shall be provided with an approved fire alarm system including a pre-recorded evacuation message in accordance with NFPA 101, 9.6 and 12.3.4.

  4. The facility shall have intrusion alarm system according to applicable codes, regulations and Owner standards. Design professionals are directed to determine requirements and present design solution(s) as part of their scope of work. Alarm systems shall be compatible with existing Pinellas County School Board alarm systems.

  5. Facility safety devices, fire extinguishers, exits, exit lights, exit hardware, etc., shall comply with applicable codes and regulations. Design professionals are directed to determine requirements and present design solution(s) as part of their scope of work.

  6. The building shall be designed to provide fire protection per SREF 2012, Florida Building Code, Building, Florida Building Code, Fuel Gas and Florida Fire Prevention Code. Fully-sprinklered buildings should be considered.

  7. Multi-storied buildings will require areas of rescue assistance and emergency communication equipment on each floor for all floors above ground level.

  8. Heat detectors per elevator safety code Florida Statutes 399, American Society of Mechanical Engineers (ASME) A 17.1, A 17.3 and A 18.1 shall be provided.

IX. SPECIAL CONSIDERATIONS

- Safety (continued)

  9. Provide rated separation of elevator machinery room per elevator safety code.

  10. A Lock Box for Fire Department use shall be provided on the exterior of the Administration Building, unless directed otherwise.

- Walks, Roads and Service Drives

  1. Walks, roads, drives, parking areas and service drives shall be in compliance with Florida Building Code 423.10.2.

  2. Bus drop off/pick up area shall have a covered walkway and guard rails with student access openings at edge of walk. There shall be a covered walk connecting the bus drop off/pick up area with the rest of the school. Height of covered walkway shall provide clearance for a typical bus roof height.

  3. Coordinate with Pinellas County School Board Transportation Department to determine the size and number of buses. Consider and resolve the arrival and departure of buses, ensuring that the number required will not stack or extend into the roadway.

  4. Parent drop off/pick up area shall have a covered walkway. There shall be a covered walk connecting the parent drop off/pick up area with the rest of the school.

  5. Per S.R.E.F.

- Parking

  Parking shall be in compliance with Florida Building Code, Building 423.10.2.8 Minimum Parking Requirements and Florida Building Code, Accessibility. New Construction Parking Spaces, along with spaces identified in each educational program specification.

- Built-in Cabinetry

  Refer to the specific requirements in each educational program specification for the following:

  A. Built-in work counter

  B. Built-in cabinets/shelving

  C. Built-in Instructional Aids

  D. Other Built-ins

IX. SPECIAL CONSIDERATIONS – (continued)

- Indoor Air Quality/Indoor Environmental Quality Considerations and Criteria

A. SPACE TEMPERATURE
- i) GOAL: maintain temperature to within 1.5 degrees Fahrenheit of desired value
- ii) METHOD:
  - (1) Individual Classroom Temperature Control
  - (2) High Quality Building Control Systems that accurately monitor and control space temperatures of each classroom

B. SPACE HUMIDITY
- i) GOAL: maintain Relative Humidity from above 40% RH to below 65% RH
- ii) METHOD:
  - (1) Remove outside air moisture before it enters the building
    - (a) Outside Air Pre-conditioning
    - (b) Strip moisture at Air Handlers before entering spaces
  - (2) Remove Moisture Generated Inside the Building
    - (a) Strip moisture generated within the spaces at Air Handlers before returning air to the spaces
  - (3) Prevent surface condensation
    - (a) Wall insulation
    - (b) Wall vapor barriers
  - (4) Prevent Moisture Intrusion into the buildings
    - (a) Roofing
      - (i) Minimized roof penetrations and properly flash required penetrations
      - (ii) Roof insulation
      - (iii) Adequate slope
      - (iv) When possible, generous overhangs
    - (b) Exterior walls
      - (i) Avoid exposed bare masonry
      - (ii) If unprotected, provide a self-draining “system”
      - (iii) Coated with vapor barrier which allows the unit to dry out after the rain
    - (c) Windows/Storefronts
      - (i) Flashed to slope to the exterior with adequate weeps
    - (d) Irrigation
      - (i) Located as not to allow repeated soaking of building envelope
    - (e) Vapor barrier
      - (i) Correct type barrier, properly installed on warm side of wall systems
  - (5) Provide moisture absorbing resistant materials in the spaces that are cleanable
    - (a) Ceiling tiles
    - (b) Dry wall
    - (c) Paints

IX. SPECIAL CONSIDERATIONS – (continued)

- Indoor Air Quality/Indoor Environmental Quality Considerations and Criteria (continued)

C. AIR DISTRIBUTION
- i) GOAL: distribute air evenly throughout the spaces
- ii) METHOD:
  - (1) Fully ducted Supply and Return Air Systems
  - (2) Provide distributed diffusers throughout the spaces in lieu of single point distribution

D. FRESH AIR VENTILATION
- i) GOAL: Provide clean Outside Air to spaces in sufficient quantities to dilute the buildup of undesirable airborne contaminants within the spaces
- ii) METHOD:
  - (1) Comply with the latest requirements of ASHRAE Standard ("Ventilation for Acceptable Indoor Air Quality")

E. PROVIDE CLEAN CONTAMINANT FREE AIR
- i) GOAL: Provide clean Supply Air to spaces that does not introduce Outside Air airborne contaminants nor re-circulate undesirable contaminants generated within the spaces
- ii) METHOD:
  - (1) Remove airborne contaminants from entering the spaces by providing 30% AND 65% series filters
    - (a) All air entering the spaces use 30% pre-filters to remove particulate matter, dust and visible debris
    - (b) All air entering the spaces use 65% or better final filters to remove microscopic particles (viruses, spores, bacteria, etc.)
  - (2) Install Air Handler stainless steel sloped drain pans
    - (a) Sloping prevents a pool of water in the drain pan and eliminates sites for algae and bacteria growth
    - (b) Stainless steel construction eliminates rust and other effects of deteriorated drain pans
  - (3) All air duct insulation is external to eliminate any possibility of circulating fiberglass particles to the spaces; metal ductwork only

F. NOISE
- i) GOAL: Provide acceptable noise levels in the spaces
- ii) METHOD:
  - (1) Provide low velocity air to rooms to prevent noise generated by air movement at high velocities through small openings
  - (2) Provide low noise equipment (airflow control boxes with noise insulation; low noise diffusers; etc.)
  - (3) Provide noise absorbing materials in spaces
    - (a) Ceiling tile
    - (b) Wall material selections

G. EFFICIENCY
- i) GOAL: Provide an overall environmentally energy efficient system that minimizes new energy use and captures energy that would otherwise be dissipated to the atmosphere
- ii) METHOD:

IX. SPECIAL CONSIDERATIONS – (continued)

- Indoor Air Quality/Indoor Environmental Quality Considerations and Criteria (continued)

G. EFFICIENCY (continued)

(1) Provide high efficiency variable flow systems that use only the amount of energy required to provide services
(2) Provide heat recovery systems that recover heat as a by-product for control of space humidity while providing free cooling
(3) High Efficiency Equipment
(a) Equipment selected is installed to Life Cycle standards rather than Minimum Required Efficiency Standards

H. CONSTRUCTION METHODS
i) GOAL: Provide construction means and methods that would insure the intended design initiatives are met
ii) METHOD:
(1) Provide dry, clean indoor conditions to properly install building materials
(a) Close in spaces before finished surfaces are installed
(b) Provide dry air into spaces throughout final construction of finishes
(c) Regular inspections and moisture testing of surfaces throughout final construction phases to ensure proper installations and substrates are suitable for coatings
(2) All window sills shall be installed with a weep system, consisting of metal or membrane thru-wall flashings. Sub-frames and/or sill flashings must be kept free of obstructions. Do not seal over weep openings. Design flashings so that they extend beyond the face of the envelope, cladding system or finish.
(3) Provide a step down (elevation change) from all interior slab elevations to exterior sidewalks or outside slabs. Provide compliance with requirements for accessibility under the Americans with Disabilities Act.
(4) Water test (hose test) all door and window openings prior to substantial completion. AAMA test all mock-up windows.
(5) Metal roof systems shall be designed to qualify for water-tightness warrantees. There are more checks and balances inherent with these warrantee systems, including the use of qualified/authorized installers. Specify structural panel systems for all metal roof applications.
(6) Tile roofs shall always have hip and ridge boards installed.
(a) Never completely rely on Florida Roofing, Sheet Metal and Air Conditioning Contractors Association, Inc. (FRSA) specifications to cover all details in a roof tile system. Tile systems can only be considered long term if the details are property designed. FRSA specs are minimum standards – just like Codes.
(7) Verify that stucco control/expansion joints are in accordance with ASTM C1063. Provide weep screeds at foundation walls and reveal-type expansion joints at CMU-to-framed wall intersections (2nd floor framing).

IX. SPECIAL CONSIDERATIONS – (continued)

- Indoor Air Quality/Indoor Environmental Quality Considerations and Criteria (continued)

  H. CONSTRUCTION METHODS (continued)

  (8) Moisture cure all stucco applications to prevent premature hydration (shrinkage cracks).
  (9) Use bonding agents, with stucco on concrete masonry applications to prevent delamination.
  (10) Never use split faced block.
  (11) Never assume a water-repellent is forever. Repellents have to be re-applied every 4-5 years.
  (12) Avoid wall systems that require water repellents.
  (13) Sealants shall be applied to avoid 3-point adhesion. Require the use of sealant primers to ensure proper adhesion.
  (14) NEVER allow a vapor retarder/barrier on the interior side of wall.

  (15) Flashing details should never rely on sealant for its water-tightness.

  (16) Insist on peer review of construction drawings. Note: We review dozens of drawings and the same problem details/conditions consistently appear, e.g. stucco details, window flashings, roofing details, cladding system details, and waterproofing.

- Other Considerations

  A. Provide Intelligent Metering System. Refer to Intelligent Metering Specification at the end of this section.

  B. Comply with Jessica Lunsford Act. Refer to Pinellas County Schools' web page print-outs at end of this section, following Intelligent Metering System.

  C. Comply with Florida Building Code, Chapter 13 and Florida Building Code 2010 Energy Conservation, Section 505 Electrical Power and Lighting Systems. Automatic Lighting Control for interior lighting in buildings larger than 5,000 square feet by means of a sensor that shall turn lighting off within 30 minutes of an occupant leaving a space. Refer to letter regarding those areas and spaces the district does not want included with sensors, at the end of this section following Jessica Lunsford Act.

  D. Comply with Florida Building Code Chapter 4, Section 423.25 Public shelter design criteria per the written agreement between Pinellas County School District and Emergency Management Agency of Pinellas County—Refer to document dated June 16, 2014, prepared by Edward J. Ural, Director of Facilities Planning, Design and Construction, titled EHPA CODE REQUIREMENTS at the end of this section following Florida Building Code, Section and Florida Building Code 2010 Energy Conservation, Section 505 Electrical Power and Lighting Systems.