Appendix D

2019 Shelter Retrofit Project Submittal Form
EMPA Base Grant Task 8.A
Ref: Section 252.385(3), Florida Statutes
2019 SHELTER RETROFIT PROJECT SUBMITTAL FORM
EMPA Base Grant Task 8.A
Ref: Section 252.385(3), Florida Statutes

INSTRUCTIONS

1. The Division’s hurricane shelter retrofit program is generally limited to high wind and flood hurricane-resistance improvements (e.g., ASCE 7 engineering assessments, window and door protection, masonry wall reinforcement, etc.)

2. Please review the following web addresses below before beginning the project identification process.


   https://portal.floridadisaster.org/shelters/External/Archives/ARC4496-Prescriptive-Summary-Table.pdf

   Note all construction deficiencies for individual buildings.

3. Prepare an individual Shelter Retrofit Project Submittal Form for each individual building being evaluated. DO NOT combine several buildings or a campus onto a single submittal form. An Open Plan building that has a common exterior wall and roof system (building envelope) may be considered a single building. If there are significant differences in construction found in the same building (i.e., major addition constructed to a more wind-resistant design), prepare separate forms and indicate structural separation barrier on a sketch.

4. For entries that provide a multiple choice format, choose the response that is “typical” for the individual building being evaluated. For buildings that have multiple construction materials (or characteristics) and cannot be described with a single entry, provide a description (and sketches) of the building. Assume the weakest materials will be a soft spot, and therefore the limiting factor with respect to wind performance.

5. Multiple projects can be submitted for each individual building (e.g., window shuttering, door hardware improvements, gable-end bracing, generator prewiring, etc.). Please describe the tangible benefits that will be provided by each individual project (e.g., 250 additional shelter spaces if shuttering is performed) and a cost estimate for each individual project.

6. The definitions of reinforced and partially reinforced masonry, as needed for both General and Wall Construction Type description, are provided below:

   Partially Reinforced Masonry (PRM) - For 8-inch hollow concrete masonry units (CMU), the maximum spacing of vertical reinforcement (rebar) at exterior walls shall be 8'-0"; 12" CMU rebar can be extended up to 11'-4". Rebar are located at each side of wall openings, corners and wall-to-wall intersections. An alternative to reinforced cell construction is tie-column (or pilaster) and beam systems. For 8-inch CMU, the maximum spacing between tie-columns shall not exceed 13'-6"; 12-inch CMU tie-columns can be extended to 20'-0". Horizontal reinforcement must be present at roof and floor levels, and above and below wall openings. Interior masonry bearing and/or “core area” walls shall meet the same reinforcement requirements as exterior walls.
2019 SHELTER RETROFIT PROJECT SUBMITTAL FORM
INSTRUCTIONS, Cont’d

Reinforced masonry - Reinforced masonry has the same definition as partially reinforced masonry above, except the maximum spacing of the principal vertical reinforcement cannot exceed six (6) times the wall thickness or 4'-0". The presence of tie-columns does not have an effect upon a masonry walls classification as reinforced masonry.

7. For the purposes of this report, standard weight (wgt) concrete will have a minimum density of 100 pounds per cubic foot and minimum compressive strength of 2500 pounds per square inch.

8. These additional budget limitations apply to 2019

9. Shelter Retrofit Report projects:
   a) No more than $500 per general population hurricane evacuation shelter space gained per individual building, or for campuses/sites with multiple buildings, a campus-wide average of no more than about $350 per space; or
   b) A maximum of $350,000 total per facility, excluding Standby Electrical System (SES) work; and,

SES work may be considered separately from hurricane wind and flood retrofit construction. SES is limited to $350,000 total per facility campus/site. (Thus potentially a limit of $350,000 in SES work, plus $350,000 in other construction/structural mitigation work, for a combined total limit of up to $700,000.)
2019 SHELTER RETROFIT PROJECT SUBMITTAL

County: __________________________

Latitude: ______________ Longitude: ________________________________

Facility Name: _____________________________________________

Building Number or ID: _______________________________________

Address: __________________________________________________________________

Current Ownership of Facility: (Public, Private) ______________________________

Is Facility currently used as a high wind shelter? □ Yes □ No

If answer is No, why? ________________________________________

________________________________________________________________________

HURRICANE EVACUATION SHELTER TYPE AND CAPACITY

Is the building proposed to be designated by local Emergency Management (EM) to serve as person(s) with special needs (PSN) public hurricane evacuation risk shelter (SpNS)?

□ Yes □ No

If yes, what is the estimated PSN client space capacity at 60 sq.ft./usable space? __________

Is the building proposed to be designated by local EM to serve as a general population hurricane evacuation risk shelter?

□ Yes □ No

If yes, what is the estimated client space capacity at 20 sq.ft./usable space? __________

Is the building designated by local EM to serve as a pet-friendly hurricane evacuation risk shelter?

□ Yes □ No
Is the proposed facility located in a county recognized to be a multi-county hurricane evacuation risk shelter destination for counties with very limited or no Category 4/5 sheltering options?

Yes ☐ No ☐

If yes, What is the estimated **out-of-county** SpNS client space capacity at 60 sq.ft./usable space?

___________

What is the estimated **out-of-county** general population space capacity at 20 sq.ft./usable space?

___________

Building ownership and availability for use as a public shelter, check only one response as appropriate:

Public Facility/Full Availability ☐

Private Facility/Full Availability ☐

**HURRICANE HAZARD INFORMATION**

If proposed facility has been surveyed by division staff, consultants, or locally acquired architectural/engineering (A/E) or building inspection services, please attach applicable survey report(s) and proceed to Page 9, **SHELTER RETROFIT/MITIGATION PROJECT PROPOSAL**; please check appropriate response.

FLDEM Least-Risk Decision Making (LRDM) report attached ☐

Other A/E survey report or LRDM attached ☐

No LRDM available, please complete **FACILITY DESCRIPTION** below ☐

Facility Name ________________________________

Page 2 of 11
FACILITY DESCRIPTION:

Is the facility located within one mile of the ocean or a large body of water (greater than 1 mile in width or diameter)? □ Yes  □ No

Is the building located on a coastal barrier island? □ Yes  □ No

What is the finished floor elevation (FFE) of the 1st floor of the bldg (above mean sea level)?

FFE __________________________ feet

Is the Facility/Shelter FFE above SLOSH Category 4 landfalling flood inundation? □ Yes  □ No

NFIP Flood (FIRM) Zone that Facility is located within, check appropriate response:

A □  B/X-shaded □  C/X-unshaded □

D □  V □

Is the Facility/Shelter floor elevation above Base Flood Elevation (BFE) flood inundation elevation? □ Yes  □ No

Additional comments concerning flooding issues:

________________________________________

________________________________________

________________________________________

Facility Name _____________________________________  Page ___ of ___

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FACILITY DESCRIPTION, (cont’d):

Construction Year ______________, Major Addition(s) ______________. ______________

Has building been surveyed by structural engineer, architect, construction technician, or other building design & construction specialist?  ☐ Yes ☐ No

Are construction drawings (architectural & structural) and specifications available?  ☐ Yes ☐ No

Structural wind load code or standard used in the design and construction of this facility, check only one response:

☐ SBC or MBMA, Edition 19  ☐ ANSI A58.1-1982

☐ SFBC, Edition 19  ☐ ASCE 7, year

☐ IBC or FBC, Edition  ☐ Other: _______Edition, year _______

General Construction Classification, check only one response:

☐ Light Steel Frame*  ☐ Heavy Steel Frame (I or W section)

☐ Reinforced Concrete Frame  ☐ Reinforced Concrete or Tilt-up Wall

☐ Reinforced Masonry/PRM wall-bearing

*includes Pre-engineered Metal Building (PEMB) Frames.

If not included in above choices, stop here.

If multistory, what is the number of concrete floors elevated above grade? ________
FACILITY DESCRIPTION, (cont'd):

Exterior Wall Construction, check only one response as appropriate:

☐ Reinforced Masonry (Rebar @ 4 ft. o.c. or closer)  ☐ Light Wood or Metal Stud w/ ½”+ wood structural panels

☐ Partially Reinforced Masonry (Reference Instructions 6) (includes EIFS)  ☐ Light Wood or Metal Stud w/ light non-plywood

☐ Unreinforced Masonry (or rebar spacing unknown)  ☐ Glazed Panel or Block

☐ Poured-in-place or Precast Reinforced Concrete (2” min. thick)  ☐ Metal Sheets or panels Light Architectural Panel

Roof Construction, check only one response as appropriate:

☐ Cast-in-place Reinforced Concrete (standard wgt concrete, 3 inch min.)  ☐ Plywood on wood or metal joist or truss

☐ Precast Concrete Panels ("T's", "Double T's", Planks, etc.)  ☐ Wood boards or T & G deck on wood joist or truss

☐ Metal Decking w/ standard wgt concrete (2” min. thick) on steel joist, truss or beam  ☐ Precast Cement-fiber (eg, tectum) panels on wood or metal joist/truss

☐ Other Metal Decking Systems (insulating concrete and/or rigid insulation or other light coverings)  ☐ Poured Gypsum on Formboard Decking on wood or metal joist or truss
FACILITY DESCRIPTION, (cont'd):

What is the roof geometry type, check appropriate response:

☐ Flat or low slope (< 1:12)  ☐ Gable-end  ☐ Hip System

☐ Other ________________________________

Are Roof Eaves/Overhangs (width greater than 2 ft.) present that connect directly to the roof structure?

☐ Yes  ☐ No

Are appropriate loadpath connections present for the building's construction type? (e.g., hurricane clips and straps for wood-frame construction)

☐ Yes  ☐ No

If Parapet(s) are present and roof ponding is a hazard, are emergency overflow scuppers present?

☐ Yes  ☐ No

Are there any tall structures/trees that are close enough and large enough, that if they fell over, they could strike the building with enough force to significantly breach the roof/walls?

☐ Yes  ☐ No

If yes, describe the tree(s) or structures:__________________________________________________________

__________________________________________________________

__________________________________________________________

__________________________________________________________
FACILITY DESCRIPTION, (cont'd):

Describe General Condition of the Building:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Describe other construction features (features that enhance and detract from shelter usage) and/or site specific special hazards (e.g., close proximity debris sources or laydown hazards, etc.) associated with this facility that should be considered by the Division of Emergency Management:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Describe wind or other storm effects damage history of this facility (e.g., severe roof leaks, etc.):

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Facility Name_________________________ Page 7 of 11
FACILITY DESCRIPTION, (cont'd):

NOTE: IF available, please attach completed ARC 6564 or other mass care survey form and proceed to SHELTER RETROFIT/MITIGATION PROJECT PROPOSAL.

Which of the following descriptions best describes the food preparation capabilities of this facility, check appropriate response?

- [ ] Full Kitchen  - [ ] Warming Kitchen  - [ ] Home Ec Clsrn  - [ ] None

Which of the following descriptions best describes the food serving capabilities of this facility, check appropriate response?

- [ ] Restaurant  - [ ] Cafeteria  - [ ] Other ________________________  - [ ] None

Seating Capacity, if known? ________________________ persons

Are sanitary facilities directly accessible from shelter area(s)?

- Toilets: [ ] Yes  - [ ] No
- Showers: [ ] Yes  - [ ] No
- Potable Water: [ ] Yes  - [ ] No

Which of the following best describes the potable water source of this facility), check appropriate response?

- [ ] Public Utility  - [ ] Onsite Well  - [ ] Other ________________________

Which of the following best describes the sanitation utility of this facility), check appropriate response?

- [ ] Public Utility  - [ ] Onsite Septic  - [ ] Other ________________________
SHELTER RETROFIT/MITIGATION PROJECT PROPOSAL

Describe type of project(s) to be undertaken and what impact it will have upon the shelter characteristics of the facility (e.g., shuttering, generator pre-wiring, roof bracing, etc.); indicate the pre and post retrofit shelter capacity and whether the retrofits will only improve the safety of existing spaces; describe what impact the project will have upon the local and regional shelter deficit situation; provide cost estimates (+/- 15%), source of cost estimates, copies of cost estimate takeoffs if available; and, the time period necessary to complete all projects if construction is performed concurrently. Also provide detailed information on availability of other cost-sharing sources (local or other). Attach additional sheets if necessary.

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Impact (safety/capacity)</th>
<th>Cost estimate, $</th>
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Is this project listed in the County’s Local Mitigation Strategy?  

☐ Yes  ☐ No

Estimated project design and/or construction timeline duration?  

__________ Months

Facility Name ________________________________  

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Attachment A

2019 Shelter Retrofit Report Preliminary Budget Worksheet

**Project #1**

**Descriptive Title:**

<table>
<thead>
<tr>
<th>Line</th>
<th>Item Description</th>
<th>Cost Estimate</th>
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<tbody>
<tr>
<td>A</td>
<td>Salary &amp; Benefits</td>
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<td>B</td>
<td>Other Personal/Contractual Services (e.g., Vendor)</td>
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<td>C</td>
<td>A/E Service Fees</td>
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<td><strong>SUB-TOTAL</strong></td>
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<tr>
<td>K</td>
<td>Admin Expenses (5% maximum)</td>
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<td><strong>TOTAL ESTIMATED PROJECT COST</strong></td>
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*-Contingency is limited to 10% unless detailed justification provided.

**Project #2**

**Descriptive Title:**

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<th>Line</th>
<th>Item Description</th>
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