



# **Emergency Manager's Role in Implementing EHPAs in New Schools**

# **Presenter**

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# Purpose of Educational Facilities

- **Public educational facilities**
  - primarily serve educational purpose
  - secondarily the social and recreational purposes of the community
- **Public shelter function**
  - Secondary purpose
  - lawfully authorized purpose that can preempt school activities in declared emergency

# What is an EHPA?

- **Public Shelter Design Criteria**
  - **Section 1013.372(1), Fla. Stat.**
  - **Section 423.25, Florida Building Code**
- **Enhanced Hurricane Protection Area (a.k.a., EHPA)**

# Authorities of Emergency Managers

- **Consultation with applicable Board**
- **Determination of shelter capacity space requirements**
  - **Surplus or deficit ??**
  - **Shelter survey program**
  - **Statewide Emergency Shelter Plan**
- **Exemptions**

# Authorities of Emergency Managers

- It is unlawful and a violation of the Florida Building Code for a board to exempt a new facility from the EHPA criteria without written concurrence of the applicable local emergency management agency or DCA.

# Definition of an EHPA?

- **A public educational facility, or an appropriate area within a facility, which is designed and constructed in compliance with section 423.25, Florida Building Code**

# **EHPA Applicable To:**

- **Public K-12 schools and community colleges**
- **Universities have similar requirements**
- **“New Construction”**
  - **Entire work is “new”, per section 423.5-8, Florida Building Code**
  - **Includes replacement bldgs, additions, and new bldgs on existing campuses**
  - **Also includes re-use or prototype plans**

# **EHPA Criteria**

- **Comprehensive set of criteria designed to ensure new school bldgs can serve as emergency shelters**
  - **Consistent with ARC 4496**
  - **Consistent with ARC 3041**
  - **Consistent with DEM hurricane shelter survey program**

# **EHPA Criteria (Cont'd)**

- **EHPA Occupancy**
  - **Eight hours @ maximum capacity**
  - **DEM recommends 24 hour design**
- **Site Requirements**
  - **Emergency Access**
  - **Landscaping**
  - **Parking**
  - **Signage (internal only)**

# EHPA Criteria (Cont'd)

- **50 percent of Net Square Feet of a designated facility shall be constructed as an EHPA**
  - **Excluded Spaces**
  - **Included Spaces (any area that is not excluded)**
- **Percent EHPA can be adjusted with concurrence of emergency management agency**
- **Occupant capacity based upon 20 sq.ft./person**

# EHPA Criteria (Cont'd)

- **Included spaces can be:**
  - **in a single large room, or multiple smaller rooms**
  - **on more than one story**
  - **on upper floors of multistory bldgs**
  - **on floor immediately below roof**
  - **in more than one bldg on a campus**

# EHPA Criteria (Cont'd)

- **Plumbing Requirements**
  - **Consult ARC 3041**
  - **1 toilet & sink per 40 occupants**
    - Fixed or portable units acceptable
  - **Showers not required**
  - **Potable water**
    - 1.7 gals per occupant (5 gals/day)
  - **Waste water**
    - 1.7 gals per occupant (5 gals/day)
    - FEMA CPG 1-20 recommends design capacity x 1.50, or 2.5 gals per occupant (7.5 gals/day)

# EHPA Criteria (Cont'd)

- **Food service**
  - **Consult ARC 3041**
    - **Except Dining Areas usable as shelter space**
  - **Countertop for food distribution recommended**
  - **“Bag lunches” or heavy snacks OK**
    - **833 calories per occupant (2,500 calories/day)**
    - **1.2 lbs food per occupant (3½ lbs/day)**

# EHPA Criteria (Cont'd)

- **Structural Standards**
  - **Wind load per ASCE 7 design standard**
  - **Minimum: base wind speed with Category IV importance factor**
  - **Meets ARC 4496 standards**
  - **Recommended: base wind speed plus 40 miles per hour increase**
    - **Achieves “major hurricane” design performance**
  - **DEM recommends Exposure “C”**

# EHPA Criteria (Cont'd)

- **Structural Standards**
  - **Windborne Debris Impact**
    - **Minimum: SBC/SSTD 12 (9 lb @ 34 mph)**
    - **Others: ASTM E 1996 and FBC High Velocity Hurricane Zone TAS 201**
  - **Entire envelope must meet impact standard**
  - **DEM recommends large missile requirement up to 60 ft. above ground**
  - **Enhanced: DOE-STD-1020 (15 lb @ 50 mph)**

# EHPA Criteria (Cont'd)

- **Structural Standards**
  - **Foundation and floor slab**
    - **Floor must be elevated to or above maximum Cat. 4 storm surge**
    - **Elevation determined by SLOSH**
  - **Structural Certifications**
    - **Essential, but rarely available**
    - **Necessary for wind design, impact criteria and EHPA floor elevation**

# EHPA Criteria (Cont'd)

- **Electrical & Emergency Power**
  - **Backup Generator is not required by EHPA criteria**
  - **Generator pre-wiring is required**
    - **Emergency lights, exit signs and fire alarm systems, fresh air ventilation**
    - **Minimum rating is 1½ hours**
  - **No statutory or code requirement for emergency managers to provide back-up generator**

# EHPA Criteria (Cont'd)

- **Emergency Management Considerations**
  - **Shelter manager's office required**
    - **Provision for standby power, lighting, communications, fire alarm panel, and four electrical outlets**
    - **Per ARC 4496, recommend 40 sq.ft./staff and storage**
  - **ARC 3041 recommends additional space allocations**

# Exemption Criteria

- **Location**
  - **Cat. 1, 2 or 3 hurricane evac zones**
  - **Hurricane rainfall or storm surge flooding or isolation**
    - **Closed-basin, riverine, dam or reservoir failure, Cat 4/5 evac zone**
  - **Coastal Barrier Island**
  - **Certain hazmat evac zones**
  - **Low evacuation demand**
  - **Regional surplus of “safe” space capacity (i.e., meets ARC 4496)**

# Exemption Criteria (cont'd)

- **Size**
  - Hurricane shelters range from 50 to several thousand spaces
  - DEM recommends 2,000 sq-ft. minimum; ref: s. 252.385(4)(b), F.S.
- **Other Considerations**
  - Normal function or availability incompatible with public shelter operations
  - Local sheltering plans and strategies

# Exemption Criteria (cont'd)

- **Alterations or maintenance of existing buildings**
  - Remodeling
  - Renovations
  - Maintenance and repairs
- **Certain substantial “remodeling” projects may be appropriate for EHPA criteria**

# **Not Valid Exemptions**

- **Increased cost of construction**
- **“three-mile” exemption**
- **“core facility” confusion**
- **School Infrastructure Thrift (SIT) Program**
- **Certain Charter Schools**

# Responsibilities of Emergency Managers

- **Advocate for “safe” shelter program objectives**
  - **Proactive communications with Board**
- **Provide consultative assistance for compliance with EHPA criteria/code**
  - **Working knowledge of applicable statutes and codes**
- **Accurately quantify shelter capacity space requirements**
  - **Statewide Emergency Shelter Plan**
- **Validate exemption requests**

# **Responsibilities of Emergency Managers**

**Encourage**

**Practical**

**Solutions**



• **QUESTIONS ?**