

#### BUILDING CODE SERVICES ADMINISTRATIVE GUIDELINE

Number: BD-002 Title: Project Submission

**Revision Date:** 8/14/24 **Approved By:** Mark Lodge, Director

Contact Name: Marisa-Ann Gedeon, Manager Contact Email: <a href="marisa-ann.gedeon@palmbeachschools.org">marisa-ann.gedeon@palmbeachschools.org</a>

#### **Purpose:**

The procedure establishes the requirements for applying to the School District Palm Beach County Building Code Services for a construction permit.

#### Scope:

The procedure provides information on the requirements for document contents supplied to SDPBC Building Code Services for obtaining permits and revisions.

#### **Guidelines:**

The attached document "Permit Documentation Requirements" is organized in the following way:

- General requirements
- Schematic Design
- Design Development
- Foundation Only Permit Minimum Requirements
- Shell Only Permit Minimum Requirements
- Construction Documents Complete Building Permit
- Appendix "A" (Sample Sheet Index Format)

#### **GENERAL REQUIREMENTS**

- A. The Architect and Engineer are responsible for all design, construction plans, and specification submittals conforming to all Building Codes and District requirements.
  - 1. A permit issued is construed only as a license to proceed with the work and not as authority to violate, cancel, alter, or set aside any of the provisions of any code or District requirement.
  - 2. The issuance of a permit shall not prevent the building official from requiring the correction of errors in plans, construction, or violations of any code or district requirement
- B. The Architect and Engineer shall thoroughly check and coordinate the drawings, specifications, and other documents prior to submittal.
  - 1. Code compliance and quality control are the responsibility of the Architect and Engineer.
- C. All submittals shall include:
  - 1. A transmittal letter, listing all documents included in the submittal, and the reason or scope of work.
    - a. Provide a narrative completely describing all changes to permitted plans, on a sheet-by-sheet basis, for all revised drawings.
  - 2. A submittal for permit shall include a completed permit application specifying the proposed work.
  - 3. One electronic set of signed, dated, and sealed plans and specifications. (SD and DD submittals may be unsealed) See BD-020 Electronic Plan Review for electronic submittal requirements.
- D. Plans submitted to Building Code Services shall have an up-to-date index on the first or second sheet in the set.
  - 1. Submit revised index with each submittal.
  - 2. Provide one index for all disciplines on the first sheet.
  - 3. Provide the following as the minimum: Sheet Number, Title, Original Date, Latest Revision Number, Latest revision Date, previous Building Code Services Approval Date. (See Appendix "A" for sample)
- E. The following information, at a minimum shall be shown on the life safety plans:
  - 1. Building setbacks from property lines
  - 2. Separation distance from other buildings on the site.
  - 3. Occupancy classifications
  - 4. Physical Properties of the building the area per floor, total area, height, grade elevation, type of construction, and other necessary information to describe the project.
  - 5. Required parking and provided parking
  - 6. Required plumbing fixture count and provided count
  - 7. Requirements of Tables 504.4 and 506.2 (allowable number of stories and allowable area factors)
  - 8. Occupant loads and net areas of all rooms or spaces.
- F. All plans shall be legible and properly labeled. Font size of any text shall be at least 10-pt.
  - 1. Recommended sheet number and order system:
    - a. G Title and index
    - b. V Existing Boundary/survey
    - c. C Civil
    - d. LP Landscaping
    - e. LI Irrigation
    - f. S Structural
    - g. AS General (architectural site, site related details, etc
    - h. LS Life Safety
    - i. SW SIGNAGE/WAYFINDING/MAXIMUM OCCUPANCY PLAN
    - j. A Architectural
    - k. E Electrical EP-Power EL-Lighting ES-Systems
    - 1. M Mechanical/HVAC
    - m. P-Plumbing
    - n. FP Fire Protection/Sprinklers

- o. FS Food Service
- 2. All details and enlarged plans shall be clearly labeled and cross-referenced to the source plan.
- 3. Details or other information not relevant to the current project shall be removed or crossed through documents for the project.
- G. Building Code Services reviews the submitted documents for compliance to building codes and district requirements, and provides written review comments for any discrepancies found during the review process. The review comments for a project are consecutively numbered through the entire review process, using the following numbering system:
  - 1. Architectural and Life safety A1.0, A2.0, etc
  - 2. Civil (Including irrigation, landscape, survey, & athletic fields) C1, C2, etc
    - a. Include the coordination with plumbing regarding location of site utilities and with architectural regarding sidewalk/flatwork/accessibility and fencing.
  - 3. Electrical includes system (Fire alarm, communications, PA system, etc) E1, E2, etc
  - 4. HVAC M1, M2, etc
  - 5. Plumbing P1, P2, etc
  - 6. Structural S10, S20, etc
  - 7. Fire Protection FP 1, FP 2, etc
- H. The Architect/Engineer shall correct all comments in "G" above marked with an asterisk prior to a permit.
  - 1. Correct all non-asterisk comments remaining before the required inspection.
  - 2. Building Code Services reserves the right to hold inspections until the applicant addresses all comments.
- I. The Architect, Engineer, and Building Code Services may schedule periodic meetings to facilitate the review process.
- J. The Architect and Engineer shall provide a written response to Building Code Services' comments (AKA Letter Of Response, LOR):
  - 1. The LOR shall address each District comment, using the corresponding numbers consistent with the review comments.
  - 2. Provide a written response with a detailed narrative explaining how and where all comments are addressed.
  - 3. Cloud and clearly mark the revisions on the plans per industry standards showing only the current changes in the submittal.
  - 4. The plan index updated identifying all revisions
- K. The Architect and Engineer shall use the edition of the District's Design Criteria, and the District Master Specifications issued at the time of the contract.
- L. The Architect and Engineer shall review the project scope provided by the District, and complete the project accordingly. Include the scope of work on one of the first sheets in the set of plans submitted to Building Code Services.
- M. Plans shall be uniformly formatted and all drawings in the set shall be the same size.
- N. All sheets for submittal shall be uniformly formatted and have a title block on the right side of the sheet, top to bottom with at a minimum the following information:
  - 1. Project title and SDPBC project number
  - 2. Location, at least the name of the city
  - 3. Sheet number per District standard, see appendix A
  - 4. Architect/Engineers name, address, phone number, and email address (and other data per Florida Statues regarding signing/sealing of engineering plans)
  - 5. Date of original release and space for revision date and brief description
- O. North Arrow: The direction of the referenced north arrow shall be either up (toward the top of the sheet) or to the right. Once the architect has established the north arrow direction, ALL consultants shall follow using the same orientation for their plans.
- P. Provide a key plan in the right-hand portion of the page, the same place on each page. Clearly identify which

portion of the campus this page represents.

- Q. The Architect/Engineer shall copy Building Code Services on all Architects' Supplemental Instructions (ASI) for changes to code- or district standard related items on permitted plans (Foundation, Shell, Final, etc).
  - 1. If the ASI is non-code or non-district standard related, provide list of those ASI's.
  - 2. All plans submitted for review shall be full size in an electronic format.
  - 3. The documents will be reviewed and returned electronically to the Architect/Engineer with one of the following:
    - a. Shell only, complete set, or other appropriate permit type
    - b. Respond to comments and resubmit, or
    - c. No comment
- R. The Architect/Engineer shall mark all plans submitted after the initial set and any letters of response "Revised Construction Documents" with the job name and job number.
- S. To expedite the construction project, the Building Official may issue "Conditional Permits". With the limits and conditions of the permit attached to the document.
- T. Provide a set of as-built documents on compact disk in a PDF format at the end of the project, but before final certificate of occupancy.
- U. The construction documents for projects with an estimated construction cost value greater than \$125,000 shall be required to be appropriately signed and sealed by the architect/engineer of record along with the construction document of their respective consultant(s).

#### SCHEMATIC DESIGN (SD) DOCUMENTS

- A. Electronically submit a set of plans marked "NOT FOR CONSTRUCTION" for review and comment.
- B. Civil requirements
  - 1. Boundary and topographic survey indicating existing and proposed grades
  - 2. The location of all structures (proposed and existing), parking lots, bus and car loops, play fields, athletic fields, roads, fire lanes, fire hydrants, minimum floor elevations, retention areas, fences, walk ways, and flood zone, design wind speed statement, and required finished elevations.
  - 3. Show all adjacent roads, emergency access, sidewalks, canals, bodies of water, and use of adjacent land.
  - 4. Geotechnical engineers report (may be preliminary report).
  - 5. Evidence of any required environmental studies are completed and any sensitive site areas identified in the submittal, as required by Chapter 1013, F.S.
  - 6. Available fire flow at nearest hydrant.
- C. Architectural requirements
  - 1. Review Architectural Design Criteria
  - 2. Floor plan(s) identifying all existing and new spaces and relationships
  - 3. Life safety plan with all exits, fire rating of walls, smoke barriers, exiting system, travel distances, other life-safety features
  - 4. Preliminary exterior elevations
  - 5. Relationships and use of all buildings on site
  - 6. Location of the Enhanced Hurricane Protection Area (EHPA) if appropriate
- D. Electrical and Systems requirements
  - 1. None
- E. HVAC requirements
  - 1. The Engineer, in cooperation with the Architect, shall develop the design concept and provide a short narrative for SD submittal to specify:
    - a. Type of HVAC systems proposed in each building or major school facility: VAV, constant volume, multi-zone, single zone, etc.
    - b. Return air systems
    - c. Outdoor air systems

- d. Relief air systems
- e. Proposed number of the mechanical equipment rooms and their preliminary locations on the floor plans
- f. The proposed location of the chiller plant and the type of equipment including but not limited to the air-cooled or water-cooled chillers, cooling tower(s), thermal energy storage, etc.
- g. Primary/secondary loop chilled water system versus single loop constant flow design.
- F. Plumbing and Fire Protection documents are not required.
- G. Structural Review
  - 1. Identify the structural systems of any existing buildings to be reused.

#### **DESIGN DEVELOPMENT (DD) DOCUMENTS**

- A. Electronically submit a set of plans marked "NOT FOR CONSTRUCTION" for review and comment, with ALL comments from the SD submittal addressed.
- B. All SD requirements with additional details and development
- C. Civil requirements
  - 1. Completed geotechnical engineer's report
  - 2. Landscaping, drainage, water retention/detention systems
  - 3. Sanitary sewage disposal, domestic water, and fire water systems
  - 4. Inverts/elevations for all piping.
- D. Architectural requirement
  - 1. All room names and numbers
  - 2. Location of exit lights, emergency lights, fire extinguishers, egress windows, and other equipment
  - 3. The fire alarm system, sprinkler system requirements
  - 4. Emergency power equipment
  - 5. Typical building sections
  - 6. Accessibility issues resolved.
  - 7. STC requirements outlined.
  - 8. Enhanced detail information for the EHPA
- E. Electrical and Systems requirements
  - 1. Site plan indicating all buildings included on this scope of work and their name designation. Site plan shall show the proposed location of utility company transformer and the routing of primary power lines, main switchgear, and emergency generator.
  - 2. A drawing of each new building, renovated, or remodeled areas.
    - a. Floor plans shall show location of proposed electrical panels, generator, automatic transfer switches, and step-down transformers.
  - 3. Proposed typical classroom lighting
  - 4. Outline of special lighting system for areas such as auditorium, gymnasium, and media center.
  - 5. Typical classroom layout showing location of all the devices in the room including:
    - a. Receptacle outlets
    - b. Data outlets
    - c. Fire alarm system devices
    - d. Intercom system speaker and call-in switch
    - e. Television, telephone, security devices
    - f. Ceiling projector system
  - 6. Information on Existing Systems:
    - a. Information on existing electrical system shall include voltage and size of existing main distribution panels, number, and size of existing main disconnect switches, size, and type of existing generator.
    - b. Information on existing systems shall include type of system, location of system main panel or terminal cabinet, spare capacity.
- F. HVAC requirements

- 1. Design notebook
  - a. Design notebook format.
    - i. Letter size, in 3-ring binder with identification on the front and binder
    - ii. Table of Contents
    - iii. Organize notebook into appropriate sections with tabs for each AHU.
    - iv. Identify notebook as:

DD HVAC DESIGN NOTEBOOK

PROJECT NAME

SDPBC PROJECT NUMBER

#### DATE

- b. Provide copy of DD OEF 208a (Facility Space Chart) and the DD furniture floor plan from the Architect. Showing the following data:
  - i. Room by room people count (Students and staff)
  - ii. Room by room equipment load, with diversity
  - iii. Outdoor air CFM/person
  - iv. Unoccupied rooms without equipment loads (i.e. toilets, custodial closets, storage rooms, etc.) may be left blank.
  - v. CAUTION: The people count for the load program calculating cooling loads and outdoor air CFMs may be different from those used by the Architect to determine exit requirements.
- c. Submit preliminary computerized HVAC load calculations in accordance with ASHRAE's methodology. Submit computerized printouts for both input data and output data.
- d. Select major HVAC equipment based on preliminary load calculations, i.e. chillers, cooling towers, central station AHUs, CHW pumps, CW pumps, condensing units, rooftop units, etc. Submit catalog data for this equipment.
  - i. Submit Life Cycle Cost Analysis (LCCA) in accordance with Department of Education requirements.
  - ii. Submit Florida Energy Efficiency Code (FEEC) Form 400 in accordance with Florida Building Code.

#### 2. Drawings

- a. Submit conceptual HVAC design. Show major system components, main and branch ductwork, etc. In Design Development, DD, single line ductwork plans are acceptable. The conceptual HVAC design must include the following systems:
  - i. Supply air systems: For VAV systems show high velocity duct from the AHU to each VAV box; for constant volume systems show main and branch ducts from the AHU.
  - ii. Return air systems: Show main and branch ducts to AHU.
  - iii. Exhaust air systems: Show main and branch ducts.
  - iv. Outdoor air systems: Show outdoor air system (fan powered or gravity).
  - v. Relief air systems: Show relief air system (gravity type preferred or fan powered).
  - vi. Typical classroom floor plan for supply air and return air systems.
- b. Size MERs for proper service access based on preliminary equipment selections. Coordinate mechanical room size, and other requirements with the Architect.
- c. Size the chiller plant, based on preliminary equipment selections and provide minimum clearances.
  - i. Coordinate location on site with the Architect to minimize noise levels at the school property lines.
- d. Show routing of main chilled water lines from plant to building(s) and to each AHU room within the building(s), single line plans are acceptable.
- e. Provide design of all underground portions of each system with inverts/elevations.
- G. Plumbing and Fire Protection requirements
  - 1. Provide design of all underground portions of each system with elevations/elevations.
- H. Structural

- 1. Provide preliminary design identifying the general structural systems proposed.
- 2. Provide General Notes page identifying governing codes and standards, required loads and material properties.
- I. Specification requirements
  - 1. Provide Table of Contents for the District Master Specifications identifying intended revisions or additions. See sample in Appendix B.

### FOUNDATION ONLY PERMIT - MINIMUM REQUIREMENTS

- A. Civil site plan showing the location of all buildings, parking lots, play fields, athletic fields, roads, fire lanes, minimum floor elevations, retention areas, and flood zone.
- B. Provide a boundary and topographic survey indicating existing and proposed grades.
- C. Geotechnical engineers report.
- D. Provide a copy of the South Florida Water Management District permit.
- E. Foundation plan, indicating everything required for placement of footing, piles, grade beams, columns, and elevator pit.
  - 1. Include all details relating to the foundation, including waterproofing of elevator pit.
  - 2. Provide footing and foundation schedules.
  - 3. Specifications related to foundation.
- F. Detailed structural plans and calculations for the proposed structure with the resultant loads required for foundation design.
- G. Detailed structural plans and specifications indicating the extent of work covered by the foundation permit.
- H. Detailed electrical and systems plans and specifications indicating the extent of work covered by the foundation permit. (Underground conduits, electric rooms, generator, service and panel size)
- I. Provide detailed architectural (elevator pit waterproofing system), plumbing and HVAC plans and specifications indicating the extent of work covered by the foundation permit.
- J. Life safety plan showing
  - 1. All exits, exit paths, and travel distances.
  - 2. Emergency exit lighting and exit light locations.
  - 3. The fire rating of all walls, ceilings, floors, doors, and other elements as necessary.
- K. For reference only, in-progress floor, exterior elevations, structural, plumbing, and HVAC plans.
- L. If applicable, provide demolition plans.
- M. Schedule a mandatory meeting with Building Code Services and the architect to discuss the extent of the foundation permit and finalize the documentation requirements.

#### **SHELL ONLY PERMIT - MINIMUM REQUIREMENTS**

- A. Civil site plan showing the location of all building, parking lots, play fields, athletic fields, roads, fire lanes, minimum floor elevations, retention areas, and flood zone.
- B. Provide a boundary and topographic survey indicating existing and proposed grades.
- C. Geotechnical engineers report.
- D. Provide a copy of the South Florida Water Management District permit.
- E. Foundation plan, indicating everything required for placement of footing, piles, grade beams, columns, and elevator pit.
  - 1. Include all details relating to the foundation, including waterproofing for elevator pit.
  - 2. Provide footing and foundation schedules.
  - 3. Specifications related to foundation and the shell.
- F. Detailed structural plans, calculations and specifications indicating the extent of work covered by the shell permit.
  - 1. Provide column schedules.

- 2. Provide beam and lintel schedules.
- 3. Provide schedules and details relating to joist (floor and roof).
- G. Provide life safety plan (See requirements under foundation).
- H. Provide architectural plans and specifications indicating the extent of work covered by the shell permit.
  - To include floor plan(s), elevations, details and sections
- I. Provide detailed architectural (elevator pit waterproofing system), plumbing and HVAC plans and specifications indicating the extent of work covered by the shell permit.
- J. Detailed electrical and systems plans and specifications indicating the extent of work covered by the shell permit.
- K. For reference only, in-progress floor, exterior elevations, structural, plumbing, and HVAC plans.
- L. If applicable, provide demolition plans.
- M. Schedule a mandatory meeting with Building Code Services and the architect to discuss the extent of the foundation permit and finalize the documentation requirements.

#### CONSTRUCTION DOCUMENTS (CD) - COMPLETE BUILDING PERMIT

#### A. Documents - General

- 1. If CD submittals do not resolve ALL SD and DD review comments, all outstanding SD and DD review comments will be transferred to the CD comments.
- 2. Design Notebook, Sign, seal, and date the Table of Contents.
- 3. Specifications, Sign, seal, date the Table of Contents.
- 4. Drawings, submit signed, sealed, dated set in electronic format per BD-020.
- 5. In addition to the SD & DD requirements, supply the following information.

#### B. Civil requirements

- 1. Clearly indicate the buildings removed, demolished, modified, or unchanged.
  - a. Provide horizontal control information on a site plan.
  - b. Show existing easements, existing easements proposed for abandonment, and all proposed easements.
  - c. Note any other site restrictions, such as preserve areas.
  - d. Show the well field Zone limits for any public utility well field that has zone limits overlapping the District property lines.
- 2. Indicate flagpoles, their location, number, and details.
- 3. Show the location and detailed drawings of the ITV tower
- 4. Provide landscape and irrigation plans, include the well and rust removal system.
  - a. Provide complete plans for installation of cisterns with the landscaping package.
- 5. Indicate the location of the concrete slab or mechanical anchors, all fencing/gates, and hold-down straps for the LP gas tanks and all gas piping locations (LP or natural gas).
  - a. Show installation the gravel ring about the buried tank access manholes.
- 6. Provide details and information for paving, traffic signage, accessibility signage for parking, loading, and routes on site, and pavement markings.
  - a. Show all curb ramps and accessible access features.
  - b. Indicate locations of detectable warning surfaces.
- 7. Indicate the domestic water, fire lines, sanitary sewer, and storm water systems, along with details.
  - a. Show any existing utility pipelines or other items proposed for demolishment or abandonment in place.
  - b. Show how the storm water system will be attached to covered walkway canopy drains (where appropriate), to the condensate drains, and to the roof downspouts.
  - c. Show site plan locations for all post indicator valves, backflow preventers, fire department connections, valves, manholes, cleanouts, yard drains, inlets, and any other appurtenant items.
- 8. Provide a copy of the South Florida Water Management District permit.
- 9. Provide a letter or approved drawings from the Fire Marshal.
- 10. Provide copy of approved site plan from local municipality.
- 11. Provide a signed and sealed copy of the site survey for the set of plans being retained by Building Code

Services. A non-sealed copy is adequate for the site copy.

- 12. Provide a parking table on either the Civil or the Architectural site plan that demonstrates compliance with the Florida Building Code.
- 13. Provide elevations and slopes for all exterior landings, sidewalks, stairs and ramps within scope conforming to accessibility requirements.
- 1. Structural requirements Foundation and first floor plan
  - a. The foundation plan shall identify and locate all piles, footings, walls, and columns with dimensions.
  - b. Indicate top of footing elevations.
  - c. Identify all bearing and non-bearing masonry walls.
  - d. Dimension the location and identify the type of all constructions, contraction, and control joints for the concrete slabs. A note indicating the spacing of the joints will not be sufficient.
  - e. Identify the location and details for all steps or sleeves coordinated with inverts/elevations of all underground piping and conduits. Identify minimum separation of underground pipe installations parallel to foundations. Identify limits for excavations perpendicular to installed footings.
- 2. Second, third, etc., floor and roof framing plans
  - a. The framing plans shall identify and locate all beams, walls, and columns.
  - b. Indicate top of steel elevations.
  - c. Indicate top of concrete elevations.
  - d. Identify all bearing and non-bearing masonry walls.
  - e. Indicate the type, spacing, and location of the steel bar joists.
  - f. Indicate the size, type, and rows of bridging for the steel bar joists.
  - g. Indicate any additional bottom chord bridging for the steel bar joists at first panel point of the bottom chord that is required to resist uplift forces.
  - h. Specify the type, gage, and galvanizing/finish of the metal decks.
- 3. Section and details
  - a. Indicate all welds and bolts, connecting and anchoring the steel joists.
  - b. Indicate all steel bearing plates and anchors.
  - c. Indicate concrete anchors, type, size, location, capacity, and embedment
  - d. Columns shall indicate the shape, dimensions, location of vertical reinforcing bars and ties.
- 4. Provide code required load information
  - a. Roof dead and live loads
  - b. Floor dead, live, and partition loads
  - c. Wind loads
    - i. Roof and wall loads (other than masonry walls).
      - 1) Ultimate and Net Components and Cladding loads.
    - ii. A plan of the structure indicating the wind loads for the components and the zones shall be included in the structural plans.
  - d. Structural notes on plans
    - i. Safe soil bearing capacity
    - ii. Required concrete strength at 28-day test
    - iii. Reinforcing steel ASTM designation number and grade of steel
    - iv. Concrete cover over the reinforcing steel:

Footings Columns Beams Stairs
Int. slabs Ext. slabs Concrete walls
Enhanced coverage for near-shore projects

- v. Welded wire fabric ASTM designation number and galvanizing.
- vi. Structural steel ASTM designation number and Yield Strength
- vii. Structural tubing ASTM designation number and Yield Strength
- viii. Steel pipe ASTM designation number and Yield Strength
- ix. Metal deck ASTM designation number, type, gage, section properties, and galvanizing

requirements

- e. Column, beam, and footing schedules and details
- f. Engineering calculations
  - i. Engineering shall provide the base formula used for each calculation and identify the reference and section; all calculations shall originate from the FBC unless otherwise permitted.
  - ii. Each calculation shall be identified by the component being designed and shall identify the minimum component satisfying the loads.
  - iii. Each calculation shall indicate compliance with Allowable Stress Design or Load and Resistance Factor Design.
    - 1) Identify the source of each parameter.
    - 2) Designer preferred changes to these parameters shall only be applied after determining the minimum materials from the base calculations.
- g. Any other information pertinent to the foundation design of the building
- h. Provide a list of all components or assemblies requiring delegated engineering as defined by the Florida Board of Professional Engineers.
  - i. Clearly delineate the limits of scope for the delegated engineer and provide all design parameters and loads as applicable.
  - ii. Provide a list of all components or assemblies requiring shop drawings as defined by the Florida Board of Professional Engineers.
  - iii. Provide all design information as required by code or law.
- i. On all projects requiring driven piles, provide a visual record of surrounding structures outside school property. The record shall be before, during, and after the pile driving.
- j. If threshold building, engineer to provide threshold inspection scope and schedule.
- 5. Architectural requirements
  - a. Architectural Site Plan and related site details.
  - b. Floor plans with dimensions identifying all spaces and relationships.
  - c. All room names and numbers.
  - d. Floor plans and details indicating compliance with the accessibility codes:
    - i. Location of ramps and elevators
    - ii. Details of ramps
    - iii. Enlarged floor plans elevations, and details of accessible restrooms
  - e. Roof plans, related details, roof drainage/scupper sizing calculations
  - f. Significant details, building sections, typical wall sections, special wall sections, schedules, and notes to indicate how to build the structure and how it complies with the building codes and district requirements.
  - g. Provide details of continuity for air, moisture and thermal envelope.
  - h. Reflected Ceiling plans
  - i. Life safety plan with all exits, fire rating of walls, smoke barriers, exiting system, travel distances, area of refuge and other life-safety features:
    - i. Include Florida Building Code and Florida Fire Prevention Code Summaries
    - ii. Location of exit lights, emergency lights, fire extinguishers, egress windows, and other equipment.
    - iii. The fire alarm system, sprinkler system requirements
    - iv. Emergency power equipment
    - v. Plumbing Fixture Calculations
  - i. Interior and exterior elevations
  - k. Built-in Casework, elevations and related details
  - 1. Relationships and use of all buildings on site
  - m. Vertical Circulation Elements enlargements
  - n. Master sign/way finding plan
  - o. Master fence and gate plan

- p. Location of the Enhanced Hurricane Protection Area (EHPA)
- 6. Electrical requirements
  - a. Electrical Site Plan: This drawing shall at minimum show:
    - i. Power Company Transformer
    - ii. Main switchgear
    - iii. Emergency Generator
    - iv. Distribution panels
    - v. Fire alarm control panel
    - vi. ITV tower
    - vii. Pull-boxes for future portables
    - viii. Parking lot lighting poles
    - ix. Location of manholes, pull boxes, duct bank cross sections
    - x. Security antenna raceway
    - xi. Telephone service
    - xii. Cable TV conduit
    - xiii. Other equipment located outside the building footprint including but not limited to street signs, chillers, and irrigation pumps, lift stations, etc.
  - b. Floor Plans: Provide separate floor plans for lighting, power, and Systems.
    - i. Floor plans at minimum shall show:
      - 1) Receptacle outlets and circuiting
      - 2) Equipment (including HVAC and plumbing) disconnect switches, outlets, junction boxes, and circuiting.
      - 3) Special purpose receptacles and circuiting
      - 4) Fire alarm system devices
      - 5) Ceiling projector system
      - 6) Video surveillance system
      - 7) Card access system
      - 8) Emergency radio communications system
      - 9) Emergency lighting, wiring diagram, relays, and circuiting
      - 10) Exit signs and circuiting
  - c. RISERS: Drawings must include the following risers
    - i. Normal power
    - ii. Emergency power
    - iii. Fire alarm system
    - iv. Intercom system
    - v. Television
    - vi. Telephone
    - vii. Security
    - viii. Data system
    - ix. Energy management and control system
    - x. Ceiling projector system
    - xi. Video surveillance system
    - xii. Card access system
  - d. SCHEDULES: The drawings must include the following Schedules:
    - i. Electrical legend
    - ii. Lighting fixture schedule
    - iii. Panel schedules indicating circuiting
    - iv. Transformer schedule
    - v. Disconnect switch schedules
  - e. LOAD CALCULATIONS: Drawings must include the following Load Calculations:
    - i. Main electrical service

- ii. Emergency generator
- iii. Distribution panels
- f. EXISTING SERVICES:
  - i. Location(s) and size(s) of main electrical service(s)
  - ii. Location and size of emergency generator
  - iii. Distribution panels
- g. Short Circuit Calculations:
  - i. Obtain available short circuit on the secondary side of power company transformer, and indicate the information on the one line diagram.
  - ii. Show available short circuit at the terminal of each feeder panel boards and distribution panel boards.
  - iii. If requested, submit complete short circuit calculations to the School Board Electrical Engineer for review.
- h. Provide ¼ inch plan of all electrical and systems rooms
  - i. Show all electrical and systems equipment in these rooms
  - ii. Indicate with dashed lines the clearances as required by NEC.
- i. All calculations submitted to the School Board Electrical Engineer shall be typed, signed, and sealed by the Engineer of Record. Handwritten computations are not acceptable.
- j. It is the responsibility of the designer to research the existing conditions to determine which existing circuits have enough spare capacity to accept additional loads. Do not pass this responsibility to the electrician by telling him to "connect to the nearest 120 volt circuits" or such similar statements.
- k. Installation details
  - i. Ceiling projector systems details
  - ii. Communications systems details
  - iii. Telephone outlet detail
  - iv. Data outlet detail
  - v. Security systems details
  - vi. Card access system details
  - vii. Hurricane shelter manager's emergency antenna detail
  - viii.Emergency lighting relay wiring diagram
- 1. Complete division 25, 26, 27, and 28 District Master Specifications
- m. This submittal shall include 100% completion of all items and systems.
- n. CD plans and specifications submittals for permit shall be signed and sealed by Florida Engineer.
- 7. HVAC requirements
  - a. Design notebook
    - i. Provide Design Notebook for Phase-III submittal in the same format as specified for phase-II and identify notebook as:

CD HVAC DESIGN NOTEBOOK

PROJECT NAME

SDPBC PROJECT NUMBER

DATE

- ii. Submit the CD OEF 208a (Facility Space Chart) from the Architect. Using the CD OEF 208a and the furniture floor plans, define people count and equipment load on CD architectural floor plans similar DD.
- iii. Submit final load calculations similar to DD.
- iv. Submit design load psychometric analyses for coils. Submit psychometric charts.
- v. Submit air balance for each system in accordance with the Room-by-Room Air Balance Analysis for the SDPBC.
- vi. Submit computer printouts for the coil selections.
- vii. Submit static pressure calculations for AHUs in accordance with the AHU static pressure

calculations for the SDPBC.

- viii. Submit head calculations for hydronic systems.
- ix. For VAV systems, select VAV boxes in accordance with the VAV Box selection procedure for the SDPBC. Only one calculation for each VAV box inlet size at the maximum CFM for that VAV box is required.
- x. Select HVAC equipment based on final calculations. Submit catalog data for major HVAC equipment, i.e. chillers, cooling towers, central station AHUs, CHW pumps, CW pumps, condensing units, rooftop units, etc.
- xi. If the Architect is the prime consultant, submit a construction budget estimate for Division 23.
- xii. If the Engineer is the prime consultant, submit a construction budget estimate for all Divisions.
- b. Specifications use the District Specifications as base.
  - Sections 23 08 00 and 23 05 93, do not edit. These sections define the District's contract with the
    test and balance Contractors. Note project specific requirements for testing and balancing on the
    drawings.
  - ii. Other Specifications: The Engineer shall submit all sections not provided by the District and edit them to be compatible with the District's Master Specifications.
- c. Construction drawings
  - i. All ductwork plans and sections shall be double line. Chilled water piping shown in enlarged MERs and Chiller Plant plans and sections shall be double line. CD Drawings must satisfy minimum requirements listed in DD requirements.
  - ii. Construction Drawings shall include but not be limited to:
    - 1) Title sheet with mechanical sheet listing, legend with drafting symbols, equipment mark designation, followed by equipment schedules, site plan, HVAC floor plans, roof plans, enlarged mechanical equipment room plans/sections, enlarged chiller plant plans/sections, installation details, control schematics, and other items needed to describe the project.

#### 8. Plumbing requirements

- a. Contract documents
  - i. Provide legend and general notes.
  - ii. Provide schedules for fixtures and faucets, floor drains, roof drains, can wash drains, water heaters, etc. Provide schedules on drawings and not in the project manual.
  - iii. Show sanitary DWV systems to a point 5-ft outside of the building on floor plans
    - 1) Show locations and sizes of all stacks and routing of horizontal drains
    - 2) Define inverts, coordinate with civil engineer
    - 3) Show locations and sizes of vent terminals (VTR)
    - 4) Show locations and sizes of cleanouts
    - 5) Show vent-piping offsets below the roof
  - iv. Show condensate systems to a point 5-ft outside of the building on floor plans
    - 1) Show the routing and sizes of horizontal drains from the MER's
    - 2) For multi-story buildings, show locations and sizes of stacks
    - 3) Define inverts, coordinate with civil engineer
    - 4) Show AHU housekeeping pad(s) within the MER and location(s) of drain(s). Coordinate with mechanical engineer.
  - v. Show domestic water systems to a point 5-ft outside of the building on floor plans
    - 1) Above the ceiling, show shutoff valve in fixture supply at tap to main.
    - 2) Show the routing and sizes of all horizontal supplies.
    - 3) Show the location of building shutoff valve in concrete box with lid.
    - 4) Show locations of shutoff valves that isolate the water supplies for group toilets, single toilets, exterior hose bibbs, etc. from the water supply of the building.
    - 5) Show 24" x 24" ceiling access panels for valves above inaccessible ceilings, Coordinate with architect so they show on the architectural reflected ceiling plans.
  - vi. Provide roof plans
    - 1) Show the locations and sizes of roof drains, VTR's, gas flues, etc.

- 2) Show locations of roof-mounted outdoor air intakes. Coordinate with mechanical engineer.
- 3) Show the area in SF served by each roof drain on the floor plans.
- vii. Show storm water systems to a point 5-ft outside of the building on floor plans.
  - 1) Show the routing and sizes of horizontal drains from roof drains, locations of vertical leaders and routing of horizontal drains.
  - 2) Define inverts, coordinate with civil engineer
- viii. Provide riser diagrams, not required for single toilet or fixture.
  - 1) Sanitary DWV Systems: Show pipe sizes, fixture marks, floor drains, VTR's, cleanouts, etc.
  - 2) Storm water systems: Riser diagrams are not required unless the information on the floor plan requires clarification.
  - 3) Domestic water systems: Show pipe sizes, fixture marks, locations and sizes of shock absorbers, etc.
  - 4) Gas systems: Show pipe sizes, equipment MBH, automatic shutoff valves, manual shutoff valves, etc.
- ix. Provide 1/4" scale (minimum scale) floor plans
  - 1) Group toilets
  - 2) Group showers
  - 3) Food service kitchens
  - 4) Home economics
  - 5) Chemistry/science laboratories with gas, water and compressed air systems
- x. Provide 1/4" scale (minimum scale) floor plans and sections for large demand water heater rooms (kitchen and gymnasium).
- xi. Provide installation details for the following items:
  - 1) Floor drains
  - 2) Roof drains
  - 3) Can wash drains and water supplies (CW & HW)
  - 4) Grease trap
  - 5) Cleanouts: For exterior cleanouts, provide 24" x 24" x 4" concrete pads around the cleanouts.
  - 6) Hub drains
- b. Design notebook.
  - i. Identify the notebook follows.
    - 1) CD PLUMBING SYSTEMS DESIGN NOTEBOOK

PROJECT NAME

PROJECT NUMBER

**DATE** 

- ii. Organize the notebook as follows.
  - 1) Kitchen water heater: Provide calculations to size the water heater with electronic ignition. Provide catalog cut of water heater and accessories.
  - 2) Kitchen grease trap: Provide calculations to size the grease trap. Provide grease trap detail on drawings.
  - 3) Gymnasium water heater: Provide calculations to size the water heater with electronic ignition. Provide catalog cut of water heater and accessories.
  - 4) Fixtures: Provide catalog cuts of all fixtures and faucets with fixture number on cut.
  - 5) Floor drains, roof drains and can wash drains: Provide catalog cuts. Note equipment mark on each catalog cut.
- 9. Fire Protection System Requirements

### APPENDIX "A"

SEQUENCE NO.	SHEET NO. 1,	TITLE	FIRST PERMIT DATE	LATEST REVISION NO.	LATEST REVISION DATE
100	G-001	COVER SHEET	12/12/02	3	2/5/03
101	G-002	ABBREVIATIONS, SYMBOLS & LEGEND	12/12/02		
102	C-001	PAVING AND DRAINAGE PLAN	12/12/02	2	2/3/03
103	C-002	WATER & SEWER	12/12/02	1	1/14/03
104	V-001	EXISTING BOUNDARY SURVEY	12/12/02		
105	V-002	TREE SURVEY	12/12/02		
106	SW-001	SIGNAGE/WAYFINDING/MAXIMUM OCCUPANCY PLAN	12/12/02		
107	L-001	LANDSCAPE PLAN	12/12/02		
108	LI-001	IRRIGATION PLAN	12/12/02		
109	LS-001	LIFE SAFETY PLAN	12/12/02	1	1/14/03
110	AS-001	ARCHITECTURAL SITE PLAN	12/12/02		1/14/03
111	A-002	FIRST FLOOR PLAN	12/12/02	1	1/14/03
112	A-003	SECOND FLOOR PLAN	12/12/02	1	1/14/03
113	A-004	DOOR, WINDOW, FINISH SCHEDULE	12/12/02	1	1/14/03
114	A-005	DETAIL AND SECTIONS	12/12/02	1	1/14/03
115	S-001	FOUNDATION PLAN	12/12/02	1	1/14/03
116	S-002	FIRST FLOOR FRAMING PLAN	12/12/02	1	1/14/03
117	S-003	ROOF FRAMING PLAN	12/12/02	1	1/14/03
118	S-004	DETAILS AND SECTIONS	12/12/02		
119	E-001	FIRST FLOOR ELECTRICAL	12/12/02	1	1/14/03
120	E-002	SECOND FLOOR ELECTRICAL	12/12/02	1	1/14/03
121	E-003	RISER DIAGRAM AND SCHEDULES	12/12/02		
122	M-001	FIRST FLOOR HVAC PLAN	12/12/02	1	1/14/03
123	M-002	SECOND FLOOR HVAC PLAN	12/12/02	1	1/14/03
124	M-003	EQUIPMENT SCHEDULES AND DETAILS	12/12/02	3	2/5/03
125	P-001	FIRST FLOOR PLUMBING PLAN	12/12/02	1	1/14/03
126	P-002	SECOND FLOOR PLUMBING PLAN	12/12/02	1	1/14/03
127	P-002	RISER DIAGRAMS AND SCHEDULES	12/12/02		
128	FP-001	FIRST FLOOR SPRINKLER PLAN	12/12/02	3	2/5/03
129	FP-002	SECOND FLOOR SPRINKLER PLAN	12/12/02	3	2/5/03

SEQUENCE NO.	SHEET NO. <sup>1,</sup>	TITLE	FIRST PERMIT DATE	LATEST REVISION NO.	LATEST REVISION DATE
130	FS-001	FOOD SERVICE PLAN	12/12/02		
131	TH-001	THEATER/AUDITIORIUM PLANS (RIGGING, SOUND RELATED SYSTEMS)	12/12/02		

<sup>&</sup>lt;sup>1</sup>Sheet identification using the Uniform Drawing System of the National Cad Standard is preferred.