
ENVIRONMENTAL APPENDIX

MIAMI-DADE COUNTY BACK BAY COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY

MIAMI-DADE COUNTY, FLORIDA

APPENDIX D



**U.S. Army Corps
of Engineers
Norfolk District**

**MIAMI-DADE COUNTY BACK BAY COASTAL
STORM RISK MANAGEMENT PROJECT**

**Fish Species with the Potential to
Occur in the Region of Influence**

**Norfolk District
803 Front Street
Norfolk, Virginia 23510**



**U.S. Army Corps
of Engineers
Norfolk District**

Grouping	Common Name	Scientific Name
Anchovies	Bay Anchovy	Anchoa mitchilli
	Big-Eye Anchovy	Anchoa lamprotaenia
	Flat Anchovy	Anchoviella perfasciata
	Narrow Striped Anchovy	Anchoa colonensis
	Striped Anchovy	Anchoa hepsetus
Angelfishes	Blue Angelfish	Holacanthus bermudensis
	Cherubfish	Centropyge argi
	French Angelfish	Pomacanthus paru
	Gray Angelfish	Pomacanthus arcuatus
	Queen Angelfish	Holacanthus ciliaris
	Rock Beauty	Holacanthus tricolor
	Townsend Angelfish Hybrid	Holacanthus bermudensis X ciliaris
Barracudas	Great Barracuda	Sphyraena barracuda
	Guaguanche	Sphyraena guachancho
	Northern Sennet	Sphyraena borealis
	Southern Sennet	Sphyraena picudilla
Batfishes	Longnose Batfish	Ogcocephalus corniger
	Polka-Dot Batfish	Ogcocephalus cubifrons
	Shortnose Batfish	Ogcocephalus nasutus
Bigeyes	Bigeye	Priacanthus arenatus
	Glasseye Snapper	Heteropriacanthus cruentatus
	Short Bigeye	Pristigenys alta
Billfishes	Atlantic Blue Marlin	Makaira nigricans
	Sailfish	Istiophorus albicans
	Swordfish, Broadbill	Xiphias gladius
	White Marlin	Tetrapturus albidus
Blennies	Banded Blenny	Paraclinus fasciatus
	Barred Blenny	Hyleurochilus bermudensis
	Blackfin Blenny	Paraclinus nigripinnis
	Blackhead Blenny	Emblemariopsis bahamensis
	Bluethroat Pikeblenny	Chaenopsis ocellata
	Checkered Blenny	Starksia ocellata
	Coral Blenny	Paraclinus cingulatus

Grouping	Common Name	Scientific Name
	Darkheaded Blenny	Emblemariopsis sp.
	Downy Blenny	Labrisomus kalisheræ
	Eelgrass Blenny	Stathmonotus stahli
	Feather Blenny	Hypsoblennius hentz
	Florida Blenny	Chasmodes saburrae
	Freckled Blenny	Hypsoblennius ionthas
	Goldline Blenny	Malacoctenus aurolineatus
	Hairy Blenny	Labrisomus nuchipinnis
	Horned Blenny	Paraclinus grandicomis
	Longfin Blenny	Labrisomus haitiensis
	Marbled Blenny	Paraclinus marmoratus
	Mimic Blenny	Labrisomus guppyi
	Molly Miller	Scartella cristata
	Oyster Blenny	Hypleurochilus aequipinnis
	Papillose Blenny	Acanthemblemaria chaplini
	Pearl Blenny	Entomacrodus nigricans
	Pinkeye Blenny	PINKEYE BLENNY
	Puffcheek Blenny	Labrisomus bucciferus
	Redeye Triplefin	Enneanectes pectoralis
	Redlip Blenny	Ophioblennius atlanticus
	Rosy Blenny	Malacoctenus macropus
	Roughhead Blenny	Acanthemblemaria aspera
	Saddled Blenny	Malacoctenus triangulatus
	Sailfin Blenny	Emblemaria pandionis
	Seaweed Blenny	Parablennius marmoreus
	Spinyhead Blenny	Acanthemblemaria spinosa
	Spotcheek Blenny	Labrisomus nigricinctus
	Surf Blenny	Paraclinus naeorhegmis
	Tessellated Blenny	Hypsoblennius invemar
	Wrasse Blenny	Hemiemblemaria simula
	Yellowface Pikeblenny	Chaenopsis limbaughi
Bluefishes	Bluefish	Pomatomus saltatrix
	Bonefish	Albula vulpes
Bonnetmouths	Boga	Inermia vittata

Grouping	Common Name	Scientific Name
	Bonnetmouth	Emmelichthys atlanticus
Bowfins	Bowfin	Amia calva
Boxfishes	Honeycomb Cowfish	Acanthostracion polygonius
	Scrawled Cowfish	Acanthostracion quadricornis
	Smooth Trunkfish	Lactophrys triqueter
	Spotted Trunkfish	Lactophrys bicaudalis
	Trunkfish	Lactophrys trigonus
Bullheads	Brown Bullhead	Ameiurus nebulosus
	Yellow Bullhead	Ameiurus natalis
Butterflyfishes	Banded Butterflyfish	Chaetodon striatus
	Foureye Butterflyfish	Chaetodon capistratus
	Reef Butterflyfish	Chaetodon sedentarius
	Spotfin Butterflyfish	Chaetodon ocellatus
Cardinalfishes	Barred Cardinalfish	Apogon binotatus
	Belted Cardinalfish	Apogon townsendi
	Blackfin Cardinalfish	Astrapogon puncticulatus
	Bridle Cardinalfish	Apogon aurolineatus
	Bronze Cardinalfish	Astrapogon alutus
	Conchfish	Astrapogon stellatus
	Dusky Cardinalfish	Phaeoptyx pigmentaria
	Flamefish	Apogon maculatus
	Freckled Cardinalfish	Phaeoptyx conklini
	Mimic Cardinalfish	Apogon phenax
	Pale Cardinalfish	Apogon planifrons
	Sawcheek Cardinalfish	Apogon quadrisquamatus
	Sponge Cardinalfish	Phaeoptyx xenus
	Twospot Cardinalfish	Apogon pseudomaculatus
Whitestar Cardinalfish	Apogon lachneri	
Carps and Minnows	Coastal Shiner	Notropis petersoni
	Flagfish, American Flagfish	Jordanella floridae
	Golden Shiner	Notemigonus crysoleucas
	Goldspotted Killifish	Floridichthys carpio
	Grass Carp*	Ctenopharyngodon idella
	Sheepshead Minnow	Cyprinodon variegatus

Grouping	Common Name	Scientific Name
Catfishes	Gafftopsail Catfish	Bagre marinus
	Hardhead Catfish	Ariopsis felis
	Orinoco Sailfin Catfish*	Pterygoplichthys multiradiatus
	Spotted Driftfish	Ariomma regulus
	Walking Catfish, Clarias Catfish*	Clarias batrachus
Chubs	Bermuda Chub	Kyphosus sectator
	Yellow Chub	Kyphosus incisor
Cichlids	African Jewelfish*	Hemichromis letourneuxi
	Black Acara*	Cichlasoma bimaculatum
	Blue Tilapia*	Oreochromis aureus
	Jaguar Cichlid*	Parachromis managuensis
	Jewel Cichlid*	Hemichromis letourneauxi
	Mayan Cichlid *	Cichlasoma urophthalmus
	Midas Cichlid*	Amphilophus citrinellum
	Mozambique Tilapia*	Oreochromis mossambicus
	Oscar*	Astronotus ocellatus
	Peacock Cichlid, Butterfly Peacock Bass*	Cichla ocellaris
	Spotted Tilapia*	Tilapia mariae
Clingfishes	Emerald Clingfish	Acyrtops beryllinus
	Skilletfish	Gobiesox strumosus
Cobias	Cobia	Rachycentron canadum
Cornetfishes	Bluespotted Cornetfish	Fistularia tabacaria
	Red Cornetfish	Fistularia petimba
Cusk-eels	Blackedge Cusk-Eel	Lepophidium brevibarbe
	Blotched Cusk-Eel	Ophidion grayi
	Dusky Cusk-Eel	Parophidion schmidti
	Redfin Brotula	Petrotyx sanguineus
Damselfishes	Beaugregory	Stegastes leucostictus
	Bicolor Damselfish	Stegastes partitus
	Blue Chromis	Chromis cyanea
	Brown Chromis	Chromis multilineata
	Cocoa Damselfish	Stegastes variabilis
	Longfin Damselfish	Stegastes diencaeus

Grouping	Common Name	Scientific Name
	Night Sergeant	Abudefduf taurus
	Purple Reef-Fish	Chromis scotti
	Sergeant Major	Abudefduf saxatilis
	Sunshinefish	Chromis insolata
	Threespot Damselfish	Stegastes planifrons
	Yellowtail Damselfish	Microspathodon chrysurus
	Yellowtail Reeffish	Chromis enchrysurus
Dolphinfishes	Dolphin	Coryphaena hippurus
	Pompano Dolphin	Coryphaena equiselis
Dragonets	Lancer Dragonet	Paradiplogrammus bairdi
	Spotted Dragonet	Diplogrammus pauciradiatus
Driftfishes	Freckled Driftfish	Psenes cyanophrys
	Man-Of-War Fish	Nomeus gronovii
	Silver Driftfish	Psenes maculatus
Drums	Atlantic Croaker	Micropogonias undulatus
	Blue Croaker	Bairdiella batabana
	Cubbyu	Pareques umbrosus
	High-Hat	Pareques acuminatus
	Jackknife Fish	Equetus lanceolatus
	Red Drum	Sciaenops ocellatus
	Reef Croaker	Odontoscion dentex
	Sand Seatrout	Cynoscion arenarius
	Silver Perch	Bairdiella chrysoura
	Southern Kingfish, Jewsharp Drummer	Menticirrhus americanus
	Spot	Leiostomus xanthurus
	Spotted Drum	Equetus punctatus
	Spotted Seatrout	Cynoscion nebulosus
	Weakfish, Gray Trout, Sea Trout	Cynoscion regalis
Eels	American Eel	Anguilla rostrata
	Blackedge Moray	Gymnothorax nigromarginatus
	Brown Garden Eel	Heteroconger longissimus
	Chain Moray	Echidna catenata
	Conger Eel	Conger oceanicus

Grouping	Common Name	Scientific Name
	False Moray	Kaupichthys hyoproroides
	Goldentail Moray	Gymnothorax miliaris
	Goldspotted Eel	Myrichthys ocellatus
	Green Moray	Gymnothorax funebris
	Honeycomb Moray	Gymnothorax saxicola
	Key Worm Eel	Ahlia egmontis
	Manytooth Conger	Conger triporiceps
	Margintail Conger	Paraconger caudilimbatus
	Palespotted Eel	Ophichthus puncticeps
	Purplemouth Moray	Gymnothorax vicinus
	Reticulate Moray	Muraena retifera
	Seagrass Eel	Chilorhinus suensonii
	Sharptail Eel	Myrichthys breviceps
	Shrimp Eel	Ophichthus gomesii
	Speckled Worm Eel	Myrophis punctatus
	Spotted Moray	Gymnothorax moringa
	Spotted Snake Eel	Ophichthus ophis
	Viper Moray	Enchelycore nigricans
Filefishes	Barred Filefish	Cantherhines dumerillii
	Fringed Filefish	Monacanthus ciliatus
	Orange Filefish	Aluterus schoepfii
	Orangespotted Filefish	Cantherhines pullus
	Planehead Filefish	Stephanolepis hispida
	Pygmy Filefish	Stephanolepis setifer
	Scrawled Filefish	Aluterus scriptus
	Slender Filefish	Monacanthus tuckeri
	Unicorn Filefish	Aluterus monoceros
	Whitespotted Filefish	Cantherhines macrocerus
Flatfishes (Flounders, Soles and Whiffs)	Anglefin Whiff	Citharichthys gymnorhinus
	Bay Whiff	Citharichthys spilopterus
	Black Brotula	Stygnobrotula latebricola
	Blackcheek Tonguefish	Symphurus plagiusa
	Caribbean Tonguefish	Symphurus arawak
	Channel Flounder	Syacium micrurum

Grouping	Common Name	Scientific Name
	Dusky Flounder	<i>Syacium papillosum</i>
	Eyed Flounder	<i>Bothus ocellatus</i>
	Gulf Flounder	<i>Paralichthys albigutta</i>
	Hogchoker	<i>Trinectes maculatus</i>
	Horned Whiff	<i>Citharichthys cornutus</i>
	Key Brotula	<i>Ogilbia cayorum</i>
	Lined Sole	<i>Achirus lineatus</i>
	Naked Sole	<i>Gymnachirus melas</i>
	Offshore Tonguefish	<i>Symphurus civitatum</i>
	Peacock Flounder	<i>Bothus lunatus</i>
	Pygmy Tonguefish	<i>Symphurus nebulosus</i>
	Sand Whiff	<i>Citharichthys arenaceus</i>
	Scrawled Sole	<i>Trinectes inscriptus</i>
	Spottail Tonguefish	<i>Symphurus urospilus</i>
	Spotted Whiff	<i>Citharichthys macrops</i>
Twospot Flounder	<i>Bothus robinsi</i>	
Flyingfishes	Atlantic Flyingfish	<i>Cheilopogon melanurus</i>
	Blackwing Flyingfish	<i>Hirundichthys rondeletii</i>
	Bluntnose Flyingfish	<i>Prognichthys occidentalis</i>
	Clearwing Flyingfish	<i>Cypselurus comatus</i>
	Fourwing Flyingfish	<i>Hirundichthys affinis</i>
	Mirrorwing Flyingfish	<i>Hirundichthys speculiger</i>
	Oceanic Two-Wing Flyingfish	<i>Exocoetus obtusirostris</i>
	Sailfin Flyingfish	<i>Parexocoetus brachypterus</i>
	Spotfin Flyingfish	<i>Cheilopogon furcatus</i>
Frogfishes	Dwarf Frogfish	<i>Antennarius pauciradiatus</i>
	Longlure Frogfish	<i>Antennarius multiocellatus</i>
	Ocellated Frogfish	<i>Antennarius ocellatus</i>
	Sargassumfish	<i>Histrio histrio</i>
	Singlespot Frogfish	<i>Antennarius radiosus</i>
	Striated Frogfish	<i>Antennarius striatus</i>
Gars	Florida Gar	<i>Lepisosteus platyrhincus</i>
Goatfishes	Spotted Goatfish	<i>Pseudupeneus maculatus</i>
	Yellow Goatfish	<i>Mulloidichthys martinicus</i>

Grouping	Common Name	Scientific Name
Gobies	Banner Goby	Microgobius microlepis
	Barfin Goby	Coryphopterus alloides
	Bartail Goby	Coryphopterus thrix
	Bearded Goby	Barbulifer ceuthoecus
	Bluegold Goby	Lythrypnus spilus
	Bridled Goby	Coryphopterus glaucofraenum
	Clown Goby	Microgobius gulosus
	Code Goby	Gobiosoma robustum
	Colon Goby	Coryphopterus dicrus
	Convict Goby	Lythrypnus phorellus
	Crested Goby	Lophogobius cyprinoides
	Dash Goby	Ctenogobius saepepallens
	Freshwater Goby	Ctenogobius shufeldti
	Frillfin Goby	Bathygobius soporator
	Glass Goby	Coryphopterus hyalinus
	Goldspot Goby	Gnatholepis thompsoni
	Highfin Goby	Gobionellus oceanicus
	Island Frillfin	Bathygobius mystacium
	Lyre Goby	Evorthodus lyricus
	Masked Goby	Coryphopterus personatus
	Naked Goby	Gobiosoma bosc
	Neon Goby	Elacatinus oceanops
	Notchtongue Goby	Bathygobius curacao
	Orangespotted Goby	Nes longus
	Pallid Goby	Coryphopterus eidolon
	Peppermint Goby	Coryphopterus lipernes
	Rockcut Goby	Gobiosoma grosvenori
	Rusty Goby	Priolepis hipoliti
	Seminole Goby	Microgobius carri
	Sharknose Goby	Elacatinus evelynae
	Sharpnose Goby, Sharknose Goby	Elacatinus evelynae
	Spotfin Goby	Oxyurichthys stigmaliophius
Spottail Goby	Ctenogobius stigmaturus	

Grouping	Common Name	Scientific Name
	Spotted Goby	<i>Coryphopterus punctipectophorus</i>
	Tiger Goby	<i>Elacatinus macrodon</i>
	Venezuela Goby	<i>Coryphopterus venezuelae</i>
	Yellowline Goby	<i>Elacatinus horsti</i>
	Yellownose Goby	<i>Elacatinus randalli</i>
Groupers and Seabasses	Banded Hamlet	<i>Hypoplectrus puella</i>
	Barred Hamlet	<i>Hypoplectrus puella</i>
	Black Grouper	<i>Mycteroperca bonaci</i>
	Black Hamlet	<i>Hypoplectrus nigricans</i>
	Blue Hamlet	<i>Hypoplectrus gemma</i>
	Butter Hamlet	<i>Hypoplectrus unicolor</i>
	Chalk Bass	<i>Serranus tortugarum</i>
	Coney	<i>Cephalopholis fulva</i>
	Creole-Fish	<i>Paranthias furcifer</i>
	Dwarf Sand Perch	<i>Diplectrum bivittatum</i>
	Freckled Soapfish	<i>Rypticus bistrispinus</i>
	Gag Grouper	<i>Mycteroperca microlepis</i>
	Graysby	<i>Cephalopholis cruentata</i>
	Harlequin Bass	<i>Serranus tigrinus</i>
	Indigo Hamlet	<i>Hypoplectrus indigo</i>
	Jewfish, Goliath Grouper	<i>Epinephelus itajara</i>
	Lantern Bass	<i>Serranus baldwini</i>
	Marbled Grouper	<i>Dermatolepis inermis</i>
	Mutton Hamlet	<i>Alphestes afer</i>
	Nassau Grouper	<i>Epinephelus striatus</i>
	Panther Grouper, Humpback Grouper*	<i>Chromileptes altivelis</i>
	Peppermint Bass	<i>Liopropoma rubre</i>
	Red Grouper	<i>Epinephelus morio</i>
	Red Hind	<i>Epinephelus guttatus</i>
	Reef Bass	<i>Pseudogramma gregoryi</i>
Rock Hind	<i>Epinephelus adscensionis</i>	
Sand Perch	<i>Diplectrum formosum</i>	
Scamp	<i>Mycteroperca phenax</i>	

Grouping	Common Name	Scientific Name
	Shy Hamlet, Golden Hamlet	<i>Hypoplectrus guttavarius</i>
	Snowy Grouper	<i>Epinephelus niveatus</i>
	Tan Hamlet	<i>Hypoplectrus tann</i>
	Tiger Grouper	<i>Mycteroperca tigris</i>
	Tobacco Fish	<i>Serranus tabacarius</i>
	Wrasse Bass	<i>Liopropoma eukrines</i>
	Yellowbelly Hamlet	<i>Hypoplectrus aberrans</i>
	Yellowedge Grouper	<i>Epinephelus flavolimbatus</i>
	Yellowfin Grouper	<i>Mycteroperca venenosa</i>
	Yellowmouth Grouper	<i>Mycteroperca interstitialis</i>
	Yellowtail Hamlet	<i>Hypoplectrus chlorurus</i>
Grunts	Black Margate	<i>Anisotremus surinamensis</i>
	Bluestriped Grunt	<i>Haemulon sciurus</i>
	Caesar Grunt	<i>Haemulon carbonarium</i>
	Cottonwick	<i>Haemulon melanurum</i>
	French Grunt	<i>Haemulon flavolineatum</i>
	Margate	<i>Haemulon album</i>
	Pigfish	<i>Orthopristis chrysoptera</i>
	Porkfish	<i>Anisotremus virginicus</i>
	Sailors Choice	<i>Haemulon parra</i>
	Smallmouth Grunt	<i>Haemulon chrysargyreum</i>
	Spanish Grunt	<i>Haemulon macrostomum</i>
	Striped Grunt	<i>Haemulon striatum</i>
	Tomtate	<i>Haemulon aurolineatum</i>
White Grunt	<i>Haemulon plumierii</i>	
Hakes	Spotted Hake	<i>Urophycis regia</i>
Halfbeaks	Atlantic Silverstripe Halfbeak	<i>Hyporhamphus unifasciatus</i>
	Balao	<i>Hemiramphus balao</i>
	Ballyhoo	<i>Hemiramphus brasiliensis</i>
	False Silverstripe Halfbeak	<i>Hyporhamphus meeki</i>
	Flying Halfbeak	<i>Eoleptoamphus velox</i>
	Hardhead Halfbeak	<i>Chriodorus atherinoides</i>
Hawkfishes	Redspotted Hawkfish	<i>Amblycirrhitus pinos</i>
Headstanders	Banded Leporinus*	<i>Leporinus fasciatus</i>

Grouping	Common Name	Scientific Name
Herrings, Menhaden, Sardines and Shad	American Gizzard Shad	<i>Dorosoma cepedianum</i>
	Atlantic Thread Herring	<i>Opisthonema oglinum</i>
	Dwarf Herring	<i>Jenkinsia lamprotaenia</i>
	False Pilchard	<i>Harengula clupeola</i>
	Little-Eye Herring	<i>Jenkinsia majua</i>
	Redear Sardine	<i>Harengula humeralis</i>
	Scaled Sardine	<i>Harengula jaguana</i>
	Spanish Sardine	<i>Sardinella aurita</i>
	Yellowfin Menhaden	<i>Brevoortia smithi</i>
Jacks	African Pompano, Threadfin	<i>Alectis ciliaris</i>
	Almaco Jack	<i>Seriola rivoliana</i>
	Atlantic Bumper	<i>Chloroscombrus chrysurus</i>
	Atlantic Moonfish	<i>Selene setapinnis</i>
	Banded Rudderfish	<i>Seriola zonata</i>
	Bar Jack	<i>Caranx ruber</i>
	Bigeye Scad	<i>Selar crumenophthalmus</i>
	Blue Runner	<i>Caranx crysos</i>
	Bluntnose Jack	<i>Hemicaranx amblyrhynchus</i>
	Crevalle Jack	<i>Caranx hippos</i>
	Florida Pompano	<i>Trachinotus carolinus</i>
	Greater Amberjack	<i>Seriola dumerili</i>
	Horse-Eye Jack	<i>Caranx latus</i>
	Leatherjacket	<i>Oligoplites saurus</i>
	Lesser Amberjack	<i>Seriola fasciata</i>
	Lookdown	<i>Selene vomer</i>
	Mackerel Scad	<i>Decapterus macarellus</i>
	Palometa	<i>Trachinotus goodei</i>
	Permit	<i>Trachinotus falcatus</i>
	Pilotfish	<i>Naucrates ductor</i>
Rainbow Runner	<i>Elagatis bipinnulata</i>	
Round Scad	<i>Decapterus punctatus</i>	
Yellow Jack	<i>Carangoides bartholomaei</i>	
Jawfishes	Banded Jawfish	<i>Opistognathus macrognathus</i>
	Dusky Jawfish	<i>Opistognathus whitehursti</i>

Grouping	Common Name	Scientific Name
	Mottled Jawfish	Opistognathus maxillosus
	Spotfin Jawfish	Opistognathus robinsi
	Yellowhead Jawfish	Opistognathus aurifrons
	Yellowhead Jawfish	Opistognathus aurifrons
Killifishes	Bluefin Killifish, Blue-Fintop Minnow	Lucania goodei
	Diamond Killifish	Adinia xenica
	Golden Topminnow	Fundulus chrysotus
	Gulf Killifish	Fundulus grandis
	Longnose Killifish	Fundulus similis
	Mangrove Rivulus	Rivulus marmoratus
	Marsh Killifish	Fundulus confluentus
	Rainwater Killifish	Lucania parva
	Seminole Killifish	Fundulus seminolis
Ladyfishes	Ladyfish	Elops saurus
Livebearers	Dwarf Livebearer, Least Killifish	Heterandria formosa
	Eastern Mosquitofish	Gambusia holbrooki
	Mangrove Gambusia	Gambusia rhizophorae
	Mosquitofish	Gambusia affinis
	Pike Killifish, Piketop Minnow	Belonesox belizanus
	Sailfin Molly	Poecilia latipinna
Lizardfishes	Inshore Lizardfish	Synodus foetens
	Red Lizardfish	Synodus synodus
	Sand Diver	Synodus intermedius
	Snakefish	Trachinocephalus myops
Mackerels, Tunas, and Bonitos	Atlantic Bonito	Sarda sarda
	Bigeye Tuna	Thunnus obesus
	Blackfin Tuna	Thunnus atlanticus
	Bullet Mackerel	Auxis rochei
	Cero, Painted Mackerel	Scomberomorus regalis
	King Mackerel	Scomberomorus cavalla
	Little Tuna, False Albacore, Little Tunny	Euthynnus alletteratus

Grouping	Common Name	Scientific Name
	Spanish Mackerel, Atlantic Spanish Mackerel	<i>Scomberomorus maculatus</i>
	Striped Tuna, Skipjack, Oceanic Bonito	<i>Katsuwonus pelamis</i>
	Wahoo	<i>Acanthocybium solandri</i>
	Yellowfin Tuna	<i>Thunnus albacares</i>
Mojarras	Flagfin Mojarra	<i>Eucinostomus melanopterus</i>
	Irish Pompano	<i>Diapterus auratus</i>
	Longfinned Silverbidy, Mottled Mojarra	<i>Ulaema lefroyi</i>
	Silver Jenny	<i>Eucinostomus gula</i>
	Slender Mojarra	<i>Eucinostomus jonesii</i>
	Spotfin Mojarra	<i>Eucinostomus argenteus</i>
	Tidewater Mojarra	<i>Eucinostomus harengulus</i>
Yellowfin Mojarra	<i>Gerres cinereus</i>	
Moorish Idols	Moorish Idol*	<i>Zanclus cornutus</i>
Mulletts	Liza	<i>Mugil liza</i>
	Striped Mullet	<i>Mugil cephalus</i>
	Whirligig Mullet	<i>Mugil gyrans</i>
	White Mullet	<i>Mugil curema</i>
Needlefishes	Agujon	<i>Tylosurus acus</i>
	Atlantic Needlefish	<i>Strongylura marina</i>
	Flat Needlefish	<i>Ablennes hians</i>
	Houndfish	<i>Tylosurus crocodilus</i>
	Keeltail Needlefish	<i>Platybelone argalus</i>
	Redfin Needlefish	<i>Strongylura notata</i>
	Timucu	<i>Strongylura timucu</i>
Ocean Sunfishes	Ocean Sunfish	<i>Mola mola</i>
Parrotfishes	Blue Parrotfish	<i>Scarus coeruleus</i>
	Bluelip Parrotfish	<i>Cryptotomus roseus</i>
	Bucktooth Parrotfish	<i>Sparisoma radians</i>
	Emerald Parrotfish	<i>Nicholsina usta</i>
	Greenblotch Parrotfish	<i>Sparisoma atomarium</i>
	Midnight Parrotfish	<i>Scarus coelestinus</i>
	Princess Parrotfish	<i>Scarus taeniopterus</i>

Grouping	Common Name	Scientific Name
	Queen Parrotfish	Scarus vetula
	Rainbow Parrotfish	Scarus guacamaia
	Redband Parrotfish	Sparisoma aurofrenatum
	Redfin Parrotfish, Yellowtail Parrotfish	Sparisoma rubripinne
	Redtail Parrotfish	Sparisoma chrysopterus
	Stoplight Parrotfish	Sparisoma viride
	Striped Parrotfish	Scarus iseri
	Yellowtail Parrotfish	Sparisoma rubripinne
Pearlfishes	Pearlfish	Carapus bermudensis
Perches	Swamp Darter	Etheostoma fusiforme
Pipefishes and Seahorses	Bull Pipefish	Syngnathus springeri
	Chain Pipefish	Syngnathus louisianae
	Crested Pipefish	Cosmocampus brachycephalus
	Dusky Pipefish	Syngnathus floridae
	Dwarf Seahorse	Hippocampus zosterae
	Fringed Pipefish	Anarchopterus criniger
	Gulf Pipefish	Syngnathus scovelli
	Insular Pipefish	Micrognathus crinitus
	Lined Seahorse	Hippocampus erectus
	Longsnout Seahorse	Hippocampus reidi
	Opossum Pipefish, Shorttailed Pipefish	Microphis brachyurus
	Pugnose Pipefish	Bryx dunckeri
	Sargassum Pipefish	Syngnathus pelagicus
	Shortfin Pipefish	Cosmocampus elucens
Whitenose Pipefish	Cosmocampus albirostris	
Porcupinefishes	Balloonfish	Diodon holocanthus
	Bridled Burrfish	Chilomycterus antennatus
	Porcupinefish	Diodon hystrix
	Spotted Burrfish	Chilomycterus atringa
	Striped Burrfish	Chilomycterus schoepfii
	Web Burrfish	Chilomycterus antillarum
Porgies	Grass Porgy	Calamus arctifrons
	Jolthead Progy	Calamus bajonado

Grouping	Common Name	Scientific Name
	Knobbed Porgy	Calamus nodosus
	Littlehead Porgy	Calamus proridens
	Pinfish	Lagodon rhomboides
	Red Porgy	Pagrus pagrus
	Saucereye Progy	Calamus calamus
	Sea Bream	Archosargus rhomboidalis
	Sheepshead	Archosargus probatocephalus
	Sheepshead Porgy	Calamus penna
	Spottail Pinfish	Diplodus holbrookii
Pufferfishes	Atlantic Torpedo Ray	Torpedo nobiliana
	Bandtail Puffer	Sphoeroides spengleri
	Checkered Puffer	Sphoeroides testudineus
	Northern Puffer	Sphoeroides maculatus
	Sharpnose Puffer	Canthigaster rostrata
	Southern Puffer	Sphoeroides nephelus
Rays and Skates	Atlantic Guitarfish	Rhinobatos lentiginosus
	Atlantic Manta	Manta birostris
	Atlantic Stingray	Dasyatis sabina
	Bluntnose Stingray	Dasyatis say
	Cownose Ray	Rhinoptera bonasus
	Lesser Electric Ray	Narcine brasiliensis
	Roundel Skate	Raja texana
	Smooth Butterfly Ray	Gymnura micrura
	Southern Stingray	Dasyatis americana
	Spotted Eagle Ray	Aetobatus narinari
Yellow Stingray	Urobatis jamaicensis	
Sawfishes	Smalltooth Sawfish	Pristis pectinata
Scorpionfishes	Barbfish	Scorpaena brasiliensis
	Deepreef Scorpionfish	Scorpaenodes tredecimspinosus
	Hunchback Scorpionfish	Scorpaena dispar
	Lesser Scorpionfish, Coral Scorpionfish	Scorpaena albifimbria
	Lionfish*	Pterois volitans/miles
	Mushroom Scorpionfish	Scorpaena inermis

Grouping	Common Name	Scientific Name
	Plumed Scorpionfish, Poison Grouper	Scorpaena grandicornis
	Reef Scorpionfish	Scorpaenodes caribbaeus
	Smoothhead Scorpionfish	Scorpaena calcarata
	Spinycheek Scorpionfish	Neomerinthe hemingwayi
	Spotted Scorpionfish	Scorpaena plumieri
Searobins	Bighead Searobin	Prionotus tribulus
	Bluespotted Searobin	Prionotus roseus
	Bluewing Searobin, Spotted Searobin	Prionotus punctatus
	Leopard Searobin	Prionotus scitulus
	Shortfin Searobin	Bellator brachychir
Sharks	Atlantic Sharpnose Shark	Rhizoprionodon terraenovae
	Blacknose Shark	Carcharhinus acronotus
	Blacktip Shark	Carcharhinus limbatus
	Bonnethead	Sphyrna tiburo
	Bull Shark	Carcharhinus leucas
	Lemon Shark	Negaprion brevirostris
	Silky Shark	Carcharhinus falciformis
	Spinner Shark	Carcharhinus brevipinna
	Great Hammerhead	Sphyrna mokarran
	Great White Shark	Carcharodon carcharias
	Nurse Shark	Ginglymostoma cirratum
	Scalloped Hammerhead	Sphyrna lewini
	Tiger Shark	Galeocerdo cuvier
	Whale Shark	Rhincodon typus
Sharksuckers	Marlinsucker	Remora osteochir
	Remora	Remora remora
	Sharksucker	Echeneis naucrates
	Whitefin Sharksucker	Echeneis neucratoides
Silversides	Brook Silverside	Labidesthes sicculus
	Hardhead Silverside	Atherinomorus stipes
	Inland Silverside	Menidia beryllina
	Reef Silverside	Hypoatherina harringtonensis
	Rough Silverside	Membras martinica

Grouping	Common Name	Scientific Name
Sleeper gobies	Emerald Sleeper	Erotelis smaragdus
	Fat Sleeper	Dormitator maculatus
	Spinycheek Sleeper	Eleotris amblyopsis
Snappers	Blackfin Snapper	Lutjanus buccanella
	Cubera Snapper	Lutjanus cyanopterus
	Dog Snapper	Lutjanus jocu
	Gray Snapper	Lutjanus griseus
	Lane Snapper	Lutjanus synagris
	Mahogany Snapper	Lutjanus mahogoni
	Mutton Snapper	Lutjanus analis
	Northern Red Snapper, Red Snapper	Lutjanus campechanus
	Queen Snapper	Etelis oculatus
	Schoolmaster	Lutjanus apodus
	Silk Snapper	Lutjanus vivanus
	Vermilion Snapper	Rhomboplites aurorubens
	Yellowtail Snapper	Ocyurus chrysurus
Snooks	Common Snook	Centropomus undecimalis
	Swordspine Snook	Centropomus ensiferus
	Tarpon Snook	Centropomus pectinatus
Soapfishes	Greater Soapfish	Rypticus saponaceus
	Spotted Soapfish	Rypticus subbifrenatus
	Whitespotted Soapfish	Rypticus maculatus
Spadefishes	Atlantic Spadefish	Chaetodipterus faber
Squirrelfishes	Blackbar Soldierfish	Myripristis jacobus
	Dusky Squirrelfish	Sargocentron vexillarium
	Longjaw Squirrelfish	Holocentrus marianus
	Longspine Squirrelfish	Holocentrus rufus
	Reef Squirrelfish	Sargocentron coruscum
	Squirrelfish	Holocentrus adscensionis
Stargazers	Arrow Stargazer	Gillellus greyae
	Atlantic Midshipman	Porichthys plectrodon
	Bigeye Stargazer	Dactyloscopus crossotus
	Flying Gurnard	Dactylopterus volitans

Grouping	Common Name	Scientific Name
	Saddle Stargazer	Platygillellus rubrocinctus
	Sand Stargazer	Dactyloscopus tridigitatus
	Smooth-Lipped Stargazer	Leurochilus acon
	Southern Stargazer	Astroscopus y-graecum
Sticklebacks	Ninespine Stickleback	Pungitius pungitius
Suckers	Lake Chubsucker	Erimyzon sucetta
Sunfishes	Black Crappie	Pomoxis nigromaculatus
	Bluegill	Lepomis macrochirus
	Bluespotted Sunfish	Enneacanthus gloriosus
	Dollar Sunfish	Lepomis marginatus
	Everglades Pygmy Sunfish	Elassoma evergladei
	Largemouth Bass	Micropterus salmoides
	Redear Sunfish	Lepomis microlophus
	Spotted Sunfish	Lepomis punctatus
	Warmouth	Lepomis gulosus
Surgeonfishes	Blue Tang	Acanthurus coeruleus
	Doctorfish	Acanthurus chirurgus
	Ocean Surgeon	Acanthurus bahianus
Sweepers	Glassy Sweeper	Pempheris schomburgkii
Tarpons	Tarpon	Megalops atlanticus
Threadfins	Atlantic Threadfin	Polydactylus octonemus
	Barbu	Polydactylus virginicus
	Little-Scale Threadfin	Polydactylus oligodon
Tilefishes	Sand Tilefish	Malacanthus plumieri
Toadfishes	Gulf Toadfish	Opsanus beta
	Oyster Toadfish	Opsanus tau
Triggerfishes	Black Durgon	Melichthys niger
	Gray Triggerfish	Balistes capriscus
	Ocean Triggerfish	Canthidermis sufflamen
	Queen Triggerfish	Balistes vetula
Triplefins	Lofty Triplefin	Enneanectes altivelis
	Mimic Triplefin	Enneanectes jordani
	Roughhead Triplefin	Enneanectes boehlkei
	Tripletail	Lobotes surinamensis

Grouping	Common Name	Scientific Name
Trumpetfishes	Atlantic Trumpetfish	<i>Aulostomus maculatus</i>
Wormfishes and Dartfishes	Blue Goby, Blue Dartfish	<i>Ptereleotris calliurus</i>
	Hovering Goby, Hovering Dartfish	<i>Ptereleotris helenae</i>
	Pink Wormfish	<i>Microdesmus longipinnis</i>
	Pugjaw Wormfish	<i>Cerdale floridana</i>
Wrasses	Blackear Wrasse	<i>Halichoeres poeyi</i>
	Bluehead Wrasse	<i>Thalassoma bifasciatum</i>
	Clown Wrasse	<i>Halichoeres maculipinna</i>
	Creole Wrasse	<i>Clepticus parrae</i>
	Dwarf Wrasse	<i>Doratonotus megalepis</i>
	Green Razorfish	<i>Xyrichtys splendens</i>
	Hogfish	<i>Lachnolaimus maximus</i>
	Pearly Razorfish	<i>Xyrichtys novacula</i>
	Puddingwife	<i>Halichoeres radiatus</i>
	Rainbow Wrasse	<i>Halichoeres pictus</i>
	Rosy Razorfish	<i>Xyrichtys martinicensis</i>
	Slippery Dick	<i>Halichoeres bivittatus</i>
	Spanish Hogfish	<i>Bodianus rufus</i>
	Spotfin Hogfish	<i>Bodianus pulchellus</i>
	Yellowcheek Wrasse	<i>Halichoeres cyanocephalus</i>
Yellowhead Wrasse	<i>Halichoeres garnoti</i>	

Category	Scientific Name	Common Name, if available
Cnidaria- anemones	<i>Aiptasia pallida</i>	pale anemone
	<i>Bartholomea annulata</i>	corkscrew anemone
	<i>Bunodeopsis globulifera</i>	stinging mangrove anemone
	<i>Condylactis gigantea</i>	giant Caribbean anemone
	<i>Lebrunia danae</i>	branching anemone
	<i>Phymanthus crucifer</i>	red beaded anemone
	<i>Ragactis lucida</i>	knobby anemone
	<i>Viatrix globulifera</i>	turtle grass anemone
Cnidaria- comb jelly	<i>Mnemiopsis mccradyi</i>	sea walnut
Cnidaria- corallimorph	<i>Ricordea florida</i>	ricordea mushroom
Cnidaria- hydrocorals	<i>Millepora alcicornis</i>	branching fire coral
	<i>Millepora complanata</i>	blade fire coral
Cnidaria- hydroids, jellyfish, and siphonophores	<i>Aurelia aurita</i>	moon jelly
	<i>Cassiopea frondosa</i>	upsidedown jelly

	<i>Cassiopea xamachana</i>	mangrove upsidedown jelly
	<i>Physalia physalis</i>	Portuguese man-of-war
	<i>Porpita porpita</i>	blue button jelly
	<i>Velella velella</i>	by the wind sailor
Cnidaria- octocoral	<i>Briareum Asbestinum</i>	corky sea finger
	<i>Erythropodium caribaeorum</i>	encrusting gorgonian
	<i>Eunicea calyculata</i>	warty sea rod
	<i>Eunicea succinea</i>	shelf knob sea rod
	<i>Gorgonia flabellum</i>	venus sea fan
	<i>Gorgonia ventalina</i>	common sea fan
	<i>Plexaura flexuosa</i>	bent sea rod
	<i>Plexaurella nutans</i>	giant slit-pore sea rod
	<i>Pseudopterogorgia acerosa</i>	purple sea plume
	<i>Pseudopterogorgia americana</i>	slimy sea plume
	<i>Pseudopterogorgia bipinnata</i>	bipinnate sea plume
	<i>Pterogorgia anceps</i>	angular sea whip

	<i>Pterogorgia citrina</i>	yellow sea whip
	<i>Pterogorgia guadalupensis</i>	groved-blade sea whip
Cnidaria- stony coral	<i>Acropora cervicornis</i>	staghorn coral
	<i>Acropora palmata</i>	Elkhorn coral
	<i>Acropora prolifera</i>	fused staghorn coral
	<i>Agaricia agaricites</i>	lettuce coral
	<i>Cladocora debilis</i>	thin tube coral
	<i>Colpophyllia natans</i>	boulder brain coral
	<i>Dendrogyra cylindrus</i>	pillar coral
	<i>Dichocoenia stokesii</i>	stokes star coral
	<i>Diploria clivosa</i>	knobby brain coral
	<i>Diploria labyrinthiformis</i>	labyrinthe brain coral
	<i>Diploria strigosa</i>	symmetrical brain coral
	<i>Eusmilia fastigiata</i>	smooth flower coral
	<i>Favia fragum</i>	golfball coral
	<i>Helioseris cucullata</i>	sunray lettuce coral

<i>Madracis decactis</i>	ten-ray star coral
<i>Madracis mirabilis</i>	Yellow pencil coral
<i>Manicina areolata</i>	rose coral
<i>Meandrina meandrites</i>	maze coral
<i>Montastraea annularis</i>	lobed star coral
<i>Montastraea cavernosa</i>	great star coral
<i>Montastraea faveolata</i>	mountainous star coral
<i>Montastraea franksi</i>	boulder star coral
<i>Mycetophyllia aliciae</i>	knobby cactus coral
<i>Mycetophyllia lamarckiana</i>	ridged cactus coral
<i>Oculina robusta</i>	robust ivory tree coral
<i>Porites astreoides</i>	mustard hill coral
<i>Porites branneri</i>	blue crust coral
<i>Porites divaricata</i>	thin finger coral
<i>Porites furcata</i>	branched finger coral

	<i>Porites porites</i>	clubtip finger coral
	<i>Siderastrea radians</i>	lesser starlet coral
	<i>Siderastrea siderea</i>	massive starlet coral
	<i>Solenastrea bournoni</i>	smooth star coral
	<i>Solenastrea hyades</i>	knobby star coral
	<i>Stephanocoenia intersepta</i>	blushing star coral
	<i>Stephanocoenia michelini</i>	blushing star coral
Cnidaria- zoanthid	<i>Palythoa caribaeorum</i>	white encrusting zoanthid
	<i>Palythoa grandis</i>	sun zoanthid
	<i>Parazoanthus parasiticus</i>	sponge zoanthid
	<i>Parazoanthus puertoricense</i>	black sponge zoanthid
	<i>Zoanthus pulchellus</i>	mat zoanthid
	<i>Zoanthus sociatus</i>	green sea mat
Echinodermata- brittle star	<i>Ophiocoma echinata</i>	blunt-spined brittle star
	<i>Ophioderma cinereum</i>	chocolate brittle star

	<i>Ophionereis reticulata</i>	reticulated brittle star
	<i>Ophiothrix oerstedii</i>	
Echinodermata- sea cucumber	<i>Actinopyga agassizii</i>	five-toothed sea cucumber
	<i>Holothuria floridana</i>	Florida sea cucumber
	<i>Holothuria grisea</i>	harlequin sea cucumber
	<i>Holothuria mexicana</i>	donkey dung sea cucumber
	<i>Holothuria parvula</i>	golden sea cucumber
	<i>Synaptula hydriformis</i>	medusa worm
Echinodermata- sea urchin and sand dollar	<i>Clypeaster rosaceus</i>	fat sea biscuit
	<i>Diadema antillarum</i>	
	<i>Echinometra lucunter</i>	rock boring urchin
	<i>Eucidaris tribuloides</i>	slate pencil urchin
	<i>Lytechinus variegatus</i>	green sea urchin
Horseshoe crab	<i>Limulus polyphemus</i>	horseshoe crab

Sponge

<i>Amphimedon viridis</i>	sponge
<i>Aplysina fistularis</i>	rope sponge
<i>Callyspongia plicifera</i>	azure vase sponge
<i>Callyspongia vaginalis</i>	branching vase sponge
<i>Chalinula molitba</i>	
<i>Chondrilla caribensis</i>	chicken liver sponge
<i>Chondrilla nucula</i>	sponge
<i>Cliona delitrix</i>	red boring sponge
<i>Cliona langae</i>	coral encrusting sponge
<i>Cliona tenuis</i>	encrusting sponge
<i>Cliona varians</i>	green encrusting sponge
<i>Cribrochalina vasculum</i>	brown bowl sponge
<i>Diplastrella megastellata</i>	red-orange encrusting sponge
<i>Dysidea fragilis</i>	
<i>Geodia gibberosa</i>	barrel sponge
<i>Haliclona hogarth</i>	

<i>Haliclona tubifera</i>	
<i>Hippospongia lachne</i>	
<i>Holopsamma helwigi</i>	lumpy overgrowing sponge
<i>Iotrochota birotulata</i>	green finger sponge
<i>Ircinia campana</i>	
<i>Ircinia felix</i>	stinker sponge
<i>Ircinia strobilina</i>	black ball sponge
<i>Ircinia variabilis</i>	
<i>Monanchora barbadensis</i>	red lumpy sponge
<i>Monanchora unguifera</i>	red-orange lumpy sponge
<i>Mycale laevis</i>	yellow encrusting sponge
<i>Niphates digitalis</i>	purple sponge
<i>Pseudoceratina crassa</i>	branching tube yellow sponge
<i>Spheciospongia vesparium</i>	loggerhead sponge
<i>Spongia barbara</i>	yellow sponge
<i>Spongia cheiris</i>	glove sponge

	<i>Spongia graminea</i>	grass sponge
	<i>Spongia obscura</i>	grass sponge
	<i>Spongia tubulifera</i>	cuban reef sponge
	<i>Tedania ignis</i>	fire sponge
	<i>Tedania klausii</i>	fire sponge
	<i>Tethya crypta</i>	
	<i>Tethya diploderma</i>	
	<i>Xestospongia muta</i>	giant barrel sponge
Tardigrade	<i>Echiniscoides sigismundi</i>	
	<i>Milnesium tardigradum</i>	
Tunicate	<i>Ascidia nigra</i>	black solitary tunicate
	<i>Distaplia corolla</i>	button tunicate
	<i>Ecteinascidia turbinata</i>	mangrove tunicate
	<i>Eudistoma obscuratum</i>	black condominium tunicate
	<i>Polycarpa spongiabilis</i>	giant tunicate
Worm	<i>Americanuphis magna</i>	

<i>Amphinome rostrata</i>	worm
<i>Anamobaea orstedii</i>	split-crown feather duster
<i>Armandia maculata</i>	worm
<i>Branchiomma nigromaculata</i>	black spotted feather duster
<i>Ceratonereis mirabilis</i>	
<i>Chloeia viridis</i>	
<i>Cistenides sp.</i>	golden tube worm
<i>Eupolyornia crassicornis</i>	spaghetti worm
<i>Hermodice carunculata</i>	bearded fireworm
<i>Loimia medusa</i>	medusa worm
<i>Phyllodoce arenae</i>	
<i>Podarke obscura</i>	
<i>Pomatostegus stellatus</i>	star horseshoe worm
<i>Prionospio heterobranchia</i>	
<i>Sabellastarte magnifica</i>	magnificent feather duster

	<i>Salmacina huxleyi</i>	
	<i>Spirobranchus giganteus</i>	Christmas tree worm
	<i>Spirorbis formosus</i>	

Table XX. Listing of typical invertebrate species found in Biscayne Bay. Categories of species in bold either produce or require hard bottom habitat to thrive.



Planning and Policy Division
Environmental Branch

Chris Stahl
Coordinator
Florida State Clearinghouse
Florida Department of Environmental Protection
2600 Blair Stone Road, M.S. 47
Tallahassee, FL 32399

Dear Mr. Stahl:

Pursuant to the National Environmental Policy Act and the U.S. Army Corps of Engineers Regulation (33 CFR 230.11), this letter constitutes the Notice of Availability of the proposed draft Miami-Dade Back Bay Coastal Storm Risk Management (CSRМ) Draft Integrated Feasibility Report (IFR) and Programmatic Environmental Impact Statement (EIS), and draft Federal Consistency Determination (FCD) for the Miami-Dade Back Bay CSRМ Feasibility Study in Miami-Dade County, Florida.

The purpose of the project is to reduce potential damages caused by coastal storms and improve human safety and coastal resiliency in the Miami-Dade County Back Bay. The project is currently in the feasibility study phase and the alignments and specific details for all of the non-structural and structural features of the Tentatively Selected Plan (TSP)/Preferred Alternative are still being refined. The exact locations and footprints of the floodwalls and surge barriers has not been determined and will continue to be refined throughout the feasibility study. It will be finalized during the Preconstruction, Engineering, and Design (PED) Phase of the project when more detailed surveys and data are available.

The proposed draft EIS and associated appendices are available for your review on the Norfolk District's Environmental planning website, under Miami-Dade County:

<https://www.saj.usace.army.mil/MiamiDadeBackBayCSRМFeasibilityStudy/>.

The Corps is anticipating that the proposed project will be consistent with Florida's approved Coastal Zone Management Program. The Corps respectfully requests an initial review of this draft FCD and attached documentation. The proposed plans and information will be submitted to the state in compliance once finalized during the PED Phase. Any questions concerning the project or the draft FCD should be submitted to

the Corps' Planning and Policy Branch, Environmental Analysis Section at the letter head address or via email to Alicia.M.Logalbo@usace.army.mil.

Sincerely,

Alicia M. Logalbo
U.S. Army Corps of Engineers
Norfolk District
Chief, Environmental Analysis Section
Planning and Policy Branch

Enclosures

**Florida Coastal Zone Management Program Evaluation Procedures
Federal Consistency Determination (FCD)**

**Miami-Dade Back Bay Coastal Storm Risk Management Project in
Miami-Dade County, Florida**

May 13, 2020

Enforceable Policy. Florida Statutes considers “enforceable policy” under the Coastal Zone Management Act (www.dep.state.fl.us/cmp/federal/24_statutes.htm).

Applicability of the Coastal Zone Management Act. The following table summarizes the process and procedures under the Coastal Zone Management Act for federal actions and for non-federal applicants*.

Item	Non-federal Applicant (15 CFR 930, subpart D)	Federal Action (15 CFR 930, subpart C)
Enforceable Policies	Reviewed and approved by NOAA (in FL www.dep.state.fl.us/cmp/federal/24_statutes.htm)	Same
Effects Test	Direct, Indirect (cumulative, secondary), adverse or beneficial	Same
Review Time	6 months from state receipt of Consistency Certification (30-days for completeness notice) Can be altered by written agreement between state and applicant	60 Days, extendable (or contractible) by mutual agreement
Consistency	Must be Fully Consistent	To Maximum Extent Practicable**
Procedure Initiation	Applicant provides Consistency Certification to state	Federal Agency provides “Consistency Statement” to state
Appealable	Yes, applicant can appeal to Secretary (NOAA)	No (NOAA can “mediate”)
Activities	Listed activities with their geographic location (State can request additional listing within 30 days)	Listed or Unlisted Activities in State Program
Activities in Another State	Must have approval for interstate reviews from NOAA	Interstate review approval NOT required
Activities in Federal Waters	Yes, if activity affects state waters	Same

* There are separate requirements for activities on the Outer Continental Shelf (subpart E) and for “assistance to an applicant agency” (subpart F).

** Must be fully consistent except for items prohibited by applicable law (generally does not count lack of funding as prohibited by law, 15 CFR 930.32).

Coastal Zone Consistency Statement by Statute/Enforceable Policy

1. CHAPTER 161, F.S., BEACH AND SHORE PRESERVATION.

Coastal areas are among the state's most valuable natural, aesthetic, and economic resources. The state is required to protect coastal areas from imprudent activities that could jeopardize the stability of the beach-dune system, accelerate erosion, provide inadequate protection to upland structures, endanger adjacent properties, or interfere with public beach access. Coastal areas used, or likely to be used, by sea turtles are designated for nesting, and the removal of vegetative cover that binds sand is prohibited. This statute provides policy for the regulation of construction, reconstruction, and other physical activities related to the beaches and shores of the state. Additionally, this statute requires the restoration and maintenance of critically eroding beaches.

RESPONSE: The project Region of Influence (area of potential impacts) would not have any direct or indirect impacts or to the beach-dune system in Miami-Dade County. Therefore, there would be no impacts to the existing beach-dune system in Miami-Dade County.

2. CHAPTER 163, PART II, F.S., INTERGOVERNMENTAL PROGRAMS: GROWTH POLICY; COUNTY AND MUNICIPAL PLANNING: LAND DEVELOPMENT REGULATION

The purpose of this statute is to provide for the implementation of comprehensive planning programs to guide and control future development in the state. The comprehensive planning process encourages units of local government to preserve, promote, protect, and improve the public health, safety, comfort, good order, appearance, convenience, law enforcement and fire prevention, and general welfare; prevent the overcrowding of land and avoid undue concentration of population; facilitate the adequate and efficient provision of public facilities and services; and conserve, develop, utilize, and protect natural resources within their jurisdictions.

RESPONSE: This project would serve to protect existing infrastructure and structures and increase life-health safety and resiliency in the Miami-Dade County and would not increase future development in the state.

3. CHAPTER 186, F.S., STATE AND REGIONAL PLANNING

The state comprehensive plan provides basic policy direction to all levels of government regarding the orderly social, economic, and physical growth of the state. The goals, objectives, and policies of the state comprehensive plan are statewide in scope and are consistent and compatible with each other. The statute provides direction for the delivery of governmental services, a means for defining and achieving the specific goals of the state, and a method for evaluating the accomplishment of those goals.

RESPONSE: This storm risk management project is compatible with state and regional plans and would further serve to increase the protection and resiliency of the Miami-Dade County. Extensive coordination with local, state, and federal agencies has

occurred throughout the project and would continue during the implementation phase of the project.

4. CHAPTER 252, F.S., EMERGENCY MANAGEMENT

The state of Florida is vulnerable to a wide range of emergencies, including natural, technological, and manmade disasters. This vulnerability is exacerbated by the tremendous growth in the state's population. This statute directs the state to reduce the vulnerability of its people and property to natural and manmade disasters; prepare for, respond to and reduce the impacts of disasters; and decrease the time and resources needed to recover from disasters.

Disaster mitigation is necessary to ensure the common defense of Floridians' lives and to protect the public peace, health, and safety. The policies provide the means to assist in the prevention or mitigation of emergencies that may be caused or aggravated by the inadequate planning or regulation. State agencies are directed to keep land uses and facility construction under continuing study and identify areas that are particularly susceptible to natural or manmade catastrophic occurrences.

RESPONSE: The project would provide significant benefits for coastal storm risk reduction, would improve emergency management (as this project would serve to protect critical infrastructure from major coastal storm damage and allow for greater resiliency and faster emergency response following storm events), and would reduce coastal storm-related life-loss to a substantive portion of the Miami-Dade Community. Pursuant to the National Environmental Protection Act (NEPA), the proposed project has been coordinated with local, federal, and state agencies including those conducting emergency response planning and response as well as the public and tribal governments. Interagency coordination includes representatives from the Federal Emergency Management Agency (FEMA), the Florida Department of Environmental Management (FDEM), Miami-Dade County emergency management departments as well as that of municipalities within Miami-Dade County, the Florida Department of Transportation (FDOT), the South Florida Water Management District (SFWMD) among others. The proposed project meets the goals of the State Comprehensive Plan, as described in detail in the Draft Integrated Report/EIS, and is consistent with the goals of this chapter.

5. CHAPTER 253, F.S., STATE LANDS

The Board of Trustees of the Internal Improvement Trust Fund (Trustees) is vested and charged with the acquisition, administration, management, control, supervision, conservation, protection, and disposition of all lands owned by the state. Lands acquired for preservation, conservation and recreation serve the public interest by contributing to the public health, welfare and economy. In carrying out the requirements of this statute, the Trustees are directed to take necessary action to fully: conserve and protect state lands; maintain natural conditions; protect and enhance natural areas and ecosystems; prevent damage and depredation; and preserve archaeological and historical resources.

All submerged lands are considered single-use lands to be maintained in natural condition for the propagation of fish and wildlife and public recreation. Where multiple-uses are permitted, ecosystem integrity, recreational benefits and wildlife values are conserved and protected.

RESPONSE: The Brickell Floodwall and surge barriers at the Biscayne Canal, Little River, and Miami River and other associated features (additional floodwalls, pump stations, and riprap) would cause direct and indirect impacts to submerged lands and aquatic resources of the State of Florida in the Biscayne Bay, Biscayne Canal, Little River, and Miami River.

The construction, operation, and maintenance of the surge barriers, floodwalls and associated pump stations, and riprap would result in a range of temporary to permanent impacts to aquatic resources and habitats that range from potentially minor to major (significant) impacts. The construction, operation, and maintenance of the surge barriers and associated floodwalls and pump stations have the potential to cause direct and indirect impacts to Submerged Aquatic Vegetation (SAV) (including Johnson's seagrass and associated critical habitat), as well as corals/hardbottom habitat (including federally listed corals), Essential Fish Habitat (EFH), other benthic habitats and species, and mangroves. The surge barriers would result in the temporary trapping of aquatic species including fish, marine mammals, and reptiles. The Brickell Floodwall would be approximately one mile in length with a width of approximately out to up to 50 feet from existing bulkheads resulting in a significant, adverse impacts to benthic habitat. There would be an anticipated permanent loss of SAV, corals/hardbottom habitat, mangrove, and open water benthic habitats.

Impacts to recreation would be temporary to permanent, and range from minor to major impacts. Mooring and recreational boating at the Brickell Floodwall would be permanently prohibited resulting in adverse, significant impacts.

There would be a range of moderate to major, temporary and permanent adverse impacts to recreational navigation at the Biscayne Canal, Little River, and Miami River Surge Barriers and at the Brickell Floodwall in the Biscayne Bay. The federal navigation channel near the center of the Miami River would remain in operation. The surge barriers would permanently narrow the navigational area in the Biscayne Canal, Little River, and Miami River. There are no Federal navigation channels in the Little River, Biscayne Canal, or within the immediate area of the proposed location for the Brickell Floodwall within Biscayne Bay; however, those areas are heavily used by local residents and recreational boat traffic. Recreational mooring and boating would be permanently prohibited along approximately one mile at the Brickell Floodwall.

Impacts to mangroves, upland areas, natural drainage features, utilities, existing structures, etc. would generally be within the footprint of the project alignment and immediate surrounding areas. The associated impacts would range from beneficial to

adverse, minor to moderate, and temporary to permanent impacts. There would be only minor, potential adverse impacts to the natural floodplain.

Cultural resource impacts would include potential adverse effects to historic buildings from the implementation of the nonstructural measures and/or unidentified archeological sites that could be impacted by the structural measures. Further study will be needed, and these potential impacts would be addressed through a Programmatic Agreement with the Florida Division of Historic Resources (FDHR) and consulting parties, pursuant to Section 106 of the National Historic Preservation Act.

Construction, operation, and maintenance of the project features would result in adverse, temporary disturbances to wildlife that are minor. Construction activities would increase ambient noise to levels greater than baseline. These adverse direct and indirect impacts to wildlife and terrestrial habitat have the potential to be minor and temporary to permanent in duration. There would be adverse, permanent, and moderate impacts to terrestrial habitat from the permanent construction footprints of the floodwalls.

Land use impacts from construction and maintenance activities would be adverse, temporary, and minor. Storm surge protection provided to a large expanse of urbanized coastal, low lying areas in Dade County serving to preserve land use functions. Overall, this would result in both adverse and beneficial effects that would be temporary to permanent and range from minor to major impacts.

Planting of mangroves at the Cutler Bay NNBF would have beneficial, permanent and minor impacts to EFH and fish resources by enhancing fish foraging and nursery habitat. The NNBF site would serve to enhance wildlife habitat and improve migratory bird habitat.

Environmental protection measures, as described in detail in the Integrated Feasibility Report and Programmatic EIS, would be implemented to avoid and minimize adverse effects to the extent practicable to fish, benthic fauna and other wildlife resources, threatened and endangered species, water quality, air quality, and other environmental and cultural resources.

Please refer to the Integrated Feasibility Report and Programmatic EIS for a more thorough description of the potential state resources impacted by the project

The proposed project complies with the goals of this chapter to the extent practical.

6. CHAPTER 258, F.S., STATE PARKS AND PRESERVES

The statute addresses the state's administration of state parks, aquatic preserves, and recreation areas, which are acquired to emblemize the state's natural values and to ensure that these values are conserved for all time. Parks and preserves are managed for the non-depleting use, enjoyment, and benefit of Floridians and visitors and to contribute to the state's tourist appeal.

Aquatic Preserves are recognized as having exceptional biological, aesthetic, and scientific value and are set aside for the benefit of future generations. Disruptive physical

activities and polluting discharges are highly restricted in aquatic preserves. State managed wild and scenic rivers possess exceptionally remarkable and unique ecological, fish and wildlife, and recreational values. These rivers are also designated for permanent preservation and enhancement for both the present and future.

RESPONSE: This project would have significant, adverse impacts to submerged lands and aquatic resources and recreation within the Biscayne Bay Aquatic Preserve as described in the response to 5. *Chapter 253, F.S., State Lands.*

Pursuant to NEPA, the proposed project is being coordinated with local, state, and federal regulatory agencies, tribal governments, and public stakeholders.

Environmental protection measures, as described in detail in the Integrated Feasibility Report and Programmatic EIS, would be implemented to minimize adverse effects to the maximum extent practicable to fish and other wildlife resources, threatened and endangered species, water quality, air quality, or other environmental resources. The Corps would coordinate the project with the State of Florida during the Preconstruction, Engineering and Design Phase (PED) through the issuance of a Clean Water Act, 401 Water Quality Certification and Environmental Resource Permit. The proposed project complies with the goals of this chapter to the extent practical.

7. CHAPTER 259, F.S., LAND ACQUISITION FOR CONSERVATION OR RECREATION

The statute addresses public ownership of natural areas for purposes of maintaining the state's unique natural resources; protecting air, land, and water quality; promoting water resource development to meet the needs of natural systems and citizens of this state; promoting restoration activities on public lands; and providing lands for natural resource based recreation. Lands are managed to protect or restore their natural resource values, and provide the greatest benefit, including public access, to the citizens of this state.

RESPONSE: There may be some limited conservation and recreation benefits of this project from the acquisition and demolition of structures that are converted to greenways and/or state parks. This would provide some minor benefits potentially to conservation or recreation. The planting of native vegetation at the Cutler Bay Natural and Nature-Based Feature (NNBF) Site may provide some minor wildlife viewing type benefits that are minor.

8. CHAPTER 260, F.S., FLORIDA GREENWAYS AND TRAILS ACT

A statewide system of greenways and trails is established in order to conserve, develop, and use the natural resources of Florida for healthful and recreational purposes. These greenways and trails provide open space benefiting environmentally sensitive lands and wildlife and provide people with access to healthful outdoor activities. The greenways and trails serve to implement the concepts of ecosystem management while providing recreational opportunities such as horseback riding, hiking, bicycling, canoeing, jogging, and historical and archaeological interpretation. As of August 29th, 2016, Chapter 260, F.S., does not contain any enforceable policies for federal consistency purposes.

RESPONSE: The proposed project meets the goals of the State Comprehensive Plan, as described in detail in the DEIS, and is consistent with the goals of this chapter.

9. CHAPTER 267, F.S., HISTORICAL RESOURCES

The management and preservation of the state's archaeological and historical resources are addressed by this statute. This statute recognizes the state's rich and unique heritage of historic resources and directs the state to locate, acquire, protect, preserve, operate and interpret historic and archeological resources for the benefit of current and future generations of Floridians.

Objects or artifacts with intrinsic historic or archeological value located on, or abandoned on, state-owned lands or state-owned submerged lands belong to the citizens of the state. The state historic preservation program operates in conjunction with the National Historic Preservation Act of 1966 to require state and federal agencies to consider the effect of their direct or indirect actions on historic and archeological resources. These resources cannot be destroyed or altered unless no prudent alternative exists. Unavoidable impacts must be mitigated.

RESPONSE: Consultation on the Preferred Alternative is ongoing with the State Historic Preservation Officer for compliance with Section 106 of the National Historic Preservation Act for the Federal portions of the project as described in detail in the DEIS. A Programmatic Agreement (PA) with the Florida Division of Historic Resources (FDHR) and consulting parties, pursuant to Section 106 of the National Historic Preservation Act has been prepared. The proposed project is consistent with the goals of this chapter. The proposed plans, a copy of the PA once executed, and supplemental information will be submitted to the state in compliance with this chapter once finalized. Mitigation would be conducted for adverse impacts to archeological resources and historic buildings in accordance with Section 106 of the National Historic Preservation Act.

10. CHAPTER 288, F.S., COMMERCIAL DEVELOPMENT AND CAPITAL IMPROVEMENTS

The framework to promote and develop general business, trade, and tourism components of the state economy are established in this statute. The statute includes requirements to protect and promote the natural, coastal, historical, and cultural tourism assets of the state; foster the development of nature-based tourism and recreation; and upgrade the image of Florida as a quality destination. Natural resource-based tourism and recreational activities are critical sectors of Florida's economy. The needs of the environment must be balanced with the need for growth and economic development.

RESPONSE: This project would impact recreation in the Biscayne Bay, Little River, Miami River, and Biscayne Bay causing temporary to permanent impacts that are moderate as described in in the Integrated Feasibility Report and Programmatic EIS.

However, the storm risk structural measures would also serve to provide storm protection to recreational lands and areas (such as museums and shopping areas) serving to support the local economy. Implementation of the project components would provide benefits to socioeconomic resources (e.g. recreation, tourism, import/exports, etc.). Environmental protection measures, as described in detail in the Draft Integrated Report/EIS, would be implemented to minimize adverse effects to the maximum extent practicable to fish and other wildlife resources, threatened and endangered species, water quality, air quality, or other environmental resources. The proposed project meets the goals of the State Comprehensive Plan and is consistent with the goals of this chapter.

11. CHAPTER 334, F.S., TRANSPORTATION ADMINISTRATION

The statute addresses the state's policy concerning transportation administration. It establishes the responsibilities of the state, the counties, and the municipalities in the planning and development of the transportation systems; and the development of an integrated, balanced statewide transportation system. This is necessary for the protection of public safety and general welfare and for the preservation of all transportation facilities in the state. As of October 9th, 2017, Chapter 334, F.S., does not contain any enforceable policies for federal consistency purposes.

RESPONSE: While there would be some adverse impacts to transportation, this project would serve to provide significant storm surge protection to critical infrastructure and the road system in substantive portions of Miami-Dade County as described in the Integrated Feasibility Report and Programmatic EIS. Interagency coordination has occurred throughout the study process and has included representatives from the FDOT, which is a cooperating agency for this study. Close collaboration and input would continue with FDOT throughout the implementation phase to ensure that the proposed project is consistent with the State Comprehensive Plan and meets the goals of this chapter.

12. CHAPTER 339, F.S., TRANSPORTATION FINANCE AND PLANNING

The statute addresses the finance and planning needs of the state's transportation system.

RESPONSE: While there would be some adverse impacts to transportation, this project would serve to provide significant storm surge protection to critical infrastructure and the road system in substantive portions of Miami-Dade County as described in the Integrated Feasibility Report and Programmatic EIS. Interagency coordination has occurred throughout the study process and has included representatives from the FDOT, which is a cooperating agency for this study. Close collaboration and input would continue with FDOT throughout the implementation phase to ensure that the proposed project is consistent with the State Comprehensive Plan and meets the goals of this chapter.

13. CHAPTER 373, F.S., WATER RESOURCES

The waters in the state of Florida are managed and protected to conserve and preserve water resources, water quality, and environmental quality. This statute addresses sustainable water management; the conservation of surface and ground

waters for full beneficial use; the preservation of natural resources, fish, and wildlife; protecting public land; and promoting the health and general welfare of Floridians. The state manages and conserves water and related natural resources by determining whether activities will unreasonably consume water; degrade water quality; or adversely affect environmental values such as protected species habitat, recreational pursuits, and marine productivity.

Specifically, under Part IV of Chapter 373, the Department of Environmental Protection, water management districts, and delegated local governments review and take agency action on wetland resource, environmental resource, and stormwater permit applications. These permits address the construction, alteration, operation, maintenance, abandonment, and removal of any stormwater management system, dam, impoundment, reservoir, or appurtenant work or works (including dredging, filling and construction activities in, on, and over wetlands and other surface waters).

RESPONSE: Construction and maintenance of the surge barriers and floodwalls (and associated features including pump stations and riprap) would result in temporary increases in turbidity and altered sediment deposition processes resulting in adverse, temporary, and minor to moderate water quality impacts. Surge barrier operations could potentially result in altered salinity, Dissolved Oxygen (DO), nutrients, and temperature in the Biscayne Bay, Biscayne Canal, Little River, and Miami River. The operation and testing of the surge barriers and pump stations would directly alter local water quality. Following storm events, plumes have the potential to alter water quality as it ultimately flows into offshore Biscayne Bay. Impacts would be temporary and range from minor to moderate.

Adverse impacts from the construction, operation and maintenance of the structural features on bathymetry, hydrology, and tidal processes would range from temporary to permanent impacts that are minor to moderate.

The construction, operation, and maintenance of the surge barriers, floodwalls and associated pump stations, and riprap would result in a range of temporary to permanent impacts to aquatic resources and habitats that range from potentially minor to major (significant) impacts. The construction, operation, and maintenance of the surge barriers and associated floodwalls and pump stations have the potential to cause direct and indirect impacts to SAV (including Johnson's seagrass and associated critical habitat), as well as corals/hardbottom habitat (including federally listed corals), EFH, other benthic habitats and species, and mangroves. The surge barriers would result in the temporary trapping of aquatic species including fish, marine mammals, and reptiles. The Brickell Floodwall would be approximately one mile in length with a width of approximately out to up to 50 feet from existing bulkheads resulting in a significant, adverse impacts to benthic habitat. There would be an anticipated permanent loss of SAV, corals/hardbottom habitat, mangrove, and open water benthic habitats.

Potential impacts to federally listed species under the jurisdiction of the National Marine Fisheries Service (NMFS) (Nassau grouper, smalltooth sawfish, boulder star coral, elkhorn coral, lobed star coral, mountainous star coral, pillar coral, rough cactus coral, staghorn coral, green sea turtle, Kemp's ridley sea turtle, hawksbill sea turtle, leatherback sea turtle, loggerhead sea turtle, and Johnson's seagrass) would be may affect, likely to adversely affect. The Biscayne Bay and surrounding waterways are listed as critical habitat for Johnson's seagrass and Johnson's Seagrass Critical Habitat and impacts would be anticipated to result in adverse impacts to Johnson's seagrass and adverse modification of Johnson's seagrass critical habitat.

Impacts to the piping plover, red knot, and the Florida bonneted bat, under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) would be may affect, not likely to adversely affect. Impacts to the West Indian manatee and American crocodile would be may affect, likely to adversely affect. The Biscayne Bay and surrounding waterways are listed as critical habitat for the West Indian manatee and impacts would be anticipated to result in adverse modification of West Indian Manatee Critical Habitat.

Minor to major, temporary to permanent, adverse effects to EFH, fishery resources, and associated prey species would occur as a result of construction, maintenance, and operation of the proposed storm surge barriers, floodwalls, and associated features. During construction, noise and temporary minimal sedimentation due to disturbance of the bottom is expected, which could disrupt foraging, reproduction, and passage. Once constructed, the storm surge barrier gates would remain open except during testing operations and major storm events requiring closure. The gates would allow passage of aquatic organisms in the open position; however, passage and availability of prey species may be more restricted than currently. Closures would temporarily cut off passage of all aquatic organisms. Water quality plumes resulting from surge barrier and pump stations operations have the potential to adversely affect a range of fish species and benthic habitats.

The proposed project complies with the goals of this chapter.

14. CHAPTER 375, F.S., OUTDOOR RECREATION AND CONSERVATION LANDS

The statute addresses the development of a comprehensive outdoor recreation plan. The purpose of the plan is to document recreational supply and demand, describe current recreational opportunities, estimate the need for additional recreational opportunities, and propose the means to meet the identified needs.

RESPONSE: Residential properties acquired and demolished would be converted to greenspaces and/or potentially parks; these previously developed areas would be perpetually preserved in a natural state providing a minor, benefit. The proposed project meets the goals of the State Comprehensive Plan.

15. CHAPTER 376, F.S., POLLUTANT DISCHARGE PREVENTION AND REMOVAL

Regulating the transfer, storage, and transportation of pollutants, and the cleanup of pollutant discharges is essential for maintaining coastal resources (specifically the coastal waters, estuaries, tidal flats, beaches, and public lands adjoining the seacoast) in as close to a pristine condition as possible. The preservation of the seacoast as a source of public and private recreation, along with the preservation of water and certain lands are matters of the highest urgency and priority.

This statute provides a framework for the protection of the state's coastline from spills, discharges, and releases of pollutants. The discharge of pollutants into or upon any coastal waters, estuaries, tidal flats, beaches, and lands adjoining the seacoast of the state is prohibited. The statute provides for hazards and threats of danger and damages resulting from any pollutant discharge to be evaluated; requires the prompt containment and removal of pollution; provides penalties for violations; and ensures the prompt payment of reasonable damages from a discharge.

Portions of Chapter 376, F.S., serve as a complement to the national contingency plan portions of the federal Water Pollution Control Act.

RESPONSE: Petroleum products, hazardous materials and wastes would be handled and disposed of in accordance with state and federal requirements. All wastes would be disposed of at certified waste disposal facilities. The contract specifications will be written to prohibit the contractor from dumping oil, fuel, or hazardous wastes in the work area and will include conditions on how to handle inadvertent spills of pollutants, such as vehicle fuels. A spill prevention and control plan would be developed prior to project implementation. The proposed project meets the goals of the State Comprehensive Plan and is consistent with the goals of this chapter.

16. CHAPTER 377, F.S., ENERGY RESOURCES

The statute addresses the regulation, planning, and development of the energy resources of the state. The statute provides policy to conserve and control the oil and gas resources in the state, including products made therefrom and to safeguard the health, property and welfare of Floridians. The Department of Environmental Protection (DEP) is authorized to regulate all phases of exploration, drilling, and production of oil, gas, and other petroleum products in the state.

The statute describes the permitting requirements and criteria necessary to drill and develop for oil and gas. DEP rules ensure that all precautions are taken to prevent the spillage of oil or any other pollutant in all phases of extraction and transportation. The state explicitly prohibits pollution resulting from drilling and production activities. No person drilling for or producing oil, gas, or other petroleum products may pollute land or water; damage aquatic or marine life, wildlife, birds, or public or private property; or allow any extraneous matter to enter or damage any mineral or freshwater-bearing formation.

Penalties for violations of any provisions of this chapter are detailed.

RESPONSE: The proposed project does not involve the development of energy resources.

17. CHAPTER 379, F.S., FISH AND WILDLIFE CONSERVATION

The framework for the management and protection of the state of Florida's wide diversity of fish and wildlife resources are established in this statute. It is the policy of the state to conserve and wisely manage these resources. Particular attention is given to those species defined as being endangered or threatened. This includes the acquisition or management of lands important to the conservation of fish and wildlife.

This statute contains specific provisions for the conservation and management of marine fisheries resources. These conservation and management measures permit reasonable means and quantities of annual harvest (consistent with maximum practicable sustainable stock abundance) as well as ensure the proper quality control of marine resources that enter commerce.

Additionally, this statute supports and promotes hunting, fishing and the taking of game opportunities in the State. Hunting, fishing, and the taking of game are considered an important part in the state's economy and in the conservation, preservation, and management of the state's natural areas and resources.

RESPONSE: Potential impacts to federally listed species under the jurisdiction of the NMFS (Nassau grouper, smalltooth sawfish, boulder star coral, elkhorn coral, lobed star coral, mountainous star coral, pillar coral, rough cactus coral, staghorn coral, green sea turtle, Kemp's ridley sea turtle, hawksbill sea turtle, leatherback sea turtle, loggerhead sea turtle, and Johnson's seagrass) would be may affect, likely to adversely affect. The Biscayne Bay and surrounding waterways are listed as critical habitat for Johnson's seagrass and Johnson's Seagrass Critical Habitat and impacts would be anticipated to result in adverse impacts to Johnson's seagrass and adverse modification of Johnson's seagrass critical habitat.

Impacts to the piping plover, red knot, and the Florida bonneted bat, under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) would be may affect, not likely to adversely affect. Impacts to the West Indian manatee and American crocodile would be may affect, likely to adversely affect. The Biscayne Bay and surrounding waterways are listed as critical habitat for the West Indian manatee and impacts would be anticipated to result in adverse modification of West Indian Manatee Critical Habitat.

Construction, operation, and maintenance of the project features would result in adverse, temporary disturbances to wildlife that are minor. Construction activities would increase ambient noise to levels greater than baseline. These adverse direct and indirect impacts to wildlife and terrestrial habitat have the potential to be minor and temporary to permanent in duration. There would be adverse, permanent, and moderate impacts to terrestrial habitat from the permanent construction footprints of the floodwalls.

Pursuant to NEPA, the proposed project will be coordinated with federal, state, federally-recognized Native American tribes, local agencies, and other interested parties. Environmental protection measures, as described in detail in the Integrated Feasibility Report and Programmatic EIS, would be implemented to minimize adverse effects to the maximum extent practicable to threatened and endangered species as well as fish and other wildlife resources. The project is consistent with the goals of this chapter. The proposed plans and information will be submitted to the state in compliance with this chapter once finalized.

18. CHAPTER 380, F.S., LAND AND WATER MANAGEMENT

Land and water management policies are established to protect natural resources and the environment; and to guide and coordinate local decisions relating to growth and development. The statute provides that state land and water management policies be implemented by local governments through existing processes for the guidance of growth and development. The statute also provides that all the existing rights of private property be preserved in accord with constitutions of this state and of the United States.

The chapter establishes the Areas of Critical State Concern designation, the Florida Communities Trust as well as the Florida Coastal Management Act. The Florida Coastal Management Act provides the basis for the Florida Coastal Management Program which seeks to protect the natural, commercial, recreational, ecological, industrial, and aesthetic resources of Florida's coast.

RESPONSE: The proposed project meets the goals of the State Comprehensive Plan, as described in detail in the Integrated Feasibility Report and Programmatic EIS, and is consistent with the goals of this chapter.

19. CHAPTER 381, F.S., PUBLIC HEALTH: GENERAL PROVISIONS

The statute establishes public policy concerning the state's public health system, which is designated to promote, protect, and improve the health of all people in the state.

RESPONSE: The state's public health system will be improved by the proposed project through the protection of critical infrastructure and also prevention and reduction of structural damages within the study area. The proposed project meets the goals of the State Comprehensive Plan throughout its goals to provide greater protection of critical infrastructure in the study area, increase public safety through the greater protection of Miami-Dade County residents and businesses through flood protection measures, among other improvements that are in support of this statute which are described in detail in the Integrated Feasibility Report and Programmatic EIS. The proposed project meets the goals of the State Comprehensive Plan and is consistent with the goals of this chapter.

20. CHAPTER 388, F.S., MOSQUITO CONTROL

Mosquito control efforts of the state are to achieve and maintain such levels of arthropod control as will protect human health and safety; promote the economic

development of the state; and facilitate the enjoyment of its natural attractions by reducing the number of pestiferous and disease-carrying arthropods.

It is the policy of the state to conduct arthropod control in a manner consistent with protection of the environmental and ecological integrity of all lands and waters throughout the state.

RESPONSE: The proposed project will not further the propagation of mosquitoes or other pest arthropods. The proposed project is consistent with the goals of this chapter.

21. CHAPTER 403, F.S., ENVIRONMENTAL CONTROL

Environmental control policies conserve state waters; protect and improve water quality; and maintain air quality. This statute provides wide-ranging authority to address various environmental control concerns, including air and water pollution; electrical power plant and transmission line siting; the Interstate Environmental Control Compact; resource recovery and management; solid and hazardous waste management; drinking water protection; pollution prevention; ecosystem management; and natural gas transmission pipeline siting.

RESPONSE: Environmental protection measures, as described in the Integrated Feasibility Report and Programmatic EIS would be implemented to minimize adverse effects to the maximum extent practicable to fish and other wildlife resources, threatened and endangered species, water quality, air quality, or other environmental resources. The proposed project meets the goals of the State Comprehensive Plan, as described in detail in the Draft Integrated Report/EIS, and is consistent with the goals of this chapter.

22. CHAPTER 553, F.S., BUILDING AND CONSTRUCTION STANDARDS

The statute addresses building construction standards and provides for a unified Florida Building Code.

RESPONSE: This project would have no impact to the Florida Building Code.

23. CHAPTER 582, F.S., SOIL AND WATER CONSERVATION

It is the state's policy to preserve natural resources; control and prevent soil erosion, prevent floodwater and sediment damages; and to further the conservation, development and use of soil and water resources.

Farm, forest, and grazing lands are among the basic assets of the state; and the preservation of these lands is necessary to protect and promote the health, safety, and general welfare of its people.

These measures help to preserve state and private lands, control floods, maintain water quality, prevent impairment of dams and reservoirs, assist in maintaining the navigability of rivers and harbors, preserve wildlife and protect wildlife habitat, protect the tax base, protect public lands, and protect and promote the health, safety, and general welfare of the people of this state.

RESPONSE: The project is not located on or near agricultural lands and would not impact any agricultural lands. Sediment and erosion control plans and measures would be implemented in accordance with state and federal regulations. Any temporary or permanent impacts to the floodplain from construction of flood risk management measures would be minor. The proposed project meets the goals of the State Comprehensive Plan, as described in detail in the Integrated Feasibility Report and Programmatic EIS, and is consistent with the goals of this chapter.

24. CHAPTER 597, F.S., AQUACULTURE

The statute establishes public policy concerning the cultivation of aquatic organisms in the state. The intent is to enhance the growth of aquaculture, while protecting Florida's environment. This includes a requirement for a state aquaculture plan which provides for: the coordination and prioritization of state aquaculture efforts; the conservation and enhancement of aquatic resources; and mechanisms for increasing aquaculture production.

RESPONSE: The proposed project would have no anticipated impacts to aquaculture.

**MIAMI-DADE COUNTY BACK BAY COASTAL
STORM RISK MANAGEMENT PROJECT**

**Clean Water Act
Section 404(b)(1) Evaluation**

**Norfolk District
803 Front Street
Norfolk, Virginia 23510**



**U.S. Army Corps
of Engineers
Norfolk District**

APPENDIX D

Clean Water Act 404(b)(1) Guidelines Draft Evaluation

**Miami-Dade Back Bay Coastal Storm Risk Management Draft
Integrated Feasibility Report and Programmatic
Environmental Impact Statement**

Miami-Dade County, Florida

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Draft Evaluation of 404(b)(1) Guidelines

Miami-Dade Back Bay Coastal Storm Risk Management Draft Integrated Feasibility Study and Programmatic Environmental Impact Statement

Miami-Dade County, Florida

May 7, 2020

1. Technical Evaluation Factors

a. Physical and Chemical Characteristics of the Aquatic Ecosystem (40 CFR §§ 230.20-230.25)(Subpart C)

	N/A	Not Significant	Significant
(1) Substrate impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(2) Suspended particulates/turbidity impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(3) Water Quality Control	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(4) Alteration of current patterns and water circulation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(5) Alteration of normal water fluctuations/hydro-period	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(6) Alteration of salinity gradients	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Alternative 8 combines critical infrastructure and nonstructural measures with structural measures that include surge barriers, floodwalls, and associated pump stations, and riprap (riprap occurs where the floodwall would be sited in the Biscayne Bay). Final designs and siting of the structural features would be conducted in the Preconstruction, Engineering, and Design (PED) Phase of the project. Additional topographic and geotechnical surveys would be conducted during the PED Phase to inform the final siting locations of the proposed in-water structures.

Nonstructural measures may include dry/wet floodproofing of commercial buildings and critical infrastructure, elevation of residential structures, and converting acquired and demolished residential structures to greenspace or parks. The Cutler Bay Natural and Nature-Based Feature would consist of native vegetation plantings including mangroves.

Potential permanent and temporary impacts could occur to the physical substrate, turbidity, water quality, water velocity, current patterns and water circulation, normal water fluctuations, and salinity gradients from the use of construction equipment for the installation and construction, operation and maintenance of the surge barriers, floodwalls, and associated features. It is anticipated that the

impacts would not be significant and would be avoided or minimized to the maximum extent practicable. As this initial analysis is being conducted as part of a Programmatic Environmental Impact Statement (EIS), Clean Water Act (CWA) 404(b)(1) compliance would be reevaluated during future phases of the project to ensure compliance and generate additional CWA(b)(1) reports as needed.

b. Biological Characteristics of the Aquatic Ecosystem (40 CFR §§ 230.30-230.32) (Subpart D)

	N/A	Not Significant	Significant
(1) Effect on threatened/endangered species and their habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(2) Effect on the aquatic food web	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(3) Effect on other wildlife (mammals, birds, reptiles, and amphibians)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Pursuant to Section 7 of the Endangered Species Act (ESA), Magnuson-Stevens Fishery Conservation and Management Act (MSA), and the Marine Mammal Protection Act (MMPA), coordination is underway with the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) for the potential impacts that could occur directly and/or indirectly from the implementation of the Miami-Dade Back Bay Coastal Storm Risk Management project and consultations would not be concluded until the PED Phase of the project.

The project is also undergoing coordination with the USFWS and the State of Florida in accordance with the Fish and Wildlife Coordination Act. A Memorandum of Agreement has been signed by the USACE and the USFWS stating that Fish and Wildlife Coordination Act review will be integrated with the National Environmental Policy Act (NEPA) review process.

Formal consultation with the NMFS is anticipated because of the potential, adverse effects to listed species and potential adverse modification of critical habitat due to the construction of the proposed storm surge barriers and floodwalls and associated features (pump stations and riprap). The analysis and findings for listing species and critical habitat are described in detail in the Special Status Species Section of the Integrated Feasibility Report and Programmatic EIS.

As described in the Integrated Feasibility Report and Programmatic EIS, potential impacts may affect and are likely to adversely affect the following federally listed species under the jurisdiction of the NMFS: Nassau grouper, smalltooth sawfish, boulder star coral, elkhorn coral, lobed star coral, mountainous star coral, pillar coral, rough cactus coral, staghorn coral, green sea turtle, Kemp's ridley sea turtle, hawksbill sea turtle, leatherback sea turtle, loggerhead sea turtle, and Johnson's seagrass. Additionally, the Biscayne Bay and surrounding waterways are listed as critical habitat for Johnson's seagrass and impacts would be anticipated to result in adverse modification of Johnson's Seagrass Critical Habitat. Coordination is

ongoing with NMFS and formal consultation would be concluded during the PED Phase of the project.

Potential impacts of the project may affect but and are not likely to adversely affect the piping plover, red knot, and the Florida bonneted bat under the jurisdiction of the USFWS. Potential impacts resulting from the project may affect, and are likely to adversely affect the west Indian manatee and the American crocodile. The Biscayne Bay and surrounding waterways are listed as critical habitat for the west Indian manatee and potential impacts would be anticipated to result in adverse modification of the West Indian manatee critical habitat. Coordination is ongoing with USFWS and consultation would be concluded during the PED Phase of the project.

Federal action agencies are required to consult with the NMFS if a proposed action may affect Essential Fish Habitat (EFH). Adverse effects on EFH, Submerged Aquatic Vegetation (SAV), and marine mammals are being addressed through coordination with the NMFS, pursuant to the Magnuson-Stevens Act, and the MMPA, respectively. Significant, adverse impacts to EFH and SAV would be anticipated. Adverse impacts would be anticipated to bottlenose dolphins under the protection of the MMPA. Depending on construction methodology, an incidental take authorization for marine mammal (for potential impacts to the bottlenose dolphin) permit may be required but is not anticipated. Consultation per the Magnuson-Stevens Fishery and Conservation Management Act would be concluded during the PED Phase of the project.

c. Special Aquatic Site (40 CFR §§ 230.40-230.45) (Subpart E)

	N/A	Not Significant	Significant
(1) Sanctuaries and refuges	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(2) Wetlands	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(3) Mud flats	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) Vegetated shallows	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(5) Coral reefs	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(6) Riffle and pool complexes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The proposed action would adversely impact the Biscayne Bay Aquatic Preserve and is anticipated to impact mangroves, SAV, and corals/hardbottom habitat.

Additional analysis for the existing conditions and the potential impacts to Special Aquatic Sites can be found in the Integrated Feasibility Report and Programmatic EIS.

Detailed environmental surveys for coral/hardbottom habit and SAV, and wetland jurisdictional determinations (if applicable) would occur in the PED Phase. As the additional data and survey results are evaluated; the final siting location for the proposed floodwalls and surge barriers (to include their associated pump stations and rip rap) would take place during the PED Phase.

d. Human Use Characteristics (40 CFR §§ 230.50-230.54) (Subpart F)

	N/A	Not Significant	Significant
(1) Effects on municipal and private water supplies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) Recreational and Commercial fisheries impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(3) Effects on water-related recreation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(4) Aesthetic impacts	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(5) Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Potential impacts to the following resources were examined: land use, geology and soils, hydrology, bathymetry, water quality, floodplains, wetlands, SAV, wildlife, upland vegetation, plankton, fish and fishery resources, benthic communities, federally listed species, cultural resources, recreation, visual and aesthetic resources, socioeconomic considerations, hazardous materials and wastes, safety, transportation, navigation, utilities, air quality, and noise and vibration. The anticipated impacts based on available existing data ranged from adverse to beneficial, temporary to permanent, and included classifications as to whether the impacts would have a negligible, minor, moderate, or major.

The exact locations and footprints of the floodwalls and surge barriers would be finalized during the PED Phase of the project when designs advance and more detailed survey data are available. The document has been prepared as an Integrated Feasibility Report and Programmatic EIS. The term “programmatic” indicates this is a broad or high-level NEPA document not a site-specific NEPA document. Therefore, during successive phases of the project, additional site-specific NEPA documents (each one would be considered a tiered NEPA document) would be prepared and coordinated with local, state, and federal regulatory agencies, tribal governments, and the public. Tiering expedites the resolution of more substantive impacts to the human environment in the programmatic NEPA document so that subsequent tiered NEPA documents can focus on site-specific impacts and issues.

The current findings would be re-evaluated once the final siting and footprints are determined, and resource surveys are conducted, and subsequent data has been analyzed.

2. Evaluation of Dredged or Fill Material (40 CFR § 230.60) (Subpart G)

- a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material. **(Check only those appropriate)**
- (1) Physical characteristics
 - (2) Hydrography in relation to known or anticipated sources of contaminants
 - (3) Results from previous testing of the material in the vicinity of the project
 - (4) Known, significant, sources of persistent pesticides from land runoff or percolation
 - (5) Spill records for petroleum products or designated (Section 311 of CWA) hazardous substances
 - (6) Other public records of significant introduction of contaminants from industries, municipalities or other sources
 - (7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge/fill
 - (8) Other sources (specify)

The existing conditions for hazardous, toxic, and radioactive waste and materials producers are discussed in the Draft Integrated Feasibility Report/Programmatic EIS. A Phase 1 Environmental Site Assessment (ESA) (and additional phased ESAs as needed) would be conducted during the PED Phase as well as any additional geotechnical, topographic or other associated testing/surveys. During the PED Phase spill records and other public records would be further researched and documented in conjunction with the Phase 1 ESA. It is anticipated as a standard practice that only clean fill material demonstrating no potential for contaminants would be used. In addition, extensive testing, characterization, and evaluation would be conducted for any material that would need to be removed (and/or filled) in conjunction with the installation or construction of the proposed structures.

There are currently no Hazardous, Toxic, or Radioactive Waste (HTRW) producers adjacent to the potential project impact sites that discharge effluents near the Biscayne Bay and/or the Miami River, Little River, Biscayne Canal, or Arch Creek. However, the areas surrounding the proposed project sites are highly developed; therefore, hazardous waste sources such as gas stations, dry cleaners, etc., exist around the entire study area as well as the documented Superfund and other contaminated sites detailed in the draft integrated feasibility study/Programmatic EIS.

- b. An evaluation of the appropriate information in 2a above indicated that there is reason to believe the proposed dredged or fill material is not a carrier of contaminants, of that levels of contaminants are substantively similar at

extraction and disposal sites and not likely to exceed constraints. The material meets the testing exclusion criteria.

YES NO

3. Disposal Site Delineation (40 CFR § 230.11(f))

a. The following factors, as appropriate, have been considered in evaluating the disposal site.

- (1) Depth of water at disposal site
- (2) Current velocity, direction, and variability at disposal site
- (3) Degree of turbulence
- (4) Water volume stratification
- (5) Discharge vessel or fill speed and direction
- (6) Rate of discharge/fill
- (7) Dredged material characteristics (constituents, amount, and type of material, settling velocities)
- (8) Number of discharges/fill per unit of time
- (9) Other factors affecting rates and patterns of mixing (specify)

Dredging operations are not forecasted for this project. It is anticipated that all disposal of material in conjunction with the construction of the floodwalls and surge barriers would be disposed of at a certified, upland disposal facility. A Clean Water Act Section 401 water quality certification is required from the State of Florida for this project. Any and all applicable authorizations will be coordinated and obtained prior to the start of construction.

b. An evaluation of the appropriate factors in 4a above indicates that the disposal site and/or size of mixing zone are acceptable.

YES NO

4. Actions to Minimize Adverse Effects (40 CFR §§ 230.70-230.77)(Subpart H)

All appropriate and practicable steps have been taken, through application of recommendation of Section 230.70-230.77 to ensure minimal adverse effects of the proposed discharge/fill.

YES NO

It is anticipated that the impacts would not be significant and would be avoided or minimized to the maximum extent practicable. At that time all appropriate and practicable steps would be employed to ensure minimal adverse effects of the proposed discharge/fill.

5. Factual Determination (40 CFR § 230.11)

A review of appropriate information as identified in items 2-5 above indicates that there is minimal potential for short or long-term environmental effects of the proposed discharge/fill as related to:

- a. Physical substrate at the disposal site (review sections 2a, 3, 4, & 5)
- b. Water circulation, fluctuation & salinity (review sections 2a, 3, 4, & 5)
- c. Suspended particulates/turbidity (review sections 2a, 3, 4, & 5)
- d. Contaminant availability (review sections 2a, 3, & 4)
- e. Aquatic ecosystem structure and function (review sections 2b, c; 3, & 5)
- f. Disposal site (review sections 2, 4, & 5)
- g. Cumulative impact on the aquatic ecosystem
- h. Secondary impacts on the aquatic ecosystem

Potential impacts to environmental resources are described in the Integrated Feasibility Report and Programmatic EIS and would be further refined in the PED Phase. The anticipated direct or indirect and cumulative impacts based on available existing data ranged from adverse to beneficial, temporary to permanent, and included classifications as to whether the impacts would have a negligible, minor, moderate, or major (significant).

This initial analysis was conducted to evaluate the overall potential for environmental impacts based on projected project features and estimated impacts using existing data. The findings from this analysis would be revisited once the final siting and footprints are determined, cultural and environmental surveys are conducted, and subsequent data has been analyzed. During the PED Phase of the project, detailed surveys of the extent, diversity, and coverage of SAV and hardbottom habitat/corals would be conducted.

6. Review of Compliance (40 CFR § 230.10(a)-(d) (Subpart B)

A review of the permit application indicates that:

- a. The discharge/fill represents the least environmentally damaging practicable alternative and if in a special aquatic site, the activity associated with the discharge/fill must have direct access or proximity to, or be located in the aquatic ecosystem to fulfill its basic purpose (if no, see section 2 and information gathered for EA alternative);

YES NO

- b. The activity does not appear to 1) violate applicable state water quality standards or effluent standards prohibited under Section 307 of the CWA; 2) jeopardize the existence of Federally designated marine sanctuary (if no, see section 2b and check responses from resource and water quality certifying agencies); YES NO
- c. The activity will not cause or contribute to significant degradation of waters of the U.S. including adverse effects on human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, aesthetic, and economic values (if no, see section 2); YES NO
- d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge/fill on the aquatic ecosystem (if no, see section 5); YES NO

The project siting, design, and footprint of the Preferred Alternative is anticipated to be the preliminary least environmentally damaging practicable alternative (LEDPA) and additional analysis and evaluation during the PED Phase would serve to further substantiate this. At that time all appropriate and practicable steps would be employed to ensure minimal adverse effects of the proposed discharge/fill to human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, aesthetic, and economic values. The project would be designed to not violate applicable state water quality standards or effluent standards prohibited under Section 307 of the CWA nor jeopardize the existence of any federally designated marine sanctuaries.

7. Findings

- a. The proposed disposal site for discharge of dredged or fill material complies with the Section 404 (b)(1) guidelines
- b. The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) guidelines with the inclusion of the following conditions:

Project specifications would ensure that any proposed disposal site for discharge of dredged or fill material would be in full compliance with Section 404(b)(1) guidelines.

- c. The proposed disposal site for discharge of dredged or fill material does not comply with the Section 404(b)(1) guidelines for the following reason(s):

- (1) There is a less damaging practicable alternative
- (2) The proposed discharge/fill will result in significant degradation of the aquatic ecosystem
- (3) The proposed discharge/fill does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem

**PROGRAMMATIC ENVIRONMENTAL
MITIGATION PLAN**

**MIAMI-DADE COASTAL STORM RISK
MANAGEMENT**

MIAMI-DADE COUNTY, FLORIDA

May 8, 2020

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1.0 PURPOSE OF THIS DOCUMENT AND MITIGATION OBJECTIVES

The purpose of this document is to describe the strategy for determining the type and quantity of compensatory mitigation required for implementation of the Preferred Alternative, Alternative 8, for the Miami-Dade Back Bay Coastal Storm Risk Management (CSRM) Integrated Feasibility Report and Programmatic Environmental Impact Statement (IFR/EIS). This document also serves to describe the mitigation strategies and alternatives that were considered, and the functional model used to assess functional resource loss requiring mitigation.

The compensatory mitigation objectives for the Miami-Dade CSRM Project are the following:

- Describe the methodology that will be used to estimate the functional loss of unavoidable impacts to hardbottom habitat/corals, Submerged Aquatic Vegetation (SAV), and mangroves with implementation of the Preferred Alternative, Alternative 8;
- Identify potential environmental mitigation plan alternatives that compensate for the functional loss of hardbottom habitat/corals, SAV, and mangroves;
- Identify the most cost-effective compensatory mitigation alternative that strategizes to identify and implement the most cost-effective mitigation plan while also meeting all environmental mitigation requirements; and
- Describe required real estate needs, in terms of labor and lands, easements, rights of way, and relocations (LERRDs) to implement the preferred environmental mitigation alternative.

This document is meant to describe the environmental mitigation strategy and would be updated during the Preconstruction, Engineering, and Design (PED) Phase of the project when the final siting of structures and engineering designs are provided and the quantity and type of required environmental mitigation as well as real estate acquisitions are finalized. Additional data collection to help identify the type and quantity of requirement mitigation would occur during the PED Phase. This additional data collection would include detailed environmental benthic surveys for corals/hardbottom and SAV and a wetland jurisdictional determination.

2.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

The U.S. Army Corps of Engineers (USACE) is the lead federal agency for this project and the Miami-Dade County is the non-federal sponsor for the project. The study serves to identify and evaluate potential coastal storm risk management measures for the Miami-Dade County. These measures will be formulated to reduce risk to residents, industries, and businesses which are critical to the nation's economy. For a detailed description of the purpose and need for the proposed action, please refer to the draft Miami-Dade Back Bay CSRM IFR and Programmatic EIS.

3.0 ENVIRONMENTAL MITIGATION REGULATORY BACKGROUND

The USACE and U.S. Environmental Protection Agency (USEPA) published regulations entitled, "Compensatory Mitigation for Losses of Aquatic Resources" (Mitigation Rule) on April 10, 2008. One of the primary goals of these regulations (33 Code of Federal Regulation (CFR) Parts 325 and 332) was to improve the quality and success of compensatory mitigation plans that are

designed to offset impacts to aquatic resources. The Mitigation Rule emphasizes the strategic selection of mitigation sites on a watershed basis and established equivalent standards for all types of compensatory mitigation (mitigation banks, in-lieu fee programs, and permittee-responsible mitigation plans). Per these regulations, compensatory mitigation means the restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of wetlands and special aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved. The three mechanisms for providing compensatory mitigation listed in order of preference as stated in the Mitigation Rule are the following: mitigation banks, in-lieu fee programs, and permittee-responsible mitigation. Compensatory mitigation is necessary to offset these unavoidable impacts to aquatic resource functions and services and to meet the programmatic goal of “no overall net loss” of aquatic resource functions and services.

4.0 DESCRIPTION OF THE PREFERRED ALTERNATIVE, ALTERNATIVE 8

For a detailed description of the Preferred Alternative, Alternative 8 please refer to the Miami-Dade CSRMM IFR and Programmatic EIS.

5.0 DESCRIPTION OF PROJECT SITE AND IMPACT ANALYSIS

Based on existing geospatial data, the project features that have the potential to be sited in or affect aquatic habitats (floodwalls and surge barriers, pump stations associated with floodwalls and surge barriers) and have the potential to impact hardbottom/coral SAV, and mangrove habitat. Figure 5-1 depicts SAV with the potential to occur in the project area before the SAV dieoffs that have occurred in more recent years as well as the more recent 2018 SAV survey data that was conducted in portions of the Region of Influence (area of potential impact). More recent SAV surveys have indicated substantive dieoffs within the vicinity of the project area in Biscayne Bay. However, due to the lack of recent site-specific SAV data in the Region of Influence for this study and the substantively fluxing trends of SAV in the project area, detailed site-specific surveys of SAV coverage, densities, and species composition would be conducted during the PED Phase of the project. Submerged Aquatic Vegetation presence, density, and species composition in the future when the project would be implemented (implementation would be approximately at least 10 years in the future) is relatively uncertain as well so determining an exact quantity of impacts at this time is not possible. It is possible that SAV could recover in the future or potentially that SAV species composition and/or distribution may shift in the future with the effects of climate change. However, this is relatively uncertain and this justifies the future need for SAV surveys in the timeframe closer to project implementation. During a limited, visual site investigation that was conducted by the USACE and regulatory agencies in January 2020, the presence of hardbottom habitat/corals and SAV in the Region of Influence (area of potential impact) was confirmed. However, no dive or Remotely Operated Vehicle (ROV) survey was conducted so species presence and relative percent cover would be determined in the PED Phase of the project when detailed surveys would occur.



Figure 5-1. Submerged Aquatic Vegetation and Hardbottom Habitat in Biscayne Bay (Miami Dade County 2020; Florida Fish and Wildlife Conservation Commission 2020)

Hardbottom habitat was detected during the January 2020 site visit; however, a comprehensive coral/hardbottom survey throughout the RO has not yet been conducted. In addition, corals were also detected on docks/bulkheads in the project area that are also not reflected in Figure 1. A detailed survey of hardbottom habitat/corals would be required to be conducted during the PED Phase of the project to determine coral relative abundance, biodiversity, and size. Similar to the SAV, the coral species and density could potentially change from current conditions now to the actual project implementation which further justifies the need for future site-specific surveys of hardbottom habitat/corals during the PED Phase of the project.

Mangroves do not occur in dense stands but have the potential to occur in patches sporadically along the Brickell Floodwall. During the PED Phase, a jurisdictional determination and UMAM site field investigation would be conducted to refine estimated mangrove impacts and required mitigation ratios for onsite compensatory mitigation.

While the actual quantities of impacts to hardbottom/corals and SAV will not be quantified during the feasibility phase of the project, based on the visual site investigation and examination of existing geospatial data, we did estimate the types of resources that could potentially be impacted and may require mitigation depending on the final siting of structures and designs that would be determined during the PED Phase of the project (Table 5-1).

Table 5-1. Potential impact sites requiring compensatory mitigation

Description	Protected Resource
Little River Floodwalls, Surge Barrier, and Pump Station	potential for direct and indirect impacts to corals on structures, hardbottom, SAV
Biscayne Canal Floodwalls, Surge Barrier and Pump Station	potential for direct and indirect impacts to corals on structures, hardbottom, SAV
Miami River Floodwalls, Surge Barrier, and Pump Station	potential for direct and indirect impacts to corals on structures, hardbottom, SAV

*presence, abundance, diversity, and extent of protected resources would be determined during the PED Phase of the project when detailed, site-specific surveys would be conducted; additional protected resources may need to be added to Table 5-1 depending on the result of site-specific surveys

6.0 COMPENSATORY WETLAND MITIGATION FUNCTIONAL ANALYSIS AND MITIGATION REQUIREMENTS

Hardbottom/Coral, SAV, and Mangrove Mitigation Functional Analysis and Mitigation Requirements

The Uniform Mitigation Assessment Model (UMAM) would be used to evaluate the estimated functional loss of corals, hardbottom habitat, SAV, and mangroves associated with implementation of the Preferred Alternative, Alternative 8. This model is used to determine the functional loss of habitat and required mitigation ratios and associated required mitigation acreages.

The UMAM is currently approved for use throughout the State of Florida by the U.S. Army Corps of Engineers ECO-PCX and is required for wetland impact and mitigation sites by the State of Florida per 62-345 Florida Administrative Code. Therefore, the UMAM is applied in a wide variety of wetland habitat types throughout the State of Florida. The UMAM is well suited for evaluating a suite of impact and potential mitigation sites, including the preservation, enhancement, restoration, and creation of wetlands, as well as the evaluation and use of mitigation sites, and it provides a framework for standardized wetland assessment methodology. The impact or mitigation site is assessed via a qualitative description of the site and a quantification of the

wetland function at the site. For the wetland function quantification, sites are evaluated in three categories and scored numerically from 0 to 10 (where 10 indicates a minimally impaired system). The first category, Location and Landscape Support, assess the surrounding landscape within which the system operates. The second examines the Water Environment, including an assessment of hydrology and water quality. The third category assess vegetation and structural habitat, for areas with plant cover, and benthic and sessile communities, for areas with a submerged benthic community.

The *UMAM Uniform Mitigation Assessment Method Training Manual* (Bardi et al. n.d.) provides a detailed guide of the UMAM concept and methodology and explains how to compile all of the data/information needed to perform the UMAM, how to document the standardized forms for the UMAM, and how to perform the necessary calculations to complete the UMAM functional analysis to quantify the habitat value of impact and mitigation sites.

7.0 POTENTIAL MITIGATION STRATEGIES/ALTERNATIVES

This section describes the mitigation alternatives that were evaluated that serve to meet the mitigation objectives. Based on a comprehensive search and discussions with state and federal regulatory agencies, there are no mitigation banks or in-lieu fee funds available for nearshore hardbottom/coral, SAV, or mangrove impacts in the servicing area. Therefore, while we considered banks and in-lieu fee funds as potential mitigation alternatives these were rapidly screened out due to lack of availability. Therefore, we anticipated all hardbottom/coral, SAV, and mangrove mitigation to be onsite compensatory mitigation. However, this would be reinvestigated during the PED Phase of the project.

8.0 SITING OF ONSITE COMPENSATORY MITIGATION SITES

The siting of onsite compensatory mitigation sites would be finalized during the PED Phase of the project when site-specific survey data is available to assess bottom conditions, hydrology, water quality, and presence of other protected species (to avoid potential impacts to other protected species). Wherever feasible, mitigation sites would be sited within approximately five miles of the impact site to offset impacts as close as possible to the impact site.

Appropriate real estate protections of the mitigation site would be required to determine the protection and perpetuity of the site over time. Designs for the mitigation site would be completed during the PED Phase of the project. The actual location, acreage, and mitigation methodology may vary depending on the final development of the project and mitigation site designs that will occur during the PED Phase of the project.

The reef would be marked (if required) with a U.S. Coast Guard approved sign to mitigate for any potential impacts to navigation.

Hardbottom Habitat/Coral Habitat Monitoring and Adaptive Management

A topographic survey and bathymetric survey would be conducted prior to reef placement to assess water depths and bottom conditions in the project area. It is anticipated that all mitigation sites would occur on state-owned bottom. Following the initial reef placement, an additional topographic survey would be conducted to ensure the proper placement of the reef materials and

to ensure the vertical reef requirements have been met. Monitoring would be conducted post-construction for a minimum period of five years to assess coral species/diversity, abundance and size. Monitoring would be conducted at the first year, the third year, and fifth year post-construction. Table 8-1 provides the goals and success performance metrics for the hardbottom/coral mitigation site

Table 8-1. Goals and success performance metrics for the hardbottom/coral mitigation site

Goals	Success Performance Metric Criteria
Structural Goals	Reef spatial extent, and reef height should remain neutral.
Functional Goals	Average coral abundance (count), coral species diversity, and average coral size at mitigation site to meet or exceed average metrics at impact site

The first five years of a hardbottom/coral mitigation project is crucial to its success. Reef evaluations would be conducted immediately following initial reef installation, and at year one, year three and year five post-reef construction. Monitoring could be conducted using a variety of methods of measurement including acoustic mapping, sampling by quadrat, ROV and/or by diver sampling.

Monitoring will involve taking sufficient samples at each mitigation site to estimate average coral abundance, diversity, size as well as reef height, and reef spatial extent. Post construction surveys would provide confirmation by acoustic mapping of reef height and areal extent before contractors demobilize the site. Adaptive management of reef height would occur (if needed) to ensure proper height and coverage at initial reef installation.

If unexpected high rates of mortality trigger adaptive management due to negative findings of a monitoring event at year one, three, or six, the reef will be evaluated for disease status. A subset of corals in various size classes would be assessed for disease. Table 8-2 summarizes the anticipated monitoring parameters, methods, and frequency for the hardbottom/coral mitigation site.

Table 8-2. Hardbottom/Coral Monitoring Parameters, Methods, and Frequency

Monitoring Element	Data Recorded	Methods	Monitoring Objective	Sampling Frequency
Reef Spatial Extent and Height	Substrate quality/unit	Acoustic Mapping & field verification	Assess existing bottom conditions. Areal extent of substrate and reef height	Post Construction, Year 1 Year 3

Monitoring Element	Data Recorded	Methods	Monitoring Objective	Sampling Frequency
				Year 5
Coral demographics	Corals abundance, species diversity, and size data	Diver and/or ROV	Assess average relative coral abundance, diversity, and size	Post Construction, Year 1 Year 3 Year 5
Coral disease status	Prevalence and intensity of coral diseases	Laboratory assay	Determine health of corals, document any further development of disease resistance development over time	Evaluate after Year 1, 3 & 5 monitoring events as an adaptive management strategy for unexpected high mortality rates only.

Hardbottom Habitat/Coral Adaptive Management

Potential adaptive management of the hardbottom/coral mitigation site could include one or more of the following activities:

- Transplantation of corals if coral abundance or biodiversity metrics are not met;
- Additional placement or movement of reef structures if they have shifted due to a storm event or otherwise sustain damage;
- Removal of biofouling (algae, non-target invertebrates, etc.) if coral abundance or size metrics are not met;
- Sample corals for disease or conduct water quality monitoring if there is an unusual mortality event or if it is otherwise unknown if we are not meeting the coral metrics;
- Removal of sediment; and
- Installation of weight-displacing matting if reef structures sink due to bottom type and do not meet performance metrics.

Reports – Monitoring staff shall record and create datasets of the required data for the species and reef structural metrics at the mitigation site, and analyze the data. Compliance monitoring reports shall be provided after each monitoring event years one, three, and five post-construction.

The survey monitoring report will include a general description of the site, site maps identifying stations where monitoring transects or points were taken, and all raw data from all samples taken and subsequently analyzed in addition to the following elements:

- Summary of all activities completed during the monitoring year;
- Description of monitoring methods;
- Number and location of samples;
- Physical reef metrics (location, reef profile – height and extent)
- Coral species presence, abundance (count), diversity, and size
- Standard error of the mean (SE) calculations based on monitoring data;
- Listing of additional species observed;
- Discussion of data collected, methods, results and conclusions to support the number of samples necessary for next monitoring cycle;
- Comparison of site conditions from the previous monitoring year (when possible).
- Any recommended adaptive management if metrics are not being met

SAV Monitoring and Adaptive Management

Prior to selection of mitigation sites previous SAV data, depth data, bottom type, hydrology, and water quality data would be examined to assess relative suitability of sites for SAV mitigation. Water clarity conditions would be assessed prior to planting efforts to ensure appropriate conditions at the mitigation site. Post-SAV planting, monitoring would involve taking sufficient samples at the site to accurately estimate SAV coverage by species and depth. A minimal standard error of the mean (SE), an estimate of sampling precision, is desirable so that the estimate of SAV coverage is accurate. The SE should be no greater than 15% of the mean. SE larger than 15% of the mean indicates the precision is poor and additional samples should be taken in order to have a higher degree of confidence in the population estimate derived from the survey. A number of transects or point samples throughout the planted area at different depths would be required in order to accomplish this objective. Water quality monitoring would also be required. As part of the monitoring, data sonde would be deployed within the restored SAV bed. These sonde would be able to collect data on a daily basis on, at the minimum, the following parameters: salinity, temperature, depth, and turbidity/clarity. Other parameters, such as chlorophyll, and Dissolved Oxygen are desirable but not required. Table 8-3 summarizes the goals and success performance metrics for the SAV mitigation site.

Table 8-3. Goals and success performance metrics for the SAV Mitigation Site

Goals	Success Performance Metric Criteria
Functional Goals	Attain SAV species density biodiversity reaching or exceeding that of impact site; planted SAV coverage at a minimum of 15%

Post-planting Survey and Adaptive Management – A post-planting survey at the SAV mitigation site would be conducted following the initial planting. Sites would be required to have at least 15% SAV coverage. The areas devoid of SAV would be required to be replanted. Monitoring and adaptive management (as needed) would occur for a period of five years following

the initial planting year to ensure project success. Adaptive management and monitoring to assess seagrass expanse, abundance, species diversity, and relative biomass would be conducted for a five year period after the year of the initial SAV planting.

Table 8-4. SAV Monitoring Parameters, Methods, and Frequency

Monitoring Element	Data Recorded	Methods	Monitoring Objective	Sampling Frequency
% coverage of each SAV species by area and depth	% SAV coverage, SAV species	Diver and/or ROV survey	Assess SAV presence, species diversity, % cover, and composition	Post Construction, Year 1 Year 3 Year 5
Photographs of SAV restoration site	Photographic record	Diver and/or ROV survey	Additional record collection	Year 1 Year 3 Year 5

SAV Adaptive Management

Potential adaptive management of the SAV mitigation site could include one or more of the following activities:

- Attempt a different type of mitigation strategy such as harvesting and planting of seeds instead of adult plants;
- Movement to a different mitigation site;
- Installation of predation-deterrent devices; and
- Sample SAV for disease or conduct additional water quality monitoring if there is an unusual mortality event or if it is otherwise unknown if we are not meeting the SAV metrics.

Reports – The Contractor shall record and create datasets of the required data for the species within the planted area, and analyze the data.

The survey monitoring report will include a general description of the site, site maps identifying photo stations where monitoring transects or points were taken, and all raw data from all samples taken and subsequently analyzed in addition to the following elements:

- Summary of all activities completed during the monitoring year;
- Description of monitoring methods;
- Number and location of samples;
- Properly labeled photographs of samples;

- % coverage of each SAV species by area and depth
- Standard error of the mean (SE) calculations based on monitoring data;
- Listing of additional species observed;
- Discussion of data collected, methods, results and conclusions to support the number of samples necessary for next monitoring cycle;
- Comparison of site conditions from the previous monitoring year (when possible).
- Any recommended adaptive management if metrics are not being met.

Mangrove Monitoring and Adaptive Management

Prior to selection of mitigation sites previous mangrove data, depth data, site elevation, bottom type, hydrology, and water quality data (if available) would be examined to assess relative suitability of sites for mangrove mitigation. Elevation data via a topographic survey would be required to be collected at mangrove reference sites and also at the proposed mangrove mitigation site prior to planting. Post mangrove planting, annual monitoring would involve taking sufficient samples at the site to accurately estimate mangrove coverage, density, as well as any potential cover by invasive/exotic vegetation. Monitoring would also include monitoring of elevation/water depths to ensure site stability and suitable conditions over time for mangroves. Most monitoring parameters (with the exception of elevation and water depth) would be conducted for a period of five years post construction assuming all performance metric criteria is met for a consecutive period of three years.

A minimal standard error of the mean (SE), an estimate of sampling precision, is desirable so that the estimate of SAV coverage is accurate. The SE should be no greater than 15% of the mean. SE larger than 15% of the mean indicates the precision is poor and additional samples should be taken in order to have a higher degree of confidence in the population estimate derived from the survey. A number of transects or point samples throughout the planted area would be required in order to accomplish this objective. Table 8-5 summarizes the goals and success performance metrics for the mangrove mitigation site. For monitoring parameters, methods, and frequency please refer to Table 8-6.

Table 8-5. Goals and success performance metrics for the mangrove mitigation site

Goals	Success Performance Metric Criteria
Functional Goals	<ul style="list-style-type: none"> • Mangrove species density biodiversity reaching or exceeding that of impact site; planted mangrove coverage at a minimum of 80%. • Invasive/exotic species coverage is limited to less than 2%. • Elevations are stable and suitable for mangrove survival over time and are within 0.2 feet of median mangrove reference locations. • Water depths are suitable for mangrove restoration and within the water depth range of the mangrove reference sites (or other published reference site data) at least 80% of the time. • Performance metrics have been met for a period of three consecutive years.

Table 8-6. Monitoring Parameters, Methods, and Frequency

Monitoring Element	Data Recorded	Methods	Monitoring Objective	Sampling Frequency
% coverage of mangroves	% mangrove coverage, mangrove species	Transect Survey/Quadrant	Document mangrove presence, species diversity, % cover, and composition	Annually, post construction for five consecutive years
% coverage of invasive exotics	% coverage of invasive exotics	Transect Survey/Quadrant	Document coverage of Category I and II invasive exotic plant species, pursuant to the most current list established by the Florida Exotic Pest Plant Council at http://www.fleppc.org	Annually, post construction for five consecutive years
Density	Count of mangrove stems	Transect Survey/Quadrant	Document 80% density of native mangrove reference locations	Annually, post construction for five consecutive years
Elevation	Topographic Survey	Topographic Survey	Reference data points from reference sites would be collected in the vicinity of the mitigation sites; mangrove elevations must be within 0.2 feet of reference median mangrove elevation sites	Prior to Construction; Post Construction Year 1; additional monitoring required if not meeting metric at Year 1
Water Depth	Water Level Stage Gage	Water Level Stage Gage	Assess approximate monthly average water elevation in mangrove restoration area	Monthly, post construction for five consecutive years
Photographs of mangrove restoration site	Photographic record	Transect Survey	Additional record collection	Annually, post construction for five consecutive years

Post-planting Survey and Adaptive Management – A post-planting survey at the mangrove mitigation site would be conducted following the initial planting. Sites would be required to have at least 80% mangrove coverage and less than 2% exotic/invasive vegetation species coverage. Mangrove density would be required to approximate the reference locations and show densities of at least 80% of those at the reference locations. Elevation and water depth would also be monitored post construction to ensure long-term suitability of mangrove restoration sites. Photographic records of monitoring sites would also be collected and provided in annual reports to document site conditions and evidence of planting success/failure and other related metrics. Monitoring and adaptive management (as needed) would occur annually for a minimum period of five years following the initial planting year to ensure project success. Adaptive management and monitoring to assess mangrove expanse, abundance, density, and species diversity would be conducted for a five year period after the year of the initial mangrove planting.

Mangrove Adaptive Management

Potential adaptive management of the mangrove mitigation site could include one or more of the following activities:

- Additional mangrove replantings due to storm damage, natural mortality, or other types of damage;
- Invasive species control;
- Temporary protection of seedlings from surge;
- Movement to a more suitable mitigation site; and
- Potentially regarding of the site or adding clean sand fill if the elevation is not suitable for mangrove restoration.

Reports – The Contractor shall record and create datasets of the required data for the species within the planted area, and analyze the data.

The survey monitoring report will include a general description of the site, site maps identifying photo stations where monitoring transects or points were taken, and all raw data from all samples taken and subsequently analyzed in addition to the following elements:

- Summary of all activities completed during the monitoring year;
- Description of monitoring methods;
- Number and location of samples;
- Properly labeled photographs of samples;
- % coverage of mangroves any an invasive/exotic species by area
- Standard error of the mean (SE) calculations based on monitoring data;
- Topographic survey results including elevations of reference mangrove sites and mitigation sites
- Elevation gauge data;
- Listing of additional species observed;
- Discussion of data collected, methods, results and conclusions to support the number of samples necessary for next monitoring cycle;

- Comparison of site conditions from the previous monitoring year (when possible).
- Any recommended adaptive management methods and results if metrics are not being met.

9.0 RECOMMENDED MITIGATION PLAN ALTERNATIVE AND JUSTIFICATION OF THE SELECTED MITIGATION PLAN ALTERNATIVE

During the PED Phase of the project detailed site investigation surveys and UMAM site investigations would be conducted to determine the type and quantify of the required mitigation for the project. In addition, potential mitigation banks and in-lieu fee funds available would be reinvestigated as well as a cost assessment to ensure that the most appropriate mitigation alternative is selected.

10.0 COST SHARE OF RECOMMENDED MITIGATION PLAN ALTERNATIVE

In accordance with the cost share provisions in Section 103 of the Water Resources Development Act (WRDA) of 1986, as amended (33 U.S.C. 2213), project design and implementation are cost shared 65% federal and 35% non-federal.

11.0 PROJECTED LERRD NEED OF COMPENSATORY MITIGATION

Because the mitigation would be conducted on state-owned bottom, there would be no anticipated LERRD needs for the potential onsite compensatory mitigation sites. Some minor labor costs of the real estate USACE staff would be required to verify and document real estate requirements of the mitigation portions of the project.

12.0 REFERENCES

Bardi, E., Brown, M.T., Reiss, K.C., Cohen, M.J. n.d. *UMAM Uniform Mitigation Assessment Method Training Manual* Retrieved from.

http://sfrc.ufl.edu/ecohydrology/UMAM_Training_Manual_ppt.pdf

Florida Fish and Wildlife Conservation Commission. 2020 (last date updated). Submerged Aquatic Vegetation geospatial data mapped from sources ranging from 1987-2018. Retrieved from <http://geodata.myfwc.com/datasets/seagrass-habitat-in-florida?geometry=-81.885%2C25.944%2C-81.588%2C25.998>.

Miami Dade County. 2018. Submerged Aquatic Vegetation geospatial data mapped from 2018.

Approved by:

Susan Layton

U.S. Army Corps of Engineers, Norfolk District
Chief, Planning and Policy Branch

May 8, 2020

MIAMI-DADE COUNTY BACK BAY COASTAL STORM RISK MANAGEMENT PROJECT

Coordination

**Norfolk District
803 Front Street
Norfolk, Virginia 23510**



**U.S. Army Corps
of Engineers
Norfolk District**

interest in cost-sharing for those alternatives.

As required by Council on Environmental Quality's Principles, Requirements and Guidelines for Water and Land Related Resources Implementation Studies all reasonable alternatives to the proposed Federal action that meet the purpose and need will be considered in the EIS. These alternatives will include no action and a range of reasonable alternatives for protecting the shoreline and structures in Collier County, Florida.

Susan L. Conner,

Chief, Planning and Policy, Norfolk District USACE.

[FR Doc. 2019-15296 Filed 7-17-19; 8:45 am]

BILLING CODE 3720-58-P

DEPARTMENT OF DEFENSE

Department of the Army, Corps of Engineers

Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DoD.

ACTION: Notice of Intent/NEPA Scoping meeting and public comment period.

SUMMARY: In accordance with all applicable laws and regulations, the U.S. Army Corps of Engineers (USACE) plans to prepare a Feasibility Study with an integrated Environmental Impact Statement (EIS) to evaluate environmental impacts from reasonable project alternatives to protect low-lying and flood-prone areas of Miami-Dade County, Florida, from hurricanes and other coastal storms with their associated wind, storm surge, and coastal flooding.

DATES: Scoping comments may be submitted until August 23, 2019.

ADDRESSES: The public is invited to submit NEPA scoping comments to Ms. Carissa Agnese, Department of the Army, U.S. Army Corps of Engineers, Norfolk District, Fort Norfolk, 803 Front St., Norfolk, VA 23510 or via email: Carissa.R.Agnese@usace.army.mil. The project title and the commenter's contact information should be included with submitted comments.

FOR FURTHER INFORMATION CONTACT: Carissa Agnese, (757) 201-7752.

SUPPLEMENTARY INFORMATION:

Applicable laws and regulations are section 102(2)(C) of the National Environmental Policy Act (NEPA) of 1969, as amended, 42 U.S.C. 4321-4370, as implemented by the Council on

Environmental Quality Regulations (40 CFR parts 1500-1508). The study authority is Public Law 84-71, which authorized the examination and survey of the coastal and tidal areas of the eastern and southern United States, with particular reference to areas where severe damages have occurred from hurricane winds and tides. The primary problem is that existing protection is not adequate to prevent excessive storm damage and flooding from occurring during major coastal storms. Coastal flooding is worsening due to climate change induced sea level rise, which is also amplifying storm surge height. These trends are expected to continue and worsen due to sea level rise accelerating over time, a trend already observed in recent decades. Measures being considered include ringwalls, floodwalls, storm surge barriers, buyouts/elevations of buildings, wet and/or dry flood-proofing of buildings, relocating structures and utilities, and nature-based features potentially including mangrove restoration, oyster and/or coral reef restoration, and seagrass restoration.

USACE is the lead federal agency and Miami-Dade County will be the non-federal sponsor for the study. The Study/EIS will address the primary problem of the increasing storm damage and flooding occurring and expected to increase in the area by studying all reasonable alternatives and determine the Federal interest in cost-sharing for those alternatives.

As required by Council on Environmental Quality's Principles, Requirements and Guidelines for Water and Land Related Resources Implementation Studies all reasonable alternatives to the proposed Federal action that meet the purpose and need will be considered in the EIS. These alternatives will include no action and a range of reasonable alternatives for protecting the shoreline and structures in Miami-Dade County, Florida.

Susan L. Conner,

Chief, Planning and Policy, Norfolk District USACE.

[FR Doc. 2019-15292 Filed 7-17-19; 8:45 am]

BILLING CODE 3720-58-P

DEPARTMENT OF DEFENSE

Department of Navy

Notice of Intent To Grant a Partially Exclusive License; CHEMEON Surface Technology, LLC

AGENCY: Department of the Navy, DoD.

ACTION: Notice of intent to grant license.

SUMMARY: The Department of the Navy hereby gives notice of its intent to grant to CHEMEON Surface Technology, LLC located at 2241 Park Place, Suite B, Minden, NV 89423, a revocable, nonassignable, partially exclusive license to practice the Government-Owned invention described in United States Patent Application number 15/474,374 titled "Synergistic Metal Polycarboxylate Corrosion Inhibitors" filed 30 March 2017 (PAX236); United States Patent Application number 16/184,264 titled "Synergistic Metal Polycarboxylate Corrosion Inhibitors" filed 08 November 2018 (PAX294); and United States Patent Application number 16/294,039 titled "Synergistic Metal Polycarboxylate Corrosion Inhibitors" filed 06 March 2019 (PAX315); and any divisional applications or continuation applications thereof, and any patents issuing from these applications, throughout the United States of America in the fields of use for CrVI and CrIII conversion coatings; phosphate conversion coatings; bluing; black oxide coatings on steel; and lubricants.

DATES: Anyone wishing to object to the grant of this license has fifteen (15) days from the publication date of this notice to file written objections along with supporting evidence, if any.

ADDRESSES: Written objections are to be filed with the Naval Air Warfare Center Aircraft Division, Technology Transfer Office, Attention Michelle Miedzinski, Code 5.0H, 22347 Cedar Point Road, Building 2185, Box 62, Room 2160, Patuxent River, Maryland 20670. File an electronic copy of objection with michelle.miedzinski@navy.mil.

FOR FURTHER INFORMATION CONTACT: Michelle Miedzinski, 301-342-1133, Naval Air Warfare Center Aircraft Division, 22347 Cedar Point Road, Building 2185, Box 62, Room 2160, Patuxent River, Maryland 20670, michelle.miedzinski@navy.mil.

Authority: (35 U.S.C. 207, 37 CFR part 404.)

Dated: July 15, 2019.

M.S. Werner,

Commander, Judge Advocate General's Corps, U. S. Navy, Federal Register Liaison Officer.

[FR Doc. 2019-15286 Filed 7-17-19; 8:45 am]

BILLING CODE 3810-FF-P



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

November 21, 2018

Andy Strelcheck
Deputy Regional Administrator
NOAA Fisheries
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

RE: Cooperating Agency Invitation for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study

Dear Mr. Strelcheck,

In accordance with regulations pertaining to the National Environmental Policy Act (NEPA; Title 40 of the Code of Federal Regulations, part 1501.6), Executive Order 13807 ("One Federal Decision") and Section 1005 of the Water Resources Reform and Development Act (WRRDA) of 2014, the U.S. Army Corps of Engineers (Corps), is formally inviting the National Oceanic and Atmospheric Administration (NOAA) to become a cooperating agency for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study. Council on Environmental Quality regulations implementing NEPA provide that the lead agency (i.e. Corps) may designate other federal, state, local and tribal agencies that have legal jurisdiction or special expertise with respect to any environmental impact involved in a proposal to be cooperating agencies. If you choose not to become a cooperating agency, the Corps will continue to coordinate as we have done in the past.

The purpose of the project is to reduce potential damages caused by coastal storms and improve human safety and coastal resiliency in the Miami-Dade County Back Bay. Attachment 1 contains a map of the approximate study area. The project is currently in the feasibility study phase and draft project alternatives are anticipated to be available in approximately January 2019, selection of a Tentatively Selected Plan is planned for January 2020 and the release of the draft integrated report/NEPA document is planned for release to the public for commenting in February/March 2020.

The formulation of the project alternatives will be in accordance with Engineer Regulation ER 1105-2-100 and will fully consider a range of environmental, economic and social factors. Your participation as a cooperating agency will help the Corps fully consider the views, needs and benefits of competing interests. Roles and responsibilities of a cooperating agency are defined in Attachment 2. For additional information on becoming a cooperating agency, please see the "Rights and

Responsibilities of Lead and Cooperating Agencies” (Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations, Council on Environmental Quality, 1981, 14a;
<https://www.energy.gov/sites/prod/files/2018/06/f53/G-CEQ-40Questions.pdf>).

In accordance with WRRDA 2014, Section 1005, any federal agency that is invited by the federal lead agency to participate in the environmental review process for a project study shall be designated as a cooperating agency by the federal lead agency unless the invited agency informs the federal lead agency, in writing, by the deadline specified in the invitation that the invited agency— “(A)(i)(I) has no jurisdiction or authority with respect to the project; “(II) has no expertise or information relevant to the project; or “(III) does not have adequate funds to participate in the project; and “(ii) does not intend to submit comments on the project; or “(B) does not intend to submit comments on the project. The Corps appreciates a response to this invitation within 30 days of the date of this letter. If you have any questions, please contact Ms. Carissa Agnese at-757-201-7752 or via email at Carissa.R.Agnese@usace.army.mil.

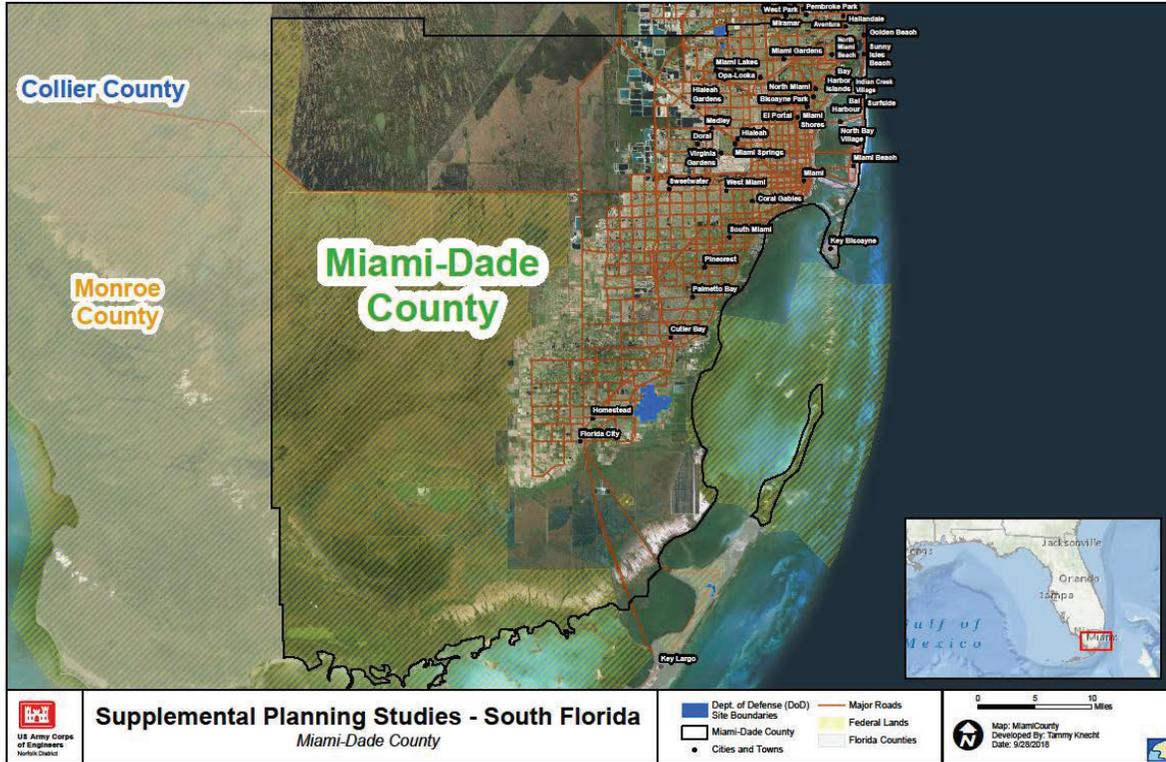
Sincerely,

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Date: 2018.11.21 09:56:54 -05'00'

Alicia M. Logalbo
U.S. Army Corps of Engineers
Norfolk District
Chief, Environmental Analysis Section
Planning and Policy Branch

Attachment 1: Map of Approximate Study Area



Attachment 2: Role of Cooperating Agency

As outlined in E.O. 13807, Section 5 (b)(i): “All Federal cooperating and participating agencies shall identify points of contact for each project, cooperate with the lead Federal agency point of contact, and respond to all reasonable requests for information from the lead Federal agency in a timely manner.”

The roles and responsibilities of cooperating agencies include, but are not limited to:

40 CFR §1501.6

- 1) Participate in the National Environmental Policy Act (NEPA) process at the earliest possible time.
- 2) Participate in the scoping process (described below and adapted from 40 CFR §1501.7)
 - a) Determine significant issues to be analyzed in depth in the NEPA assessment.
 - b) In cooperation with the lead agency (U.S. Army Corps of Engineers, Jacksonville District; Corps) identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review, narrowing the discussion of these issues in the NEPA assessment to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere.
 - c) Assist in preparation of the sections of the NEPA assessment for which the cooperating agency has jurisdiction by law or special expertise.
 - d) Share knowledge of any public environmental assessments and other environmental impact statements which are being or will be prepared that are related to but are not part of the scope of the NEPA assessment under consultation.
 - e) Identify other environmental review and consultation requirements so the lead and cooperating agencies may prepare other required analyses and studies concurrently with, an integrated with, the NEPA assessment as provided in 40 CFR §1502.25.
- 3) Assume on the request of the Corps responsibility for developing information and preparing environmental analyses including portions of the NEPA assessment concerning which the cooperating agency had special expertise.
- 4) Make available staff support at the Corps' request to enhance the Corps' interdisciplinary capabilities.
- 5) Participate in scheduled project delivery team meetings, sub-team meetings, NEPA meetings and other scheduled public engagements as requested by the Corps.
- 6) Meet all scheduled time frames provided by the Corps to ensure timely delivery of materials in order to comply with time frames set forth under WRRDA 2014 and E.O. 13807.
- 7) Review and provide written comments to the Corps on the Draft and Final NEPA assessment during the scheduled public review periods.
- 8) Understand that the Corps is the lead Federal agency and as such as the final decision on the contents of the NEPA assessment.



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

November 21, 2018

Gracia Szczech
Regional Administrator, Region IV
Federal Emergency Management Administration
3003 Chamblee Tucker Road
Atlanta, GA 30341

RE: Participating Agency Invitation for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study

Dear Gracia Szczech,

In accordance with regulations pertaining to the National Environmental Policy Act (NEPA; Title 40 of the Code of Federal Regulations, part 1501.6), Executive Order 13807 ("One Federal Decision") and Section 1005 of the Water Resources Reform and Development Act (WRRDA) of 2014, the U.S. Army Corps of Engineers (Corps), is formally inviting the Federal Emergency Management Administration to become a participating agency for the Miami-Dade Back Bay Coastal Storm Risk Management Project. The Corps is the lead federal agency for this study and Miami-Dade County is the nonfederal sponsor. Federal, State, tribal, regional, and local government agencies that may have an interest in the project are invited to serve as participating agencies. Roles and responsibilities of participating agencies are defined in Attachment 1. If you choose not to become a participating agency, the Corps will continue to coordinate as we have done in the past.

The purpose of the project is to reduce potential damages caused by coastal storms and improve human safety and coastal resiliency in the Miami-Dade County Back Bay. Attachment 2 contains a map of the approximate study area. The project is currently in the feasibility study phase and draft project alternatives are anticipated to be available in approximately January 2019, selection of a Tentatively Selected Plan is planned for January 2020 and the release of the draft integrated report/NEPA document is planned for release to the public for commenting in February/March 2020.

The formulation of the project alternatives will be in accordance with Engineer Regulation ER 1105-2-100 and will fully consider a range of environmental, economic and social factors. Your contribution as a participating agency will help us fully consider the views, needs and benefits of competing interests. Based on information received from the Federal lead agency, cooperating and participating agencies shall identify, as early as practicable, any issues of concern regarding the potential environmental or

socioeconomic impacts of the project, including any issues that could substantially delay or prevent an agency from granting a permit (WRRDA 2014 Section 1005).

The Corps appreciates a response to this invitation within 30 days of the date of this letter. The Corps requests that in your letter response that you state formally whether you wish to contribute to the project as participating agency. If you have any questions, please contact Ms. Carissa Agnese at 757-201-7752 or via email at Carissa.R.Agnese@usace.army.mil.

Sincerely,

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ou=USA, cn=LOGALBO.ALICIA.MARIE.1293421745
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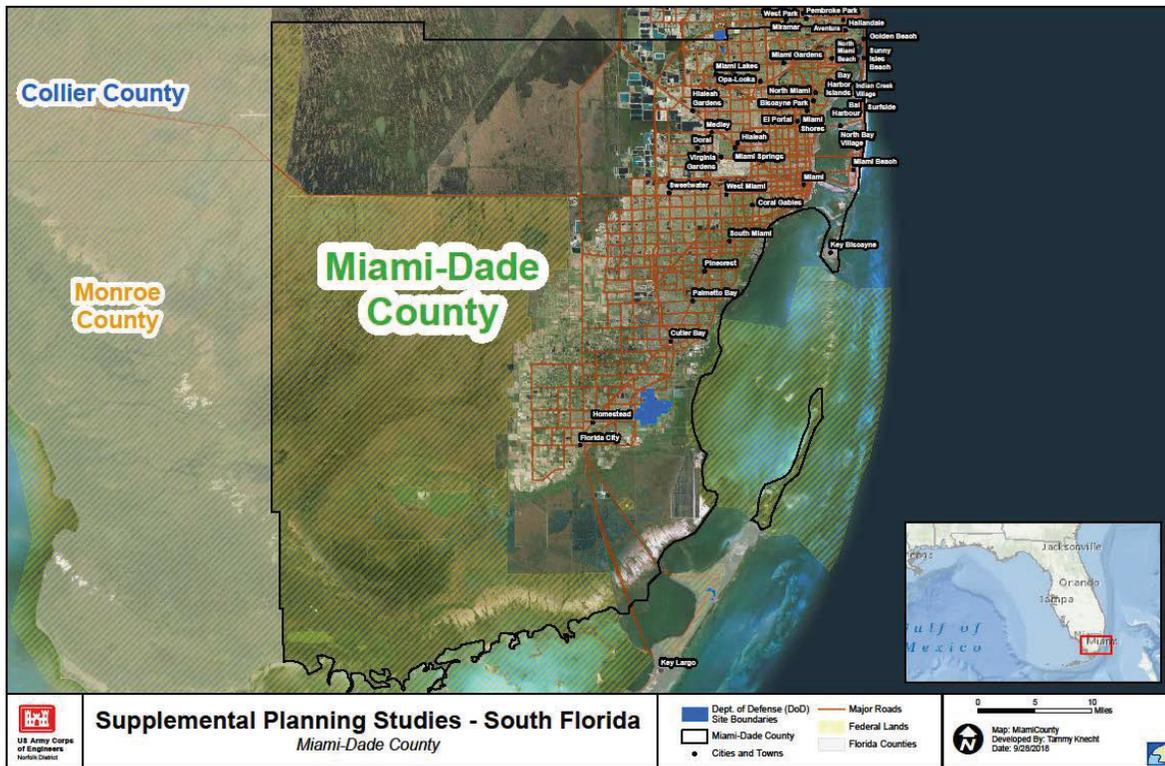
Alicia M. Logalbo
U.S. Army Corps of Engineers
Norfolk District
Chief, Environmental Analysis Section
Planning and Policy Branch

Attachment 1: Role of Participating Agency

As outlined in E.O. 13807, Section 5 (b)(i): “All Federal cooperating and participating agencies shall identify points of contact for each project, cooperate with the lead Federal agency point of contact, and respond to all reasonable requests for information from the lead Federal agency in a timely manner.”

- 1) Participate in the National Environmental Policy Act (NEPA) process starting at the earliest possible time, especially with regard to the development of the purpose and need statement, range of alternatives, methodologies, and the level of detail for the analysis of alternatives.
- 2) Participate in the scoping process and scheduled project delivery team meetings.
- 3) Identify, as early as practicable, any issues of concern regarding the project’s potential environmental or socioeconomic impacts.
- 4) Provide meaningful and timely input on unresolved issues.
- 5) Review and provide written comments to the U.S. Army Corps of Engineers, Jacksonville District, on the draft and final NEPA assessments during the scheduled public review periods.

Attachment 2: Map of Approximate Study Area





DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

January 6, 2020

Mr. Jim Wolfe
District Six Secretary
Florida Department of Transportation
1000 N.W. 111 Avenue
Miami, Florida 33172

RE: Cooperating Agency Invitation for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study

Dear Mr. Wolfe,

In accordance with regulations pertaining to the National Environmental Policy Act (NEPA; Title 40 of the Code of Federal Regulations, part 1501.6), Executive Order 13807 ("One Federal Decision") and Section 1005 of the Water Resources Reform and Development Act (WRRDA) of 2014, the U.S. Army Corps of Engineers (Corps), is formally inviting the Florida Department of Transportation to become a cooperating agency for the Miami-Dade Back Bay Coastal Storm Risk Management (CSRM) Feasibility Study. Council on Environmental Quality regulations implementing NEPA provide that the lead agency (i.e. Corps) may designate other federal, state, local and tribal agencies that have legal jurisdiction or special expertise with respect to any environmental impact involved in a proposal to be cooperating agencies. If you choose not to become a cooperating agency, the Corps will continue to coordinate as we have done in the past.

The purpose of the project is to reduce potential damages caused by coastal storms and improve human safety and coastal resiliency in the Miami-Dade County Back Bay. Attachment 1 contains a map of the approximate study area. The project is currently in the feasibility study phase and the release of the draft integrated report/NEPA document is planned for release to the public for commenting in approximately March 2020.

The formulation of the project alternatives will be in accordance with Engineer Regulation ER 1105-2-100 and will fully consider a range of environmental, economic and social factors. Your participation as a cooperating agency will help the Corps fully consider the views, needs and benefits of competing interests. For additional information on becoming a cooperating agency, please see the "Rights and Responsibilities of Lead and Cooperating Agencies" (Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, Council on Environmental Quality, 1981, 14a; <https://www.energy.gov/sites/prod/files/2018/06/f53/G-CEQ-40Questions.pdf>).

In accordance with WRRDA 2014, Section 1005, any federal agency that is invited by the federal lead agency to participate in the environmental review process for a project study shall be designated as a cooperating agency by the federal lead agency unless the invited agency informs the federal lead agency, in writing, by the deadline specified in the invitation that the invited agency— “(A)(i)(I) has no jurisdiction or authority with respect to the project; “(II) has no expertise or information relevant to the project; or “(III) does not have adequate funds to participate in the project; and “(ii) does not intend to submit comments on the project; or “(B) does not intend to submit comments on the project. The Corps appreciates a response to this invitation within 30 days of the date of this letter. If you have any questions, please contact Ms. Lee Fuerst at-757-201-7832 or via email at lee.a.fuerst@usace.army.mil.

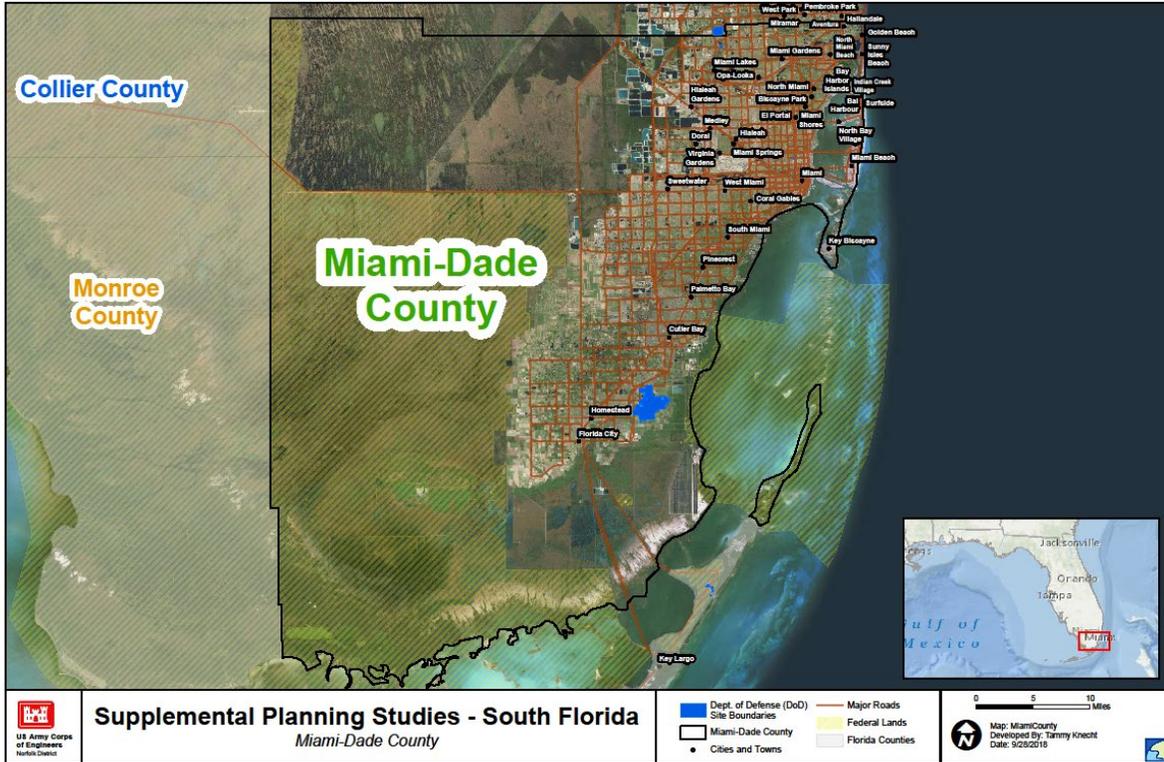
Sincerely,

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ARIE.1293421745

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Date: 2020.01.06 18:57:57 -05'00'

Alicia M. Logalbo
USACE Norfolk District
Chief, Environmental Analysis Section
Planning and Policy Branch

Attachment 1: Map of Approximate Study Area





DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

November 21, 2018

Jamie Higgins
Resource Conservation Restoration Division
National Environmental Policy Act (NEPA) Program Office - Region 4
Environmental Protection Agency
61 Forsyth Street, SW
Atlanta, GA 30303

RE: Cooperating Agency Invitation for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study

Dear Jamie Higgins,

In accordance with regulations pertaining to the National Environmental Policy Act (NEPA; Title 40 of the Code of Federal Regulations, part 1501.6), Executive Order 13807 ("One Federal Decision") and Section 1005 of the Water Resources Reform and Development Act (WRRDA) of 2014, the U.S. Army Corps of Engineers (Corps), is formally inviting the Environmental Protection Agency (EPA) to become a cooperating agency for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study. Council on Environmental Quality regulations implementing NEPA provide that the lead agency (i.e. Corps) may designate other federal, state, local and tribal agencies that have legal jurisdiction or special expertise with respect to any environmental impact involved in a proposal to be cooperating agencies. If you choose not to become a cooperating agency, the Corps will continue to coordinate as we have done in the past.

The purpose of the project is to reduce potential damages caused by coastal storms and improve human safety and coastal resiliency in the Miami-Dade County Back Bay. Attachment 1 contains a map of the approximate study area. The project is currently in the feasibility study phase and draft project alternatives are anticipated to be available in approximately January 2019, selection of a Tentatively Selected Plan is planned for January 2020 and the release of the draft integrated report/NEPA document is planned for release to the public for commenting in February/March 2020.

The formulation of the project alternatives will be in accordance with Engineer Regulation ER 1105-2-100 and will fully consider a range of environmental, economic and social factors. Your participation as a cooperating agency will help the Corps fully consider the views, needs and benefits of competing interests. Roles and responsibilities of a cooperating agency are defined in Attachment 2. For additional information on becoming a cooperating agency, please see the "Rights and

Responsibilities of Lead and Cooperating Agencies” (Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations, Council on Environmental Quality, 1981, 14a;
<https://www.energy.gov/sites/prod/files/2018/06/f53/G-CEQ-40Questions.pdf>).

In accordance with WRRDA 2014, Section 1005, any federal agency that is invited by the federal lead agency to participate in the environmental review process for a project study shall be designated as a cooperating agency by the federal lead agency unless the invited agency informs the federal lead agency, in writing, by the deadline specified in the invitation that the invited agency— “(A)(i)(I) has no jurisdiction or authority with respect to the project; “(II) has no expertise or information relevant to the project; or “(III) does not have adequate funds to participate in the project; and “(ii) does not intend to submit comments on the project; or “(B) does not intend to submit comments on the project. The Corps appreciates a response to this invitation within 30 days of the date of this letter. If you have any questions, please contact Ms. Carissa Agnese at-757-201-7752 or via email at Carissa.R.Agnese@usace.army.mil.

Sincerely,

LOGALBO.ALICIA.M
ARIE.1293421745

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DN: c=US, o=U.S. Government, ou=DoD,
ou=PKI, ou=USA,
cn=LOGALBO.ALICIA.MARIE.1293421745
Date: 2018.11.21 10:05:39 -05'00'

Alicia M. Logalbo
U.S. Army Corps of Engineers
Norfolk District
Chief, Environmental Analysis Section
Planning and Policy Branch

Attachment 2: Role of Cooperating Agency

As outlined in E.O. 13807, Section 5 (b)(i): “All Federal cooperating and participating agencies shall identify points of contact for each project, cooperate with the lead Federal agency point of contact, and respond to all reasonable requests for information from the lead Federal agency in a timely manner.”

The roles and responsibilities of cooperating agencies include, but are not limited to:

40 CFR §1501.6

- 1) Participate in the National Environmental Policy Act (NEPA) process at the earliest possible time.
- 2) Participate in the scoping process (described below and adapted from 40 CFR §1501.7)
 - a) Determine significant issues to be analyzed in depth in the NEPA assessment.
 - b) In cooperation with the lead agency (U.S. Army Corps of Engineers, Jacksonville District; Corps) identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review, narrowing the discussion of these issues in the NEPA assessment to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere.
 - c) Assist in preparation of the sections of the NEPA assessment for which the cooperating agency has jurisdiction by law or special expertise.
 - d) Share knowledge of any public environmental assessments and other environmental impact statements which are being or will be prepared that are related to but are not part of the scope of the NEPA assessment under consultation.
 - e) Identify other environmental review and consultation requirements so the lead and cooperating agencies may prepare other required analyses and studies concurrently with, an integrated with, the NEPA assessment as provided in 40 CFR §1502.25.
- 3) Assume on the request of the Corps responsibility for developing information and preparing environmental analyses including portions of the NEPA assessment concerning which the cooperating agency had special expertise.
- 4) Make available staff support at the Corps' request to enhance the Corps' interdisciplinary capabilities.
- 5) Participate in scheduled project delivery team meetings, sub-team meetings, NEPA meetings and other scheduled public engagements as requested by the Corps.
- 6) Meet all scheduled time frames provided by the Corps to ensure timely delivery of materials in order to comply with time frames set forth under WRRDA 2014 and E.O. 13807.
- 7) Review and provide written comments to the Corps on the Draft and Final NEPA assessment during the scheduled public review periods.
- 8) Understand that the Corps is the lead Federal agency and as such as the final decision on the contents of the NEPA assessment.



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

November 21, 2018

Gregory W. Garis
Program Administrator
Florida Department of Environmental Protection
Division of Water Resource Management
2600 Blair Stone Road, MS 3544
Tallahassee, Florida 32399-2400

RE: Cooperating Agency Invitation for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study

Dear Mr. Garis,

In accordance with regulations pertaining to the National Environmental Policy Act (NEPA; Title 40 of the Code of Federal Regulations, part 1501.6), Executive Order 13807 ("One Federal Decision") and Section 1005 of the Water Resources Reform and Development Act (WRRDA) of 2014, the U.S. Army Corps of Engineers (Corps), is formally inviting the Florida Department of Environmental Protection to become a cooperating agency for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study. Council on Environmental Quality regulations implementing NEPA provide that the lead agency (i.e. Corps) may designate other federal, state, local and tribal agencies that have legal jurisdiction or special expertise with respect to any environmental impact involved in a proposal to be cooperating agencies. If you choose not to become a cooperating agency, the Corps will continue to coordinate as we have done in the past.

The purpose of the project is to reduce potential damages caused by coastal storms and improve human safety and coastal resiliency in the Miami-Dade County Back Bay. Attachment 1 contains a map of the approximate study area. The project is currently in the feasibility study phase and draft project alternatives are anticipated to be available in approximately January 2019, selection of a Tentatively Selected Plan is planned for January 2020 and the release of the draft integrated report/NEPA document is planned for release to the public for commenting in February/March 2020.

The formulation of the project alternatives will be in accordance with Engineer Regulation ER 1105-2-100 and will fully consider a range of environmental, economic and social factors. Your participation as a cooperating agency will help the Corps fully consider the views, needs and benefits of competing interests. Roles and responsibilities of a cooperating agency are defined in Attachment 2. For additional information on becoming a cooperating agency, please see the "Rights and

Responsibilities of Lead and Cooperating Agencies” (Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations, Council on Environmental Quality, 1981, 14a; <https://www.energy.gov/sites/prod/files/2018/06/f53/G-CEQ-40Questions.pdf>).

In accordance with WRRDA 2014, Section 1005, any federal agency that is invited by the federal lead agency to participate in the environmental review process for a project study shall be designated as a cooperating agency by the federal lead agency unless the invited agency informs the federal lead agency, in writing, by the deadline specified in the invitation that the invited agency— “(A)(i)(I) has no jurisdiction or authority with respect to the project; “(II) has no expertise or information relevant to the project; or “(III) does not have adequate funds to participate in the project; and “(ii) does not intend to submit comments on the project; or “(B) does not intend to submit comments on the project. The Corps appreciates a response to this invitation within 30 days of the date of this letter. If you have any questions, please contact Ms. Carissa Agnese at-757-201-7752 or via email at Carissa.R.Agnese@usace.army.mil.

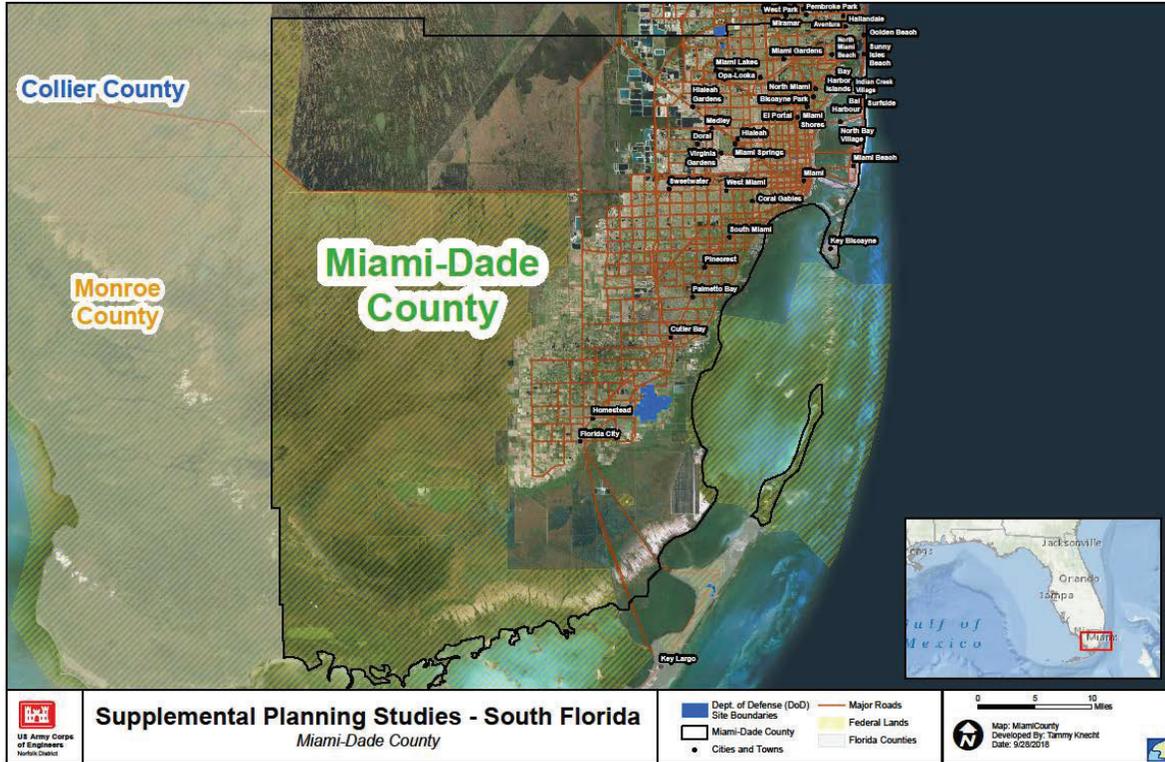
Sincerely,

LOGALBO.ALICIA.M
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ou=PKI, ou=USA,
cn=LOGALBO.ALICIA.MARIE.1293421745
Date: 2018.11.21 09:55:33 -05'00'

Alicia M. Logalbo
U.S. Army Corps of Engineers
Norfolk District
Chief, Environmental Analysis Section
Planning and Policy Branch

Attachment 1: Map of Approximate Study Area



Attachment 2: Role of Cooperating Agency

As outlined in E.O. 13807, Section 5 (b)(i): “All Federal cooperating and participating agencies shall identify points of contact for each project, cooperate with the lead Federal agency point of contact, and respond to all reasonable requests for information from the lead Federal agency in a timely manner.”

The roles and responsibilities of cooperating agencies include, but are not limited to:

40 CFR §1501.6

- 1) Participate in the National Environmental Policy Act (NEPA) process at the earliest possible time.
- 2) Participate in the scoping process (described below and adapted from 40 CFR §1501.7)
 - a) Determine significant issues to be analyzed in depth in the NEPA assessment.
 - b) In cooperation with the lead agency (U.S. Army Corps of Engineers, Jacksonville District; Corps) identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review, narrowing the discussion of these issues in the NEPA assessment to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere.
 - c) Assist in preparation of the sections of the NEPA assessment for which the cooperating agency has jurisdiction by law or special expertise.
 - d) Share knowledge of any public environmental assessments and other environmental impact statements which are being or will be prepared that are related to but are not part of the scope of the NEPA assessment under consultation.
 - e) Identify other environmental review and consultation requirements so the lead and cooperating agencies may prepare other required analyses and studies concurrently with, an integrated with, the NEPA assessment as provided in 40 CFR §1502.25.
- 3) Assume on the request of the Corps responsibility for developing information and preparing environmental analyses including portions of the NEPA assessment concerning which the cooperating agency had special expertise.
- 4) Make available staff support at the Corps' request to enhance the Corps' interdisciplinary capabilities.
- 5) Participate in scheduled project delivery team meetings, sub-team meetings, NEPA meetings and other scheduled public engagements as requested by the Corps.
- 6) Meet all scheduled time frames provided by the Corps to ensure timely delivery of materials in order to comply with time frames set forth under WRRDA 2014 and E.O. 13807.
- 7) Review and provide written comments to the Corps on the Draft and Final NEPA assessment during the scheduled public review periods.
- 8) Understand that the Corps is the lead Federal agency and as such as the final decision on the contents of the NEPA assessment.



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

November 21, 2018

U.S. Fish and Wildlife Service
Jeff Howe
1339 20TH Street
Vero Beach, FL 32960

RE: Cooperating Agency Invitation for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study

Dear Mr. Howe,

In accordance with regulations pertaining to the National Environmental Policy Act (NEPA; Title 40 of the Code of Federal Regulations, part 1501.6), Executive Order 13807 (“One Federal Decision”) and Section 1005 of the Water Resources Reform and Development Act (WRRDA) of 2014, the U.S. Army Corps of Engineers (Corps), is formally inviting the U.S. Fish and Wildlife Service to become a cooperating agency for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study. Council on Environmental Quality regulations implementing NEPA provide that the lead agency (i.e. Corps) may designate other federal, state, local and tribal agencies that have legal jurisdiction or special expertise with respect to any environmental impact involved in a proposal to be cooperating agencies. If you choose not to become a cooperating agency, the Corps will continue to coordinate as we have done in the past.

The purpose of the project is to reduce potential damages caused by coastal storms and improve human safety and coastal resiliency in the Miami-Dade County Back Bay. Attachment 1 contains a map of the approximate study area. The project is currently in the feasibility study phase and draft project alternatives are anticipated to be available in approximately January 2019, selection of a Tentatively Selected Plan is planned for January 2020 and the release of the draft integrated report/NEPA document is planned for release to the public for commenting in February/March 2020.

The formulation of the project alternatives will be in accordance with Engineer Regulation ER 1105-2-100 and will fully consider a range of environmental, economic and social factors. Your participation as a cooperating agency will help the Corps fully consider the views, needs and benefits of competing interests. Roles and responsibilities of a cooperating agency are defined in Attachment 2. For additional information on becoming a cooperating agency, please see the “Rights and Responsibilities of Lead and Cooperating Agencies” (Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations, Council on

Environmental Quality, 1981, 14a;
<https://www.energy.gov/sites/prod/files/2018/06/f53/G-CEQ-40Questions.pdf>).

In accordance with WRRDA 2014, Section 1005, any federal agency that is invited by the federal lead agency to participate in the environmental review process for a project study shall be designated as a cooperating agency by the federal lead agency unless the invited agency informs the federal lead agency, in writing, by the deadline specified in the invitation that the invited agency— “(A)(i)(I) has no jurisdiction or authority with respect to the project; “(II) has no expertise or information relevant to the project; or “(III) does not have adequate funds to participate in the project; and “(ii) does not intend to submit comments on the project; or “(B) does not intend to submit comments on the project. The Corps appreciates a response to this invitation within 30 days of the date of this letter. If you have any questions, please contact Ms. Carissa Agnese at-757-201-7752 or via email at Carissa.R.Agnese@usace.army.mil.

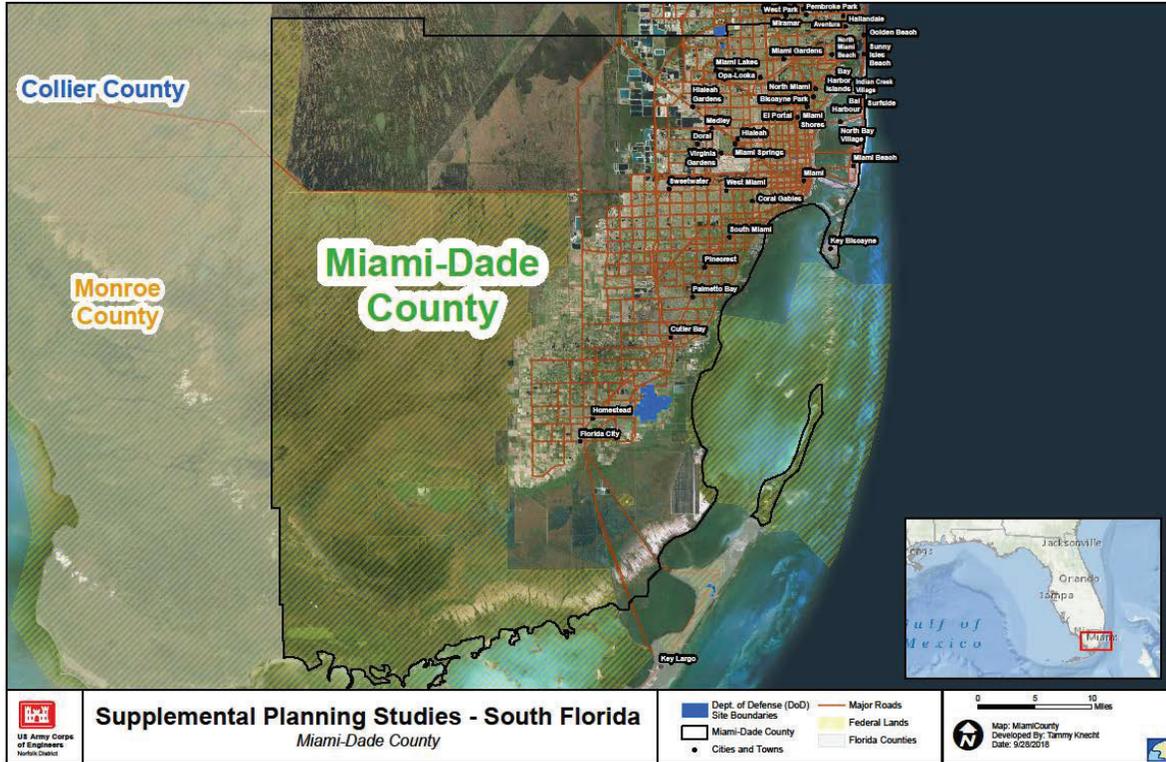
Sincerely,

LOGALBO.ALICIA.M
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DN: c=US, o=U.S. Government, ou=DoD, ou=PKI,
ou=USA, cn=LOGALBO.ALICIA.MARIE.1293421745
Date: 2018.11.21 10:13:46 -05'00'

Alicia M. Logalbo
U.S. Army Corps of Engineers
Norfolk District
Chief, Environmental Analysis Section
Planning and Policy Branch

Attachment 1: Map of Approximate Study Area



Attachment 2: Role of Cooperating Agency

As outlined in E.O. 13807, Section 5 (b)(i): “All Federal cooperating and participating agencies shall identify points of contact for each project, cooperate with the lead Federal agency point of contact, and respond to all reasonable requests for information from the lead Federal agency in a timely manner.”

The roles and responsibilities of cooperating agencies include, but are not limited to:

40 CFR §1501.6

- 1) Participate in the National Environmental Policy Act (NEPA) process at the earliest possible time.
- 2) Participate in the scoping process (described below and adapted from 40 CFR §1501.7)
 - a) Determine significant issues to be analyzed in depth in the NEPA assessment.
 - b) In cooperation with the lead agency (U.S. Army Corps of Engineers, Jacksonville District; Corps) identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review, narrowing the discussion of these issues in the NEPA assessment to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere.
 - c) Assist in preparation of the sections of the NEPA assessment for which the cooperating agency has jurisdiction by law or special expertise.
 - d) Share knowledge of any public environmental assessments and other environmental impact statements which are being or will be prepared that are related to but are not part of the scope of the NEPA assessment under consultation.
 - e) Identify other environmental review and consultation requirements so the lead and cooperating agencies may prepare other required analyses and studies concurrently with, an integrated with, the NEPA assessment as provided in 40 CFR §1502.25.
- 3) Assume on the request of the Corps responsibility for developing information and preparing environmental analyses including portions of the NEPA assessment concerning which the cooperating agency had special expertise.
- 4) Make available staff support at the Corps' request to enhance the Corps' interdisciplinary capabilities.
- 5) Participate in scheduled project delivery team meetings, sub-team meetings, NEPA meetings and other scheduled public engagements as requested by the Corps.
- 6) Meet all scheduled time frames provided by the Corps to ensure timely delivery of materials in order to comply with time frames set forth under WRRDA 2014 and E.O. 13807.
- 7) Review and provide written comments to the Corps on the Draft and Final NEPA assessment during the scheduled public review periods.
- 8) Understand that the Corps is the lead Federal agency and as such as the final decision on the contents of the NEPA assessment.



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

November 29, 2018

Robert Johnson, Director
National Park Service
South Florida Ecosystem Office
950 N. Krome Avenue
Homestead, FL 33030-4443

RE: Participating Agency Invitation for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study

Dear Mr. Johnson,

In accordance with regulations pertaining to the National Environmental Policy Act (NEPA; Title 40 of the Code of Federal Regulations, part 1501.6), Executive Order 13807 ("One Federal Decision") and Section 1005 of the Water Resources Reform and Development Act (WRRDA) of 2014, the U.S. Army Corps of Engineers (Corps), is formally inviting the National Park Service to become a participating agency for the Miami-Dade Back Bay Coastal Storm Risk Management Project. The Corps is the lead federal agency for this study and Miami-Dade County is the nonfederal sponsor. Federal, State, tribal, regional, and local government agencies that may have an interest in the project are invited to serve as participating agencies. Roles and responsibilities of participating agencies are defined in Attachment 1. If you choose not to become a participating agency, the Corps will continue to coordinate as we have done in the past.

The purpose of the project is to reduce potential damages caused by coastal storms and improve human safety and coastal resiliency in the Miami-Dade County Back Bay. Attachment 2 contains a map of the approximate study area. The project is currently in the feasibility study phase and draft project alternatives are anticipated to be available in approximately January 2019, selection of a Tentatively Selected Plan is planned for January 2020 and the release of the draft integrated report/NEPA document is planned for release to the public for commenting in February/March 2020.

The formulation of the project alternatives will be in accordance with Engineer Regulation ER 1105-2-100 and will fully consider a range of environmental, economic and social factors. Your contribution as a participating agency will help us fully consider the views, needs and benefits of competing interests. Based on information received from the Federal lead agency, cooperating and participating agencies shall identify, as early as practicable, any issues of concern regarding the potential environmental or

socioeconomic impacts of the project, including any issues that could substantially delay or prevent an agency from granting a permit (WRRDA 2014 Section 1005).

The Corps appreciates a response to this invitation within 30 days of the date of this letter. The Corps requests that in your letter response that you state formally whether you wish to contribute to the project as participating agency. If you have any questions, please contact Ms. Carissa Agnese at 757-201-7752 or via email at Carissa.R.Agnese@usace.army.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "Alicia M. Logalbo". The signature is fluid and cursive, with a long horizontal stroke at the end.

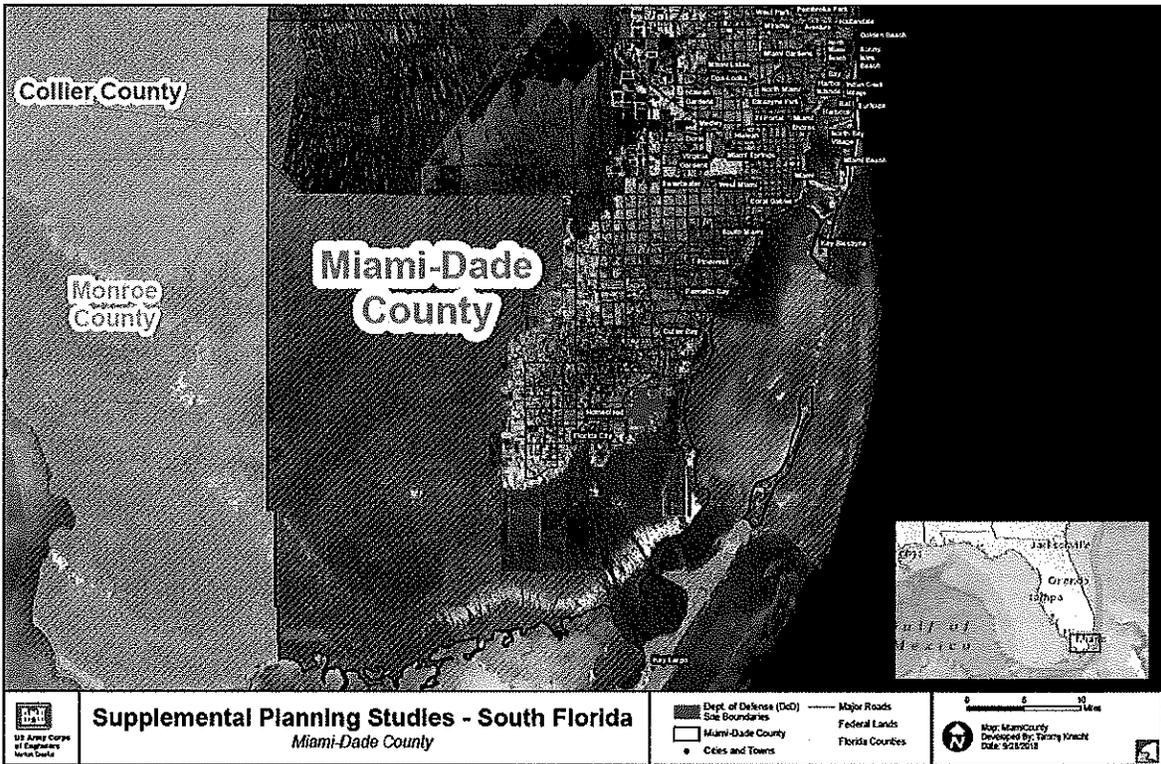
Alicia M. Logalbo
U.S. Army Corps of Engineers
Norfolk District
Chief, Environmental Analysis Section
Planning and Policy Branch

Attachment 1: Role of Participating Agency

As outlined in E.O. 13807, Section 5 (b)(i): "All Federal cooperating and participating agencies shall identify points of contact for each project, cooperate with the lead Federal agency point of contact, and respond to all reasonable requests for information from the lead Federal agency in a timely manner."

- 1) Participate in the National Environmental Policy Act (NEPA) process starting at the earliest possible time, especially with regard to the development of the purpose and need statement, range of alternatives, methodologies, and the level of detail for the analysis of alternatives.
- 2) Participate in the scoping process and scheduled project delivery team meetings.
- 3) Identify, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts.
- 4) Provide meaningful and timely input on unresolved issues.
- 5) Review and provide written comments to the U.S. Army Corps of Engineers, Jacksonville District, on the draft and final NEPA assessments during the scheduled public review periods.

Attachment 2: Map of Approximate Study Area





DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

January 23, 2020

Mr. Akin Owosina, P.E.
Chief, Hydrology and Hydraulics Bureau
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33406

RE: Cooperating Agency Invitation for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study

Dear Mr. Owosina,

In accordance with regulations pertaining to the National Environmental Policy Act (NEPA; Title 40 of the Code of Federal Regulations, part 1501.6), Executive Order 13807 ("One Federal Decision") and Section 1005 of the Water Resources Reform and Development Act (WRRDA) of 2014, the U.S. Army Corps of Engineers (Corps), is formally inviting the South Florida Water Management District to become a cooperating agency for the Miami-Dade Back Bay Coastal Storm Risk Management (CSRМ) Feasibility Study. Council on Environmental Quality regulations implementing NEPA provide that the lead agency (i.e. Corps) may designate other federal, state, local and tribal agencies that have legal jurisdiction or special expertise with respect to any environmental impact involved in a proposal to be cooperating agencies. If you choose not to become a cooperating agency, the Corps will continue to coordinate as we have done in the past.

The purpose of the project is to reduce potential damages caused by coastal storms and improve human safety and coastal resiliency in the Miami-Dade County Back Bay. Attachment 1 contains a map of the approximate study area. The project is currently in the feasibility study phase and the release of the draft integrated report/NEPA document is planned for release to the public for commenting in approximately March 2020.

The formulation of the project alternatives will be in accordance with Engineer Regulation ER 1105-2-100 and will fully consider a range of environmental, economic and social factors. Your participation as a cooperating agency will help the Corps fully consider the views, needs and benefits of competing interests. For additional information on becoming a cooperating agency, please see the "Rights and Responsibilities of Lead and Cooperating Agencies" (Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, Council on Environmental Quality, 1981, 14a; <https://www.energy.gov/sites/prod/files/2018/06/f53/G-CEQ-40Questions.pdf>).

In accordance with WRRDA 2014, Section 1005, any federal agency that is invited by the federal lead agency to participate in the environmental review process for a project study shall be designated as a cooperating agency by the federal lead agency unless the invited agency informs the federal lead agency, in writing, by the deadline specified in the invitation that the invited agency— “(A)(i)(I) has no jurisdiction or authority with respect to the project; “(II) has no expertise or information relevant to the project; or “(III) does not have adequate funds to participate in the project; and “(ii) does not intend to submit comments on the project; or “(B) does not intend to submit comments on the project. The Corps appreciates a response to this invitation within 30 days of the date of this letter. If you have any questions, please contact Ms. Lee Fuerst at-757-201-7832 or via email at lee.a.fuerst@usace.army.mil.

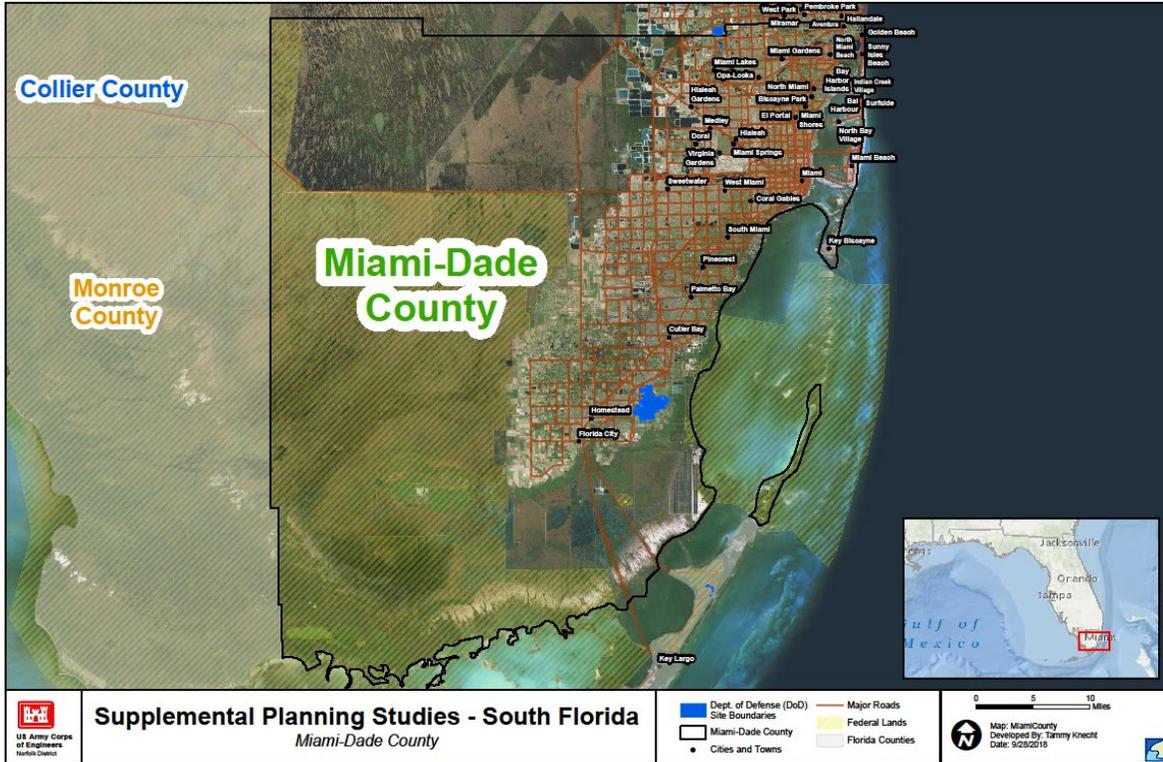
Sincerely,

Alicia Logalbo

Digitally signed by Alicia
Logalbo
Date: 2020.01.23 20:12:36
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Alicia M. Logalbo
U.S. Army Corps of Engineers
Norfolk District
Chief, Environmental Analysis Section
Planning and Policy Branch

Attachment 1: Map of Approximate Study Area





DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

November 21, 2018

United States Coast Guard
Commanding Officer
Seventh District
909 SE 1st Ave
Brickell Plaza Federal Bldg
Miami, FL 33131-3050

RE: Cooperating Agency Invitation for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study

Dear Commanding Officer,

In accordance with regulations pertaining to the National Environmental Policy Act (NEPA; Title 40 of the Code of Federal Regulations, part 1501.6), Executive Order 13807 ("One Federal Decision") and Section 1005 of the Water Resources Reform and Development Act (WRRDA) of 2014, the U.S. Army Corps of Engineers (Corps), is formally inviting The United States Coast Guard to become a cooperating agency for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study. Council on Environmental Quality regulations implementing NEPA provide that the lead agency (i.e. Corps) may designate other federal, state, local and tribal agencies that have legal jurisdiction or special expertise with respect to any environmental impact involved in a proposal to be cooperating agencies. If you choose not to become a cooperating agency, the Corps will continue to coordinate as we have done in the past.

The purpose of the project is to reduce potential damages caused by coastal storms and improve human safety and coastal resiliency in the Miami-Dade County Back Bay. Attachment 1 contains a map of the approximate study area. The project is currently in the feasibility study phase and draft project alternatives are anticipated to be available in approximately January 2019, selection of a Tentatively Selected Plan is planned for January 2020 and the release of the draft integrated report/NEPA document is planned for release to the public for commenting in February/March 2020.

The formulation of the project alternatives will be in accordance with Engineer Regulation ER 1105-2-100 and will fully consider a range of environmental, economic and social factors. Your participation as a cooperating agency will help the Corps fully consider the views, needs and benefits of competing interests. Roles and responsibilities of a cooperating agency are defined in Attachment 2. For additional information on becoming a cooperating agency, please see the "Rights and

Responsibilities of Lead and Cooperating Agencies” (Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations, Council on Environmental Quality, 1981, 14a; <https://www.energy.gov/sites/prod/files/2018/06/f53/G-CEQ-40Questions.pdf>).

In accordance with WRRDA 2014, Section 1005, any federal agency that is invited by the federal lead agency to participate in the environmental review process for a project study shall be designated as a cooperating agency by the federal lead agency unless the invited agency informs the federal lead agency, in writing, by the deadline specified in the invitation that the invited agency— “(A)(i)(I) has no jurisdiction or authority with respect to the project; “(II) has no expertise or information relevant to the project; or “(III) does not have adequate funds to participate in the project; and “(ii) does not intend to submit comments on the project; or “(B) does not intend to submit comments on the project. The Corps appreciates a response to this invitation within 30 days of the date of this letter. If you have any questions, please contact Ms. Carissa Agnese at-757-201-7752 or via email at Carissa.R.Agnese@usace.army.mil.

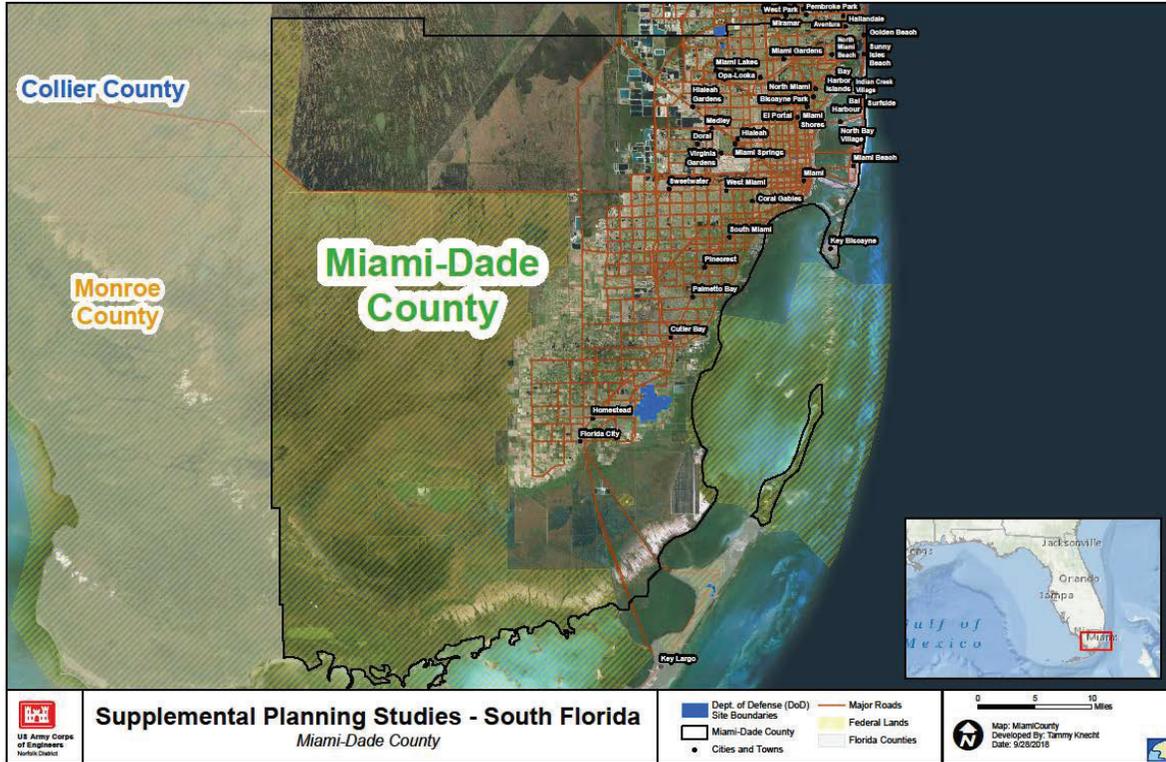
Sincerely,

LOGALBO.ALICIA.MA
RIE.1293421745

Digitally signed by
LOGALBO.ALICIA.MARIE.1293421745
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI,
ou=USA, cn=LOGALBO.ALICIA.MARIE.1293421745
Date: 2018.11.21 10:07:49 -05'00'

Alicia M. Logalbo
U.S. Army Corps of Engineers
Norfolk District
Chief, Environmental Analysis Section
Planning and Policy Branch

Attachment 1: Map of Approximate Study Area



Attachment 2: Role of Cooperating Agency

As outlined in E.O. 13807, Section 5 (b)(i): “All Federal cooperating and participating agencies shall identify points of contact for each project, cooperate with the lead Federal agency point of contact, and respond to all reasonable requests for information from the lead Federal agency in a timely manner.”

The roles and responsibilities of cooperating agencies include, but are not limited to:

40 CFR §1501.6

- 1) Participate in the National Environmental Policy Act (NEPA) process at the earliest possible time.
- 2) Participate in the scoping process (described below and adapted from 40 CFR §1501.7)
 - a) Determine significant issues to be analyzed in depth in the NEPA assessment.
 - b) In cooperation with the lead agency (U.S. Army Corps of Engineers, Jacksonville District; Corps) identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review, narrowing the discussion of these issues in the NEPA assessment to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere.
 - c) Assist in preparation of the sections of the NEPA assessment for which the cooperating agency has jurisdiction by law or special expertise.
 - d) Share knowledge of any public environmental assessments and other environmental impact statements which are being or will be prepared that are related to but are not part of the scope of the NEPA assessment under consultation.
 - e) Identify other environmental review and consultation requirements so the lead and cooperating agencies may prepare other required analyses and studies concurrently with, an integrated with, the NEPA assessment as provided in 40 CFR §1502.25.
- 3) Assume on the request of the Corps responsibility for developing information and preparing environmental analyses including portions of the NEPA assessment concerning which the cooperating agency had special expertise.
- 4) Make available staff support at the Corps' request to enhance the Corps' interdisciplinary capabilities.
- 5) Participate in scheduled project delivery team meetings, sub-team meetings, NEPA meetings and other scheduled public engagements as requested by the Corps.
- 6) Meet all scheduled time frames provided by the Corps to ensure timely delivery of materials in order to comply with time frames set forth under WRRDA 2014 and E.O. 13807.
- 7) Review and provide written comments to the Corps on the Draft and Final NEPA assessment during the scheduled public review periods.
- 8) Understand that the Corps is the lead Federal agency and as such as the final decision on the contents of the NEPA assessment.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

NOV 28 2018

Alicia M. Logalbo
Chief, Environmental Analysis Section
Department of the Army
Norfolk District, Corps of Engineers
Fort Norfolk
803 Front Street
Norfolk, Virginia 23510-1011

Re: U.S. Army Corps of Engineers (USACE) Cooperating Agency Requests for
the Miami Back Bay, Florida Keys and Collier County Coastal Storm Risk Management (CSRMM)
Feasibility Studies and National Environmental Policy Act Documents

Dear Ms. Logalbo:

The U.S. Environmental Protection Agency has received your three letters dated November 20 and 21, 2018, offering the EPA an opportunity to become a "cooperating agency" to the USACE in the development of the CSRMM Feasibility Studies and associated National Environmental Policy Act (NEPA) documents for Miami-Dade County Back Bay, Florida Keys and Collier County (respectively) projects in accordance with NEPA (Title 40 of the Code of Federal Regulations, Part 1501.6), Executive Order 13807 ("One Federal Decision") and Section 1005 of the Water Resources Reform and Development Act (WRRDA) of 2014. The EPA understands that the USACE has not decided whether to prepare an Environmental Assessment or Environmental Impact Statement and will determine the level of NEPA later in the process. As stated in your letters, the purposes of the projects are to reduce potential damages caused by coastal storms and improve human safety and coastal resiliency in three separate projects that are in Miami-Dade County Back Bay, the Florida Keys and Collier County, Florida.

The EPA accepts your invitation to become a cooperating agency on all three projects. As resources allow, we plan to fully participate in interagency teleconferences and meetings at important milestones. It should be noted that our status as a cooperating agency has no effect on our authorities under Section 102(2)(C) of NEPA, Section 309 of the Clean Air Act and the Clean Water Act. Similarly, our role as a cooperating agency does not imply that EPA will necessarily concur with all aspects of the project or NEPA document.

We appreciate the opportunity of working with the USACE as a cooperating agency on these projects. Please contact Ms. Jamie Higgins of the NEPA Program Office as our primary agency representative for this project at (404) 562-9681, or by e-mail at Higgins.jamie@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris A. Militscher".

Christopher A. Militscher
Chief, NEPA Program Office
Resource Conservation and Restoration Division

cc: J. Derby, EPA, Water Protection Division



Florida Department of Transportation

RON DESANTIS
GOVERNOR

1000 NW 111 Avenue
Miami, FL 33172-5800

KEVIN J. THIBAUT, P.E.
SECRETARY

January 16, 2020

Ms. Alicia M. Logalbo
USACE Norfolk District
Chief, Environmental Analysis Section
Planning and Policy Branch
803 Front Street
Norfolk, VA 23510-1011

SUBJECT: Acceptance of Cooperating Agency Invitation for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study

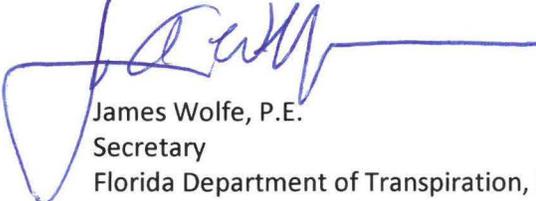
Dear Ms. Logalbo,

The Florida Department of Transportation (FDOT) agrees to serve as a cooperating agency on the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study as outlined within a letter received from the United States Army Corps of Engineers on January 6, 2020. With respect to the FDOT's role as a cooperating agency, the project will be managed by the FDOT district Six Office with assistance from the FDOT Office of Environmental Management (OEM).

Pursuant to 23 United States Code (U.S.C.) 327, the FDOT has assumed Federal Highway Administration's (FHWA's) responsibilities under the National Environmental Policy Act (NEPA) for highway projects on the State Highway System (SHS) and Local Agency Program (LAP) projects off the SHS. In general, FDOT's assumption includes all highway and roadway projects in Florida whose source of federal funding comes from FHWA or which constitute a federal action through FHWA. This includes the responsibilities for environmental review, interagency consultation, and other regulatory compliance-related actions pertaining to the review or approval of NEPA projects. Therefore, whereas FHWA was previously identified as the Lead Federal Agency, this function is now served by FDOT with approval authority resting in the FDOT OEM. Be advised, that as such, the FDOT may choose to adopt all or parts of the resulting integrated feasibility report/NEPA document.

We thank you for the opportunity to serve as a cooperating agency. If you have any questions please contact Mr. Dat Huynh, P.E. at 305-470-5201 or via email at dat.huynh@dot.state.fl.us.

Sincerely,



James Wolfe, P.E.
Secretary
Florida Department of Transportation, District Six

From: [Garcia, Vicki](#)
To: [Fuerst, Lee A CIV USARMY CENAO \(USA\)](#)
Subject: [Non-DoD Source] RE: Miami-Dade Back Bay CSRM Study Environmental Interagency Coordination Meeting Minutes January 21st
Date: Monday, January 27, 2020 1:28:07 PM

Hi Lee, just a quick note to say that we (FWC) had indicated we would be a participating agency, not a cooperating agency. Thanks!

Vicki

Vicki Garcia
Office: (561) 882-5711
Cell: (561) 281-1723

-----Original Message-----

From: Fuerst, Lee A CIV USARMY CENAO (USA) <Lee.A.Fuerst@usace.army.mil>
Sent: Thursday, January 23, 2020 12:53 PM
To: erik_stabenau@nps.gov; MargaritaKruyff@miamibeachfl.gov; ElizabethWheaton@miamibeachfl.gov; Pamela.Sweeney@miamidade.gov; McDevitt, Erin <Erin.McDevitt@MyFWC.com>; Merrill, Maria <Maria.Merrill@MyFWC.com>; Raininger, Christine <Christine.Raininger@MyFWC.com>; Logalbo, Alicia M CIV USARMY CENAO (USA) <Alicia.M.Logalbo@usace.army.mil>; Jessica.Blackwell@miamidade.gov; Noel.Stillings@miamidade.gov; Kimberly.Brown@miamidade.gov; Carpenter, Holly A CIV USARMY CENAO (USA) <Holly.A.Carpenter@usace.army.mil>; Ahmed, Faraz CIV USARMY CENAO (USA) <Faraz.Ahmed@usace.army.mil>; Preddy, Abigail M CIV USARMY CENAO (USA) <Abigail.M.Preddy@usace.army.mil>; Haynes, John H Jr CIV USARMY CENAO (USA) <John.H.Haynes@usace.army.mil>; Williams, Robin M CIV USARMY CENAO (USA) <Robin.M.Williams@usace.army.mil>; Katherine.Hagemann@miamidade.gov; Monica.Gregory@miamidade.gov; James.Murley@miamidade.gov; Josh.Mahoney@miamidade.gov; Layton, Susan E CIV (USA) <Susan.E.Layton@usace.army.mil>; Higgins.Jamie@epa.gov; Gregory.Garis@dep.fl.state.us; noah.silverman@noaa.gov; Jeffery_Howe@fws.gov; James.wolfe@dot.state.fl.us; Steven.james@dot.state.fl.us; Garcia, Vicki <Vicki.Garcia@MyFWC.com>; Pace.wilber@noaa.gov; Sarah.futak@noaa.gov; Melissa.alvarez@noaa.gov; Chris.Stahl@dep.state.fl.us; Joanna.Walczak@dep.state.fl.us; Kelly.Egan@dep.state.fl.us; Eric.Buck@dep.state.fl.us; Francisco.Pagan@dep.state.fl.us; Gregory.Garis@dep.state.fl.us; Lainie.Edwards@dep.state.fl.us; Eldredge, Laura <laura.eldredge@dep.state.fl.us>; Robert_Johnson@nps.gov; heather_hitt@fws.gov; Schulte, David M CIV CENAO CENAD (US) <David.M.Schulte@usace.army.mil>; Andrew.Jungman@dot.state.fl.us; Singh-White.Alya@epa.gov; Craig.Grossenbacher@miamidade.gov; Lisa.Spadafina@miamidade.gov; Elizabeth.Fulcher@dot.state.fl.us; Joanna.Walczak@FloridaDEP.gov; Roxane.Dow@FloridaDEP.gov; Andrew.L.Bobick@USCG.MIL; Bradley.W.Clare@uscg.mil; Hector.L.Schmidt@uscg.mil; John.K.Velasco@uscg.mil; David.A.Lentine@uscg.mil; Michael.J.Capelli@uscg.mil; Paul.D.Lehmann@uscg.mil; Samuel.Rodriguez-Ronzalez@uscg.mil; John-David.A.Lentine@uscg.mil; Brooks, Andrew T CIV USARMY CENAO (USA) <Andrew.T.Brooks@usace.army.mil>; Miller, Wayne K CIV USARMY CENAO (USA) <Wayne.K.Miller@usace.army.mil>; Cha, Ji Young CIV USARMY CENAO (USA) <JiYoung.Cha@usace.army.mil>; Andrew.Sussman@em.myflorida.com; Shunfenthal, Jennifer C CIV (USA) <Jennifer.C.Shunfenthal@usace.army.mil>; Springston, Ann <asprings@sfwmd.gov>; Zhao, Hongying <hzhao@sfwmd.gov>; aowosin@sfwmd.gov; Fuerst, Lee A CIV USARMY CENAO (USA) <Lee.A.Fuerst@usace.army.mil>
Subject: Miami-Dade Back Bay CSRM Study Environmental Interagency Coordination Meeting Minutes January 21st

[EXTERNAL SENDER] Use Caution opening links or attachments

Dear All,

Thank you for those that were able to attend the interagency call earlier this week and for those that were not available, please find the attached file of what was presented. For those that were on the call, if you can please also review the meeting minutes and let me know of any corrections needed within the next roughly two weeks (by February 7th). If you have any additional questions and/or follow-up comments, if you can please also send those by February 7th so that we will have adequate time to respond to and include in next month's discussion.

Once we have compiled the remainder of the notes and photo report from the January 13-14th site visits, we will send out to the inter-agency team.

We are planning to schedule the next inter-agency meeting for the week of February 17th and an invite will be sent as soon as that is finalized.

We want to ensure that we have the most up to date interagency contact list and that the meeting invitations are getting to all applicable agency representatives. If you are no longer the correct POC within your organization for this study and/or would like to be removed from this list, please email me back directly so that I can update the list accordingly.

Thanks so much for your input and partnership in this study. Please do not hesitate to contact me should you have any questions.

Thank you.

Lee A Fuerst
Environmental Scientist
U.S. Army Corps of Engineers
Norfolk District Regulatory Branch
803 Front Street, Norfolk, VA 23510
Office 757-201-7832 / Cell 757-536-5954

The Norfolk District is committed to providing the highest level of support to the public. In order for us to better serve you, we would appreciate you completing our Customer Satisfaction Survey located at [Blockedhttp://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey](http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey). We value your comments.



UNITED STATES DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office

263 13th Avenue South

St. Petersburg, Florida 33701-5505

<http://sero.nmfs.noaa.gov>

12/20/2018

F:SER/NS

Alicia M. Logalbo
Chief, Environmental Analysis Section
Planning and Policy Branch
Norfolk District, U.S. Army Corps of Engineers
803 Front Street
Norfolk, Virginia 23510-1011

Attn: Carissa Agnese

Dear Ms. Logalbo:

NOAA's National Marine Fisheries Service (NMFS) has received the USACE's letter dated November 21, 2018, requesting participation as a cooperating agency for the Miami-Dade Back Bay Coastal Storm Risk Management Project (CSRMS). NMFS agrees to serve as a cooperating agency, but due to competing workload, staffing and travel constraints, our participation in this CSRMS project may be limited to our review and comment on draft National Environmental Policy Act documents, teleconferences, and occasional travel to meetings.

We appreciate your invitation to serve as a cooperating agency for the CSRMS project. Please direct Essential Fish Habitat related correspondence to Pace Wilber at (843) 460-9926, or by email at pace.wilber@noaa.gov. His mailing address is NOAA Fisheries, 219 Ft Johnson Road Charleston, SC 29412. Please direct Endangered Species related correspondence to Melissa Alvarez at (954) 734-0716, or by email at melissa.alvarez@noaa.gov. Her mailing address is on the letterhead.

Sincerely,

MCGOVERN.JOHN
.C.DR.1365840861

Digitally signed by
MCGOVERN.JOHN.C.DR.13658
40861
Date: 2018.12.20 10:45:29 -05'00'

for Roy E. Crabtree, Ph.D.
Regional Administrator

cc: NOAA: NOAA NEPA
F: NMFS HQ NEPA
F/SER: Strelcheck, Blough, Silverman
F/SER3: Bernhart, Alvarez
F/SER4: Fay, Dale, Wilber



Woodward, Justine R CIV USARMY CENAO (USA)

From: Owosina, Akintunde <aowosin@sfwmd.gov>
Sent: Monday, February 24, 2020 10:34 AM
To: Fuerst, Lee A CIV USARMY CENAO (USA)
Cc: Zhao, Hongying; Springston, Ann; Logalbo, Alicia M CIV USARMY CENAO (USA); Layton, Susan E CIV (USA); Hagemann, Katherine (RER); Sharpe, Antionette CIV USARMY CENAO (USA); Carpenter, Holly A CIV USARMY CENAO (USA)
Subject: [Non-DoD Source] Re: Miami-Dade CSRM Feasibility Study -Cooperating Agency Invitation to SFWMD

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Lee Fuerst, thanks for the invitation to SFWMD to participate as cooperating agency. We will not be signing on in that role at this time. We will however continue to engage with and support this study directly with your team, with Miami-Dade County and with USACE Jacksonville office.

A formal letter to Ms. Logalbo formalizing our response will be sent today.
Thanks, my team and I look forward to continue to support this effort in our current capacity.

Akintunde O. Owosina
Chief, Hydrology and Hydraulics Bureau
South Florida Water Management District
Office (561) 682-2924 / Cell (561) 662-7209

Get Outlook for iOS <Blocked<https://aka.ms/o0ukef>> _____

From: Fuerst, Lee A CIV USARMY CENAO (USA) <Lee.A.Fuerst@usace.army.mil>
Sent: Friday, January 24, 2020 12:31:01 PM
To: Owosina, Akintunde <aowosin@sfwmd.gov>
Cc: Zhao, Hongying <hzhao@sfwmd.gov>; Springston, Ann <asprings@sfwmd.gov>; Logalbo, Alicia M CIV USARMY CENAO (USA) <Alicia.M.Logalbo@usace.army.mil>; Layton, Susan E CIV (USA) <Susan.E.Layton@usace.army.mil>; Hagemann, Katherine (RER) <Katherine.Hagemann@miamidadegov.gov>; Sharpe, Antionette CIV USARMY CENAO (USA) <Antionette.Sharpe@usace.army.mil>; Carpenter, Holly A CIV USARMY CENAO (USA) <Holly.A.Carpenter@usace.army.mil>
Subject: Miami-Dade CSRM Feasibility Study -Cooperating Agency Invitation to SFWMD

[Please remember, this is an external email]

Dear Mr. Owosina,

Attached above please find the formal request letter with the associated Attachment to the South Florida Water Management District (SFWMD) to participate as a cooperating agency in the Miami-Dade Coastal Storm Risk Management (CSRM) Feasibility Study. A hard-copy letter has also been sent through certified mail to your attention.

We apologize in the delay in the sending of this request. We look forward to working together throughout this study and value the partnership and input that SFWMD can provide.

Please do not hesitate to contact me should you have any questions or would like any additional information.

Thank you.

Sincerely,

Lee A Fuerst
Environmental Scientist
U.S. Army Corps of Engineers
Norfolk District Regulatory Branch
803 Front Street, Norfolk, VA 23510
Office 757-201-7832 / Cell 757-536-5954

The Norfolk District is committed to providing the highest level of support to the public. In order for us to better serve you, we would appreciate you completing our Customer Satisfaction Survey located at
Blockedhttps://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fcorpsmapu.usace.army.mil%2Fcm_apex%2Ff%3Fp%3Dregulatory_survey&data=02%7C01%7Caowosin%40sfwmd.gov%7C90a4145a59c544ef08fe08d7a0f3483d%7Cd23f7173b3864e918ce7052a18d65341%7C0%7C1%7C637154839824617329&sdata=XUDSzy45PmQeddYdE9JVwLv5Q3SRPsu1ubOzNFPke5I%3D&reserved=0
<Blockedhttps://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fcorpsmapu.usace.army.mil%2Fcm_apex%2Ff%3Fp%3Dregulatory_survey&data=02%7C01%7Caowosin%40sfwmd.gov%7C90a4145a59c544ef08fe08d7a0f3483d%7Cd23f7173b3864e918ce7052a18d65341%7C0%7C1%7C637154839824617329&sdata=XUDSzy45PmQeddYdE9JVwLv5Q3SRPsu1ubOzNFPke5I%3D&reserved=0> . We value your comments.

From: [Dow, Roxane](#)
To: [Fuerst, Lee A CIV USARMY CENAO \(USA\)](#)
Subject: [Non-DoD Source] RE: Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study - question
Date: Tuesday, February 18, 2020 10:50:06 AM

Lee,
Sorry for not being clear. Neither a cooperating, or participating agency.
Thanks!
Roxane

-----Original Message-----

From: Fuerst, Lee A CIV USARMY CENAO (USA) <Lee.A.Fuerst@usace.army.mil>
Sent: Tuesday, February 18, 2020 9:54 AM
To: Dow, Roxane <Roxane.Dow@FloridaDEP.gov>
Subject: RE: Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study - question

Roxane,

I separately wanted to confirm does this mean that FDEP would like to be a "participatory" agency or not listed formally as participating agency either? Completely understand either way.

Have a great rest of the day.

Lee A Fuerst
Environmental Scientist
U.S. Army Corps of Engineers
Norfolk District Regulatory Branch
803 Front Street, Norfolk, VA 23510
Office 757-201-7832 / Cell 757-536-5954

The Norfolk District is committed to providing the highest level of support to the public. In order for us to better serve you, we would appreciate you completing our Customer Satisfaction Survey located at [Blockedhttps://clicktime.symantec.com/3Ka7na8JqyCvA5W2Z2Y54x37Vc?u=http%3A%2F%2Fcorpsmapu.usace.army.mil%2Fcm_apex%2Ff%3Fp%3Dregulatory_survey](https://clicktime.symantec.com/3Ka7na8JqyCvA5W2Z2Y54x37Vc?u=http%3A%2F%2Fcorpsmapu.usace.army.mil%2Fcm_apex%2Ff%3Fp%3Dregulatory_survey). We value your comments.

-----Original Message-----

From: Dow, Roxane [<mailto:Roxane.Dow@FloridaDEP.gov>]
Sent: Tuesday, February 18, 2020 7:33 AM
To: Fuerst, Lee A CIV USARMY CENAO (USA) <Lee.A.Fuerst@usace.army.mil>
Cc: Edwards, Lainie <Lainie.Edwards@dep.state.fl.us>; Garis, Gregory <Gregory.Garis@FloridaDEP.gov>; Stahl, Chris <Chris.Stahl@dep.state.fl.us>; Eldredge, Laura <Laura.Eldredge@dep.state.fl.us>; Walczak, Joanna <Joanna.Walczak@FloridaDEP.gov>
Subject: [Non-DoD Source] Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study

Lee,

This is to confirm that FDEP respectfully declines the invitation to be a cooperating agency. We are concerned about the appearance of a conflict of interest, given our regulatory responsibilities. We will review and comment on documents and participate in meetings as much as possible.

Thank you for the opportunity.

Roxane

-----Original Message-----

<BlockedBlockedhttps://floridadep.gov/>

Roxane R. Dow

Florida Department of Environmental Protection

Office of Resilience and Coastal Protection

Beaches, Inlets and Ports Program

Federal Coordination, Planning

Roxane.Dow@FloridaDEP.gov

Office: 850-245-8376

Cell: 850-322-5773

<BlockedBlockedhttp://survey.dep.state.fl.us/?refemail=Roxane.Dow@FloridaDEP.gov>

[Dep Customer Survey]<Blockedhttp://survey.dep.state.fl.us/?refemail=Roxane.Dow@FloridaDEP.gov>

From: [Logalbo, Alicia M CIV USARMY CENAO \(USA\)](#)
To: [Woodward, Justine R CIV USARMY CENAO \(USA\)](#)
Subject: FW: [Non-DoD Source] Re: [EXTERNAL] RE: Draft FWCAR Coordination MOAs - FL SAD Studies (UNCLASSIFIED)
Date: Friday, May 8, 2020 2:05:08 PM

CLASSIFICATION: UNCLASSIFIED

Justine,
FYI -

Alicia Logalbo
Norfolk District, U.S. Army Corps of Engineers
Planning and Policy Branch
Chief, Environmental Analysis Section
803 Front Street
Norfolk, VA 23510

(757) 201-7210 office
(757) 335-8075 cell

Alicia.Logalbo@usace.army.mil

-----Original Message-----

From: Howe, Jeffrey [mailto:jeffrey_howe@fws.gov]
Sent: Wednesday, November 27, 2019 11:44 AM
To: Logalbo, Alicia M CIV USARMY CENAO (USA) <Alicia.M.Logalbo@usace.army.mil>
Subject: [Non-DoD Source] Re: [EXTERNAL] RE: Draft FWCAR Coordination MOAs - FL SAD Studies

Alicia:

I just attempted to call you and was unable to leave a message due to the fact that your mailbox is full. On November 26, 2018, I received letters from you for the Collier County, Florida Keys, and the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Studies. According to my records, on 6 December 2018, I sent an email stating that the Service had declined to participate in the environmental process. According to the email string a draft MOA was sent to me on 2 October 2019 which I don't have record of. Is there a document that needs to be signed stating that we are unable to be a cooperating agency as outlined in Attachment 2: Role of Cooperating Agency in the letters outlined above?

Thank you,

On Mon, Nov 25, 2019 at 4:33 PM Logalbo, Alicia M CIV USARMY CENAO (USA) <Alicia.M.Logalbo@usace.army.mil <<mailto:Alicia.M.Logalbo@usace.army.mil>> > wrote:

Jeff,

Was wondering if you had any edits with the Draft MOAs for the FWCAR coordination for the three FL SAD studies? We are ready to sign these if you are. Also, I am assuming you want a separate Biological Assessment from NMFS for the FL projects? Did you have any availability tomorrow morning to discuss the impacts to TE species and critical habitats for the FL Keys Projects? Thank you in advance for your help.

Alicia

Alicia Logalbo
Norfolk District, U.S. Army Corps of Engineers

Planning and Policy Branch
Chief, Environmental Analysis Section
803 Front Street
Norfolk, VA 23510

(757) 201-7210 office
(757) 335-8075 cell

Alicia.Logalbo@usace.army.mil <<mailto:Alicia.Logalbo@usace.army.mil>>

-----Original Message-----

From: Logalbo, Alicia M CIV USARMY CENAO (USA)
Sent: Wednesday, October 2, 2019 3:39 PM
To: jeffrey_howe@fws.gov <mailto:jeffrey_howe@fws.gov>
Cc: Agnese, Carissa R NAO <Carissa.R.Agnese@usace.army.mil <<mailto:Carissa.R.Agnese@usace.army.mil>>
>; Schulte, David M CIV CENAO CENAD (US) <David.M.Schulte@usace.army.mil
<<mailto:David.M.Schulte@usace.army.mil>> >; Koelsch, Kimberly C CIV USARMY CENAO (US)
<Kimberly.C.Koelsch@usace.army.mil <<mailto:Kimberly.C.Koelsch@usace.army.mil>> >; Conner, Susan L CIV
(USA) <Susan.L.Conner@usace.army.mil <<mailto:Susan.L.Conner@usace.army.mil>> >
Subject: Draft FWCAR Coordination MOAs - FL SAD Studies

Jeff,

I hope you are doing well. Attached is the Draft MOA for the FWCAR coordination for the three FL SAD Coastal Storm Risk Management Projects we are working on (Collier, Miami-Dade Back Bay, and the FL Keys). These have now been through our legal review and are ready for your review/signature. Please let me know if any edits are needed. Thank you in advance for your assistance.

Alicia

Alicia Logalbo
Norfolk District, U.S. Army Corps of Engineers Planning and Policy Branch Chief, Environmental Analysis
Section
803 Front Street
Norfolk, VA 23510

(757) 201-7210 office
(757) 335-8075 cell

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--

Jeff Howe

Coastal Fish & Wildlife Biologist, and UAS Pilot U.S. Fish & Wildlife Service South Florida Ecological Services
Office

1339 20th Street
Vero Beach, Florida 32960
(772) 469-4283 (Office)
(772) 562-4288 (FAX)

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NOTE: This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.

CLASSIFICATION: UNCLASSIFIED

From: [Logalbo, Alicia M CIV USARMY CENAO \(USA\)](#)
To: [Heather_Hitt@fws.gov](#); [jason.aldridge@dos.myflorida.com](#); [erik_stabenau@nps.gov](#); [Erin.McDevitt@MyFWC.com](#); [Maria.Merrill@MyFWC.com](#); [Christine.Raininger@MyFWC.com](#); [Higgins.Jamie@epa.gov](#); [Gregory.Garis@dep.fl.state.us](#); [noah.silverman@noaa.gov](#); [Jeffery_Howe@fws.gov](#); [jeffrey_howe@fws.gov](#); [James.wolfe@dot.state.fl.us](#); [Steven.james@dot.state.fl.us](#); [Vicki.garcia@MyFWC.com](#); [Pace.wilber@noaa.gov](#); [Sarah.futak@noaa.gov](#); [Melissa.alvarez@noaa.gov](#); [Chris.Stahl@dep.state.fl.us](#); [Joanna.Walczak@dep.state.fl.us](#); [Kelly.Egan@dep.state.fl.us](#); [Eric.Buck@dep.state.fl.us](#); [Francisco.Pagan@dep.state.fl.us](#); [Gregory.Garis@dep.state.fl.us](#); [Lainie.Edwards@dep.state.fl.us](#); [laura.eldredge@dep.state.fl.us](#); [Robert_Johnson@nps.gov](#); [heather_hitt@fws.gov](#); [Andrew.Jungman@dot.state.fl.us](#); [Singh-White.Alya@epa.gov](#); [Elizabeth.Fulcher@dot.state.fl.us](#); [Joanna.Walczak@FloridaDEP.gov](#); [Roxane.Dow@FloridaDEP.gov](#); [Andrew.L.Bobick@USCG.MIL](#); [Bradley.W.Clare@uscg.mil](#); [Hector.L.Schmidt@uscg.mil](#); [John.K.Velasco@uscg.mil](#); [David.A.Lentine@uscg.mil](#); [Michael.J.Capelli@uscg.mil](#); [Paul.D.Lehmann@uscg.mil](#); [Samuel.Rodriguez-Ronzalez@uscg.mil](#); [John-David.A.Lentine@uscg.mil](#); [hzhao@sfwmd.gov](#); [aowosin@sfwmd.gov](#); [Andrew.Sussman@em.myflorida.com](#); [asprings@sfwmd.gov](#)
Cc: [Fuerst, Lee A CIV USARMY CENAO \(USA\)](#); [Katherine.Hagemann@miamidade.gov](#); [MargaritaKruyff@miamibeachfl.gov](#); [ElizabethWheaton@miamibeachfl.gov](#); [Pamela.Sweeney@miamidade.gov](#); [Jessica.Blackwell@miamidade.gov](#); [Kimberly.Brown@miamidade.gov](#); [Carpenter, Holly A CIV USARMY CENAO \(USA\)](#); [Layton, Susan E CIV \(USA\)](#); [Haynes, John H Jr CIV USARMY CENAO \(USA\)](#); [Monica.Gregory@miamidade.gov](#); [James.Murley@miamidade.gov](#); [Josh.Mahoney@miamidade.gov](#); [Schulte, David M CIV CENAO CENAD \(US\)](#); [Craig.Grossenbacher@miamidade.gov](#); [Lisa.Spadafina@miamidade.gov](#); [Noel.Stillings@miamidade.gov](#)
Subject: Miami-Dade Back-Bay Coastal Storm Risk Management Project Draft Consultation/Permitting Timetable (UNCLASSIFIED)
Date: Friday, January 31, 2020 1:18:27 PM

CLASSIFICATION: UNCLASSIFIED

As we have previously discussed in Interagency meetings, draft consultation documents as provided in the Draft Consultation/Permitting Timetable below are planned to be available for review in the Draft Miami-Dade County Back Bay Coastal Storm Risk Management Project Integrated Report/Environmental Impact Statement that is planned for release on 18 March 2020. Below for your review and commenting is the Draft Consultation/Permitting Timetable for the Miami-Dade County Back-Bay Coastal Storm Risk Management Feasibility Study. As described in the Memorandum of Understanding Implementing One Federal Decision Under Executive Order 13807, we are requesting cooperating and participating agencies please review and provide comments to the Draft Consultation/Permitting timetable below (if needed).

Cooperating agencies are required to provide any comments to the schedule in writing within 10 business days. Therefore, we would respectfully request all comments by agencies be provided to me in writing (email or written letter is fine) by 17 February 2020. If comments are not received by 17 February 2020 we are assuming you are in concurrence with the Draft Consultation/Permitting Timetable. Thank you in advance for your review and please contact me if you have any questions or concerns.

Alicia Logalbo

Alicia Logalbo

Norfolk District, U.S. Army Corps of Engineers

Planning and Policy Branch

Chief, Environmental Analysis Section

803 Front Street

Norfolk, VA 23510

(757) 201-7210 office

(757) 335-8075 cell

Alicia.Logalbo@usace.army.mil

DRAFT Consultation/Permitting Timetable

Consultation Action

Responsible Agency

Date

Endangered Species Act, Section 7 Consultation

Request for ESA Consultation Received

U.S. Fish and Wildlife Service

3/18/2020

Consultation Package Deemed Complete – Formal

U.S. Fish and Wildlife Service

05/01/2020

Conclusion of ESA Consultation

U.S. Fish and Wildlife Service

10/28/2020

Request for ESA Consultation Received

National Oceanographic and Atmospheric Administration

18 March 2020

Consultation Package Deemed Complete – Formal

National Oceanographic and Atmospheric Administration

05/01/2020

Conclusion of ESA Consultation

National Oceanographic and Atmospheric Administration

10/28/2020

Magnuson-Stevens Fishery Conservation and Management Act, Section 305 Essential Fish Habitat (EFH)
Consultation

NOAA Initially Contacted Regarding EFH Consultation

National Oceanographic and Atmospheric Administration

03/18/2020

NOAA Receives the Complete EFH Assessment to Initiate EFH Consultation

National Oceanographic and Atmospheric Administration

04/30/2020

NOAA Issues a Response to the EFH Consultation Request

National Oceanographic and Atmospheric Administration

06/29/2020

National Historic Preservation Act, Section 106 Review

Consultation initiated with SHPO/THPO

State Historic Preservation Officer

10/24/2019

Section 106 consultation concluded

State Historic Preservation Officer

4/1/2021

Fish and Wildlife Coordination Act Review

Initial application received

U.S. Fish and Wildlife Service

3/18/2020

Issuance of decision for permit/approval

U.S. Fish and Wildlife Service

06/30/2020



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

CENAO-WR-PE (ER 200-2-2)

MEMORANDUM FOR THE RECORD

SUBJECT: Coordination Act Report for the Miami-Dade County Back Bay Coastal Storm Risk Management Feasibility Study in Miami-Dade County, Florida.

PURPOSE: To document an informal understanding between the US Army Corps of Engineers, Norfolk District (Corps) and the US Fish and Wildlife Service (USFWS), South Florida Ecological Services Office.

Project Description. The Corps is performing a Coastal Storm Risk Management Feasibility Study for Miami-Dade County Back Bay in Miami-Dade County, Florida with the non-Federal sponsor, Miami-Dade County. The study authority is Public Law 84-71, June 15, 1955 which authorizes an examination and survey of the coastal and tidal areas of the eastern and southern United States, with particular reference to areas where severe damages have occurred from hurricane winds and tides. This is a supplemental study within the Flood Risk Management mission area with a focus on Coastal Storm Risk Management (CSRM).

Proposed Work. The study will look at storm surge from hurricanes and tropical storms, increasing high tides and king tides from sea level rise result in flooding to roads and properties, increasing groundwater elevations from sea level rise result in flood risks to inland areas, increasing flooding from rain events due to higher groundwater elevations and sea level rise threatens properties and infrastructure, and flooding results in damages to homes, businesses, and critical infrastructure. Potential measures that are being considered for this project include; floodwall, surge barriers, non-structural methods, and natural and nature-based features.

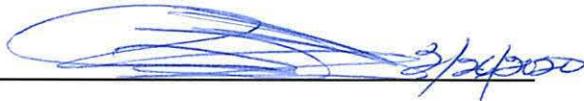
Coordination. The Fish and Wildlife Coordination Act (FWCA; 16 U.S.C. 661 et seq., March 10, 1934, as amended 1946, 1958, 1978, and 1995) requires Federal agencies to consult with the USFWS regarding the impacts to fish and wildlife resources and the proposed measures to mitigate these impacts. Additional coordination authorities exist through the review process of the National Environmental Policy Act (NEPA; 42 U.S.C. 4321-4347, January 1, 1970, as amended 1975 and 1982) and the consultations required under the Endangered Species Act of 1973 (ESA; 7 U.S.C. 136, 16 U.S.C. 1531 et seq. December 28, 1973).

CENAO-WR-PE (ER 200-2-2)

SUBJECT: Coordination Act Report for the Miami-Dade County Back Bay Coastal Storm Risk Management Feasibility Study, Miami-Dade County, Florida

The Corps through NEPA and the ESA will address impacts to fish and wildlife resources. The USFWS, if applicable, will include comments relevant to FWCA in the USFWS response to the Corps' ESA coordination letter.

Agreement. The undersigned, the Corps and USFWS, agree to utilize the project's NEPA review and ESA consultation processes to complete coordination responsibilities under the FWCA. This agreement will avoid duplicate analysis and documentation as authorized under 40 CFR section 1500.4 (k), 1502.25, 1506.4, and is consistent with Presidential Executive Order for Improving Regulation and Regulatory Review, released January 18, 2011. If no response is received from the USFWS during the NEPA review, the Corps will assume that there are either no relevant comments that pertain to the FWCA or that all comments will be provided during the ESA consultation process.



Roxanna Hinzman
Field Supervisor
US Fish and Wildlife Service
South Florida Ecological Services Office

Alicia Logalbo

Digitally signed by Alicia Logalbo
Date: 2020.02.24 15:44:44 -05'00'

Alicia Logalbo
Chief, Environmental Analysis Section
US Army Corps of Engineers,
Norfolk District



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
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803 FRONT STREET
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February 28, 2019

Planning and Policy Branch
Environmental Analysis Section

Mr. Jeff Howe
U.S. Fish and Wildlife Services
South Florida Ecological Services Field Office
Coastal Construction, Beach Projects
1339 20th Street
Vero Beach, Florida 32960

Re: Request for the official protected species list and Coastal Barrier Resources Act areas under the jurisdiction of the U.S. Fish and Wildlife Service: Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study.

Dear Mr. Howe:

The U.S. Army Corps of Engineers (USACE), Norfolk District, in sponsorship with Miami-Dade County, Florida has initiated the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study under the study authority, Section 4033 of the Water Resources Development Act of 2007 (Public Law 110 -114). The study area includes the county of Miami-Dade.

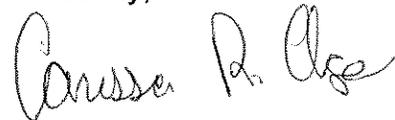
The primary purpose of the project is to investigate solutions that will reduce damages and risks from impacts of sea level rise and coastal storms. Based on the plan formulation to date, the potential measures being considered include nonstructural, structural, and natural and nature-based features. The potential nonstructural measures being considered are buyouts and acquisitions, elevation of structures and roads, dry/wet floodproofing, warning systems, emergency planning, and land use planning. The potential structural measures being considered are levees, bulkheads, tie gates, and surge protectors. The potential natural and nature-based features include the restoration and creation of habitat, i.e. mangrove, Submerged Aquatic Vegetation, and reef. In addition, living shorelines and water storage features/drainage improvements are also being evaluated.

The purpose of this letter is to request the "Official Protected Species List" under the jurisdiction of the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act. For your information, Attachment 2 is a draft list of

Protected Species we have compiled to date. We would also like to solicit any initial comments or direction you have in terms of initiation of this consultation. Pursuant to the Coastal Barrier Resource Act, we would also like to request the official CBRS boundaries including CBRA units and otherwise protected areas (OPAs) within the study area. We plan to conduct further coordination with you upon receipt of these lists, and after potential project alternatives are further refined.

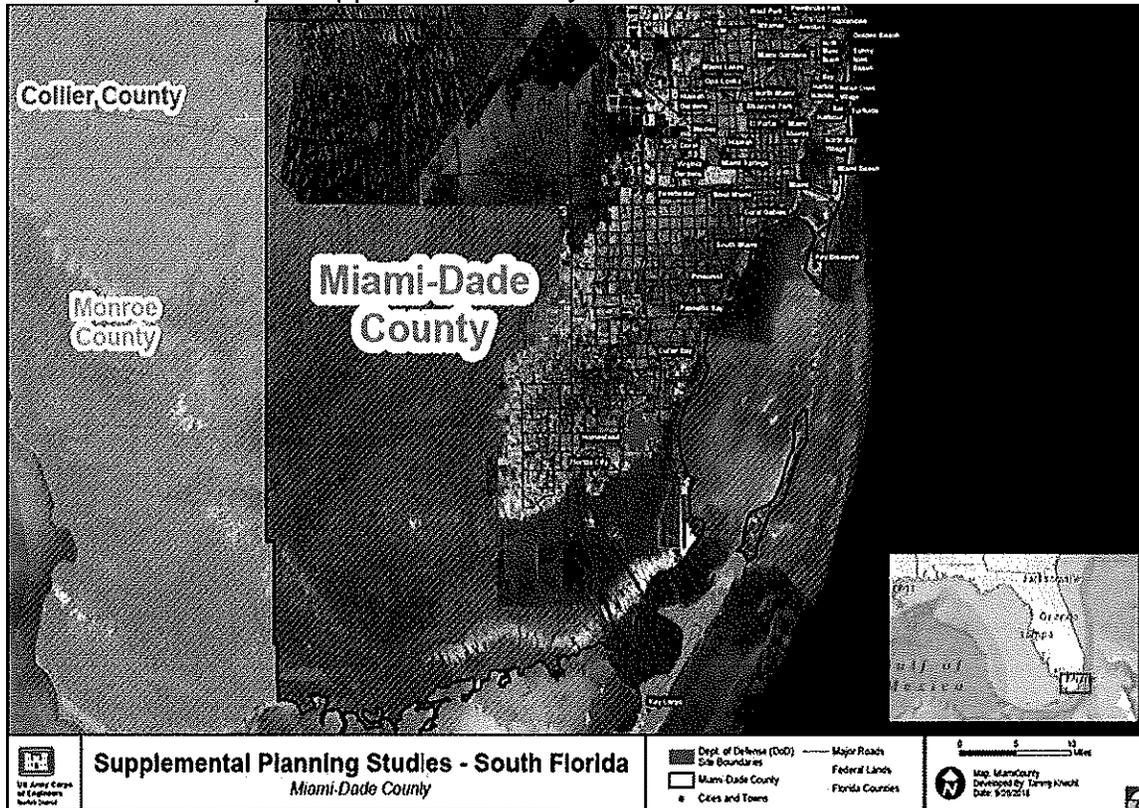
If you have any questions or need additional information, please contact me at (757) 201-7752 or by email at Carissa.r.agnese@usace.army.mil. Thank you for your assistance.

Sincerely,



Carissa R. Agnese, CEP, CISEC
Biologist
Planning and Policy Branch
USACE Norfolk District

Attachment 1: Map of Approximate Study Area



Attachment 2: Federally Listed Species under the U.S. Fish and Wildlife Service's jurisdiction pursuant to the Endangered Species Act.

Taxonomic Category/Common Name	Scientific Name	Status	Critical Habitat
Birds			
Audubon's Crested Caracara	<i>Polyborus plancus audubonii</i>	T	N
Bachman's Warbler	<i>Vermivora bachmanii</i>	E	N
Cape Sable Seaside Sparrow	<i>Ammodramus maritimus mirrabilis</i>	E	N
Everglade Snail Kite	<i>Rostrhamus sociabilis plumbeus</i>	E	N
Florida Grasshopper Sparrow	<i>Ammodramus savannarum floridanus</i>	E	N
Florida Scrub-jay	<i>Aphelocoma coerulescens</i>	T	N
Ivory-billed woodpecker	<i>Camppephilus principalis</i>	E	N
Kirtland's Warbler	<i>Setophaga kirtlandii</i> (= <i>Dendroica kirtlandii</i>)	E	N
Piping Plover	<i>Charadrius melodus</i>	T	N
Red Knot	<i>Calidris canutus rufa</i>	T	N
Red-cockaded Woodpecker	<i>Picoides borealis</i>	E	N
Wood Stork	<i>Mycteria americana</i>	T	N
Fish			
Atlantic sturgeon	<i>Acipenser oxyrinchus desotoi</i>	T	N
Invertebrates			
Bartram's Hairstreak Butterfly	<i>Strymon acis bartrami</i>	E	Y
Florida Leafwing Butterfly	<i>Anaea troglodyta floridaalis</i>	E	Y
Mammals			
Florida Bonneted Bat	<i>Emmops floridanus</i>	E	N
Florida Panther	<i>Felis concolor coryi</i>	E	N
Southeastern Beach Mouse	<i>Peromyscus polionotus niveiventris</i>	T	N
West Indian Manatee	<i>Trichechus manatus</i>	T	Y
Plants			
Beach Jacquemontia	<i>Jacquemontia reclinata</i>	E	N
Big Pine Partridge Pea	<i>Chamaecrista lineata keyensis</i>	E	N
Blodgett's Silverbush	<i>Argythamnia blodgettii</i>	T	N
Cape Sable Thoroughwort	<i>Chromolaena frustrata</i>	E	N
Carter's Mustard	<i>Warea carteri</i>	E	N
Carter's Small-flowered Flax	<i>Linum carteri carteri</i>	E	N
Crenulate Lead-plant	<i>Amorpha crenulata</i>	E	N
Deltoid Spurge	<i>Chamaesyce deltoidea ssp. deltoidea</i>	E	N
Everglades Bully	<i>Sideroxylon reclinatum ssp. austrofloridense</i>	T	N

Florida Brickell-bush	<i>Brickellia mosieri</i>	T	N
Florida Pineland Crabgrass	<i>Digitaria pauciflora</i>	T	N
Florida Prairie-clover	<i>Dalea carthagenensis floridana</i>	T	N
Florida Semaphore Cactus	<i>Consolea corallicola</i>	E	N
Garber's Spurge	<i>Chamaesyce garber</i>	T	N
Okeechobee Gourd	<i>Cucurbita okeechobeensis</i> ssp. <i>okeechobeensis</i>	E	N
Pineland Sandmat	<i>Chamaesyce deltoidea pinetorum</i>	T	N
Sand Flax	<i>Linum arenicola</i>	E	N
Small's Milkpea	<i>Galactia smallii</i>	E	N
Tiny Polygala	<i>Polygala smallii</i>	E	N
Florida Bristle Fern	<i>Trichomanes punctatum</i> ssp. <i>floridanum</i>	E	N
Reptiles			
American Alligator	<i>Alligator mississippiensis</i>	SAT	N
American Crocodile	<i>Crocodylus acutus</i>	T	Y
Eastern Indigo snake	<i>Drymarchon corais couperi</i>	T	N
Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	E	N
Leatherback Sea Turtle	<i>Dermochelys coriacea</i>	E	N
Loggerhead Sea Turtle	<i>Caretta caretta</i>	T	N



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
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NORFOLK VA 23510-1011

May 14, 2019

Planning and Policy Branch
Environmental Analysis Section

Mr. Jeff Howe
U.S. Fish and Wildlife Services
South Florida Ecological Services Field Office
Coastal Construction, Beach Projects
1339 20th Street
Vero Beach, Florida 32960

Re: Request for the official protected species list and Coastal Barrier Resources Act areas under the jurisdiction of the U.S. Fish and Wildlife Service: Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study.

Dear Mr. Howe:

This is a follow up to the February 28th, 2019 request for official protected species list and Coastal Barrier Resources Act areas under the jurisdiction of the U.S. Fish and Wildlife Service. Since the original letter we have defined areas of Miami-Dade County as well as alternatives for these areas for the study. Attached I have included maps and alternatives to assist in developing the protected species list.

The U.S. Army Corps of Engineers (USACE), Norfolk District, in sponsorship with Miami-Dade County, Florida has initiated the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study under the study authority, Section 4033 of the Water Resources Development Act of 2007 (Public Law 110 -114). The study area includes the county of Miami-Dade. Attached are maps for the alternatives and the areas they will affect.

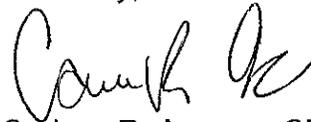
The primary purpose of the project is to investigate solutions that will reduce damages and risks from impacts of sea level rise and coastal storms. Based on the plan formulation to date, the potential measures being considered include nonstructural, structural, and natural and nature-based features. The potential nonstructural measures being considered are buyouts and acquisitions, elevation of structures and roads, dry/wet floodproofing, warning systems, emergency planning, and land use planning. The potential structural measures being considered are levees, bulkheads, tie gates, and surge protectors. The potential natural and nature-

based features include the restoration and creation of habitat, i.e. mangrove, Submerged Aquatic Vegetation, and reef. In addition, living shorelines and water storage features/drainage improvements are also being evaluated.

The purpose of this letter is to request the "Official Protected Species List" under the jurisdiction of the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act. For your information, Attachment 1 is a draft list of Protected Species we have compiled to date. We would also like to solicit any initial comments or direction you have in terms of initiation of this consultation. Pursuant to the Coastal Barrier Resource Act, we would also like to request the official CBRS boundaries including CBRA units and otherwise protected areas (OPAs) within the study area. We plan to conduct further coordination with you upon receipt of these lists, and after potential project alternatives are further refined.

If you have any questions or need additional information, please contact me at (757) 201-7752 or by email at Carissa.r.agnese@usace.army.mil. Thank you for your assistance.

Sincerely,



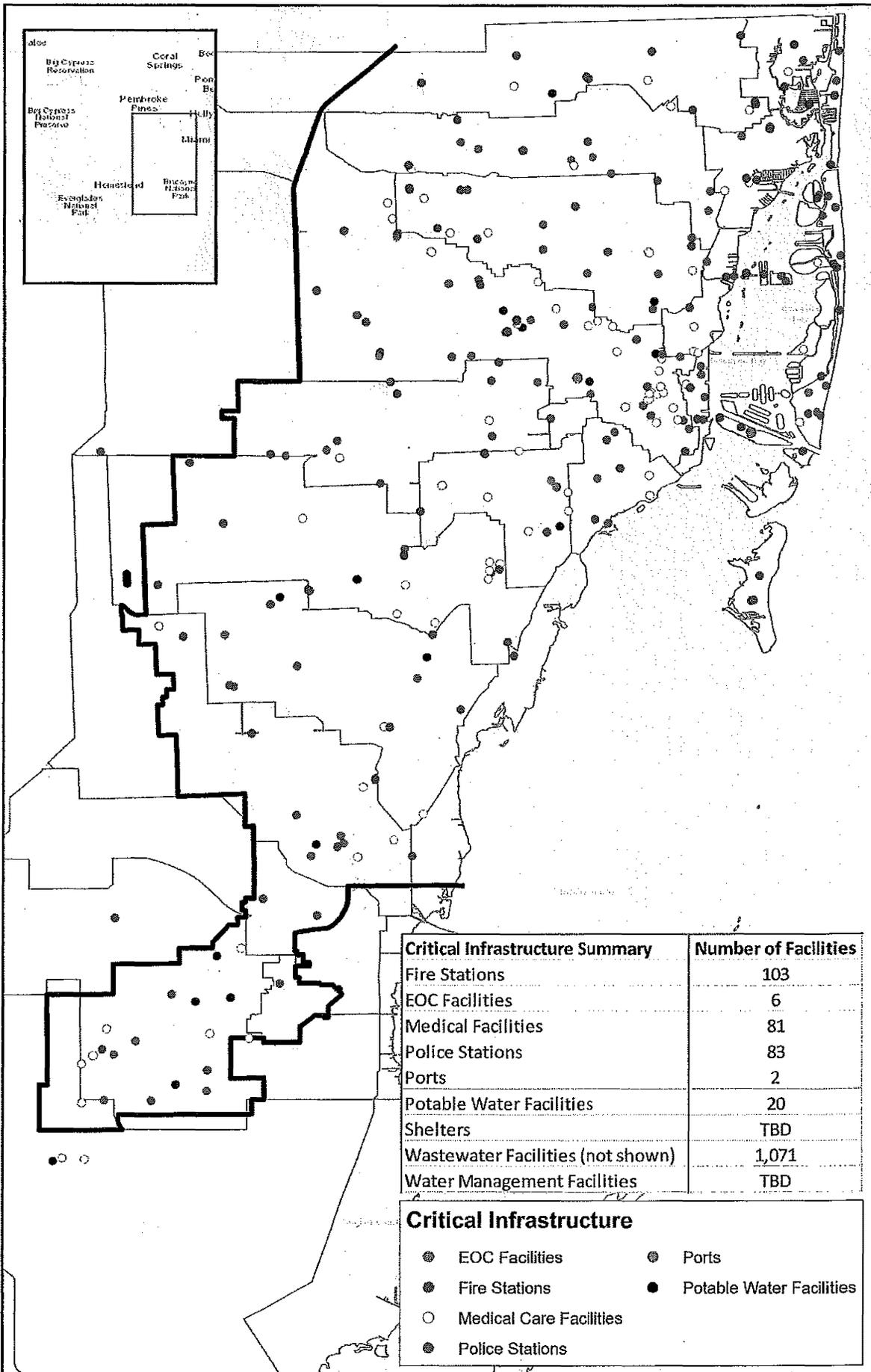
Carissa R. Agnese, CEP, CISEC
Biologist
Planning and Policy Branch
USACE Norfolk District

Attachment 1: Federally Listed Species under the U.S. Fish and Wildlife Service's jurisdiction pursuant to the Endangered Species Act.

Taxonomic Category/Common Name	Scientific Name	Status	Critical Habitat
Birds			
Audubon's Crested Caracara	<i>Polyborus plancus audubonii</i>	T	N
Bachman's Warbler	<i>Vermivora bachmanii</i>	E	N
Cape Sable Seaside Sparrow	<i>Ammodramus maritimus mirrabilis</i>	E	N
Everglade Snail Kite	<i>Rostrhamus sociabilis plumbeus</i>	E	N
Florida Grasshopper Sparrow	<i>Ammodramus savannarum floridanus</i>	E	N
Florida Scrub-jay	<i>Aphelocoma coerulescens</i>	T	N
Ivory-billed woodpecker	<i>Camppephilus principalis</i>	E	N

Kirtland's Warbler	<i>Setophaga kirtlandii</i> (= <i>Dendroica kirtlandii</i>)	E	N
Piping Plover	<i>Charadrius melodus</i>	T	N
Red Knot	<i>Calidris canutus rufa</i>	T	N
Red-cockaded Woodpecker	<i>Picooides borealis</i>	E	N
Wood Stork	<i>Mycteria americana</i>	T	N
Fish			
Atlantic sturgeon	<i>Acipenser oxyrinchus desotoi</i>	T	N
Invertebrates			
Bartram's Hairstreak Butterfly	<i>Strymon acis bartrami</i>	E	Y
Florida Leafwing Butterfly	<i>Anaea troglodyta floridalis</i>	E	Y
Mammals			
Florida Bonneted Bat	<i>Emmops floridanus</i>	E	N
Florida Panther	<i>Felis concolor coryi</i>	E	N
Southeastern Beach Mouse	<i>Peromyscus polionotus niveiventris</i>	T	N
West Indian Manatee	<i>Trichechus manatus</i>	T	Y
Plants			
Beach Jacquemontia	<i>Jacquemontia reclinata</i>	E	N
Big Pine Partridge Pea	<i>Chamaecrista lineata keyensis</i>	E	N
Blodgett's Silverbush	<i>Argythamnia blodgettii</i>	T	N
Cape Sable Thoroughwort	<i>Chromolaena frustrata</i>	E	N
Carter's Mustard	<i>Warea carteri</i>	E	N
Carter's Small-flowered Flax	<i>Linum carteri carteri</i>	E	N
Crenulate Lead-plant	<i>Amorpha crenulata</i>	E	N
Deltoid Spurge	<i>Chamaesyce deltoidea</i> ssp. <i>deltoidea</i>	E	N
Everglades Bully	<i>Sideroxylon reclinatum</i> ssp. <i>austrofloridense</i>	T	N
Florida Brickell-bush	<i>Brickellia mosieri</i>	T	N
Florida Pineland Crabgrass	<i>Digitaria pauciflora</i>	T	N
Florida Prairie-clover	<i>Dalea carthagenensis floridana</i>	T	N
Florida Semaphore Cactus	<i>Consolea corallicola</i>	E	N
Garber's Spurge	<i>Chamaesyce garber</i>	T	N
Okeechobee Gourd	<i>Cucurbita okeechobeensis</i> ssp. <i>okeechobeensis</i>	E	N
Pineland Sandmat	<i>Chamaesyce deltoidea pinetorum</i>	T	N
Sand Flax	<i>Linum arenicola</i>	E	N
Small's Milkpea	<i>Galactia smallii</i>	E	N
Tiny Polygala	<i>Polygala smallii</i>	E	N
Florida Bristle Fern	<i>Trichomanes punctatum</i> ssp. <i>floridanum</i>	E	N
Reptiles			

American Alligator	<i>Alligator mississippiensis</i>	SAT	N
American Crocodile	<i>Crocodylus acutus</i>	T	Y
Eastern Indigo snake	<i>Drymarchon corais couperi</i>	T	N
Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	E	N
Leatherback Sea Turtle	<i>Dermochelys coriacea</i>	E	N
Loggerhead Sea Turtle	<i>Caretta caretta</i>	T	N



Critical Infrastructure Summary	Number of Facilities
Fire Stations	103
EOC Facilities	6
Medical Facilities	81
Police Stations	83
Ports	2
Potable Water Facilities	20
Shelters	TBD
Wastewater Facilities (not shown)	1,071
Water Management Facilities	TBD

Critical Infrastructure

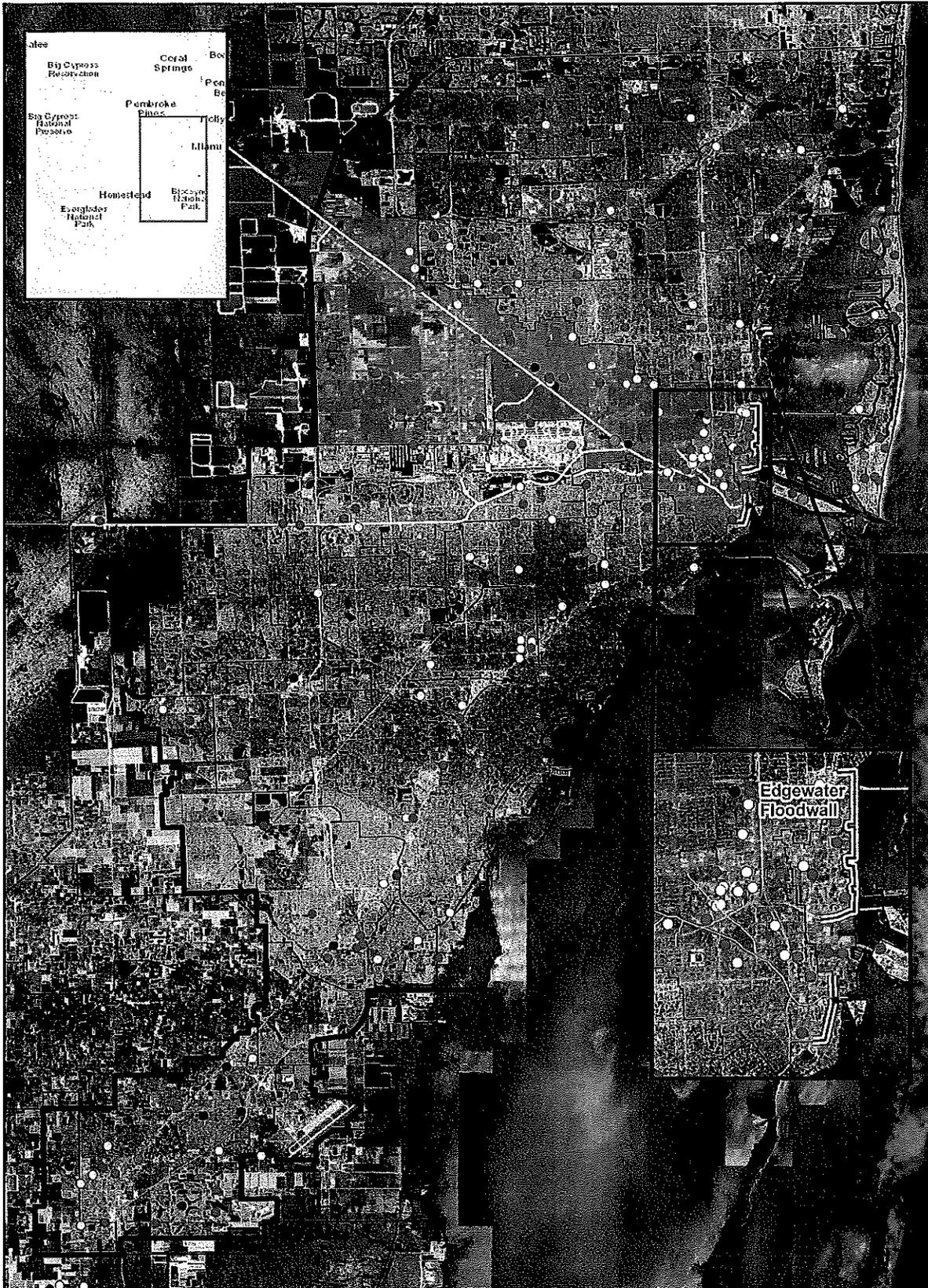
- EOC Facilities
- Fire Stations
- Medical Care Facilities
- Police Stations
- Ports
- Potable Water Facilities



Miami-Dade County: Alternative 1 - Critical Infrastructure

□ Reaches
 — Urban Development Boundary

0 1.75 3.5 Miles
 Map: IFR Map2, 10.6
 Developed by: Oorapokal
 Date: 5/1/2019



Critical Infrastructure		Structural Measures	
● EOC Facilities	● Ports	=== Floodwall	Protected by Surge Barrier/Floodwall
● Fire Stations	● Potable Water Facilities	▨ Surge Barrier	Unprotected by Surge Barrier (nonstructural)
○ Medical Care Facilities		— Pump Station	
● Police Stations			

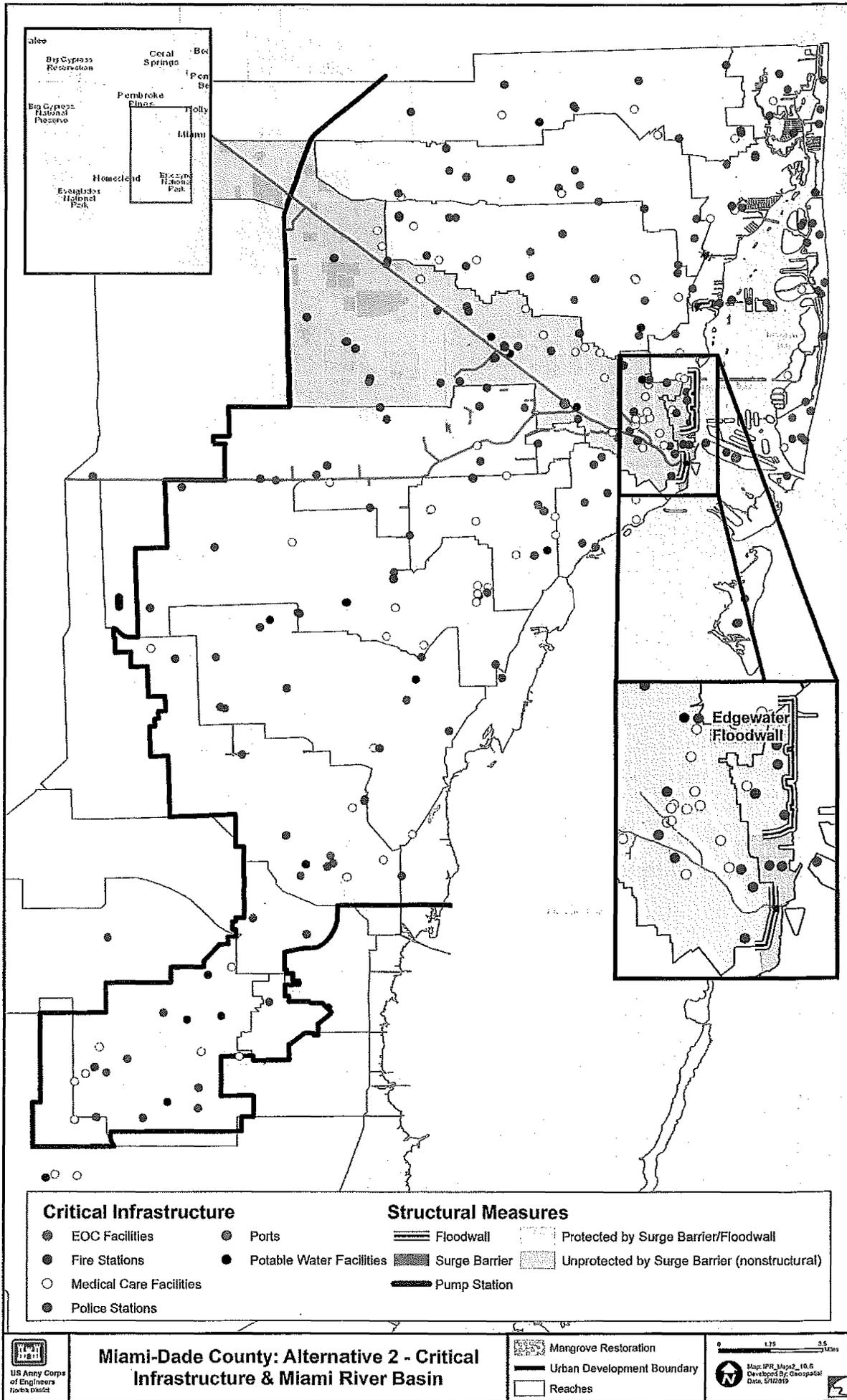


Miami-Dade County: Alternative 2 - Critical Infrastructure & Miami River Basin

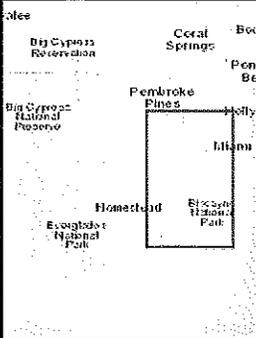
▨	Mangrove Restoration
—	Urban Development Boundary
□	Reaches

0 1.75 3.5 Miles

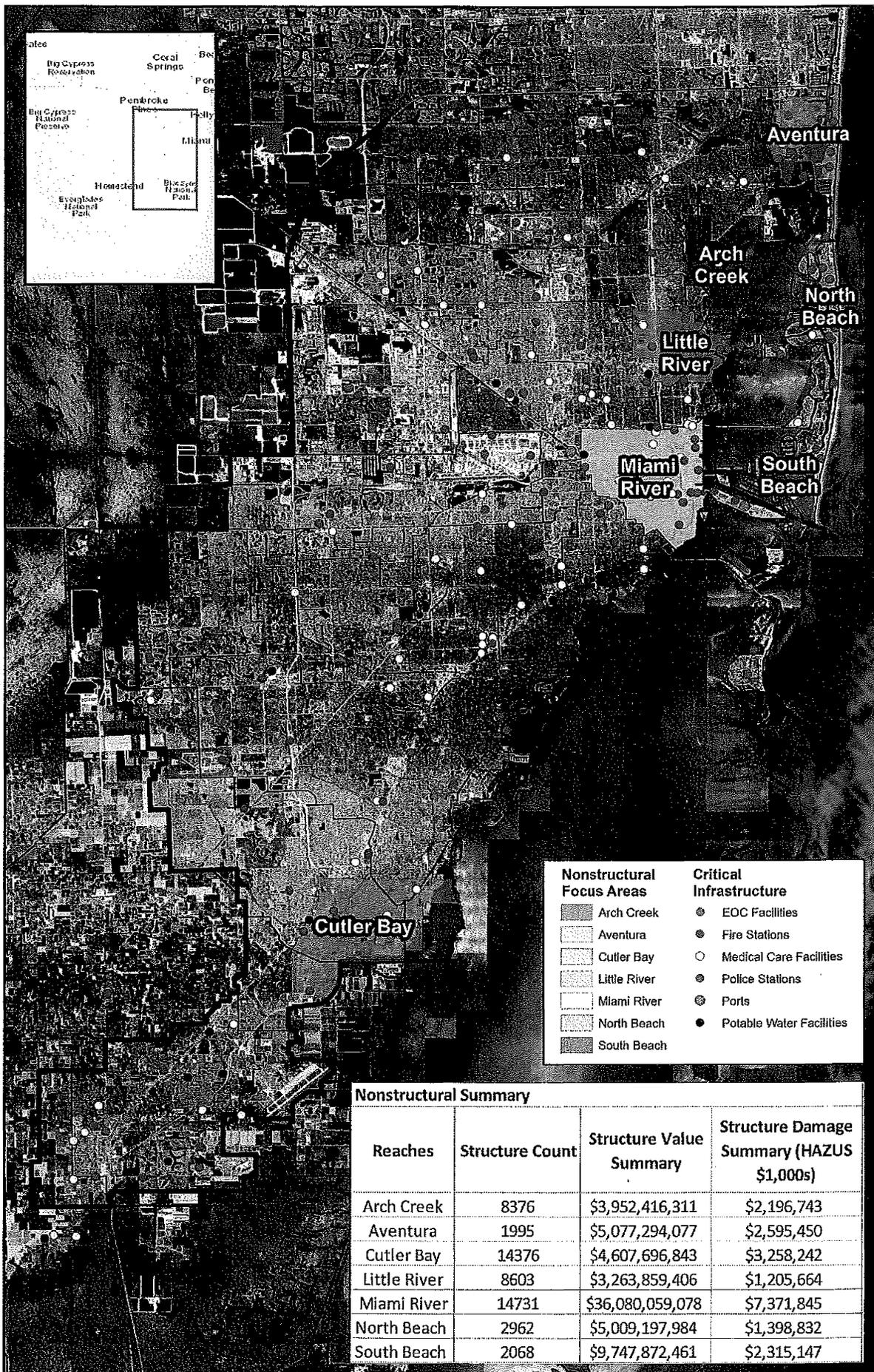
Map: IFR_Map2_10.6
 Developed By: Geospatial
 Date: 5/12/2013



Miami-Dade County: Alternative 2 - Critical Infrastructure & Miami River Basin



Nonstructural Focus Areas	Critical Infrastructure	Structural Measures
Aventura	EOC Facilities	Floodwall
Cutler Bay	Fire Stations	Surge Barrier
North Beach	Medical Care Facilities	Pump Station
South Beach	Police Stations	Protected by Surge Barrier/Floodwall
	Ports	Unprotected by Surge Barrier/Floodwall (nonstructural)
	Potable Water Facilities	



Nonstructural Focus Areas		Critical Infrastructure	
[Pattern]	Arch Creek	[Symbol]	EOC Facilities
[Pattern]	Aventura	[Symbol]	Fire Stations
[Pattern]	Cutler Bay	[Symbol]	Medical Care Facilities
[Pattern]	Little River	[Symbol]	Police Stations
[Pattern]	Miami River	[Symbol]	Ports
[Pattern]	North Beach	[Symbol]	Potable Water Facilities
[Pattern]	South Beach		

Nonstructural Summary

Reaches	Structure Count	Structure Value Summary	Structure Damage Summary (HAZUS \$1,000s)
Arch Creek	8376	\$3,952,416,311	\$2,196,743
Aventura	1995	\$5,077,294,077	\$2,595,450
Cutler Bay	14376	\$4,607,696,843	\$3,258,242
Little River	8603	\$3,263,859,406	\$1,205,664
Miami River	14731	\$36,080,059,078	\$7,371,845
North Beach	2962	\$5,009,197,984	\$1,398,832
South Beach	2068	\$9,747,872,461	\$2,315,147

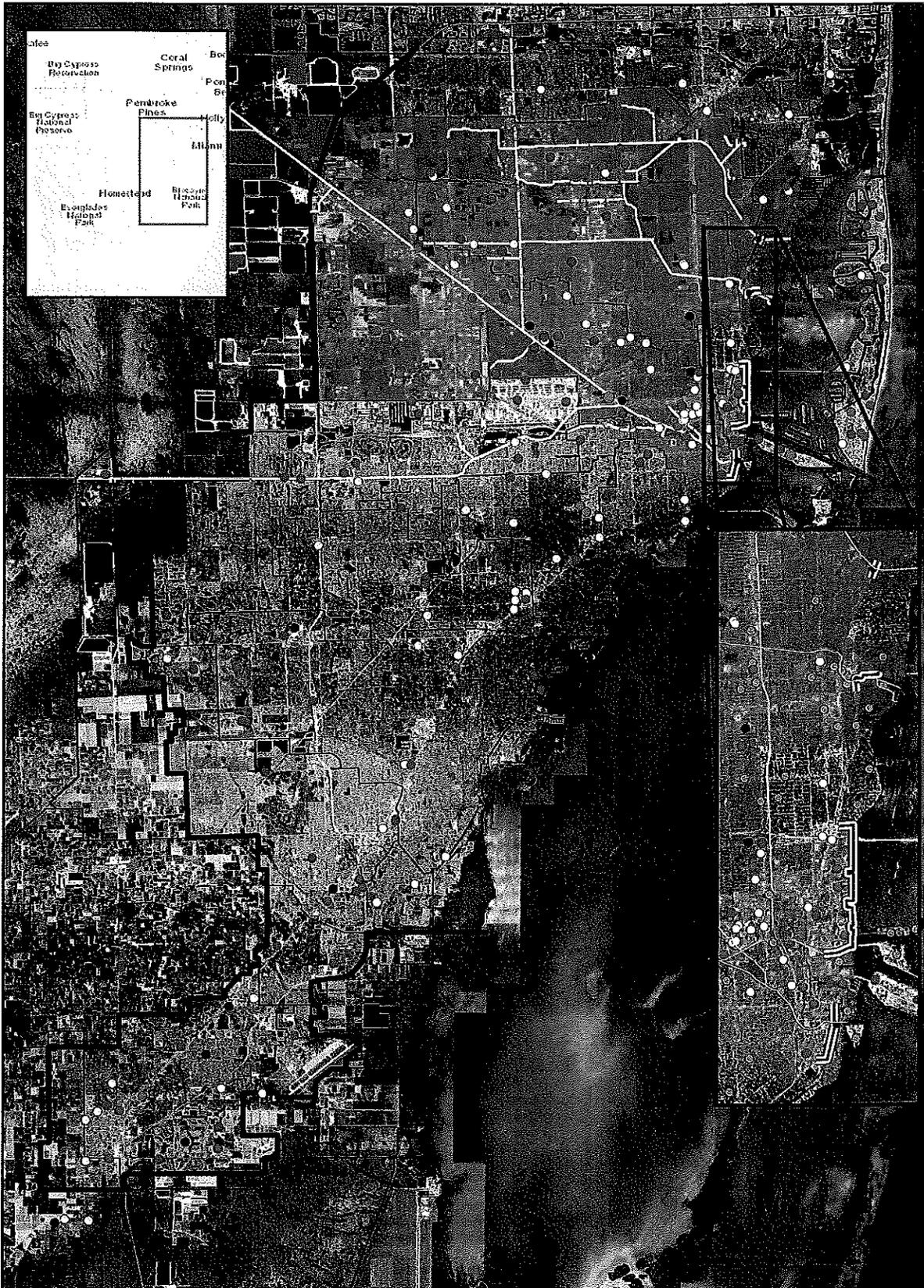


Miami-Dade County: Alternative 3 - Critical Infrastructure & Nonstructural

[Pattern]	Mangrove Restoration
[Line]	Urban Development Boundary
[Pattern]	Reaches

0 1.75 3.5 Miles

Map: IPR_Alt03_10.6
 Developed By: Geospatial
 Date: 5/12/2019



Critical Infrastructure		Structural Measures	
● EOC Facilities	● Ports	▬▬▬ Floodwall	▨ Protected by Surge Barrier/Floodwall
● Fire Stations	● Potable Water Facilities	▬▬ Surge Barrier	▨ Unprotected by Surge Barrier (nonstructural)
○ Medical Care Facilities		▬▬ Pump Station	
● Police Stations			

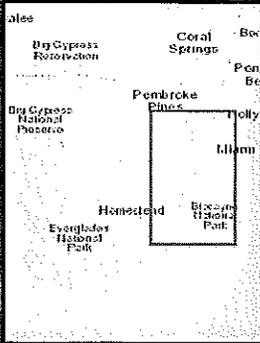


Miami-Dade County: Alternative 4 - Critical Infrastructure & Inland Storm Surge Reduction

- Mangrove Restoration
- Urban Development Boundary
- Reaches

0 1.75 3.5 Miles

Map: IPR_Maps2_10.8
 Developed by: GHO/SP/SL
 Date: 01/2019



Critical Infrastructure	Nonstructural Focus Areas	Structural Measures
● EOC Facilities	Arch Creek	Floodwall
● Fire Stations	Aventura	Surge Barrier
○ Medical Care Facilities	Cutler Bay	Pump Station
● Police Stations	Little River	Protected by Surge Barrier/Floodwall
● Ports	North Beach	Unprotected by Surge Barrier/Floodwall (nonstructural)
● Potable Water Facilities	South Beach	



Miami-Dade County: Alternative 5 - Critical Infrastructure, Miami River Basin, & Nonstructural

- Mangrove Restoration
- Urban Development Boundary
- Reaches

0 1/2 1 3/4 Miles

Map: IPR_Alt2_10.6
 Developed by: Geospatial
 Date: 5/12/15



Palmetto Bay
 Charles Deering Estate
 Lakes by the Bay



Miami-Dade County: Natural Nature Based Features

NNBF
 Mangrove Restoration

0 0.0175 0.025 Miles
 Map: PR_Stage2_10.6
 Developed By: Geospatial
 Date: 3/1/2019





DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

February 28, 2019

Planning and Policy Branch
Environmental Analysis Section

Mr. Pace Wilbur
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505

Re: Request Official Listing of Essential Fish Habitat: Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study.

Dear Mr. Wilbur:

The U.S. Army Corps of Engineers (USACE), Norfolk District, in sponsorship with Miami-Dade County, Florida has initiated the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study under the study authority, Section 4033 of the Water Resources Development Act of 2007 (Public Law 110 -114). The study area includes Miami-Dade County, Florida. Attachment 1 provides a map of the study area.

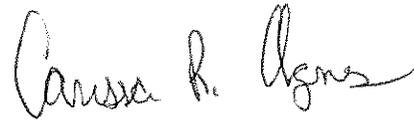
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At this time, the U.S. Army Corps of Engineers is requesting the official listing of Essential Fish Habitat that occurs within the potential area of impact of the project. We will conduct further coordination with you upon receipt of your official list, and after

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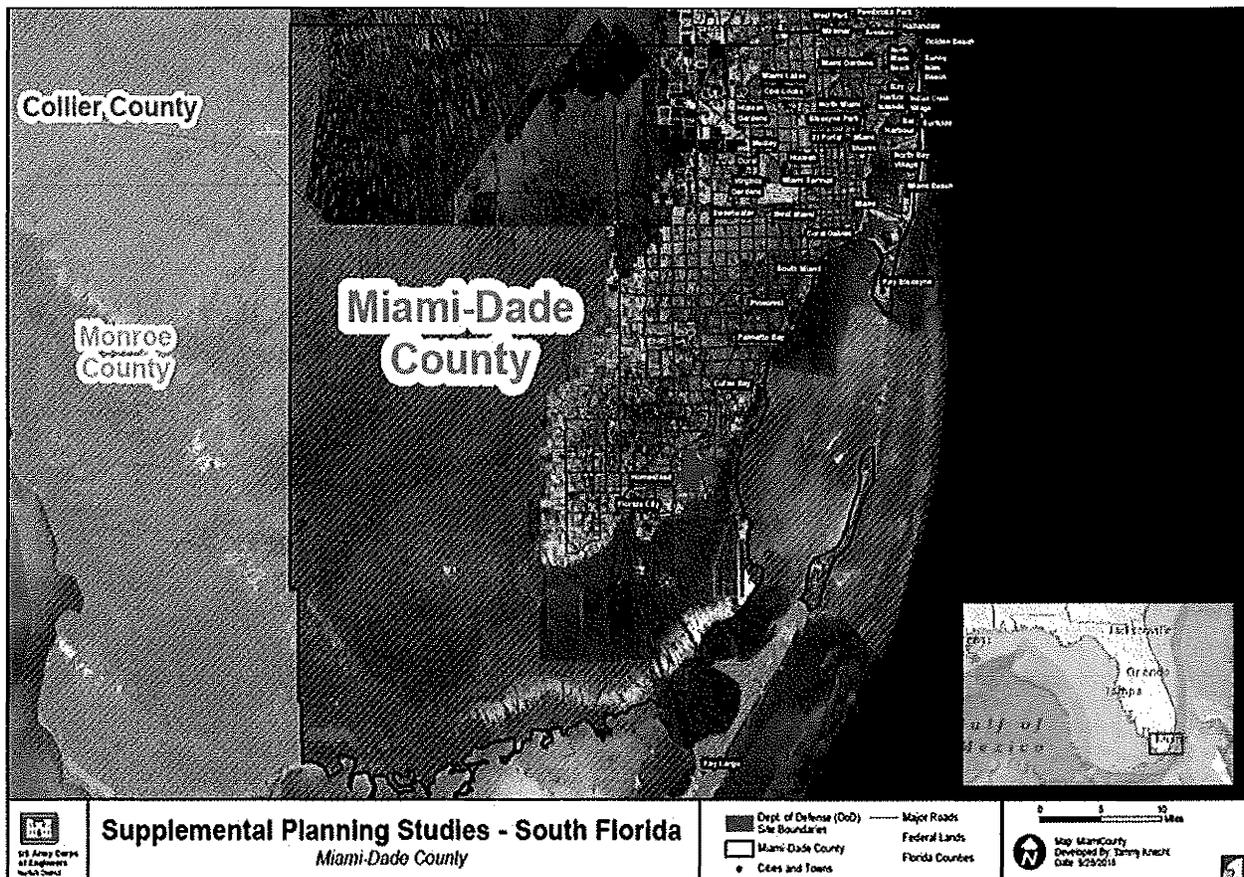
If you have any questions or need additional information, please contact me at (757) 201-7752 or by email at carissa.r.agnese@usace.army.mil. Thank you for your assistance.

Sincerely,



Carissa R. Agnese, CEP, CISEC
Biologist
Planning and Policy Branch
USACE Norfolk District

Attachment 1. Map of Approximate Study Area





DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

May 14, 2019

Planning and Policy Branch
Environmental Analysis Section

Mr. Pace Wilbur
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505

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Dear Mr. Wilbur:

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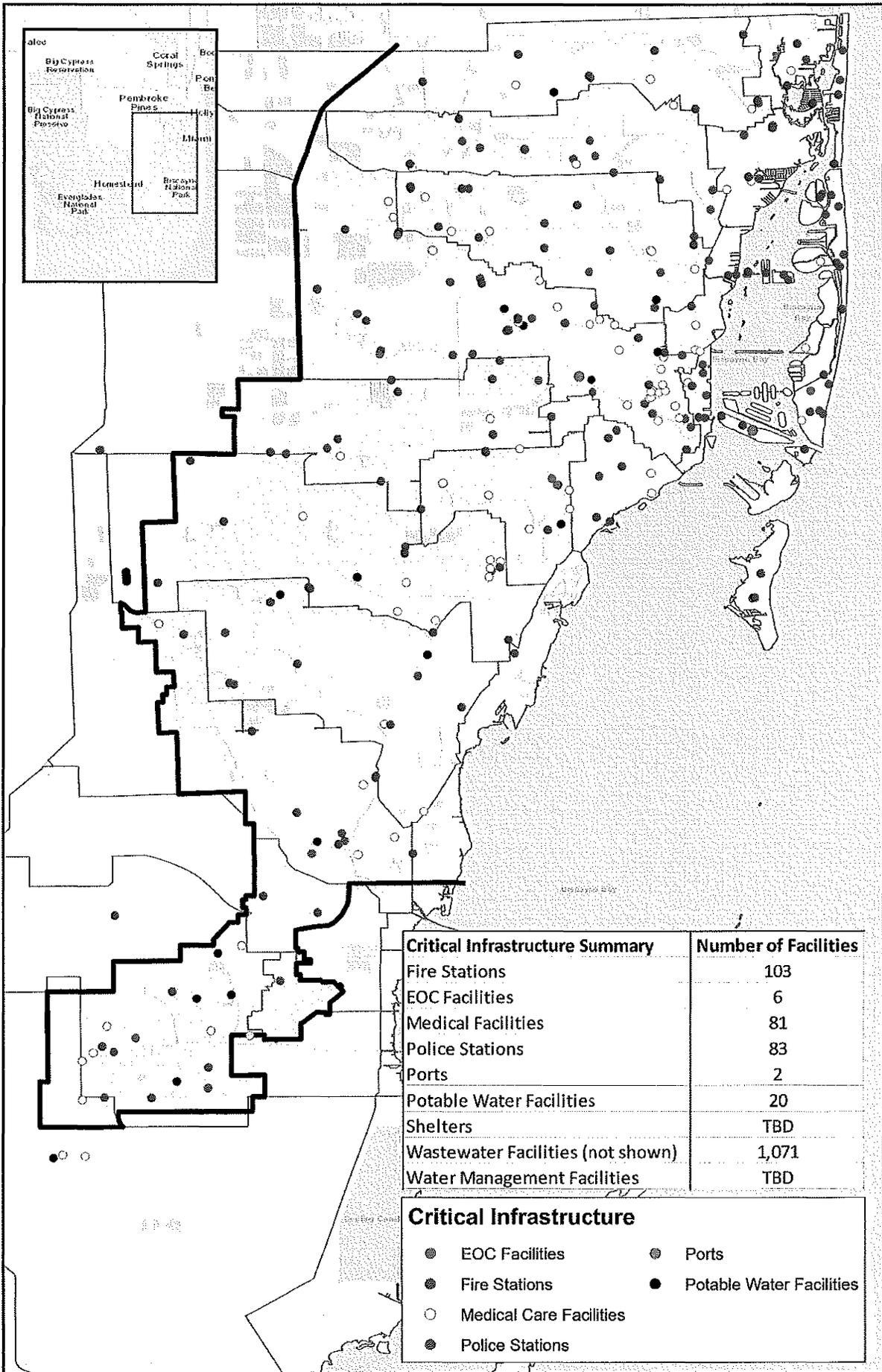
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Biologist
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Attachment 1. Map of Approximate Study Area





Critical Infrastructure		Structural Measures	
● EOC Facilities	● Ports	▬▬▬ Floodwall	▨ Protected by Surge Barrier/Floodwall
● Fire Stations	● Potable Water Facilities	▨ Surge Barrier	▨ Unprotected by Surge Barrier (nonstructural)
○ Medical Care Facilities		— Pump Station	
● Police Stations			

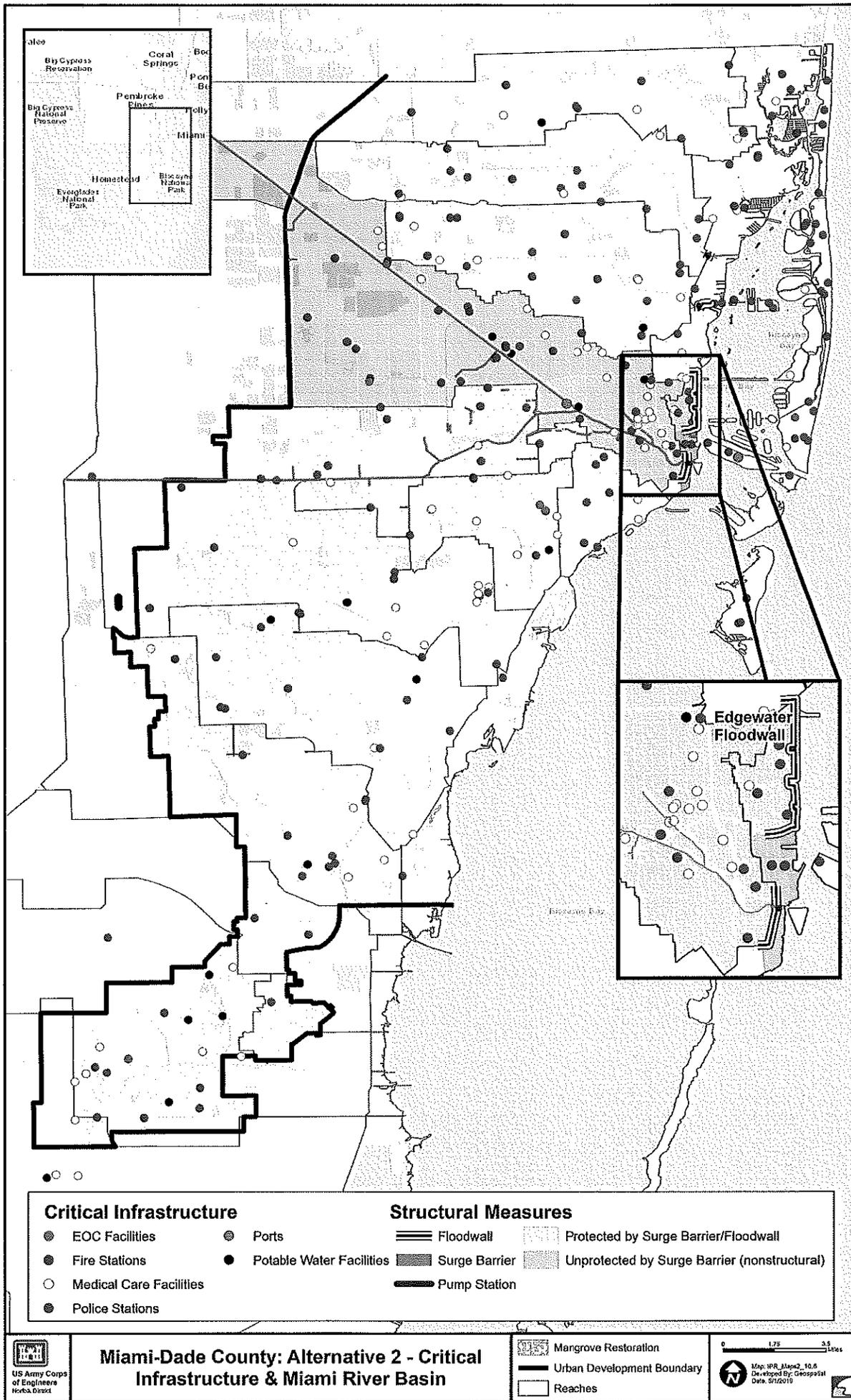


Miami-Dade County: Alternative 2 - Critical Infrastructure & Miami River Basin

▨ Mangrove Restoration
▬ Urban Development Boundary
▭ Reaches

0 1.25 3.5 Miles

Map: IPR_Alt2_10.6
Developed By: Geospatial
Date: 9/1/2019



Miami-Dade County: Alternative 2 - Critical Infrastructure & Miami River Basin



also
 Big Cypress
 Reservation
 Coral
 Springs
 Boca
 Raton
 Pembroke
 Pines
 Hollywood
 Miami
 Homestead
 Big Cypress
 National
 Preserve
 Everglades
 National
 Park
 Biscayne
 National
 Park

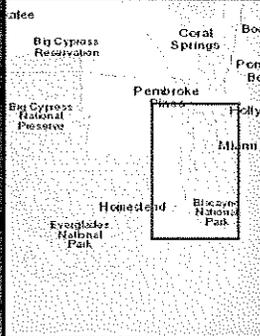
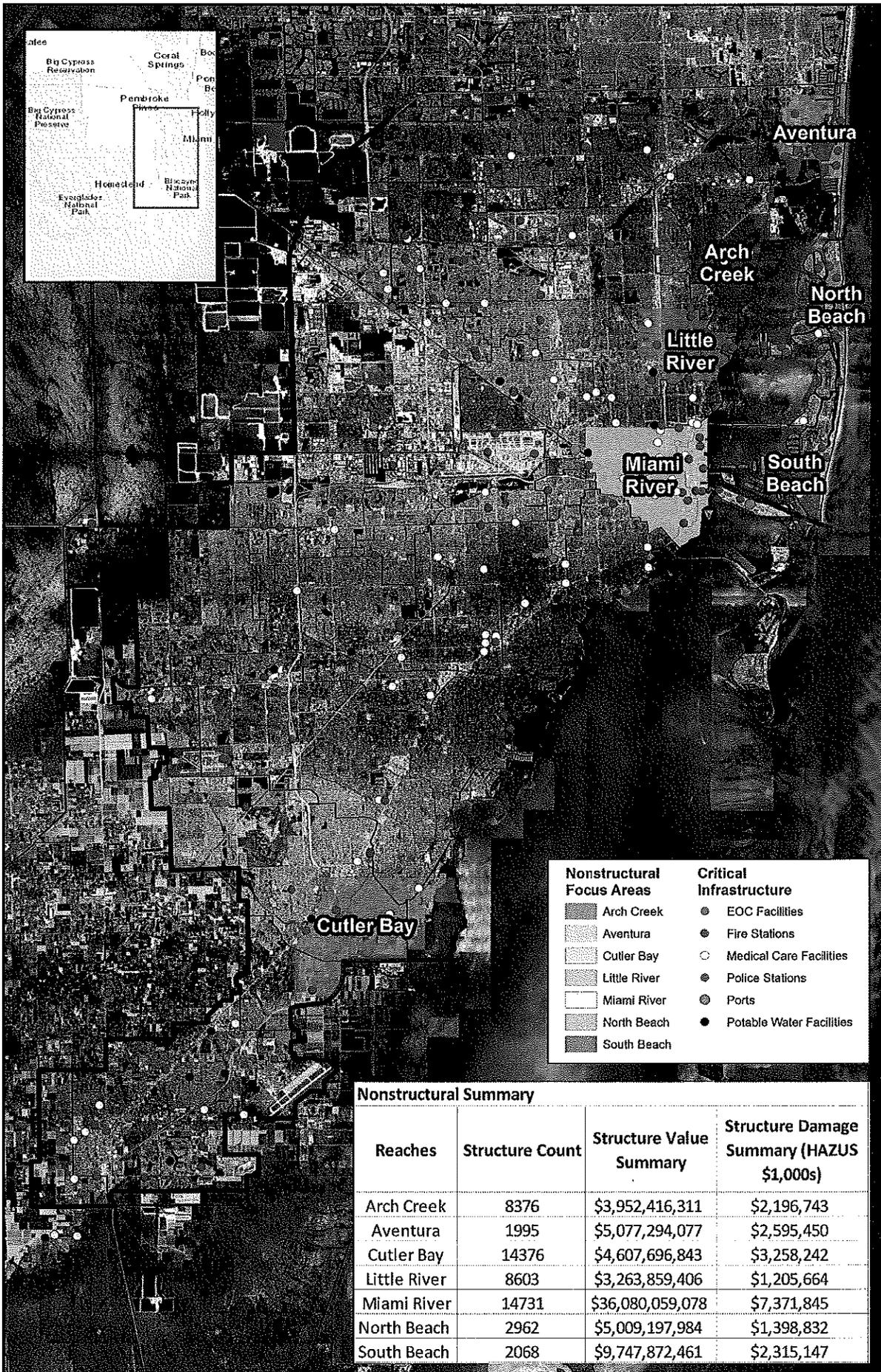
Nonstructural Focus Areas	Critical Infrastructure	Structural Measures
Aventura	EOC Facilities	Floodwall
Cutter Bay	Fire Stations	Surge Barrier
North Beach	Medical Care Facilities	Pump Station
South Beach	Police Stations	Protected by Surge Barrier/Floodwall
	Ports	Unprotected by Surge Barrier/Floodwall (nonstructural)
	Potable Water Facilities	



Miami-Dade County: Alternative 3 - Critical Infrastructure, Inland Storm Surge Reduction, & Nonstructural

- Mangrove Restoration
- Urban Development Boundary
- Reaches

0 175 35
 Map: IPR_Atlas2_10.8
 Developed By: Geospatial
 Date: 5/1/2019



Nonstructural Focus Areas		Critical Infrastructure	
[Pattern]	Arch Creek	[Symbol]	EOC Facilities
[Pattern]	Aventura	[Symbol]	Fire Stations
[Pattern]	Cutler Bay	[Symbol]	Medical Care Facilities
[Pattern]	Little River	[Symbol]	Police Stations
[Pattern]	Miami River	[Symbol]	Ports
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● Fire Stations	● Potable Water Facilities	Surge Barrier	Unprotected by Surge Barrier (nonstructural)
○ Medical Care Facilities		— Pump Station	
● Police Stations			

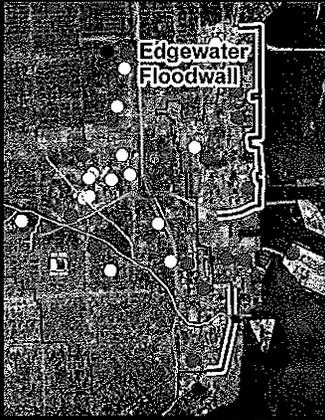
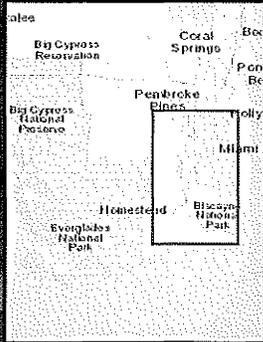


Miami-Dade County: Alternative 4 - Critical Infrastructure & Inland Storm Surge Reduction

Mangrove Restoration
Urban Development Boundary
Reaches

0 1.75 3.5 Miles

Map: IPR_Map2_10.8
 Developed By: Geospatial
 Date: 01/2019



Critical Infrastructure	Nonstructural Focus Areas	Structural Measures
● EOC Facilities	■ Arch Creek	▬ Floodwall
● Fire Stations	■ Aventura	■ Surge Barrier
○ Medical Care Facilities	■ Cutler Bay	⊠ Pump Station
● Police Stations	■ Little River	▨ Protected by Surge Barrier/Floodwall
● Ports	■ North Beach	▨ Unprotected by Surge Barrier/Floodwall (nonstructural)
● Potable Water Facilities	■ South Beach	

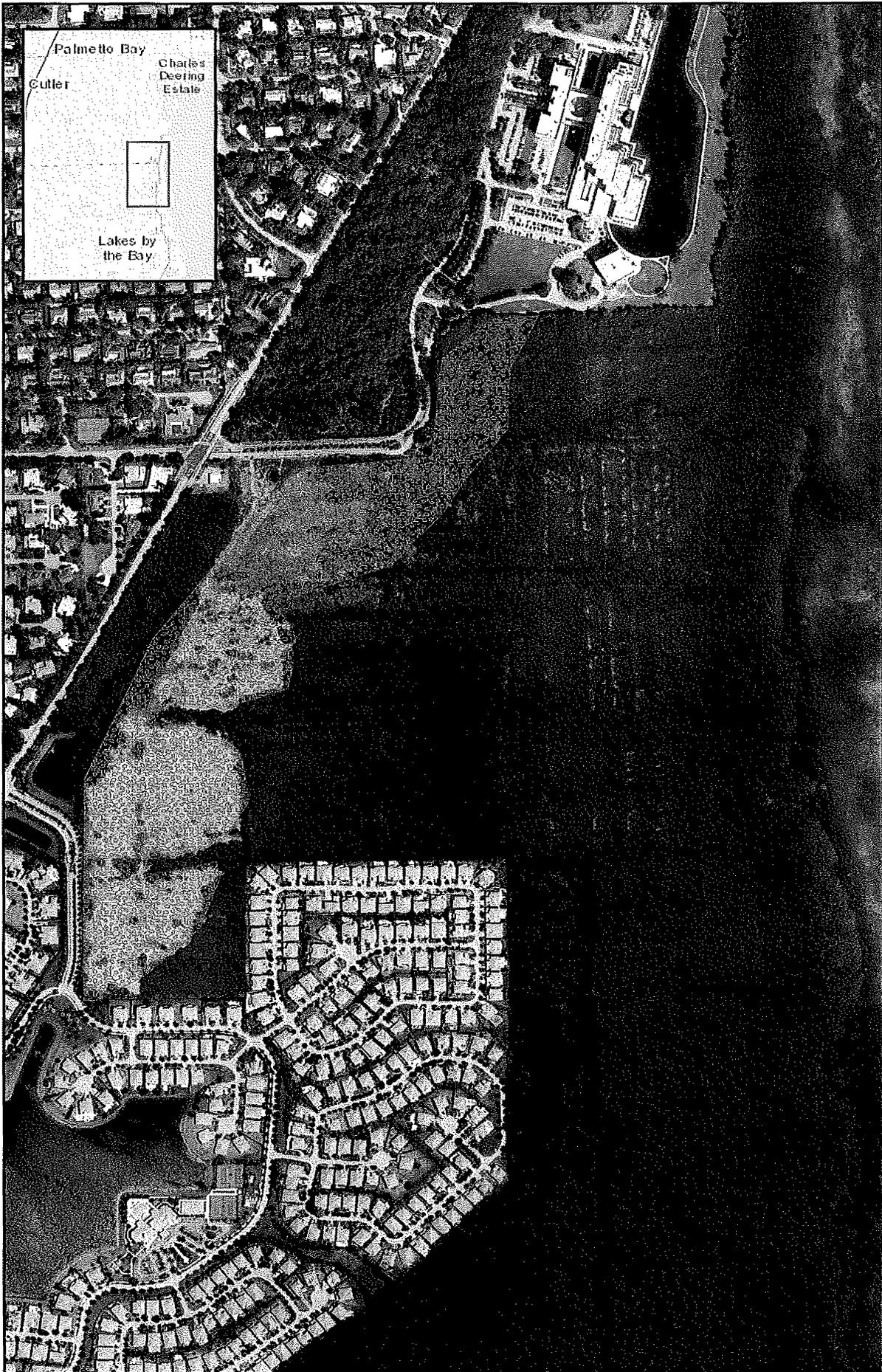


Miami-Dade County: Alternative 5 - Critical Infrastructure, Miami River Basin, & Nonstructural



0 175 350 Miles

Map: JPR_Map2_10.6
 Date: 4/20/19
 Data: 5/1/2019



Palmetto Bay
 Charles Deering Estate
 Cutler
 Lakes by the Bay



US Army Corps of Engineers
 New York District

Miami-Dade County: Natural Nature Based Features

NNBF



Mangrove Restoration

0 0.0475 0.095 Miles



Map: IPR_Maps2_10.0
 Developed By: Geospatial Data, 5/1/2019





Critical Infrastructure		Structural Measures	
● EOC Facilities	● Ports	▬▬▬ Floodwall	▨ Protected by Surge Barrier/Floodwall
● Fire Stations	● Potable Water Facilities	▨ Surge Barrier	▨ Unprotected by Surge Barrier (nonstructural)
○ Medical Care Facilities		● Pump Station	
● Police Stations			



Miami-Dade County: Alternative 4 - Critical Infrastructure & Inland Storm Surge Reduction

- Mangrove Restoration
- Urban Development Boundary
- Reaches

0 1.75 3.5 Miles

Map: IPR_Map07_10.8
 Developed By: Geospatial
 Date: 3/12/2019



Coral Springs
 Boynton Beach
 Doral
 Miami
 Hialeah
 Homestead
 Everglades National Park
 Biscayne National Park

Edgewater Floodwall

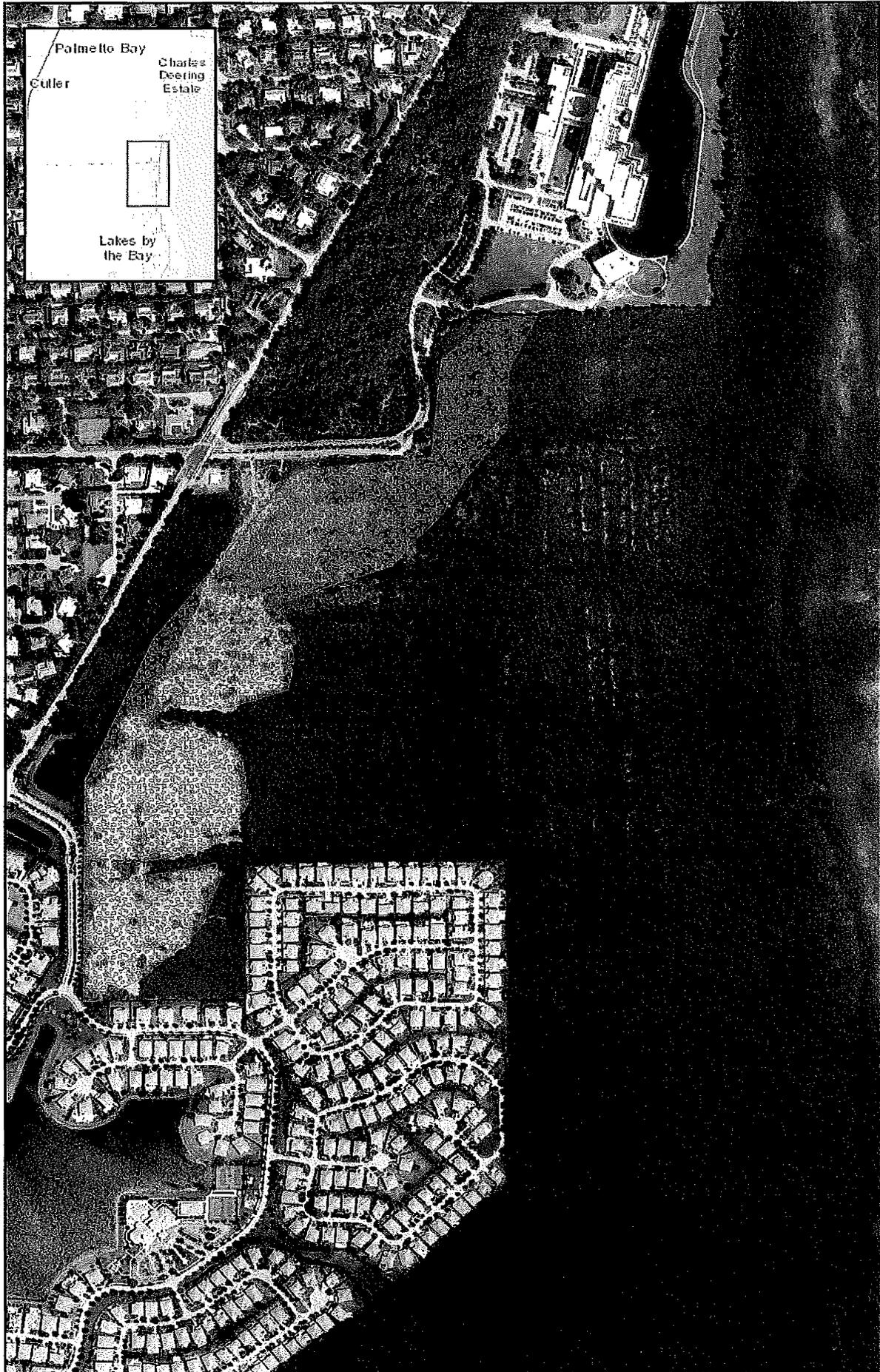
Critical Infrastructure	Nonstructural Focus Areas	Structural Measures
● EOC Facilities	Arch Creek	▬ Floodwall
● Fire Stations	Aventura	▬ Surge Barrier
○ Medical Care Facilities	Cutler Bay	▬ Pump Station
● Police Stations	Little River	▬ Protected by Surge Barrier/Floodwall
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● Potable Water Facilities	South Beach	



Miami-Dade County: Alternative 5 - Critical Infrastructure, Miami River Basin, & Nonstructural

- Mangrove Restoration
- Urban Development Boundary
- Reaches

0 1.25 2.5 3.75 Miles
 Map: PR_11002_10.0
 Developed By: Geospatial Data 5/12/19



Palmetto Bay
 Charles Deering Estate
 Cutler
 Lakes by the Bay



**Miami-Dade County: Natural
 Nature Based Features**

NNBF
 Mangrove Restoration

0 0.0125 0.025 Miles
 Map: RPR_Map2_10.8
 Developed by: Chloeyah
 Date: 5/1/2019



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

February 28, 2019

Ms. Sarah Furtak
U.S. Department of Commerce
National Oceanic and Atmospheric Administration
Forman Building, Suite 227
8000 North Ocean Drive
Dania Beach, Florida 33004-3033

Re: Request for the Official Protected Species List under the jurisdiction of the National Marine Fisheries Service: Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study.

Dear Ms. Furtak,

The U.S. Army Corps of Engineers (USACE), Norfolk District, in sponsorship with Miami-Dade County, Florida has initiated the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study under the study authority, Section 4033 of the Water Resources Development Act of 2007 (Public Law 110 -114). The study area includes Miami-Dade County, Florida. Attachment 1 provides a map of the approximate study area.

The primary purpose of the project is to investigate solutions that will reduce damages and risks from impacts of sea level rise and coastal storms. Based on the plan formulation to date, the potential measures being considered include nonstructural, structural, and natural and nature-based features. The potential nonstructural measures being considered are buyouts and acquisitions, elevation of structures and roads, dry/wet floodproofing, warning systems, emergency planning, and land use planning. The potential structural measures being considered are levees, bulkheads, tie gates, and surge protectors. The potential natural and nature-based features include the restoration and creation of habitat, i.e. mangrove, Submerged Aquatic Vegetation, and reef. In addition, living shorelines and water storage features/drainage improvements are also being evaluated.

The purpose of this letter is to request the "Official Protected Species List" under the jurisdiction of the National Oceanic and Atmospheric Administration, Protected Resources Division, pursuant to Section 7 of the Endangered Species Act. Attachment 2 is the draft list of Protected Species we have compiled to date. We will conduct further coordination with you upon receipt of your official list, and after potential project alternatives are further refined. In addition, we plan to continue Interagency Coordination Meetings as needed to address any consultation issues.

If you have any questions or need additional information, please contact me at (757) 201-7752 or by email at Carissa.r.agnese@usace.army.mil. Thank you for your assistance.

Sincerely,



Carissa R. Agnese, CEP, CISEC
Biologist
Planning and Policy Branch
USACE Norfolk District

Attachment 1: Map of the Approximate Study Area



Attachment 2: Federally Listed Species under the U.S. Fish and Wildlife Service's jurisdiction pursuant to the Endangered Species Act.

Taxonomic Category/Common Name	Scientific Name	Status	Critical Habitat
Birds			
Audubon's Crested Caracara	<i>Polyborus plancus audubonii</i>	T	N
Bachman's Warbler	<i>Vermivora bachmanii</i>	E	N
Cape Sable Seaside Sparrow	<i>Ammodramus maritimus mirrabilis</i>	E	N
Everglade Snail Kite	<i>Rostrhamus sociabilis plumbeus</i>	E	N
Florida Grasshopper Sparrow	<i>Ammodramus savannarum floridanus</i>	E	N
Florida Scrub-jay	<i>Aphelocoma coerulescens</i>	T	N
Ivory-billed woodpecker	<i>Camppephilus principalis</i>	E	N
Kirtland's Warbler	<i>Setophaga kirtlandii (=Dendroica kirtlandii)</i>	E	N
Piping Plover	<i>Charadrius melodus</i>	T	N
Red Knot	<i>Calidris canutus rufa</i>	T	N
Red-cockaded Woodpecker	<i>Picoides borealis</i>	E	N
Wood Stork	<i>Mycteria americana</i>	T	N
Fish			
Atlantic sturgeon	<i>Acipenser oxyrinchus desotoi</i>	T	N
Invertebrates			
Bartram's Hairstreak Butterfly	<i>Strymon acis bartrami</i>	E	Y
Florida Leafwing Butterfly	<i>Anaea troglodyta floridalis</i>	E	Y
Mammals			
Florida Bonneted Bat	<i>Emmops floridanus</i>	E	N
Florida Panther	<i>Felis concolor coryi</i>	E	N
Southeastern Beach Mouse	<i>Peromyscus polionotus niveiventris</i>	T	N
West Indian Manatee	<i>Trichechus manatus</i>	T	Y
Plants			
Beach Jacquemontia	<i>Jacquemontia reclinata</i>	E	N
Big Pine Partridge Pea	<i>Chamaecrista lineata keyensis</i>	E	N
Blodgett's Silverbush	<i>Argythamnia blodgettii</i>	T	N
Cape Sable Thoroughwort	<i>Chromolaena frustrata</i>	E	N
Carter's Mustard	<i>Warea carteri</i>	E	N
Carter's Small-flowered Flax	<i>Linum carteri carteri</i>	E	N
Crenulate Lead-plant	<i>Amorpha crenulata</i>	E	N
Deltoid Spurge	<i>Chamaesyce deltoidea ssp. deltoidea</i>	E	N
Everglades Bully	<i>Sideroxylon reclinatum ssp. austrofloridense</i>	T	N

Florida Brickell-bush	<i>Brickellia mosieri</i>	T	N
Florida Pineland Crabgrass	<i>Digitaria pauciflora</i>	T	N
Florida Prairie-clover	<i>Dalea carthagenensis floridana</i>	T	N
Florida Semaphore Cactus	<i>Consolea corallicola</i>	E	N
Garber's Spurge	<i>Chamaesyce garber</i>	T	N
Okeechobee Gourd	<i>Cucurbita okeechobeensis</i> ssp. <i>okeechobeensis</i>	E	N
Pineland Sandmat	<i>Chamaesyce deltoidea pinetorum</i>	T	N
Sand Flax	<i>Linum arenicola</i>	E	N
Small's Milkpea	<i>Galactia smallii</i>	E	N
Tiny Polygala	<i>Polygala smallii</i>	E	N
Florida Bristle Fern	<i>Trichomanes punctatum</i> ssp. <i>floridanum</i>	E	N
Reptiles			
American Alligator	<i>Alligator mississippiensis</i>	SAT	N
American Crocodile	<i>Crocodylus acutus</i>	T	Y
Eastern Indigo snake	<i>Drymarchon corais couperi</i>	T	N
Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	E	N
Leatherback Sea Turtle	<i>Dermochelys coriacea</i>	E	N
Loggerhead Sea Turtle	<i>Caretta caretta</i>	T	N



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
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If you have any questions or need additional information, please contact me at (757) 201-7752 or by email at Carissa.r.agnese@usace.army.mil. Thank you for your assistance.

Sincerely,



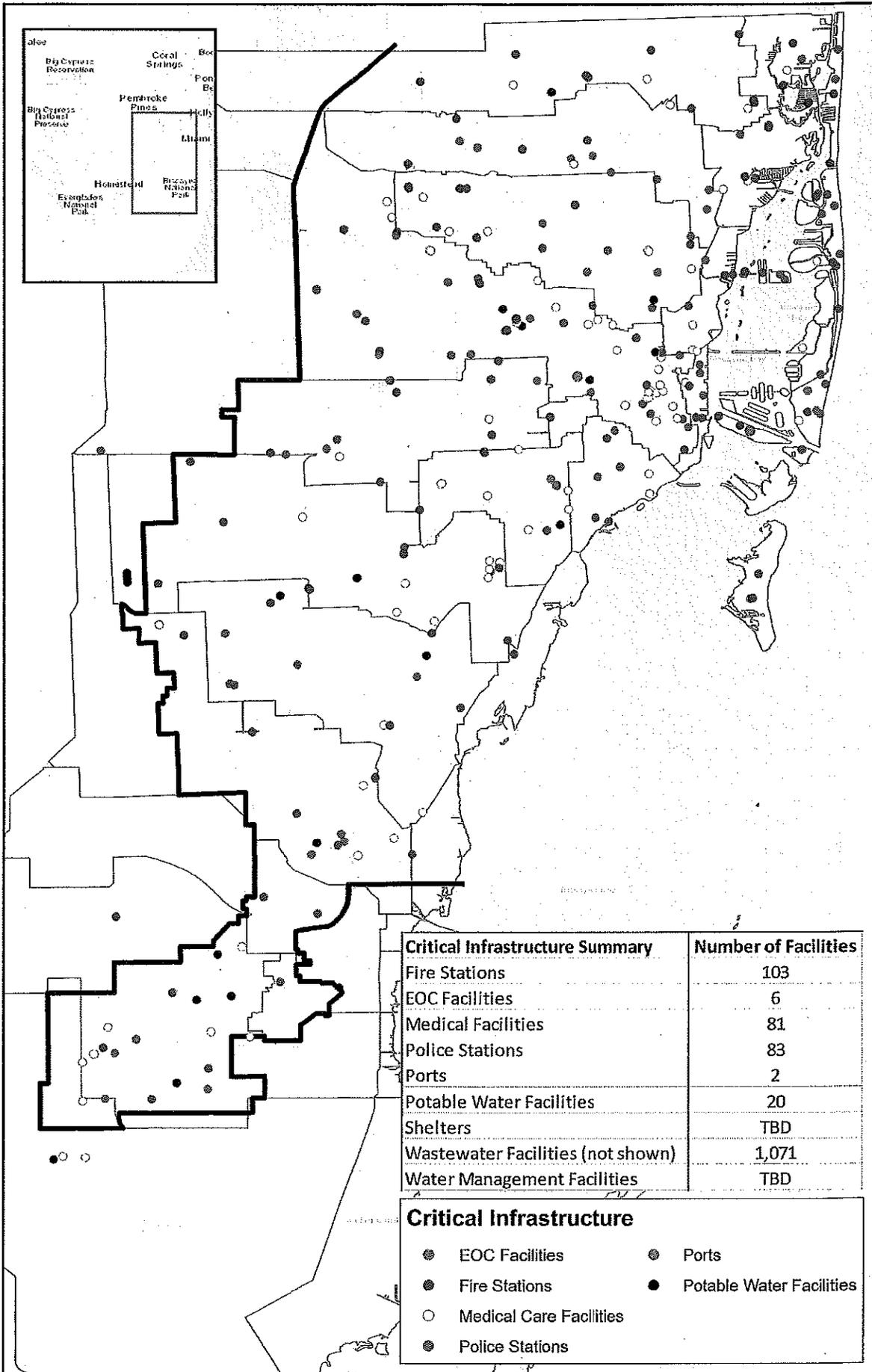
Carissa R. Agnese, CEP, CISEC
 Biologist
 Planning and Policy Branch
 USACE Norfolk District

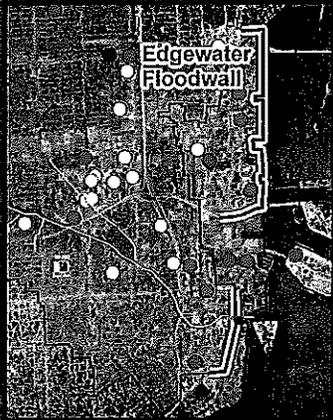
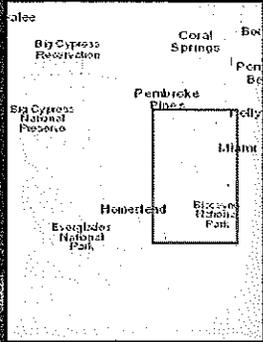
Attachment 1: Federally Listed Species under the U.S. Fish and Wildlife Service's jurisdiction pursuant to the Endangered Species Act.

Taxonomic Category/Common Name	Scientific Name	Status	Critical Habitat
Birds			
Audubon's Crested Caracara	<i>Polyborus plancus audubonii</i>	T	N
Bachman's Warbler	<i>Vermivora bachmanii</i>	E	N
Cape Sable Seaside Sparrow	<i>Ammodramus maritimus mirrabilis</i>	E	N
Everglade Snail Kite	<i>Rostrhamus sociabilis plumbeus</i>	E	N
Florida Grasshopper Sparrow	<i>Ammodramus savannarum floridanus</i>	E	N
Florida Scrub-jay	<i>Aphelocoma coerulescens</i>	T	N
Ivory-billed woodpecker	<i>Camppephilus principalis</i>	E	N
Kirtland's Warbler	<i>Setophaga kirtlandii</i> (= <i>Dendroica kirtlandii</i>)	E	N
Piping Plover	<i>Charadrius melodus</i>	T	N
Red Knot	<i>Calidris canutus rufa</i>	T	N

Red-cockaded Woodpecker	<i>Picoides borealis</i>	E	N
Wood Stork	<i>Mycteria americana</i>	T	N
Fish			
Atlantic sturgeon	<i>Acipenser oxyrinchus desotoi</i>	T	N
Invertebrates			
Bartram's Hairstreak Butterfly	<i>Strymon acis bartrami</i>	E	Y
Florida Leafwing Butterfly	<i>Anaea troglodyta floridalis</i>	E	Y
Mammals			
Florida Bonneted Bat	<i>Emmops floridanus</i>	E	N
Florida Panther	<i>Felis concolor coryi</i>	E	N
Southeastern Beach Mouse	<i>Peromyscus polionotus niveiventris</i>	T	N
West Indian Manatee	<i>Trichechus manatus</i>	T	Y
Plants			
Beach Jacquemontia	<i>Jacquemontia reclinata</i>	E	N
Big Pine Partridge Pea	<i>Chamaecrista lineata keyensis</i>	E	N
Blodgett's Silverbush	<i>Argythamnia blodgettii</i>	T	N
Cape Sable Thoroughwort	<i>Chromolaena frustrata</i>	E	N
Carter's Mustard	<i>Warea carteri</i>	E	N
Carter's Small-flowered Flax	<i>Linum carteri carteri</i>	E	N
Crenulate Lead-plant	<i>Amorpha crenulata</i>	E	N
Deltoid Spurge	<i>Chamaesyce deltoidea ssp. deltoidea</i>	E	N
Everglades Bully	<i>Sideroxylon reclinatum ssp. austrofloridense</i>	T	N
Florida Brickell-bush	<i>Brickellia mosieri</i>	T	N
Florida Pineland Crabgrass	<i>Digitaria pauciflora</i>	T	N
Florida Prairie-clover	<i>Dalea carthagenensis floridana</i>	T	N
Florida Semaphore Cactus	<i>Consolea corallicola</i>	E	N
Garber's Spurge	<i>Chamaesyce garber</i>	T	N
Okeechobee Gourd	<i>Cucurbita okeechobeensis ssp. okeechobeensis</i>	E	N
Pineland Sandmat	<i>Chamaesyce deltoidea pinetorum</i>	T	N
Sand Flax	<i>Linum arenicola</i>	E	N
Small's Milkpea	<i>Galactia smallii</i>	E	N
Tiny Polygala	<i>Polygala smallii</i>	E	N
Florida Bristle Fern	<i>Trichomanes punctatum ssp. floridanum</i>	E	N
Reptiles			
American Alligator	<i>Alligator mississippiensis</i>	SAT	N
American Crocodile	<i>Crocodylus acutus</i>	T	Y
Eastern Indigo snake	<i>Drymarchon corais couperi</i>	T	N

Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	E	N
Leatherback Sea Turtle	<i>Dermochelys coriacea</i>	E	N
Loggerhead Sea Turtle	<i>Caretta caretta</i>	T	N





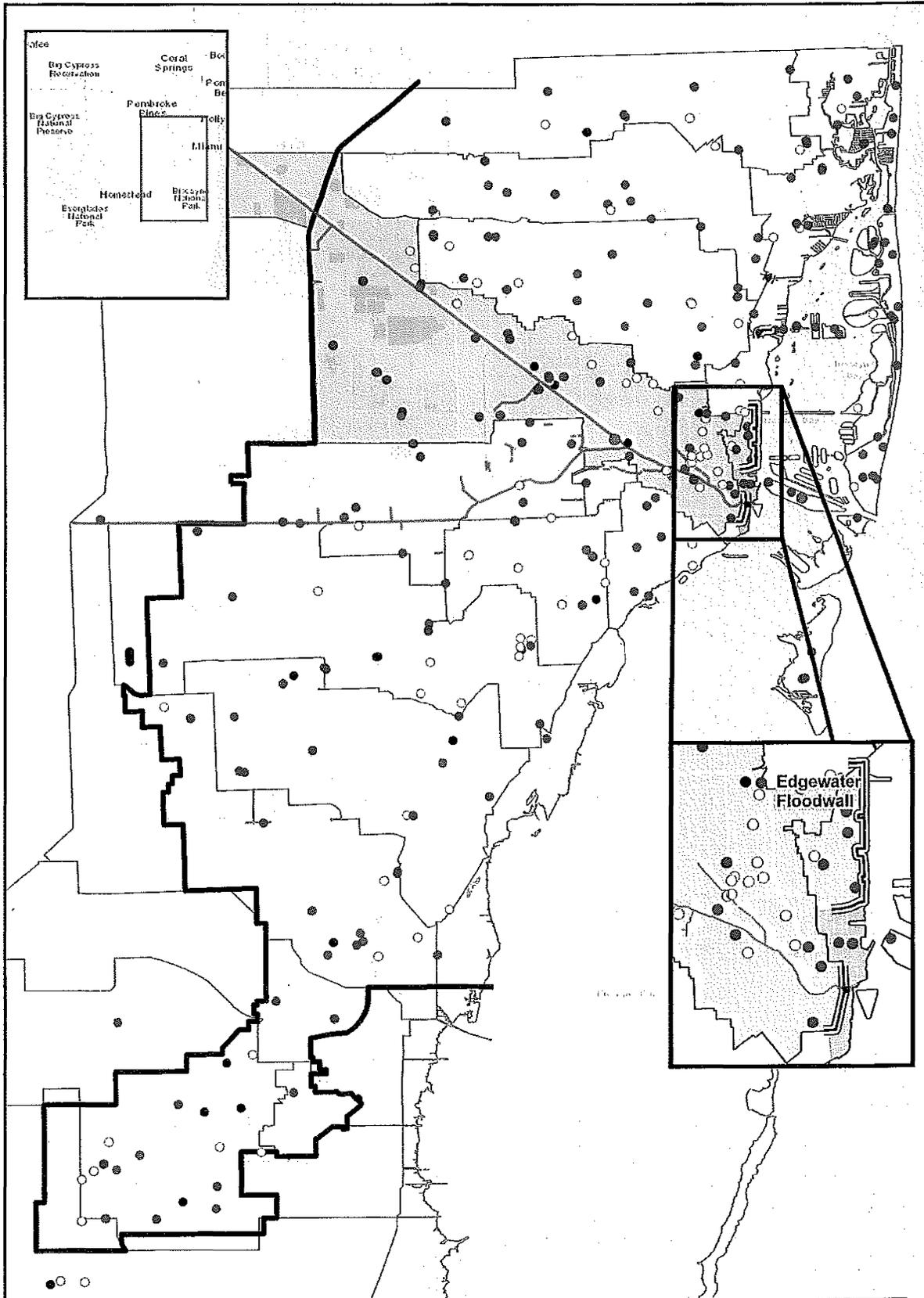
Critical Infrastructure		Structural Measures	
● EOC Facilities	● Ports	=== Floodwall	Protected by Surge Barrier/Floodwall
● Fire Stations	● Potable Water Facilities	▨ Surge Barrier	Unprotected by Surge Barrier (nonstructural)
○ Medical Care Facilities		— Pump Station	
● Police Stations			



Miami-Dade County: Alternative 2 - Critical Infrastructure & Miami River Basin

Mangrove Restoration
 Urban Development Boundary
 Reaches

0 1.25 3.5 Miles
 Map: IPR_Map2_10.6
 Developed By: Geospacial
 Date: 01/2019



Critical Infrastructure		Structural Measures	
● EOC Facilities	● Ports	▬▬▬ Floodwall	▨ Protected by Surge Barrier/Floodwall
● Fire Stations	● Potable Water Facilities	▨▨▨ Surge Barrier	▨ Unprotected by Surge Barrier (nonstructural)
○ Medical Care Facilities		—●— Pump Station	
● Police Stations			



Miami-Dade County: Alternative 2 - Critical Infrastructure & Miami River Basin

Mangrove Restoration
 Urban Development Boundary
 Reaches

0 1.75 3.5 Miles
 Map: IPR_Map2_10.6
 Developed By: Geospatial Data, 5/1/2019



Nonstructural Focus Areas	Critical Infrastructure	Structural Measures
Aventura	EOC Facilities	Floodwall
Cutler Bay	Fire Stations	Surge Barrier
North Beach	Medical Care Facilities	Pump Station
South Beach	Police Stations	Protected by Surge Barrier/Floodwall
	Ports	Unprotected by Surge Barrier/Floodwall (nonstructural)
	Potable Water Facilities	

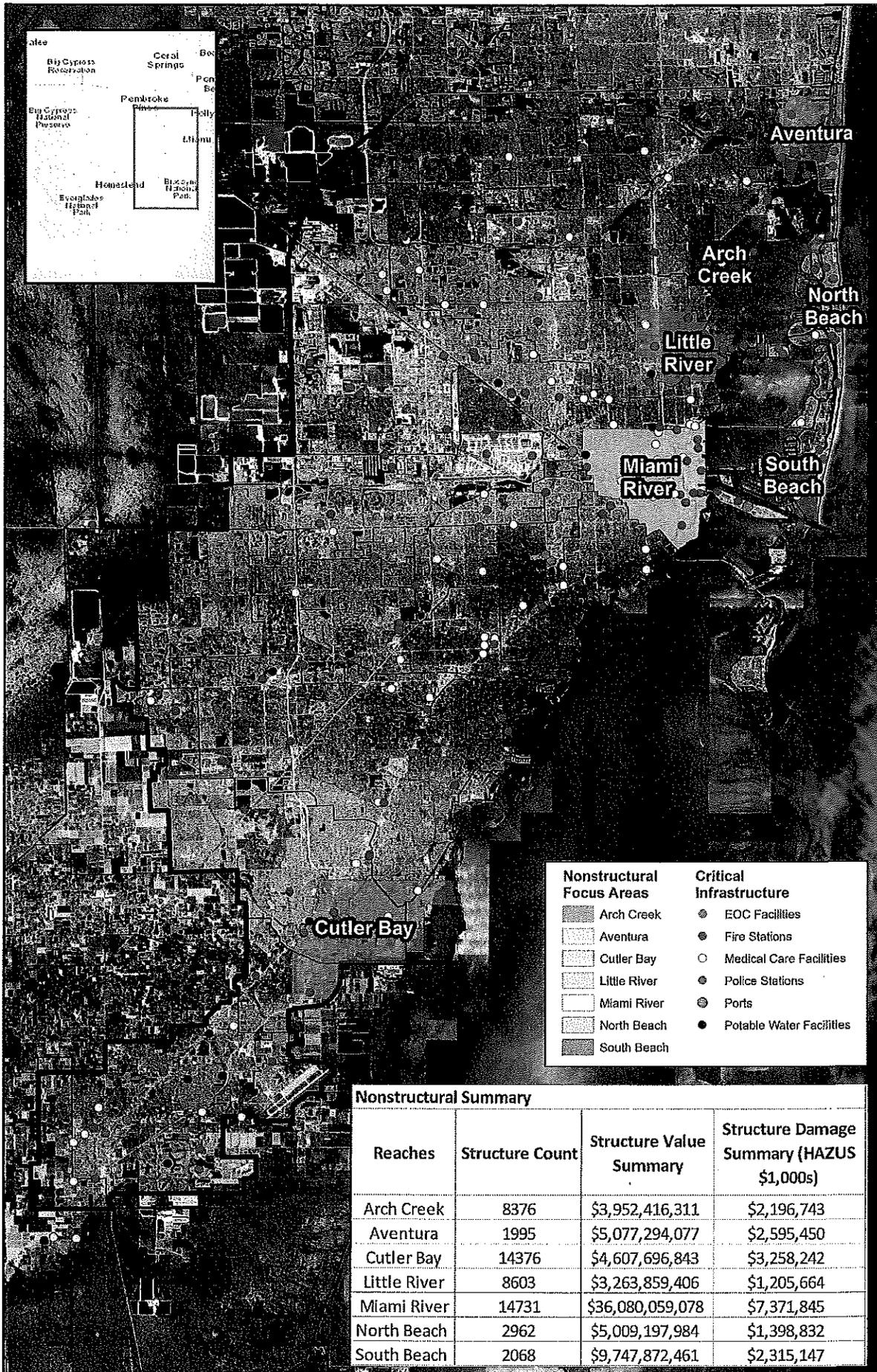


Miami-Dade County: Alternative 3 - Critical Infrastructure, Island Storm Surge Reduction, & Nonstructural

- Mangrove Restoration
- Urban Development Boundary
- Reaches

0 1.75 3.5 Miles

Map: IFR_Map2_10.6
Developed By: Geospatial
Date: 5/12/2019



Nonstructural Focus Areas		Critical Infrastructure	
	Arch Creek		EOC Facilities
	Aventura		Fire Stations
	Cutler Bay		Medical Care Facilities
	Little River		Police Stations
	Miami River		Ports
	North Beach		Potable Water Facilities
	South Beach		

Nonstructural Summary

Reaches	Structure Count	Structure Value Summary	Structure Damage Summary (HAZUS \$1,000s)
Arch Creek	8376	\$3,952,416,311	\$2,196,743
Aventura	1995	\$5,077,294,077	\$2,595,450
Cutler Bay	14376	\$4,607,696,843	\$3,258,242
Little River	8603	\$3,263,859,406	\$1,205,664
Miami River	14731	\$36,080,059,078	\$7,371,845
North Beach	2962	\$5,009,197,984	\$1,398,832
South Beach	2068	\$9,747,872,461	\$2,315,147



Miami-Dade County: Alternative 3 - Critical Infrastructure & Nonstructural

Mangrove Restoration
 Urban Development Boundary
 Reaches

0 1.75 3.5 Miles

 Map: IPR_Alt03_10.6
 Developed By: Geospacial
 Date: 5/12/2019

From: [Agnese, Carissa R NAO](#)
To: [Logalbo, Alicia M CIV USARMY CENAO \(USA\)](#)
Subject: FW: [EXTERNAL] RE: [Non-DoD Source] RAI for Miami-Dade Back Bay Coastal Storm Risk Assessment Feasibility Study
Date: Friday, June 21, 2019 9:16:48 AM

Please see below for species list for Miami from FWS

Thank you

Carissa R. Agnese, CEP, CISEC, ENV SP
Norfolk District, U.S. Army Corps of Engineers Planning and Policy Branch
Biologist
803 Front Street
Norfolk, VA 23510

(757) 201-7752 office

Carissa.R.Agnese@usace.army.mil

-----Original Message-----

From: Hitt, Heather [mailto:heather_hitt@fws.gov]

Sent: Thursday, June 20, 2019 10:10 AM

To: Agnese, Carissa R NAO <Carissa.R.Agnese@usace.army.mil>

Subject: Re: [EXTERNAL] RE: [Non-DoD Source] RAI for Miami-Dade Back Bay Coastal Storm Risk Assessment Feasibility Study

Hi Carissa,

Here is the list of species the Service thinks are reasonably certain to occur in the Project areas, listed by type of work. Let me know if you have any questions.

Critical Infrastructure

- Florida bonneted bat (if any trees, snags, or buildings are going to be removed or altered)
- Indigo snake (only for facilities in the south that are with 2.4 miles of known occurrence points: 25.5462, -80.3955; 25.5771, -80.4091; and 25.609, -80.41)

Mangrove Restoration (NNBF)

- American Crocodile
- Piping Plover
- Red Knot
- Kirtland's Warbler
- Florida bonneted bat (if trees or snags are going to be removed/trimmed)

Structural Measures (Miami River, Little River, and Biscayne Canal)

- Manatee
- Florida bonneted bat (if any trees, snags, or buildings are going to be removed or altered)

Non-structural Measures (all 6 locations)

- Manatee
- Florida bonneted bat (if any trees, snags, or buildings are going to be removed or altered)
- Cutler Bay add:
 - o American Crocodile (potential habitat along shoreline)
 - o Carter's small flower flax critical habitat (there is a small patch within that area with a center point of 25.591180, -80.333259 – if any work affects vegetation in this area)

I will conclude this Project in our database. When it or a part of it comes back to us for consultation, we will open back up as a re-initiation, so please refer to our consultation code (2019-TA-0567) when submitting consultation requests relating to this feasibility study.

Thank you,

Heather Hitt
Fish and Wildlife Biologist
US Fish and Wildlife Service
1339 20th Street
Vero Beach, FL 32960
Phone: 772-469-4267
Fax: 772-562-4288
Email: heather_hitt@fws.gov <mailto:heather_hitt@fws.gov>

NOTE: This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.

On Wed, Jun 19, 2019 at 8:36 AM Agnese, Carissa R NAO <Carissa.R.Agnese@usace.army.mil> <<mailto:Carissa.R.Agnese@usace.army.mil>> wrote:

Thank you Heather for your time and assistance on this project. Attached is the presentation I spoke about.

Have a great day,
Carissa

Carissa R. Agnese, CEP, CISEC, ENV SP
Norfolk District, U.S. Army Corps of Engineers Planning and Policy Branch
Biologist
803 Front Street

Norfolk, VA 23510

(757) 201-7752 office

Carissa.R.Agnese@usace.army.mil <<mailto:Carissa.R.Agnese@usace.army.mil>>

-----Original Message-----

From: Hitt, Heather [mailto:heather_hitt@fws.gov <mailto:heather_hitt@fws.gov>]

Sent: Wednesday, June 19, 2019 8:21 AM

To: Agnese, Carissa R NAO <Carissa.R.Agnese@usace.army.mil <<mailto:Carissa.R.Agnese@usace.army.mil>>

>

Subject: Re: [EXTERNAL] RE: [Non-DoD Source] RAI for Miami-Dade Back Bay Coastal Storm Risk Assessment Feasibility Study

Yes, I can give you a call right now.

Heather Hitt

Fish and Wildlife Biologist

US Fish and Wildlife Service

1339 20th Street

Vero Beach, FL 32960

Phone: 772-469-4267

Fax: 772-562-4288

Email: heather_hitt@fws.gov <mailto:heather_hitt@fws.gov> <mailto:heather_hitt@fws.gov>

NOTE: This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.

On Wed, Jun 19, 2019 at 8:20 AM Agnese, Carissa R NAO <Carissa.R.Agnese@usace.army.mil <<mailto:Carissa.R.Agnese@usace.army.mil>>> wrote:

Heather sorry I missed your call. Would you be available this morning to talk?

Carissa R. Agnese, CEP, CISEC, ENV SP

Norfolk District, U.S. Army Corps of Engineers Planning and Policy Branch

Biologist

803 Front Street

Norfolk, VA 23510

(757) 201-7752 office

Carissa.R.Agnese@usace.army.mil <<mailto:Carissa.R.Agnese@usace.army.mil>>
<<mailto:Carissa.R.Agnese@usace.army.mil>>>

-----Original Message-----

From: Hitt, Heather [mailto:heather_hitt@fws.gov <mailto:heather_hitt@fws.gov>]
<mailto:heather_hitt@fws.gov>>]

Sent: Tuesday, June 18, 2019 2:42 PM

To: Agnese, Carissa R NAO <Carissa.R.Agnese@usace.army.mil <<mailto:Carissa.R.Agnese@usace.army.mil>>>>

Subject: [Non-DoD Source] RAI for Miami-Dade Back Bay Coastal Storm Risk Assessment Feasibility Study

Hi Carissa,

I have taken over this project for Jeff Howe as he has become busy with a Species Status Assessment. I have a few questions regarding your letter:

- Alternative 1 just maps out the critical infrastructure. What work, if any, is planned for these facilities?

- Is there an Alternative that includes all the possible work proposed that we could focus our efforts on creating a species list for? Or do you need a list for each Alternative?

- The two spots of structural measures that are located north of the Miami River Area, highlighted in Alternative 3, are still on the maps for Alternatives 2 and 5, is this a mistake, or are they included in those Alternatives as well?

In regards to the CBRS boundaries within the project, there are no CBRA units included in the project area, just a few OPAs (FL-34P, FL-23P, FL-22P, and FL-21P).

Thank you,

Heather Hitt

Fish and Wildlife Biologist

US Fish and Wildlife Service

1339 20th Street

Vero Beach, FL 32960

Phone: 772-469-4267

Fax: 772-562-4288

Email: heather_hitt@fws.gov <mailto:heather_hitt@fws.gov> <mailto:heather_hitt@fws.gov>>
<mailto:heather_hitt@fws.gov> <mailto:heather_hitt@fws.gov>>>

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Logalbo, Alicia M CIV USARMY CENAO (USA)

From: Logalbo, Alicia M CIV USARMY CENAO (USA)
Sent: Tuesday, February 18, 2020 2:32 PM
To: Hitt, Heather L; Melissa Alvarez - NOAA Federal
Cc: pace.wilber@noaa.gov; Fuerst, Lee A CIV USARMY CENAO (USA)
Subject: Official Species List_20200118.docx (UNCLASSIFIED)
Attachments: Official Species List_20200118.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Heather/Melissa,

Attached is the updated listing of Threatened and Endangered Species and Critical Habitats for the Miami-Dade County Back Bay Coastal Storm Risk Management Project. Melissa - as requested on Feb. 14 I deleted the whales and Atlantic sturgeon too. I left in the shortnose sturgeon but please let me know if I should delete that one too. Please let me know if you concur with this updated listing. Heather - based on the geospatial information you provided it is my understanding that we would not anticipate the indigo snake or flax or the Carter's small flower flax to occur in the Action Area - therefore, I have not included them on this list. Also, we plan to do separate biological assessments for the project - one for FWS jurisdictional species and one for NMFS jurisdictional species. Thank you in advance for your assistance on this.

Alicia

Alicia Logalbo
Norfolk District, U.S. Army Corps of Engineers Planning and Policy Branch Chief, Environmental Analysis Section
803 Front Street
Norfolk, VA 23510

(757) 201-7210 office
(757) 335-8075 cell

Alicia.Logalbo@usace.army.mil

Logalbo, Alicia M CIV USARMY CENAO (USA)

From: Logalbo, Alicia M CIV USARMY CENAO (USA)
Sent: Tuesday, February 18, 2020 2:32 PM
To: Hitt, Heather L; Melissa Alvarez - NOAA Federal
Cc: pace.wilber@noaa.gov; Fuerst, Lee A CIV USARMY CENAO (USA)
Subject: Official Species List_20200118.docx (UNCLASSIFIED)
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Alicia

Alicia Logalbo

Norfolk District, U.S. Army Corps of Engineers Planning and Policy Branch Chief, Environmental Analysis Section
803 Front Street
Norfolk, VA 23510

(757) 201-7210 office

(757) 335-8075 cell

Alicia.Logalbo@usace.army.mil

Table X. Federally listed species with the potential to occur in the Region of Influence and Designated Critical Habitat

Taxonomic Category/Common Name	Scientific Name	Status	Critical Habitat
Birds			
Piping plover^	<i>Charadrius melodus</i>	T	Y*
Red knot^	<i>Calidris canatus rufa</i>	T	N
Fish			
Giant manta ray	<i>Manta birostris</i>	T	N
Nassau grouper	<i>Epinephelus striatus</i>	T	N
Shortnose sturgeon	<i>Acipenser brevirostrum</i>	E	N
Smalltooth sawfish	<i>Pristis pectinata</i>	E	Y*
Oceanic whitetip shark	<i>Carcharhinus longimanus</i>	T	N
Invertebrates			
Boulder star coral	<i>Montastraea annularis</i>	T	N
Elkhorn coral	<i>Acropora palmata</i>	T	Y*
Lobed star coral	<i>Orbicella annularis</i>	T	N
Mountainous star coral	<i>Orbicella faveolata</i>	T	N
Pillar coral	<i>Dendrogyra cylindricus</i>	T	N
Rough cactus coral	<i>Mycetophyllia ferox</i>	T	N
Staghorn coral	<i>Acropora cervicornis</i>	T	Y*
Mammals			
Florida bonneted bat	<i>Eumops floridanus</i>	E	N
West Indian manatee^	<i>Trichechus manatus</i>	T	Y
Reptiles			
American crocodile^	<i>Crocodylus acutus</i>	E	Y*
Green sea turtle (North and South Atlantic DPS)	<i>Chelonia mydas</i>	T	Y*
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	E	Y*
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	E	N
Leatherback sea turtle	<i>Dermochelys coriacea</i>	E	Y*
Loggerhead sea turtle (Northwest Atlantic Ocean DPS)	<i>Caretta caretta</i>	T	Y*
Vegetation and Seagrass			
Johnson's seagrass	<i>Halophila johnsonii</i>	T	Y
DPS = Distinct Population Segment; E = Endangered; T = Threatened; Y = Yes; N = No; Species classification is reported as it pertains to the DPS/Action Area; *Critical Habitat			

Taxonomic Category/Common Name	Scientific Name	Status	Critical Habitat
designated but is not located in the Region of Influence/Action Area; ^Species under the jurisdiction of the U.S. Fish and Wildlife Service; remaining species are under the jurisdiction of the National Marine Fisheries Service			



Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study public meeting set

P ublished A g. 29, 2019

The U.S. Army Corps of Engineers and non-Federal Sponsor, Miami-Dade County, invite the public to attend information public meeting on the Miami-Dade County Back Bay Coastal Storm Risk Management Feasibility Study.

The Corps and county will host the meeting Sept. 10, from 5-7 p.m. at the North Shore Park & = Youth Center located at 501 72nd Street, Miami Beach, FL 33141.

The purpose of the meeting is to provide the public an opportunity to learn more about the project alternatives and provide comments on the alternatives and the feasibility study. The format of the meeting will be an informal open-house, where the public can attend any timed ring the meeting hours and staff from the Corps and Miami-Dade County will be available to answer questions. The Corps plans to prepare an Environment Impact Statement to evaluate the environment impacts from reasonable project alternatives and to determine the potential for significant impacts.

The public is invited to submit comments at the meeting and/or submit comments by Oct. 10, 2019 to Chris Agnes via mail/mail/tel phone at Chris.Agn@s .rmy.mil; by mail ATTN: Chris Agnes, Department of the Army, U.S. Army Corps of Engineers, Norfolk District, Fort Norfolk, 803 Front St., Norfolk, VA 23510; or via phone at (757) 201-7746.

Contact

Patrik Bloodgood

757-201-7606

patrik.bloodgood@us .rmy.mil

RI s no. 19-059

o st l storm risk r d tion Flood Risk R d tion F sibility St dy =



US Army Corps
of Engineers®

News Release

Corps hosts combined public meeting for Miami-Dade Back Bay and Miami-Dade County Coastal Storm Risk Management Feasibility Studies

Published Nov. 29, 2018



Miami-Dade County Coastal Storm Risk Management Feasibility Study will investigate alternatives to reduce storm damage along the coast.

The U.S. Army Corps of Engineers will host a combined National Environmental Policy Act (NEPA) public scoping meeting Wednesday December 5 for both the Miami-Dade County Coastal Storm Risk Management (CSRМ) Feasibility Study and the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study to better serve members of the public and stakeholders with a common interest in both projects, and will accept public scoping comments for both projects until January 9, 2019.

“Scoping” is the step at the beginning of the NEPA process when the public is invited to participate in identifying issues, alternatives, and potentially significant effects to be considered in the analysis. The information gathered at scoping meetings and during the public comment period will aid in determining the scope of the NEPA analysis and any potentially significant issues. The NEPA process will also identify alternatives and information needed to evaluate alternatives, and will help the Corps identify and eliminate from detailed study any issues that are not significant or that have been covered by prior environmental review.

Members of the public and stakeholders are invited to learn more about the projects and provide input to both teams at the combined NEPA Public Scoping Meeting. The format of the meeting will be an open-house that will include informational poster boards and a presentation beginning at 4:30 p.m. The public can attend any time during the meeting hours (4 to 7 p.m.) and staff from both project teams will be available to answer questions and receive written comments from the public.

Combined NEPA Public Scoping Meeting

Miami-Dade County Coastal Storm Risk Management Feasibility Study and Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study

4 to 7 p.m. December 5, 2018

Miami Dade County Division of Environmental Resources Management (DERM) Training Room
701 NW 1st Court

Miami, FL 33136

** The site has MetroRail access and public parking across the street from the meeting location.

The study authority for the **Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study** is Public Law 84-71, June 15, 1955 which authorizes an examination and survey of the coastal and tidal areas of the eastern and southern United States, with particular reference to areas where severe damages have occurred from hurricane winds and tides. The purpose of the project is to reduce potential damages caused by coastal storms and improve human safety and coastal resiliency in the Miami-Dade County Back Bay. Potential measures being considered include but are not limited to the following: structural alternatives (such as tidal gates and backflow preventers), non-structural alternatives (such as flood proofing, relocation, and elevation of structures), and natural and nature-based features (such as mangrove plantings, reefs, and wetland plantings).

Alternatives for the **Miami-Dade County Coastal Storm Risk Management Feasibility Study** may include, but are not limited to, beach nourishment, dune construction and vegetation planting, groins, breakwaters, revetments, and non-structural alternatives such as relocation of vulnerable structures. Issues that are anticipated include concern for marine communities, water quality and sedimentation associated with dredging operations, sand availability, sea level rise, threatened and endangered species, and cultural, commercial and recreational resources.

Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study (Miami-Dade Back Bay) www.saj.usace.army.mil/MiamiDadeBackBayCSRMFfeasibilityStudy/

Written scoping comments regarding the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study should be submitted to Carissa Agnese at Carissa.R.Agnese@usace.army.mil no later than January 9, 2019.

Miami-Dade County Coastal Storm Risk Management Feasibility Study (beaches)

www.saj.usace.army.mil/MiamiDadeCountyCSRMFfeasibilityStudy/

Written scoping comments regarding the Miami-Dade County Coastal Storm Risk Management Feasibility Study should be submitted to CESAJ_MiamiDadeCSR@usace.army.mil no later than January 9, 2019.

We welcome your views, questions, comments, concerns and suggestions. The Corps believes these studies will benefit significantly from public involvement and encourages participation in the NEPA scoping process.

Contact

Erica Skolte

561-340-1527

561-801-5734 (cell)

Erica.A.Skolte@usace.army.mil

Release no. 18-083

Jacksonville District Norfolk District beach beach replenishment

Miami-Dade County Miami Miami-Dade

Coastal Storm Risk Management resiliency resilience

Miami-Dade County Coastal Storm Risk Management Feasibility Study

Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study

CSR Miami-Dade Back Bay Back Bay

Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study Public Informational Meeting

The U.S. Army Corps of Engineers (USACE) and non-Federal Sponsor, Miami-Dade County, invite the public to attend an informational public meeting on the Miami-Dade County Back-Bay Coastal Storm Risk Management Feasibility Study. The meeting will be held on September 10, from 5:00 p.m. – 7:00 p.m. at The North Shore Park & Youth Center located at 501 72nd Street, Miami Beach, FL 33141.

The purpose of the meeting is to provide the public an opportunity to learn more about the project alternatives and provide comments on the alternatives and the feasibility study. The format of the meeting will be an informal open-house, where the public can attend any time during the meeting hours and staff from the USACE and Miami-Dade County will be available to answer questions. The USACE plans to prepare an Environmental Impact Statement to evaluate environmental impacts from reasonable project alternatives and to determine the potential for significant impacts.

The public is invited to submit comments at the meeting and/or submit comments by October 10, 2019 to Carissa Agnese, USACE, via email/mail/telephone at Carissa.r.agnese@usace.army.mil by mail ATTN: Carissa Agnese, Department of the Army, U.S. Army Corps of Engineers, Norfolk District, Fort Norfolk, 803 Front St., Norfolk, VA 23510. (757)201-7746.

Miami-Dade Back Bay CSRM Public Meeting Comments March 23, 2020

Project Name: Miami-Dade Back Bay CSRM Feasibility Study

Comment Number	File Name	Date Comment Received	Commenter Name	Commenter Affiliation	Comment	Response
1		9/10/2019	Douglas Thompson	Landscape Architect	I have some comments on the Miami Dade storm surge plan. I previously lived in Louisiana and in that state, I believe that the Army Corps had proposed surge gates to close Lake Pontchartrain. I'm not sure how far this has gone, but I have always wondered if something similar might be possible at Biscayne Bay around downtown Miami. Miami Beach, Virginia Key, Fisher Island already enclose downtown Miami for the most part. Adding gates at Government Cut, Norris Cut, and Rickenbacker Causeway could provide a much better defense of central Miami and areas to the north.	Thank you for your feedback. Due to the funding and schedule limitations of this study, it is recognized that the study will not provide a holistic response for the complex and widespread coastal flooding concerns in Miami-Dade County. During the scoping phase of the study, seven focus areas were developed based on both risk to coastal flooding and social vulnerability. It is also important to note that critical infrastructure is being examined county-wide with asset categories prioritized from the Miami-Dade County's Rapid Action Plan. However, several issues related to the construction of a surge barrier across Biscayne Bay have been identified through the study process. Floodwalls on the barrier islands required to create a functioning surge barrier across Biscayne Bay are limited by the lack of high ground and existing soil conditions. Additionally, the implementation of a surge barrier across Biscayne Bay would have complex environmental ramifications.
2		9/10/2019	Oliver Femont	AGGÈRES	<p>We are an European based company specialized in flood defense systems. One of our systems is regarded to be the most reliable system in the world when it comes to demountable or non intrusive flood defenses.</p> <p>This system (SCFB) is always located on site but hidden from view because the floating wall hangs in an underground basin. When a critical flood level is reached these basins are flooded and the barrier floats up (see video working principle) <Blockedhttps://www.youtube.com/watch?v=WTCULVgYvGY> and protects the hinterland. Because there is no electricity nor any human interference necessary this barrier is now integrated in several projects by the Dutch and Belgian government. It is no longer just an innovative system but one that has been installed and proven its functionality on many locations. One of which is the National Archives in Washington DC where it prevented flooding during previous hurricanes.</p> <p>Because of its patented sealing principle the barrier can be constructed in great lengths. We constructed a 1000 feet long barrier in a Dutch harbour. Today we can build them up to 10 feet high</p> <p>I believe that the system might be a valuable asset to the protection scheme.</p>	Thank you for your feedback. The link supplied in your comment is not accessible. The feasibility study will result in approximately 10% design for traditional floodwall construction. Innovative technologies can be further evaluated if the project moves into the Preconstruction Engineering and Design Phase.
3		9/10/2019	Dave Doebler	Chair, City of Miami Beach Sustainability Committee Steering Committee, Biscayne Bay Marine Health Summit	<p>Hi - I have 2 very good opportunities for feedback on your program.</p> <p>1) Mangrove restoration opportunity - FDOT recently cleared invasive trees along the Julia Tuttle Causeway (I-395) between mainland Miami and Miami Beach. The stretch of 1 mile each way is virtually bare except for some existing mangroves that were left in tact. This is a great opportunity for restoration and new capacity to mitigate wind damage and provide new habitat for bay critters.</p> <p>2) Your presentation mentions the C-8 canal and adding a new barrier. They need serious help in trash mitigation in their current systems. Their current booms are designed to keep boats away from the storm gates, but just so happen to catch much of the trash that flows from the highway (I-95) and inland stormwater systems. See articles Blockedhttps://www.miaminewtimes.com/news/miami-canals-are-jammed-with-trash-says-environmentalist-dave-doebler-9762498 and Blockedhttps://www.miaminewtimes.com/news/miamis-little-river-clogged-with-trash-around-el-portal-area-10521140. There are easy options, that need funding and a push to SFWMD.</p>	Thank you for your feedback. Many potential areas were evaluated for proposed restoration potential but due to the limited scope and budget of this study, the study is limited in the amount of restoration efforts that can be implemented. That is not to say that in the future the potential other restoration features cannot be included as the study progresses. The Tentatively Selected Plan presented in the draft report includes one natural and nature based feature (which would include mangrove and other native vegetation restoration) that will be further analyzed for coastal storm risk management benefits prior to the final report. You bring up another great point about the trash mitigation. Surge barrier designs will be designed with best management practices in mind to mitigate environmental concerns. However, as you mention, SFWMD will continue to be responsible for maintenance of the existing structures. The first article you mention includes the idea of a "water wheel" and we have forwarded this idea to our engineers.
4	Miami DDA Comments Sept 2019 and Comment 4-6_8-9_Sept 2019 Public Mtg	9/10/2019	Neal Schafers	Miami DDA	First off, thank you for taking this first and very critical step: analyze our existing problems, demonstrate what similar communities/cities/regions have done, propose long-term and immediate solutions, identify funding sources, and acquire buy-in and support from the public. Bravo. My overriding comment would be to heavily invest in green and blue infrastructure. We've seen what has happened in New Orleans post-Katrina and even with billions invested in traditional gray infrastructure, many key sections are already falling! The biggest hurdle I believe is with DESIGN. Until they change their position on living shorelines, revetments, and other green infrastructure, we will be fighting an uphill battle. Environmental agencies should support ecological solutions, not actively oppose them. Thank you.	Thank you for your comment. Due to the funding and schedule limitations of this study, it is recognized that the study will not provide a holistic response for the complex and widespread coastal flooding concerns in Miami-Dade County. Green infrastructure in regards to stormwater is beyond the authority of this study. Living shorelines were considered as a natural and nature based feature, but screened early in the study process. The Tentatively Selected Plan (TSP) presented in the draft report includes one natural and nature based feature (mangrove restoration) to be analyzed for coastal storm risk management benefits.
5	North Bay Village Comments Sept 2019 and Comment 4-6_8-9_Sept 2019 Public Mtg	9/10/2019	Ralph Rosado	N. Bay Village, Village Manager	We would like to be included in the study area in full. A portion of our village (which consists of three vulnerable islands) is in the study area, but we would urge you to help us analyze the entire municipality.	Please refer to the formal response letter to the formal letter received from North Beach Village in October 2019.
6	Comment 4-6_8-9_Sept 2019 Public Mtg	9/10/2019	Brent Latham	Mayor, North Bay Village	North Bay Village would like to be included in the study area in full. A portion of our village (which consists of 3 islands in Biscayne Bay) is in the study area. We urge you to help our 3 vulnerable islands by analyzing the entire municipality.	Please refer to the formal response letter to the formal letter received from North Beach Village in October 2019.
7		9/18/2019	Darren Ockert	Lead Researcher for Thomas Spiegelhalter, CRUNCH Florida International University	<p>I am working for P.I. Thomas Spiegelhalter as part of a six country, three-year research project called CRUNCH. We are looking at the effects of the climate crisis on the built environment from 2018 through 2100. We are working with three municipalities in Miami-Dade County; City of Miami Beach, City of Miami, and City of South Miami, as well as the county resiliency team.</p> <p>We are very interested in the studies you are conducting in Miami Dade and in particular the cities we are studying. Would it be possible for us to get more insight on what is being studied and any data collect so far for use in our modelling and evaluations?</p>	Thank you for your interests in the study. The draft report contains a summary of all analysis completed to date and planned analysis for the remaining feasibility and Preconstruction Engineering and Design (PED) Phase.
8	Concerned Citizens Group Comments Sept 2019 Public Meeting and Comment 4-6_8-9_Sept 2019 Public Mtg	9/10/2019	Steven Craig James	FDOT	<p>Critical Infrastructure:</p> <p>Consider adding transportation – all modes, airports, seaports, rail, highway, etc...</p> <p>Assess connectivity needs between critical infrastructures. Consider including other infrastructure or redefine infrastructure to include: hurricane shelters, fuel centers/stations, food distribution centers, critical care centers.</p>	Thank you for your feedback. Critical infrastructure is included in the Tentatively Selected Plan (TSP), presented in the draft report, on a county-wide basis with asset categories prioritized based on stakeholder input and the Miami-Dade County Rapid Action Plan. Connectivity between critical infrastructure is not able to be included in the scope of this study.

9	Concerned Citizens Group Comments Sept 2019 Public Meeting and Comment 4-6_8-9_Sept 2019 Public Mtg	9/10/2019	Eduardo Varona, Beth Kibler, Dr. Amy Roda, Tom Condon	Citizen – Cutler Bay	Comment focusses mostly on BBCW Phase 2 of Jacksonville study. Part of the 130 acre tract in the phase 2 study is the NNBF for the Miami-Dade CSRM Study. See three page letter	Thank you for your Memorandum in regards to the Biscayne Bay Coastal Wetlands (BBCW) project. The BBCW is a separate project from this study, however this study team is coordinating with BBCW USACE project leads for the potential to include a portion of the BBCW project area as a natural and nature based feature (NNBF) under this project. Further evaluation for mangrove and native vegetation restoration in Cutler Bay to provide a Coastal Storm Risk Management benefit will be completed prior to the final report for this study. For additional information, please refer to the Environmental Appendix of the draft report.
10		9/24/2019	Tom Benton	Village Manager, Miami Shores Village	On behalf of Miami Shores Village Councilman Stephen Loffredo I provide you with his comments as follows; “ I am very much opposed to the present plans for surge barriers on the Biscayne Canal. They are poorly thought out, and will assist in compounding flooding effects to property between the planned barrier and Biscayne Bay. The proper place for surge barriers should be at the mouth of each canal, with its accompanying flood wall. Better yet the Corps could devise a barrier to cover Haulover Cut, and two more to be placed under each of the two bridges that carry MacArthur Causeway. Those three barriers would protect the entire northern Biscayne Bay from ocean storm surges, while leaving the Port of Miami open to shipping.”	Thank you for your feedback. Due to the funding and schedule limitations of this study, it is recognized that the study will not provide a holistic response for the complex and widespread coastal flooding concerns in Miami-Dade County. During the scoping phase of the study, seven focus areas were developed based on both risk to coastal flooding and social vulnerability. It is also important to note that critical infrastructure is being examined county-wide with asset categories prioritized from the Miami-Dade County’s Rapid Action Plan. The exact location of the structural alignments currently recommended will continue to evolve if the project proceeds into the full design phase when additional field surveying and sampling can advise the detailed design. Please note there is no ideal location for a structural measure to be implemented in a fully developed urban area, however USACE seeks to minimize impacts to existing neighborhoods and resources. Structural measures were cited to reduce construction costs by finding the shortest path to tie floodwalls into high ground while also striving to minimize real estate impacts by using existing right-of-ways and undeveloped land where feasible. Due to the nature of coastal flooding in the areas adjacent to the Bay, storm surge elevations on the exterior of the alignment are likely to see minimal impacts from the construction of a floodwall. This will be confirmed with further feasibility analysis and detailed analysis in the PED Phase in accordance with USACE policy.
11		9/24/2019	Sean Brady	Miami Shores Village Council	Based on the vulnerability study that was conducted for the village, this option would appear to exacerbate flooding in the Shores Estates (and the areas of unincorporated Miami-Dade County that lie north of there). I would ask that you consider placing the Biscayne Canal Storm Surge Barrier at the mouth of the Biscayne Canal at the east-most point of Miami Shores (on the Biscayne Bay). This would prevent inland flooding by preventing the water to flow back up the canal and would protect a far greater area. Please see the study and flood-prone areas here- specifically pages 12-13: https://www.miamishoresvillage.com/images/Village_Manager/2018/Environmental_Vulnerability_Study_June_2018.pdf "The northern neighborhood of Shores Estates is highly exposed to tidal flooding, as well as some low-lying pockets directly adjacent to the canals and Biscayne Bay. These findings are consistent with the comments that residents and Village staff expressed about areas of their highest concern."	Thank you for your feedback. Due to the funding and schedule limitations of this study, it is recognized that the study will not provide a holistic response for the complex and widespread coastal flooding concerns in Miami-Dade County. During the scoping phase of the study, seven focus areas were developed based on both risk to coastal flooding and social vulnerability. It is also important to note that critical infrastructure is being examined county-wide with asset categories prioritized from the Miami-Dade County’s Rapid Action Plan. The exact location of the structural alignments currently recommended will continue to evolve if the project proceeds into the full design phase when additional field surveying and sampling can advise the detailed design. Please note there is no ideal location for a structural measure to be implemented in a fully developed urban area, however USACE seeks to minimize impacts to existing neighborhoods and resources. Structural measures were cited to reduce construction costs by finding the shortest path to tie floodwalls into high ground while also striving to minimize real estate impacts by using existing right-of-ways and undeveloped land where feasible. Due to the nature of coastal flooding in the areas adjacent to the Bay, storm surge elevations on the exterior of the alignment are likely to see minimal impacts from the construction of a floodwall. This will be confirmed with further feasibility analysis and detailed analysis in the PED Phase in accordance with USACE policy.
12	Comments from webma	9/10/2019	Jen Cheek		Use open space and acquire the parking lots/ vacant lots (manatee bend park) to help mitigate flooding	Thank you for your feedback. Existing undeveloped land is not planned for acquisition to create open space as a part of the Tentatively Selected Plan (TSP). New open space and acquisitions are components of the nonstructural and natural and nature based feature measures. Where appropriate, acquisitions may occur and those areas would be returned to a natural state to create areas for flood mitigation.
13	Comments from webma	9/18/2019	Rachel Skubel		Seagrass habitat fringing northern Key Biscayne, which hosts multiple predatory species (e.g. Aerobatis narinari, Ginglymostoma cirratum) and their prey.	Thank you for your comment. USACE is conducting an interagency review of environmental resources, including seagrass habitat, with environmental agencies including but not limited to NOAA, USFWS, FWC, Miami-Dade County's DERM office, and the Florida Department of Environmental Protection.
14					Thank you and your team for the very important work you are doing. We have tremendous respect for what you do every day.180 We will study the link and contents you have advised and will keep you in the loop of what we hopefully soon test with USACE ERDC's GSL, CHL and EL. We hope to get the opportunity to meet you, your team and share more in person soon. If you are a LinkedIn user, please review my profile and background, you will see we are very strong USACE community supporters.	Thank you for your feedback.
15	Comments from webma	9/10/2019	Kathy Moore		I would like to know what flood proofing element would be used here.	Thank you for your comment. There are various flood proofing measures that may be used. Dry floodproofing can consist of shields/door panels, waterproof sealants, veneer, backflow pumps, if needed, and vents. Examples of wet floodproofing include insulation, steel walls, and elevation of utilities. During the next phase of the project, most likely during Pre-Construction Engineering and Design (PED), flood proofing elements will be determined on a structure by structure basis.
16	Comments from webma	9/15/2019	John Wall		First, the depth of knowledge & passion for this work was obvious in my conversations with the team members such as Leigh, Andy, Rachel & Carissa. My thoughts & concerns are: Focus of all work should be on Sea Level Rise & storm surge issues, not 'politically palatable' unrelated issues that will siphon off resources; land acquisition plans are an excellent idea, vs short-term attempts to raise buildings...this will avoid the looming financial crisis for M-Dade, if banks stop lending or drastically reduce long lengths, in neighboring areas to those that are at risk of being under water; time is critical...we have a decade or so before real impacts of SLR hit M-Dade...the 'alarm' must be raised or no one will be willing to make the changes needed to avoid a potential human & financial disaster.	Thank you for your feedback and your comment. We agree that the focus of this feasibility study is on coastal storm surge risk and sea level rise.
17	Comments from webma	9/30/2019	Benji Power	Citizen	I just recently learned about the information being exchanged through this Feasibility Study process, and my single-family home property is located on the east side of proposed Option #2. I live at 500 NE 75th St, Miami, FL 33138, which is a property that abuts the proposed flood wall. I submitted a comment via the online GIS tool. Are there other ways that I can interact with this process?	Please review the draft report for updated information on the Tentatively Selected Plan. A public meeting will be held in Spring/Summer 2020 to review the draft plan and another public meeting will be held before the study is finalized. Please note the exact location of the structural alignments currently recommended will continue to evolve if the project proceeds into the full design phase when additional field surveying and sampling can advise the detailed design. Additionally, the project requires Congressional authorization, funding and a eligible non-Federal sponsor for implementation.
18		9/27/2019	Andrew Frey	Citizen	If ACOE is going to re-do the seawall in Edgewater, wouldn't that be perfect time to add a baywalk? Attached is a concept I did probably back in 2006, showing the Edgewater seawall replaced with Boston's Charles River Esplanade. This would allow both storm surge protection and stormwater outfall treatment, improve north-south bike/ped mobility for residents, and be an unbelievable public amenity.	Thank you for your comment. The floodwall will take into consideration the current design of the riverwalk in Brickell. Floodwall designs are not yet complete but we agree that recreation and visuals aesthetic will be considered while creating a floodwall design.

19		9/26/2019	Frank Rollason	Director, Office of Emergency Management Miami-Dade Fire Rescue Department	So, I receive this email to make public comments and when I open the site the message reads "Public Comments are Closed"? Anyway, for what its worth, our primary priority was for the canals to be analyzed and that priority did not make the cut even though we came within a literal inch of overflowing the banks in central Miami-Dade from Hurricane Irma which was for Miami-Dade just a tropical storm. All the walls on the bay and river entrances are not going to protect us from this form of disaster as a result of several days of rain.	Thank you for your interest in the project. We will accept public comments at anytime during the study period through the contact information on the study web-page. Due to the funding and schedule limitations of this study, it is recognized that the study will not provide a holistic response for the complex and widespread coastal flooding concerns in Miami-Dade County. Additionally, this study authority includes coastal storms and does not address existing stormwater management issues.
20		9/30/2019	Mercedes Vigón	Citizen	I am sorry, You already have published this information... it was what I was reading to you in our previous conversation: a program, but not a project or a proposal. I need clarification in the area of "Focus Area Proposed Measures" ... Here, you named them... but you do not explain what they mean... Could you clarify please? Aventura Cutler Bay Little River Miami River North Beach South Beach Arch Creek Nonstructural + Mangrove Restoration Surge Barrier + Nonstructural Surge Barrier + Floodwall + Nonstructural Nonstructural Nonstructural Surge Barrier + Nonstructural What are your proposals? How can you ask for people comments without giving them sth. to comment?	Thank you for your interest in the study. During the scoping phase of the study, seven focus areas were developed based on both risk to coastal flooding and social vulnerability. As the study has evolved from the initial scoping phases to the draft report, the focus areas were further refined as well as the potential alignment options. Please refer to the draft report now available on the public web-page where additional details now available to answer your questions.
21		9/26/2019	Eduardo Varona	Citizen	Great to hear from you Carissa! This is Eduardo Varona from Cutler Bay. Not sure if you remember me but we met at the public meeting in North Miami. We spoke at length about resiliency through ecosystem restoration in the Biscayne Bay Coastal Wetlands near SW 184 St. Since the meeting I have studied the different alternatives and strategies for resiliency and have more thoughts on how this can be even more enhanced in South Dade focused around Cutler Bay and surrounding areas. I will submit my ideas soon. If possible I would like to be a part of any future field visits by the Corps to the Cutler Bay area. Also at the North Miami meeting you mentioned of maybe hosting a conference call to further discuss different possibilities or opportunities in the South Dade study area. Would that still be possible?	Thank you for your interest in the study. The USACE has conducted coordination meetings with the Town of Cutler Bay since receipt of this comment. Additionally, a public meeting will be held in Spring/Summer 2020 to review the draft plan and another pubic meeting will be held before the study is finalized.
22	NEPA Comments Table 1.8.2019 and NEPA Scoping miami comments 12.5.2018	12/5/2018	Ana Zangroniz	Florida Sea Grant	consider deep well injection of stormwater. Thorough pre-post environmental assessments and analysis recommended. Consider pipes/outfalls in any construction. Pump out cannot continue into Biscayne Bay. Acquire more land or convert abandoned properties into retention ponds. Nature based or hybrid infrastructure should be examined at depth. All studies recommendations and subsequent projects to be in harmony with existing legislation.	Thank you for your feedback. Stormwater pumping associated with the interior drainage requirements for the construction of floodwalls will be examined at a preliminary level during the feasibility study. The feasibility study will result in 10% level of design and detailed design for the best method to address interior drainage will be conducted if the project moves into the Preconstruction Engineering and Design Phase. The Tentatively Selected Plan presented in the draft report includes one natural and nature based feature that will be further analyzed for coastal storm risk management benefits prior to the draft report. Although we agree with the importance of these features, it is difficult to justify their incorporation into the recommendation with our current authority and process for benefit calculations. Compliance with existing regulations through the National Environmental Policy Act requirements is addressed in the draft report.
23	NEPA Comments Table 1.8.2019 and NEPA Scoping Miami comments 12.5.2018	12/5/2018	Mariana Boldu	SLR Committee City of miami	Nature based solutions and green infrastructure and retrofit of gray infrastructure should be a priority. We need to unpaved our city infrastructure as much as possible, there is too much hard infrastructure and paving everywhere. We need to allow the water that comes in to percolate through the ground. Need to coordinate the study with stormwater managements masterplans and look at the water sheds. Study the structure and position of the tree canopy in the areas of the study. Understand future conditions with salt water intrusion and relation to coastal vegetation.	Thank you for your feedback. The Tentatively Selected Plan presented in the draft report includes one natural and nature based feature that will be further analyzed for coastal storm risk management benefits prior to the draft report. Although we agree with the importance of these features, it is difficult to justify their incorporation into the recommendation with our current authority and process for benefit calculations.
24	NEPA Comments Table 1.8.2019 and NEPA Scoping miami comments 12.5.2018	12/5/2018	Dana Triearico	Miami Water Keeper	My biggest comment as the Army Corps moves forward with this study is to consider green infrastructure in as many ways as possible. Beyond flood and storm protection, there are many economic benefits, including the benefit to tourism. With this said, I believe its also important to take into account other Army Corps projects going on in the area. For example dredging Port Miami will have the potential to damage coral reefs, a particularly crucial form of green infrastructure which may impact the goals of this particular study as well as the benefits associated with reefs (aside from shoreline protection). Additionally, I urge the Army Corps to consider our hydrology and monitor it as closely as possible when using traditional ideas of resiliency such as seawalls.	Thank you for your feedback. The Tentatively Selected Plan presented in the draft report includes one natural and nature based feature that will be further analyzed for coastal storm risk management benefits prior to the draft report. Although we agree with the importance of these features, it is difficult to justify their incorporation into the recommendation with our current authority and process for benefit calculations. The feasibility study will result in 10% level of design which will be further refined with additional hydrologic modeling if the project moves into the Preconstruction Engineering and Design phase. USACE is coordinating internally with other regional studies, however dredging is not included in the scope of this study.
25	NEPA Comments Table 1.8.2019 and NEPA Scoping miami comments 12.5.2018	12/5/2018	Omar Beceiro	citizen	Fully support the studies in particular the natural /vegetation approach	Thank you for your input.
26	NEPA Comments Table 1.8.2019 and NEPA Scoping miami comments 12.5.2018	12/5/2018	Francisco Arbelaez	City of Miami Beach	Is it possible to have FEMA more integrated into the process. It is hard to make property owners make investments with out being able to quantify benefits monetarily in FEMA would endorse certain improvements, it is easier to have buy in. Provide more artificial reefs to help with wave induced beach erosion. These will also help with ecotourism. Provide a lock system for the Miami River.	Thank you for your feedback. This study follows the policies of USACE planning processes to quantify benefits as described in detail in the draft report. Artificial reefs may be considered to compliment structural measures in the final recommended plan. A lock system is outside of the scope of this study. Both FEMA and FDEM are part of our inter-agency team providing valuable coordination and feedback, however the study is not formulated to meet FEMA requirements.
27	NEPA Comments Table 1.8.2019 and NEPA Scoping miami comments 12.5.2018	12/5/2018	Rogelio Madam	Citizen	Consider creating new land masses that can block storm surges and allow water levels in the bay to be controlled. The new land could be developed to help pay for the project or provide for recreation opportunities.	Thank you for your feedback. The creation of new land masses for the purpose of coastal storm risk management may not be environmentally acceptable and likely to be cost prohibitive. A full evaluation of this proposal is outside of the scope of this study.
28	CMB Back Bay Scopi	1/9/2019	Elizabeth Wheaton	Environment and Sustainability Director	On behalf of the City of Miami Beach, we are pleased to submit the following comments for consideration in the Miami-Dade County Coastal Storm Risk Management Feasibility Study: 1. The feasibility study should be consistent with the regional goals outlined in the Resilient 305 Resilience Strategy to be released in March 2019. 2. The feasibility study should prioritize the protection of existing natural resources and to the maximum extent possible, utilize nature-based solutions such as living shorelines in the design of coastal storm risk management solutions. 3. The feasibility study should evaluate the potential of using the existing causeways that connect the barrier islands to mainland Miami-Dade County to reduce coastal storm risk within northern Biscayne Bay by using their existing footprint as storm barriers similar to those used in Venice and the Netherlands, while maintaining their functionality as transportation corridors. Any proposed improvements should rely on designs that provide co-benefits, including but not limited to reinforcing them with living shorelines that provide storm protection along with improved air and water quality, among other ecological benefits; elevating the roadway to reduce its flood risk; providing safe alternative transportation connectivity between the mainland and the barrier islands; and, other similar concepts. Should you have any questions, please do not hesitate to contact me at 305.673.7010.	Please refer to the attached letter response to the formal letter received 9 January 2019.

29	; Army Corp of Engin	1/8/2019	Jack Osterholt	Deputy Mayor/Director Miami-Dade County	See Attached	Please refer to the attached letter response.
30	BBRRCT_BBCW Recd	11/27/2018	Phil Everingham	Chair, Biscayne Bay Regional Restoration Coordination Team	See Attached	Thank you for your Memorandum in regards to the Biscayne Bay Coastal Wetlands (BBCW) project. The BBCW is a separate project from this study, however this study team is coordinating with BBCW USACE project leads for the potential to include a portion of the BBCW project area as a natural and nature based feature under this project. Further evaluation for mangrove restoration in Cutler Bay to provide a Coastal Storm Risk Management benefit will be completed prior to the final report for this study.
31	Carlos Tamayo_AEC	12/17/2018	Carlos Tamayo	AECOM	See Attached	Thank you for your input into the scoping phase of the study. Groundwater interactions are addressed in the draft report and further analysis will be completed if the study moves into the Preconstruction Engineering and Design Phase. The implementation of a floodplain management plan by a non-Federal sponsor is a requirement if this project is implemented. In accordance with Executive Order 11988, this project should not induce development in the floodplain. Protection of the aquifer from saltwater is outside of the scope of this study. The Tentatively Selected Plan presented in the draft report includes one natural and nature based feature that will be further analyzed for coastal storm risk management benefits prior to the draft report. Although we agree with the importance of these features, it is difficult to justify their incorporation into the recommendation with our current authority and process for benefit calculations. Economic analysis includes a comparison of the Tentatively Selected Plan and no action plan alternatives. Please refer to the draft report for additional details.
32		1/9/2019	Elizabeth Wheaton	Environment and Sustainability Director	See Attached	Please refer to the attached letter response.
33	MWK Back Bay CSRN	1/9/2019	Dr. Rachel Silverstein	Executive Director and Waterkeeper	See Attached	Please refer to the attached letter response.
34	SFWMD_measures_	11/6/2018	Akin Owosina	Chief, Hydrology and Hydraulics Bureau, SFWMD	See Attached	Thank you for your comments in regards to priorities of the SFWMD related to this study. The Tentatively Selected Plan presented in the draft report proposes structural and non-structural measures within seven focus areas. Due to the funding and schedule limitations of this study, it is recognized that the study will not provide a holistic response for the complex and widespread coastal flooding concerns in Miami-Dade County. However, critical infrastructure prioritized by the Miami-Dade County Rapid Action Plan is being considered county-wide and certain water management facilities may be considered for floodproofing. Please also note this study authority does not include addressing existing stormwater issues.
35	South Miami_Philip	12/17/2018	Philip Stoddard		I can't make the workshop next Thursday but I do have two thoughts to share. 1) Storm managers in the Netherlands have been planting trees on canal banks to absorb energy from storm-driven flood waters. At the same time, the SFWMD has been methodically removing all trees anywhere near the banks of their canals, creating wide open swaths that provide no resistance to storm surge. The type of tree matters. Existing trees like gumbo limbos and live oaks aren't going to resist sheet flow very well, and are likely to topple, clogging the canal itself. Trees with lower spreading branches like willows, or trees with extensive prop roots like red mangroves, can absorb energy and provide effective resistance to sheet flow. 2) During Hurricane Irma, the County's emergency managers issued an evacuation order for all of Zone C. The National Hurricane Center graphics showed that Zone C is penetrated by narrow surge zones on the old transverse glades. Only a small number of residences in Zone C were under threat of inundation. The mass evacuation order was excessive and caused many problems. The County needs to adopt a finer-grained evacuation model for storm surge. Thanks for listening.	Thank you for your comment. We have reviewed the projects being done in the Netherlands and in general, we agree that natural and nature based features reduce storm surge. For this project we are looking into natural and nature based features as often as possible.
36	Diaz North Bay Villag	10/9/2019	Mario Diaz	North Bay Village	See Attached	Please refer to the formal response letter to the formal letter received from North Bay Village in October 2019. (Also Comment Response 63)
37		10/9/2019	Aris Papadopoulos	Resilience Action Fund	Resilience Action Fund (RAF) is a 501(C)3 non-profit organization, based in Miami's Back Bay Area. RAF's mission is to advance awareness, transparency and education for greater hazard resilience in the built environment. 1. Please report on expected damage and loss impact of future storm surge in communities between NE 39th St and Indian River under various hurricane scenarios between Cat 2 and 5, storm durations and a range of 50 year sea level rise assumptions. Also indicate if flood rise in these areas is affected by the construction of the proposed sea wall south of NE 39th St. Note that the area north of NE 39th St are mostly single story residential, whereas to the south are less vulnerable high rise residential structures. 2. Report on expected porous soil permeation of floodwaters within the future sea walled area south of NE 39th St under the scenarios mentioned in 1. What, if any, difference is predicted in floodwater soil permeation in communities north vs south of NE 39th St.	Thank you for your interest in the study. The draft report contains all analysis completed in the scope of the study relevant to the Tentatively Selected Plan. Please review the draft report for available analysis. Additional detailed surveys and modeling will be completed if the project moves into the Preconstruction, Engineering, and Design (PED) Phase and those results would be published in the final report.
38		10/9/2019	cindy Cutler	Citizen	The sewage plant is from the sixties and fecal matter flows out all the pipes from Golden Beach to Key Biscayne on a daily basis ending Florida tourism by having no swimming or walking barefoot on beaches There is supposed to be a team of scientists working on the design and functionality of the Plant and pipes plus fees for municipalities that have pipes that dump raw sewage in bay and ocean The County has the \$3 billion in trust for the project and this should be a top priority Also I have seen countries use netting to catch the polluted seaweed and Key Biscayne needs this to block plastic and pollution from beaches	Thank you for your comment. We are sorry about the sewage plant issues. However, the sewage plant is the responsibility of the municipalities and not the Corps.
39	Jupiter Intelligence C	10/9/2019	Tanya Steele, Rich Sorkin	Jupiter Intelligence	See Attached	Thank you for your input to the study. The USACE authority for this study does not include the ability to address sea level rise impacts to include king tide events. In considering the impact of sea level rise to coastal storms, the NOAA high curve will be included in the analysis. Please refer to the draft report for additional details.

40		10/12/2019	Jen O'Brien	Citizen	<p>Thank you for the opportunity to comment on the Back Bay Study. The City and County plans for parks, transportation, and development have not been considered in this study. Projects of this magnitude that will dramatically change the landscape of Miami should consider all of the systems that make the city function. Why spend billions of dollars building floodwalls to save Miami from a major storm surge, when the floodwalls destroy what makes people want to live there? I'm grateful that the Army Corps of Engineers is focusing their attention on our needs, however, the City and County need to take the opportunity to create solutions that improve and integrate into the city. The principles outlined in the Resilient 305 <Blockedhttps://qz.com/1111690/with-more-superstorms-predicted-theres-a-dream-project-to-keep-new-york-above-water/> plan should be on high display in this project, however, they are nowhere to be seen.</p> <p>In the instance of the Little River flood wall, the proposed wall goes down 5th Ave, dissecting a thriving residential neighborhood and a park. The plan is shortsighted and myopic. One block east, north and west of the proposed wall are massive vacant lots and buildings. What's the reasoning for destroying homes when there are massive adjacent vacant lots? Purchasing these lots and creating a contiguous greenspace along the Little River Canal would provide significant protection from a storm surge in addition to improve the everyday flooding facing residents, and providing a real amenity in a city that lacks high-quality parks. One of the adjacent lots has been considered for a commuter train station <Blockedhttps://issuu.com/plusurbia/docs/20190409_m21-tod_lr-s> . Rather than park space, some of the vacant lots could provide parking for the train station, using permeable paving. The Corps, the County, and the City should be working together to create holistic solutions that help create a Miami worth protecting.</p> <p>Where is Miami's big plan? If flood walls are the only option, how will their construction contribute? (Will the Edgewater floodwall include a pedestrian trail along the water? Will the Miami River floodwalls connect to and help expand the Underline park?) Where's our design competition like New York? <Blockedhttps://qz.com/1111690/with-more-superstorms-predicted-theres-a-dream-project-to-keep-new-york-</p>	<p>Thank you for your feedback. USACE has ongoing coordination and collaboration with Miami-Dade County and its municipalities as well as local, state, and federal agencies. Regional and state plans to include transportation, development, and recreation have been included for analysis under the existing conditions within the draft report to ensure that any measures taken will be conducted in partnership between this study's goals and other local, regional, and state plans. USACE only has the authority to address coastal storm risk management under this study. Planning objectives were developed with stakeholder input in the scoping phase of the study. The exact location of the structural alignments currently recommended will continue to evolve if the project proceeds into the full design phase when additional field surveying and sampling can advise the detailed design. Please note there is no ideal location for a structural measure to be implemented in a fully developed urban area, however USACE seeks to minimize impacts to existing neighborhoods and resources. Structural measures were cited to reduce construction costs by finding the shortest path to tie floodwalls into high ground while also striving to minimize real estate impacts by using existing right-of-ways and undeveloped land where feasible.</p>
					<p>The Corps, the County, and the City should be working together to create holistic solutions that help create a Miami worth protecting.</p> <p>Where is Miami's big plan? If flood walls are the only option, how will their construction contribute? (Will the Edgewater floodwall include a pedestrian trail along the water? Will the Miami River floodwalls connect to and help expand the Underline park?) Where's our design competition like New York? <Blockedhttps://qz.com/1111690/with-more-superstorms-predicted-theres-a-dream-project-to-keep-new-york-above-water/> The expertise and resources of the Army Corps of Engineers should be combined more thoroughly with the City, County, and private sector resources in Miami, to create a plan that protects AND improves.</p>	<p>Thank you for your feedback. The non-Federal sponsor, Miami-Dade County, is actively involved in the progression of the study and coordinates within the many municipalities of the County. Due to limitations in USACE authority, the Tentatively Selected Plan only includes the implementation of a floodwall in Edgewater and Miami River areas to address coastal storm risk needs. Additions of recreational measures, including parks and pedestrian trails, may be included as a betterment to the project at full non-Federal expense if the project moves into the implementation phase.</p>
41		10/10/2019	Tiffany Troxler	Director of Science, FIU	<p>Thanks for the opportunity to comment on Back Bay study for M-D County.</p> <p>This provides a nice overview of some of the structural and non-structural measures feasible, but many of the non-structural measures that are also available, like raising buildings, don't seem to be included. Nor are the buyouts and things that also seem to be considered in other feasibility studies that have been conducted by the USACE.</p> <p>Its really difficult to evaluate alternatives when the proposed measures are applied in different areas of M-D County. It seems, to conduct a comparison of alternatives, multiple proposed measures should be put forth for the same focus area. I'd suggest that 1 or 2 focus areas are selected, and multiple alternatives developed for each focus area rather than the approach that has been put forward.</p> <p>For example, I found this feasibility study conducted for Barrow Alaska. A community 21 sq mi in size seems to have more possible measures proposed than a community of M-D with over 2000 sq miles.</p> <p>Blockedhttps://www.poa.usace.army.mil/Portals/34/docs/civilworks/publicreview/BarrowDraftFeasibilityReportwithAppendices.pdf?ver=2018-09-06-210148-493</p> <p>In constraints and considerations, I don't see any specific consideration of our water management system which underlies our ability to implement any alternative.</p>	<p>Thank you for your feedback. Please refer to the draft report for available information on nonstructural measures included in the Tentatively Selected Plan . Nonstructural measures included in the plan are acquisition, elevation and floodproofing. The scoping phase of the study lead to seven focus areas and evaluating priority asset categories for critical infrastructure county-wide. Within the seven focus areas, structural and nonstructural measures are evaluated to develop the plan with the greatest net benefits within the USACE Planning Guidance. The draft report includes a discussion on the existing, future without project and future with project scenarios. Detailed modeling of the water management system with the recommended plan will be completed if the project moves into the Preconstruction Engineering and Design Phase.</p>
42		10/10/2019	Patrice Smith	Miami-Dade Downtown Development Authority	<p>As discussed, the Miami DDA has not taken a formal position on the US Army Corps' recommended infrastructure projects to date. Rather, as you suggested, I have provided some initial comments as a placeholder until we decide if we will take a formal position at the end of this month. I will follow up with you after our Board meets on October 25th. In the meantime, I appreciate your willingness to consider our draft thoughts.</p> <p>Draft Points:</p> <ul style="list-style-type: none"> * Protect and recognize Greater Downtown's \$39 billion of development with any infrastructure investment * Develop the proposed Edgewater floodwall in coordination with the public and private land owners so the resiliency improvements are harmonized with existing development and grow the economic vitality of our community * Leverage public ROW to the fullest extent possible so that improvements to our streets are made in conjunction with these walls and result in a more resilient downtown. * Take into consideration Downtown's projected growth rate of 3.5 % and understand the demands of this growing population * Maintain or grow Downtown's front line of defense- the Miami Baywalk and Riverwalk * Ensure that all infrastructure investment positively position Downtown Miami for future development <p>While this isn't a formal position, it hopefully gives you a sense of our agency's priorities. Thank you for your guidance and willingness to work with us. Please do not hesitate to reach out should you have any questions. Otherwise, I'll follow-up at the end of the month!</p>	<p>Please refer to the formal letter response to the 23 January 2020 letter from the Miami DDA.</p>
43		10/10/2019	Christopher Russo	City Manager, City of Sunny Isles Beach	<p>The miami-Dade Back Bay Coastal Storm Risk management Study (CSRM) originally included all coastal areas of Miami-Dade but has since been redesignated to exclude the Intercoastal Waterway region, which is directly connected to Biscayne Bay and borders Sunny Isles Beach, North miami Beach, Golden Beach, Bal harbour, Surfside and Bay Harbor Islands. Beach erosion is a much common focus for storm resilience, however the greatest flood risk for he City of Sunny isles Beach is storm surge and sea level rise from the Intracoastal Waterway. I am writing this letter to request that the study include all coastal areas of the County, and specifically risk throughout the County.</p>	<p>Thank you for your feedback. Due to the funding and schedule limitations of this study, it is recognized that the study will not provide a holistic response for the complex and widespread coastal flooding concerns in Miami-Dade County. During the scoping phase of the study, seven focus areas were developed based on both risk to coastal flooding and social vulnerability. It is also important to note that critical infrastructure is being examined county-wide with asset categories prioritized from the Miami-Dade County's Rapid Action Plan. Future studies are recommended to address coastal flooding in additional areas of Miami-Dade County.</p>

44		10/18/2019	MarioDiaz	Chief of Staff to the Village Manager	North Bay Village consists of three islands with 0.81 sq miles and 8273 inhabitants (2018), is located in the northern segment of Biscayne Bay and was incorporated in August 1, 1945. It stands presently at 4 feet above sea level. As an island community in the hart of the Miami metropolitan area, North Bay Village is especially exposed to the risks related to climate change and sea level rise. For this reason, the Village Mayor and Commission have made sustainability and resilience a key priority of the municipal government. Several projects have already been undertaken. A rehabilitation of the water main system to ensure the quality of the water for all residents in the village and address wasteful leakage of drinking water has already been completed. In addition, the rehabilitation of the sanitation and sewer systems will cover the entire waste water collection of the Village. The repairs being carried out will ensure that harmful leaks do not occur on our island which could contaminate both soil and drinking water. In addition, the rehabilitation of the Village's storm water outfall pipes includes the installation of check valves to minimize back flow from Biscayne Bay to Village roadways during high tide conditions in addition to storm water catch basins. This project will reduce the amount of sediment that can enter Biscayne Bay and the catch basins are designed to capture sediment and floatables such as plastic bottles. Further evaluation will determine if additional pumps are needed to complement the existing gravity-based system. Finally, resiliency will be strengthened by a grant of \$11 million dollars grant from the Federal Emergency Management Agency which the Village has received to bury its power lines. The village staff have also been engaged in several activities to establish the extent of the municipal environmental footprint and mitigate its impact. As we have only a limited number of buildings and properties under our direct ownership, this process will focus on street lighting, fLee/Jennt of vehicles, and the building or rehabilitation of infrastructure related to sewer, water and rainfall drainage. We have passed two ordinances aimed at protecting Biscayne Bay, one banning single use plastics and Styrofoam packaging and another on Florida Friendly use of Fertilizers. The municipality has initiated programs to increase the green canopy, create bicycle lanes, more effective recycling and electric car charging stations. These programs are an integral part of the development of the city master plan for the next 25 years (NBV100). However, these efforts will be of no avail if we cannot protect the village and its residents from storm surges and raising sea level. It is within this context that we are writing to you to request that the shoreline of North Bay Village be included in the US Army Corps Back Bay Study. As three small islands located within the Biscayne Bay with xx miles of coast line, we face the highest level of risk and vulnerability to storm surges and sea level rise which can literally wipe out our community. North Bay Village will need a multi-layer system	Please refer to the formal response letter to the formal letter received from North Beach Village in October 2019.
45	BackBay_Letter_TM	10/21/2019	Dawn Shirreffs, Dr. Rachel Silverstein, and Kristine Singer	Senior Director of Public Affairs, The Miami Foundation	See Attached	Please refer to the attached letter response.
46	public comments fr	10/1/2019	Patricia Gomez	Citizen	I would like to know what type of flood protection is being considered for the cutler bay are south of sw 184 st and east of old cutler road. This area is low lying prone to flooding and has been damaged during previous storms	Thank you for your interests in the Miami-Dade Back Bay Study. During the scoping phase of the study, seven focus areas were developed based on both risk to coastal flooding and social vulnerability. One of the seven focus areas includes portions of Cutler Bay, including the area you reference. The Tentatively Select Plan recommends nonstructural measures to be implemented in the Cutler Bay Focus Area. Optimization will occur in the next phase of the study to determine the number of structures in Cutler Bay proposed for nonstructural measures. Please refer to the draft report for additional information.
47	public comments fr	10/3/2019	David Carson	Citizen	It is absolutely insane that Turkey Point is using a 1ft by 2100 sea level rise projection for the construction of their two new reactors, and nothing at all for the upgrade of storm surge defenses for the two that already exist. It is dangerous, criminally negligent, and reflects an out-sized influence of the Nuclear Energy Industry on the guidelines set forth by the NRC.	Thank you for your response. The referenced project is not a part of the scope of this study.
48	public comments fr	10/3/2019	David Carson	Citizen	If we are indeed going to build dikes and dams and storm surge barriers in our rivers and at their mouths, we need to make sure that it's not a permanent affair. Pluvial flooding is a real risk and that water needs to make its way into the ground or out to sea. We are also in a period of environmental crisis as the long term artificialization of our waterways or subsequent failure of sewage systems adulterate what was once a natural system. Please look at elevation of homes, land use rezoning, and removable barriers that allow for our natural systems to adapt to the changing climate while we do.	Thank you for your comment. Floodproofing, elevations and acquisitions are nonstructural measures included in the Tentatively Selected Plan (TSP). While local zoning is outside of the scope of the Federal authority, the non-Federal sponsor will be responsible for maintaining a floodplain management plan if the project moves into the implementation phase and zoning issues are included in floodplain management planning at a local level. The 10% level of design to be completed during the feasibility study includes permanent structural features.
49	public comments fr	10/3/2019	David Carson	Citizen	If we don't invest massively and immediately in the remediation of our bay and coastal sea, we are going to lose the single largest asset we have. From an income standpoint, our economy will crumble without a healthy marine ecosystem. As we adapt, any opportunity to implement nature based solutions for tactical flood risk reduction carry the incredible co-benefit of environmental remediation and rehabilitation.	Thank you for your comment. USACE agrees that a healthy marine ecosystem is important to Miami-Dade County. Environmental consideration of environmental resources is integral to this project. Interagency coordination is occurring throughout this project's process to understand environmental concerns, comply with NEPA requirements and reduce environmental risk.
50	public comments fr	10/9/2019	Brian Haus	U of M	If any changes to drainage or movement of water are proposed as is the case here, it is critical to do a full circulation study of the system to identify unintended consequences. This is particularly the case concerning flood gates to block ingress of water during storm surges. As the water is being forced into the bay, what happens when it is blocked at the gate. Does it cause more flooding in adjacent areas or on the barrier islands. This needs to be fully understood through a well validated circulation model. Actions could also cause serious water quality issues that need to be fully understood.	Thank you for your feedback. Due to the nature of coastal flooding in the areas adjacent to the Bay, storm surge elevations on the exterior of the alignment are likely to see minimal impacts from the construction of a floodwall. This will be confirmed with further feasibility analysis and detailed analysis in the PED Phase in accordance with USACE policy. Water quality modeling is planned for the three storm surge barriers in the draft report and will be documented in the final report planned for 2021.
51	public comments fr	10/10/2019	Steven Craig James	FLDOT	Please note that any work performed on the FDOT ROW may require a FDOT Permit. Please be aware that coordination with FDOT may be necessary.	Thank you for your comment. We are appreciate that FDOT is a cooperating agency for this study and value our partnership. FDOT's input will be incorporated into this project and they are informed of all of the decisions being made.
52	public comments fr	10/10/2019	Steven Craig James	FLDOT	Please be aware that the following proposed structures either cross, are adjacent to or are on the FDOT ROW: Little River Storm Surge Barrier and Floodwall, Edgewater Floodwall, Miami River Storm Surge Barrier Option A and Floodwall, Miami River Storm Surge Barrier Option B and Floodwall. Please note that any work proposed on FDOT ROW may require a permit and may be required prior to work beginning. Coordination with FDOT may be required.	Thank you for your comment. We are appreciate that FDOT is a cooperating agency for this study and value our partnership. FDOT's input will be incorporated into this project and they are informed of all of the decisions being made.
53	public comments fr	10/3/2019	David Carson	Citizen	Elevate, dryproof, and incorporate nature based solutions all across Miami Beach, saving what art deco heritage we can. The Harvard GSD recommendations and renderings for Miami Beach, produced in 2017 along with the city of Miami Beach, lays out an incredible agenda from both an engineering and policy perspective. Why are we not using that as the foundation for the city?	Thank you for your feedback. USACE is limited in authority to address coastal storm risk management issues within Miami-Dade County. Due to the funding and schedule limitations of this study, it is also recognized that the study will not provide a holistic response for the complex and widespread coastal flooding concerns in Miami-Dade County. During the scoping phase of the study, seven focus areas were developed based on both risk to coastal flooding and social vulnerability. Portions of Miami Beach are included as focus area and recommended for the implementation of nonstructural measures. USACE seeks to minimize impacts to existing neighborhoods and historic resources. Optimization during the next phase of study will refine the nonstructural plan and include additional considerations for historic structures where nonstructural measures are justified.
54	public comments fr	9/10/2019	David Ettman	Biscayne Inc.	Potable water supply storage tanks for N. Beach. Needs to be fortified and protected. Very vulnerable to storm surge and saltwater contamination.	Thank you for your input. Critical Infrastructure, including potable water facilities, are included in the Tentatively Selected Plan. Optimization of the plan will occur in the next phase of the study leading to the final lists of critical infrastructure structures included for floodproofing.
55	public comments fr	9/26/2019	Marta Marello	Miami-Dade	It seems that proposed projects focused mostly on structural measures like walls and barriers. I would like to see a nature-based solutions to play a much bigger role. Would it be possible to add more in the plan or swap some structural measures with nature-based solutions?	Thank you for your feedback. The Tentatively Selected Plan (TSP) presented in the draft report includes one natural and nature based feature that will be further analyzed for coastal storm risk management benefits prior to the draft report. Although these features are the important, it is difficult to justify their incorporation into the recommendation with the current authority and process for benefit calculations. Additionally, the areas where structural measures are proposed cannot be mitigated through natural-based solutions alone. Living shorelines were considered early in the study process, but screened before determining the TSP.

56	public comments from	9/26/2019	Marta Marelo	Miami-Dade	My concern is that structural solutions like sea walls and storm surge walls will create problems for properties located at either ends of the structure, where the water will naturally flow. I am also concerned that these structures would limit recreational opportunities and obstruct view of the ocean or other natural features.	Thank you for your feedback. The terminus of the proposed floodwalls would become shorter in height until it ties naturally into ground. Please note there is no ideal location for a structural measure to be implemented in a fully developed urban area, however USACE seeks to minimize impacts to existing neighborhoods and resources.
57	public comments from	9/30/2019	Alfredo Quintero	Cutler Bay	Why is there no coastal area identified between Cutler Bay and Rickenbacker Causeway to have Storm Surge Risk.	Thank you for your question. The areas considered for the storm surge barriers and floodwalls were chosen due to a number of factors. Due to the geographic size, population, and complexity of coastal flooding risks of the study area a countywide comprehensive study was not possible. Some factors included in the selection of areas for coastal storm mitigation measures included a social vulnerability index, engineering concerns, non-Federal sponsor input, and an analysis of models such as FEMA's Hazus which was used to preliminarily identify infrastructure at coastal risk.
58	public comments from	10/9/2019	Benji Power	Citizen	1) Does a flood wall at this location require abandoning / eminent domain any surrounding residential properties? 2) What can be done to make the flood wall look aesthetically pleasing within the residential neighborhood context?	Thank you for your interests in the study. USACE formulates the plan to minimize impacts to existing resources and properties, however eminent domain may be considered as a last resort in order to construct the project if the project moves into the implementation phase. Concept designs are presented in the draft report and the final report will include 10% design development. Full design development will occur if the project moves into the next design phase.
59	public comments from	10/9/2019	Aaron DeMayo	Citizen	Will the flood wall consider the existing living shoreline in Margaret Pace Park? I would like to see more nature based sea wall solutions which have shown to have be strong and have a good ROI	Thank you for your comment. We have reviewed existing living shoreline elements and natural and nature based features. Where it is feasible, living shoreline elements are being considered for coastal storm surge risk.
60	public comments from	10/9/2019	Aaron DeMayo	Citizen	How are the walls running north and south many blocks into dense urban areas being created? There is a large FPL Station to the east of the proposed western flood wall in Brickell, how will this be protected? Do the wall locations suggest that the properties to the east of the walls are not protected, essentially a form of retreat? There are studies of options to put a tunnel to connect Brickell Avenue with Biscayne Boulevard, is this being considered in regard to the potential East flood wall location in Brickell as I believe those proposals have digging and changes on Brickell Avenue, close to where the wall is suggested?	Please refer to the draft report for concept designs of the floodwalls. The exact location of the structural alignments currently recommended will continue to evolve if the project proceeds into the full design phase when additional field surveying and sampling can advise the detailed design. Structures within the seven focus areas that are not proposed for protection by a structural measure may be recommended for home elevation if the coastal storm risk management benefits exceeds to the costs.
61	public comments from	10/9/2019	Aaron DeMayo	Citizen	What is the suggested defense for SLR for the miles of coastline in the Upper east side that is not behind the 15,861.49 foot sea wall in Edgewater?	Thank you for your interest in the study. USACE only has the authority to address coastal storm risk management while considering sea level rise exacerbation of coastal storms under this study and cannot address sea level rise impacts on its own. Due to the funding and schedule limitations of this study, it is recognized that the study will not provide a holistic response for the complex and widespread coastal flooding concerns in Miami-Dade County. During the scoping phase of the study, seven focus areas were developed based on both risk to coastal flooding and social vulnerability. It is also important to note that critical infrastructure is being examined county-wide with asset categories prioritized from the Miami-Dade County's Rapid Action Plan. Additionally, USACE will recommend future studies be undertaken to address coastal flooding concerns that were not able to be examined during this study.
62	public comments from	9/30/2019	Benji Power	Citizen	My single-family house is on the east side of proposed flood wall. I want to understand the process that would be involved with acquiring my property, if it is needed for this option to be developed.	Thank you for your interest in the study. The exact location of the structural alignments currently recommended will continue to evolve if the project proceeds into the full design phase when additional field surveying and sampling can advise the detailed design. The implementation of nonstructural measures for individual houses will be developed in conjunction with a non-Federal if the project moves into the implementation phase.
63	North Bay Village 10	10/29/2019	Dr. Ralph Rosado/Ann Del Valle	Village Manager (Dr. Rosado)/Deputy Village Clerk (Ann Del Valle)-North Bay Village	See Attached	Please refer to the attached letter response.
64		11/22/2019	Eduardo Varona	Cutler Bay Resident	We are very familiar with the lay of the land where we live and understand the vulnerability to storm surge of the low lying lands on the coastal plain where our town lies. We do not claim to be experts in the field of storm surge mitigation but only wish to identify what maybe opportunities for local enhancements in addition to the planting of coastal mangroves in coastal wetlands. Included with these comments are four maps: • A broad map of Cutler Bay with annotations (Areas 1, 2, and 3) • Area 1. • Area 2. • Area 3. Narrative for broad map of Cutler Bay This map identifies three areas 1, 2, and 3 that offer opportunities to implement storm surge mitigation strategies such as: raise road beds, construct flood walls and storm surge barriers, and acquire vulnerable land east of storm surge protection structures. Area 1 Map.The area covers from SW 184 St at the North to roughly SW 188 St to the South and all areas east of Old Cutler Rd. It includes such strategies as: • Raise the road bed of Old Cutler Rd. by several feet from SW 184 St to roughly 185 Terr.; • Construct flood wall around east, south, and north perimeter of Sewer pump station at SE corner of Old Cutler Rd and SW 184 St. ; • Construct a flood wall from SW 185 Terr. to roughly 188 St along the east perimeter of the Cutler Cay community and connecting to the Cutler Cay community sea wall. ; • Land acquisition of privately owned lands east of raised bed of Old cutler Rd. and newly constructed flood walls • Planting of mangroves in favorable areas of coastal wetlands according to appropriate land elevations. Area 2 Map. The area covers from SW 196 St to roughly SW 204 St and east of the Saga Bay community. It includes such strategies such as: • Construct a robust flood wall at the end of SW 196 where it ends at low elevation coastal mangroves, this flood wall would connect to the existing Cutler Cay community sea wall.; • Construct flood walls south from SW 196 St as needed in areas where existing residential development is of low elevation. Area 3 Map. The area covers from SW 216 St to roughly the entrance to Black Point Marina, including 87 Ave, and east of 87 Ave. It includes such strategies as:	Thank you for your interests in the Miami-Dade Back Bay Study. During the scoping phase of the study, seven focus areas were developed based on both risk to coastal flooding and social vulnerability. One of the seven focus areas includes portions of Cutler Bay, including the area you reference. The Tentatively Select Plan (TSP) recommends nonstructural measures to be implemented in the Cutler Bay Focus Area. Optimization will occur in the next phase of the study to determine the number of structures in Cutler Bay proposed for nonstructural measures. Additionally, the TSP includes the implementation of a natural and nature based solution in the Cutler Bay area that will be further examined in the next phase of the study. It is recognized that this study will not provide a holistic solution for Miami-Dade County and future studies are recommended to address the additional structural solutions you have submitted. Please refer to the draft report for additional information.
65	Ken Russell Miami D	11/8/2019	Ken Russell	Miami DDA	See Attached	Please refer to the attached letter response.

66	Comment 66_Johns	2/17/2020	Tom Johnson	Resident of Miami Shore	<p>I am a resident of Miami Shores, FL, and have just read the above referenced study, and proposed action plan.</p> <p>What is the purpose of the plan? To protect some properties and ignoring the rest? This plan has at least two huge flaws:</p> <p>1. It will divide neighborhoods and create public discord just at the time when group community action is needed, and 2. The wall will trap temporary floods on both sides. Remember this place is flat. And what happens at the ends of the walls? As you know, the inevitable problem here is sea level rise which will mean the ultimate failure of drainfields and public sewers, so your wall is protecting resources which are going to be abandoned in the foreseeable future. A huge expenditure of money and destruction of property which will in turn be abandoned. You will see why this is a terrible idea, I hope.</p> <p>Did anyone suggest taking the billions and creating a purchasing trust that will guarantee to buy homes in harms way for say \$300,000. Then those houses would be taken down, and in conjunction with the US Parks service, the process of renaturalizing this environment could begin.?</p> <p>A lot better for the community here and a better future for Florida to look forward to.</p> <p>All the best, and thank you for all the work I know you must do.</p> <p>Tom Johnson</p>	<p>Thank you for your feedback. Due to the funding and schedule limitations of this study, it is recognized that the study will not provide a holistic response for the complex and widespread coastal flooding concerns in Miami-Dade County. During the scoping phase of the study, seven focus areas were developed based on both risk to coastal flooding and social vulnerability. It is also important to note that critical infrastructure is being examined county-wide with asset categories prioritized from the Miami-Dade County's Rapid Action Plan. The exact location of the structural alignments currently recommended will continue to evolve if the project proceeds into the full design phase when additional field surveying and sampling can advise the detailed design. Please note there is no ideal location for a structural measure to be implemented in a fully developed urban area, however USACE seeks to minimize impacts to existing neighborhoods and resources. Structural measures were cited to reduce construction costs by finding the shortest path to tie floodwalls into high ground while also striving to minimize real estate impacts by using existing right-of-ways and undeveloped land where feasible. Nonstructural measures will be further optimized before the final recommended plan, including a neighborhood cohesiveness analysis for the areas where nonstructural measures are currently proposed. Pumping stations are proposed to mitigate all interior stormwater flooding associated with the implementation of the proposed floodwall. Due to the nature of coastal flooding in the areas adjacent to the Bay, storm surge elevations on the exterior of the alignment are likely to see minimal impacts from the construction of a floodwall. This will be confirmed with further feasibility analysis and detailed analysis in the PED Phase in accordance with USACE policy.</p>
67	Comment 67_Single	2/17/2020	Martha Singleton and Walter Walkington	Miami Residents	<p>We are native Miami, Floridians who have resided here our entire lives. We find the plan by ACE to build 10-13 foot floodwalls along the coast of Miami-Dade County Florida JUST TO PROTECT FROM STORM SURGE, and not rising ocean waters from climate change, is akin to the fantasy of the little Dutch boy holding his finger in the dike.</p> <p>We are absolutely opposed to this idea! Rather, properties can be bought up and buildings razed so that natural water flows have an outlet, both for hurricane storm surge and higher tides. We are NOT New Orleans or Netherlands to be protected by huge man-made floodgates; the solution is buy back of lands or seizure by eminent domain and planting of natural defenses such as mangroves.</p> <p>We beg you to consider another plan that does NOT include coastal walls. Miami is not a castle that can have a moat built around it, and I'm sure walls that prevent the view of the Atlantic Ocean would not be popular with residents OR tourists!</p>	<p>Thank you for your input and your email. Due to the funding and schedule limitations of this study, it is recognized that the study will not provide a holistic response for the complex and widespread coastal flooding concerns in Miami-Dade County. During the scoping phase of the study, seven focus areas were developed based on both risk to coastal flooding and social vulnerability. USACE guidance requires evaluation of coastal storm risk management alternatives over a 50 year period considering different sea level scenarios affect on coastal storms. The structural measures included in the Tentatively Selected Plan were formulated from this guidance. The exact location and design of the structural alignments currently recommended will continue to evolve if the project proceeds into the full design phase when additional field surveying and sampling can advise the detailed design.</p>
68	2020.02.13 Nurmi Is	2/11/2020	Suzee Bailey	President of Nurmi Isles	<p>My name is Suzee Bailey, and I am President of the Nurmi Isles HOA, in Fort Lauderdale FL., and currently very involved with the many environmental issues facing our City, as well as sitting on the Las Olas Mobility Group panel. I have been communicating with Henk Ovink's team, Rebuild By Design, as well as a Policy Officer from the Consulate General of the Kingdom of the Netherlands, in Miami, who have shared some very innovative ideas and suggestions on dealing with these sea rise, and flooding issues. Had the Army Corps of Engineers spoken with anyone from this team, or are they implementing any of their ideas in your future planning?</p>	<p>Thank you for your interest in the project and your email. The environmental team has not has not interacted with the groups described in your email but I will forward to our Planning Chief and also our Plan Formulation team leads too in case they may have input on your question below. Also, if you have any publications or references that may be useful for our study would be great if we could get a copy. Thank you.</p>
69	Draft plan - Seawalls	2/11/2020	Péricles Alves Pinto	Citizen	<p>i wondering something like lego FloodWalls made in reforced plastic material(lightfull), it will be stable using the water weight(embankment dam), it will be storage by army and disponibilized just in time to stock in condos garages, it will be placed in specific lanes preprepared.</p> <p>i believe it won't be totally waterproof(at the interface between blocks) but the major goal is contend the mass of water, not be hermetic, see at bottom a profile image.</p> <p>think about it and thank you by your time</p>	<p>Thank you for your feedback. The feasibility study will result in approximately 10% design for traditional floodwall construction. Innovative technologies can be further evaluated if the project moves into the Preconstruction Engineering and Design Phase.</p>
70		2/10/2020	H. Baird Lobree	Citizen	<p>Would you please be so kind to point me to where we can get and read a copy of the US Army Corps of Engineers DRAFT plans for flood protection and sea-level rise for Miami-Dade County, Florida?</p> <p>We are working with USACE ERDC on directly related new mobile geo-technical force protection and flood control solutions. We would like to include you and Susan Layton in our presentations and testing plans.</p> <p>We would much appreciate being placed on any related mailing and circulation lists as well.</p> <p>Thank you very much in advance.</p>	<p>Thank you for your interest in the project. We have not yet released the Draft Integrated Report/Environmental Impact Statement (planned for release this spring 2020) but you can get information about the project and potential project features at our public website at: Blockedhttps://www.saj.usace.army.mil/MiamiDadeBackBayCSRMEFeasibilityStudy/. A good to place to start is Presentations & Posters on the public website. I hope that is helpful. The exact alignment of any potential features has not yet been determined but you can get a general overview of potential features.</p>
71		2/9/2020	Allan Freedline	Citizen	<p>I was reading the MIAMI herald article. Do you have a link so I can see the thoughts for coconut grove?</p> <p>The City has the following comments regarding the MDC Back-Bay CSRM Feasibility Study:</p>	<p>Thank you for your interest in the project. We have not yet released the Draft Integrated Report/Environmental Impact Statement (planned for release this spring 2020) but you can get information about the project and potential project features at our public website at: https://www.saj.usace.army.mil/MiamiDadeBackBayCSRMEFeasibilityStudy/. A good to place to start is Presentations & Posters on the public website. I hope that is helpful. The exact alignment of any potential features has not yet been determined but you can get a general overview of potential features. In the Coconut Grove area there is a potential floodwall being considered as well as floodproofing of critical infrastructure, and nonstructural measures (such as floodproofing, elevation, and acquisition).</p>
72	City of Sunny Isles B	1/7/2019	Kathryn Matos	Asst. to the City Manager for Special Projects, City of Sunny Isles Beach	<p>1. Include a short-term (approx. 25 years) and long-term (approx. 75 years) timeframe to evaluate impacts and actions, so that we can implement in the short-term in preparation for the long-term</p> <p>2. Present/consider the probability of different sea level rise curves occurring in any projections</p> <p>3. Include any variation that may occur based on proximity of tide gages to Biscayne Bay. It is our understanding that the closest long-term record of Sea Level Rise is at Key West. A short-term gage is located on Virginia Key.</p> <p>4. Include different storm surge modeling scenarios including tide gage based, published storm surge elevations, and new hydrodynamic modeling and their applications (i.e. bathtub/static vs. dynamic)</p> <p>5. Include the condition of existing waterfront infrastructure relative to the recommendations presented. I.e., raising a 70 year old bulkhead which may have to be replaced in 5 yrs. anyway</p> <p>6. Include key municipal infrastructure (i.e. Collins Avenue) and its propensity for flooding from Sea Level Rise vs. storm surge</p>	<p>Thank you for your interest in the study. USACE guidance requires evaluation of coastal storm risk management alternatives over a 50 year period considering different sea level scenarios affect on coastal storms. The draft report is now available and presents details on available data utilized in the modeling effort. Existing conditions are considered where possible in the recommendations. Structural measures in the Tentatively Selected Plan (TSP) are new construction features. Nonstructural measures in the TSP are based on the best available information and field surveys will be conducted to refine the nonstructural plan if the project moves into the Preconstruction Engineering and Design Phase. Critical infrastructure is considered on a county wide basis, but please note the study authority only includes impacts from coastal storms and does not address sea level rise alone.</p>

73	Village of Key Biscay	1/8/2019	Sergio Ascunce	Director of Bldg, Zoning, and Planning Dept. for Village of Key Biscayne	Carissa, from the viewpoint of the Village of Key Biscayne, as a barrier island, the main protection against a storm surge affecting lives and properties could include re-nourishment of the sand dunes, creating breakwaters that diminish the effects of a wave and elevating structures. After hurricane Irma in 2017, our dunes did their job by stopping what storm surge was produced by the storm. However, the dunes need to be re-nourished before the next event. The Army Corp should also study how breakwaters can help reduce the effects of waves from a storm surge. And finally, the Village has adopted higher standards for new construction by establishing a Coastal A Zone, which requires new structures to be elevated but at additional expense. As a barrier island sitting east of a portion of the mainland, we help diminish storm surge. In turn, the island must be prepared to take on that front line duty.	Thank you for your interests in the study. The beach front areas are being re-evaluated under a concurrent study, the Miami-Dade Coastal Storm Risk Management Study, further information can be found: https://www.saj.usace.army.mil/Missions/Civil-Works/Shore-Protection/Dade-County/Miami-Dade-County-Coastal-Storm-Risk-Management-CSR-Feasibility-Study/
74	Miami Foundation D	1/7/2019	Dawn Shirreffs	Director of Public Affairs, The Miami Foundation	See Attached	Please see attached response letter.
75	City of Miami Mayor	1/4/2019	Mayor Francis Suarez	Mayor, City of Miami	See Attached	Please see attached response letter.
76	public comments fr	10/3/2019	David Carson	Citizen	Cutler Bay, an area already prone to tidal inundation, but rich with existing mangrove forest, represents a nearly incomparable opportunity to establish a mangrove nursery for the reforestation and fortification of our shores. Can we target areas such as these to grow the forest cover we need to protect ourselves and rehabilitate our bay?	Thank you for your comment. USACE is open to ideas for additional natural and nature based features such as the one proposed in Cutler Bay. Cutler Bay was targeted as an area for potential mangrove restoration and the Corps will continue to work with the non-Federal sponsor to determine which areas work best under the scope of this project.
77	FWC Miami-Dade Back Bay CSR Feasibility Study_37787_010819	1/8/2019	Fritz Wettstein	Administrator Land Use Planning Program, FWC	See Attached	Please see attached response letter.
78	Ken Russell Miami D	11/30/2018	Ken Russell	Chairman, Miami DDA	See Attached	Please see attached response letter.
79	North Bay Village Re	10/24/2019	Ann Del Valle	Deputy Village Clerk	See Attached	Please see formal response letter to North Bay Village (see comment response #63).

September 10, 2019

Hello Ms. Carissa Agnese,

We are a group of committed residents from South Miami-Dade who for decades have been leading the grassroots charge to ensure CERP and Biscayne Bay Coastal Wetlands (BBCW) come to fruition in the south part of the county. When our activism began in the early 2000s, although sea level rise and climate change was already happening, public awareness on these now existential threats was just not broad or fully appreciated. Now in 2019 so much has changed. More than ever and much more than in early 2000s we need resiliency for our coasts. And our local communities will depend on the Army Corps to bring forth projects that will protect our environment and our communities, and that will protect people and property.

We are so happy to hear of this effort by the USACE of the Norfolk office to bring resiliency to the coast line of Miami-Dade County with projects not only to the built environment of the northern county but also to the built and natural environment and coastal wetlands of the southern county.

These restored coastal wetland projects in the south could be combined with a raised levy system that would follow the eastern most boundary of existing development, and as much as possible use the existing footprint of the L31E levy system which is 87 Ave that needs to be raised several feet to protect the vast amount of development west of the levy. But just as crucial is the increased protection that this raised levy would offer to local government facilities such as the Miami-Dade Water Sewer treatment plant west of 87 Ave and south of SW 232 St.

However, it is for this reason that we must make you aware of a recent development that USACE of the Jacksonville office has proposed in a new draft footprint of BBCW Phase 2 in southern Miami-Dade County. This draft proposal by Jacksonville severely diminishes the footprint and extend of BBCW Phase 2 from over roughly 4500 acres to only hundreds of acres. And these remaining acres are only three small polygons in the extreme southern part of the county far removed from the core area of BBCW where the highest lift of the ecosystem would be achieved if Phase 2 were built to its full extent.

We urge the Norfolk office to become familiar with this draft proposal that diminishes the integrity of the Biscayne Bay Coastal Wetlands, the local component of the Comprehensive Everglades Restoration Plan, which itself is the largest hydrologic restoration project in United States history. The goal of BBCW is to restore the flow of freshwater to Biscayne Bay, which is critical for the long-term health of the bay, and we are concerned that the project be fully funded and implemented as designed.

It was understandable that due to the sheer size of the project that it was broken into Phase 1 and Phase 2. It is important to note that the work in both Phase 1 and Phase 2 is interlocking, like puzzle pieces, to effectively move sheets of water across coastal wetland areas to the bay and the

effectiveness of Phase 1 would be jeopardized by a failure to complete Phase 2 which totals 4,500 acres.

Phase 2 goes southward from SW 184th Street east of Old Cutler all the way down to Florida City & Barnes Sound. The SFWMD asked the Corp to allocate funds for planning Phase 2 in a letter dated July 2019 and we support funding for this important phase.

It is critical that Phase 2 be fully implemented because of the following benefits it would bring: prevents abrupt point source freshwater discharges through canal systems which harm the bay and its marine inhabitants; improves conditions for the seagrass beds in the bay that serve as a food source for the endangered manatees and also as nurseries for shrimp, crabs, and lobsters; enhances habitats for alligators and juvenile crocodiles; produces higher-functioning grassy wetlands that serve as habitats for prey fish and wading birds; and protects the biggest stretch of mangroves in the eastern U.S. which help to filter water as it seeps into the bay. Most importantly coastal wetlands and a healthy mangrove fringe help mitigate storm surge acting as a buffer between the bay and near shore coastal development. These natural areas also break up storm surge wave action which helps to protect levy systems further west.

We are concerned that the Phase 2 could be scaled back to just three small polygon-shaped sections east of Florida City if the section running from Cutler Bay to Homestead would be cut from the Phase 2. A severe cutback in Phase 2 could result in only 5 to 10 percent of the BBCW being hydrated. Water will be left sitting on Phase 1 tracts and never have the flow path to the bay if the projects in Phase 2 are not completed.

This is especially troubling since our grassroots effort successfully fought for the SFWMD to purchase 130 acres of wetlands near SW 184th St. We were successful in getting the SFWMD to purchase the land for \$24.5 million dollars. Since the purchase, groups such as the National Park Service & the Institute for Regional Conservation and community volunteers have cleared out invasive plants and planted native plants for years in preparation for it being an integral part of the Phase 2 of the BBCW project.

Now all that may be for naught. If Phase 2 is scaled back and therefore the wetlands in that area are no longer part of a conservation plan, the SFWMD could turn around and sell the land to the highest bidder which would most likely be a developer. Prior to its purchase this tract was slated to be housing if the developer had his way. Once the wetlands are built on, there is no way the land could be used to move water to the bay.

But this is so much bigger than the 130-acre tract. Over 4,500 acres are involved in the original Phase 2 footprint. The restoration of freshwater flows to the Bay will not only help the sea grass beds recover and be more hospitable to marine life but it is also important as we deal with increasing sea level rise. The freshwater flowing into the wetlands will help with the problem of saltwater intrusion as sea level increases. This project, if completed as originally envisioned, helps protect our aquifer which serves as the sole source of fresh drinking water for 6.7 million South Florida residents. Phase 2 is important for the environment and the economy of South Florida.

Bottom line: If USACE Jacksonville guts Phase 2, they also gut Phase 1.

Would it be possible for Norfolk USACE to restore the coastal wetlands for coastal resiliency that the Jacksonville office plans to leave unrestored according to the new draft proposal for BBCW Phase2?

For example the Phase 2 project of 130 acres roughly at SW 184 St and Old Cutler Rd known as the North Cutler Wetlands is one such project that would benefit from restoration as it is presently on the cutting board as part of the new draft plan by Jacksonville. In fact there is a readily available supply of existing fresh water (roughly 100CSF) from the C100 canal for the hydration and full restoration of these lands. This project lies on the border of Cutler Bay and Palmetto Bay and has incredible strong support from local residents who would applaud efforts by USACE to bring it forth.

Again we urge Norfolk USACE to consider these restored coastal wetland projects in combination with a raised levy system to follow the eastern most boundary of existing development, and as much as possible use the existing footprint of the 87 Ave L31E levy system. This levy if raised several feet will better protect the vast amount of development west of the levy as well as protect local government facilities such as the Miami-Dade Water Sewer treatment plant west of 87 Ave and south of SW 232 St.

We would appreciate hearing back from the Norfolk U.S. Army Corps of Engineers in regards to its plans to bring resiliency to coastal South Miami-Dade through raising levies, other strategies, and restored coastal wetlands. We appreciate the leadership of the Corps in bringing resiliency to our coast line and feel strongly that the South Miami-Dade component is critical to protecting our environment, infrastructure, and our people.

Sincerely,

Eduardo M. Varona
Cutler Bay, FL 33157

email: elgolfo95@gmail.com
305-299-9809



Beth Kibler,
Palmetto Bay, FL 33157

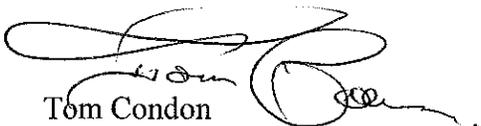
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January 8, 2019

miamidade.gov/economy

Susan L. Conner
Chief, Planning and Policy Branch
Norfolk District
US Army Corps of Engineers

Dear Ms. Conner:

I want to express my thanks to your agency for working with us on the critical issues in Miami-Dade County with the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study. At a time when Miami-Dade County is experiencing increased risk from tidal flooding, coastal storm surge, and sea level rise, examining our options to mitigate damages to the region from coastal storms is crucial. Our own analysis as well as studies conducted by the insurance and reinsurance industry indicate that if Miami-Dade were to be hit by a strong hurricane the damages could exceed \$100 billion. Additionally, the recent population growth in our region means we have a growing number of residents who live in areas vulnerable to coastal flooding. We are **keen to invest before the storm** in cost-effective, mitigation measures in order to protect our community and reduce the damage.

As part of this study with your agency, we would like to express our priorities for projects that will increase the resilience to storm surge and coastal flooding for the County.

- **Reduce the propagation of storm surge through the canal system.** *This is the top priority for the Miami-Dade County Office of Emergency Management as it poses a significant challenge from an evacuation planning perspective. Most of the canal structures in Miami-Dade County were built in the 1950s therefore, these structures do not have the capacity to handle forecast storm surge from major hurricanes. This could potentially result in a longer duration of flooding both on the coast and further inland. As a result, a larger portion of the population and greater geographic area are subject to evacuation for any given hurricane. The county's intricate canal system is maintained by the South Florida Water Management District (SFWMD), Miami-Dade County Department of Transportation and Public Works (DTPW) and several municipalities.*
- **Protect critical infrastructure** *including assets that are critical to providing water and wastewater, the airports and seaport, hospitals, emergency management assets, the Turkey Point nuclear power plant nuclear and gas fired power plants and other power infrastructure including the City of Homestead power plant. This should include but not be limited to an evaluation of risks and opportunities with one focus being key evacuation and access routes. The Miami-Dade County Local Mitigation Strategy (LMS) has developed a prioritized mitigation project list that include projects from County departments and municipalities. Miami-Dade County Water and Sewer Department has developed a prioritized list of mitigation projects needed to protect their water and wastewater facilities. Similarly, the Office of Resilience has developed a prioritized list of the County's critical facilities based on their exposure to coastal flood risks. Projects could include hardening, elevating in place, or relocating assets where feasible.*

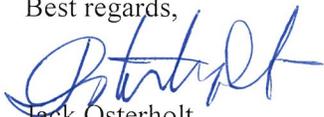
- **Acquire and/or restore lands that can provide meaningful flood damage reduction** based on the US Army Corps of Engineers' previous study on the efficacy of non-structural solutions in Miami-Dade County. Natural and nature-based features were overwhelmingly the top priorities expressed by participants at the November 8th charrette. Healthy mangrove forests can provide meaningful wave attenuation and the County and State have existing programs that can acquire and restore areas of interest. The County would like the Corps to seriously consider natural infrastructure either alone or as part of hybrid solutions supporting grey infrastructure. **Protect critical economic hubs.** Certain geographic areas serve as regional economic hubs and therefore any disruption to those areas can have a disproportionate impact on the local and regional economy.
- **Protect critical tourism assets.** While another study, led by the Army Corps, is focused on protecting the beach, there are many other key tourism assets that are exposed to coastal flooding and are in need of mitigation.

The County would also like to express our priorities for the study methodology:

- *If the project scope needs to be geographically limited to stay within the project budget, then the identification of vulnerable areas should be done in a way that is objective, risk-based, and determined by modeling. Using flood claims filed with the National Flood Insurance Program (NFIP) is not an effective way to identify the most at risk areas due to the lack of a major coastal storm surge in the last decade and uneven participation in the NFIP.*
- *It is the policy of Miami-Dade County to use the Unified Sea Level Rise Projection for Southeast Florida for all County-funded projects. These curves are consistent with sea level rise projections developed by the Army Corps of Engineers and the National Oceanic and Atmospheric Administration. Furthermore, these local projections were developed in consultation with the U.S. Army Corps' Jacksonville District. We recommend using these curves while planning for this project and all other projects in Miami-Dade County.*

Thank you again for your continued work with Miami-Dade County. We are fully committed to this partnership with your team at the US Army Corps of Engineers and look forward to a continued productive relationship.

Best regards,



Jack Osterholt
Deputy Mayor/Director
Regulatory and Economic Resources Department

- c: Lourdes Gomez, Deputy Director, Regulatory and Economic Resources Department
Lee Hefty, Assistant Director, Regulatory and Economic Resources Department
Juan Kuryla, Director, PortMiami
Kevin Lynskey, Director, Water and Sewer Department
Maria Nardi, Director, Parks, Recreation and Open Spaces
Frank Rollason, Assistant Director, Office of Emergency Management, Miami-Dade Fire Rescue Department
Lester Sola, Director, Aviation Department

MEMORANDUM

TO: James Erskine, Chair, South Florida Ecosystem Restoration Task Force Working Group

FROM: Phil Everingham, Chair, Biscayne Bay Regional Restoration Coordination Team

SUBJECT: Biscayne Bay Coastal Wetlands Project

DATE: 11/27/2018

On behalf of the Biscayne Bay Regional Restoration Coordination Team (BBRRCT), I would like to thank the South Florida Water Management District (SFWMD) and U.S. Army Corps of Engineers (USACE) for progress made to date on the Biscayne Bay Coastal Wetlands (BBCW) project. **The BBRRCT is committed to the restoration of Biscayne Bay and Biscayne National Park and strongly supports the completion of BBCW Phase I and the commencement of planning for BBCW Phase II as soon as possible.** BBCW is the only project in the Comprehensive Everglades Restoration Plan (CERP) that provides direct ecological benefits to Biscayne Bay and Biscayne National Park. Therefore, we are requesting that the Working Group continue its efforts and support for the continued progress on BBCW Phase I and the timely commencement of planning for BBCW Phase II.

The BBRRCT was established by the Working Group to integrate, inform, and coordinate restoration, enhancement, and preservation plans and activities that help maintain a functioning Biscayne Bay ecosystem. BBCW is critical to the health of Biscayne Bay and Biscayne National Park in that it will: a) redistribute incoming freshwater from point source discharges along a broader coastal front to restore tidal creeks and increase coastal estuarine wetlands habitat; b) restore and improve timing, distribution, and quality of freshwater flowing into the Bay; c) reestablish connectivity between freshwater and saline wetlands as well as between BBCW, the Model Lands Basin, and the C-111 project; and d) in Phase II provide needed additional freshwater to Biscayne Bay and Biscayne National Park. Restoration of Biscayne Bay's coastal wetlands will also help protect our water supply from salt water intrusion and will provide a critical buffer to the impacts of climate change and sea level rise.

We recognize the significant investment that has been made to date and thank you for your efforts completing pilot tests and certain project components. **However, to achieve the full suite of project benefits as envisioned in CERP, both Phase I and Phase II of the project must be fully constructed and operated.** Recent monitoring reports from local, state, and federal agencies indicate that the health of Biscayne Bay continues to decline, with increases in hypersalinity, seagrass die-offs, coral reef and mangrove ecosystem decline, and periods of toxic algal blooms.¹

¹ See Miami-Dade County Department of Environmental Resources Management, *Surface Water Quality Monitoring: Results and Discussion*, 21 June 2015-20 June 2016; Miami-Dade County Department of Environmental

Biscayne Bay appears to be shifting from a healthy, clear water seagrass ecosystem to a more turbid and polluted phytoplankton ecosystem in decline. Continued progress on BBCW is imperative to restore the health of this ecologically unique and economically significant ecosystem.

The BBRRCT is not alone in our support for the project. In recent years, Miami-Dade County, the City of Miami, Coral Gables, Miami Beach, Cutler Bay, Palmetto Bay, and the Greater Miami Chamber of Commerce all passed resolutions urging the completion of BBCW Phase I and the commencement of Phase II planning. Support from Miami-Dade County and its municipalities is indicative of the importance of Biscayne Bay to their economic and environmental health. Miami-Dade County continues to purchase lands needed for the project through its Environmentally Endangered Lands (EEL) program. Additionally, U.S. Senator Marco Rubio, in a July 25, 2018 letter, urged USACE to give more attention to features to provide enhanced freshwater flow to Biscayne Bay.

Tens of millions of dollars have already been invested by local, state and federal government agencies on the project. At present and until the project is completed, the restoration benefits of these investments are largely unrealized. Sustained federal and state funding is needed to continue progress on Phase I and to commence Phase II planning. Any delays endanger the long-term health of the critically, important Biscayne Bay ecosystem.

The BBRRCT recognizes that the full implementation of the BBCW project is of paramount importance to the health of Biscayne Bay and Biscayne National Park.

The BBRRCT as special adviser, greatly appreciates the Working Group's continued leadership and efforts towards a sustained level of progress and successful completion on all Everglades restoration projects and programs.

Resources Management, Report to June 2017 Biscayne Bay Regional Restoration Coordination Team: Julia Tuttle Basin Seagrass, June 2017; Samimy & Kelble, Report to November 2017 Biscayne Bay Regional Restoration Coordination Team: Preliminary Results from an intensive study of Coral Gables Waterway, November 2017; Millette, Report to November 2017 Biscayne Bay Regional Restoration Coordination Team: Long-term trends in chlorophyll a concentrations in Biscayne Bay, November 2017.

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- I would like to emphasize on the need for groundwater to be considered in any study on South Florida as a resource and a potential flooding stressor.
- Regarding potential strategies to protect from storm surges, the Army Corps laid out the different alternatives very well at the workshop and, needless to say, their implementation must be assessed on a case-by-case basis.

For instance:

- For the mainland: Identifying low lying neighborhoods/areas (i.e., residential, commercial, mixed-use), critical infrastructure in close proximity to the coastline, and vulnerable population within these areas should be the focus of studies in which alternatives to enhance existing and/or create artificial natural/hybrid buffer zones for wave attenuation (e.g., living shorelines/mangroves/seagrass, seawalls, hybrid seawalls, etc.) are tested. Economic analyses are crucial for assessing the cost of action vs no-action.
- For Miami Beach and beaches in general: Groundwater as a flooding stressor driven by tidal effects and gradual rising sea levels is very important. Hurricane Irma is an example of an event that occurred during high tides. Dune conservation and restoration programs have been proven to help in the attenuation of storm surges; therefore, support and enhancements to these programs are needed. Solutions through naturally existing or artificially created buffer zones apply to these areas as well and are currently in process of being piloted; therefore, larger scale pilots need support to prove concepts. The above stated applies to the mainland as well.
- Some Other Strategies: To list some:
 - Installation of WADs (Wave Attenuation Devices) offshore have potential to provide protection.
 - Repurposing parks and golf courses, for example, to convert them into infiltration basins with potential to provide: flood protection, storm surge attenuation, and water quality improvements. If raised to a higher elevation, their storage capacity has the potential to be augmented. Identifying parks/golf courses in close proximity to the coastline and enhancing their alongshore characteristics with living shorelines/mangroves/seagrass, seawalls, hybrid seawalls can provide a reduction in wave energy and green areas can provide infiltration.
 - Saltwater intrusion barriers should be studied as potential protection against contaminating saltwater from a storm surge that encroaches inland and infiltrates the aquifer.
 - Making sure that scientifically-based information resulting from studies/projects/pilots supports the development of new standards/codes/regulations for private and public infrastructure.
 - New building standards could dictate that major renovations and new construction in flood-prone areas, especially those near the coastline, allow for some level of inundation within their property.
 - Identify less developed areas where retreat and relocation may be an option.

MIAMI BEACH

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ENVIRONMENT AND SUSTAINABILITY DEPARTMENT
Tel: 305.673.7010, Fax: 305.673.7028

January 9, 2019

Carissa Agnese, Biologist
U.S. Army Corps of Engineers
803 Front Street
Norfolk, Virginia 23510-1096

RE: Miami-Dade Back-Bay Coastal Storm Risk Management (CSRM) Feasibility Study – Public Scoping Comments

Ms. Agnese,

On behalf of the City of Miami Beach, we are pleased to submit the following comments for consideration in the Miami-Dade County Coastal Storm Risk Management Feasibility Study:

1. The feasibility study should be consistent with the regional goals outlined in the Resilient 305 Resilience Strategy to be released in March 2019.
2. The feasibility study should prioritize the protection of existing natural resources and to the maximum extent possible, utilize nature-based solutions such as living shorelines in the design of coastal storm risk management solutions.
3. The feasibility study should evaluate the potential of using the existing causeways that connect the barrier islands to mainland Miami-Dade County to reduce coastal storm risk within northern Biscayne Bay by using their existing footprint as storm barriers similar to those used in Venice and the Netherlands, while maintaining their functionality as transportation corridors. Any proposed improvements should rely on designs that provide co-benefits, including but not limited to reinforcing them with living shorelines that provide storm protection along with improved air and water quality, among other ecological benefits; elevating the roadway to reduce its flood risk; providing safe alternative transportation connectivity between the mainland and the barrier islands; and, other similar concepts.

Should you have any questions, please do not hesitate to contact me at 305.673.7010.

Sincerely,

Elizabeth Wheaton
Environment and Sustainability Director



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January 9, 2019
Carissa Agnese
U.S. Army Corps of Engineers
803 Front Street
Norfolk, VA 23510
Carissa.R.Agnese@usace.army.mil

Re: NEPA Scoping Document for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study

Dear Ms. Agnese,

Thank you for the opportunity to submit scoping comments on the National Environmental Policy Act (“NEPA”) analysis and Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study to be carried out by the U.S. Army Corps of Engineers (“Corps”). The Corps is examining possible ways to reduce the risk from coastal storms and the resulting flooding on the Back Bay portion of Biscayne Bay, much of which is densely populated and at low elevation.

Miami-Dade County is at significant risk from coastal flooding from hurricanes and other storms, containing some of the most vulnerable areas in the country to sea level rise. We applaud the Corps for examining how best to protect Miami-Dade’s residents and visitors from flood events through this feasibility study.

That said, many of the traditional methods considered in such feasibility studies may be less effective in Miami-Dade County due to the area’s unique physical and cultural characteristics. Alternatives that take into account these characteristics would lead to a more resilient and successful study, and we urge the Corps to conduct a full Environmental Impact Study (EIS) rather than limit itself to an Environmental Assessment in order to comprehensively examine the unique conditions of the region.

We also urge the Corps to develop risk mitigation alternatives that:

- (1) Prioritize natural and nature-based features (NNBF) as part of any risk reduction strategy; and
- (2) measure potential benefits in an equitable way that is not simply based on real estate values.



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We address these two areas in more detail below.

1. Prioritize Natural and Nature-Based Features (NNBF)

We urge the Corps to pay particular attention to the benefits of natural and nature-based features (NNBF) in mitigating coastal storm risks, as these features may be particularly effective in Miami. Not only do these kinds of projects tend to be less expensive to build and maintain, but they also are dynamic and have the potential to adapt with climate change.¹ Unlike grey infrastructure or artificial structures like seawalls, pumps, and berms, which must be consistently maintained, many types of NNBF can be self-sustaining when developed properly.

Prior to the rapid development of urban Miami-Dade County, the South Florida coastline was largely made up of mangroves forests, coastal wetlands, and was protected by patch reefs in Biscayne Bay and by the Florida Reef Tract. These natural systems provided significant coastal protection, but those benefits have largely been lost through urbanization. Most of the mangroves in the northern and central Back Bay area have been replaced by seawalls and other artificial structures. The Florida Reef Tract – the only offshore coral reef in the continental United States – has been reduced by more than 80% since the 1970s, and quite possibly far more.²

NNBF like restored coastal wetlands, mangroves, and coral reefs offer an innovative, effective, and inexpensive way to protect coastal areas from storm risks. Indeed, the United States Congress has also held that such tools should be incorporated into Corps projects; Section 1149(c) of America’s Water Infrastructure Act of 2018, signed into law last month, mandates that the Corps consider green infrastructure and nature-based features when carrying out, among other things, flood risk management feasibility studies. We ask that the Corps not only consider or incorporate but *prioritize* NNBF alternatives over traditional grey infrastructure for the reasons set forth below.

A. Miami-Dade County’s Unique Geology Reduces the Efficacy of Grey Infrastructure

Traditional storm risk reduction features include features like seawalls designed to blunt the impact of storm surge and prevent inundation of coastal regions. However, the porous limestone underlying Miami-Dade County makes seawalls and other grey infrastructure artificial barriers far less effective in preventing flooding, as rising waters can seep up through the pores in the ground, potentially bypassing the seawalls entirely.³ Given the depth of coastal limestone,

¹ Morris et al. 2017. From grey to green: Efficacy of eco-engineering solutions for nature-based coastal defence. *Global Change Biology* 24:1827-1842.

² Gardener et al. 2003. Long-term region-wide declines in Caribbean corals. *Science* 301(5635):958-960.

³ Cjakowski et al. 2018. Economic impacts of urban flooding in south Florida: Potential consequences of managing groundwater to prevent salt water intrusion. *Science of the Total Environment* 621: 465-478; Sukop et al. 2018.

truly effective walls would have to be drilled down past coastal limestone, a process which would be economically and logistically impossible. Furthermore, this kind of seepage will increase in the face of rising seas, making such grey infrastructure features steadily less effective.

Furthermore, any storm risk mitigation strategy must also consider the impacts of floodwaters on the County's subsurface water assets. Saltwater intrusion is a serious problem for the County; in the face of rapid population growth, Miami-Dade County's aquifers are a quantifiable economic asset that must be incorporated into any evaluation of the benefits provided by storm risk management features. Seawalls, berms, and other physical barriers would do little to protect our aquifers from saltwater intrusion and could even exacerbate the problem if they replace coastal wetlands that *do* protect those aquifers. Miami-Dade County already suffers from significant saltwater intrusion into the aquifers supplying its drinking water, including not only the near the shoreline but also near canals and drainage ditches further inland.⁴

Under guidance issued by the Department of the Army, Office of the Assistant Secretary, Public Works (and described in more detail in section D below), the Corps study teams "must also consider the geophysical setting, effectiveness, and compatibility of the features" evaluated. The geophysical setting in Miami-Dade County is such that grey infrastructure will, in many cases, be far less effective than it would in other parts of the country. Miami-Dade County currently relies heavily on gravity-based drainage infrastructure for stormwater and wastewater management. Many of these systems have already lost functioning due to sea level rise— problem that will continue to intensify in the future.

B. NNBF Like Coastal Restoration and Coral Replantation Have Proven Highly Effective in Reducing Damage Caused by Storms

In a comprehensive study of the efficacy of NNBF, Narayan et al. examined 52 restoration projects across the globe designed specifically to provide coastal protection, analyzing the degree of protection offered, costs, and benefits of each project.⁵ They found not only did coastal habitats have significant potential to reduce wave heights and provide shoreline protection, but also that they could be significantly more cost-effective than similar grey infrastructure features like breakwaters. In terms of coastal protection efficacy, they found that coral reefs reduced wave heights by an average of 70%, salt marshes by 72%, mangroves by 31%, and seagrass/kelp beds

High temporal resolution of the impact of rain, tides, and sea level rise on water table flooding in the Arch Creek basin, Miami-Dade County Florida USA. *Science of the Total Environment* 616-617:1668-1688.

⁴ Fitterman. 2014. Mapping saltwater intrusion in the Biscayne Aquifer, Miami-Dade County, Florida using transient electromagnetic sounding. *Journal of Environmental & Engineering Geophysics* 19(1):33-43.

⁵ Narayan et al. 2016. The effectiveness, costs and coastal protection benefits of natural and nature-based defences. *PLoS ONE* 11(5):1-17.

by 36%. The attached fig. 1 was taken from the Narayan et al. article and provides a schematic overview of wave reduction processes from NNBF.

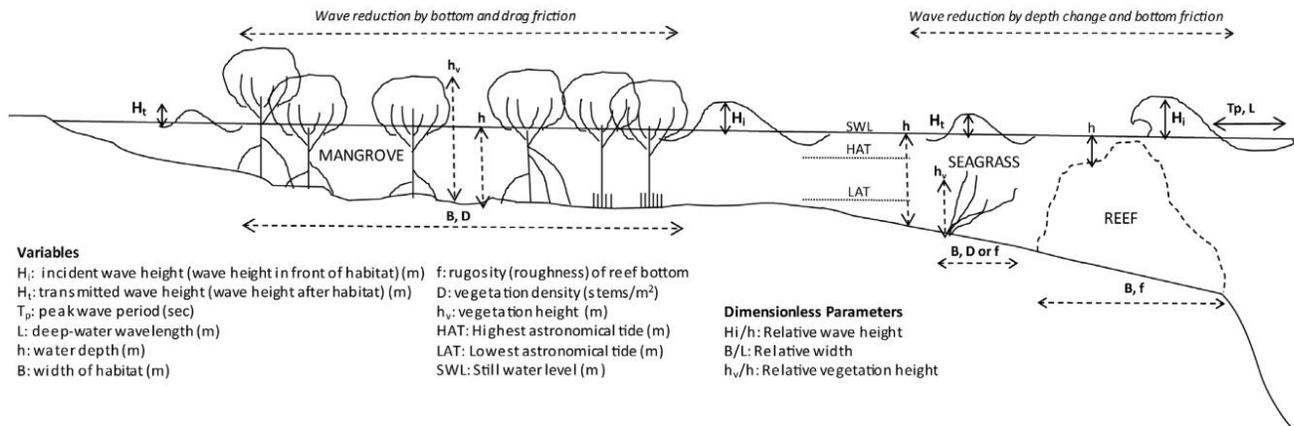


Fig 1. Schematic of wave height reduction across coastal habitats. Schematic showing general mechanics of wave height reduction through habitats, using the examples of coral reefs, seagrass beds and mangroves.

(Fig. 1 taken from Narayan et al. (2016))

We note that Biscayne Bay and its coastline, unlike most other coastal areas in the United States, can support each of the NNBF types shown. For Miami-Dade County, coral restoration projects could build upon work already being done; the National Science Foundation has already funded University of Miami researchers working on designing and implementing coral-related storm surge protection, which would allow the Corps to leverage other federal funding.

C. Local Stakeholders Prefer NNBF and Green Infrastructure

NNBF and green infrastructure have been increasingly recognized by local politicians, environmental managers, scientists, and other stakeholders in the region as a promising and desirable tool for protecting Miami-Dade County’s coasts. Indeed, when the Corps and Miami-Dade County convened a November 8 workshop for local planners, researchers, and citizens, participants – many of whom are experts on storm risk management in Miami-Dade County – this group of stakeholders overwhelmingly prioritized NNBF. County and municipal partners in the Southeast Florida Regional Climate Compact, including Miami-Dade County, have developed a Regional Action Plan that explicitly promotes protecting coastal natural systems and the creation of living shorelines,⁷ and the protection of coral reefs⁸ developed under it.

⁷ www.southeastfloridaclimatecompact.org/recommendations/ns-7/

⁸ <http://www.southeastfloridaclimatecompact.org/recommendations/ns-8/>

D. NNBF Offer Additional Benefits Beyond Storm Risk Mitigation Which the Corps is Required to Account For in its Study

In addition to the direct coastal defense benefits provided by NNBF, those features also produce substantial additional quantifiable benefits in the form of ecosystem services such as fisheries habitat, recreational value, carbon sequestration, and water quality improvements.⁹ The Corps' 2015 report on NNBF notes that “[c]onsiderations of the full spectrum of functions, services, and benefits potentially produced by these coastal recovery initiatives are critical to managing coastal resilience of the long-term.”¹⁰

Given Miami's status as one of the world's major tourist destination for fishers, kayakers, and swimmers, the recreational value added from NNBF could be especially significant. A 2005 study estimated that Biscayne Bay-related uses accounted for over 10% of income in the County, and contributed nearly \$4 billion dollars in economic input to the region.¹¹ Since then, recreational use of the Bay has largely increased.¹² NNBF features like mangroves, coral reefs, and wetlands are attractive to kayakers and wildlife observers, provide nurseries for gamefish, and increase recreational value of the Bay through improved water quality.

These ecosystem services benefits should be accounted for when evaluating alternatives in the feasibility study. Section 1184 of the Water Resources Development Act of 2016 requires that:

[i]n studying the feasibility of projects for flood risk management, hurricane and storm damage reduction, and ecosystem restoration the Secretary shall, with the consent of the non-Federal sponsor of the feasibility study, consider, as appropriate . . . natural features [and] nature-based features.”¹³

The Department of the Army Office of the Assistant Secretary, Civil Works, has issued guidance in interpreting Section 1184. Under this guidance, study teams “must consider natural and nature-based features alone and in combination with other nonstructural and structural

⁹ Barbier et al. 2011. The value of estuarine and coastal ecosystem services. *Ecological Monographs* 81(2):169-193.

¹⁰ US Army Corps of Engineers, *Use of Natural and Nature-Based Features (NNBF) for Coastal Resilience*, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a613224.pdf> (page 22)

¹¹ Hazen & Sawyer Environmental Engineers and Scientists and Planning Economics Group. 2005. *Biscayne Bay Economic Study, Task 3 Report – Final Biscayne Bay economic baseline and trend report*. http://www.kirklandpress.com/MRMG/Baseline_and_Trend_Report.pdf

¹² See Shivlani & Dowdell. 2016. Socioeconomic characterization of Biscayne Bay and its uses and activities – Follow-up to the 2005 Biscayne Bay valuation: Characterization study of Biscayne Bay and its uses and activities. <https://miami.app.box.com/s/gvdk35bbps2djdzjvpk8ihs47gi6keis>

¹³ Title I of America's Water Infrastructure Act of 2018, passed into law in October, amends Section 1184 of the 2016 Act by expanding the definition of “nature-based features,” but otherwise leaves that section intact.

measures.” Furthermore, this guidance requires study teams to incorporate potential ecosystem service benefits beyond storm protection as appropriate:

Evaluation of natural and nature-based features will be at the same level of detail and consistent with existing policies regarding the evaluation of alternatives. In doing so, study teams will utilize all four accounts (NED, Regional Economic Development (RED), Environmental Quality (EQ), and Other Social Effects (OSE)), as appropriate. **For example, in addition to coastal storm damage reduction benefits, salt marshes could provide nursery habitat for fish species, ecosystem diversification, recreation, and water quality regulation benefits. An ecosystem restoration project that restores a wetland may also provide natural floodwater storage.**¹⁴ [emphasis added]

As per this implementation guidance, the Corps should incorporate not only coastal defense benefits of NNBF in evaluating alternatives, but also ecosystem services benefits.

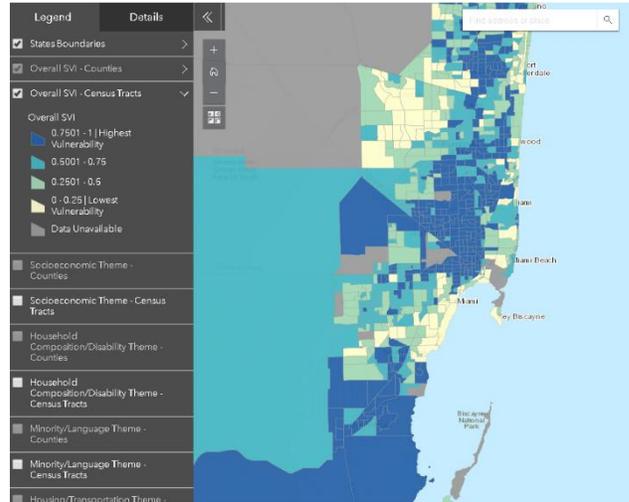
2. Measure Potential Benefits in an Equitable Way

Traditional feasibility study approaches include examining the costs and benefits of alternative plans based to a large extent on real estate values, or the National Flood Insurance Program categories. Higher-value properties are more likely to be the beneficiaries of protection features, often at the expense of historically vulnerable communities. We urge the Corps to take into account these vulnerabilities when evaluating alternatives, especially given that Executive Order 12898, 59 F.R. 7629, requires agencies like the Corps to “identify[] and address[], as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. . .”¹⁵

¹⁴ https://planning.erc.dren.mil/toolbox/library/WRDA/WRDA16IGSection1184_16Nov17.pdf

¹⁵ <https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf>

A number of tools exist that could assist the Corps here; for example, the Centers for Disease Control have developed a Social Vulnerability Index (SVI) score for each census tract in the United States.¹⁶ The SVI allows emergency response planners and other officials to identify communities that are particularly vulnerable to hazardous events, and provides a useful tool for identifying communities at particular risk for coastal storm events, independent of simple property values. As shown in the map, there are some higher-vulnerability census tracts on the ocean side of the barrier island. Given the future impacts of climate change, and the likelihood that phenomena like climate gentrification may push lower income communities into more at-risk and lower elevation areas, it is critically important that storm risk mitigation features are sited equitably. Flooding risk has a significant public health impact as well, particularly for communities that suffer from lack of access to adequate medical care.



The Corps should also take into account the unique geological and hydrological characteristics of the area. Due to the porous ground and comparatively flat elevation, coastal flooding can have wide-ranging impacts beyond just direct storm damage near the shoreline. Evaluating flooding risk must take into account our interconnected aquifers, stormwater, and our canal system, and the wide-ranging impacts coastal storm flooding can have well beyond the shoreline.

Thank you for your consideration,

Rachel Silverstein, Ph.D.
Executive Director and Waterkeeper
Miami Waterkeeper

¹⁶ <https://svi.cdc.gov/>

TO: John Mitnik

FROM: Akin Owosina

CCL Ken Konyha, Alan Shirkey, Paul Linton, Rich Virgil and Kathy Collins, Matahel Ansar; Akin Owosina, Walter Wilcox

DATE: Nov 6, 2018

RE: Ideas to reduce damage from storm surge in Miami-Dade County

The US Army Corps of Engineers' "Back Bay study" is a three-year, \$3 million study focused on identifying actionable projects Miami-Dade County can take to reduce damage from storm surge in the face of rising sea levels, increased storm surge intensity, and high flood risk (see schedule slide).

Goal: The goal is to control storm surge damage in Miami-Dade¹. Sea-level rise is a factor. The standard 50-year project life applies. This is a federal project that can, eventually, bring in 65% cost sharing from the Feds if the recommendations are authorized and the funds appropriated.

The study has started, and the first phase is a 3-month Scoping exercise (see milestone slide). At the end of Scoping, COE will develop 4-6 Alternatives to study. Alternatives are assembled from a list of "Measures". Measures are specific actions at specific locations.

Miami Dade would like the District to be as involved as possible in the project and they would like to include C&SF Tidal Structures in at least one alternative. They have asked SFWMD to propose a list of measures to be considered in Alternative development. Below is a list of Measures developed by staff for review in preparation for an upcoming Charette on November 9 in Miami.

SFWMD H&H list of Measures:

1. Improve level of service for surge protection at 15 C&SF tidal structures in Biscayne Bay, specifically
 - Type of Surge Protection: Structure Overtopping and By-Pass protection
 - Level of Surge Protection: $p = 0.01$ (1-in-100y) **and** $p = 0.04$ (1-in-25y)
 - Structures: S29, G58, S28, S27, S26, S25B, S25, G93, S22, S123, S21, S21A, S20G, S20F, S20, S197, (if portions of the levees associated with the structures aren't raised high enough to prevent overtopping, the next structure(s) inland in case the water that overtops a structure could continue upstream to the next structure(s) – S179, S25A for example).

¹ This is USACE' staged goal. It may be better to "improve level of service related to storm surge where feasible" or "to strive for a 1 in 100 year level of service related to storm surge"

2. Improve flood protection for inland watersheds during compound flooding events (when surge and rain both occur) by adding pump stations at 12 C&SF tidal structures in Biscayne Bay, specifically
 - Pump Capacity: 100% **and** 33% of structure design capacity (consider benefits of pre-storm drawdown)
 - Structures: S29, G58, S28, S27, S25, S22, S123, S21, S21A, S20G, S20F, S20
3. Structural evaluation of tidal structures, and recommendations, of structures against overturning, sliding, undermining and erosion that may lead to catastrophic failure of key components of the structures.
 - Level of Surge Protection: $p = 0.01$ (1-in-100y) **and greater** (Recommend that these be evaluated for greater than the 1-100 year storm surge event to address the question of continuity of service and post-event functionality of the structures.)
 - Structures: S29, G58, S28, S27, S26, S25B, S25, G93, S22, S123, S21, S21A, S20G, S20F, S20, S197
4. In a scenario that does not provide increased level of protection against surge and bypassing the structures, add armoring of canals upstream and downstream of coastal structures to provide added protection against rapid drawdown after the storm surge reaches its peak.
 - Canals: C9, Arch Creek, C8, C7, C6, C4, C3, C2, C100, C1, C102, G95, C103, L31E, S20, C111
5. Review southern levees and increase levee heights and armor east face for storm surge
 - Levee: L31E
6. Add tie back levees around newly constructed structures/forward pumps.
7. Elevation and protection of instrumentation/control buildings and emergency power generators to ensure continuity of service and post-event functionality of the structures

I can't make the workshop next Thursday but I do have two thoughts to share.

1) Storm managers in the Netherlands have been planting trees on canal banks to absorb energy from storm-driven flood waters. At the same time, the SFWMD has been methodically removing all trees anywhere near the banks of their canals, creating wide open swaths that provide no resistance to storm surge. The type of tree matters. Existing trees like gumbo limbos and live oaks aren't going to resist sheet flow very well, and are likely to topple, clogging the canal itself. Trees with lower spreading branches like willows, or trees with extensive prop roots like red mangroves, can absorb energy and provide effective resistance to sheet flow.

2) During Hurricane Irma, the County's emergency managers issued an evacuation order for all of Zone C. The National Hurricane Center graphics showed that Zone C is penetrated by narrow surge zones on the old transverse glades. Only a small number of residences in Zone C were under threat of inundation. The mass evacuation order was excessive and caused many problems. The County needs to adopt a finer-grained evacuation model for storm surge.

Thanks for listening.

To whom it may Concern:

North Bay Village consists of three islands with 0.81 sq miles and 8273 inhabitants (2018), is located in the northern segment of Biscayne Bay and was incorporated in August 1, 1945. It stands presently at 4 feet above sea level. As an island community in the hart of the Miami metropolitan area, North Bay Village is especially exposed to the risks related to climate change and sea level rise. For this reason, the Village Mayor and Commission have made sustainability and resilience a key priority of the municipal government.

Several projects have already been undertaken. A rehabilitation of the water main system to ensure the quality of the water for all residents in the village and address wasteful leakage of drinking water has already been completed. In addition, the rehabilitation of the sanitation and sewer systems will cover the entire waste water collection of the Village. The repairs being carried out will ensure that harmful leaks do not occur on our island which could contaminate both soil and drinking water. In addition, the rehabilitation of the Village's storm water outfall pipes includes the installation of check valves to minimize back flow from Biscayne Bay to Village roadways during high tide conditions in addition to storm water catch basins. This project will reduce the amount of sediment that can enter Biscayne Bay and the catch basins are designed to capture sediment and floatables such as plastic bottles. Further evaluation will determine if additional pumps are needed to complement the existing gravity-based system. Finally, resiliency will be strengthened by a grant of \$11 million dollars grant from the Federal Emergency Management Agency which the Village has received to bury its power lines.

The village staff have also been engaged in several activities to establish the extent of the municipal environmental footprint and mitigate its impact. As we have only a limited number of buildings and properties under our direct ownership, this process will focus on street lighting, fleet of vehicles, and the building or rehabilitation of infrastructure related to sewer, water and rainfall drainage. We have passed two ordinances aimed at protecting Biscayne Bay, one banning single use plastics and Styrofoam packaging and another on Florida Friendly use of Fertilizers. The municipality has initiated programs to increase the green canopy, create bicycle lanes, more effective recycling and electric car charging stations. These programs are an integral part of the development of the city master plan for the next 25 years (NBV100).

However, these efforts will be of no avail if we cannot protect the village and its residents from storm surges and raising sea level. It is within this context that we are writing to you to request that the shoreline of North Bay Village be included in the US Army Corps Back Bay Study. As three small islands located within the Biscayne Bay with xx miles of coast line, we face the highest level of risk and vulnerability to storm surges and sea level rise which can literally wipe out our community. North Bay Village will need a multi-layer system of defenses with both natural and structural elements in order to manage this risk. Only through a comprehensive study such as this, will it be possible to determine the most effective solutions for protecting the three islands. Consideration must be given to gray solutions such as seawalls, surge barriers, flood walls and riprap as well as green solutions such as mangroves and other natural flora all of which are part of your study.

We believe that the actions we have already engaged in are proof of the determination of both our municipal government and the residents to invest our own resources and engage in partnerships aimed at mitigating risk and increasing resilience. But the magnitude of the risks we face and the complexity of possible solutions, will require a broader comprehensive effort encompassing the entire Biscayne Bay.



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Ms. Carissa Agnese
Department of the Army, U.S. Army Corps of Engineers, Norfolk District
Fort Norfolk
803 Front St., Norfolk, VA 23510

October 9, 2019

Ms. Agnese:

Jupiter Intelligence respectfully submits these comments on the U.S. Army Corps of Engineers' Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study. Jupiter is a private sector company that predicts risks from weather and climate change. Jupiter's FloodScore Planning Product provides local, probabilistic projections of future flooding. Jupiter's customers include some of the world's largest insurance companies and mortgage firms, power providers, resource companies and ports, large cities, and state Departments of Environmental Protection, many of which have operations and investments in the Study area.

1. King Tide Flood Events Should be Considered

Certain low-lying portions of the Study area already experience significant flooding from seasonal high tide or "King Tide" events. As the Study materials note, these impacts will only get worse as sea levels rise. The levels of inundation from extreme seasonal high tide events in some cases may be comparable to inundation from surge. Given the extent of these impacts to public safety, property, and the economy, it seems problematic to ignore King Tide events and will result in a missed opportunity to design a more comprehensive solution to these damaging and disruptive events.

2. Sea Level Rise

We understand that the Study will likely focus on the USACE High sea level change projections. Scientific evidence continues to demonstrate we are on an accelerated warming trend. As we near the end of the century we are likely to see more substantial increases in sea level rise. We urge USACE to also evaluate

the more extreme NOAA High sea level change scenario, which was acknowledged as best available science in the Fourth National Climate Assessment, as part of the cost-benefit analysis for the Study.

Finally, it would be helpful to have more information on the coastal flood modeling completed for this study so that we could comment more comprehensively on the approach.

Thank you for your attention to these comments.

Sincerely,

A handwritten signature in black ink, appearing to read 'RS', is placed over a light gray rectangular background.

Rich Sorkin
CEO of Jupiter

Comment Sheet - MIAMI-DADE BACK BAY COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY

Please note this is not a questionnaire. The intent of this form is to allow the public and other interested parties to provide written comments to the project.

Name	Organization (if applicable)	Phone Number	Email
Mariana Boldi	BLR Committee City of Miami		mariana@curtisrogers.com

Please provide your written comment(s) below. If providing comments on multiple sheets, please be sure to number each sheet and provide your name on each sheet.

- "NATURE BASED SOLUTIONS & GREEN INFRASTRUCTURE & RETROFIT OF GRAY INFRASTRUCTURE" should be a PRIORITY !!!
- WE NEED TO UNPAVED OUR CITY INFRASTRUCTURE AS MUCH AS POSSIBLE, there is too much hard infrastructure & paving everywhere. We need to allow the water that comes in to percolate through the ground.
- Need to coordinate the study with stormwater managements masterplans & look at the watersheds!
- ~~Also~~ study the structure & composition of the tree canopy in the areas of the study.
- Understand future conditions with salt water intrusion & relation to coastal vegetation.

Comment Sheet - MIAMI-DADE BACK BAY COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY

Please note this is not a questionnaire. The intent of this form is to allow the public and other interested parties to provide written comments to the project.

Name	Organization (if applicable)	Phone Number	Email
Dana Tricarico	Miami Waterkeeper	8602354264	dana@miamiwaterkeeper.org

Please provide your written comment(s) below. If providing comments on multiple sheets, please be sure to number each sheet and provide your name on each sheet.

My biggest comment as the Army Corps moves forward with this study is to consider green infrastructure in as many ways as possible. Beyond flood + storm protection, there are many economic benefits, including the benefit to tourism. With this said I believe it's also important to take into account other Army Corps projects going on in the area. For example dredging Port Miami will have the potential to damage coral reefs - a particularly crucial form of green infrastructure which may impact the goals of this particular study as well as the benefits associated with reefs (aside from shoreline protection).

Additionally, I urge the Army Corps to consider our hydrology + monitor it as closely as possible when using traditional ideas of resiliency, such as seawalls.

Comment Sheet - MIAMI-DADE BACK BAY COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY

Please note this is not a questionnaire. The intent of this form is to allow the public and other interested parties to provide written comments to the project.

Name	Organization (if applicable)	Phone Number	Email
OMAR BECEIRO		305-302-3543	dbeceiro@yahoo.com

Please provide your written comment(s) below. If providing comments on multiple sheets, please be sure to number each sheet and provide your name on each sheet.

Fully support the studies, in particular the natural/vegetation approach.

Comment Sheet - MIAMI-DADE BACK BAY COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY

Please note this is not a questionnaire. The intent of this form is to allow the public and other interested parties to provide written comments to the project.

Name	Organization (if applicable)	Phone Number	Email
Francisco Arbelaez	CITY OF Miami Beach	305-03-7551 ext 1519	farbelaez.

Please provide your written comment(s) below. If providing comments on multiple sheets, please be sure to number each sheet and provide your name on each sheet.

- 1) Is it possible to have FEMA more integrated into the process. it is hard to make property owners make investments w/o being able to quantify benefits monetarily. IF FEMA would endorse certain improvements, it is easier to have. buy in.
- 2) Provide more Artificial Reefs to help w/ wave induced beach erosion. these will also help w/ Eco-tourism
- 3) Provide a lock system for the Miami River.

Comment Sheet - MIAMI-DADE BACK BAY COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY

Please note this is not a questionnaire. The intent of this form is to allow the public and other interested parties to provide written comments to the project.

Name	Organization (if applicable)	Phone Number	Email
Rogelio Madam		305-795-3048	rogelio.madam@gmail.com

Please provide your written comment(s) below. If providing comments on multiple sheets, please be sure to number each sheet and provide your name on each sheet.

Consider creating new land masses that can block storm surges and allow water levels in the bay to be controlled. The new land masses could be developed to help pay for the project or provide for recreation opportunities.

Comment Sheet - MIAMI-DADE BACK BAY COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY

Please note this is not a questionnaire. The intent of this form is to allow the public and other interested parties to provide written comments to the project.

Name	Organization (if applicable)	Phone Number	Email
Ana Zangroniz	UF/IFAS Extension + Florida Sea Grant <small>Miami-Dade County</small>	305-421-4017	azangroniz@ufl.edu

Please provide your written comment(s) below. If providing comments on multiple sheets, please be sure to number each sheet and provide your name on each sheet.

- Consider deep-well injection of stormwater.
- Thorough pre-post environmental assessments + analysis recommended.
- Consider pipes/outfalls in any construction.
- ~~Pump-out cannot continue into Biscayne Bay.~~
- Acquire more land or ^{or be added} convert abandoned properties into retention ponds.
- nature-based or hybrid infrastructure should be examined at depth.
- all studies, recommendations + subsequent projects to be in harmony with existing legislation.

October 21, 2019

Susan L. Conner
Chief, Planning and Policy Branch
Norfolk District
U.S. Army Corps of Engineers

Dear Ms. Conner:

The undersigned organizations appreciate the opportunity to provide feedback on the “Back Bay” Coastal Storm Risk Management Feasibility study and look forward to reviewing the full Environmental Impact Statement. We are grateful for the Corps’ efforts to work with our region to achieve improved resiliency from storm surge. However, we have concerns about some of the proposals presented to the community thus far. Considering the dire need for flood mitigation support in our region, we want to ensure that projects selected have significant economic, environmental and community benefits. We hope that the below comments help to guide the Corps to a proposal that meets all stakeholders’ objectives.

We therefore ask that the concerns and comments below be considered in the selection of a tentatively selected plan in addition to previous scoping comments that have been provided.

Ensure Projects Will Do No Harm to Existing Communities and Infrastructure

While we have yet to receive detailed design criteria that would be applied to the proposed surge barriers, we have grave concerns about the incompatibility of these large concrete floodwall features placed in the interior of our community neighborhoods. Some of the proposed structures have the potential to disrupt neighborhoods, community-supported projects and livability.

We are further concerned that some of the proposed flood walls could impact our current storm water management system or increase flood risk on the eastern side of the flood barriers. Our storm water system is already under significant strain due to sea-level rise, and any evaluation must consider whether these proposals have unintended consequences that could make routine flooding in the region worse. While we understand that this project’s scope is limited to storm surge, any proposed project to address storm surge should include not exacerbate other regional flooding challenges. At a minimum, remediation strategies should be included in this project’s scope so not amplify existing challenges.

Define and Expand Community Vulnerability Considerations

We greatly appreciate the daunting task undertaken given the broad scope of this feasibility study and appreciate the use of the social vulnerability index in the identification of geographic priority areas for the non-structural features. However, it is unclear whether these criteria were also applied to structural features. We ask for clarity on how the structural project priority areas were chosen, and we ask that all features reviewed indicate the number of residents, income and race demographics that would be protected so we can ensure equitable protection of our community.

Expand Review of Critical Infrastructure

It is also important to understand how the risks of critical infrastructure are being assessed in order to prioritize them appropriately. We have been unable to confirm that key wastewater management plants were included on the critical infrastructure list, which if true, is a potentially egregious oversight. There are many brownfields and other contaminated sites in Miami-Dade County. Flooding of these areas may produce pollution risk that has widespread public health, environmental, and economic impacts for our community. These sites should be identified and considered for inclusion in this project scope.

Further, we suggest that evacuation routes and evacuation centers be included in the planning for storm surge vulnerabilities. Fortifications to these areas are critical for the community.

Focus on Projects with Multiple Benefits

While U.S. Army Corps of Engineers (Corps) is constrained to evaluation of storm surge benefits, we urge the Corps to recognize the needs of our local community and to address these preferred options more comprehensively. Alternatives should fully consider groundwater influences, aquifer protection, sea-level rise, cultural and social influences, and environmental impacts. We urge the Corps to weigh these considerations in your analysis so that the local sponsor can evaluate their opportunity for a locally preferred alternative.

We also see a missed opportunity to consider a redesign the existing salinity control structures along our rivers and canals that are operated by the South Florida Water Management District (SFWMD) so that they could achieve dual benefits for storm surge in addition to their current function. The complex nature and comingling of canals, restoration projects, groundwater and sea level rise challenges will require that the Corps work closely with the SFWMD and local municipalities to design and implement any of the proposed projects.

Evaluate Green Infrastructure Projects

We are disappointed to see an extremely limited use of green infrastructure in the proposed projects. We believe living shoreline opportunities, coral reef and dune restoration, and construction of mangrove barrier islands were prematurely screened out of the process. The public expressed their clear preference for these types of projects in the multiple public meetings held and comment letters. We

recognize there are permitting challenges, but the Corps now has a long history of experience with environmental restoration that can achieve multiple benefits for this region. We urge the Corps to do robust modeling to determine whether the benefit of these proposals is economically and environmentally feasibility. For example, in terms of cost-benefit ratios, coral reef restoration or dune construction may be on par with, if not better than, some of the proposed projects. There is ample local support for exploring these options, and we feel that the potential to implement these locally preferred options were not fully considered.

Focus on the Proposals with Local Support

As we know that the Corps' capacity to evaluate multiple alternatives is limited by time and budget, we strongly urge the Corps to focus further analyses and locally preferred alternatives. It would, therefore, be our preference to have more alternatives presented, including those that would require enhanced local sponsor investment as locally preferred options for storm surge mitigation. At a minimum, we ask that the Corps re-evaluate project options in light of these suggestions before selecting the preferred alternative.

We look forward to continuing to work through these challenges with you.

Warm regards,



Kristine Singer
Acting CEO
Catalyst Miami



Rachel Silverstein, Ph.D.
Executive Director and Waterkeeper
Miami Waterkeeper



Dawn Shirreffs
Senior Director of Public Affairs
The Miami Foundation



North Bay Village Memorandum

1666 Kennedy Causeway, Suite 300 North Bay Village, FL 33141
Tel: (305) 756-7171 Fax: (305) 756-7722 Website: www.nbvillage.com

Carissa Agnese
Department of the Army, U.S. Army Corps of Engineers
Norfolk District, Fort Norfolk
803 Front St., Norfolk, VA 23510
Transmitted via electronic mail to Carissa.R.Agnese@usace.army.mil

Dear Ms. Agnese:

This correspondence is transmitted to you on behalf of the Mayor, Commission, Administration, and residents of North Bay Village, a sovereign local government and municipal corporation in Miami-Dade County, Florida. North Bay Village (“NBV” or “the Village”) consists of three small islands – a total of less than one square mile combined - and 8,273 inhabitants.¹ NBV is located in the northern portion of Biscayne Bay and borders the cities of Miami, Miami Beach, and Miami Shores. NBV was incorporated in August 1, 1945.² The following paragraphs provide the Village’s reasoning for its request that the **entire** Village – all three islands (North Bay Island, Harbor Island, and Treasure Island) – be included in the Army Corps of Engineers Back Bay Study.

As an island community in the heart of the Miami metropolitan area, North Bay Village is especially exposed to the risks related to climate change and sea level rise. According to data published by the “Surging Seas” project, 1,600 Village residents live in structures on land that is less than three feet above sea level, and under the NOAA Extreme Scenario, the entire Village is under water as the result of climate change-caused rising seas.³ For this reason, the Village Mayor and Commission have made sustainability and resilience a key priority of the municipal government.

Several projects have already been undertaken. A rehabilitation of the water main system to ensure the quality of the water for all residents in the village and address wasteful leakage of drinking water has already been completed. In addition, capital improvements to the sanitation and sewer systems will cover the entire wastewater collection of the Village. The repairs being carried out will ensure that harmful leaks do not occur, which could contaminate both soil and drinking water. In addition, improvements to the Village’s stormwater outfall pipes include the installation of check valves to minimize backflow from Biscayne Bay to Village roadways during high tide conditions in addition to stormwater catch basins. This project will reduce the amount of sediment that can enter Biscayne Bay and the catch basins are designed to capture sediment and floatables such as plastic bottles. Further evaluation will determine if additional pumps are needed to complement the existing gravity-based system. Finally, resiliency will be strengthened by a grant of \$11 million

¹ United States Census Bureau. (2018). Quick Facts: North Bay Village city, Florida. Retrieved from https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml?src=bkmk

² The North Bay Village Charter is available online at https://library.municode.com/fl/north_bay_village/codes/code_of_ordinances?nodeId=NOBAVIFLCH

³ Climate Central. 2016. Surging Seas Risk Finder: North Bay Village, Florida, USA. Retrieved from https://riskfinder.climatecentral.org/place/north-bay-village.fl.us?comparisonType=place&forecastType=NOAA2017_int_p50&level=3&unit=ft

dollars grant from the Federal Emergency Management Agency, which the Village has received to bury its power lines.⁴

Village staff is engaged in several activities to establish the extent of the municipal environmental footprint and mitigate its impact. As we have only a limited number of buildings and properties under our direct ownership, this process will focus on street lighting, fleet of vehicles, and the building or rehabilitation of infrastructure related to sewer, water, and increased stormwater drainage. We passed three ordinances aimed at protecting Biscayne Bay, one banning single-use plastics, another banning Styrofoam packaging, and a third, incentivizing Florida Friendly use of fertilizers and prohibiting the use of fertilizers that are toxic to coral reefs and other coastal ecosystems. The Village initiated programs to increase its tree canopy, create bicycle lanes, implement more effective recycling programs, and build electric car charging stations. These programs are an integral part of the development of the Village's master plan. Finally, NBV is rewriting its land development regulations and zoning code to meet resiliency requirements with a design life for the new code set at 25 years (NBV100).

However, these efforts will be of no avail if we cannot protect the village and its residents from storm surges, extreme weather events, and rising seas. It is within this context that we request that the shoreline of North Bay Village be included in the Army Corps of Engineers Back Bay Study. As three small islands in Biscayne Bay, with all residences, businesses, services, and parks located merely blocks from a seawall, we face the highest level of risk and vulnerability: storm surges and sea level rise could fathomably wipe out our community if we do not act now.

North Bay Village will need a multi-layer system of defenses with both natural and structural elements in order to manage this risk. Only through a comprehensive study such as the Army Corps of Engineers Back Bay Study, will it be possible to determine the most effective solutions for protecting NBV. Consideration must be given to gray solutions such as seawalls, surge barriers, flood walls, and riprap, as well as green solutions such as mangroves and other natural flora all of which are part of the study. It is critical that NBV be entirely included within the study so that we can ultimately share in the infrastructure investments that we hope will result from same.

We believe that the actions we have already engaged in are proof of the determination of both our municipal government and the residents to invest our own resources and engage in partnerships aimed at mitigating risk and increasing resilience. But the magnitude of the risks we face and the complexity of possible solutions will require a broader comprehensive effort encompassing the entire Biscayne Bay.

Regards,



Ralph Rosado, PhD, AICP
North Bay Village
Village Manager

⁴ The Federal Emergency Management Agency press release No. NR375, issued September 23, 2019 can be found online at <https://www.fema.gov/news-release/2019/09/23/fema-awards-city-north-bay-village-more-11-million-bury-overhead-power-lines>

AREA 1

Auxiliary sewer pump station

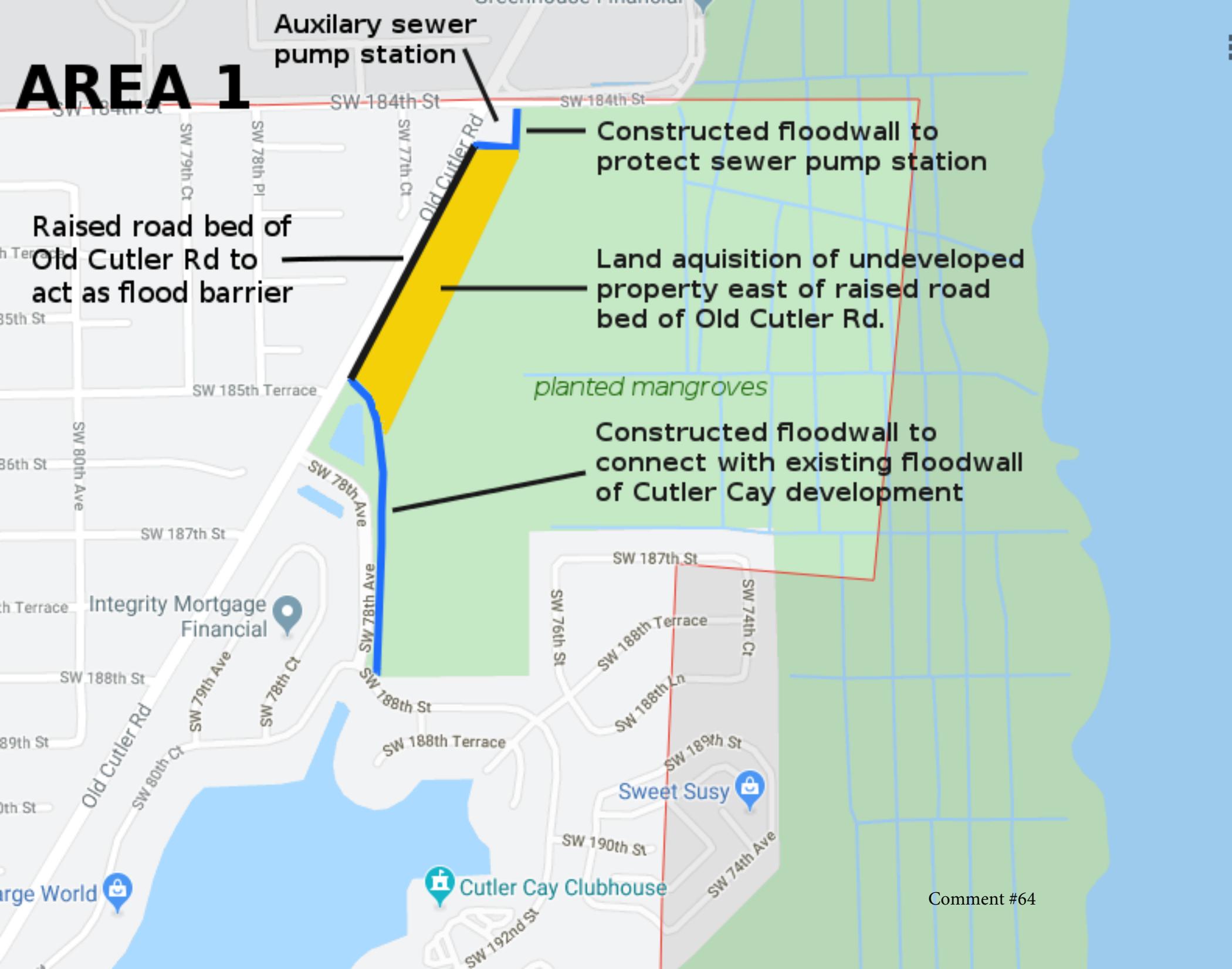
Constructed floodwall to protect sewer pump station

Raised road bed of Old Cutler Rd to act as flood barrier

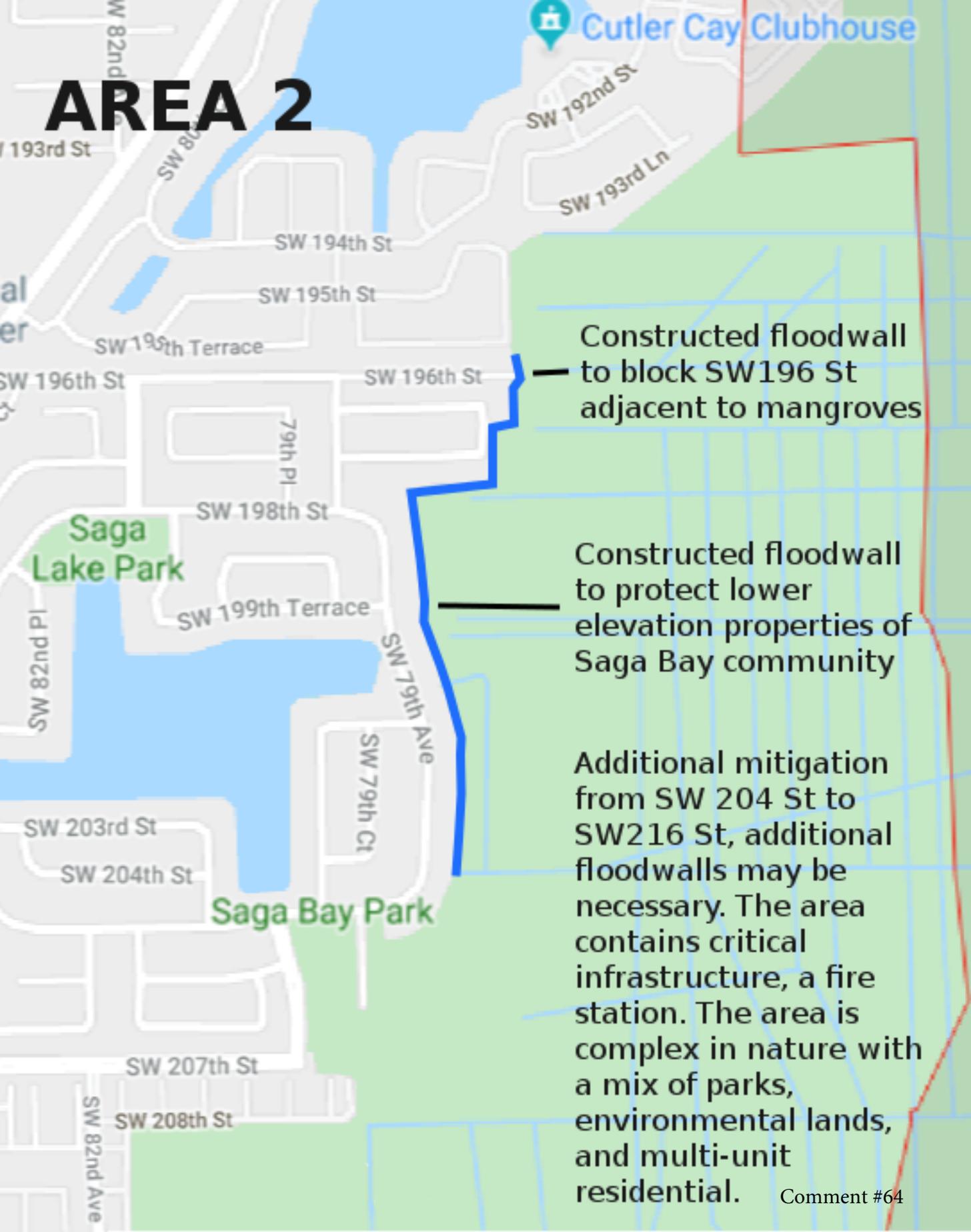
Land aquisition of undeveloped property east of raised road bed of Old Cutler Rd.

planted mangroves

Constructed floodwall to connect with existing floodwall of Cutler Cay development



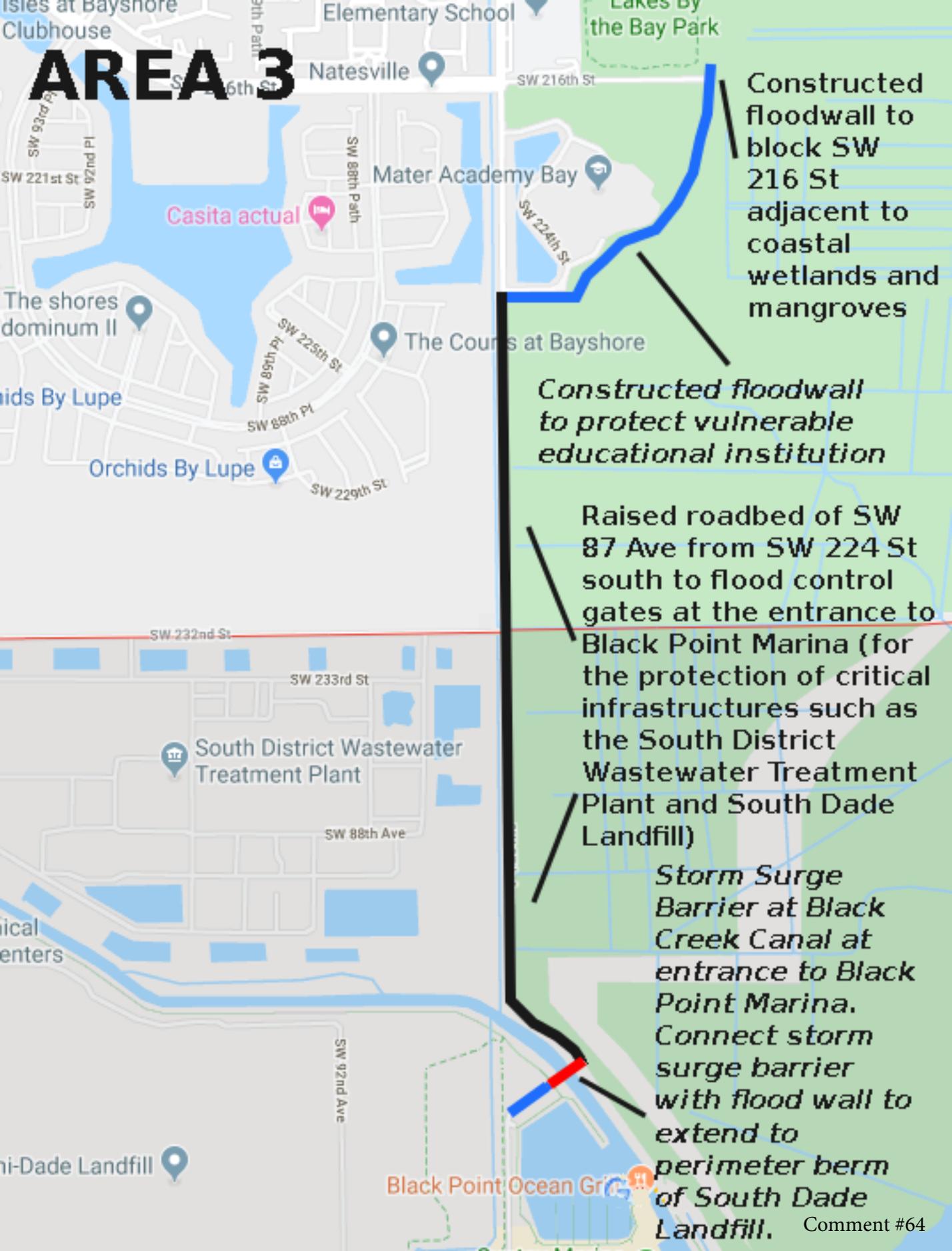
AREA 2



Constructed floodwall to block SW196 St adjacent to mangroves

Constructed floodwall to protect lower elevation properties of Saga Bay community

Additional mitigation from SW 204 St to SW216 St, additional floodwalls may be necessary. The area contains critical infrastructure, a fire station. The area is complex in nature with a mix of parks, environmental lands, and multi-unit residential.



AREA 3

Constructed floodwall to block SW 216 St adjacent to coastal wetlands and mangroves

Constructed floodwall to protect vulnerable educational institution

Raised roadbed of SW 87 Ave from SW 224 St south to flood control gates at the entrance to Black Point Marina (for the protection of critical infrastructures such as the South District Wastewater Treatment Plant and South Dade Landfill)

Storm Surge Barrier at Black Creek Canal at entrance to Black Point Marina. Connect storm surge barrier with flood wall to extend to perimeter berm of South Dade Landfill.

Board of Directors

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Christina Crespi
Deputy Director

November 8, 2019

Susan L. Conner, Chief Interim President & CEO
Planning and Policy Branch
U.S. Army Corps of Engineers
803 Front Street
Norfolk, VA 23510-1096

Dear Ms. Conner,

The Miami Downtown Development Authority (Miami DDA) is an independent agency of the City of Miami which represents the economic engine, cultural and recreational hub of South Florida. Emphasizing our regional significance, the market value of the properties in Downtown and adjacent neighborhoods is more than \$39 billion, which represents more than 50 percent of the City of Miami's taxable property value. With a current population of more than 92,000 that is expected to exceed 110,000 by 2021, Downtown is growing at the rapid rate of 4 percent. Furthermore, our daytime population of more than 250,000 underscores the importance of protecting our built and human assets.

On behalf of the Board of the Miami DDA, we submit the following comments regarding the US Army Corps of Engineers' "Back Bay" Study and its most recent recommendations to address storm surge in Greater Downtown. We believe these comments should be addressed in order to ensure strong and unconditional support from downtown stakeholders for the Feasibility Study, the Chief Engineer's Report, and the subsequent authorization and appropriation process with Congress.

- It is critical that the feasibility study recommend a continuous floodwall downtown along Biscayne Bay from Edgewater to Brickell.
 - For example, the current proposed location of the floodwall in Brickell would leave a large area of low-lying property and infrastructure in that neighborhood vulnerable to storm surge. Additionally, the open fetch across Biscayne Bay is longer here than any other area of downtown Miami. Moving the proposed floodwall to the east along the Brickell waterfront would help protect these vulnerable areas which were significantly impacted during Hurricane Irma.
 - Similarly, there is currently no floodwall proposed in the CBD area of downtown. This area contains critical infrastructure (mass transit, sanitary sewer pump station) and should be protected from storm surge.

- These floodwalls should integrate with the proposed Storm Surge Barrier and Pump Station at the mouth of the Miami River near Brickell Avenue.
- The feasibility study should recommend Natural and Nature Based Features in the Tentatively Selected Plan as a way to strengthen and extend the life of the proposed infrastructure, while also increasing public access to Biscayne Bay.
 - The USACE's Engineering with Nature Strategic Report, provides that: "Shared visioning and steering of project design, planning, and construction have been successfully incorporated to identify, reduce, and mitigate potential barriers to progress and accelerate completion of projects." In tandem, structural and nature-based features will extend the life of the seawall, reduce storm impacts and restore some of our disappearing ecosystems.
 - Such features should include nearshore artificial reefs and living shorelines.
 - These features should be evaluated as part of the NEPA/EIS process so that the environmental benefit of such features are thoroughly considered and vetted.
 - These features should be analyzed as alternatives which would enable extension of the downtown Baywalk promenade into Biscayne Bay, thus enhancing protection of infrastructure and property, and increasing public access to Biscayne Bay.
 - Specific examples of how these benefits can be achieved are provided in the attached Urban Land Institute Advisory Services Panel report on bolstering Miami's Urban Waterfront.
- The Miami-Dade Back Bay Study should be more closely coordinated with the feasibility study examining reauthorization of the Miami-Dade County Beach Erosion Control and Hurricane Protection Project.
 - If these studies are more closely coordinated in a substantive manner, they can result in recommendations which will better protect vulnerable areas and valuable property from damages associated with coastal storm surge.
 - The Miami-Dade Back Bay Study should also be coordinated with the South Atlantic Coastal Study and the Miami Harbor Navigation Improvement Study to ensure a holistic approach and integrated solutions that comprehensively reflect all of the USACE's efforts in the area.
- Incorporate resilience section (pages 30-41) of the attached Miami Baywalk/Riverwalk Guidelines into the design of any coastal floodwalls and ensure that Natural and Nature-Based Features are included as part of the structural solution.
- Develop the proposed structural solutions (floodwalls and storm surge barriers) in coordination with the public and private landowners so that they are harmonized with existing development and expand the economic vitality of our community. Specifically, ensure that any structural solution which is constructed does not create new or unnecessary obstacles to our residents' view shed and access to Biscayne Bay.
- Leverage public rights of way to the fullest extent possible so that improvements to our streets are made in conjunction with the barriers and can address sea level rise and sunny day flooding, as already experienced in our region.

Thank you for taking the time to understand our concerns. We know that Miami represents a growing urban area that involves complex challenges, however we are confident that the USACE will work collaboratively with our stakeholders to ensure infrastructure investments reflect the needs of our thriving population and help bolster our economic resilience long into the future. We

look forward to working with you as you advance the Back Bay Study recommendations to construction. In the meantime, please contact the Miami DDA with any questions.

Sincerely,



Ken Russell
Chairman

cc: Honorable Rick Scott, US Senator
Honorable Marco Rubio, US Senator
Honorable Fredrica Wilson, US Congresswoman, 24th District of Florida
Honorable Mario Diaz-Balart, US Congressman, 25th District of Florida
Honorable Donna Shalala, US Congresswoman, 27th District of Florida
Honorable Carlos A. Gimenez, Mayor, Miami-Dade County

Attachments: The Miami Baywalk/Riverwalk Guidelines
The Urban Land Institute Advisory Services Panel Report: "Bolstering Our Urban Waterfront"

From: [Kathryn Matos](#)
To: [Agnese, Carissa R NAO](#)
Subject: [Non-DoD Source] Miami-Dade Back-Bay CSRSM Feasibility Study Scoping Comments
Date: Monday, January 7, 2019 4:23:05 PM
Attachments: [image003.jpg](#)

Good afternoon, Carissa,

The City has the following comments regarding the MDC Back-Bay CSRSM Feasibility Study:

1. Include a short-term (approx. 25 years) and long-term (approx. 75 years) timeframe to evaluate impacts and actions, so that we can implement in the short-term in preparation for the long-term
2. Present/consider the probability of different sea level rise curves occurring in any projections
3. Include any variation that may occur based on proximity of tide gages to Biscayne Bay. It is our understanding that the closest long-term record of Sea Level Rise is at Key West. A short-term gage is located on Virginia Key.
4. Include different storm surge modeling scenarios including tide gage based, published storm surge elevations, and new hydrodynamic modeling and their applications (i.e. bathtub/static vs. dynamic)
5. Include the condition of existing waterfront infrastructure relative to the recommendations presented. I.e., raising a 70 year old bulkhead which may have to be replaced in 5 yrs. anyway
6. Include key municipal infrastructure (i.e. Collins Avenue) and its propensity for flooding from Sea Level Rise vs. storm surge

Thank you!

Kathryn M. Matos

Asst. to the City Manager for Special Projects

City of Sunny Isles Beach

18070 Collins Avenue

Sunny Isles Beach, FL 33160

Tel: 305-792-1811

Fax: 305-792-1682

Blockedwww.sibfl.net

PLEASE NOTE: FLORIDA HAS A VERY BROAD PUBLIC RECORDS LAW. MOST WRITTEN

From: [Sergio Ascunce](#)
To: [Agencia Carlos R. MM](#)
Subject: [Non-DoD Source] Miami Dade Back-Bay CSRM Feasibility Study Scoping Comments
Date: Tuesday, January 8, 2019 at 3:16 PM

Carissa, from the viewpoint of the Village of Key Biscayne, as a barrier island, the main protection against a storm surge affecting lives and properties could include re-nourishment of the sand dunes, creating breakwaters that diminish the effects of a wave and elevating structures.

After hurricane Irma in 2017, our dunes did their job by stopping what storm surge was produced by the storm. However, the dunes need to be re-nourished before the next event. The Army Corp should also study how breakwaters can help reduce the effects of waves from a storm surge. And finally, the Village has adopted higher standards for new construction by establishing a Coastal A Zone, which requires new structures to be elevated but at additional expense.

As a barrier island sitting east of a portion of the mainland, we help diminish storm surge. In turn, the island must be prepared to take on that front line duty.

Thank you,

Sergio T. Ascunce

Director

Building, Zoning & Planning Department

88 West McIntyre Street, Suite 250

Key Biscayne, Florida 33149

305.365.8908

305.365.5556(Fax)

sascunce@keybiscayne.fl.gov <<mailto:sascunce@keybiscayne.fl.gov>>

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url=http%3A%2F%2Fwww.keybiscayne.fl.gov%2F&data=02%7C01%7C%445afcbf44982a00e08d64368f83a%7C4a2727e11a964398ba0da654c64f38f4%7C0%7C0%7C636770515442580585&data=AssH2jpd8Nhg8b85YavCXLzqTbVCVtoF4U4hSBgzE%3D&reserved=0-

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"Under Florida's public records laws, e-mails and e-mail addresses, as well as all forms of electronic communication directed to the Village of Key Biscayne and its employees, may be considered public records subject to inspection by or disclosure to the public. If you do not wish to have your e-mail address possibly disclosed to the public, please do not communicate with the Village of Key Biscayne through e-mail. Instead, please contact the Village by telephone or other non-electronic means."

January 7, 2019

Susan L. Conner
Chief, Planning and Policy Branch
Norfolk District
US Army Corps of Engineers
803 Front Norfolk, VA 23510-1096

Dear Ms. Conner:

Thank you for the opportunity to provide comments on scoping for the Miami-Dade Back-Bay Coastal Storm Risk Management Feasibility Study and the Miami-Dade County Coastal Storm Risk Management Feasibility Study. As the community foundation for Miami-Dade County, The Miami Foundation has worked for over 50 years to improve the quality of life for all residents. We recognize the vulnerability of our region to sea-level rise, hurricanes and storm surge. As such, we are laser-focused on building resilience that protects the lives and livelihoods of our neighbors while honoring the uniqueness and values of our community.

Green and Grey Infrastructure

Strengthening our shorelines must be a top priority. The benefits of healthy mangrove forests and coral reefs to reduce storm surge are well documented in the Army Corps' previous study on the efficacy of non-structural solutions in Miami-Dade County. Proposed alternatives must embrace nature-based features, including vegetation plantings and dune construction. In addition, land acquisition needed for natural and structural features should not be treated as a constraint.

Assessing Vulnerability

We greatly appreciate the stated objectives to reduce risk to human life, health and safety and to reduce risk of increased economic inequality. Assessments based on participation of National Flood Insurance Program or reliance on property values are not adequate to consider the needs of some of our most vulnerable populations. Additionally, it is vital that this study not restrict itself to traditional "coastal flooding" concepts given the interconnectivity of our aquifer, storm water, canal system and variability in elevation across Miami-Dade County.

Ecosystem Benefits

Biscayne Bay, Biscayne National Park and Biscayne Aquatic preserve represent a fragile ecosystem already struggling with water quality issues as a result of quality, quantity, timing and distribution of freshwater inflows, pollutants and storm water. This system is already designated by the National Oceanic Atmospheric Administration as "at risk" for habitat decline and degradation. Given these sensitivities and the prevalence of threatened and endangered species, we ask that the Corps go beyond an Environmental Assessment and conduct a full Environmental Impact Study as provided for in the National Environmental Policy Act. Beyond



understanding impacts, we urge the Army Corps to conduct an environmental benefits calculation to preserve the option of a locally preferred alternative being selected that exceeds the Corps' cost-benefit formula. We recognize that the draft objectives are to "maintain environmental quality and recreational opportunities but insist that evaluation of alternatives not overlook opportunities to improve both as well as safeguard our drinking water supplies.

Advance planning and preparedness are essential to creating the mitigation and resilience necessary to protect our community. We are grateful for the Corps' leadership in expeditiously identifying feasible alternatives and enlisting many local experts, community partners and institutions and look forward to working with you to ensure broad-based support and a successful outcome.

Warm regards,

A handwritten signature in blue ink that reads "Dawn Shirreffs". The signature is written in a cursive, flowing style with a prominent loop at the end of the last name.

Dawn Shirreffs
Director of Public Affairs



City of Miami, Florida



FRANCIS SUAREZ
MAYOR

3500 PAN AMERICAN DRIVE
MIAMI, FLORIDA 33133
(305) 250-5300
FAX (305) 854-4001

January 4, 2019

Susan L. Conner, Chief, Planning and Policy Branch
Norfolk District, US Army Corps of Engineers
803 Front Street
Norfolk, VA 23510-1096

Re: Miami-Dade Back-Bay Coastal Storm Risk Management Feasibility Study

Dear Ms. Conner,

I would like to thank you for the opportunity to provide comments on scoping for the Miami-Dade Back-Bay Coastal Storm Risk Management Feasibility Study. Our residents truly appreciate efforts by the United States Army Corps of Engineers to make Miami more resilient against the impacts of hurricanes and storm surge. Our city is one of the most vulnerable coastal areas in the country, experiencing increased risk from tidal flooding, sea level rise, tropical storms, and variations in precipitation levels. This investigation presents tremendous potential to strengthen our waterfront areas, reducing the severity of property damage and more importantly, risk to human life during extreme weather events. We look forward to cooperatively developing resilient and adaptable measures that enhance our current community while providing for the future needs of Miami and Miami-Dade County.

With more than 453,500 residents, a daytime population exceeding 600,000, and a taxable property value of more than \$53 Billion, there is no doubt that Miami is a major economic engine within South Florida. Our businesses are a leading contributor to the region's \$142 billion annual Gross Metropolitan Product. More than 15 million tourists visit the greater Miami area each year, staying at our hotels and enjoying our numerous restaurant and entertainment venues. The Port of Miami is the passenger industry's undisputed cruise capital of the world and 19th overall in the country for cargo volume and trade, generating more than \$41 billion dollars in annual economic activity. Miami is nicknamed the "Gateway to the Americas" in recognition of more than 1,200 multinational corporations that have their Latin American headquarters located here. Our downtown area hosts one of the largest concentrations of domestic and international banking in the country, with more than 100 commercial banks, foreign banking agencies and thrift institutions. The health district contains the second largest concentration of medical facilities in the nation, housing numerous hospitals, clinics, biotechnology facilities and research institutes. With an average elevation just six feet above mean sea level, many of our residents live and work in areas that are highly vulnerable to coastal flooding. Should a major storm hit Miami, the economic impact to them and these many businesses would be catastrophic, with nationwide and international effects. We look forward to partnering with the Corps as you develop cost-effective mitigation measures to protect our community and reduce damage during storm events.

As part of this study with your agency, we would like to express our priorities for project features to increase resilience to storm surge and coastal flooding for the City:

- **Baywalk and Riverwalk.** The city's most at-risk areas are the residential neighborhoods and commercial properties along the Biscayne Bay and the Miami/Little Rivers. Our top priority is to strengthen our shorelines by redesigning our public waterfront promenades, known as the Baywalk and Riverwalk, to be more resilient. Raising seawall elevations uniformly throughout the city provides a contiguous barrier to reduce impacts of storm surge, particularly while considering the future implications of sea level rise. Through our zoning ordinances, the city has preserved a 25-foot setback from the waterfront for public purposes that allows for this type of improvement. We would like to further enhance the public space along these raised seawalls with larger walkways, tree canopy and vegetation, and the ability to provide increased recreational access to the water. Raising the top elevation of seawalls may require modifying existing stormwater infrastructure to maintain adequate drainage of roadways and public spaces inland of the seawalls. The City is in the process of updating its stormwater master plan and will integrate any federal project features into the future condition when designing new stormwater infrastructure.
- **Expansion of structural measures into Biscayne Preserve.** Although the City, through its zoning ordinances, preserved a 25 foot easement along the waterfront that is available for construction of structural improvements, this area is very restrictive in developing alternatives that provide for necessary transitions to higher seawall elevations. The ability to construct overwater boardwalk or cantilevered walkway structures along the water side of seawalls would allow much greater flexibility when preparing designs. Design options may provide as much as 45 feet of space for public access that would allow significantly enhanced quality of life features to be included. While development into the sovereign submerged lands of Biscayne Bay Aquatic Preserve is typically limited by Florida Statute, Chapter 258.397, the Florida Department of Environmental Protection has allowed exceptions to support public projects which are shown to be in the public necessity. We strongly urge the USACE to work with the State of Florida and consider options that allow the flexibility to increase public benefits while increasing the resilience of waterfront areas.
- **Critical infrastructure.** Provide structural and non-structural measures to provide a higher level of protection for critical infrastructure, including police and fire response facilities, public transportation, hospitals, and other medical facilities (to include the health district). Project features could include hardening, elevating in place, or relocating assets where feasible.
- **Reduce the propagation of storm surge up the canals and rivers.** Our canals and rivers are not protected against storm surge, allowing flooding risk to occur well inland of Biscayne Bay and impacting much greater portions of the city. These waterways, managed by the South Florida Water Management District, are part of the Central & South Florida (C&SF) System to provide flood protection for inland communities and have limited capacity to accept increased local runoff during heavy storm events. As storm surge proceeding upstream compounds with excessive flows draining downstream, waters will overflow canals and rivers and flood our neighborhoods. Once flooded, our topography and existing stormwater infrastructure does not provide for rapid drainage, resulting in significant and prolonged effects in our neighborhoods and making recovery much more difficult. Modelling and design of structural measures should consider options that can reduce impacts of storm surge upstream and allow for unimpeded local drainage into the C&SF system.

- **Water quality and Biscayne Bay.** Water quality in Biscayne Bay Aquatic Preserve is critically important to our tourism and recreational economies and a key factor in the quality of life for many of our residents. With growth and development of urban areas, however our water has been negatively impacted by pollution discharged through the stormwater system. The City of Miami and our neighbors have made a concerted effort over the past 30 years through the National Pollution Discharge Elimination System (NPDES) permitting program to improve water quality and reduce the amount of plastic, grass clippings, pesticides, and other pollutants entering waterways. Any efforts to improve storm surge resilience must not increase the risk to water quality, and we request you and implement Best Management Practices (BMPs) that reduce pollutants to the “Maximum Extent Practicable”
- **Waterfront design guidelines and property acquisition.** Given a majority of waterfront property in Miami is privately owned, the city has developed extensive zoning requirements and waterfront design guidelines to manage development. The Miami21 zoning code generally requires waterfront setbacks shall be a minimum of fifty (50) feet measured from the mean high water line along any waterfront and that within this area developers will provide a public waterfront walkway with a minimum of twenty-five (25) feet in width. As project features are developed, we request to collaborate on establishing design standards that are in synchronization with city code. We further understand the federal government must comply with all laws and regulations regarding acquiring lands, easements, and rights-of-way, for construction, operation & maintenance of the project, and will assist as possible to facilitate securing of property rights as needed for construction to proceed.

Thank you again for your continued work with Miami on this important study. We are fully committed to this partnership with your team at the US Army Corps of Engineers and look forward to a continued productive relationship.

Sincerely,



Francis X. Suarez
Mayor

c: Emilio T. Gonzalez, Ph.D., City Manager
Joseph Napoli, Deputy City Manager
Nzeribe Ihekwebaba, Ph.D., P.E., Assistant City Manager
Alan M. Dodd, P.E., Director of Resilience and Public Works



January 8, 2019

Carissa Agnese
U.S. Army Corps of Engineers
Norfolk District
Planning and Policy Branch
803 Front Street
Norfolk, VA 23510
Carissa.R.Agnese@usace.army.mil

RE: Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study,
U.S. Army Corps of Engineers Scoping Request, Miami-Dade County

Dear Ms. Agnese:

Florida Fish and Wildlife Conservation Commission (FWC) staff has reviewed the above-referenced scoping notice. We provide the following comments and recommendations for your consideration in accordance with Chapter 379, Florida Statutes, and the Fish and Wildlife Coordination Act.

Project Description

The Miami-Dade Back Bay Coastal Storm Risk Management (CSRM) Feasibility Study will examine the impacts of and potential responses to storm surge damage in Miami-Dade County. The purpose of the project is to reduce potential damages caused by coastal storms and improve human safety and coastal resiliency in the Miami-Dade County Back Bay. The study area includes the coastal and inland areas of Miami-Dade County that are at risk from coastal storm flooding and sea level rise. This study will not address the barrier island beach projects (e.g. Miami Beach) which are undergoing a separate and concurrent study with the U.S. Army Corps of Engineers (USACE). The study will examine current and future strategies and measures to address these coastal risks. The study will evaluate current studies, scientific consensus, guidelines, and design standards to recommend a project that increases resilience for infrastructure systems and the built environment. Analyses will include assessments of engineering feasibility, costs, economic benefits, and impacts to the environment and local communities. Potential measures being considered include but are not limited to the following: structural alternatives (such as tidal gates and backflow preventers), non-structural alternatives (such as flood proofing, relocation, and elevation of structures), and natural features (such as mangrove plantings, artificial reefs, and wetland plantings).

Potentially Affected Resources

The USACE also notes that these projects could potentially affect water quality and environmental quality in Biscayne Bay, local fish and wildlife resources, and recreation. Potentially affected resources from the proposed projects include mangroves, living shorelines, coral reefs, submerged aquatic vegetation, wetlands, managed or protected

areas within the project area, and all fish and wildlife, including species federally or state-listed as endangered or threatened, that depend on these habitats found in and near the project. Consideration of these resources during alternative development and examination is critical.

FWC staff is available to help identify potentially affected fish and wildlife resources related to alternative management measures and is interested in reviewing project plans as they become available. FWC staff has consulted extensively with the USACE about impacts to fish and wildlife resources during past projects and we would like to review the proposed projects as plans are refined so that we may be involved in conservation measures for listed species or technical assistance regarding habitat for fish and wildlife species.

We appreciate the opportunity to review the feasibility study and the invitation to be a part of the NEPA process and look forward to future opportunities to contribute. Please feel free to contact our office by email at FWCConservationPlanningServices@MyFWC.com with questions about this letter. If you have specific technical questions regarding the content of this letter, please contact Vicki Garcia by phone at (561) 882-5711 or by email at Vicki.Garcia@MyFWC.com.

Sincerely,



Fritz Wettstein
Land Use Planning Program Administrator
Office of Conservation Planning Services

fw/vg

Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study_37787_010819

Board of Directors

Ken Russell
Chairman
Commissioner, City of Miami

Nelsen Kasdin
Vice-Chairman
State Cabinet Representative
Ackeman LLP

Alvin West
Treasurer
Greater Miami Convention
& Visitors Bureau

Eileen Higgins
County Commission
Representative
Commissioner, Miami-Dade County

Alicia Cervera-La Madrid
Cervera Real Estate

Jerome Hollo
Florida East Coast Realty

Phillippe Houdard
Pipeline Workspaces

Danet Linares
Blanca Commercial Real Estate

Richard Lydecker
Lydecker | Diaz

Nitin Motwani
Miami Worldcenter Group

Alan Ojeda
Rilea Development Group

Gary Ressler
Tilla Companies

Kim Stone
The Heat Group,
American Airlines Arena

Marta Vicedo
Urban Impact Lab

Greg West
ZOM Living

Executive Staff

Alyce M. Robertson
Executive Director

Christina Crespi
Deputy Director

November 30, 2018

Ms. Carissa Agnese, Biologist
U.S. Army Corps of Engineers
803 Front Street
Norfolk, VA 23510-1096

Dr. Ms. Agnese:

On behalf of the Board of the Miami Downtown Development Authority (Miami DDA), we were encouraged to hear of the US Army Corps of Engineers' effort to assess the impacts of and potential responses to storm surge damage in Miami-Dade County. Through your Back Bay Coastal Storm Risk Management Feasibility Study you will help our community enhance our resiliency and provide the blueprint for us to harden our coast and protect our most valuable assets.

As you scope this important effort, we ask that you consider focusing your study on the Greater Downtown area, as we represent the convergence of the region's population and employment density with the most valuable built environment in the state. Emphasizing our regional significance, the market value of the properties in Downtown and its adjacent neighborhoods is more than \$39 billion, which represents more than 50 percent of the City of Miami's taxable property value.

With a current population of more than 92,000 that is expected to exceed 110,000 by 2021, Downtown is growing at an annual rate of 4 percent. Furthermore, with a daytime population of more than 250,000, it is clear Downtown Miami is the employment capital of south Florida.

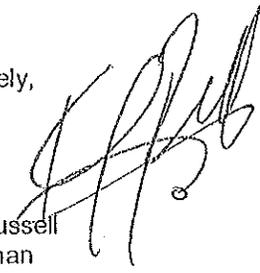
As home to more than 53,000 residential units, with another 9,000 units in permitting or under construction, our property values will only continue to grow. Downtown boasts more than 25 million square feet of office space (more than 50 percent of the City of Miami's entire supply), with another 700,000 square feet on the way and more than 8,000 hotel rooms (15 percent of the County's inventory) with another 3500 rooms planned in the next five years. Add recently completed or in progress infrastructure investments and you will understand the critical nature of protecting our assets:

1. A Freight Tunnel to PortMiami totaling \$1 billion
2. Signature Bridge and state highway improvements totaling \$800 million (completion 2023)
3. A new \$70 million Bascule Bridge that connects Little Havana to Downtown (completion 2021)
4. PortMiami Panamax and cruise terminal improvements totaling more than \$1.3 billion
5. Brightline train service and the Miami Central Station totaling \$3 billion

When you add the value of our assets of our urban waterfront to our dense population, Greater Downtown produces the highest return on investment when mitigating the risk of storm surge. Thus, we hope the USACE includes our thriving economic engine in the Back Bay Study to ensure your recommendations provide strategies for protecting the region's heart. We look forward to working with you. In the meantime, please don't hesitate to reach out with any comments or questions.

Sincerely,

Ken Russell
Chairman





North Bay Village

1666 Kennedy Causeway, Suite 300 North Bay Village, FL 33141
Tel: (305) 756-7171 Fax: (305) 756-7722 Website: www.nbvillage.com

October 24, 2019

Carissa Agnese
Department of the Army
US Army Corps of Engineers
Norfolk District, Fort Norfolk
803 Front Street,
Norfolk, VA 23510

Re:

Dear Ms. Carissa Agnese,

The Resolution No. 069 was voted and approved at the October 15, 2019 Regular Commission Meeting by our Village Mayor and Commission. Enclosed find a certified executed copy for your keeping.

Should you have any questions, please feel free to contact me at 305-756-7171 or adelvalle@nbvillage.com.

Best Regards,

A handwritten signature in cursive script that reads "Ann Del Valle".

Ann Del Valle
Deputy Village Clerk

ELORA PIERA VILLAGE CLERK OF
NORTH BAY VILLAGE HEREBY CERTIFY
THIS TO BE A TRUE AND EXACT COPY
OF THE ORIGINAL THEREOF MAINTAINED IN
THE FILES OF THIS OFFICE
DATED THIS 23RD DAY OF October, 2019
SIGNED 

RESOLUTION NO. 069

A RESOLUTION OF THE MAYOR AND COMMISSION OF NORTH BAY VILLAGE, FLORIDA, URGING THE UNITED STATES ARMY CORP OF ENGINEERS TO INCLUDE THE ENTIRE VILLAGE IN THE MIAMI-DADE BACK BAY COASTAL STORM RISK MANAGEMENT STUDY; PROVIDING FOR TRANSMITTAL; PROVIDING FOR IMPLEMENTATION; AND PROVIDING AN EFFECTIVE DATE

WHEREAS, it recently came to the attention of North Bay Village (the "Village") that the United States Army Corp of Engineers will be conducting a study entitled the Miami-Dade Back Bay Coastal Storm Risk Management Study (the "Study"), the purpose of which to evaluate means to protect against storm surge and sea level rise; and

WHEREAS, while the Village welcomes the Study, it was discovered that only part of the Village was to be included; and

WHEREAS, it is the recommendation of the Village Administration, the Village's Sustainability and Resiliency Task Force, and the Village Commission that the entire Village should be included in the Study.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COMMISSION OF NORTH BAY VILLAGE, FLORIDA, AS FOLLOWS:

Section 1. Recitals. The foregoing recitals are confirmed, adopted, and incorporated herein and made a part hereof by this reference.

Section 2. Village Position. The U.S. Army Corp. of Engineers is hereby urged to include the entirety of the Village in its Miami-Dade Back Bay Coastal Storm Risk Management Study to fully determine how best to build a system of protection against storm surge and seal level rise.

Section 3. Transmittal. The Village Clerk is hereby directed to transmit a certified copy of this Resolution to the Unites States Army Corp of Engineers.

Section 4. Effective Date. This Resolution shall take effect immediately upon its adoption.

PASSED AND ADOPTED on this 15th day of October, 2019.

Motion by: Commissioner Strout

Second by: Commissioner Jackson

FINAL VOTE ON ADOPTION

Mayor Brent Latham	<u>YES</u>
Vice Mayor Marvin Wilmoth	<u>YES</u>
Commissioner Jose R. Alvarez	<u>YES</u>
Commissioner Andreana Jackson	<u>YES</u>
Commissioner Julianna Strout	<u>YES</u>

YES
YES
YES
YES
YES

B. Latham
 Brent Latham, Mayor

ATTEST:

Elora Riera
 Elora Riera
 Village Clerk



APPROVED AS TO LEGAL SUFFICIENCY:

Weiss Serota Helfman Cole & Bierman, PL
 VILLAGE ATTORNEY

I, Elora Riera VILLAGE CLERK OF
 NORTH BAY VILLAGE HEREBY CERTIFY
 THIS TO BE A TRUE AND EXACT COPY
 OF THE ORIGINAL THEREOF MAINTAINED IN
 THE FILES OF THIS OFFICE
 DATED THIS 23 DAY OF October, 2019
 SIGNED Elora Riera



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

May 8, 2020

Jack Osterholt, Deputy Mayor/Director
Department of Regulatory and Economic Resources
Miami-Dade County
Director's Office
111 NW 1st Street, 29th Floor
Miami, Florida 33128-1930

Dear Mr. Osterholt:

The U.S. Army Corps of Engineers (USACE), Norfolk District has received your comment letter, dated January 8, 2019, concerning the Miami-Dade Back Bay Coastal Storm Risk Management Study, Miami-Dade County, Florida. I apologize for the delay in response. I wanted to formally respond to public comments at the time of release of the draft report when a more informed response could be provided. The comments submitted were carefully reviewed and referred to during the development of the study to better inform USACE of the potential constraints and/or recommendations within Miami-Dade County. This letter provides a paraphrase of your comments/priorities (in italics) and our responses.

Reduce the propagation of storm surge through the canal system.

The scope of the study includes examining measures to reduce damages from coastal storms within seven focus areas. Although all areas of the County cannot be holistically addressed by this study, the study effort will address damages from coastal storms within the canals and/or rivers located in these areas. Currently three storm surge barriers on primary waterways are recommended, which would reduce the storm surge in the canal systems that are connected to those waterways.

Protect critical infrastructure

Coastal storm risk reduction to vulnerable critical infrastructure is recommended as part of this study for numerous asset categories including fire stations, medical facilities, police stations, evacuation centers, wastewater and potable water facilities, emergency operation center (EOC) facilities, vulnerable airport facilities, and railway

electrical substations. Floodproofing is the recommended method of flood risk reduction provided to critical infrastructure in this study.

Acquire and/or restore lands that can provide meaningful flood damage reduction

Through scoping meetings, the potential to restore mangroves in the Cutler Bay area as a Natural and Nature Based Feature (NNBF) was identified. This measure is included in the draft Feasibility Study/Environmental Impact Statement (EIS) and will continue to be evaluated for storm surge reduction benefits.

Protect critical economic hubs and critical tourism assets

Economic considerations have been thoroughly evaluated in the development of this study. Although the protection of tourism assets due to their use is not a part of the study authority, the study is recommending protection of some residential, commercial, and critical infrastructure within the seven focus areas which may include significant tourism assets.

Thank you for your comments. We acknowledge your stated Miami-Dade County priorities and recommendations and appreciate your input. We will notify the public once the Draft Integrated Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study/EIS is available for public review on the project website at: <https://www.saj.usace.army.mil/MiamiDadeBackBayCSRMFfeasibilityStudy/>. We look forward to continuing to work closely with Miami-Dade County Office of Resilience in the development of the final report proposed for approval in September 2021.

Please do not hesitate to contact Justine Woodward of my staff at (757) 201-7728 or via email at justine.r.woodward@usace.army.mil if you have any questions.

Sincerely,

Susan Layton

Susan E. Layton
Chief, Planning and Policy Branch
Norfolk District
U.S. Army Corps of Engineers



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

May 8, 2020

Elizabeth Wheaton
Environment and Sustainability Director
City of Miami Beach
Environment and Sustainability Department
1700 Convention Center Drive
Miami Beach, Florida 33139-1819

Dear Ms. Wheaton:

The U.S. Army Corps of Engineers (USACE), Norfolk District has received your comment letter, dated January 9, 2019, concerning the Miami-Dade Back Bay Coastal Storm Risk Management Study, Miami-Dade County, Florida. I apologize for the delay in response. I wanted to formally respond to public comments at the time of release of the draft report when a more informed response could be provided. All comments submitted were carefully reviewed and referred to during the development of the study to better inform USACE of the potential constraints and/or recommendations within Miami-Dade County. This letter provides a paraphrase of your comments/priorities (in italics) and our responses.

The feasibility study should be consistent with the regional goals outlined in the Resilient 305 Resilience Strategy to be released in March 2019.

The USACE has obtained a copy of the referenced report and will utilize the reference and maintain consistency to the extent practical within the bounds of the study scope and authority. This USACE study is intended to be one part of the much larger regional resilience strategy which incorporates local, state and federal organizations.

The feasibility study should prioritize the protection of existing natural resources and to the maximum extent possible, utilize nature-based solutions such as living shorelines in the design of coastal storm risk management solutions.

The Tentatively Selected Plan (TSP) presented in the draft Feasibility Study/Environmental Impact Statement (EIS) considers mangrove restoration at the

Cutler Bay Site as a Natural and Nature Based Feature (NNBF) which will be further analyzed for coastal storm risk management benefits prior to the final report.

Utilizing existing causeways as storm surge barriers.

The scope of the study includes examining measures to reduce damages from coastal storms within seven focus areas. Although all areas of Miami-Dade County cannot be holistically addressed by this study, the study effort will address damages from coastal storms within the canals and/or rivers located in these areas. Currently three storm surge barriers on primary waterways are recommended, which would reduce the storm surge in the canal systems that are connected to those waterways. Causeways are not being considered for surge barriers due to environmental and engineering feasibility constraints; however, the causeways may be reviewed to determine if any coastal risk reduction measures (such as erosion control) could be implemented.

Thank you for your comments. We will notify the public once the Draft Integrated Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study/EIS is available for public review on the project website at:

<https://www.saj.usace.army.mil/MiamiDadeBackBayCSRMFfeasibilityStudy/>.

We look forward to the continued partnership and coordination with our inter-agency partners as the study progresses. Please do not hesitate to contact Justine Woodward of my staff at (757) 201-7728 or via email at justine.r.woodward@usace.army.mil if you have any questions.

Sincerely,

Susan Layton

Susan E. Layton
Chief, Planning and Policy Branch
Norfolk District
U.S. Army Corps of Engineers



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

May 8, 2020

Rachel Silverstein, PhD
Executive Director and Waterkeeper
Miami Waterkeeper
2103 Coral Way, 2nd Floor
Miami, Florida 33145-2601

Dear Dr. Silverstein:

The U.S. Army Corps of Engineers (USACE), Norfolk District has received your comment letter, dated January 9, 2019, concerning the Miami-Dade Back Bay Coastal Storm Risk Management Study, Miami-Dade County, Florida. I apologize for the delay in response. I wanted to formally respond to public comments at the time of release of the draft report when a more informed response could be provided. All comments submitted were carefully reviewed and referred to during the development of the study to better inform USACE of the potential constraints and/or recommendations within Miami-Dade County. This letter provides a paraphrase of your comments/priorities (in italics) and our responses.

Conduct a full Environmental Impact Study (EIS) rather than an Environmental Assessment.

The document has been prepared as an integrated feasibility study/Programmatic EIS. The term “programmatic” indicates this is a broad or high-level NEPA document not a site-specific NEPA document. Therefore, during successive phases of the project, additional site-specific National Environmental Policy Act (NEPA) documents (each one would be considered a tiered NEPA document) would be prepared and coordinated with local, state, and federal regulatory agencies, tribal governments, and the public.

Prioritize natural and nature-based features (NNBF) as part of any risk reduction strategy;

Through scoping meetings, the potential to restore mangroves in the Cutler Bay area as a Natural and Nature Based Features (NNBF) was identified. This measure

is considered in the draft plan and will continue to be evaluated for storm surge reduction benefits.

And measure potential benefits in an equitable way that is not simply based on real estate values.

The benefits quantification methodology is fairly standardized for USACE studies. However, this analysis did consider additional factors. The scoping phase of the studied identified seven focus areas based on risks to coastal flooding and social vulnerability (utilizing the Center for Disease Control's social vulnerability index). The draft Feasibility Study/Programmatic Environmental Impact Statement (EIS) includes an analysis of existing demographics and an evaluation of socioeconomic impacts including environmental justice.

The Corps should also take into account the unique geological and hydrological characteristics of the area. Due to the porous ground and comparatively flat elevation, coastal flooding can have wide-ranging impacts beyond just direct storm damage near the shoreline.

The USACE acknowledges the unique geological and hydrological characteristics of the area. The feasibility study considers a ten percent level of design with technical reviews of the report conducted by subject matter experts from various disciplines including engineering. More detailed analysis and design will occur in later phases of the project. Please refer to the draft report on the technical aspects of the current proposed designs in the Tentatively Selected Plan (TSP). The final designs and siting of project features would not occur until the Preconstruction, Engineering, and Design (PED) Phase of the project.

Thank you for your substantive comments and recommendations. We will notify the public once the Draft Integrated Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study/Programmatic (EIS) is available for public review on the project website at: <https://www.saj.usace.army.mil/MiamiDadeBackBayCSRMFfeasibilityStudy/>.

Please do not hesitate to contact Justine Woodward of my staff at (757) 201-7728 or via email at justine.r.woodward@usace.army.mil if you have any questions.

Sincerely,

Susan Layton

Susan E. Layton
Chief, Planning and Policy Branch
Norfolk District
U.S. Army Corps of Engineers



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

May 8, 2020

Ken Russell, Chairman
Miami Downtown Development Authority
200 S. Biscayne Blvd, Suite 2929
Miami, Florida 33131-2305

Dear Mr. Russell:

The U.S. Army Corps of Engineers (USACE), Norfolk District has received your comment letters, dated November 8, 2018, and November 30, 2019, concerning the Miami-Dade Back Bay Coastal Storm Risk Management Study, Miami-Dade County, Florida. I wanted to formally respond to comments at the time of release of the draft report when a more informed response could be provided. All comments submitted were carefully reviewed and referred to during the development of the study to better inform USACE of the potential constraints and/or recommendations within Miami-Dade County. This letter provides a paraphrase of your comments/priorities (in italics) and our responses.

It is critical the feasibility study recommend a continuous floodwall downtown along Biscayne Bay from Edgewater to Brickell.

Please review the draft Feasibility Study/Environmental Impact Statement (EIS) for the proposed structural measures in the Tentatively Selected Plan (TSP).

The feasibility study should recommend Natural and Nature Based Features in the Tentatively Selected Plan as a way to strengthen and extend the life of the proposed infrastructure, while also increasing public access to Biscayne Bay.

The TSP considers mangrove restoration at the Cutler Bay Site as a Natural and Nature Based Feature (NNBF) which will be further analyzed for coastal storm risk management benefits prior to the preparation of the final report.

The Miami-Dade Back Bay Study should be more closely coordinated with the feasibility study examining reauthorization of the Miami-Dade County Beach Erosion Control and Hurricane Protection Project [...] (and) South Atlantic Coastal Study and Miami Harbor Navigation Improvements Study.

The USACE is closely coordinating internally with respect to other on-going studies in the region. The scope of this study includes examining measures to reduce damages from coastal storms within seven focus areas. This study will not be able to address the complex and wide-spread coastal flooding concerns in Miami-Dade County holistically; however, efforts to highlight other high risk areas with the regional South Atlantic Coastal Study (SACS) are underway.

Incorporate resilient section of the Miami Baywalk/Riverwalk Guidelines into the design of any coastal floodwalls.

The current feasibility study considers a ten percent level of design with technical reviews of the report conducted by subject matter experts from various disciplines including engineering. Please refer to the draft Feasibility Study/EIS on the technical aspects of the current proposed structural measures in the TSP. The final designs and siting of project features would not occur until the future Preconstruction, Engineering, and Design (PED) Phase of the project. This concept can be considered in future project phases when more detailed designs are available and tiered NEPA documents are completed.

Develop the proposed structural solutions in coordination with public and private landowners.

Two public meetings have been conducted to date and public scoping comments were requested in the fall of 2019. A 45-day public comment period will be available upon release of the draft Feasibility Study/EIS and will also include virtual public meetings.

Ensure the structural solution does not create new or unnecessary obstacles to residents' view shed or access to Biscayne Bay.

The USACE has made an effort to minimize resource impacts to the extent practicable; however, in order to provide a recommended plan with the maximum net benefits there are structural solutions proposed which in some cases may impact the existing viewshed and some access points to Biscayne Bay. Potential impacts to aesthetic and/or visual resources are detailed in the draft Feasibility Study/EIS. *Leverage public rights of way to the fullest extent possible so that improvements to our streets are made in conjunction with barriers and can address sea level rise and sunny day flooding.*

The current TSP seeks to utilize existing right-of-way where feasible to minimize real estate impacts from the implementation of the project. The exact location of the structural alignments currently recommended will be finalized in the PED Phase of the project. Please note the purpose of this project is to reduce damages from coastal storms. Although sea level rise has been considered as part of this study, the scope of the project does not specifically address sea level rise-related impacts or sunny day flooding.

Thank you for your comments. We will notify the public once the Draft Integrated Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study/Environmental Impact Statement is available for public review on the project website at: <https://www.saj.usace.army.mil/MiamiDadeBackBayCSRMFfeasibilityStudy/>. We look forward to continuing to work closely with Miami-Dade County Office of Resilience in the development of the final report proposed for approval in September 2021.

Please do not hesitate to contact Justine Woodward of my staff at (757) 201-7728 or via email at justine.r.woodward@usace.army.mil if you have any questions.

Sincerely,



Susan E. Layton
Chief, Planning and Policy Branch
Norfolk District
U.S. Army Corps of Engineers



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

May 8, 2020

Dawn Shirreffs
Director of Public Affairs
The Miami Foundation
40 NW 3rd Street, Suite 305
Miami, FL 33128-1838

Dear Ms. Shirreffs:

The U.S. Army Corps of Engineers (USACE), Norfolk District has received your comment letter, dated January 7, 2019, concerning the Miami-Dade Back Bay Coastal Storm Risk Management Study, Miami-Dade County, Florida. I apologize for the delay in response. I wanted to formally respond to public comments at the time of release of the draft report when a more informed response could be provided. The public comments submitted were carefully reviewed and referred to during the development of the study to better inform USACE of the potential constraints and/or recommendations within Miami-Dade County. This letter provides a paraphrase of your comments/priorities (in italics) and our responses.

Green and Grey Infrastructure

This Feasibility Study/EIS identifies a variety of solutions that have the potential to be economically justified, environmentally acceptable, addressable through engineering solutions, and consistent with USACE policies. The potential for mangrove restoration in the Cutler Bay area as a Natural and Nature Based Feature (NNBF) is included in the draft Feasibility Study/EIS and was determined to be the most feasible and cost effect NNBF measure for this project. This measure is included in the draft Feasibility Study/Environmental Impact Statement (EIS) and will continue to be evaluated for storm surge reduction benefits.

Assessing Vulnerability

During the scoping phase of the study, seven focus areas were developed based on both risk to coastal flooding and social vulnerability. The Centers for Disease Control and Prevention's (CDC) Social Vulnerability Index (SVI) was utilized for the study. According to CDC's *A Social Vulnerability Index for Disaster Management*, the SVI uses U.S. Census data to determine social vulnerability of every census tract based on the following: socioeconomic status, household composition and

disability, minority status and language, and housing and transportation. A more detailed discussion is provided in the draft Feasibility Study/EIS.

Ecosystem Benefits

This document has been prepared as an Integrated Feasibility Study/ Programmatic EIS. The term “programmatic” indicates this is a broad or high-level NEPA document not a site-specific NEPA document. Therefore, during successive phases of the project, additional site-specific NEPA documents (each one would be considered a tiered NEPA document) would be prepared and coordinated with local, state, and federal regulatory agencies, tribal governments, and the public. This study is only authorized to evaluate benefits towards coastal storm risk management and cannot quantitatively incorporate benefits towards ecosystem restoration.

Thank you for your comments. We will notify the public once the draft Feasibility Study/EIS has been completed and is available for public review on the project website at: <https://www.saj.usace.army.mil/MiamiDadeBackBayCSRMEIS/>. We also look forward to continue to work closely with Miami-Dade County Office of Resilience in the development of the final report proposed for approval in September 2021.

Please do not hesitate to contact Justine Woodward of my staff at (757) 201-7728 or via email at justine.r.woodward@usace.army.mil if you have any questions.

Sincerely,



Susan E. Layton
Chief, Planning and Policy Branch
Norfolk District
U.S. Army Corps of Engineers



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May 8, 2020

Mayor Suarez
City of Miami
35000 Pan American Drive
Miami, FL 33133

Dear Mayor Suarez,

The U.S. Army Corps of Engineers (USACE), Norfolk District has received your comment letter, dated January 4, 2019, concerning the Miami-Dade Back Bay Coastal Storm Risk Management Study, Miami-Dade County, Florida. I apologize for the delay in response. I wanted to formally respond to public comments at the time of release of the draft report when a more informed response could be provided. All comments submitted were carefully reviewed and referred to during the development of the study to better inform USACE of the potential constraints and/or recommendations within Miami-Dade County. This letter provides a paraphrase of your comments/priorities (in italics) and our responses.

Baywalk and Riverwalk

The current feasibility study considers a ten percent level of design with technical reviews of the report conducted by subject matter experts from various disciplines including engineering. Please refer to the draft Feasibility Study/EIS on the technical aspects of the current proposed structural measures in the TSP. The final designs and siting of project features would not occur until the future Preconstruction, Engineering, and Design (PED) Phase of the project. The current study does not preclude the implementation of a baywalk. Enhanced recreational areas, such as a baywalk, could potentially be incorporated in the future by a non-Federal entity as a betterment at 100% non-Federal expense.

Expansion of structural measures into Biscayne Preserve

The USACE recognizes that the Biscayne Bay Aquatic Preserve is an important and sensitive environmental resource and interagency coordination is ongoing for this study. The USACE has made an effort to minimize resource impacts to the extent practicable; however, in order to provide a recommended plan with the

maximum net benefits, the current concept design in the Tentatively Selected Plan (TSP) proposes the Miami River floodwall alignment to be partially constructed within portions of Biscayne Bay. The final designs and siting of project features would not occur until the Preconstruction, Engineering and Design (PED) Phase of the project when more detailed resource surveys and data are available. Additional NEPA analyses would be completed at that time.

Critical Infrastructure

For this study, coastal storm risk reduction to vulnerable critical infrastructure was analyzed throughout Miami-Dade County including areas outside of the seven refined focus areas. Critical Infrastructure asset categories included were fire stations, medical facilities, police stations, evacuation centers, wastewater and potable water facilities, emergency operation center (EOC) facilities, vulnerable airport facilities, and railway electrical substations. Floodproofing was the recommended method of flood risk reduction provided to critical infrastructure. The number of structures to be included in the final recommended plan will be further refined in the next phase of the study.

Reduce the propagation of storm surge up the canals and rivers

As part of the TSP, storm surge barriers and associated pump stations are proposed at Biscayne Canal, Little River, and Miami River. The USACE recognizes this study will not provide a holistic response to the coastal flooding concerns in Miami-Dade County and will not address all storm surge propagation within the County. Pump stations are included to address stormwater drainage during coastal storm events; however, improvements to existing stormwater infrastructure is outside of the authority and scope of this study.

Water Quality and Biscayne Bay

The USACE seeks to minimize any impacts to existing resources and the final recommended plan will include monitoring and mitigation where required. Water quality modeling will be conducted to evaluate water quality impacts associated with the proposed storm surge barriers and will be documented in the final report planned for 2021.

Waterfront design guidelines and property acquisitions

The USACE will continue to coordinate with local stakeholders to address and incorporate local design guidelines as the study advances to the PED Phase. We appreciate the intent of the City to assist in any real estate requirements of the project.

Thank you for your comments. We will notify the public once the Draft Feasibility Study/Environmental Impact Statement is available for public review on the project website at: <https://www.saj.usace.army.mil/MiamiDadeBackBayCSRMFfeasibilityStudy/>. We look forward to continuing to work closely with Miami-Dade County Office of Resilience in the development of the final report planned for approval in September 2021.

Please do not hesitate to contact Justine Woodward of my staff at (757) 201-7728 or via email at justine.r.woodward@usace.army.mil if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Susan Layton".

Susan E. Layton
Chief, Planning and Policy Branch
Norfolk District
U.S. Army Corps of Engineers



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May 8, 2020

Fritz Wettstein
Land Use Planning Program Administrator
Office of Conservation Planning Services
Florida Fish and Wildlife Conservation Commission
620 South Meridian Street
Tallahassee, Florida 32399-1600

Dear Mr. Wettstein:

The U.S. Army Corps of Engineers (USACE), Norfolk District has received your comment letter, dated January 8, 2019, concerning the Miami-Dade Back Bay Coastal Storm Risk Management Study, Miami-Dade County, Florida. I apologize for the delay in response. I wanted to formally respond to public comments at the time of release of the draft report when a more informed response could be provided. All comments submitted were carefully reviewed and referred to during the development of the study to better inform USACE of the potential constraints and/or recommendations within Miami-Dade County.

The document has been prepared as an Integrated Feasibility Study/Programmatic EIS. The term "programmatic" indicates this is a broad or high-level NEPA document not a site-specific NEPA document. Therefore, during successive phases of the project, additional site-specific NEPA documents (each one would be considered a tiered NEPA document) would be prepared and coordinated with local, state, and federal regulatory agencies, tribal governments, and the public. The draft Feasibility Study/Programmatic EIS addresses potentially affected resources with currently available information.

Thank you for your comments. We will notify your office once the Draft Feasibility Study/Programmatic EIS is available for public review on the project website at: <https://www.saj.usace.army.mil/MiamiDadeBackBayCSRMFfeasibilityStudy/>. We also look forward to continuing to work closely with your agency through the development of the final report proposed for approval in September 2021.

Please do not hesitate to contact Justine Woodward of my staff at (757) 201-7728 or via email at justine.r.woodward@usace.army.mil if you have any questions.

Sincerely,

Susan Layton

Susan E. Layton
Chief, Planning and Policy Branch
Norfolk District
U.S. Army Corps of Engineers



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May 13, 2020

Dawn Shirreffs
Senior Director of Public Affairs
The Miami Foundation
30 NW 3rd St, Suite 305
Miami, Florida 33128

Kristine Singer
Acting CEO
Catalyst Miami
3000 Biscayne Blvd, Suite 210
Miami, Florida 33137-4293

Rachel Silverstein, PhD
Executive Director and Waterkeeper
Miami Waterkeeper
2103 Coral Way, 2nd Floor
Miami, Florida 33145

Dear Ms. Shirreffs, Ms. Singer, and Dr. Silverstein:

The U.S. Army Corps of Engineers (USACE), Norfolk District has received your comment letter, dated October 21, 2019, concerning the Miami-Dade Back Bay Coastal Storm Risk Management Study, Miami-Dade County, Florida. I apologize for the delay in response. I wanted to formally respond to comments at the time of release of the draft report when a more informed response could be provided. All comments submitted were carefully reviewed and referred to during the development of the study to better inform USACE of the potential constraints and/or recommendations within Miami-Dade County. This letter provides a paraphrase of your comments/priorities (in italics) and our responses.

Ensure Projects Will Do No Harm to Existing Communities and Infrastructure.

The proposed structural flood risk management measures include floodwalls, storm surge barriers, and associated pump stations. These structural measures would reduce flood risk for a large number of structures, and would provide life-loss reduction benefits and the ability to prevent infrastructure as well as structural damages across large, widespread areas in the Miami-Dade County. There is no ideal location for a structural measure to be implemented in a fully developed urban

area, however USACE seeks to minimize impacts to existing neighborhoods and resources.

Define and Expand Community Vulnerability Considerations

During the scoping phase of the study, seven focus areas were developed based on risk to both coastal flooding and social vulnerability. The Centers for Disease Control and Prevention's (CDC) Social Vulnerability Index (SVI) was utilized for the study analysis. According to CDC's A Social Vulnerability Index for Disaster Management, the SVI uses U.S. Census data to determine social vulnerability of every census tract based on the following: socioeconomic status, household composition and disability, minority status and language, and housing and transportation. A more detailed discussion is provided in the draft Feasibility Study/EIS.

Expand Review of Critical Infrastructure

For this study, coastal storm risk reduction to vulnerable critical infrastructure was analyzed throughout Miami-Dade County including areas outside of the seven refined focus areas. Critical Infrastructure asset categories included were fire stations, medical facilities, police stations, evacuation centers, wastewater and potable water facilities, emergency operation center (EOC) facilities, vulnerable airport facilities, and railway electrical substations. Floodproofing was the recommended method of flood risk reduction provided to critical infrastructure. Although the number of structures to be included in the final recommended plan will be further refined in the next stage of the study, critical infrastructure (including wastewater facilities) within the USACE derived 1% frequency from the Federal Emergency Management Agency (FEMA) South Florida Storm Surge Study in addition to the USACE high curve sea level rise rate are considered. As the study progresses, we may also consider the full extent of 0.2% floodplain. Additionally, potential impacts to evacuation routes are also addressed in the draft Feasibility Study/EIS.

Focus on Projects with Multiple Benefits

The USACE study is a response to identified coastal storm flood risks and must adhere to this specific study authority. The study develops and evaluates coastal storm risk management alternatives for Miami-Dade County. These measures are formulated to reduce risk to residents, industries, businesses, and infrastructure all of which are critical to the nation's economy.

Focus on the Proposals with Local Support

The measures considered in the study were initially identified by USACE with stakeholder input incorporated through public meetings, meetings with cooperating agencies, and meetings with the non-Federal sponsor. Measures were then screened based on their ability to meet the study objectives while avoiding planning constraints. Ultimately, the long-term strategy for resilience in Miami-Dade County is a layered solution that includes elements executed by the non-Federal sponsor, other Federal agencies, the State of Florida, and non-governmental organizations (NGO) in addition to the recommendations for implementation that will result from the Feasibility Study/EIS.

Evaluate Green Infrastructure Projects

The Miami-Dade County area is extremely vulnerable to coastal storm flooding. Coastal Storm Risk Management is a primary mission area of USACE. The draft Feasibility Study/EIS identifies a variety of solutions that have the potential to be economically justified, environmentally acceptable, addressable through engineering solutions, and consistent with USACE policies. The potential for mangrove restoration in the Cutler Bay area as a Natural and Nature Based Feature (NNBF) is included in the draft Feasibility Study/EIS and was determined to be the most feasible and cost effective NNBF measure for this project. This measure is included in the draft plan and will continue to be evaluated for storm surge reduction benefits.

Thank you for your substantive comments and technical recommendations. We will notify the public once the Draft Integrated Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study/Environmental Impact Statement is available for public review on the project website at:

<https://www.saj.usace.army.mil/MiamiDadeBackBayCSRMEISFeasibilityStudy/>.

Please do not hesitate to contact Justine Woodward of my staff at (757) 201-7728 or via email at justine.r.woodward@usace.army.mil if you have any questions.

Sincerely,



Susan E. Layton
Chief, Planning and Policy Branch
Norfolk District
U.S. Army Corps of Engineers



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May 8, 2020

Ralph Rosado, PhD, AICP
Village Manager
North Bay Village
1666 Kennedy Causeway, Suite 300
North Bay Village, FL 33141-4189

Dear Dr. Rosado:

The U.S. Army Corps of Engineers (USACE), Norfolk District received your comment letter in October 2019 concerning the Miami-Dade Back Bay Coastal Storm Risk Management Study, Miami-Dade County, Florida. I apologize for the delay in response. I wanted to formally respond to comments at the time of release of the draft report when a more informed response could be provided. All comments submitted were carefully reviewed and referred to during the development of the study to better inform USACE of the potential constraints and/or recommendations within Miami-Dade County.

Due to the funding and schedule limitations of this study, it is recognized that the study will not provide a holistic response for the complex and widespread coastal flooding concerns in Miami-Dade County. During the scoping phase of the study, seven focus areas were developed based on both risk to coastal flooding and social vulnerability. Based on the scoping analysis, Treasure Island, North Bay Island, and Harbor Island are included within one of the focus areas of this study and under consideration for the implementation of nonstructural measures in the Tentatively Selected Plan (TSP). It is also important to note that critical infrastructure is being examined county-wide with asset categories prioritized from the Miami-Dade County's Rapid Action Plan. Additionally, USACE will recommend future studies be undertaken to address coastal flooding concerns that were not able to be examined during this study. One related regional study, the South Atlantic Coastal Study, is already underway.

We will notify the public once the Draft Integrated Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study/Environmental Impact Statement is available for public review on the project website at:

<https://www.saj.usace.army.mil/MiamiDadeBackBayCSRMFfeasibilityStudy/>. We will

continue to work closely with Miami-Dade County Office of Resilience in the development of the final report proposed for approval in September 2021.

Please do not hesitate to contact Justine Woodward of my staff at (757) 201-7728 or via email at justine.r.woodward@usace.army.mil if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Susan Layton".

Susan E. Layton
Chief, Planning and Policy Branch
Norfolk District
U.S. Army Corps of Engineers