Appendix H: Project Submittal Form and Priority Worksheet

- 1. 2018 Shelter Retrofit Proposal Submittal Form
 - 2. 2018 Project Priority Worksheet

2018 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 ARC 4496 (found in Appendix C, 2016 Shelter Retrofit Report) before beginning the project identification process. The 2017 Shelter Retrofit Report, Appendix C can be found at the following web address:

http://www.floridadisaster.org/Response/engineers/documents/2016SRR/Appd%20C%202016.pdf

The Division's interpretation of the ARC 4496 hurricane safety criteria can be found at the following web address:

 $\underline{http://www.floridadisaster.org/Response/engineers/HES/Manual/ARC4496-Prescriptve-Summary-Table.pdf}$

Note all construction deficiencies with respect to ARC 4496 for individual buildings, and address each deficiency with a corrective action.

- 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 softspot, 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

2018 SHELTER RETROFIT PROJECT SUBMITTAL FORM INSTRUCTIONS, Cont'd

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.

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 2018 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 \$300,000 total per facility, excluding Standby Electrical System (SES) work; and,
 - c) SES work may be considered separately from hurricane wind and flood retrofit construction. SES is limited to \$300,000 total per facility campus/site. (Thus potentially a limit of \$300,000 in SES work, plus \$300,000 in other construction/structural mitigation work, for a combined total limit of up to \$600,000.)

2018 SHELTER RETROFIT PROJECT SUBMITTAL

County:		
Latitude:	Longitude:	
Facility Name:		
Building Number or ID:		
Address:		
Current Ownership of Facility: (F	rublic, Private)	
Is Facility currently used as a hig	n wind shelter?	
If answer is No, why?		
Is the building proposed to be des	SHELTER TYPE AND CAPACITY ignated by local Emergency Management (EM) to serve J) public hurricane evacuation risk shelter (SpNS)?	as
	☐ Yes ☐ No	
If yes, what is the estimated PSN	client space capacity at 60 sq.ft./usable space?	
Is the building proposed to be desevacuation risk shelter?	ignated by local EM to serve as a general population hurn Yes No	ricane
If yes, what is the estimated clien	t space capacity at 20 sq.ft./usable space?	
Is the building designated by loca shelter?	l EM to serve as a pet-friendly hurricane evacuation risk Yes No	
Facility Name	Page 1 of	

If yes, what is	Yes No No the estimated <u>out-of-county</u> SpNS client space capacity at 60 sq.ft./usable space?
	hat is the estimated <u>out-of-county</u> general population space capacity at 20 sable space?
Building owne appropriate:	rship and availability for use as a public shelter, check only one response as
	Public Facility/Full Availability
	Public Facility/Limited Availability
	Private Facility/Full Availability
	Private Facility/Limited Availability
HURRICANE	E HAZARD INFORMATION (ARC 4496 Survey)
architectural/erreport(s) and p	osed facility has been surveyed by division staff, consultants, or locally acquired agineering (A/E) or building inspection services, please attach applicable survey roceed to Page 9, SHELTER RETROFIT/MITIGATION PROJECT 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

FACILITY DESCRIPTION:

Is the facility located within in width or diameter)?	n one mile of the ocean	n or a large body Yes	of water (great	ter than 1 mile
Is the building located on a	coastal barrier island?	? Yes	☐ No	
What is the finished floor e	elevation (FFE) of the	1 st floor of the bl	•	n sea level)? fee
Facility is located in a storn appropriate response:	n surge inundation zoi	ne for <u>landfalling</u>	g or paralleling	scenarios, check
☐ 1/A ☐ :	2/B 3/C	4/D	5/E	☐ None
If applicable, is the inundation?	Facility/Shelter FFE a	bove SLOSH Ca	ategory 4 landfa	alling flood
Facility is located in a storr appropriate response:	n surge inundation zor	ne for exiting sce	enarios (if appli	cable), check
☐ 1/A ☐ :	2/B 3/C	4/D	5/E	☐ None
If applicable, is the or Exiting inundation	Facility/Shelter floor on elevation?	elevation above : Yes	SLOSH Catego	ry 4 Paralleling
NFIP Flood (FIRM) Zone t	that Facility is located	within, check ap	ppropriate respo	onse:
A	B/X-shaded	C/X-unsh	naded D	\square V
If applicable, is the Facility inundation elevation?	/Shelter floor elevatio	n above Base Fl	ood Elevation (BFE) flood
Additional comments conc	erning flooding issues	(e.g., exiting sto	orm surge inund	lation zone):
Facility Name			Page_	of

Constr	ruction Year,	Major Addition	on(s)	,
	nilding been surveyed by structung design & construction special		architec	et, construction technician, or other Yes No
Are co	onstruction drawings (architectu	ıral & structur	al) and	specifications available? Yes No
	ural wind load code or standard ne response:	used in the de	esign an	d construction of this facility, check
	SBC or MBMA, Edition 19			ANSI A58.1-1982
	SFBC, Edition 19			ASCE 7, year
	IBC or FBC, Edition	_		Other, Edition, year
Wind	Design Criteria, if available: wi	ind speed V, _		mph
	$K_d = $ Exposu	re =	_	Enclosure Class, $GC_{pi} = $
Genera	al Construction Classification, o	check only one	e respon	nse:
	Light Steel Frame*		Heavy	Steel Frame (I or W section)
	Reinforced Concrete Frame		Reinfo	orced Concrete or Tilt-up Wall
	Reinforced Masonry/PRM wa	ll-bearing		Unreinforced Masonry wall-bearing
	Heavy Timber or Glulam Fran	me 🗌	Light 1	Metal or Wood Stud wall-bearing
*includ	es Pre-engineered Metal Building (PE	EMB) Frames.		
If mul	tistory, what is the number of <u>c</u> o	oncrete floors	elevate	d above grade?
Facilit	y Name			Page 4 of

Exter	ior Wall Construction, check only one	respon	se as ap	ppropriate:	
	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)		Light Wood or Metal Stud w/ light non-plywood sheathing (includes EIFS)		
	Unreinforced Masonry (or rebar spacing unknown)		Glazed Panel or Block System		
	Poured-in-place or Precast Reinforced Concrete (2" min. thick)		Metal Sheets or panels other Light Architectural Panel Systems		
Perce	nt of exterior wall area comprised of u):	nprotec	cted fen	estrations (e.g., windows,	
				%	
Roof	Construction, check only one response	e as app	ropriate	2:	
	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	
Facili	tv Name			Page 5 of	

What is the roof geometry type, check appro	priat	e response:				
☐ Flat or low slope (< 1:12)		Gable-end		Hip Syste	m	
Other						
Is the Roof Slope greater than 30 degrees (6:	:12)?	Yes		No		N/A
Does the roof have a long span area (span of	grea	ter than 40 ft. bet	weer	n vertical s Yes	uppo:	rts)? No
Are Roof Eaves/Overhangs (width greater th	nan 2	ft.) present that c	onne	ct directly	to th	e roof
structure?				Yes		No
Are appropriate loadpath connections present (e.g., hurricane clips and straps for wood-fra		•	nstru(ction type?)	
		,		Yes		No
If Parapet(s) are present and roof ponding is	a haz	zard, are emergen	cy o	verflow sc Yes	upper	rs present? No
Are there any tall structures/trees that are clothey could strike the building with enough for			_		•	ell over, No
If yes, describe the tree(s) or structures:						
Facility Name				Page_	6	of

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 ____

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 Clsrm ☐ 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
Showers
Potable Water
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
Facility Name Page 8 of

SHELTER RETROFIT/MITIGATION PROJECT PROPOSAL

Describe type of project(s) to be under characteristics of the facility (e.g, she the pre and post retrofit shelter capacities existing spaces; describe what impact deficit situation; provide cost estimate estimate takeoffs if available; and, the construction is performed concurrently other cost-sharing sources (local or of	nuttering, generator pre-wiring, roof ity and whether the retrofits will only the project will have upon the local es (+/- 15%), source of cost estimate time period necessary to complete ly. Also provide detailed information	bracing, etc.); indicate y improve the safety of and regional shelter es, copies of cost all projects if on on availability of
Project Type 1	Impact (safety/capacity)	Cost estimate, \$
2		
3		
Is this project listed in the County's L	Local Mitigation Strategy?	Yes No
If yes, is the project listed by specific	building, or by campus	s only?
Estimated project design and/or const	truction timeline duration?	Months
Facility Name	Page_	<u>9</u> of

Attachment A

2018 Shelter Retrofit Report Preliminary Budget Worksheet

Project #				
	Descriptive Title:			
Line	Item Description	Cost Estimate		
A	Salary & Benefits	\$		
В	Other Personal/Contractual Services (e.g., Vendor)	\$		
С	A/E Service Fees	\$		
D	Expenses	\$		
Е	Operating Capital Outlay	\$		
F	Fixed Capital Outlay	\$		
G		\$		
Н		\$		
I	Contingency (10% maximum*)	\$		
J	SUB-TOTAL	\$		
K	Admin Expenses (5% maximum)	\$		
L	TOTAL ESTIMATED PROJECT COST	\$		

^{*-}Contingency is limited to 10% unless detailed justification provided.

Project #				
	Descriptive Title:			
Line	Item Description	Cost Estimate		
A	Salary & Benefits	\$		
В	Other Personal/Contractual Services (e.g., Vendor)	\$		
С	A/E Service Fees	\$		
D	Expenses	\$		
Е	Operating Capital Outlay	\$		
F	Fixed Capital Outlay	\$		
G		\$		
Н		\$		
I	Contingency (10% maximum*)	\$		
J	SUB-TOTAL	\$		
K	Admin Expenses (5% maximum)	\$		
L	TOTAL ESTIMATED PROJECT COST	\$		

^{*-}Contingency is limited to 10% unless detailed justification provided.

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Facility Name	Page of	
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Attachment A

2018 Shelter Retrofit Report Preliminary Budget Worksheet

Project #			
Descriptive Title:			
Line	Item Description	Cost Estimate	
A	Salary & Benefits	\$	
В	Other Personal/Contractual Services (e.g., Vendor)	\$	
С	A/E Service Fees	\$	
D	Expenses	\$	
Е	Operating Capital Outlay	\$	
F	Fixed Capital Outlay	\$	
G		\$	
Н		\$	
I	Contingency (10% maximum*)	\$	
J	SUB-TOTAL	\$	
K	Admin Expenses (5% maximum)	\$	
L	TOTAL ESTIMATED PROJECT COST	\$	

^{*-}Contingency is limited to 10% unless detailed justification provided.

	Project #		
Descriptive Title:			
Line	Item Description	Cost Estimate	
A	Salary & Benefits	\$	
В	Other Personal/Contractual Services (e.g., Vendor)	\$	
С	A/E Service Fees	\$	
D	Expenses	\$	
Е	Operating Capital Outlay	\$	
F	Fixed Capital Outlay	\$	
G		\$	
Н		\$	
I	Contingency (10% maximum*)	\$	
J	SUB-TOTAL	\$	
K	Admin Expenses (5% maximum)	\$	
L	TOTAL ESTIMATED PROJECT COST	\$	
Conting	gency is limited to 10% unless detailed justification provid	led.	

2018 Shelter Retrofit List Report Project Priority Worksheet

County:	
Building Name/ID:	
Address, City, Zip: _	

	<u>ITEM</u>	MAX POINT	<u>SCORE</u>
1.	Regional General Population Shelter Deficit	(75)	
2.	County General Population Shelter Deficit	(50)	
3.	Regional Special/Medical Needs Shelter Deficit	(30)	
4.	County Special/Medical Needs Shelter Deficit	(20)	
5.	Recognized Multi-County Risk Shelter Destination	(50)	
6.	The Building is a Designated Risk Special/Medical Needs Sl	helter (25)	
7.	The Building is a Designated Risk Pet-Friendly Shelter	(25)	
8.	Building Ownership and Availability	(50)	
9.	Flood & Building Design and Construction Criteria	(125)	
10.	Numerical Increase in Risk Shelter Capacity	(75)	
11.	Structural Envelope & Essential Equipment Protection	(50)	
12.	Cost-Effectiveness Considerations	(50)	
13.	Project Specified in Local Mitigation Strategy	(50)	
14.	Project Engineering and/or Construction Timeline/Duration	(25)	
	TOTAL POINT	TS (700)	

H - 14

	sed project is located within a region with a General Populatik shelter space deficit (Maximum: 75 points):	ion hurri	cane
	Regional shelter capacity is less than 10 sf per space	(75)	
	Regional shelter capacity 10 – 14.9 sf per space	(60)	
	Regional shelter capacity 15 – 19.9 sf per space	(40)	
	Regional shelter capacity 20 – 30 sf per space	(15)	
	Regional shelter capacity is more than 30 sf per space	(0)	
	sed project is located within a county with a General Populat k shelter space deficit (Maximum 50 Points ¹):	ion hurri	icane
	County shelter capacity is less than 10 sf per space	(50)	
	County shelter capacity 10 – 14.9 sf per space	(40)	
	County shelter capacity 15 – 19.9 sf per space	(25)	
	County shelter capacity 20 – 30 sf per space	(10)	
	County shelter capacity is more than 30 sf per space	(0)	
¹ – Fisc points	ally-constrained counties may receive a 5-point preference in score, but	not exceed	l total of 50
	sed project is located within a region with a Special/Medical cane evacuation risk shelter space deficit (Maximum: 30 poir		helter
	Regional shelter capacity is less than 30 sf per space	(30)	
	Regional shelter capacity 30 – 39.9 sf per space	(25)	
	Regional shelter capacity 40 – 59.9 sf per space	(15)	
	Regional shelter capacity $60 - 80$ sf per space	(10)	
	Regional shelter capacity is more than 80 sf per space	(0)	

4. shelter		sed project is located within a county with a <u>SpNS</u> hu deficit (Maximum: 20 points ²):	rricane	e evacua	ition risk
		County shelter capacity is less than 30 sf per space		(20)	
		County shelter capacity 30 – 39.9 sf per space		(15)	
		County shelter capacity 40 – 59.9 sf per space		(10)	
		County shelter capacity $60 - 80$ sf per space		(5)	
		County shelter capacity is more than 80 sf per space		(0)	
	² – Fisc points	cally-constrained counties may receive a 5-point preference in sc	ore, but	t not exce	ed total of 20
	county	sed retrofit project's building is located in a county th hurricane evacuation risk shelter destination for count sheltering options (Maximum 50 Points):			
		Destination county with 301+ dedicated multi-count	y SpN	S space	s
				(50)	
		Destination county with 51 – 300 dedicated multi-co	ounty S	SpNS sp	vaces
				(35)	
		Destination county with dedicated multi-county Ger limited multi-county SpNS spaces (< 51 dedicated S			on-only and/or
		Not a recognized multi-county shelter destination		(0)	
6. (Maxii		building designated by local EM to serve as a hurrical 5 Points):	ne eva	cuation	risk <u>SpNS</u> ?
(ινιαχιι		of Cints).	Yes	(25)	
			No	(0)	

7. Is the building designated by local EM to serve as a hurricane evacuration Friendly Shelter? (Maximum 25 Points):			cuation 1	risk Pet-	
	Tricine	·	Yes	(25)	
			No	(0)	
8.	Buildi	ng ownership and availability for use as a public shelt	er (M	aximum	50 Points):
		Public Facility/Full Availability		(50)	
		Public Facility/Limited Availability		(25)	
		Private Facility/Full Availability		(15)	
		Private Facility/Limited Availability		(0)	
9.		ng facility is demonstrated to address ARC 4496 hurrimum 125 Points):	cane-a	associate	d criteria
	A.	Surge Inundation/SLOSH Considerations			
		Outside landfalling Cat 5 storm surge zone		(25)	
		Inside landfalling Cat 4/5 storm surge zone, and floor above Cat 5 maximum inundation elevation		(15)	
		Inside landfalling Cat 3 or lower storm surge zone, a floor above Cat 5 maximum inundation elevation	nd	(5)	
		Inside landfalling Cat 3 or lower storm surge zone, a floor below Cat 5 maximum inundation elevation	nd/or	(0)	
	B.	Rainfall Flooding/NFIP FIRM Review Consideration	<u>ns</u>		
		FIRM Zones C, D or unshaded-X		(25)	
		FIRM Zone B, BE or shaded-X		(15)	
		FIRM Zone A, AE, AH or A##		(5)	
		FIRM Zone V, VE, Coastal A or SFHA		(0)	

C.	High Winds/Type of Construction			
	High Wind Resistant/Heavy Construction (preferred)	(25)		
	Moderate Hurricane Resistance (less preferred)	(15)		
	Some Hurricane Resistance (marginal)	(5)		
	Light Construction/Info not available	(0)		
D.	Building's Structural Design, Wind Code Year			
	2003 – present	(50)		
	1995 – 2002	(25)		
	1989 – 1994	(10)		
	Prior to 1989	(0)		
10. Numerical increase ³ in shelter capacity due to proposed retrofit project (Maximum 75 Points):				
	501 or greater additional spaces	(75)		
	301 – 500 additional spaces	(50)		
	151 – 300 additional spaces	(25)		
	51 – 150 additional spaces	(10)		
	1 – 50 additional spaces	(5)		
	No increase in hurricane shelter capacity	(0)		

³ – For SpNS to GP equivalence, multiply numerical capacity increase by a factor of three (3).

11.	Structural Envelope & Essential Equipment Protection-ONLY Project(s) (Maximum 50 Points):		
	Fenestration protection-only (windows, doors, etc.) required	(50)	
	Fenestration protection and engineer certifications-only required	(25)	
	Genset/Standby Electric System/MEP protection enclosure-only	(10)	,
	More structural work than described above	(0)	
12.	Cost-effectiveness ⁴ of project(s) (Maximum 50 Points):		
	\$99 average total cost or less per shelter space	(50)	
	\$100 to \$199 average total cost per shelter space	(40)	
	\$200 to \$349 average total cost per shelter space	(25)	
	\$350 to \$500 average total cost per shelter space	(10)	
	In excess of \$500 average total cost per shelter space	(0)	
	⁴ – For SpNS to GP equivalence, multiply numerical cost per space by a factor	of three (3	3).
13.	Project Specified in Local Mitigation Strategy (Maximum 50 Poir	nts):	
	Specific Campus & Building(s) referenced in LMS	(50)	
	Specific Campus/Complex-Only referenced in LMS	(35)	
	General Reference to Reduction in Shelter Deficit or Hurricane Shelter Safety Improvements in LMS	(10)	
	No Specific applicable references to project(s) in LMS	(0)	

14.	Proposed retrofit project's design, engineering and/or construction timeline/duration
(Maxir	um 25 Points):

Less than 12 months	(25)
12 – 18 months	(15)
	(13)
19 – 24 months	(5)
Greater than 24 months or Timeline Not Available	(0)