

1 **LOUISIANA COASTAL PROTECTION AND RESTORATION**
2 **TECHNICAL REPORT**

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12 **REAL ESTATE APPENDIX**

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23
24 **February 2008**



26 **U. S. Army Corps of Engineers**
27 **New Orleans District**
28 **Mississippi Valley Division**
29

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77 Capability”

78

79 **PURPOSE**

80 This real estate appendix is prepared in support of the Technical Report for the Louisiana Coastal
81 Protection and Restoration (LACPR) effort. The Technical Report presents an array of
82 alternatives to be evaluated and narrowed by policy makers in order to identify which
83 alternatives and/or features should be further studied through formal feasibility studies. This real
84 estate appendix presents a conceptual, preliminary plan for acquisition of lands, easements, and
85 rights-of-way necessary for construction of the various alternatives. The appendix is general in
86 nature; once feasibility studies are authorized for individual alternatives/features, detailed real
87 estate analysis will be prepared for each study.
88

89 **LOCATION**

90 The LACPR planning area stretches across Louisiana’s coast from the Pearl River on the
91 Mississippi state border to the Sabine River on the Texas state border. The planning area has
92 been divided into five planning units as listed below:
93

94 PU 1 – Pontchartrain Basin – This area represents the entire Lake Pontchartrain Basin. It
95 stretches from the East bank of the Mississippi River to the Mississippi State Line.
96

97 PU2 - Barataria Basin – This area is a triangular shaped area bounded by the Mississippi River,
98 Bayou Lafourche, and the gulf of Mexico.
99

100 PU3a – East Terrebonne Basin – This area consists of the parishes of Terrebonne, St. Mary
101 (east), Lafourche (west), Assumption, and St. Martin (east).
102

103 PU3b – Atchafalaya Influence Area – This region extends from Bayou de West located west of
104 Houma and south of Bay Junop, then westward to Freshwater Bayou. It covers part of
105 Terrebone, St. Mary, Iberia and Vermilion Parishes.
106

107 PU4 – Chenier Plain – This unit extends from the western bank of Freshwater Bayou Canal
108 westward toward the Louisiana/Texas border. This includes parts of Vermilion, Cameron,
109 Acadia, Jefferson Davis and Calcasieu Parishes.
110

111 Exhibit A of this appendix includes a general planning area map.

112 **GENERAL DESCRIPTION**

113 The purpose of LACPR is to conduct a comprehensive hurricane protection analysis and develop
114 a plan to integrate hurricane risk reduction measures and coastal restoration for South Louisiana.
115 The plan entails a multiple line of defense strategy which incorporates many of the existing
116 hurricane risk reduction project components already studied in other hurricane risk reduction and
117 flood control project studies. Measures include structural measures such as barriers, levees, and
118 water control structures; nonstructural measures such as raising buildings and buyout of
119 buildings in certain areas; and costal restoration such as restoration of barrier islands, marsh, and
120 swamps. The LACPR analysis evaluates risk reduction from a 100-year, 400-year and 1,000-
121 year level storm event.

122 Based on screening, and in consideration of the need to investigate a range of potential ways to
123 reduce the risk from hurricane surge, 40 structural alternatives across the five planning units
124 were selected for detailed evaluation in combination with nonstructural and coastal restoration
125 measures or alternatives. The best performers of these alternatives by planning unit will
126 eventually be combined to form comprehensive coast wide alternative plans.

127 ***Planning Unit 1***

128 Two structural alternative strategies were considered for Planning Unit 1. One strategy includes
129 raising the existing levees on the south shore of Lake Pontchartrain to a higher level of risk
130 reduction and adding structural features in Laplace and on the north shore of Lake Pontchartrain
131 (High Level alternatives). By contrast, the second strategy or Lake Pontchartrain Surge
132 Reduction alternatives include the construction of a weir barrier with gated structures across the
133 two tidal passes connecting Lake Pontchartrain with the Gulf of Mexico. This alternative also
134 includes consideration of additional structural features in Laplace and the on the north shore of
135 Lake Pontchartrain. Common to both alternatives are structural elements in New Orleans East,
136 portions of St. Bernard Parish, upper portion of Plaquemines Parish and a floodgate across the
137 Gulf Intracoastal Waterway (GIWW). Values developed for the above attributes used to screen
138 the initial set of 33 alternatives were based on stage-frequency and stage-damage data for the
139 year 2010, initial implementation cost estimates, and direct environmental impacts. Following
140 the tiered screening process, ten structural alternatives were selected for further analysis in
141 Planning Unit 1.

142 ***Planning Unit 2***

143 The Plan Formulation Atlas identified four primary strategies for structural risk reduction within
144 Planning Unit 2. The levee alignments included the GIWW Levee Alignment (three variations
145 were considered including structural risk reduction for Lafitte and variations where the levee ties
146 into the Mississippi River Levee System), Highway 90 Levee Alignment, Swamp Alignment,
147 and two alignments along the West Bank Interior (improvement to, or extension of the existing
148 West Bank levee and construction of a sector gate on the GIWW in Bayou Baratavia at the
149 confluence with the Algiers and Harvey Canals).

150
151 Through initial screening, in which preliminary construction costs as well as direct and indirect
152 environmental impacts and hydrologic performance were considered, the number of primary
153 strategies was screened to three, with numerous variants identified. The most significant change

154 to the initial strategies included modification of the Swamp Alignment and Highway 90
155 Alignment, combining these to form the Ridge Alignment (aka, modified Swamp Alignment).
156 Common to the three basic alignments is a ring levee encompassing Golden Meadow and
157 Larose. In addition to these alignment variations, as with Planning Unit 1, three levels of design
158 were developed, including 100-year, 400-year and 1000-year hurricane surge risk reduction
159 levels. Following the tiered screening process, 13 structural alternatives were selected for further
160 analysis in Planning Unit 2.

161 ***Planning Unit 3a***

162 Levee alignment strategies included analysis of the currently proposed 100-year Morganza to the
163 Gulf project, as subsequently authorized by the Water Resources Development Act of 2007, as
164 well as variations on designs levels and levee heights. Alternative alignments include: extending
165 the proposed Morganza alignment westward to Morgan City and into the Atchafalaya basin;
166 tying the proposed Morganza alignment into high ground to the west of Houma with a ring levee
167 around Morgan City; and using the Morganza levee as a first line of defense at a 100-year design
168 level and then providing a second levee alignment further inland, along the GIWW, to prevent
169 inner flooding around Houma at a 400-year and 1000-year frequency design, and again including
170 a ring levee around Morgan City. Following the tiered screening process, four structural
171 alternatives were selected for further analysis in Planning Unit 3a.

172 ***Planning Unit 3b***

173 The primary levee alignment strategies considered in Planning Unit 3b included two parallel
174 alignments extending from Morgan City west across Vermilion Bay. The southern alignment
175 follows the GIWW and extends into Planning Unit 4. The northern alignment, designated as the
176 Franklin to Abbeville alignment, provides a ring levee around Patterson and a continuous levee
177 from Patterson, around Franklin and Baldwin and tying to high ground to the west of Abbeville.
178 A third levee alignment strategy considers levees ringing concentrated population centers,
179 including Patterson, Franklin, Baldwin, New Iberia, Erath, Delcambre and Abbeville. Following
180 the tiered screening process, six structural alternatives were selected for further analysis in
181 Planning Unit 3b.

182 ***Planning Unit 4***

183 The levee alignment strategies for this planning unit are relatively similar for the two continuous
184 levees extending along the GIWW westward from near Vermilion Bay to the Calcasieu River
185 just below Lake Charles, with a separable reach west of the river. The first of these alignments
186 joins with the same alignment in Planning Unit 3b. The second alignment has a return to high
187 ground to the west of the Vermilion River so that this alternative can be evaluated as “stand
188 alone.” This alignment has also been evaluated at a 12-foot levee height, performing essentially
189 as an over-topping weir. The third alignment strategy consists primarily of a series of ring levees
190 to the east and west of Lake Charles. Common to all three strategies is a series of small levees
191 within Lake Charles to separate the river from the land. Following the tiered screening process,
192 seven structural alternatives were selected for further analysis in Planning Unit 4.
193

194 Exhibit B of this appendix includes a brief description of the LACPR alternatives to be evaluated
195 using multi-criteria decision analysis. For maps associated with each proposed alternative within
196 the planning units, refer to the main report.
197

198 **FACILITY, TOWN AND CEMETERY RELOCATIONS**

199 Engineering Division used the 1990 Louisiana Pipeline and Industrial Atlas as well as
200 information obtained from LDNR to identify oil and gas producing facilities located in the
201 proposed planning area. State and parish highways impacted by alternatives were also identified.
202 Relocation of towns is not planned at this time. At this time, it is not known if cemeteries will be
203 impacted by alternatives. Determinations of facility relocation compensability will be prepared
204 for each feasibility study. Once projects are authorized, it will be the non-federal sponsor's
205 responsibility to ensure that relocations are accomplished.
206

207 **ENVIRONMENTAL ISSUES**

208 ***Hazardous, Toxic, and Radiological Waste***

209 The areas delineated for further study could not be physically inspected given the preliminary
210 level of design. Therefore, the identification of hazardous, toxic and radiological waste is not
211 possible at this time. When the selected alternatives are evaluated further, HTRW phase I
212 studies will be conducted (historical land use records review), if any area indicates the potential
213 for containing HTRW, phase II studies will be conducted. HTRW clearances will be obtained
214 prior to initiation of acquisition activities.
215

216 ***Oyster Leases***

217 An oyster lease has been recognized as a real estate interest by both statute and case law. Should
218 the project features impact oyster leases, the non-federal sponsor will acquire the oyster leases.
219 With acceptance of payment for an affected lease, the lessee will execute a purchase agreement
220 with the State of Louisiana and a receipt, release, indemnity and hold harmless agreement in
221 favor of the United States, including the U.S. Army Corps of Engineers (USACE), and the State
222 of Louisiana, including Louisiana Department of Natural Resources (LDNR) and Louisiana
223 Department of Wildlife and Fisheries (LDWF), indicating that full and fair compensation has
224 been made in complete satisfaction of all claims against the State and the U.S., related to past,
225 present, or future damages to the affected lease.
226

227 Depending on the project schedule, the oyster lessee may be allowed to harvest the oysters at his
228 own expense. However, if the plan schedule prevents the oyster lessee from removing the
229 oysters, then the lessee will be compensated for the oyster crop. The lessee will not be allowed
230 to harvest the crop if payment has been made for the oysters. Under the federal method, no
231 payment will be made for loss of future crop. Compensation for the oysters is limited to the
232 contributory value of the crop.
233

234 Given the time constraints and the preliminary nature of alternative feature designs, oyster lease
235 impacts could not be evaluated in this technical report. The Real Estate costs in this technical
236 report assume that no oyster leases are impacted by the alternatives.

237 **Timber**

238 It is the general intent of the plan to reserve to the landowners the right to harvest timber. Where
239 the estate prohibits timber harvesting, the market value of the timber is included as part of the
240 overall estimate of land value based upon comparable sales of woodlands. Otherwise, the
241 estimate of value includes an estimate of compensation for the adverse impact of the project on
242 timber.

243 **Row Crop**

244 It is assumed that landowners will be allowed to harvest mature crops prior to construction of the
245 plan. In that instance, compensation would be for the impact of the easement on the value of the
246 property. If time constraints do not permit the landowner to harvest crops, the landowner will
247 also be compensated for the market value of the crops.

248 **Mitigation**

249 The term *compensatory mitigation* generally refers to actions taken to offset environmental
250 impacts by replacing or providing substitute resources or environments. The various structural
251 hurricane risk reduction measures under consideration for LACPR will inevitably result in
252 unavoidable impacts to wetlands and other aquatic resources. In these cases, compensatory
253 mitigation would be needed to ensure that such unavoidable impacts are fully offset, consistent
254 with the policy of no-net-loss.
255

256 Acres of mitigation required (ratio) will vary depending upon quality functions and values of
257 acres impacted, quality of acres of mitigation area. Furthermore the quantity of acres required to
258 meet mitigation requirements will fluctuate depending upon length of the project analysis period
259 (i.e., 50 or 100 years). Consistent with long-standing Federal mitigation policy, and based on
260 extensive experience with compensatory mitigation in Louisiana, the LACPR Habitat Evaluation
261 Team recommends use of a minimum of a 1.5:1 mitigation ratio for estimating implementation
262 needs (e.g., cost, sediment resources, and timing).
263

264 Compensatory mitigation for any future LACPR projects will be conducted in advance or
265 concurrent with implementation of the structural hurricane risk reduction projects for which the
266 mitigation is required. Mitigation lands will be acquired by the non-federal sponsors after cost-
267 sharing agreements have been signed. The proposed estate is to acquire fee excluding minerals
268 (with restrictions on use of the surface). Real estate costs will depend upon the location of the
269 mitigation sites and the highest and best use potential of those properties.
270

271 **INDUCED FLOODING**

272 The alternatives include diversion channels to restore wetland areas. Therefore, there is a
273 potential that various features of LACPR may induce flooding. If a taking is determined from
274 increased water levels, a flowage easement will be acquired.
275

276 **MINERAL ACTIVITY**

277 Mineral rights will not be acquired. The estates will expressly reserve to the landowner all
278 mineral interests. Although the mineral interest owner will be allowed to continue ongoing
279 mineral activities, in some areas there may be prohibitions or restrictions on future use of the
280 surface of the property for mineral purposes. Alternative drilling methods may allow access to
281 the minerals, e.g., via directional drilling. Specifically, in areas where fee title will be acquired
282 and where permanent features would preclude surface access, e.g., channel or levee easements,
283 the estates would expressly prohibit surface exploration or extraction. In other areas, the estates
284 would restrict, rather than prohibit, the surface use, and would require prior written approval by
285 the USACE and the non-federal sponsor for mineral activities on the surface. Such approval
286 would be granted if the surface activity does not interfere with the construction, operation, or
287 maintenance of the project.
288

289 If it is not feasible for a landowner to use alternative methods to extract minerals, the landowner
290 might try to assert a takings claim. This assertion might be contingent upon the size of the
291 ownership and the area impacted by the project. At present, there are insufficient funds and time
292 to identify possible locations of mineral deposits and the size of ownerships impacted by the
293 plan. As more detailed designs are developed, ownership research will be conducted to
294 determine the presence of existing mineral leases and to quantify the impact, if any, of the plan
295 alignments upon those leases.
296

297 It is assumed that remote access to the minerals would be feasible, e.g., via directional drilling or
298 other methods. However, as for any outstanding third party mineral interests, releases or
299 subordinations will be secured from these mineral interest holders, to ensure acknowledgment of
300 these future surface use restrictions. The real estate costs include sufficient funds to cover
301 negotiations with outstanding third party mineral interest holders.
302

303 **ZONING ORDINANCES**

304 Zoning ordinances could be enacted in lieu of construction of certain features of the LACPR
305 alternatives. That decision would be made by local governments in the municipalities impacted
306 by the various features.
307

308 **FEDERALLY OWNED AND STATE OWNED LANDS**

309 The LACPR alternatives may impact federally owned lands. For those features that are located
310 in federally owned property, a memorandum of agreement will be signed between the USACE
311 and the other federal agency.
312

313 Features of the LACPR alternatives may also impact State of Louisiana lands. For those areas
314 that are owned by the State of Louisiana, the State will issue a grant of particular use to the
315 USACE providing right-of-entry to its property. For planning purposes, it is assumed that the
316 State owns the bed and bottoms of navigable waterways, including areas of open water. A
317 detailed determination of ownership of the State, including any political subdivisions of the
318 State, will be made for each particular feature.
319

320 **NAVIGATION SERVITUDE**

321 Derived from the Commerce Clause of the U.S. Constitution, article I, section 8, clause 3, the
322 navigation servitude is the dominant right of the United States to use, control and regulate the
323 navigable waters and submerged lands thereunder. The applicability of the navigation servitude
324 depends on both legal and factual determinations. If the legal determination supports assertion
325 of the navigation servitude, then the second step is to determine the geographical area over which
326 the servitude can be asserted. In tidal areas, the servitude extends to all lands below the mean
327 high water mark, whereas in non-tidal areas, the servitude extends to all lands within the bed and
328 banks of a navigable stream that lie below the ordinary high water mark. For planning purposes,
329 the real estate cost estimates do not consider the effect of the navigation servitude, given the
330 extensive technical analysis required for such a factual determination. The navigation servitude
331 will be asserted where restoration is related to navigation. This includes new restoration feature
332 opportunities or projects as well as modifications to existing projects.
333

334 **ESTATES**

335 The following estates are proposed to be acquired over real property, as appropriate for particular
336 project features. Each feasibility report/decision document will more particularly propose the
337 exact estates to be acquired. The brackets indicate optional language for rights that may need to
338 be acquired, if necessary for a project feature. The non-standard estates were included in the
339 Real Estate Section included in the Louisiana Coastal Area Chief's Report which was approved
340 in January 2005.

341 ***Fee Excluding Minerals (With Restriction on use of the Surface)*** 342 ***(Standard Estate)***

343 The fee simple title to the land, subject, however, to existing easements for public roads and
344 highways, public utilities, railroads and pipelines; excepting and excluding all (coal) (oil and
345 gas), in and under said land and all appurtenant rights for the exploration, development,
346 production and removal of said (coal) (oil and gas), but without the right to enter upon or over
347 the surface of said land for the for the purpose of exploration, development, production and
348 removal therefrom of said (coal) (oil and gas).

349 ***Flowage Easement (Permanent Flooding) (Standard Estate)***

350 The perpetual right, power, privilege and easement permanently to overflow, flood and submerge
351 (the land described in Schedule A) Tracts Nos. _____, _____ and _____), (and to maintain
352 mosquito control) in connection with the operation maintenance of the project as authorized by
353 the Act of Congress approved _____, and the continuing right to clear and remove
354 and brush, debris and natural obstructions which, in the opinion of the representative of the

355 United States in charge of the project, may be detrimental to the project, together with all right,
356 title and interest in and to the timber, structures and improvements situate on the land ¹
357 (excepting _____, (here identify those structures not designed for human
358 habitation which the District Engineer determines may remain on the land)); provided that no
359 structures for human habitation shall be constructed or maintained on the land, that no other
360 structures shall be constructed or maintained on the land except as may be approved in writing
361 by the representative of the United States in charge of the project, and that no excavation shall be
362 conducted and no landfill placed on the land without such approval as to the location and method
363 of excavation and/or placement of. landfill; ² the above estate is taken subject to existing
364 easements for public roads and highways, public utilities, railroads and pipelines; reserving,
365 however, to the landowners, their heirs and assigns, all such rights and privileges as may be used
366 and enjoyed without interfering with the use of the project for the purposes authorized by
367 Congress or abridging the rights and easement hereby acquired; provided further that any use of
368 the land shall be subject to Federal and State laws with respect to pollution.

369 ***Channel or Channel Improvement Easement (Standard Estate)***

370 A perpetual and assignable right and easement to construct, operate, and maintain channel
371 improvement works on, over and across (tract no. _____) for the purpose as authorized by the
372 Act of Congress approved _____, including the right to clear, cut, fell, remove
373 and dispose of any and all timber, trees, underbrush, building, improvements and/or other
374 obstructions therefrom; to excavate, dredge, cut away, and remove any or all of said land and to
375 place thereon excavated material; and for such other purposes as may be required in connection
376 with said work of improvement; reserving, however, to the owners, their heirs and assigns, all
377 such rights and privileges as may be used without interfering with or abridging the rights and
378 easement hereby acquired; subject, however, to existing easements for public roads and
379 highways, public utilities, railroads and pipelines.
380

381 ***Wetland Creation and Restoration Easement (Non-Standard Estate)***

382 A perpetual and assignable right, servitude and easement in, on, over and across those lands to
383 construct, operate and maintain the creation and/or restoration of wetlands and associated coastal
384 habitats on the land hereinafter described, including the right to deposit dredged material
385 sediment or other beneficial materials thereon; to construct dikes and to install, alter, relocate,
386 repair or plug cuts in the banks of said dikes; to accomplish any alterations of contours on said
387 land for the purpose of accommodating the deposition of dredged and/or other beneficial
388 materials as necessary in connection with such works; to clear, trim, cut, fell, and remove
389 therefrom any or all trees, timber, underbrush, obstructions and any other vegetation, structures,
390 or obstacles as required in connection with said work; to clear, borrow, excavate and remove
391 therefrom all soil, dirt and any other materials, including dredged material, as required in
392 connection with said work; to construct, operate and maintain pipelines to transport and/or
393 deposit dredged and/or other beneficial material on said lands; to place, move and utilize

¹ Any structures existing in areas that will be allowed to remain must be evaluated using the same criteria that would be used to grant permission for a new structure to be placed in the easement, in coordination with the operational office.

² If sand and gravel or other quarriable material is in the easement area and the excavation thereof will not interfere with the operation of the project, the following clause will be added: "excepting that excavation for the purpose of quarrying (sand) (gravel) (etc.) shall be permitted, subject only to such approval as to the placement of overburden, if any, in connection with such excavation;"

394 machinery necessary and useful in the operation of such pipelines; to place, move and utilize
395 other equipment useful in the control of the such material and effluent; to plant or cause the
396 growth of vegetation on said land; and to create, restore, nourish and enhance the wetlands and
397 associated coastal habitats in, over, across and upon the said lands; provided that no structures
398 for human habitation shall be constructed on the land but existing structures may be maintained
399 and that no other structures shall be constructed or maintained on the land without the prior
400 written approval of the United States, as represented by the U.S. Army Corps of Engineers, or
401 the State of Louisiana, as represented by the Louisiana Department of Natural Resources, or
402 authorized representative, and that no excavation shall be conducted and no disposal of any kind
403 placed on the land without such written approval, including approval of the location and method
404 of excavation and/or placement of disposal; the above estate is taken subject to existing
405 easements for public roads and highways, public utilities, railroads and pipelines; reserving,
406 however, to the Grantor, its successors and assigns, all such rights and privileges in said land as
407 may be used and enjoyed without interfering with or abridging the use of the project for the
408 purposes authorized by Congress or the rights, servitudes and easements hereby acquired, *[and*
409 *expressly excepting and excluding from the taking all oil, gas and other minerals in and under*
410 *said land and all appurtenant rights used in connection with the exploration, development,*
411 *production and removal of said oil, gas and other minerals but without the right to enter upon or*
412 *over the surface of said land for the purpose of drilling and extracting therefrom said oil, gas*
413 *and other minerals]*.
414

415 ***Flowage and Deposition Easement (Non-Standard Estate)***

416 The perpetual right, power, privilege, and easement permanently to overflow, flood and
417 submerge the land, including the right to deposit dredged or sediment material on, over and
418 across the land and the continuing right to clear and remove any brush, debris and natural
419 obstructions which, in the opinion of the representative of the United States in charge of the
420 project, may be detrimental to the project; provided that no structures for human habitation shall
421 be constructed but existing structures may be maintained on the land, no other structures shall be
422 constructed on the land except as may be approved in writing by the representative of the United
423 States in charge of the project, and no excavation shall be conducted and no landfill placed on
424 the land without such approval as to the location and method of excavation and/or placement of
425 landfill; the above estate is taken subject to existing easements for public roads and highways,
426 public utilities, railroads and pipelines; reserving, however, to the landowners, their heirs and
427 assigns, all such rights and privileges as may be used and enjoyed without interfering with the
428 use of the project for the purposes authorized by Congress or abridging the rights and easement
429 hereby acquired *[and expressly excepting and excluding from the taking all oil, gas and other*
430 *minerals in and under said land and all appurtenant rights used in connection with the*
431 *exploration, development, production and removal of said oil, gas and other minerals but*
432 *without the right to enter upon or over the surface of said land for the purpose of drilling and*
433 *extracting therefrom said oil, gas and other minerals]*.
434

435 ***Dredged Material Pipeline Easement (Non-Standard Estate)***

436 A temporary and assignable easement and right-of-way in, on, over and across the land
437 described in Schedule A, for a period not to exceed ____ years, beginning with the date

438 possession of the land is granted to the United States, for the location, construction, operation,
439 maintenance, alteration, repair and patrol of a dredged material pipeline; together with the right
440 to trim, cut, fell and remove therefrom all trees, underbrush, obstructions and other vegetation,
441 structures, or obstacles within the limits of the right-of-way; reserving, however, to the
442 landowners, their heirs and assigns, all such rights and privileges as may be used without
443 interfering with or abridging the rights and easement hereby acquired; subject, however, to
444 existing easements for public roads and highways, public utilities, railroads and pipelines.
445

446 ***Dredged Material Disposal Easement (Non-Standard Estate)***

447 An assignable right and easement in, on, over and across those lands described in Schedule A,
448 for a period not to exceed ____ years, beginning with the date possession of the land is granted
449 to the (United States) (____{local sponsor}____), for use by the United States, its representatives,
450 agents and contractors, to construct, operate and maintain a dredged material disposal area on the
451 land, [including the right to construct dikes]; to deposit dredged material thereon; [to accomplish
452 any alterations of contours on said land for the purpose of accommodating the deposit of dredged
453 material as necessary in connection with such works]; [to borrow, excavate and remove soil, dirt
454 and other materials, including dredged material, from said land;] [to undertake any management
455 practice designed to enhance use of or extend the life of said land for the deposit of dredged
456 material]; to clear, cut, fell and remove any and all trees, timber, underbrush or other
457 obstructions therefrom; and for such other purposes as may be required in connection with said
458 works; provided that no structures for human habitation shall be constructed on the land but
459 existing structures may be maintained, no other structures shall be constructed on the land except
460 as may be approved in writing by (the District Engineer of the U.S. Army Engineer District, New
461 Orleans) (____{local sponsor}____), or authorized representative, and no excavation shall be
462 conducted and no landfill placed on the land without such approval as to the location and method
463 of excavation and/or placement of landfill; subject to existing easements for public roads and
464 highways, public utilities, railroads and pipelines; reserving, however, to the Grantors, (their
465 heirs) (its successors) and assigns, all such rights and privileges as may be used and enjoyed
466 without interfering with the use of the project for the purposes authorized by Congress or
467 abridging the rights and easements herein conveyed *[and expressly excepting and excluding from*
468 *the taking all oil, gas and other minerals in and under said land and all appurtenant rights used*
469 *in connection with the exploration, development, production and removal of said oil, gas and*
470 *other minerals but without the right to enter upon or over the surface of said land for the*
471 *purpose of drilling and extracting therefrom said oil, gas and other minerals].*
472

473 ***Dike (and/or Weir) Easement (Non-Standard Estate)***

474 A perpetual and exclusive right, servitude and easement in, on, over and across those lands
475 described in Schedule A, including all appurtenances thereto, together with all rights, title and
476 interest in and to the structure and improvements to be situated thereon, to construct, maintain,
477 repair, operate, patrol and replace [an earthen] [a stone]dike, including the right to clear, trim,
478 cut, fell, borrow, excavate and remove therefrom all trees, timber, underbrush, soil, dirt,
479 obstructions and any other vegetation, structures, or obstacles as required in connection with said
480 work; [and to install metal box weirs in the dike]; the above estate is taken subject to existing
481 easements for public roads and highways, public utilities, railroads and pipelines; reserving,

482 however, to the landowners, their heirs and assigns, all such rights and privileges in said land as
483 may be used and enjoyed without interfering with or abridging the use of the project for the
484 purposes authorized by Congress or the rights, servitudes and easements hereby acquired.
485

486 ***Levee and Channel Easement (Non-Standard Estate)***

487 A perpetual and assignable right and easement in the land, to construct, maintain, repair, operate,
488 patrol and replace a levee, rock weir, drainage ditch, channel and/or channel improvement
489 works, and all appurtenances thereto, and the right to clear, dredge, cutaway, borrow, excavate
490 and remove any and all land, soil, dirt and other material from the land; including the right and
491 easement to permanently overflow, flood and submerge the land, and the right to deposit
492 dredged, excavated and sediment material on, over and across the land; with the continuing right
493 to clear, cut, fell, remove and dispose of any and all timber, trees, underbrush, structures,
494 improvements and/or other obstructions therefrom; provided that no structures for human
495 habitation shall be constructed, existing structures may be maintained on the land, no other
496 structures shall be constructed on the land except as may be approved in writing by the
497 representative of the United States in charge of the project, and no excavation shall be conducted
498 and no landfill placed on the land without such approval as to the location and method of
499 excavation and/or placement of landfill; subject to existing easements for public roads and
500 highways, public utilities, railroads and pipelines; reserving, however, to the landowners, their
501 successors and assigns all such rights and privileges as may be used and enjoyed without
502 interfering with the use of the project for the purposes authorized by Congress or abridging the
503 rights and easements hereby acquired.
504

505 ***Flood Protection Levee Easement (Standard Estate)***

506 A perpetual and assignable right and easement in (the land described in Schedule A) (Tracts Nos,
507 _____, _____ and _____) to construct, maintain, repair, operate, patrol and replace a flood
508 protection (levee) (floodwall)(gate closure) (sandbag closure), including all appurtenances
509 thereto; reserving, however, to the owners, their heirs and assigns, all such rights and privileges
510 in the land as may be used without interfering with or abridging the rights and easement hereby
511 acquired; subject, however, to existing easements for public roads and highways, public utilities,
512 railroads and pipelines.

513 ***Borrow Easement (Standard Estate)***

514 A perpetual and assignable right and easement to clear, borrow, excavate and remove soil, dirt,
515 and other materials from (the land described in Schedule A) (Tracts Nos. _____, _____ and
516 _____);³ subject, however, to existing easements for public roads and highways, public utilities,
517 railroads and pipelines; reserving, however, to the landowners, their heirs and assigns, all such
518 rights and privileges in said land as may be used without interfering with or abridging the rights
519 and easement hereby acquired.
520
521

³ The easement estate may be limited as to time, depending upon project requirements.

522 **Temporary Work Area Easement (Standard Estate)**

523 A temporary easement and right-of-way in, on, over and across (the land described in Schedule
524 A) (Tracts Nos. _____, _____ and _____), for a period not to exceed _____,
525 beginning with date possession of the land is granted to the United States, for use by the United
526 States, its representatives, agents, and contractors as a (work area), including the right to (move,
527 store and remove equipment and supplies, and erect and remove temporary structures on the land
528 and to perform any other work necessary and incident to the construction of the Project, together
529 with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions, and any
530 other vegetation, structures, or obstacles within the limits of the right-of-way; reserving,
531 however, to the landowners, their heirs and assigns, all such rights and privileges as may be used
532 without interfering with or abridging the rights and easement hereby acquired; subject, however,
533 to existing easements for public roads and highways, public utilities, railroads and pipelines.
534

535 **PUBLIC LAW 91-646**

536 The United States Constitution and the State of Louisiana Constitution require that a property
537 owner be paid just compensation when the government acquires private property for a public
538 use. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as
539 amended (P.L. 91-646) was enacted to ensure uniformity in the treatment of persons displaced by
540 a federal project. The Act requires that property owners be offered the market value of the real
541 estate interest to be acquired; this offer is to be based upon an approved appraisal of the property.
542 The government is required to conduct good faith negotiations with each landowner in an effort
543 to acquire the property in an amicable manner. The government must pay the agreed purchase
544 price for the property interest before requiring the owner to surrender possession of the property
545 being acquired. Lastly, if an occupant is to be displaced from a dwelling or business the
546 government must provide at least 90 days written notice of the date by which the move must
547 occur and must offer relocation assistance. All acquisition of private property for this project
548 will be done in accordance with the provisions of Public Law 91-646, as amended.
549

550 It is anticipated that numerous dwellings, farms and businesses may be impacted by the
551 structural alternatives proposed in this technical report. For the LACPR technical evaluation,
552 however, an assessment of the number of improvements that could possibly be impacted could
553 not be performed. As the location of structures is refined, an identification of improvements may
554 be possible.
555

556 Likewise, the nonstructural alternatives propose the voluntary buyout and/or permanent
557 relocation of structures and raising-in-place of structures. The technical report identifies
558 nonstructural measures at the planning unit level. Smaller geographical boundaries would be
559 considered during the implementation phase, and nonstructural projects would be identified
560 according to these smaller boundaries.

561 **PROJECT SPONSOR(S)**

562 The acquisition of all lands, easements, rights of way, relocations, and any other interests,
563 including suitable borrow and dredged or excavated material disposal areas (LERRDs) for the
564 various features of this project will be performed by non-federal sponsors. Once project
565 alternatives/features are selected for further study at the feasibility level, sponsors will be
566 identified for each of those projects. Exhibit D includes an example “Assessment of Non-
567 Federal Sponsor's Real Estate Acquisition Capability.” Once alternatives have been selected for
568 feasibility study, an assessment of each sponsor will be conducted to determine whether they
569 have the capability necessary to acquire the realty interests for the various projects.
570

571 **ACQUISITION SCHEDULE**

572 A representative acquisition schedule is presented below for the alternative within each planning
573 unit that would require the most real estate acquisitions. As individual feasibility studies are
574 prepared in the future for selected planning unit alignments, acquisition schedules will also be
575 developed. Acquisition would be accomplished in reaches by feature location; however, since
576 that is not available at this time, an overall time frame is provided. Acquisition activities include
577 obtaining tract ownership data, preparation of plat and legal descriptions for each impacted
578 ownership, researching title information, appraising the realty interests to be acquired and
579 conducting negotiations and relocations as necessary. If the government were not able to acquire
580 realty interests amicably, those interests would be acquired through condemnation.
581

582 Planning Unit 1 – PU1-C-LP-b-1000-2 – This alternative would involve acquisition from
583 approximately 1,500 private landowners. It is estimated that it would take approximately 10
584 years to complete the acquisition process. (See Exhibit C for a map of this plan.)
585

586 Planning Unit 2 – PU2-C-R-400-4 – This alternative would involve acquisition from
587 approximately 800 private landowners. It is estimated that it would take approximately 5 years
588 to complete the acquisition process. (See Exhibit C for a map of this plan.)
589

590 Planning Unit 3a – PU3a-C-G-1000-2 – This alternative would involve acquisition from
591 approximately 900 private landowners. It is estimated that it would take approximately 5 years
592 to complete the acquisition process. (See Exhibit C for a map of this plan.)
593

594 Planning Unit 3b – PU3b-C-F-1000-1 – This alternative would involves acquisition from
595 approximately 600 private landowners. It is estimated that it would take approximately 4 years
596 to complete the acquisition process. (See Exhibit C for a map of this plan.)
597

598 Planning Unit 4 – PU4-C-G-1000-3 – This alternative would involve acquisition from
599 approximately 300 private landowners. It is estimated that it would take approximately 3 years
600 to complete the acquisition process. (See Exhibit C for a map of this plan.)

601 **ACQUISITION COSTS**

602 The cost estimates prepared for this technical report are preliminary in nature. They are
603 restricted use cost estimates. The estimates do not comply with USPAP and are not to be
604 considered appraisals. The estimates were prepared in accordance with USACE Engineering
605 Circular 405-1-04, Appraisal, paragraph 4-19. The scope of work for the cost estimates is
606 commensurate with that of a technical evaluation. The costs prepared and presented in the report
607 are not to be used for making funding decisions. The costs are sufficient in detail for comparison
608 of plans for initial screening and for use in performing Multi-Criteria Decision Analysis
609 (MCDA). More detailed cost estimates will be generated for individual feasibility studies in the
610 future.

611
612 Real estate costs associated with each project feature were provided to Engineering Division to
613 be included in an overall cost estimate for each alternative. Due to time constraints, the delay in
614 developing the final design data, and the number of alternatives, a parametric matrix approach
615 was used to combine and ratio the various individual features that were estimated into the costs
616 for each alternative. Real Estate costs are embedded in the plan costs and are not presented
617 separately. Real Estate costs were also provided to Economics to estimate overall costs of the
618 nonstructural measures.

619
620 Below are the assumptions and limiting conditions associated with the real estate cost estimates.

621
622 The project designs are preliminary. Maps were provided showing overall location of project
623 features. Engineering Division estimated acreage needs per feature. It was not possible to
624 identify existing rights-of-ways for existing levees. This will be accomplished in future studies
625 as design details are developed. No temporary rights-of-ways for access, staging, or construction
626 areas have been identified at this time. Access to construction areas is assumed to be by public
627 roads and existing rights of ways.

628
629 No wetland determinations were available for the vacant undeveloped lands impacted by the
630 project.

631
632 Physical inspection of sites was not possible. Inspection of the project areas was made using
633 aerial photography with project alignments. Property values were determined based on
634 comparable sales on file and the appraiser’s experience in the project areas. Due to time
635 constraints, specific values for each project area could not be developed. An average price per
636 acre was estimated for each land class within each parish. That average price was applied to all
637 projects within a particular parish without distinction of location or size of the acquisitions.

638
639 The cost estimates for structural alternatives do not include costs associated with relocation of
640 improvements. This will be estimated at a future date when design information is more detailed
641 and improvements can be identified.

642
643 Real Estate worked with Economics to prepare the buyout alternatives. Economics developed
644 the baseline for determining how many improvements would require buyout. Real Estate
645 provided LER costs, P.L. 91-646, II costs, and acquisition costs. A total cost per structure was

646 developed per parish. This was applied to the number of structures to be purchased. The real
647 estate costs for the buyout options are included in the NonStructural Plan Component Appendix.
648

649 Ownership count is based on the location of projects. It was assumed that rural and wetland
650 properties impacted by the projects were part of large acreage ownerships whereas, urban areas
651 impacted small lot properties.
652

653 Acquisition costs include costs for tract ownership data research, title research, appraisals,
654 negotiations, closing and/or condemnations, and where needed relocation assistance. The
655 acquisition costs are determined to be an average cost per ownership impacted by the project.
656

657 **LANDOWNER ATTITUDE**

658 Public meetings have been conducted. At this time the content of the information presented to
659 the public has been conceptual and general in nature. The general public is in favor of risk
660 reduction and environmental restoration projects; however, it is too early in the LACPR process
661 to determine landowner attitude. Until more detailed alignments are available, we will not know
662 how those that are directly impacted by acquisition of their property may feel about any
663 proposed projects.
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EXHIBITS

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Exhibit A – Project General Location



708

709 **Exhibit B – Project Alternatives Descriptions**

710

711 **Planning Unit 1**

Category	Alternative	Alternative Description
No Action	PU1-0	No action (without project) alternative.
Coastal Restoration Only	PU1-R1, R2, and R3	Sustain coastal landscape through restoration including shoreline protection, marsh creation, and diversions. R1 proposes steady state diversions while R2 proposes pulsed diversions. R3 is as proposed in the State Master Plan.
Coastal Restoration and Nonstructural Measures	PU1-NS-100, -400, and -1000	Sustain coastal landscape through restoration. Implement comprehensive 100-year, 400-year or 1000-year nonstructural measures.
Coastal Restoration and Structural Measures	PU1-LP-a-100-1	Sustain coastal landscape through restoration and construct barrier-weir and levees to reduce risk to the Lake Pontchartrain area. Raise upper Plaquemines levees to 100-year level of risk reduction.
	PU1-LP-a-100-2	Sustain coastal landscape through restoration and construct barrier-weir and levees to reduce risk to the Lake Pontchartrain area. Raise upper Plaquemines levees and construct new levees around Laplace and across the Northshore to the 100-year level of risk reduction.
	PU1-LP-a-100-3	Sustain coastal landscape through restoration and construct barrier-weir and levees to reduce risk to the Lake Pontchartrain area. Raise upper Plaquemines levees and construct new levees around Laplace and Slidell to the 100-year level of risk reduction.
	PU1-LP-b-400-1	Sustain coastal landscape through restoration and construct barrier-weir and levees to reduce risk to the Lake Pontchartrain area. Raise Lake Pontchartrain and Vicinity and upper Plaquemines levees to 400-year level of risk reduction.
	PU1-LP-b-400-3	Sustain coastal landscape through restoration and construct barrier-weir and levees to reduce risk to the Lake Pontchartrain area. Raise Lake Pontchartrain and Vicinity and upper Plaquemines levees and construct new levees around Laplace and Slidell to the 400-year level of risk reduction.
	PU1-LP-b-1000-1	Sustain coastal landscape through restoration and construct barrier-weir and levees to reduce risk to the Lake Pontchartrain area. Raise upper Lake Pontchartrain and Vicinity and upper Plaquemines levees to 1000-year level of risk reduction.
	PU1-LP-b-1000-2	Sustain coastal landscape through restoration and construct barrier-weir and levees to reduce risk to the Lake Pontchartrain area. Raise upper Lake Pontchartrain and Vicinity and upper Plaquemines levees and construct new levees around Laplace and across the Northshore to the 1000-year level of risk reduction.

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Category	Alternative	Alternative Description
	PU1-HL-a-100-3	Sustain coastal landscape through restoration and construct high level plan providing 100-year design level of risk reduction to Laplace, upper Plaquemines, and Slidell.
	PU1-HL-a-100-2	Sustain coastal landscape through restoration and construct high level plan providing 100-year design level of risk reduction to Northshore of Lake Pontchartrain, upper Plaquemines, and Laplace.
	PU1-HL-b-400-3	Sustain coastal landscape through restoration and construct high level plan providing 400-year design level of risk reduction to Southshore of Lake Pontchartrain, Laplace and Slidell.
Comprehensive (Coastal, Structural, and Nonstructural)	PU1-C-XX-x-xxx-x	Structural/coastal alternatives are made comprehensive by adding complementary nonstructural measures to reduce residual risk in areas without structural risk reduction measures. Comprehensive alternatives are noted by a “C-“ in front of the structural/coastal alternative code.

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713 Planning Unit 2

Category	Alternative	Alternative Description
No Action	PU2-0	No action (without project) alternative.
Coastal Restoration Only	PU2-R1, R2, and R3	Sustain coastal landscape through restoration including shoreline protection, marsh creation, and diversions. R1 proposes steady state diversions while R2 proposes pulsed diversions. R3 is as proposed in the State Master Plan.
Coastal Restoration and Nonstructural Measures	PU2-NS-100, -400, and -1000	Sustain coastal landscape through restoration. Implement comprehensive 100-year, 400-year or 1000-year nonstructural measures.
Coastal Restoration and Structural Measures	PU2-WBI-100-1	Sustain coastal landscape through restoration. Construct new sector gate on Bayou Barataria to reduce risk on the West Bank.
	PU2-WBI-400-1	Sustain coastal landscape through restoration. Construct new sector gate on Bayou Barataria to reduce risk on the West Bank. Raise West Bank and Vicinity and Larose to Golden Meadow levees to 400-year level of risk reduction.
	PU2-R-100-2	Sustain coastal landscape through restoration. Construct new sector gate on Bayou Barataria to reduce risk on the West Bank. Extend West Bank and Vicinity levees to Boutte and construct/raise Lafitte ring levees to 100-year level of risk reduction.
	PU2-R-400-2	Sustain coastal landscape through restoration. Construct new sector gate on Bayou Barataria to reduce risk on the West Bank. Extend West Bank and Vicinity levees to Boutte and raise those levees as well as Larose to Golden Meadow levees to 400-year level of risk reduction. Construct/raise Lafitte ring levees to 100-year level of risk reduction.
	PU2-R-100-3	Sustain coastal landscape through restoration. Construct new sector gate on Bayou Barataria to reduce risk on the West Bank. Extend West Bank and Vicinity levees to Boutte and construct/raise Lafitte and Des Allemands ring levees to 100-year level of risk reduction.
	PU2-R-400-3	Sustain coastal landscape through restoration. Construct new sector gate on Bayou Barataria to reduce risk on the West Bank. Extend West Bank and Vicinity levees to Boutte and raise those levees as well as Des Allemands and Larose to Golden Meadow levees to 400-year level of risk reduction. Construct/raise Lafitte ring levees to 100-year level of risk reduction.
	PU2-R-100-4	Sustain coastal landscape through restoration. Construct new sector gate on Bayou Barataria to reduce risk on the West Bank. Construct/raise Lafitte and Des Allemands ring levees to 100-year level of risk reduction and build new levees around Boutte and up the east side of Bayou Lafourche from Larose to Highway 90 at the 100-year level of risk reduction.
	PU2-R-400-4	Sustain coastal landscape through restoration. Construct new sector gate on Bayou Barataria to reduce risk on the West Bank. Extend West Bank and Vicinity levees to Boutte; extend levees from Larose up Bayou Lafourche to Highway 90; and raise Des Allemands ring levees to 400-year level of risk reduction.

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Category	Alternative	Alternative Description
		Construct/raise Lafitte ring levees to 100-year level of risk reduction.
	PU2-R-1000-4	Sustain coastal landscape through restoration. Construct new sector gate on Bayou Barataria to reduce risk on the West Bank. Extend West Bank and Vicinity levees to Boutte; extend levees from Larose up Bayou Lafourche to Highway 90; and raise Des Allemands ring levees to 1000-year level of risk reduction. Construct/raise Lafitte ring levees to 100-year level of risk reduction.
	PU2-G-100-1	Sustain coastal landscape through restoration. Similar structural features as PU2-WBI-100-1 but with additional barrier-weir and levees along the GIWW to reduce risk to areas within the Barataria Basin. Also reduces risk to the Lafitte area.
	PU2-G-100-4	Sustain coastal landscape through restoration. Similar structural features as PU2-R-100-4 but with additional barrier-weir and levees along the GIWW to reduce risk to areas within the Barataria Basin. Also reduces risk to the Lafitte area.
	PU2-G-400-4	Sustain coastal landscape through restoration. Similar structural features as PU2-R-400-4 but with additional barrier-weir and levees along the GIWW to reduce risk to areas within the Barataria Basin. Also reduces risk to the Lafitte area.
	PU2-G-1000-4	Sustain coastal landscape through restoration. Similar structural features as PU2-R-1000-4 but with additional barrier-weir and levees along the GIWW to reduce risk to areas within the Barataria Basin. Also reduces risk to the Lafitte area.
Comprehensive (Coastal, Structural, and Nonstructural)	PU2-C-X-xxx-x	Structural/coastal alternatives are made comprehensive by adding complementary nonstructural measures to reduce residual risk in areas without structural risk reduction measures. Comprehensive alternatives are noted by a “C-“ in front of the structural/coastal alternative code.

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717 Planning Unit 3a

Category	Alternative	Alternative Description
No Action	PU3a-0	No action (without project) alternative.
Coastal Restoration Only	PU3a-R1	Sustain coastal landscape through restoration including shoreline protection, marsh creation, and diversions from the Mississippi River.
Coastal Restoration and Nonstructural Measures	PU3a-NS-100, -400, and -1000	Sustain coastal landscape through restoration. Implement comprehensive 100-year, 400-year or 1000-year nonstructural measures.
Coastal Restoration and Structural Measures	PU3a-M-100-1	Sustain coastal landscape through restoration. Construct Morganza to the Gulf levee with extension tying into high ground west of Morgan City at 100-year design level.
	PU3a-M-100-2	Sustain coastal landscape through restoration. Construct Morganza to the Gulf levee with with tieback to high ground south of Thibodaux and ring levee around Morgan City at 100-year design level.
	PU3a-G-400-2	Sustain coastal landscape through restoration. Construct Morganza to the Gulf levee at the 100-year design level with a second levee along the GIWW with tieback to high ground south of Thibodaux and ring levee around Morgan City providing a 400-year level of risk reduction for Houma and Morgan City.
	PU3a-G-1000-2	Sustain coastal landscape through restoration. Construct Morganza to the Gulf levee at the 100-year design level and a second levee along the GIWW with tieback to high ground south of Thibodaux and ring levee around Morgan City providing a 1000-year level of risk reduction for Houma and Morgan City.
Comprehensive (Coastal, Structural, and Nonstructural)	PU3a-C-X-xxx-x	Structural/coastal alternatives are made comprehensive by adding complementary nonstructural measures to reduce residual risk in areas without structural risk reduction measures. Comprehensive alternatives are noted by a “C-“ in front of the structural/coastal alternative code.

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719 Planning Unit 3b

Category	Alternative	Alternative Description
No Action	PU3b-0	No action (without project) alternative.
Coastal Restoration Only	PU3b-R1	Sustain coastal landscape through restoration including shoreline protection, marsh creation, etc.
Coastal Restoration and Nonstructural Measures	PU3b-NS-100, -400, and -1000	Sustain coastal landscape through restoration. Implement comprehensive 100-year, 400-year or 1000-year nonstructural measures.
Coastal Restoration and Structural Measures	PU3b-G-100-1	Sustain coastal landscape through restoration. Raise ring levee around Patterson/Berwick to 100-year design level and construct levee along the GIWW west to the boundary of Planning Unit 4 at the 100-year design level.
	PU3b-F-100-1	Sustain coastal landscape through restoration. Raise ring levee around Patterson/Berwick to 100-year design level and construct levee along the edge of development north of the GIWW to high ground west of Abbeville at the 100-year design level.
	PU3b-F-400-1	Sustain coastal landscape through restoration. Raise ring levee around Patterson/Berwick to 400-year design level and construct levee along the edge of development north of the GIWW to high ground west of Abbeville at the 400-year design level.
	PU3b-F-1000-1	Sustain coastal landscape through restoration. Raise ring levee around Patterson/Berwick to 1000-year design level and construct levee along the edge of development north of the GIWW to high ground west of Abbeville at the 1000-year design level.
	PU3b-RL-100-1	Sustain coastal landscape through restoration. Raise ring levee around Patterson/Berwick to 100-year design level and construct ring levees around Franklin/Baldwin, New Iberia, Erath, Delcambre, and Abbeville at the 100-year design level.
	PU3b-RL-400-1	Sustain coastal landscape through restoration. Raise ring levee around Patterson/Berwick to 400-year design level and construct ring levees around Franklin/Baldwin, New Iberia, Erath, Delcambre, and Abbeville at the 400-year design level.
Comprehensive (Coastal, Structural, and Nonstructural)	PU3b-C-X-xxx-x	Structural/coastal alternatives are made comprehensive by adding complementary nonstructural measures to reduce residual risk in areas without structural risk reduction measures. Comprehensive alternatives are noted by a “C-“ in front of the structural/coastal alternative code.

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721 Planning Unit 4

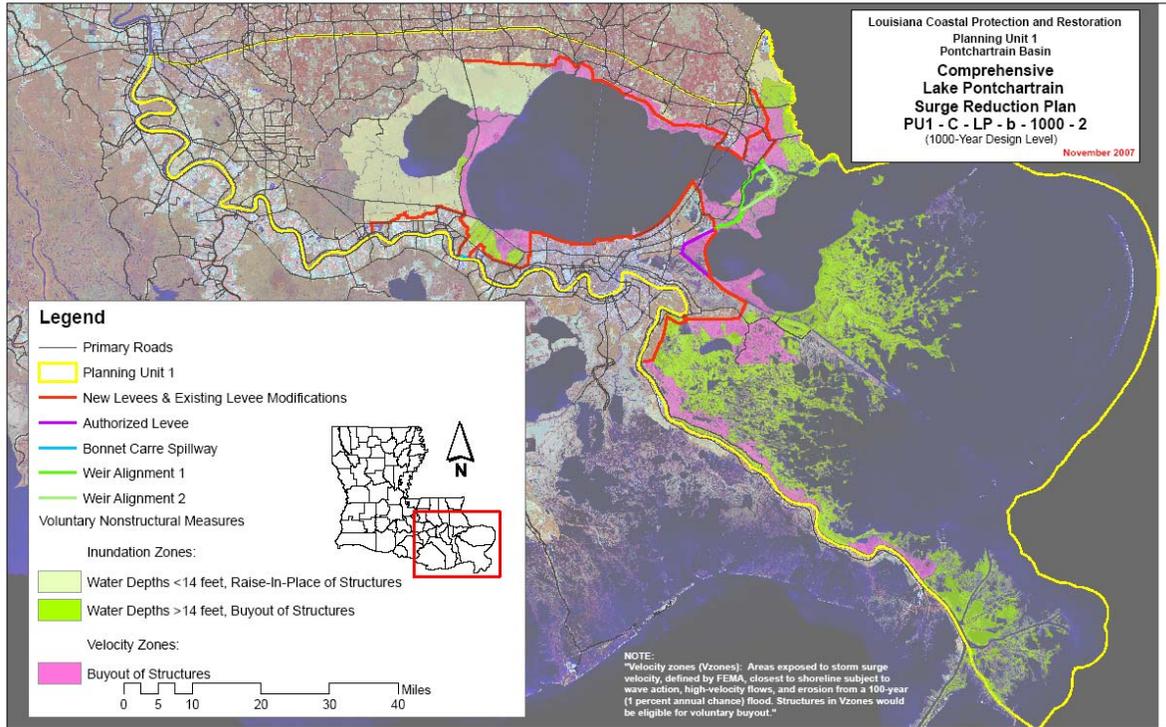
Category	Alternative	Alternative Description
No Action	PU4-0	No action (without project) alternative.
Coastal Restoration Only	PU4-R1	Sustain coastal landscape through restoration including shoreline protection, marsh creation, etc.
Coastal Restoration and Nonstructural Measures	PU4-NS-100, -400, and -1000	Sustain coastal landscape through restoration. Implement comprehensive 100-year, 400-year or 1000-year nonstructural measures.
Coastal Restoration and Structural Measures	PU4-G-100-1	Sustain coastal landscape through restoration. Construct a continuous levee (with gates) along the GIWW plus a ring levee to the west of the Calcasieu River and a series of levees within Lake Charles to separate the river from the land at the 100-year design level. Alignment joins with similar alignment in Planning Unit 3b.
	PU4-G-100-2	Sustain coastal landscape through restoration. Construct a continuous levee (with gates) along the GIWW plus a ring levee to the west of the Calcasieu River and a series of levees within Lake Charles to separate the river from the land at the 100-year design level. Alignment ties to high ground to the west of the Vermilion River so this alternative can be evaluated as "stand alone" from alternatives in Planning Unit 3b.
	PU4-G-400-3	Sustain coastal landscape through restoration. Construct a continuous 12-foot levee (with gates) along the GIWW plus a ring levee to the west of the Calcasieu River and a series of levees within Lake Charles to separate the river from the land. May include small ring levees around parts of Lake Charles, Gueydan, and Kaplan to provide 400-year level of risk reduction. Alignment ties to high ground to the west of the Vermilion River so this alternative can be evaluated as "stand alone" from alternatives in Planning Unit 3b.
	PU4-G-1000-3	Sustain coastal landscape through restoration. Construct a 12-foot continuous levee (with gates) along the GIWW plus a ring levee to the west of the Calcasieu River and a series of levees within Lake Charles to separate the river from the land. May include small ring levees around parts of Lake Charles, Gueydan, and Kaplan to provide 400-year level of risk reduction. Alignment ties to high ground to the west of the Vermilion River so this alternative can be evaluated as "stand alone" from alternatives in Planning Unit 3b.
	PU4-RL-100-1	Sustain coastal landscape through restoration. Construct ring levees to the east and west of Lake Charles; construct a series of levees within Lake Charles to separate the river from the land; and construct ring levees around Kaplan and Gueydan to the 100-year design level.
	PU4-RL-400-1	Sustain coastal landscape through restoration. Construct ring levees to the east and west of Lake Charles; construct a series of levees within Lake Charles to separate the river from the land; and construct ring levees around Kaplan and Gueydan to the 400-year design level.

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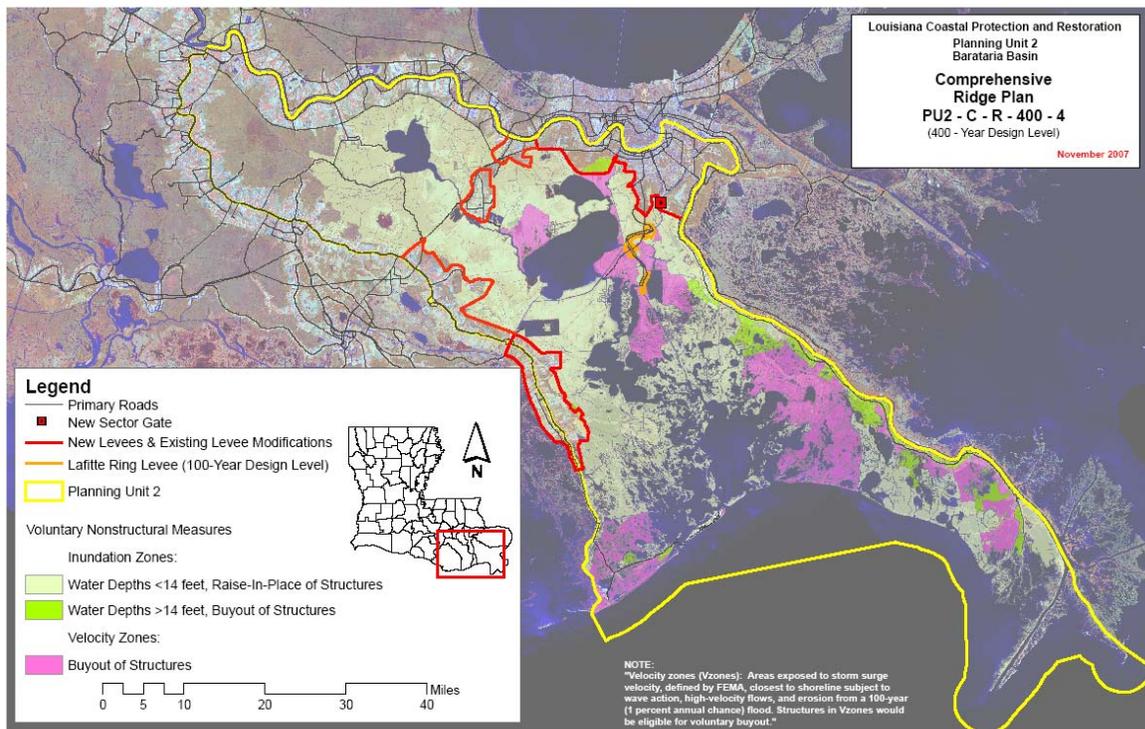
Category	Alternative	Alternative Description
	PU4-RL-1000-1	Sustain coastal landscape through restoration. Construct ring levees to the east and west of Lake Charles; construct a series of levees within Lake Charles to separate the river from the land; and construct ring levees around Kaplan and Gueydan to 100-year design level.
Comprehensive (Coastal, Structural, and Nonstructural)	PU4-C-X-xxx-x	Structural/coastal alternatives are made comprehensive by adding complementary nonstructural measures to reduce residual risk in areas without structural risk reduction measures. Comprehensive alternatives are noted by a “C-“ in front of the structural/coastal alternative code.

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Exhibit C

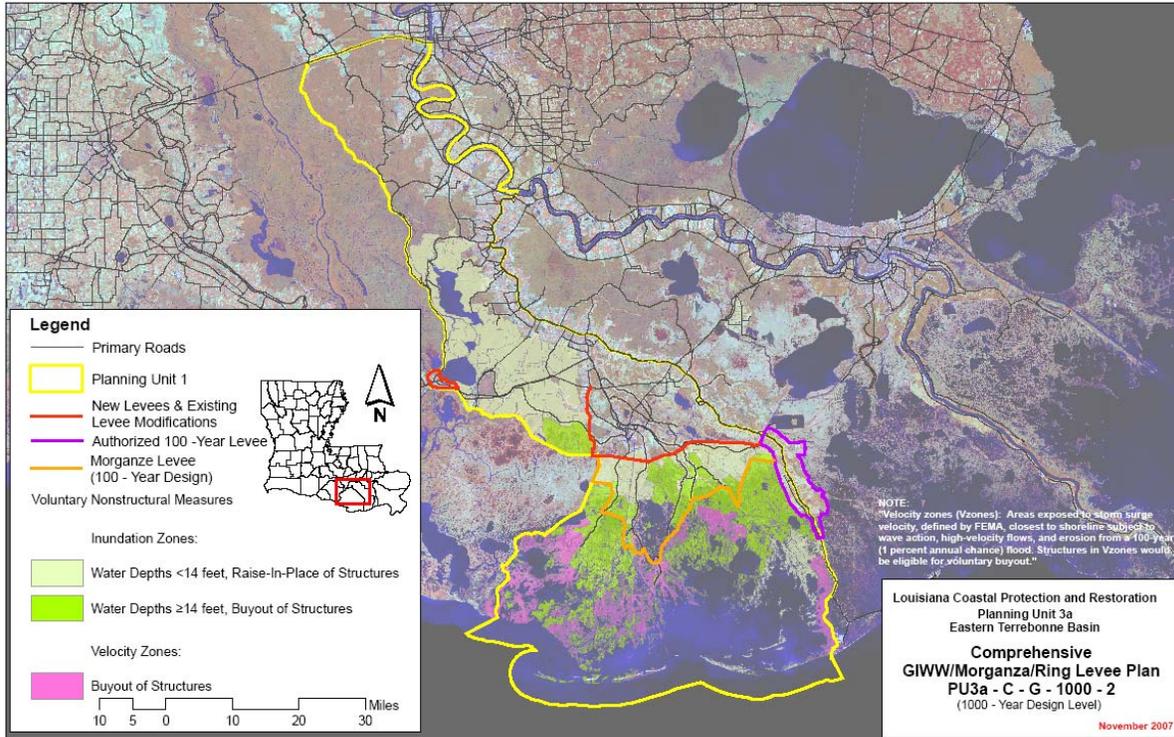


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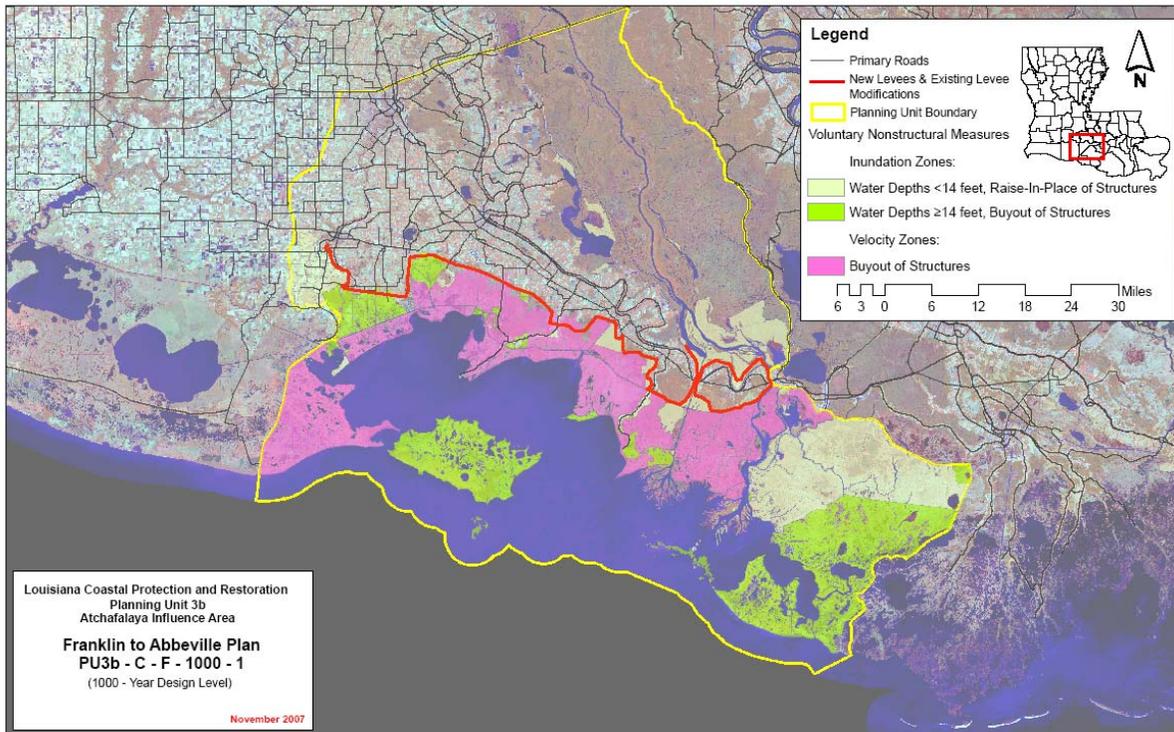


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DRAFT - Louisiana Coastal Protection and Restoration (LACPR) Technical Report
 DRAFT – Real Estate Appendix

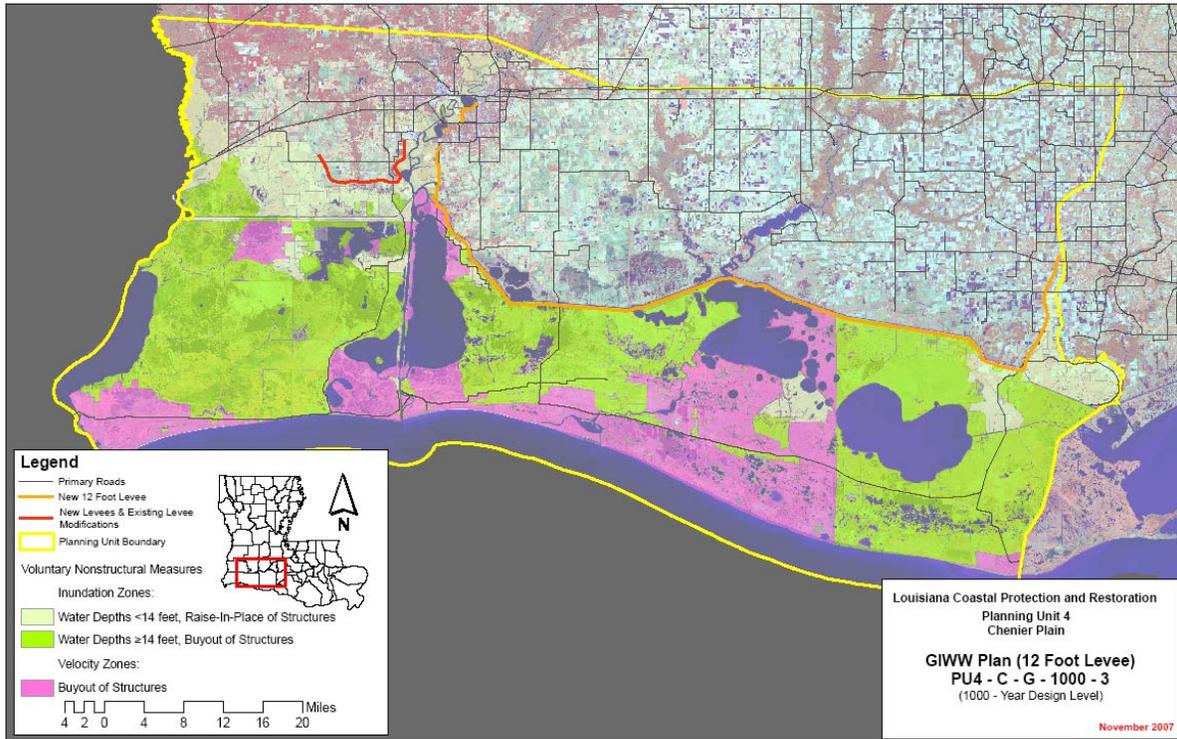


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DRAFT - Louisiana Coastal Protection and Restoration (LACPR) Technical Report
DRAFT – Real Estate Appendix



732

733 Exhibit D

734

735

**ASSESSMENT OF NON-FEDERAL SPONSOR'S
REAL ESTATE ACQUISITION CAPABILITY
(name of sponsor)**

736

737

738

739

740 I. Legal Authority:

741

742 a. Does the sponsor have legal authority to acquire and hold title to real property for
743 project purposes? (yes/no)

744

745

746 b. Does the sponsor have the power of eminent domain for this project? (yes/no)

747

748

749 c. Does the sponsor have "quick-take" authority for this project? (yes/no)

750

751

752 d. Are any of the lands/interests in land required for the project located outside the

753 sponsor's political boundary (yes/no)

754

755

756 e. Are any of the lands/interests in land required for the project owned by an entity whose
757 property the sponsor cannot condemn? (yes/no)

758

759

760 II. Human Resource Requirements:

761

762 a. Will the sponsor's in-house staff require training to become familiar with the real estate
763 requirements of Federal projects including P.L. 91-646, as amended? (yes/no)

764

765

766 b. If the answer to II.a. is "yes," has a reasonable plan been developed to provide such
767 training? (yes/no)

768

769

770 c. Does the sponsor's in-house staff have sufficient real estate acquisition experience to

771 meet its responsibilities for the project? (yes/no)

772

773

774 d. Is the sponsor's projected in-house staffing level sufficient considering its other
775 workload, if any, and the project schedule? (yes/no)

776

777 e. Can the sponsor obtain contractor support, if required in a timely fashion? (yes/no)

778

779

780 f. Will the sponsor likely request USACE assistance in acquiring real estate? (yes/no – If
781 yes provide description)

782

783

784

785 III. Other Project Variables:

786

787 a. Will the sponsor's staff be located within reasonable proximity to the project site?
788 (yes/no)

789

790

791 b. Has the sponsor approved the project/real estate schedule/milestones? (yes/no)

792

793

794

795 IV. Overall Assessment:

796

797 a. Has the sponsor performed satisfactorily on other USACE projects? (yes/no/not
798 applicable)

799

800

801 b. With regard to this project, the sponsor is anticipated to be: highly capable/fully
802 capable/moderately capable/marginally capable/insufficiently capable. (If sponsor is
803 believed to be “insufficiently capable,” provide explanation.)

804

805

806

807 V. Coordination:

808

809 a. Has this assessment been coordinated with the sponsor? (yes/no)

810

811

812 b. Does the sponsor concur with this assessment? (yes/no)

813